

Design of Innovation

Annual Report 2020



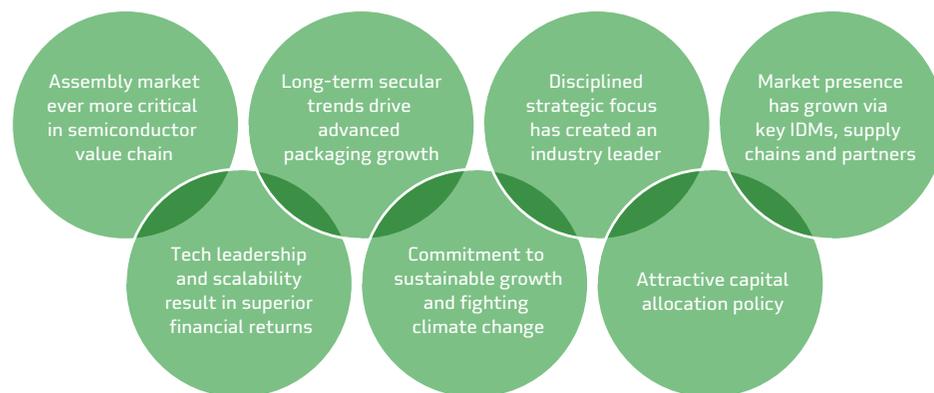
Introduction

This year marks the start of a new decade of progress and opportunity for our Company. Over the past ten years, we have delivered significant growth and value creation for all stakeholders while conducting our business in a responsible and sustainable manner. The emergence of COVID-19 this year underscored the importance of building a resilient, flexible and sustainable organization. The far-reaching impact of the pandemic on Besi's global operations has encouraged us to develop new ways of working, communicating, travelling and interacting which can also help reduce our environmental footprint going forward. This year, we highlight our Environmental, Sustainability and Governance ("ESG") goals and ambitions which include the establishment of a more robust framework with specific targets identified to guide our activities for the next decade.

Our mission

Besi's mission is to become the world's leading supplier of semiconductor assembly equipment for advanced packaging applications and to exceed industry average benchmarks of financial performance. We also strive to create long-term value for stakeholders and operate our business in a sustainable way, respecting both the environment and society.

INVESTMENT CONSIDERATIONS



KEY HIGHLIGHTS

	2020	2019	Δ
Revenue*	€ 433.6	€ 356.2	€ 77.4
Orders*	€ 472.1	€ 348.7	€ 123.4
Gross Margin	59.6%	55.8%	+3.8 pts
Net Income*	€ 132.3	€ 81.3	€ 51.0
Net Margin	30.5%	22.8%	+7.7 pts
Return on Average Equity	39.5%	24.2%	+15.3 pts
Scope 1 and 2 Emissions (tCO ₂ e/€ millions revenue)	20	25	-20%
Renewable Energy	20%	18%	+2.0 pts

* In millions.

Contents

REPORT OF THE BOARD OF MANAGEMENT	2
Company Profile	3
Key Highlights 2020	5
Letter to Stakeholders	9
Market Overview	15
Strategy	21
Financial Review	28
Environmental, Social and Governance Report	37
Risks and Risk Management	54
Shareholder Information	68
Corporate Governance	74
REMUNERATION REPORT	80
REPORT OF THE SUPERVISORY BOARD	96
BOARD OF MANAGEMENT AND SUPERVISORY BOARD MEMBERS	101
FINANCIAL STATEMENTS 2020	103
Consolidated Statement of Financial Position	104
Consolidated Statement of Operations	105
Consolidated Statement of Comprehensive Income	105
Consolidated Statement of Changes in Equity	106
Consolidated Statement of Cash Flows	107
Notes to the Consolidated Financial Statements	108
Parent Company Balance Sheet	154
Parent Company Statement of Income and Expense	155
Notes to the Parent Company Financial Statements	156
OTHER INFORMATION	163

PDF/printed version

This document is the PDF/printed version of the 2020 Annual Report of BE Semiconductor Industries N.V. and has been prepared for ease of use. The 2020 Annual Report was made publicly available pursuant to section 5:25c of the Dutch Financial Supervision Act (Wet op het financieel toezicht), and was filed with Netherlands Authority for the Financial Markets in European single electronic reporting format (the ESEF package). The ESEF package is available on the Company's website at <https://www.besi.com/investor-relations/financial-reports-and-publications/> and includes a human readable XHTML version of the 2020 Annual Report. In any case of discrepancies between this PDF version and the ESEF package, the latter prevails.

Report of the Board of Management

Company Profile	3
Key Highlights 2020	5
Letter to Stakeholders	9
Market Overview	15
Strategy	21
Financial Review	28
Environmental, Social and Governance Report	37
Risks and Risk Management	54
Shareholder Information	68
Corporate Governance	74

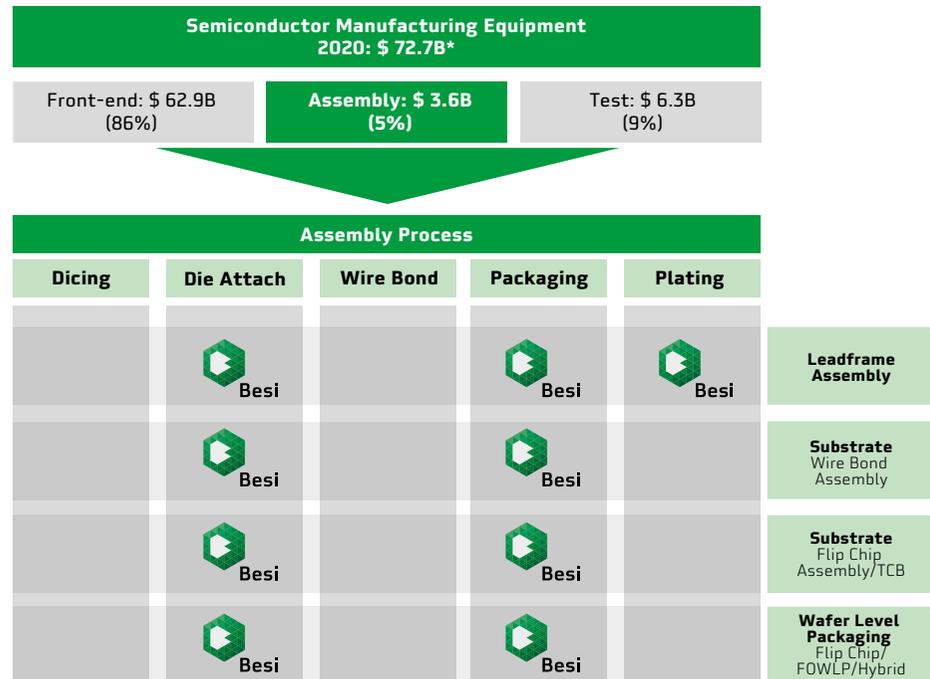
Company Profile

BE Semiconductor Industries N.V. ("Besi" or the "Company") is engaged in one line of business: the development, manufacturing, marketing, sales and service of semiconductor assembly equipment for the global semiconductor and electronics industries.

Our market

The semiconductor manufacturing process involves two distinct phases: wafer processing, commonly referred to as the front-end, and assembly/test operations, commonly referred to as the back-end. Our equipment is principally used by customers to produce advanced semiconductor assemblies or "packages". Typically, such assemblies provide the electronic interface and physical connection between a semiconductor device, or "chip", and other electronic components and protect the chip from the external environment. VLSI Research, a leading independent industry analyst, estimated that the size of the assembly equipment market was approximately \$ 3.6 billion in 2020, or 5% of the total semiconductor equipment market. Annual growth rates can fluctuate greatly based on global economic cycles and the capital investment programs of our semiconductor and industrial customers.

FROM PROCESSED WAFER TO ASSEMBLED CHIP



* Source: VLSI, February 2021

Semiconductor assembly involves three primary process technologies depending on the product application required:

Leadframe assembly, the most traditional approach, involves the electrical connection of the chip via a wire bonding process to a metal leadframe. Leadframe assembly technology is most frequently used to produce semiconductor devices for mass market and consumer electronics applications.

Substrate assembly has gained increased market acceptance over the past decade. It is used most frequently in new product applications that require high degrees of miniaturization and chip density such as smart phones, servers, tablets and laptops as well as wireless, automotive and cloud-based internet applications. In a typical substrate assembly, no metal leadframes are utilized and the electrical connection of the chip is made directly to a multi-layer substrate or through the creation of direct connections to the multi-layer substrate via a flip chip die bonding process.

Wafer level packaging, the most advanced assembly technology, eliminates the use of either a metal leadframe or laminated substrate for semiconductor assembly. In wafer level packaging, the electrical connections are directly applied to the chip without the need for an interposer. This process technology enables customers to achieve even higher degrees of miniaturization, chip density and performance and lower energy consumption than substrate assembly but at a higher cost and reduced yield currently. We anticipate that wafer level packaging will be more actively utilized for next generation applications such as data mining, predictive analytical software, artificial intelligence, high-performance computing and new 5G powered systems and services as we move further towards the digital society.

Besi is a leading provider of advanced packaging solutions to customers which incorporate both substrate and wafer level based packaging processes in their assembly operations. We define advanced packaging as the assembly of semiconductor devices with geometries below 28 nanometer and placement accuracy below 10 micron in 24/7 production environments. We estimate that approximately 75% of Besi's system revenue in 2020 was for advanced packaging applications of which 55% were for the most leading edge devices with geometries below 17 nanometer and placement accuracy below 7 micron.

Our products and services

Besi develops and supplies leading edge systems offering high levels of accuracy, reliability and productivity at a low cost of ownership. We offer customers a broad portfolio of systems which address substantially all of the assembly process steps involved in leadframe, substrate and wafer level packaging.

Our principal product and service offerings include:

- **Die attach equipment:** single chip, multi chip, multi module, flip chip, TCB, FOWLP and hybrid die bonding systems and die sorting systems.
- **Packaging equipment:** conventional, ultra thin and wafer level molding, trim and form and singulation systems.
- **Plating equipment:** tin, copper, precious metal and solar plating systems and related process chemicals.
- **Services/Other:** tooling, conversion kits, spare parts and other services for our installed base of customers.

Our customers

Our customers are primarily leading multinational chip manufacturers, assembly subcontractors and electronics and industrial companies and include ASE, Amkor, Forehope, Foxconn, Greatek, Huatian, Infineon, JCET/STATS ChipPAC, LG Innotek, Micron, NXP, STMicroelectronics, TDK Electronics and TFME. Customers are either independent device manufacturers (“IDMs”) which purchase our equipment for internal use at their production facilities or subcontractors which purchase our equipment to assemble packages for third parties on a contract basis. Our equipment performs critical functions in our customers’ assembly operations and in many cases represents a significant percentage of their installed base of assembly equipment.

Our commitment to sustainability

Our objective is to promote Besi’s business and financial interests in a socially responsible manner for the benefit of all stakeholders, employees, partners, the environment and the local communities in which we operate. We are committed to running our operations in accordance with internationally recognized standards and best practices and to promote sustainability with all stakeholders including topics such as environmental conservation, human rights, conflict mineral free supply chains, hazardous materials, anti-corruption practices and corporate transparency. Our Environmental, Social and Governance (“ESG”) strategy has three pillars: Environmental Impact, People Wellbeing and Responsible Business. Within these pillars, we have identified 12 material topics of which key priorities include energy use and renewable energy, sustainable design and diversity and inclusion. For more information, refer to the [Environmental, Social and Governance Report](#).

Our global presence

We are a global company with headquarters in Duiven, the Netherlands. We operate seven facilities in Asia and Europe for production and development activities as well as nine sales and service offices across Europe, Asia and North America. We employed a total staff of 1,618 fixed and temporary personnel at December 31, 2020, of whom approximately 68% were based in Asia and 32% were based in Europe and North America.

CURRENT OPERATIONAL PROFILE



- Development activities in Europe
- Production in Asia
- Sales/service activities in Asia, US and Europe

- Sales office
- Production site
- Sales and R&D site

	Full Year 2020			
	Europe/NA		Asia	
Revenue (MMs)	€ 72.3	16.7%	€ 361.3	83.3%
Headcount	523	32.3%	1,095	67.7%

Our listings

Besi was incorporated under the laws of the Netherlands in May 1995 and had an initial public offering in December 1995. Besi’s ordinary shares are listed on Euronext Amsterdam (symbol: BESI) and are included in the Amsterdam Midcap Index (“AMX index”). Our level 1 ADRs trade on the OTC markets (symbol: BESIY, Nasdaq International Designation). We also have three issues of Senior Unsecured Convertible Notes outstanding which are listed on the Deutsche Börse’s Freiverkehr market (see [Shareholder Information](#)).

More detailed information about Besi can be found at our website: www.besi.com.

Key Highlights 2020

Strong performance in challenging year

- Revenue of € 433.6 million, up € 77.4 million, or 21.7% versus 2019
- Orders rose 35.4% to € 472.1 million
- Gross margin reached 59.6%, up 3.8 points
- Net income of € 132.3 million, up € 51.0 million, or 62.7%
- Net margin increased to 30.5% versus 22.8%
- Return on average equity grew to 39.5% versus 24.2%
- Total shareholder return of 46.8% versus SOX index of 52.9%

Renewed growth in industry recovery. Operating efficiency increased

- Revenue growth driven by improved market conditions, new 5G smart phone product cycle and increased investment by Chinese customers
- Gross margins rose due to disciplined management of personnel, production and supply chain amidst COVID-19 related disruptions
- Profitability further enhanced by strategic initiatives to limit personnel and expense development
- Gross and net margins and return on average equity highest amongst assembly equipment peers

Well positioned for long-term, secular growth

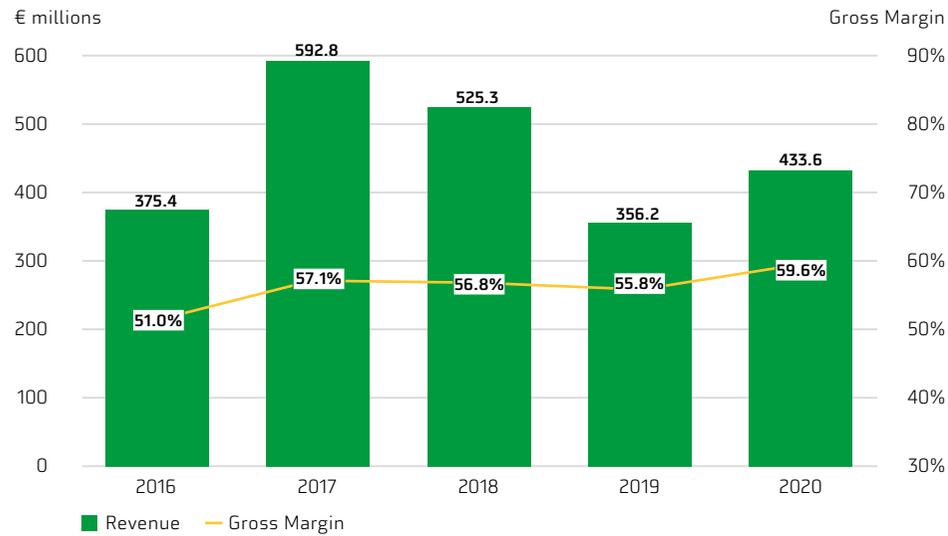
- Advanced packaging becoming ever more critical part of semiconductor value chain for emerging digital applications
- Leading position in advanced packaging and highly scalable production model increase Besi's revenue and profit potential
- R&D increased to align with customer roadmaps for 5G network compatibility and enhanced features, cloud and high-performance computing, AI, data analytics, electric vehicles and autonomous driving
- New joint development agreement with Applied Materials, Inc. to develop hybrid bonding systems for wafer level integration of heterogeneous logic and memory devices

Strong cash flow generation supports shareholder friendly capital allocation program

- Cash flow from operations of € 162.0 million grew by € 41.9 million, or 34.9%, versus 2019
- New issuance of € 150 million of 0.75% Convertible Notes increases financial flexibility and market presence
- Cash and deposits of € 599 million (€ 8.22 per basic share) provide solid basis for future growth
- Net cash of € 198.7 million grew by € 68.4 million (52.5%) versus year end 2019. Reflects dividends and share repurchases of € 91.3 million
- Extension and increase of share repurchase program from € 75 million to € 125 million
- Proposed 2020 dividend of € 1.70 per share, an increase of 68.3%. Pay-out ratio of approximately 94%

Progress on ESG initiatives

- Additional safety, health and organizational measures implemented due to COVID-19
- Relative reductions in fuel, energy, hazardous waste and water consumption
- 100% renewable energy generation achieved across three operating locations
- Defined targets set for 2022-2030 on both corporate and entity level

REVENUE AND GROSS MARGIN TRENDS**NET INCOME TRENDS**

Selected Financial and Other Highlights

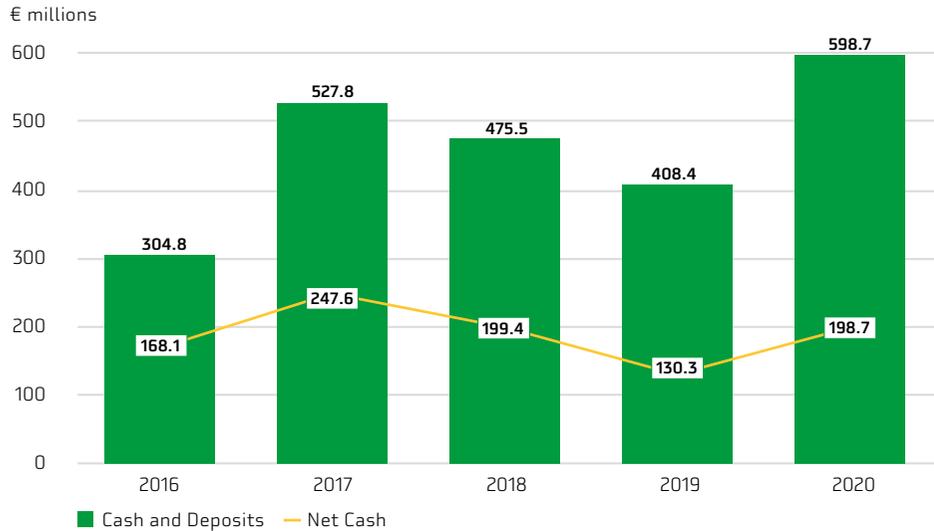
(in euro millions, except share and non-financial data)	Year ended December 31,				
	2020	2019	2018	2017	2016
Operating data					
Revenue	433.6	356.2	525.3	592.8	375.4
Orders	472.1	348.7	483.1	680.9	373.8
Operating income	149.9	91.9	172.7	209.4	75.2
EBITDA	169.0	111.7	187.7	222.8	89.8
Net income	132.3	81.3	136.3	173.2	65.3
Net income per share (in euro) ¹					
Basic	1.82	1.12	1.83	2.32	0.87
Diluted	1.67	1.06	1.68	2.17	0.85
Dividend per share (in euro) ^{1,2}	1.70	1.01	1.67	2.32	0.87
Shares outstanding (in thousands) ³	72,866	72,212	73,570	74,551	74,653
Balance sheet data					
Cash, cash equivalents and deposits	598.7	408.4	475.5	527.8	304.8
Total debt	400.0	278.1	276.1	280.2	136.7
Net cash	198.7	130.3	199.4	247.6	168.1
Total equity	371.2	298.5	372.2	434.1	345.0
Financial ratios					
Gross profit as % of revenue	59.6	55.8	56.8	57.1	51.0
Operating income as % of revenue	34.6	25.8	32.9	35.3	20.0
Net income as % of revenue	30.5	22.8	25.9	29.2	17.4
Return on average equity (%)	39.5	24.2	33.8	44.4	19.3
Return on invested capital (%)	19.6	13.5	22.3	30.4	16.0
Current ratio	7.4	6.4	6.0	5.2	4.7
Solvency ratio	40.7	42.8	48.2	49.6	58.7
Headcount data					
Headcount fixed	1,523	1,534	1,692	1,724	1,586
Headcount temporary	95	62	67	316	83
Total headcount	1,618	1,596	1,759	2,040	1,669
Geographic data					
Revenue from Asia as % of total revenue	83.3	72.2	66.4	70.4	78.2
Headcount in Asia as % of total headcount	67.7	68.3	70.3	71.1	66.8
Environmental, Social and Governance data					
Direct emissions (tCO ₂ e/€ millions revenue)	20	25	21	21	30
Renewable Energy (% of total energy consumed)	20%	18%	5%	0%	0%
Female employees (% of FTE)	17%	17%	17%	16%	16%

¹ The number of shares and per share amounts have been adjusted for the two-for-one stock split effected on May 4, 2018.

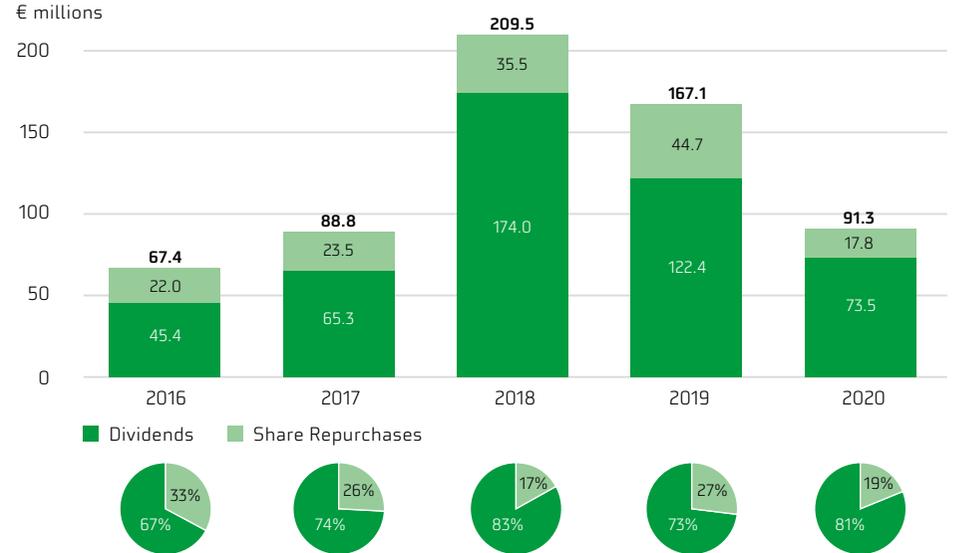
² Proposed 2020 dividend for approval at Besi's AGM to be held on April 30, 2021.

³ Net of shares held in treasury.

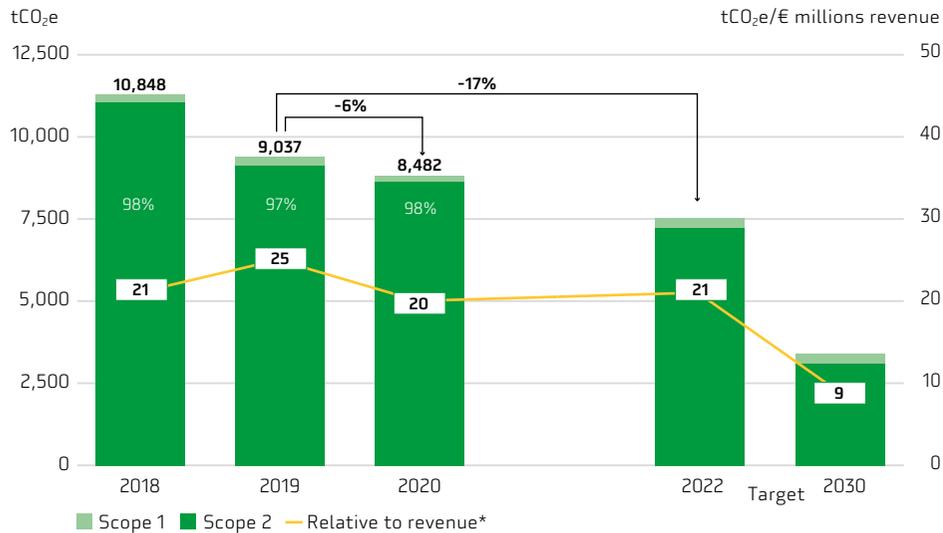
LIQUIDITY TRENDS



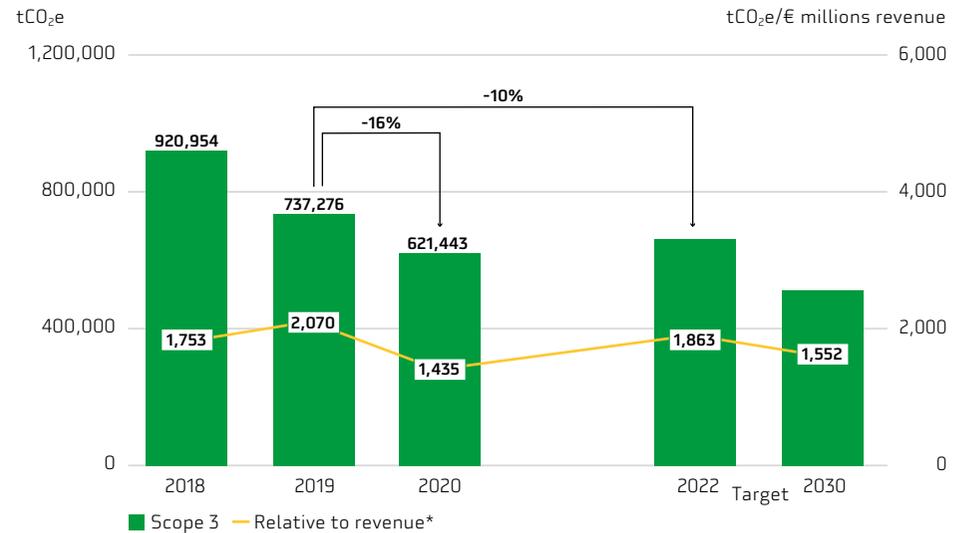
CAPITAL ALLOCATION TRENDS



DIRECT EMISSIONS



INDIRECT EMISSIONS



* Targets for 2022 and 2030 based on 2019 revenue.

* Targets for 2022 and 2030 based on 2019 revenue.

Letter to Stakeholders



Letter to Stakeholders

Dear Stakeholders,

This year marks the start of a new decade of progress and opportunity for our Company. Over the past ten years, we have delivered significant growth and value creation for all stakeholders while conducting our business in a responsible and sustainable manner. Besi's dedicated focus on advanced packaging, technological leadership and the disciplined execution of strategic initiatives has created a leader in the assembly equipment market with superior through-cycle performance and best in class financial metrics.

HISTORY OF SUPERIOR LONG-TERM VALUE CREATION

Disciplined Strategic Execution	Capital Allocation Program	Total Shareholder Return
Leader in advanced packaging for assembly equipment	€ 866 million of dividends and share repurchases since 2011*	Consistent outperformance vs. peers
Superior through cycle performance versus peers	Represents ~20% of total revenue during such period	Total Shareholder Return +584% (5 year) +2,999% (10 year)
Best in class financial metrics	Dividend payout ratio 97% past 5 years	Upper quartile of all 50X listed semi equipment companies

* Includes dividend of € 1.70 per share for approval at 2021 AGM.

Since 2011, we have distributed approximately € 866 million to shareholders in the form of dividends and share repurchases (including the dividend proposed for 2020 of € 1.70 per share) representing over 20% of our cumulative revenue during such period, registered a share price increase of 1,836% and grown our market capitalization from € 170 million to € 3.6 billion at year end 2020. The profitability of our business model has also increased significantly with gross margins increasing from 40% to approximately 60%, net income growing five-fold from € 26.4 million to € 132.3 million and return on average equity more than tripling from 11.2% to 39.5% this year.

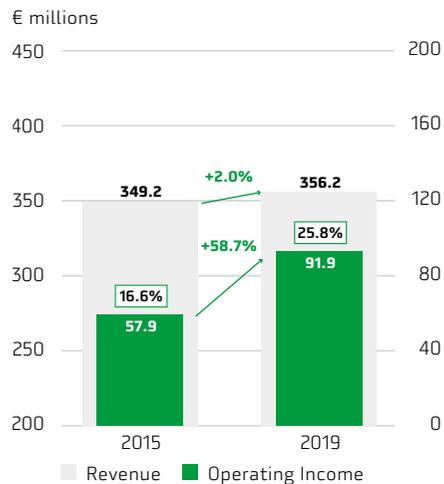
In 2020, we enjoyed strong growth with revenue increasing by 21.7% to reach € 433.6 million and net income rising by 62.7%. In addition, orders of € 472.1 million increased by 35.4% versus last year as an industry recovery took hold in the fourth quarter of 2019 and accelerated in the second half of 2020. Besi's results were even more impressive considering the multiple headwinds faced and organizational challenges posed by the global COVID-19 pandemic, increased trade tensions between the US and China, decreased shipments to automotive end-user markets and an approximate 8% decrease in the value of the US dollar versus the euro in the second half of the year.

Besi's revenue and order growth in 2020 benefited primarily from improved industry conditions and increased shipments for mobile applications due to a new smart phone product cycle featuring 5G capabilities and increased investment by Chinese customers. Profit growth was aided by higher revenue levels and a gross margin expansion of 3.8 points associated primarily with Besi's strong advanced packaging market position and more favorable product mix. It was also aided by increased productivity as relatively stable fixed headcount levels helped drive labor efficiencies. In addition, year over year operating expenses grew by only 1.7% versus 2019. Relatively stable expense development resulted from strategic cost reduction initiatives and reduced corporate travel and personnel overhead associated with the pandemic and expansion of the work at home economy. As a result, net margins rose from 22.8% in 2019 to 30.5% in 2020.

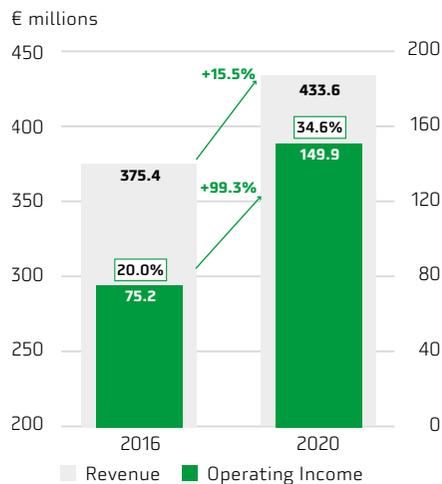
Besi's profitability has increased significantly since the last industry downturn as measured by a comparison of the years immediately following cyclical trough levels reached in 2015 and 2019. As evident in the chart below, operating income in 2020 grew by 99.3% versus the comparable period of the prior cycle while operating margins rose from 20.0% to 34.6%. Increased efficiency this year positions us well for continued profit growth in the current industry upcycle.

INCREASED PROFITABILITY VS. LAST INDUSTRY CYCLE

Trough



Post Trough



Coping with the COVID-19 pandemic

The emergence of the COVID-19 virus in the first quarter of 2020 presented a challenge unlike any we have encountered and underscored the importance of building a resilient, flexible and sustainable organization. Management took immediate precautionary measures to protect the safety and health of our employees, customers and suppliers, significantly increased the frequency of management and board meetings in order to sustain employee and customer engagement in the face of restrictions on personal movement and interaction. In addition, we flexibly adjusted the management and organization to the new and uncertain realities of the pandemic as it evolved.

Fortunately, Besi's operations in Leshan, China and most of our Chinese customers were outside of the primary quarantine zone in Wuhan. In addition, due to our flexible Asian supply chain, labor force and assembly capacity, we were able to shift production and final assembly sufficiently among our Malaysian, Chinese and Singapore facilities to satisfy customer demand. Virtually all Besi office personnel worked remotely with careful adherence to local regulations. Our production also benefited from Besi's dual source supplier strategy and advance purchases of components deemed critical to our operations. The far-reaching impact of the pandemic on Besi's global operations has encouraged the development of new ways of working, communicating, travelling and interacting which will benefit our business going forward. We want to personally thank everyone involved for their efforts to maintain business continuity under such difficult working conditions.

Besi's financial position and liquidity improved

Besi ended the year with a solid liquidity base consisting of cash, cash equivalents and deposits aggregating € 598.7 million (€ 8.22 per basic share). This represents an increase of € 190.3 million, or 46.6%, versus year end 2019 primarily as a result of the offering in August of € 150 million of 0.75% Convertible Notes due 2027 via a registered private placement with institutional investors. The Convertible Note issuance provides attractive seven-year growth capital, increases our financial flexibility to withstand market volatility and take advantage of future strategic opportunities. In addition, it further strengthens our market presence with leading IDM customers which increasingly view Besi as an important partner in their advanced packaging development below 10 nanometer.

Our financial position also improved as cash flow from operations increased by € 41.9 million, or 34.9%, mainly due to higher profits generated during the year and improved working capital management. Similarly, Besi's net cash increased by € 68.4 million, or 52.5%, to reach € 198.7 million as compared to year end 2019.

Shareholder returns increased

Shareholders were rewarded for their investment in Besi both by our capital allocation policy and share price performance. In 2020, € 91.3 million was returned to shareholders in the form of dividends and share repurchases. In October 2020, we extended the current share repurchase program by one year and expanded the amount available thereunder from € 75 million to € 125 million. At year end 2020, Besi held approximately 5.7 million shares in treasury which represented 7.3% of total shares outstanding at an average cost of € 16.43 per share. The year end balance reflects the cancellation of 1.5 million shares held in treasury in October 2020.

Final preparations for hybrid bonding trials at Besi Austria.



Besi's shareholder total return was 46.8% in 2020 versus a 28.9% return by our most comparable peers and a 52.9% return for the benchmark Philadelphia Semiconductor ("SOX") index. Over the past five years, Besi's stock has produced a cumulative total return of 584.3%, significantly outpacing returns of both our peers and the SOX index.

Given profits earned in 2020 and Besi's solid financial position, we will propose a cash dividend of € 1.70 per share for approval at Besi's AGM to be held on April 30, 2021. The proposed distribution is the eleventh consecutive annual dividend paid and reflects a pay-out ratio relative to net income of 94%.

Strategic priorities focused on COVID-19 and R&D initiatives

In the first quarter of 2020, we finalized initiatives for the 2020-2024 planning period. Besi's priorities this year focused, in part, on addressing the COVID-19 pandemic and its impact on our global organization, supply chain and timely customer shipments. A variety of initiatives were developed to adjust our business model to the new economic and workplace realities caused by the pandemic. Ongoing cost reduction efforts focused on the continued consolidation and reduction of Besi's European footprint. The successful execution of strategic initiatives significantly improved our financial performance this year.

We also reorganized our research and development organization to better align it with customer roadmaps. Similarly, we increased gross R&D spending (excluding the impact of net capitalized R&D) by € 3.0 million, or 7.8%, versus 2019. Spending growth was primarily due to higher personnel levels necessary to support customer programs as well as the construction of a Class 10 cleanroom at Besi Austria to further hybrid bonding development. Key development activities primarily related to the following applications and process technologies:

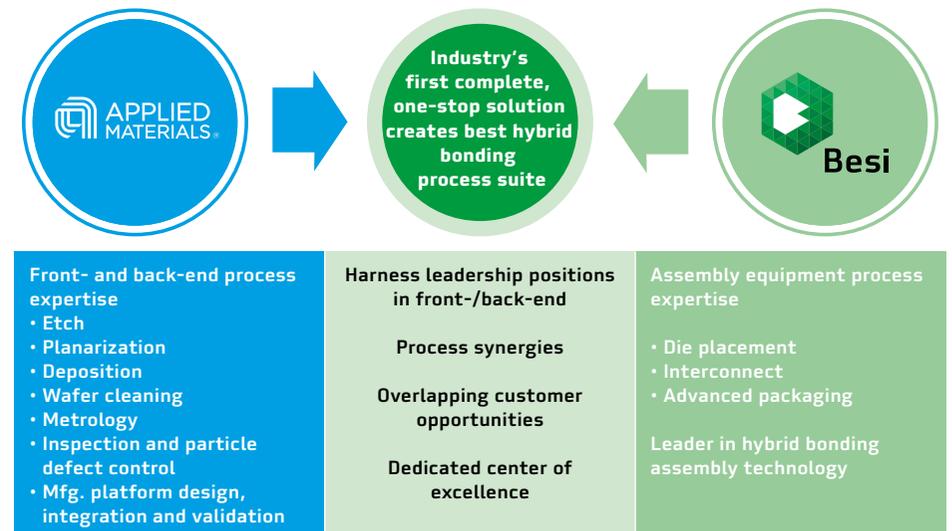
- Next generation 5G smart phone components and applications such as antennas, world facing cameras, enhanced 3D imaging and microLED screens.
- Hybrid bonding interconnects for the integration of multiple, heterogeneous devices in chip scale logic and memory devices for which we shipped our first nano-accurate hybrid die bonding system.
- Next generation high speed <5 micron accuracy TCB die bonding systems and flip chip die bonding systems for the assembly of advanced logic and memory devices.

Joint development agreement signed with Applied Materials

We signed a joint development agreement with Applied Materials, Inc. in October to develop the industry's first complete and proven equipment solution for die-based hybrid bonding. The collaboration harnesses each firm's respective expertise in front- and back-end semiconductor process technology for next generation applications such as high-performance computing, AI, 5G, mobile, data storage and automotive.

Hybrid bonding connects multiple chipllets in die form using direct copper interconnects. This technique enables designers to bring chipllets of various process nodes and technologies into closer physical and electrical proximity so that they perform as well or better than if they were made on a single large, monolithic die. Hybrid bonding is a major improvement over conventional chip packaging because it permits increased chip density and shortens the lengths of the interconnect wiring between chipllets, thereby improving overall performance, power, efficiency and cost. A complete die-based hybrid bonding equipment solution requires a broad suite of semiconductor manufacturing technologies along with high-speed and extremely precise chipllet placement technology. To achieve this, the joint development program brings together Applied's semiconductor process expertise in etch, planarization, deposition, wafer cleaning, metrology, inspection and particle defect control with Besi's leading die placement, interconnect and assembly solutions.

JOINT DEVELOPMENT AGREEMENT WITH APPLIED MATERIALS



Industry shift to smaller, integrated, heterogeneous chip designs for leading edge 5G, AI, HPC, data storage and auto applications

The parties have established a Hybrid Bonding Center of Excellence at Applied’s Advanced Packaging Development Center in Singapore which is located across the street from Besi’s Asia Pacific headquarters. The Applied facility is one of the industry’s most advanced wafer level packaging laboratories and contains 17,300 square feet of Class 10 cleanroom space with full lines of wafer level packaging equipment. The Center of Excellence was outfitted jointly in the fourth quarter of 2020 with customer engagement at the facility commencing in the first quarter of 2021.

ESG strategy enhanced

This year we engaged an independent, third party consulting firm to help us better define our Environmental, Social and Governance (“ESG”) goals and ambitions in the context of our industry, culture and increased scale. We simplified areas of focus while expanding reporting activities and the scale and scope of our initiatives. We also engaged senior management and relevant stakeholders for their input.

ESG STRATEGIC PILLARS, MATERIAL TOPICS AND KEY TARGETS



<p>Key Targets 2022</p> <ul style="list-style-type: none"> • 100% renewable sources for European energy needs • 15% reduction in Scope 1 and 2 carbon emissions* • Above-benchmark employee engagement score • Increase training hours per employee 	<p>Key Targets 2030</p> <ul style="list-style-type: none"> • 65% renewable sources for global energy needs • 60% reduction in Scope 1 and 2 carbon emissions* • Reduce energy consumption • Decouple carbon footprint from revenue growth • Target 80% vendor compliance with Conflict Minerals Sourcing Initiative
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* As per Greenhouse Gas Protocol. Targets relative to 2019 baseline data.

Besi’s ESG strategy is centered on three strategic pillars: Environmental Impact, People Wellbeing and Responsible Business. Within these pillars, we identified 12 material topics, of which key focus areas include energy use and renewable energy, sustainable design and diversity and inclusion. We also translated our ambitions into a broad range of measurable and challenging targets for the short-, medium- and long-term. In addition, we reinforced the importance of achieving such targets by embedding them in the remuneration policy for the Board of Management and senior executives.

Key ESG accomplishments in 2020	
•	Additional safety, health and organizational measures implemented due to COVID-19
•	Near and long term ESG ambitions, targets and KPIs set
•	100% renewable energy achieved across three operating locations
•	Reduction of Scope 1 and 2 carbon emissions by 6% on absolute basis and 20% on relative basis
•	Relative reductions in fuel, energy, hazardous waste and water consumption
•	Remote service and installation begun using augmented reality
•	Increased employee engagement and improved sentiment identified in corporate COVID-19 Pulse Survey
•	Proposed increase of female representation at Besi’s Supervisory Board level from 20% to 40%

Besi’s enhanced ESG framework, progress achieved in 2020 and long-term targets will help facilitate our successful and sustainable business growth over the next decade.

Favorable industry outlook entering 2021

There are many positive indicators as we enter 2021. They include (i) larger customer capex budgets for advanced packaging applications, (ii) increased consumer demand for 5G enabled smart phones, (iii) renewed growth for memory devices following a long period of oversupply conditions and (iv) improved orders for automotive applications as the global economic recovery continues. We are also encouraged by substantial fourth quarter orders of € 157.3 million which reflected growth across all end-user markets. Traditionally, the fourth quarter is the weakest period of the year for bookings. One of the principal questions for 2021 is the trajectory of the industry recovery given the spread of new COVID-19 variants and renewed restrictions on travel and personal interaction in selected parts of the world.

Longer term, we are encouraged about Besi’s prospects given our strong performance during the last industry downturn and current pandemic and by the presence of strong secular growth drivers. Anticipated growth will be driven primarily by 5G network expansion and feature/functionality upgrades, continued investment in cloud computing infrastructure and artificial intelligence applications, advances in electric vehicle

production and autonomous driving and significant investment by the Chinese government to build out its semiconductor production capacity. In addition, we see IDMs more actively engaged in the deployment of next generation processes than the last investment cycle. In this regard, we have seen increased focus by memory manufacturers on high-speed, high-accuracy flip chip production versus traditional wire bonding solutions and increased engagement on the topic of hybrid bonding for the development of next generation applications. Our hybrid bonding joint development agreement with Applied Materials holds significant promise to expand our addressable market and increase our share of wallet at Besi's leading IDM customers.

As chip functionality, complexity and density increase and device geometries shrink, Besi's advanced packaging solutions are ever more important to customers. As such, the traditional back-end assembly process is starting to merge with the front-end at the most advanced node levels. In addition, it appears that the pace of innovation is increasing as the pandemic has accelerated society's move to a digital infrastructure wherein technology adoption has greatly increased in our daily lives. Innovation is an important driver of our business.

In closing, we want to thank our employees, customers, suppliers and other stakeholders for helping Besi deliver impressive growth in a challenging year. We look forward to a time when the virus is no longer a daily threat to our families, communities and business relationships and we can fully focus our efforts on the many exciting growth opportunities in the decade ahead.

Board of Management
Richard W. Blickman

February 18, 2021



Webex meeting bi-weekly strategy program update.

Market Overview



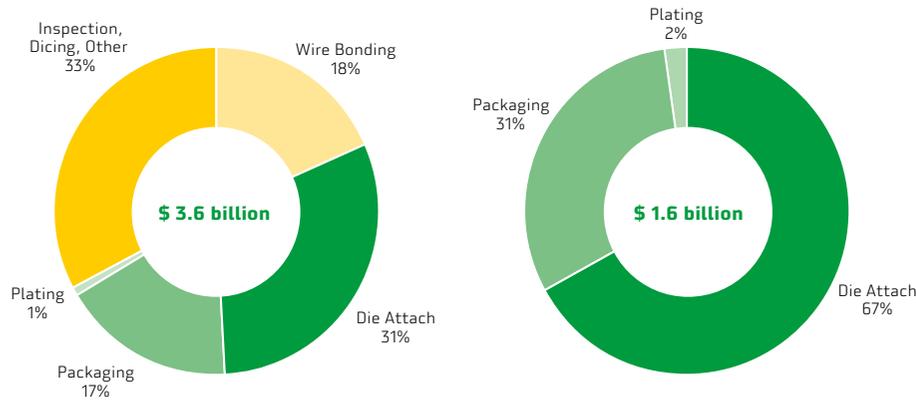
Market Overview

Assembly equipment market

The semiconductor manufacturing process involves two distinct phases, wafer processing, commonly referred to as the front-end, and assembly/test operations which are commonly referred to as the back-end. Besi's assembly equipment is used by customers principally to produce advanced semiconductor assemblies or "packages". VLSI Research, a leading independent industry analyst, estimated that the size of the assembly equipment market was approximately \$ 3.6 billion in 2020, or 5% of the total semiconductor equipment market. Besi's product strategy focuses primarily on providing advanced packaging solutions to customers which incorporate both substrate and wafer level based packaging processes in their semiconductor assembly operations. This represents the most rapidly growing area of the assembly equipment industry.

Besi's product group offerings for the assembly equipment market include Die Attach, Packaging and Plating which represented approximately 80%, 17% and 3%, respectively, of our revenue in 2020. As per VLSI Research, Die Attach systems represented the largest estimated portion of the assembly equipment market in 2020 (31%). Based on VLSI data, we estimate that our addressable market was approximately \$ 1.6 billion in 2020 which represented approximately 44% of the total assembly equipment market.

ASSEMBLY EQUIPMENT MARKET (2020)* Besi ADDRESSABLE MARKET (2020)*

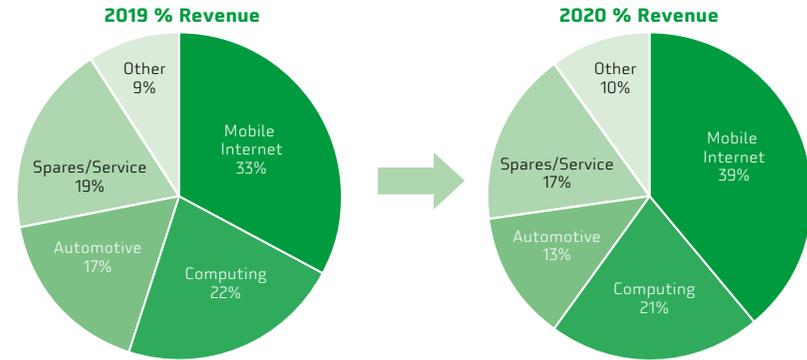


* Source: VLSI, February 2021

Besi's key end-user markets

Besi has three principal end-user markets: mobile internet, computing and automotive. They represented an estimated 73% of Besi's total revenue in 2020 (2019: 72%). In addition, we serve industrial, medical and other markets and provide spares and services to our installed base of customers which represented approximately 10% and 17%, respectively, of total 2020 revenue.

BESI END-USER MARKETS



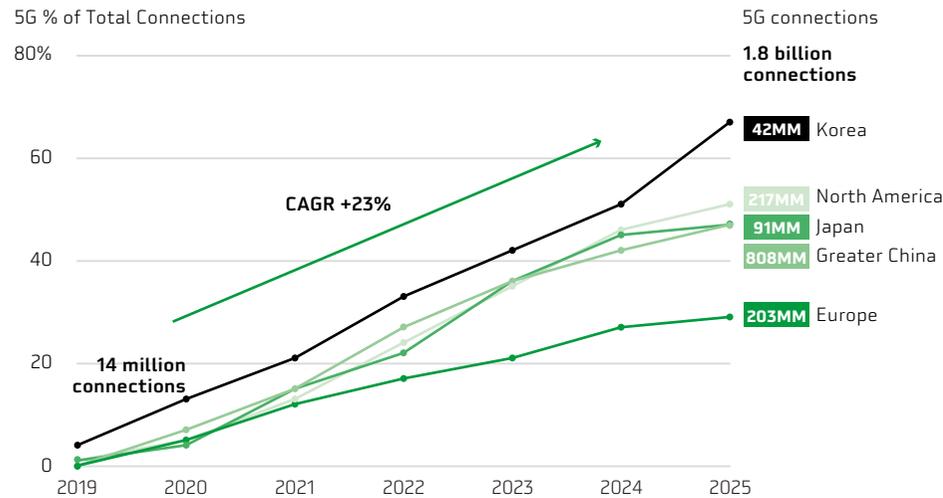
Source: Company estimates

Mobile internet

Besi's largest end-user market has traditionally been mobile internet devices. We sell die bonding, packaging and plating systems to support high-end and mainstream smart phones, wearable internet devices and other related wireless devices and logistical systems. Besi's end-user customers include the largest mobile handset manufacturers and their global supply chains worldwide from which revenue can fluctuate significantly on an annual basis depending on the timing of new product introduction cycles. Through its assembly solutions, Besi helps manufacturers develop next generation mobile device features and functionality such as 5G antennas, front-back facing cameras, multiple camera modules (8+), enhanced 3D sensing and facial recognition features and micro LED screens.

A significant customer focus is the development of die bonding and packaging solutions for smaller, highly complex and feature packed 5G compatible smart phones. 5G is a unifying connectivity platform for future innovation enabling secure cloud access on a continuous basis at significantly higher data and video transmission speeds.

5G PENETRATION RATES 2019-2025



Source: GSMA Mobile Economy and Besi analysis, March 2020

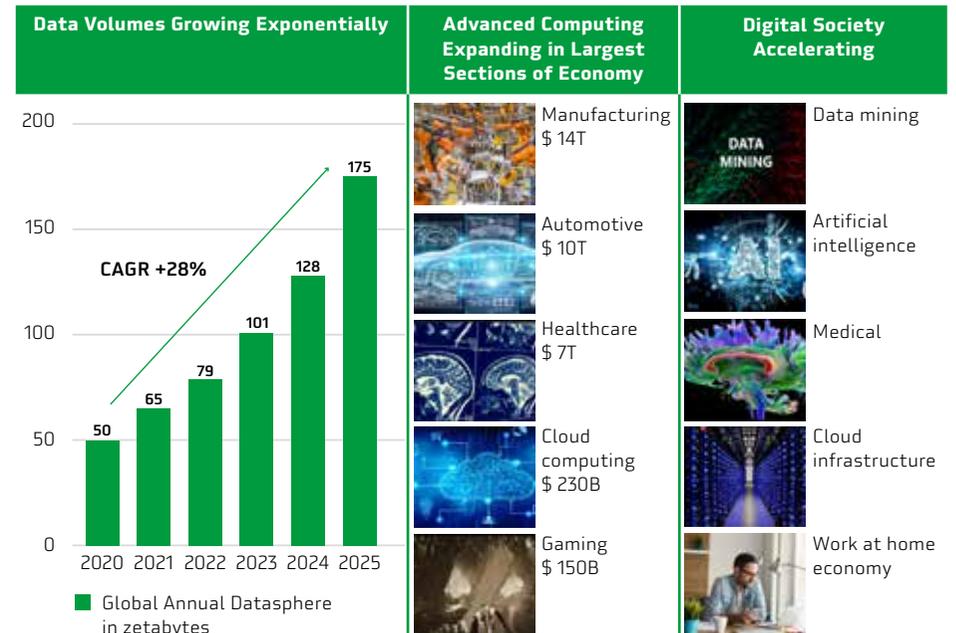
As presented in the chart above, 5G penetration rates are anticipated to grow significantly over the next five years. As such, user adoption of 5G capabilities could greatly expand mobile broadband activities and accelerate the usage of artificial intelligence for the Internet of Everything.

Computing

Computing has traditionally been Besi’s second largest end-user market. It includes sales of die bonding and packaging systems for high-end logic and memory devices used in servers, PCs, tablets, flat panel displays and internet applications. Computing has been growing rapidly over the past decade with the explosion of data volumes and memory needed to power the IT needs of the largest sections of the global economy. Specific growth opportunities include the expansion of cloud-based computing and its requisite

infrastructure, the adoption of artificial intelligence and virtual and augmented reality in our daily business and personal interactions, the usage of software to mine, organize and analyze the massive quantities of data being generated and the proliferation of the Internet of Everything including the smart management of residential, industrial and municipal equipment and functions.

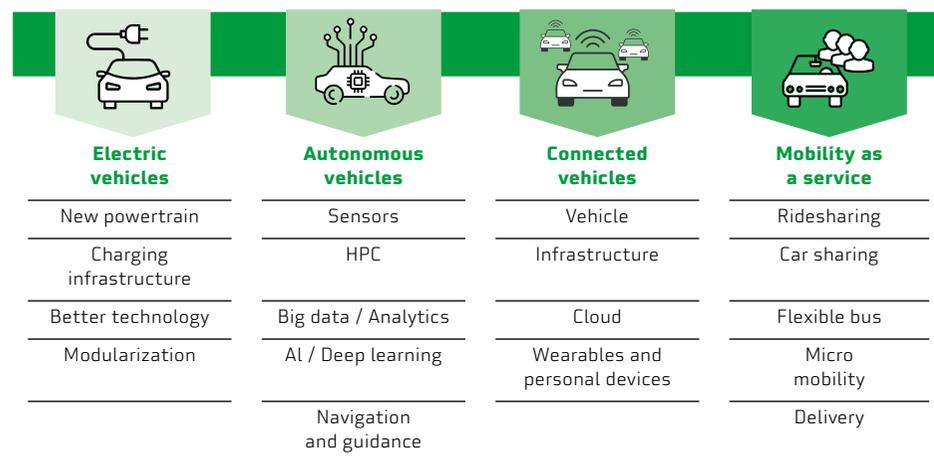
A strategic focus is the expansion of Besi’s reach in the logic and memory markets in the era of cloud computing, data mining and artificial intelligence of which advanced packaging plays a critical role. To this end, we are working jointly with Applied Materials to develop and commercially introduce next generation hybrid bonding solutions for customers which can greatly expand data transmission speeds via chip scale packaging integrating ever smaller, denser, complex and feature-packed devices.



Automotive

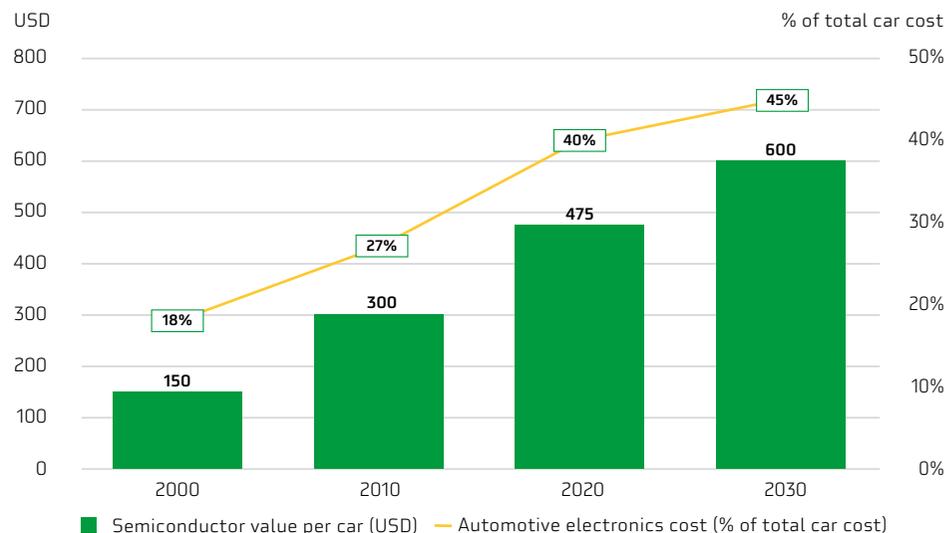
Besi's automotive end-user market consists principally of the sale of die bonding, packaging and plating systems for intelligent automotive components, sensors and subsystems to leading European, North American and Japanese automotive component and subsystem suppliers. Besi's system solutions address critical automotive requirements such as increased power, safety, reliability, intelligence and autonomous driving capabilities. Projected growth in this end-user market reflects ever increasing electronic content requirements. In addition, it reflects the usage of more dense, integrated and complex chips as the industry moves to electric and computer driven vehicle operation in response to environmental and climate change concerns.

AUTOMOTIVE GROWTH DRIVERS



Source: KPMG Automotive Semiconductors: New ICE age, November 2019

SEMICONDUCTOR COST CONTENT PER CAR IS INCREASING



Source: IHS Markit and Deloitte Insights, July 2020

Industrial, medical and other

In the industrial, medical and other end-user markets, Besi sells its full range of systems for advanced medical equipment and devices, high-end lighting and LED devices and solar, lithium battery and renewable energy applications.

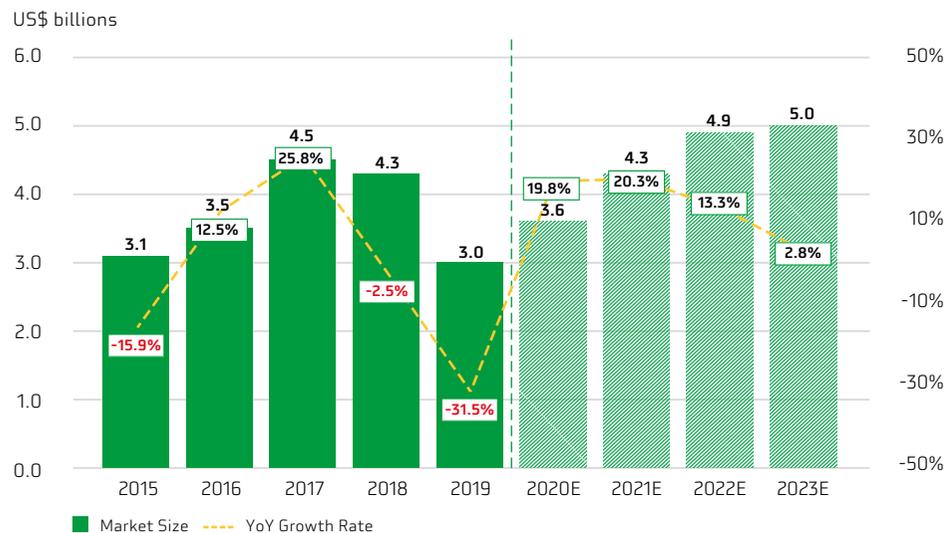
Spares and service

Revenue from Besi's spares and service activities are estimated to have represented approximately 17% of total revenue in 2020. In general, revenue from these activities has grown significantly over the past decade reflecting the increase in our installed base of systems and increased customer requirements for onsite production assistance. Revenue from spares and service activities is typically less cyclical than our equipment sales.

Assembly equipment market trends

VLSI Research currently estimates that the semiconductor assembly equipment market increased by 19.8% in 2020 versus 2019. The current 2020 growth estimate reflects a much more favorable outcome than the 8% decrease forecast post the COVID-19 pandemic outbreak in March 2020.

ASSEMBLY EQUIPMENT MARKET TRENDS 2015-2023E



Source: VLSI, February 2021

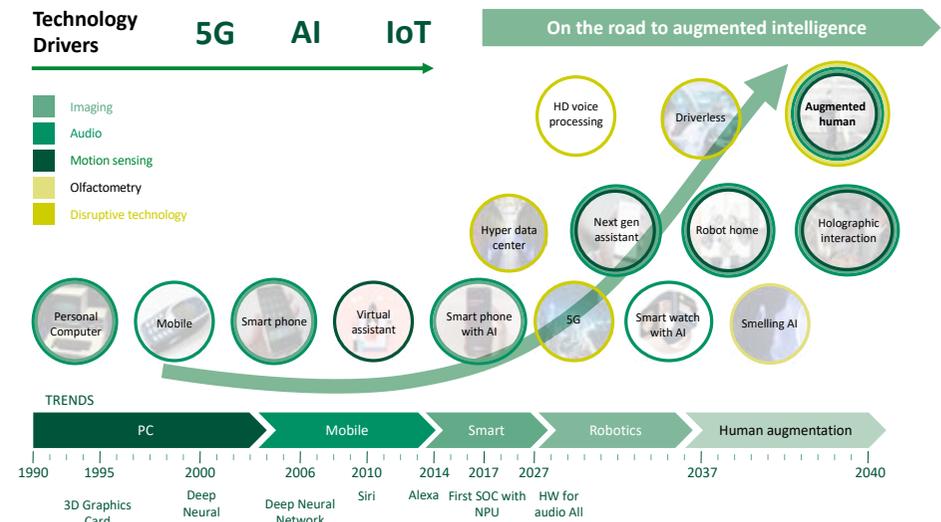
Looking forward, VLSI estimates that the market will continue its recovery from the most recent 2019 trough with growth of 20.3% and 13.3% forecast for 2021 and 2022, respectively. Growth will be driven by 5G network expansion and new product introductions, continued investment in cloud infrastructure and high-performance computing, renewed capacity investment for memory applications, a rebounding global economy and innovations in packaging technology.

Strategically well positioned for next generation of electronics applications

We believe that we are in the early stages of a transition to a digital society accompanied by a new generation of sustainable and more environmentally friendly electronics applications. In such a society, intelligence and electronic content will increase in all

facets of our life including medical care, homes, factories, municipalities and transportation. We see evidence daily of new productivity enhancing technologies such as cloud computing, 5G networks, artificial intelligence, data mining and predictive analysis, autonomous driving, robotics and blockchain software. In response, new leading edge semiconductor devices are being developed which will play a critical role in furthering the use of many such applications.

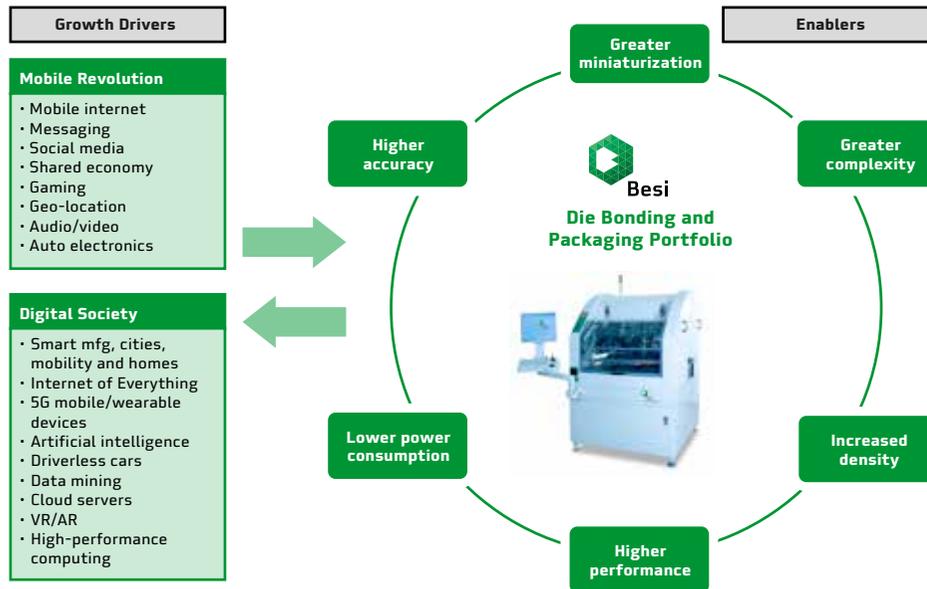
DIGITAL SOCIETY DRIVES GREATER COMPUTING AND DATA NEEDS



Source: Yole, January 2020

Consistent with these trends, a new technology cycle is underway wherein customers increasingly demand more complex advanced packaging solutions containing ever more functionality in ever smaller form factors. Advanced packaging is now recognized by customers as a critical part of the semiconductor value chain to produce next generation devices. As such, Besi is actively involved with the leading semiconductor producers and supply chains at an early stage in the design process. We are well positioned with an estimated 75% of our systems corresponding to the VLSI Research definition of advanced packaging, of which approximately 55% were in the most leading edge applications (<7-micron accuracy and <17 nanometer form factor).

ADVANCED PACKAGING CRITICAL TO NEXT GENERATION APPLICATIONS



Besi's leading position in advanced packaging, engagement in leading edge customer roadmaps and scalable production favorably position us to capitalize on an exciting new era of industry applications and growth.

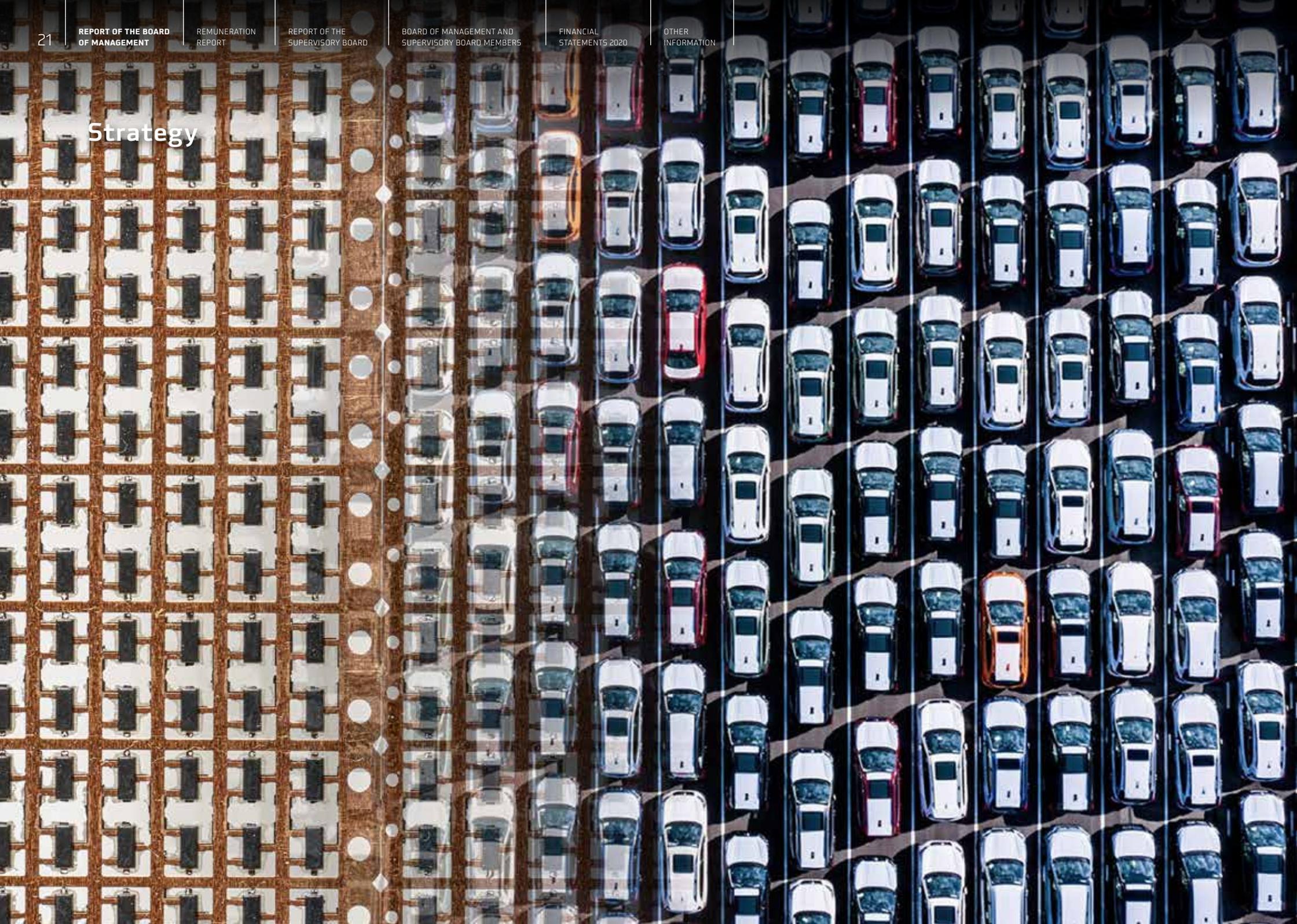
Increased focus on sustainability and climate change in production of next generation devices

Society and customers in each of our end-user markets are increasingly interested in sustainability as they seek to operate in a safer, more environmentally efficient manner. In fact, the Information Communication Technology ("ICT") sector, of which we form a part, has the potential to help the world decouple economic growth rates from emissions growth rates and aid in the battle against climate change in such areas as lower resource consumption, lower dependence on fossil fuels and the promotion of cleaner environments.

Many of Besi's assembly systems help promote ICT advancements and consequently sustainability and environmental improvements in each of our end-user markets. In addition, the utilization of our systems can assist in the development of the Internet of Everything incorporating smart cities, smart manufacturing, smart mobility and self-driving electric cars with artificial intelligence. Our systems can also contribute to a more efficient and cleaner industry by means of longer battery life for electronic devices, more efficient solar cells and lower power consumption and heat dissipation in smart phones. Additionally, increased automotive electronic content and intelligence can help foster the development of next generation electric and autonomous vehicles without fossil fuel generated combustion engines.

Another trend which affects Besi's business and end-user markets is the circular economy. As opposed to a linear economy in which we make, use and dispose of materials, a circular economy emphasizes (i) the usage of materials for as long as possible, (ii) the extraction of their maximum value while in use and (iii) the recovery and regeneration of products and materials at the end of their useful service life. Besi contributes to the circular economy by designing high quality, flexible systems which have long useful lives and can be repurposed by customers or by us for other production requirements to extend their useful lives. For more information, please refer to the [Environmental, Social and Governance Report](#).

Strategy



Strategy

Mission

Besi's mission is to become the world's leading supplier of semiconductor assembly equipment for advanced packaging applications and to exceed industry average benchmarks of financial performance. We strive to create long-term value for stakeholders and operate our business in a sustainable way respecting both the environment and society.

Summary strategy and long-term value creation model

Long-term success in the assembly equipment industry requires technological leadership, customer alignment, system reliability and high levels of accuracy in 24/7, high volume production environments. Other key factors include production flexibility and scalability in response to volatile shifts in demand for an industry whose cycle times have become ever shorter. We also recognize the importance of human and natural considerations in the development of our strategy such as our environmental footprint, the sustainable performance of our systems and the development of a business culture which is diverse, respects the rights of our employees and promotes the skills and talents of our personnel. Besi's business strategy has been developed with these considerations in mind.

One of our top priorities is the maintenance of technological leadership in the advanced packaging segment of the industry. This is the most rapidly growing part of our business with the greatest potential for future growth. We aim to leverage Besi's leadership position to generate ever higher levels of through-cycle revenue, profitability and cash flow via a highly scalable and flexible production model. Weekly analyses of order development and the supply chain combined with disciplined cost control efforts have enabled us to respond rapidly to changing market conditions, retain peer leading margins and generate high levels of cash flow to support a shareholder friendly capital allocation policy.

Besi's Board of Management reviews its strategy on a semi-annual basis. We engaged an independent consulting firm in both 2016 and 2019 to assess our strategic plan and long-term value creation model and help formulate specific revenue and cost initiatives. The most recent plan assessment encompasses the period 2020-2024. Besi's development and execution of strategic initiatives has favorably influenced our organizational development, financial performance and competitive position in recent years.

BESI'S LONG-TERM VALUE CREATION MODEL

Capital inputs	Input	Output	Impact and Outcomes	Stakeholders
Intellectual	<ul style="list-style-type: none"> Significant investment in R&D Know how of our people Our intellectual property 	<ul style="list-style-type: none"> Leading edge assembly solutions Sustainably designed systems Partnership with industry leaders 	Environmental footprint <ul style="list-style-type: none"> Promote cleaner environment and combat climate change Longer battery life in electronics Lower power consumption and heat dissipation in smart phones Lead free content in PCBs Reduced waste, water, energy, packaging and hazardous materials More efficient solar cells Electric vehicle usage Reduced greenhouse gas emissions 	Customers
Human	<ul style="list-style-type: none"> Our 1,618 worldwide employees Flexible workforce Responsible ethics, labor and tax practices 	<ul style="list-style-type: none"> Committed and engaged employees Long-term customer relationships Increased customer satisfaction Expand addressable market 	Digital society <ul style="list-style-type: none"> Promote new applications in digital society Smart infrastructure, manufacturing and homes Better communication, mobility, medical care and security 	Employees
Natural	<ul style="list-style-type: none"> Minerals, metals and other raw materials Natural and renewable energy sources 	<ul style="list-style-type: none"> Recyclable materials A light carbon footprint Higher % of renewable energy Conservation of natural resources 	Communities <ul style="list-style-type: none"> Provide safe and healthy working environment Invest in wellbeing of employees/communities Promote training, local sponsorship, investments, diversity and human rights 	Society
Industrial	<ul style="list-style-type: none"> Our global production and supply chain Components, modules and semi-finished products we purchase 	<ul style="list-style-type: none"> Value-added assembly Scalable, sustainable and responsible supply chain Flexible production model 	Shareholders <ul style="list-style-type: none"> Offer attractive long-term returns 	Suppliers
Financial	<ul style="list-style-type: none"> Strategic planning Capital allocation Capital markets funding Acquisitions 	<ul style="list-style-type: none"> Peer-leading financial metrics € 91.3 million returned to shareholders ROAE of 39.5% and total return of 46.8% 		Shareholders

Strategic objectives

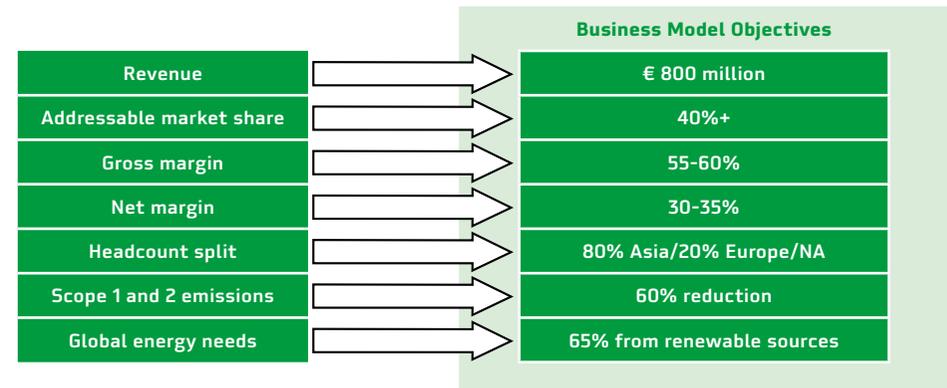
The key initiatives to realize our strategic objectives and long-term value creation can be summarized as follows:



Through the implementation of these strategic initiatives, Besi seeks to (i) increase revenue at rates exceeding the growth rate of the assembly equipment market, (ii) become a more efficient and profitable company with increased market share in those segments of the assembly equipment market with the greatest potential for long-term growth and (iii) enhance production scalability and flexibility.

Besi seeks to achieve its strategic objectives in a socially responsible manner for the benefit of all stakeholders, partners, the environment and the local communities in which we operate. In addition, Besi wants to be a meaningful partner in the emerging digital society and to further advance information and communication technologies which can benefit sustainability themes in the future. We are also committed to being a good employer and to foster a workplace culture that encourages our employees to grow and excel in their careers.

Our key long-term business model objectives are set forth in the chart below:



Maintain best in class technology leadership

Besi aims to provide global semiconductor manufacturers and subcontractors a compelling value proposition consistent with market requirements and new product development roadmaps. We seek to differentiate ourselves in the marketplace by means of a technology-led product strategy that capitalizes on revenue opportunities in both premium and mainstream assembly equipment markets. Besi enters such markets with leading edge technology and products appealing to the first movers of the industry, typically leading global semiconductor manufacturers and other advanced industrial end-users. Upon commercial acceptance, we then attempt to maximize the return on investment of our products through continued system cost reduction so that they appeal to a broader, more mainstream customer base and extend their product life cycle. Mainstream customers are often Asian assembly subcontractors. Besi exits product markets when its technology becomes commoditized and returns on investment become unattractive. In pursuing its product strategy, Besi uses its core competency to (i) increase revenue by expanding its addressable market and market share and (ii) maximize the return on its technology investment.

Over the past five years, Besi has developed next generation die attach and packaging systems with a particular emphasis on substrate and wafer level packaging processes. Development efforts have focused on customer requirements for (i) thinner devices and higher levels of miniaturization, (ii) increased accuracy, performance, chip density and complexity, (iii) lower power consumption and heat dissipation and (iv) shorter lead times, all at a lower overall cost of ownership. In addition, we design enhanced versions of each

product line every one to two years to ensure that Besi's systems maintain their technological leadership in the areas of form factor, accuracy and throughput.

Key highlights in recent years include the development for production environments of:

- <3-micron accuracy flip chip and fan out wafer level die bonding systems and wafer level molding systems.
- A line of die bonding systems capable of assembling complex, <5-micron accuracy modules incorporating multiple components for advanced mobile internet applications such as facial recognition and 3D image sensing.
- High volume TCB die bonding systems for advanced memory and logic applications.
- Assembly solutions for next generation 5G smart phone applications such as antennas and microLED screens.
- Hybrid bonding systems capable of integrating multiple heterogeneous devices at geometries as small as 7 nanometer via a single interconnect.
- Leading edge solar and 3D lithium-ion battery plating systems.

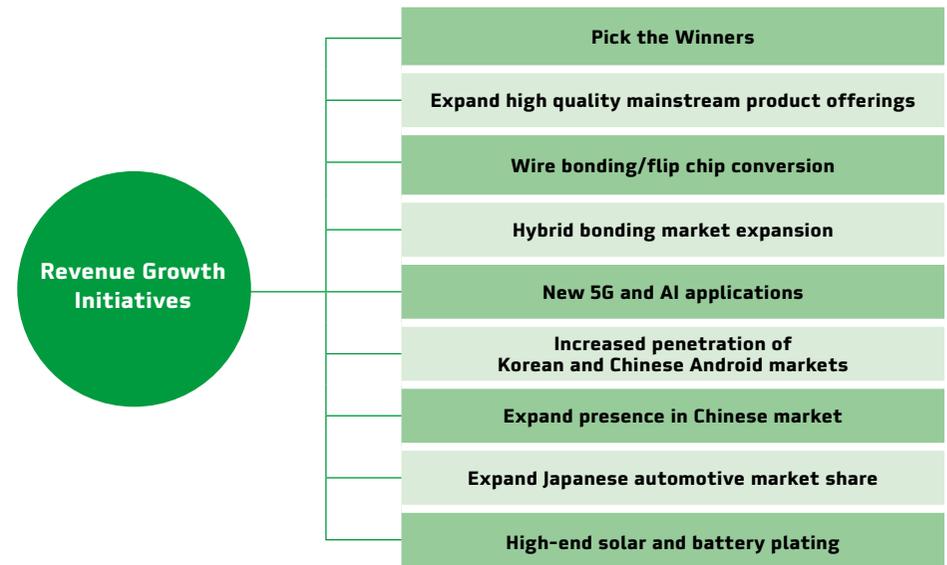
In addition, Besi is re-engineering several of its existing product platforms to reduce their overall cost and manufacturing cycle time through more standardized design and manufacturing processes. As part of the streamlining process, we have focused on the development of common parts and common platforms for each successive, next generation die bonding and packaging system with the objective of decreasing the number of platforms for such products. This initiative will enable Besi to (i) reduce the number of components and machine parts per system, (ii) decrease average component costs, (iii) greatly simplify design engineering, (iv) shorten cycle times and (v) lower warranty expense. In this manner, Besi expects to achieve additional labor cost, supply chain and working capital efficiencies.

Increase market presence in addressable markets

Key to increasing our market presence and addressable market is the development of close, strategic relationships with customers at the forefront of semiconductor technology and deemed critical to our technological leadership and growth. Besi's customer relationships, many of which exceed 50 years, provide us with valuable knowledge about semiconductor assembly requirements as well as new opportunities to jointly develop assembly systems. As such, they provide Besi with an important insight into future market trends and an opportunity to broaden the range of products sold to customers.

In order to sustain close relationships with customers and generate new product sales, Besi believes that it is critical to maintain a significant presence in after-sales and service in each of its principal markets. As such, Besi currently has nine regional sales and service offices in the Asia Pacific region, Europe and the United States and a direct sales force and customer service staff of 196 people at year end 2020, of whom 168 are located in Asia. Consistent with the migration of customers to Asia, we have strengthened our sales and

customer service activities in this region and have shifted a significant portion of our resources to countries such as Singapore, China, Malaysia, Thailand, Taiwan and Korea. We also centralized all global spare parts activities in one business unit based in Singapore to increase customer satisfaction and efficiency. We plan to expand our Asian process support, order fulfillment and field service capabilities over the next five years to better serve a rapidly growing installed base of customers in the region.



We seek to increase long-term revenue growth by expanding Besi's addressable markets and market presence via the following initiatives:

- Pick the Winners: Leverage our leadership positions in substrate, wafer level and hybrid bonding process technology to engage with customers at the forefront of leading edge applications such as 5G network compatibility, cloud and high-performance computing, AI, autonomous and electric cars and virtual and augmented reality.
- Provide assembly solutions for new 5G applications and components such as antennas, enhanced 3D imaging, facial recognition, 8+ camera modules and microLED screens.
- Further penetrate the largest global smart phone and electronics supply chains with both high-end and high-quality mainstream products.

- Capitalize on our first mover advantage in hybrid bonding to gain market share in this important next generation process technology.
- Gain market share from increased usage of high-volume flip chip and TCB assembly processes versus more conventional wire bonding solutions, particularly in high-end memory applications.
- Expand our market share of Korean and Chinese Android mobile customers and of the Japanese automotive supply chain.
- Expand in the local Chinese handset, semiconductor and electronics industries.
- Expand penetration of plating markets including high-end solar and battery plating applications.

The expansion of Besi's addressable markets and revenue potential will be aided by ongoing efforts to further improve our competitive cost position via Asian manufacturing and common platform initiatives and a further reduction of European based costs.

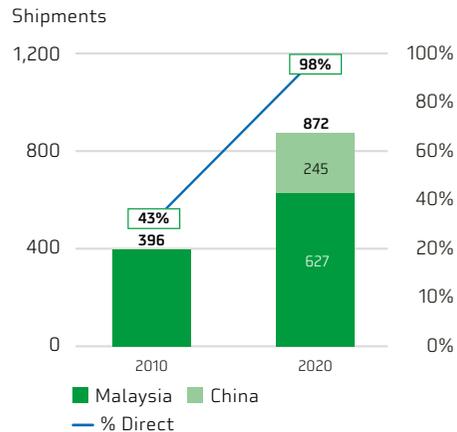
Enhance scalability. Reduce structural costs

The semiconductor equipment market has become increasingly more volatile in recent years due to heightened global economic uncertainty, trade tensions, changing end market applications, more seasonal purchasing patterns and shorter lead times for delivery. In response, Besi decided to fundamentally reorganize its global operations and management structure starting in 2007 to streamline operations, transfer production and supply chain activities to its Asian operations, improve returns from its product portfolio, reduce break even revenue levels and increase through cycle profitability. European and North American headcount was significantly reduced, inefficient operations closed and substantially all European production and all tooling capacity were transferred to our Malaysian and Chinese facilities.

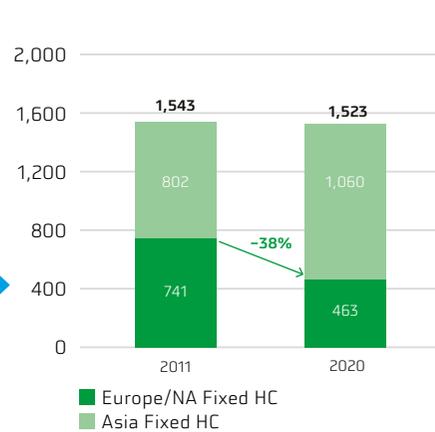
In addition, Besi made strategic capital investments over the past decade to expand production in Asia to better service a customer base that migrated from Europe and North America to Asia. In 2020, approximately 83% of revenue was derived from sales to Asian customer locations. In particular, we have funded expansions of our Malaysian and Chinese production facilities and Singapore development/sales and service center over the past five years to expand capacity and better service our Asian customer base.

ASIAN PRODUCTION TRANSFER HAS IMPROVED PROFITABILITY AND CASH FLOW

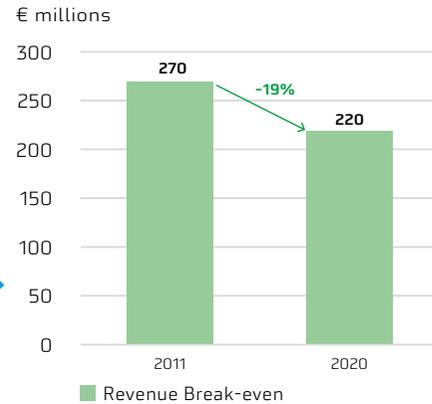
Asian production has significantly expanded



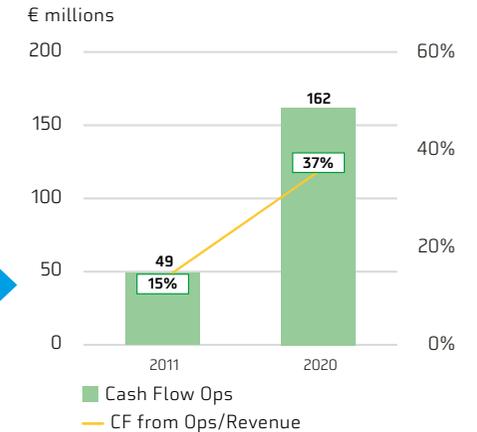
Leading to lower fixed European and NA headcount



Reduced break even revenue levels



Improved cash generation



In the Besi operating model, all system production, sourcing, product applications engineering, process and software support and tooling/spares operations take place at Besi's Asian locations. All product ownership and new product development remains at our European operations. Only highly customized systems are produced in Europe for which we generate attractive gross margins. In recent years, Besi has diversified its Asian manufacturing and engineering capabilities and significantly increased the scope of operations in China and Singapore to further drive cost reduction, increase capacity, technical and field service support and enhance our local customer presence. Additional selling, general and administrative functions will be transferred over the next five years from Besi's European locations to its operations in Singapore, Malaysia and China.

In addition, we have actively developed and qualified local supply chains for each of our Malaysian and Chinese operations which produce substantially all components, modules and subassemblies used in our assembly and plating system production. The successful development of a flexible Asian supply chain is an important factor in our profitable navigation of volatile semiconductor equipment markets and low capital intensity.

Strategic initiatives were also implemented to:

- Increase the scalability and flexibility of Besi's production model via the use of temporary Asian production personnel and the establishment of a high-quality Asian supply chain network.
- Further reduce European facility space and fixed headcount.
- Simplify and harmonize diverse manufacturing and IT processes.
- Roll out and implement the SAP ERP system to all operations worldwide.

As a result, Besi has significantly reduced labor, material and overhead costs, improved delivery times and inventory turnover and enhanced its local customer presence. We have also been able to upwardly and downwardly scale our operations in response to volatile industry trends during the 2017-2020 period while consistently maintaining gross margins in an approximate range of 55-60%. Increased scalability combined with tight inventory control have also greatly expanded Besi's cash generation capabilities and market share potential.

Besi is targeting approximately € 10 million of cost savings in its 2020-2024 planning period via the following cost reduction initiatives:

Supply Chain	<ul style="list-style-type: none"> • Pursue additional vendor consolidation and volume discounts • Increased production/supply chain flexibility
Product Design	<ul style="list-style-type: none"> • Achieve cost reduction in each new product generation • Reduce number of platforms • Increase standardization, reduce cycle times • Further implement cost down engineering practices
Overhead	<ul style="list-style-type: none"> • Continue West to East transfer. Target 80% Asian headcount • Reduce overhead levels in the Netherlands and China • Gain efficiency via work at home economy • Reduce European facility costs

Successful strategic execution of these initiatives will help ensure the profitable development of our business model over the next decade.

Balance business objectives with social/ecological responsibilities

In 2020, we engaged an independent, third party consulting firm to help us better define our ESG goals and ambitions and establish a more robust ESG framework with specific targets identified to guide our activities for the next decade. This undertaking confirms our commitment to grow Besi's business, supply chain and personnel resources in a responsible and sustainable manner. It also reflects our focus on the health and wellbeing of our employees and the development of environmentally friendly and sustainable products and solutions.

Our ESG priorities focus on the impact of our products, operations and supply chain on the environment and the communities in which we operate. In recent years, we have reduced the environmental impact of our production operations as well as the health and wellbeing of our employees through programs designed to (i) reduce our carbon emissions and increase the share of energy from renewable sources, (ii) eliminate materials, processes and hazardous waste deemed harmful to the environment, (iii) conserve natural resources such as water and electricity and (iv) reduce packaging, waste, transportation and energy consumption. Besi also places emphasis on transportation and packaging activities where we have realized reductions of CO₂ emissions and waste. In addition, we have invested in the development of more environmentally friendly products and services to help customers operate more efficiently both in terms of environmental impact and cost savings, for instance by introducing products with fewer and lighter materials. We also analyze and

investigate ways in which to reduce other environmentally harmful materials such as the usage of lead in our systems. In addition, the far-reaching impact of the COVID-19 pandemic on Besi's global operations has encouraged us to develop new ways of working, communicating, travelling and interacting which can also help reduce our environmental footprint going forward.

Besi is committed to being a good employer and to promote a workplace culture conducive to the achievement of its business and ESG objectives. Our People Wellbeing pillar is based on three priorities: (i) diversity and inclusion, (ii) employee health and safety and (iii) employee engagement and career development. In addition, Besi strives to employ high social and ethical standards and provide inspiring and safe working conditions with competitive employment terms and pay scale. A high level of employee satisfaction is a basic precondition to achieve our revenue and profit growth objectives.

BESI'S ESG STRATEGIC FRAMEWORK

● Focus area

Strategic pillars	What we do	Material topics	Relevant SDGs
Environmental Impact 	We build sustainability into our products and operations to reduce Besi's environmental footprint and those of our suppliers and customers	Impact at Besi: <ul style="list-style-type: none"> ● Energy use and renewable energy ● Carbon emissions ● Waste and hazardous material use ● Water use Impact at suppliers and customers: <ul style="list-style-type: none"> ● Sustainable design 	  
People Wellbeing 	We foster a diverse and inclusive culture and support the safety, development and wellbeing of our employees	<ul style="list-style-type: none"> ● Diversity and inclusion ● Employee health and safety ● Employee engagement and career development 	
Responsible Business 	We act responsibly and ethically across our value chain and seek to have a positive impact on our local communities	<ul style="list-style-type: none"> ● Ethics and compliance ● Responsible supply chain ● Community impact ● Tax practices 	 

For more information on Besi's ESG priorities and targets, please refer to the [Environmental, Social and Governance Report](#).

Acquire companies with complementary technologies and products

In order to provide customers with leading edge process solutions, it is critically important to identify and incorporate new technologies on a timely and continuous basis. As a result, Besi actively identifies and evaluates acquisition candidates that can assist it in (i) increasing process technology leadership, (ii) increasing market share in those assembly markets with the greatest long-term potential such as wafer level packaging, (iii) enhancing the productivity and efficiency of our Asian manufacturing operations and (iv) growing less cyclical, "non-system" related revenues from tooling, spares and service.

Besi has made four important acquisitions which have furthered its advanced packaging strategy, accelerated underlying organic growth and generated significant long-term value creation for stakeholders:

- In September 2000, RD Automation (USA) was acquired to advance Besi's product strategy into the front-end assembly process with the addition of flip chip capabilities.
- In January 2002, Laurier (USA) was acquired adding intelligent die sorting capabilities into its product range.
- In January 2005, Besi acquired Datacon (Austria) further extending its presence in the flip chip and die bonding equipment markets and increasing its scale in the assembly equipment market.
- In April 2009, Besi acquired Esec (Switzerland) to expand its position in the mainstream die bonding market, one of the most rapidly growing segments of the assembly equipment business.

Reward shareholders via capital allocation policy

The successful execution of Besi's strategic plan and long-term valuation model has significantly benefited shareholders. Peer leading financial metrics have been achieved in the areas of gross, operating and net margin. Our addressable market share has also increased. In addition, Besi's capital allocation plan has resulted in the distribution to shareholders of € 742 million since 2011 in the form of dividends and share repurchases, of which € 91.3 million was distributed in 2020. Profit generation and capital allocation have also resulted in a peer leading return on average equity of 39.5% in 2020 and an average of 32.7% over the past five years. Finally, shareholders have benefited from an investment in Besi by an increase of 47% over the past year, 71% over the past three years and 584% over the past five years, in their total stock market return (share price appreciation plus dividends). This total return significantly exceeded total returns from an investment in Besi's peer group of assembly equipment companies during such periods.

Financial Review



Financial Review

General

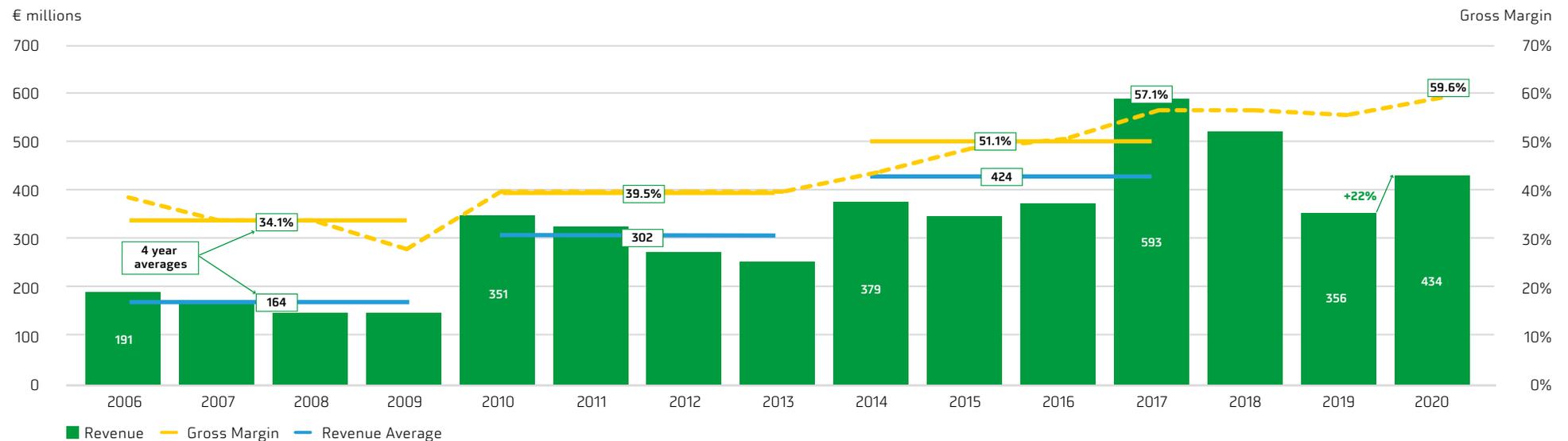
BE Semiconductor Industries N.V. ("Besi" or the "Company") is engaged in one line of business, the development, manufacturing, marketing, sales and service of semiconductor assembly equipment for the global semiconductor and electronics industries. Since we operate in one segment and in one group of similar products and services, all financial segment and product line information can be found in the [Consolidated Financial Statements](#).

Besi's revenue and results of operations depend in significant part on the level of capital expenditures by semiconductor manufacturers, which in turn depends on the current and anticipated market demand for semiconductors and for products utilizing semiconductors. Demand for semiconductor devices and expenditures for the equipment required to assemble semiconductors is highly cyclical, depending in large part on levels of demand worldwide for mobile internet, computing, automotive, industrial and medical end-user markets as well as the production capacity of global semiconductor manufacturers. Furthermore, a rise or fall in the sales levels of semiconductor equipment typically lags any downturn or recovery in the semiconductor market due to the lead times associated with the production of semiconductor equipment.

In recent years, Besi has experienced significant upward and downward movements in quarterly order rates due to global macroeconomic concerns, trade tensions and increased seasonality of end-user application revenue. Customer order patterns have become increasingly more seasonal due to the growing influence of more retail oriented electronics applications in the overall demand for semiconductor devices such as smart phones, tablets, wearable devices and automotive electronics. They have been characterized typically by a strong upward ramp in the first half of the year to build capacity for anticipated year end demand followed by a subsequent decline in the second half of the year as capacity additions are digested by customers. Volatile global macroeconomic conditions and seasonal influences have also contributed to the significant upward and downward movements in our quarterly and semi-annual revenue and net income.

Besi's revenue is generated primarily by shipments to the Asian manufacturing operations of leading European, US and Asian independent device manufacturers ("IDMs") and Taiwanese, Chinese, Korean, Japanese and other Asian subcontractors. Sales to individual customers tend to vary significantly from year to year depending on global economic conditions generally and the specific capital expenditure budgets, new product introductions, production capacity and packaging requirements of its customers. For the year ended December 31, 2020, two customers represented more than 10% of our revenue

THROUGH CYCLE REVENUE AND GROSS MARGIN TRENDS



(10.0% and 10.9%) and the largest ten customers accounted for approximately 50% of revenue. In addition, we derive a substantial portion of our revenue from products that have an average selling price in excess of € 300,000 and that have lead times of approximately 4-12 weeks between the initial order and delivery of the product. The timing and recognition of revenue from customer orders can cause significant fluctuations in operating results from quarter to quarter. Besi only recognizes orders upon receipt and acceptance of a firm purchase order.

Corporate and financial structure

Besi's corporate organization consists of a Dutch holding company in which shareholders own ordinary shares and a network of wholly-owned subsidiaries located globally which reflects its product group and business activities. To get a better overview of our largest shareholders, please refer to [Shareholder Information](#).

In general, Besi funds its operations through available cash on hand, cash generated from operations and, in some instances, funds the operations of its subsidiaries through intercompany loans and borrowings under its bank lines of credit. The working capital requirements of its subsidiaries are affected by the receipt of periodic payments on orders from its customers. Although its subsidiaries occasionally receive partial payments prior to final installation, initial payments generally do not cover a significant portion of the costs incurred in the manufacturing of such systems which requires Besi to finance its system production with internal resources and, in certain instances, via bank financing.

Currency exposure

Besi's reporting and functional currency is the euro. In 2020 and 2019, our euro-denominated revenue represented 27% and 32% of total revenue, respectively, while euro-denominated costs and expenses represented 31% and 33%, respectively. As seen in the following table, the substantial majority of Besi's revenue is denominated in US dollars while in 2020, its costs were denominated in a variety of European and Asian currencies. In 2020, 59% of our costs and expenses were denominated in Malaysian ringgit and euro. The remainder of our costs were primarily represented by the Chinese yuan, US dollar, Swiss franc and Singapore dollar. Besi seeks to manage its exposure to currency fluctuations in part by hedging firmly committed orders denominated in US dollars and, in part, by hedging net exposures in its principal transaction currencies. Transaction costs for hedging sales contracts and any profit/loss resulting therefrom are recorded in the line item financial income (expense), net in Besi's Consolidated Statement of Operations.

	2020	2019	Revenue 2018
Euro	27%	32%	33%
US dollar	73%	68%	67%
Total	100%	100%	100%

	2020	2019	Costs and Expenses 2018
Euro	31%	33%	29%
Malaysian ringgit	28%	25%	31%
Chinese yuan	11%	11%	10%
US dollar	10%	9%	9%
Swiss franc	9%	10%	12%
Singapore dollar	8%	9%	6%
Other	3%	3%	3%
Total	100%	100%	100%

Given changes in the foreign currency composition of its revenue, costs and expenses, Besi's results of operations are affected by fluctuations in the value of, and relationships between, the euro, the US dollar, Malaysian ringgit, Swiss franc, Chinese yuan and Singapore dollar. In 2020, the depreciation of the US dollar versus the euro negatively affected revenue development, particularly during the second half of the year when it fell by approximately 8%. In contrast, costs and expenses were favorably influenced by a decrease in the value of the Malaysian ringgit, Chinese yuan, Singapore dollar and US dollar versus the euro. Besi's costs denominated in Malaysian ringgit and Chinese yuan can vary on an annual basis depending on the number of units produced at each location.

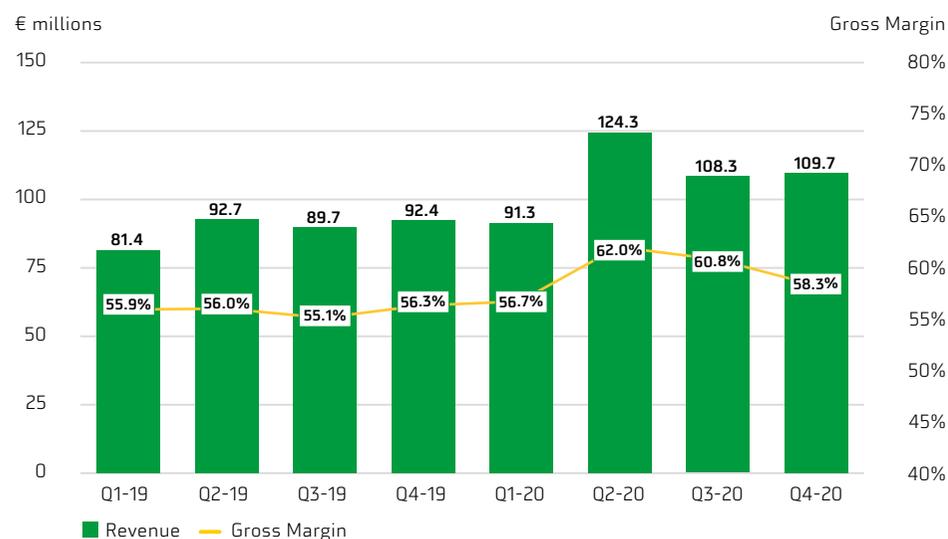
Quarterly results of operations

(euro in millions)	2019				2020					
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Revenue	81.4	92.7	89.7	92.4	356.2	91.3	124.3	108.3	109.7	433.6
Orders	83.4	82.7	82.2	100.5	348.7	118.6	101.3	94.9	157.3	472.1
Net income	9.5	18.9	19.2	33.7*	81.3*	13.9	39.8	34.0	44.6*	132.3*

* Includes tax benefits of € 11.2 million and € 11.6 million in 2020 and 2019, respectively.

Besi's quarterly results of operations in 2020 fluctuated during the year. The trajectory of the semiconductor equipment recovery which began in the fourth quarter of 2019 was significantly altered by the onset of the global COVID-19 pandemic in the spring of 2020. The contraction experienced in the second quarter of 2020 was followed by a retracement back to pre-pandemic levels over the summer and more rapid growth in the second half of the year. Besi's orders increased significantly in the fourth quarter driven by increased demand for mobile, automotive and computing applications and increased capacity investment by Asian subcontractors. Despite quarterly fluctuations in revenue and orders in 2020, profitability increased consistently on a year over year basis due to Besi's market position, flexible supply chain and strategic initiatives to limit personnel and overhead growth.

QUARTERLY REVENUE AND GROSS MARGIN TRENDS



2020 compared to 2019

Set forth below is a summary of our key income statement highlights for 2020 versus 2019:

(euro in millions, except %) ¹	Year ended December 31,		Change 2020/2019 % points
	2020 % revenue	2019 % revenue	
Revenue	433.6	356.2	-
Cost of sales	175.1	157.4	(3.8)
Gross profit	258.6	198.8	3.8
SG&A expenses	75.8	71.5	(2.6)
R&D expenses	32.9	35.4	(2.3)
Total operating expenses	108.7	106.9	(4.9)
Operating income	149.9	91.9	8.8
Financial expense, net	12.3	13.8	(1.1)
Income before income taxes	137.5	78.1	9.8
Income taxes (benefit)	5.2	(3.2)	2.1
Net income	132.3	81.3	7.7
Effective tax rate	3.8% ²	(4.1%) ²	

¹ Numbers may not add up due to rounding.

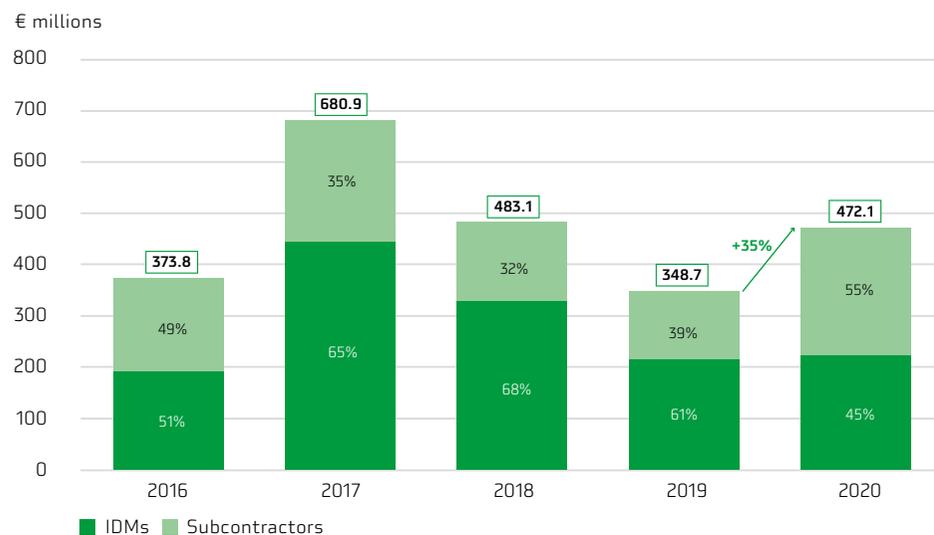
² Effective tax rates in 2020 and 2019 were 11.9% and 10.8% excluding € 11.2 million and € 11.6 million tax benefits recognized in Q4-20 and Q4-19, respectively.

Revenue/Orders

(euro in millions)	Year ended December 31,		% Change 2020/2019
	2020	2019	
Revenue	433.6	356.2	+21.7%
Orders	472.1	348.7	+35.4%
IDM	213.3	214.0	(0.3%)
Subcontractors	258.8	134.7	+92.1%

Besi's revenue increased by € 77.4 million, or 21.7%, in 2020 versus 2019. The increase reflects improved industry conditions and increased shipments for mobile applications due to a new 5G smart phone product cycle and increased investment by Chinese customers. Similarly, orders increased by 35.4% versus 2019 primarily due to increased demand for mobile applications and, to a lesser extent, a resurgence of orders for automotive applications by IDMs in the fourth quarter of the year. In 2020, bookings by IDMs and subcontractors represented approximately 45% and 55%, respectively, of Besi's total orders versus 61% and 39%, respectively, in 2019.

ORDER TRENDS



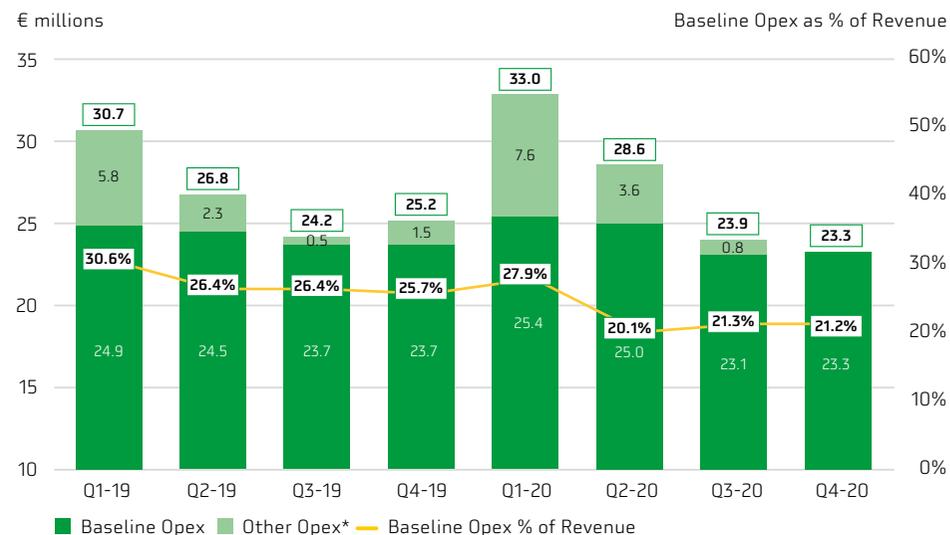
Gross profit

Gross profit increased by € 59.8 million, or 30.1%, versus 2019 primarily due to increased revenue levels and increased gross margin related thereto. Besi's gross margin increased by 3.8 points to 59.6% versus 55.8% in 2019 primarily as a result of our strong advanced packaging market position, more favorable product mix and increased productivity as lower fixed headcount levels helped drive labor efficiencies.

Selling, general and administrative expenses

Total SG&A expenses increased by € 4.3 million, or 6.0%, in 2020 versus 2019. The increase was due primarily to (i) an increase of € 4.8 million in variable compensation primarily related to share-based incentives and (ii) a € 4.4 million increase in sales-based, variable related costs such as commissions and warranty due to higher revenue levels, partially offset by (iii) a € 4.0 million reduction in travel and personnel costs associated with the COVID-19 pandemic. As a percentage of revenue, SG&A expenses decreased from 20.1% in 2019 to 17.5% in 2020.

QUARTERLY OPERATING EXPENSE TRENDS



* Other Opex includes both short-term and long-term incentive compensation, seasonal effects, restructuring costs, net R&D capitalization/amortization and certain one-time items.

Research and development expenses

Besi's R&D spending is primarily focused on advancing its leadership position in advanced packaging process technology and upgrades to its product portfolio on a regular basis. Spending can vary from year to year depending on specific customer roadmaps and the timing of new device introductions. In 2020, gross R&D expenses (excluding the impact of R&D capitalization and amortization) increased by € 3.0 million, or 7.8%, to reach € 41.4 million, or 9.5% of revenue. The increase was due primarily to a 5% R&D headcount increase in support of next-generation development programs in the current industry upcycle. R&D expenses as reported were € 32.9 million in 2020, a decrease of € 2.5 million, or 7.1%, versus 2019. As a percentage of revenue, R&D expenses decreased to 7.6% in 2020 versus 9.9% in 2019, primarily as a result of higher capitalized development costs, net.

Operating income

Operating income reached € 149.9 million in 2020, an increase of 63.1% versus 2019. Similarly, operating margins increased from 25.8% to 34.6% primarily as a result of significantly higher revenue and gross margin levels combined with operating expense growth of only 1.7%.

Final assembly and test 8800 Flip Chip Quantum at Besi APac, Malaysia.



Financial expense, net

The components of financial expense, net, for the years ended December 31, 2020 and 2019, were as follows:

(euro in millions)	Year ended December 31,	
	2020	2019
Interest income	(0.1)	(0.2)
Interest expense	11.9	10.2
Interest expense, net	11.8	10.0
Hedging results	1.8	3.4
Net foreign exchange effects	(1.3)	0.4
Financial expense, net	12.3	13.8

Besi's financial expense, net, decreased by € 1.5 million in 2020 primarily due to (i) lower hedging results due to a decrease of the interest rate differential between our principal transaction currencies and (ii) favorable forex differences, partly offset by (iii) higher interest expense related to the issuance of € 150 million of 0.75% Convertible Notes in August 2020.

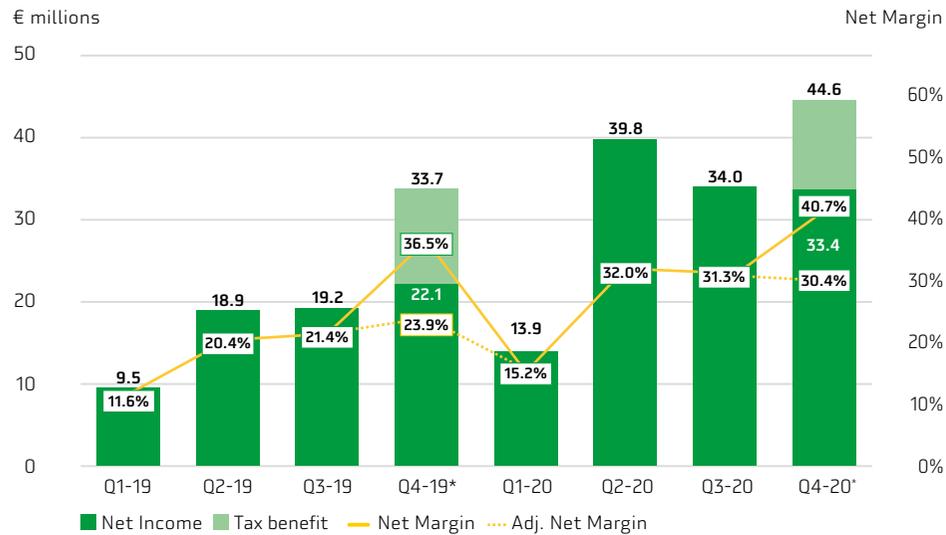
Income taxes

Besi recorded an income tax expense of € 5.2 million in 2020 versus an income tax benefit of € 3.2 million in 2019 with effective tax rates of 3.8% and negative 4.1%, respectively. Income tax levels in 2020 benefited from an upward revaluation of € 11.2 million in deferred tax assets in the fourth quarter, principally at Besi's Swiss and US operations due to our improved financial performance and outlook. The 2019 tax benefit was primarily due to the recognition of a deferred tax asset of € 11.6 million in the fourth quarter as a result of changes in Swiss fiscal policy. Besi's effective tax rate was 11.9% and 10.8% in 2020 and 2019, respectively, excluding such benefits.

Net income

Besi's net income was € 132.3 million, an increase of € 51.0 million, or 62.7%, versus 2019 primarily as a result of a 21.7% revenue increase, a gross margin improvement of 3.8 points and relatively stable operating expense levels.

QUARTERLY NET INCOME TRENDS



* Includes € 11.2 million and € 11.6 million deferred tax benefit recognized in Q4-20 and Q4-19, respectively.

Balance sheet, cash flow development and financing

Cash flow

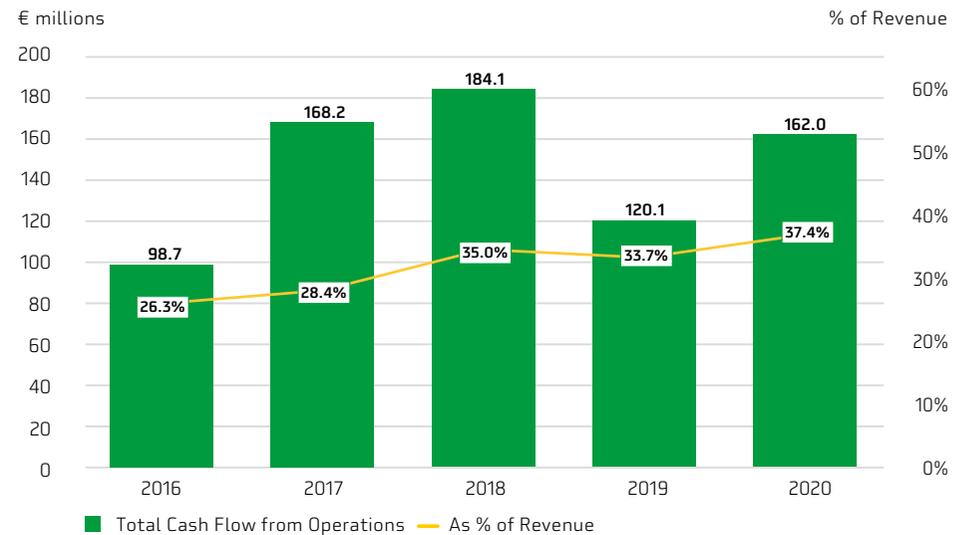
In 2020, Besi generated cash flow from operations of € 162.0 million which along with cash, cash equivalents and deposits outstanding, was utilized for the following principal purposes:

- € 73.5 million of cash dividends were paid to shareholders.
- € 17.8 million of ordinary shares were purchased and held in treasury.
- € 17.6 million of development expenses were capitalized.
- € 4.2 million of net capital expenditures were made.

In addition, Besi issued € 150 million of 0.75% Convertible Notes in August 2020 from which net proceeds of € 147.8 million were added to cash and deposits. The Convertible Note issuance provides attractive seven-year growth capital, increases our financial flexibility to withstand market volatility and take advantage of future strategic opportunities.

In total, Besi's cash and deposits increased by € 190.3 million to reach € 598.7 million at December 31, 2020. Similarly, our year end net cash position of € 198.7 million (defined as cash, cash equivalents and deposits less total debt) increased by € 68.4 million versus year end 2019 which included the conversion into equity of € 15.0 million of our 2.5% Convertible Notes due 2023.

CASH FLOW GENERATION TRENDS



Working capital

Working capital (excluding cash and debt) decreased by € 0.9 million, or 1.6%, to reach € 55.3 million at December 31, 2020, despite revenue growth of 21.7%. As a percentage of revenue, working capital decreased from 15.8% at December 31, 2019 to 12.8% at year end 2020. Lower working capital investment was primarily due to increased inventory turnover and a reduction in days sales outstanding.

Capital expenditures

Capital expenditures increased to € 4.2 million in 2020 versus € 2.5 million in 2019 primarily as a result of the construction of a Class 10 cleanroom at Besi Austria. We anticipate that capital expenditures in 2021 will range between € 4 and € 5 million.

Financing

At December 31, 2020, Besi had € 400.0 million of total indebtedness outstanding, of which € 399.4 million related to three issues of Convertible Notes outstanding with a face value of € 435 million and € 0.5 million related to government loans. No other indebtedness was outstanding at such date including amounts owed under Besi's bank lines of credit.

Bank lines of credit

At December 31, 2020, Besi and its subsidiaries had available bank lines of credit aggregating € 97.5 million. At such date, utilization under the lines aggregated € 0.8 million related to bank guarantees. In general, interest is charged at the banks' base lending rates or Euribor/Libor plus an increment. Most credit facility agreements include covenants requiring Besi and/or its subsidiaries to maintain certain financial levels or financial ratios. Besi and all its applicable subsidiaries were in compliance with all loan covenants at December 31, 2020.

The lines of credit include an € 80 million revolving credit facility with a consortium of European banks (the "Facility"), which matures in 2025. The Facility can be expanded to € 136 million and its maturity extended to 2026. Interest rates on borrowings under the Facility vary per currency utilized and the level of cash balances outstanding and amounts utilized. It ranks *pari passu* with the Convertible Notes and is secured by guarantees from certain operating subsidiaries. Borrowings under the Facility can be repaid at any time at 100% of principal amount and used for working capital and other corporate purposes. The principal covenants associated with the Facility include a maintenance test of consolidated debt to equity and a limitation on the incurrence of additional permitted indebtedness.

Issuance of Convertible Notes

On December 2, 2016, Besi issued € 125 million principal amount of 2.5% Senior Unsecured Convertible Notes due December 2023 (the "2016 Convertible Notes"). Interest on the 2016 Convertible Notes is payable semi-annually in arrears. The 2016 Convertible Notes will be repaid at maturity at 100% of their principal amount plus accrued and unpaid interest or, if converted, into approximately 6.3 million ordinary shares at a conversion price of € 19.93 (subject to adjustment). The original exercise price of € 43.51 has been adjusted for the two-for-one stock split effective May 4, 2018 and dividends paid subsequent to the date of issuance in accordance with the terms and conditions related thereto. In 2020, € 15.0 million principal amount of the 2016 Convertible Notes were converted into 752,540 ordinary shares. As a result, the principal amount outstanding declined from € 125.0 million to € 110.0 million at year end 2020.

On December 6, 2017, Besi issued € 175 million principal amount of 0.5% Senior Unsecured Convertible Notes due December 2024 (the "2017 Convertible Notes"). Interest on the 2017 Convertible Notes is payable semi-annually in arrears. The 2017 Convertible Notes will be repaid at maturity at 100% of their principal amount plus accrued and unpaid interest or, if converted, into approximately 3.6 million ordinary shares at a conversion price of € 48.68 (subject to adjustment). The original exercise price of € 99.74 has been adjusted for the two-for-one stock split effective May 4, 2018 and dividends paid subsequent to the date of issuance in accordance with the terms and conditions related thereto.

On August 5, 2020, Besi issued € 150 million principal amount of 0.75% Senior Unsecured Convertible Notes due August 2027 (the "2020 Convertible Notes"). Interest on the 2020 Convertible Notes is payable semi-annually in arrears. The 2020 Convertible Notes will be repaid at maturity at 100% of their principal amount plus accrued and unpaid interest or, if converted, into approximately 2.9 million ordinary shares at a conversion price of € 51.56 (subject to adjustment). The net proceeds from the offering totaled € 147.8 million and were added to Besi's cash and deposits.

Besi may redeem each of the outstanding 2016, 2017 and 2020 Convertible Notes at 100% of their principal amount after December 23, 2020 (2016 Convertible Notes), after December 27, 2021 (2017 Convertible Notes) and after August 26, 2024 (2020 Convertible Notes), provided that the market value of its ordinary shares exceeds 130% of the then effective conversion price for a specified period of time. In the event of a change of control (as defined), each noteholder will have the right to require Besi to redeem all (but not less than all) of its Convertible Notes at 100% of their principal amount together with accrued and unpaid interest thereon. In addition, the 2020 Convertible Notes may be redeemed at the option of the holder on August 5, 2025 at their principal amount plus accrued interest.

The terms and conditions governing each of the Convertible Notes contain no incurrence tests nor maintenance covenants which could materially limit Besi's ability to conduct its operations in the normal course. The Convertible Notes were privately offered to institutional investors and are listed on the Deutsche Börse's Freiverkehr market.

Capital allocation

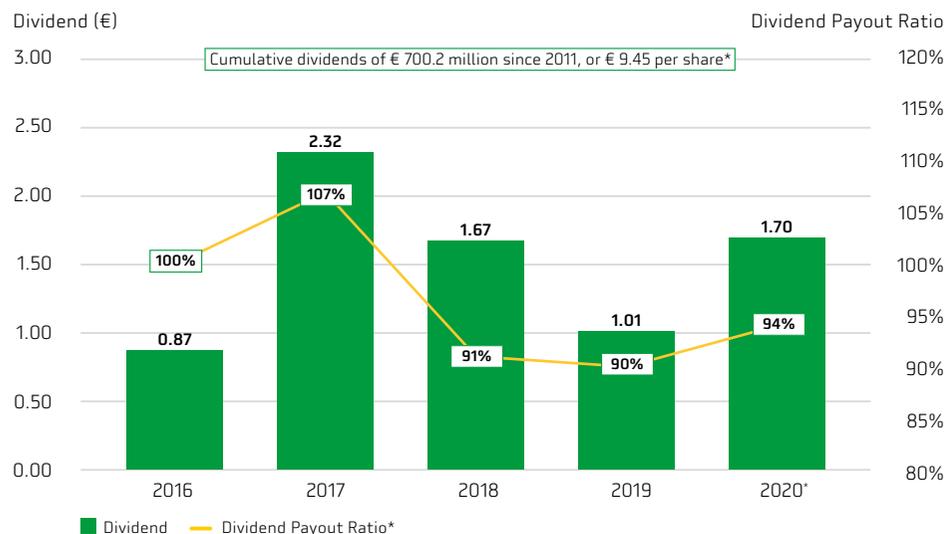
Besi's capital allocation policy seeks to provide a current return to shareholders in the form of cash dividends and share repurchases while retaining a capital base sufficient to fund future growth opportunities.

Dividends

Besi's dividend policy considers the payment of dividends on an annual basis based upon (i) a review of its annual and prospective financial performance, liquidity and financing needs, the prevailing market outlook and Besi's strategy, market position and acquisition strategy and/or (ii) a dividend payout ratio in the range of 40-100% relative to net income to be adjusted accordingly if the factors referred to under (i) so require.

Due to Besi's earnings and cash flow generation in 2019, the Board of Management proposed and Besi paid a cash dividend to shareholders of € 1.01 per share which resulted in cash payments to shareholders of € 73.5 million.

DIVIDEND TRENDS



* Calculated on Basic EPS. Includes value of both cash and stock dividends. Includes proposed dividend of € 1.70 per share for approval at 2021 AGM.

Due to Besi's earnings and cash flow generation in 2020, the Board of Management will propose a cash dividend to shareholders of € 1.70 per share for approval at Besi's Annual General Meeting of Shareholders to be held on April 30, 2021.

The payments for the year 2019 and proposed for the year 2020 represent a dividend payout ratio relative to net income of 90% and 94%, respectively.

Share repurchase program

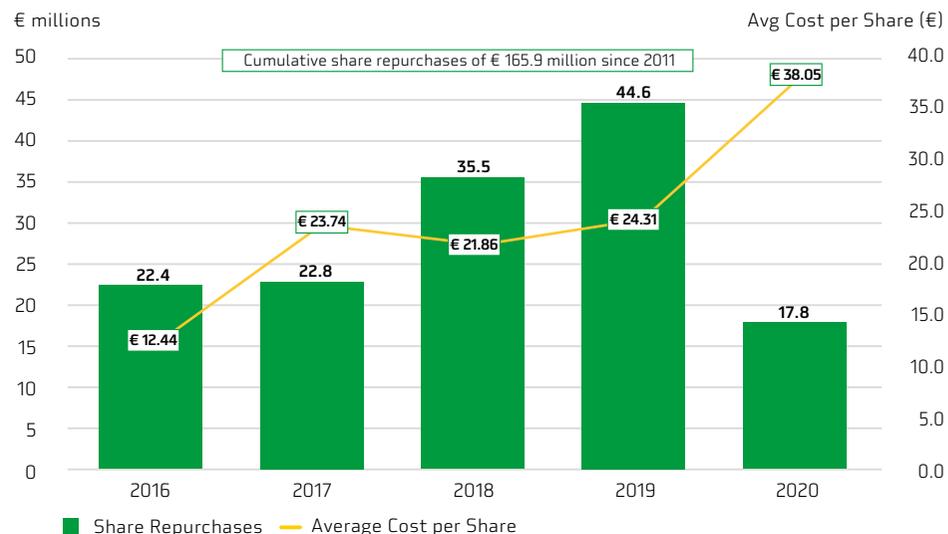
On July 26, 2018, Besi announced a € 75 million share repurchase program through October 26, 2019 (the "2018 Program"). The 2018 Program was initiated for capital reduction purposes and to help offset dilution associated with Besi's Convertible Notes and share issuance

under employee stock plans. The program has been extended twice, the most recent of which was on July 28, 2020, when it was extended until October 30, 2021. In addition, the total amount of the program increased from € 75 million to € 125 million. From program inception through December 31, 2020, a total of 3.5 million shares have been repurchased at an average price of € 24.05 per share for a total of € 84.8 million.

At present, Besi has shareholder authorization to repurchase up to 10% of Besi's issued share capital as at April 30, 2020 (approximately 8.0 million shares) until October 30, 2021. On October 22, 2020, Besi cancelled 1.5 million of its 7.4 million ordinary shares held in treasury. At December 31, 2020, Besi held approximately 5.7 million shares in treasury equal to approximately 7.3% of its ordinary shares outstanding at a weighted average price of € 16.43 per share.

Besi believes that its cash position, internally generated funds and available lines of credit will be adequate to meet its anticipated levels of capital spending, research and development, debt service requirements, working capital and capital allocation policy for at least the next twelve months.

SHARE REPURCHASE ACTIVITY



Environmental, Social and Governance Report



Environmental, Social and Governance Report

Introducing our enhanced ESG strategy

In 2020, we engaged an independent, third party consulting firm to help us better define our goals and ambitions in the context of our industry, culture and increased scale and establish a more robust ESG framework with specific targets identified to guide our activities for the next decade.

The three strategic pillars which form the foundation of our ESG strategy - Environmental Impact, People Wellbeing and Responsible Business - were the result of an evaluation of the topics deemed most material to the long-term success of Besi and its stakeholders with a particular focus on materiality, clarity and transparency. In addition, we formalized a range of ambitious short and long-term targets and will report on, and monitor our performance against, twelve material topics related to our three strategic pillars.

Targets were developed by reviewing baseline data for the period 2019 and 2020 and by engaging senior management and relevant stakeholders in order to set challenging but achievable goals for 2022 and 2030. Further, targets were set for each site/location globally, tailored to their specific requirements and capabilities. The formulation of new and more wide-ranging targets represents a major step forward to better monitor our ESG progress.

We currently prioritize three of the twelve material topics - energy use and renewable energy, sustainable design and diversity and inclusion - as areas where we can have the most significant positive impact in the short term.



Cleanroom Besi Austria.

Strategic pillars	Material topics	2022 targets*				2030 targets*			
Environmental Impact 	 Energy use and renewable energy	15% Reduction in gas usage	10% Reduction in electricity	100% Renewable energy Europe	25% Renewable energy globally	25% Reduction in gas usage	15% Reduction in electricity	65% Renewable energy globally	
	Carbon emissions	15% Reduction in scope 1 and 2 carbon emissions	10% Reduction in scope 3 carbon emissions			60% Reduction in scope 1 and 2 carbon emissions	25% Reduction in scope 3 carbon emissions		
	Waste and hazardous material use	8% Reduction in total waste	5% Reduction in hazardous waste			15% Reduction in total waste	20% Reduction in hazardous waste		
	Water use	4% Reduction in water consumption				14% Reduction in water consumption			
	 Sustainable design	Develop priority targets for sustainable system design				Achieve priority targets for sustainable system design			
People Wellbeing 	 Diversity and inclusion	Increase % women in workforce to >19% (+2%)	Increase % women in management to >20% (+5%)	Increase % local nationals in management to >85% (+2%)	Increase % women in workforce to >24% (+6%)	Increase % women in management to >25% (+11%)	Increase % local nationals in management to >86% (+4%)		
	Employee health and safety	Maintain a safety incident record of 0							
	Employee engagement and career development	Maintain employee engagement >85%	Remain above high-tech benchmark	Increase investment in employee training to >23 working hours per employee per year (+15%)	Maintain employee engagement >85%	Remain above high-tech benchmark	Increase investment in employee training to >47 working hours per employee per year (+133%)		
Responsible Business 	Ethics and compliance	Whistleblower procedure in place. Prompt response to violations by Besi senior management							
	Responsible supply chain	65% Purchasing Volume ("PV") audited	75% PV to sign Self Assessment Questionnaire in our Code of Conduct	75% PV to sign General Work Agreement or General Procurement Contract	70% PV to sign Conflict-Free Sourcing Initiative	75% PV audited	85% PV to sign Self Assessment Questionnaire in our Code of Conduct	85% PV to sign General Work Agreement or General Procurement Contract	80% PV to sign Conflict-Free Sourcing Initiative
	Community impact	Report on hours volunteered, monetary donations and education projects supported							
	Tax practices	Compliance with tax obligations where factual economic activities take place							

* All targets are based on targeted reductions relative to 2019 baseline levels.

ESG governance

In 2020, we formed an ESG Committee for the execution of our strategy consisting of members of Besi's management team. The Committee regularly reports progress to the Board of Management which has the ultimate responsibility for our ESG strategy. Initiatives, progress and risks are discussed regularly between the Board of Management and the Supervisory Board and are reported in the Annual Report.

Our approach is fully aligned with Besi's hierarchical structure. Day to day responsibility for ESG topics is delegated to product group SVPs and line managers in their respective locations and departments. A portion of their variable compensation is based on performance against certain specific ESG targets.

In addition, we have implemented externally certified ISO 9001 and ISO 14001 management systems to manage quality and environmental topics in our production operations of which health and safety items are included in our ISO 14001 management system. All of Besi's production sites have environment, health and safety ("EHS") officers and committees and a health and safety management system. These committees have representatives from each department who are responsible for the inspection, enforcement and promotion of health and safety matters in the workplace. EHS Committee inspections are conducted quarterly to identify and address any unsafe acts and conditions that may exist. Employees also regularly receive EHS training.

External reporting frameworks

It is important to Besi and its stakeholders that we follow best practice reporting standards. As such, we have reviewed the most appropriate external frameworks to enhance our ESG strategy against which our business will report.

Besi supports the recommendations of the Taskforce on Climate-Related Financial Disclosures ("TCFD"). We are committed to managing the impacts of climate change on our operations and intend to incorporate TCFD disclosures into our reporting going forward. In addition, we believe the industry-specific standards and metrics provided by the Sustainability Accounting Standards Board ("SASB") are appropriate for a company of Besi's size. We have reviewed the relevant SASB industry standards for our business and reported against these requirements wherever possible. We intend to report against the SASB framework in 2021.

Besi also intends to follow the objectives of the United Nations Sustainable Development Goals ("UN SDGs"). We have identified six goals that are relevant to Besi's ESG focus areas and could have the greatest impact on our business. Such goals include:



Our key stakeholders

Engagement with stakeholders helps Besi identify the opportunities, issues and risks that affect our business and performance, provides valuable input when assessing our long-term value creation model and is a key priority in our ESG strategy. We listen to the input of our stakeholders, striving to be as responsive as possible and exceed their expectations. Insights are gathered through a variety of channels including dialogue with investors and customers, management reviews, employee surveys and internal and external audits.

Besi's key stakeholders include shareholders, suppliers, customers, employees, local communities, society and local governments. Such stakeholders were identified based on Besi's impact on their interests as well as their ability to influence our strategy and objectives.

Stakeholder group	Why we engage	How we engage
Shareholders	<ul style="list-style-type: none"> Shareholders expect Besi to protect their investment and provide a competitive return on capital while operating responsibly as a corporate citizen. Investor interest in sustainability was a key consideration in our ESG strategy update. Both existing and new investors have shown increased interest in ESG and have specific ESG criteria with which to comply. 	<ul style="list-style-type: none"> Shareholders are engaged through an active investor relations program including quarterly and annual conference calls, roadshows, conferences and attendance at Besi's Annual General Meeting ("AGM"). We maintain close contact with investors in Europe, North America and Asia. We conduct regular meetings with investment professionals and encourage them to ask questions during our earnings calls, meetings and at our AGM. We engage in important face to face dialogue and receive valuable feedback about our business and ESG topics.
Suppliers	<ul style="list-style-type: none"> Maintaining a responsible supply chain is an important part of our Responsible Business strategic pillar. A high quality, flexible and scalable supply chain is critical to our business success and satisfying customer needs in a cyclical business. We seek to build long-term, mutually-beneficial relationships with our suppliers. We are expanding our outreach so that suppliers can reach Besi's own environmental and ethical standards. 	<ul style="list-style-type: none"> We engage with suppliers through direct dialogue and constructive audits. Besi annually performs third-party external audits for all significant production and development facilities with respect to its ISO 9001 and ISO 14001 capabilities. We work together with suppliers to lower our joint environmental footprint, create sustainable products and supply chains and assess and mitigate social, health, safety and ethical risks.
Customers	<ul style="list-style-type: none"> Building strong relationships is important to retain and attract customers and to promote revenue growth. Providing superior customer support is critical to maintaining relationships. Besi's customers are increasingly interested in products that are sustainable, environmentally friendly and ethically produced. Our ESG strategy is formulated with sustainable design as a key component. 	<ul style="list-style-type: none"> Customer satisfaction is an important measure to gauge customer fulfillment. We have an experienced team of 196 sales and customer service people globally which maintain relationships and engage key customers on topics such as semiconductor device roadmaps, assembly equipment requirements and future market trends. Besi conducts annual customer satisfaction surveys to assess existing relationships and identify areas for improvement. In our 2020 survey, customer satisfaction rose 5% versus 2019 and ranked over 80% for all criteria. We ranked highest on reliability, durability and equipment performance versus peers.
Employees	<ul style="list-style-type: none"> Besi considers satisfied and engaged employees as a key ingredient for its successful growth. Employees expect Besi to have high social and ethical standards in the conduct of its business. Employees also expect us to provide them with equal treatment and opportunities, safe working conditions and career development potential. 	<ul style="list-style-type: none"> We promote an atmosphere of open dialogue between managers and employees. During performance appraisals, both employees and managers are encouraged to voice their concerns in a collegial exchange. Employee interests are also communicated in a more institutional way via Works Council representation. In Europe, we hold meetings with Works Councils twice a year to listen to the views of employees and communities. We conduct Town Hall meetings for all employees at least on a quarterly basis so that they are informed as to current business and financial developments. We conduct bi-annual employee engagement surveys. In 2020, we conducted a worldwide employee engagement survey on our COVID-19 response.

Stakeholder group	Why we engage	How we engage
Local communities and society	<ul style="list-style-type: none"> Besi relies on the health, wellbeing and stability of local communities in the regions where we operate. We aim to have a positive impact on communities through good corporate and employee conduct. Society expects Besi to respect national and international laws and regulations, minimize our negative impacts and provide transparency on economic, environmental and social topics. 	<ul style="list-style-type: none"> Besi invests in many community projects, particularly in Asia. Senior managers review any concerns raised by local communities and try to communicate any issues which may arise to all stakeholders as well as best practices for successful resolution. We abide by appropriate social, ethical and environmental standards in our operations. Besi meets or exceeds minimum legal and regulatory compliance levels. We engage in responsible tax practices. We pay our fair share of taxation in all jurisdictions in which we have operations.
Local governments	<ul style="list-style-type: none"> Local governments expect compliance with local laws, regulations and care for the health, safety and security of their communities. Many countries are paying close attention to ESG topics in light of increased concern over environmental topics. 	<ul style="list-style-type: none"> Besi uses European social and ethical standards wherever possible at its operations. We do not participate in lobbying activities nor make political contributions in the countries in which we operate. We participate in dialogue with local chambers of commerce as appropriate.

Besi Shanghai team at Semicon China, June 2020.



Environmental impact

Material topics

- Energy use and renewable energy
- Carbon emissions
- Waste and hazardous material use
- Water use
- Sustainable design

Besi is committed to reducing its environmental impact, resource consumption and the carbon footprint of its operations which includes an increase in the sustainability of the components and systems we produce. Material topics in this pillar focus on a reduction of carbon emissions and Besi's overall usage of energy, waste, water and hazardous materials. It also focuses on integrating sustainable design processes into our development activities and increasing the utilization of renewable energy sources.

Energy use and renewable energy

We seek to decrease our energy usage via a reduction of fuel and electricity consumption and an increase in the utilization of renewable energy sources. We experienced relative reductions in each of our fuel and overall energy consumption between 2019 and 2020 and are on track to meet our 2022 target reduction levels. Decreased energy usage has resulted from conscious efforts by local managers to reduce energy consumption at our facilities and the increased utilization of renewable energy sources at many of our locations. Some of our energy conservation efforts this year were mitigated by the need to increase fresh air ventilation at many of our office sites in response to the COVID-19 pandemic.

Carbon emissions

A reduction of Besi's carbon footprint is another important component of our ESG strategy. In reporting carbon emission levels, Besi has adopted the standards and methodology put forth by the Greenhouse Gas Protocol ("GHGP"), an independent standard which divides emissions into three scopes:

- **Scope 1** emissions cover direct greenhouse gas ("GHG") emissions resulting from day-to-day business activities. This category includes fuel combustion on site such as gas boilers as well as manufacturing, transport and fugitive emissions.
- **Scope 2** emissions cover indirect GHG emissions which result from the electricity, heat and steam we purchase from external sources.
- **Scope 3** emissions include all other indirect GHG emissions such as those produced by third party travel and freight activities.

Our ambition is to reduce carbon emissions across all three reporting scopes on both an absolute basis and relative to our revenue.

Waste and hazardous material use

We seek to reduce the waste and hazardous waste produced by our operations wherever possible. In all facilities, waste separation systems are in place and the re-use, reduce, recycle concept is well established. The principal focus is the reduction of waste used in the packaging process wherein we use materials such as plastic, wood and cardboard to ensure proper protection.

Water use

Water conservation is another priority as we consumed approximately 33 million liters of fresh water at Besi's production operations in 2020, of which approximately 85% was utilized in our Asian operations. All water we withdraw is consumed in our operations. We do not operate in any regions with a high or very high-water risk as defined by the World Resources Institute.

Sustainable design

We have prioritized sustainable design in our system development efforts and completed life cycle assessments as a means of reducing their environmental footprint while increasing their efficiency and recyclable content. As a result, we can provide customers a low total cost of ownership and an attractive return on initial investment while promoting sustainability themes.

Besi systems can be customized, reconfigured and redeployed for other production purposes over their product lifespan thus extending their useful life, reducing their environmental impact and raw material conservation. Customer utilization of our extensive global network of field service and spare parts also helps them extend the useful life of our systems.

Besi develops high quality, premium priced system solutions for customers offering leading edge reliability, accuracy, throughput, system uptime, yield of defect free devices, longevity and low environmental footprint. Besi's development efforts focus on system efficiency both in terms of environmental impact and productivity/cost savings, with a particular emphasis on:

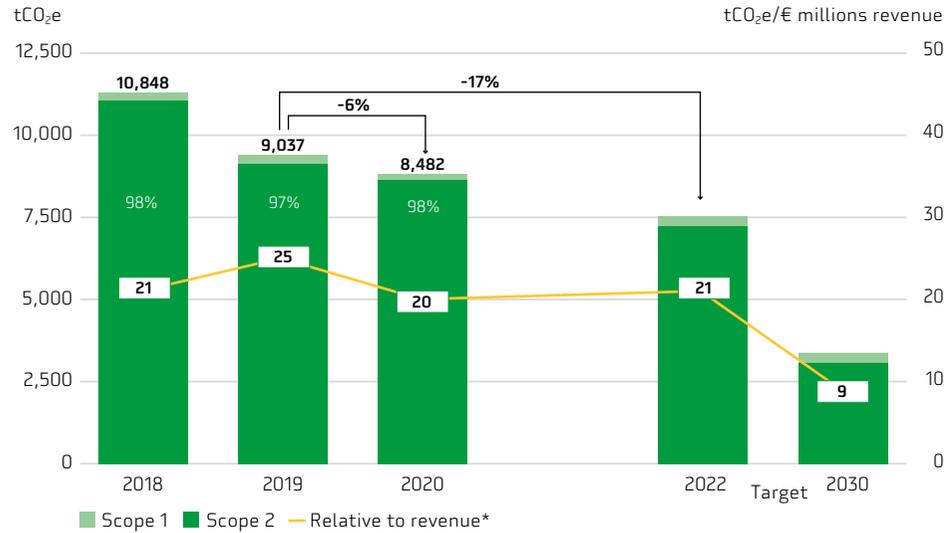
- Energy efficiency
- The recycling potential of applied production materials
- The recycled content used in our products
- Minimizing the use of hazardous components in our systems
- The exclusion of conflict materials from our design process

We have implemented externally certified ISO 9001 and ISO 14001 management systems to manage quality and environmental issues in Besi's production operations.

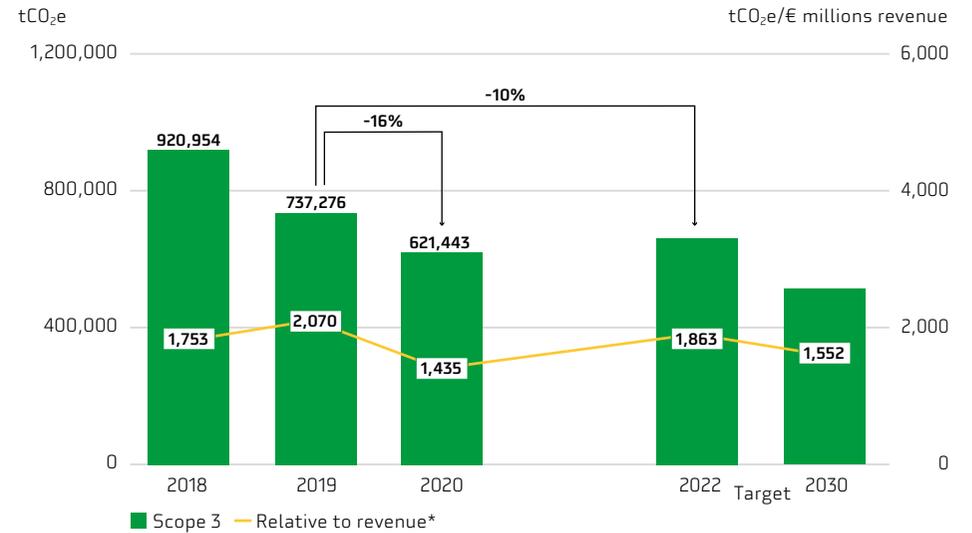
ESG performance and targets

ENVIRONMENTAL TRENDS

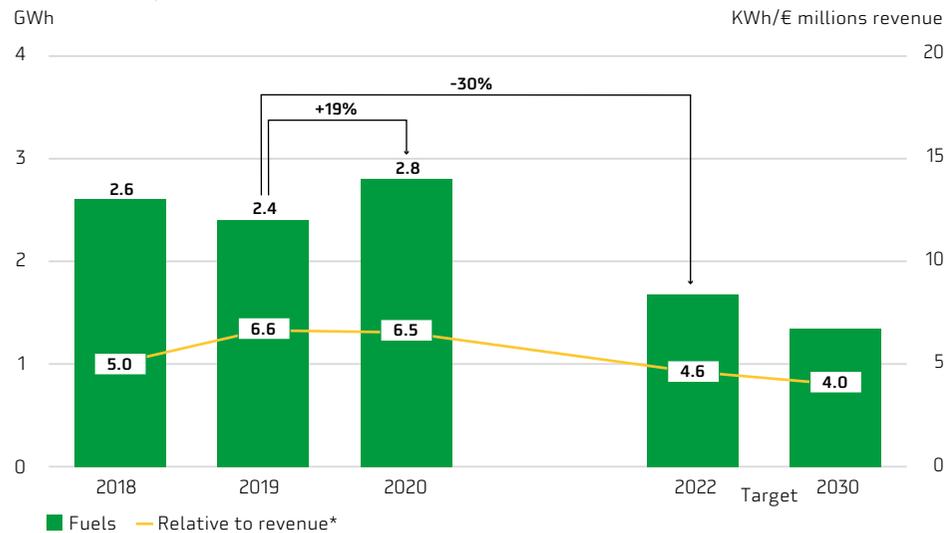
Direct emissions



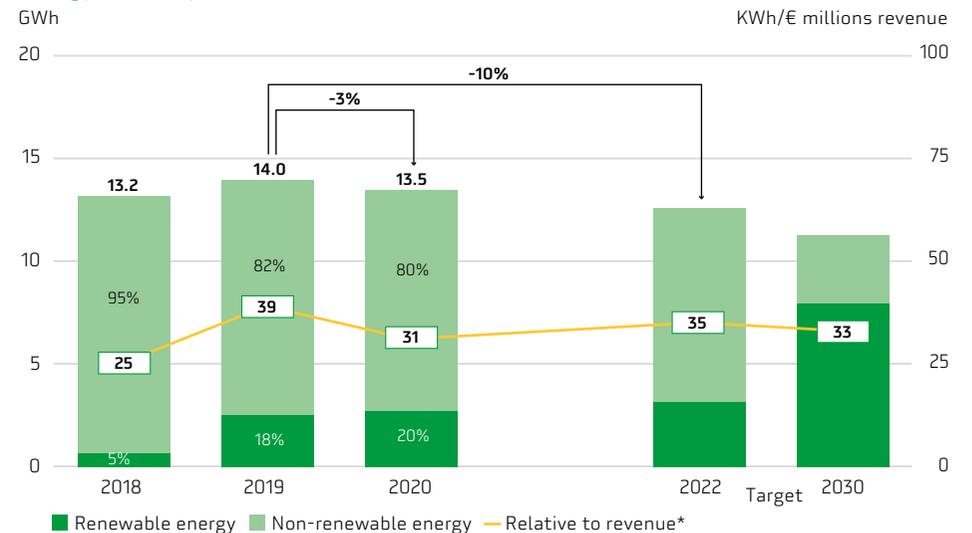
Indirect emissions



Fuel consumption



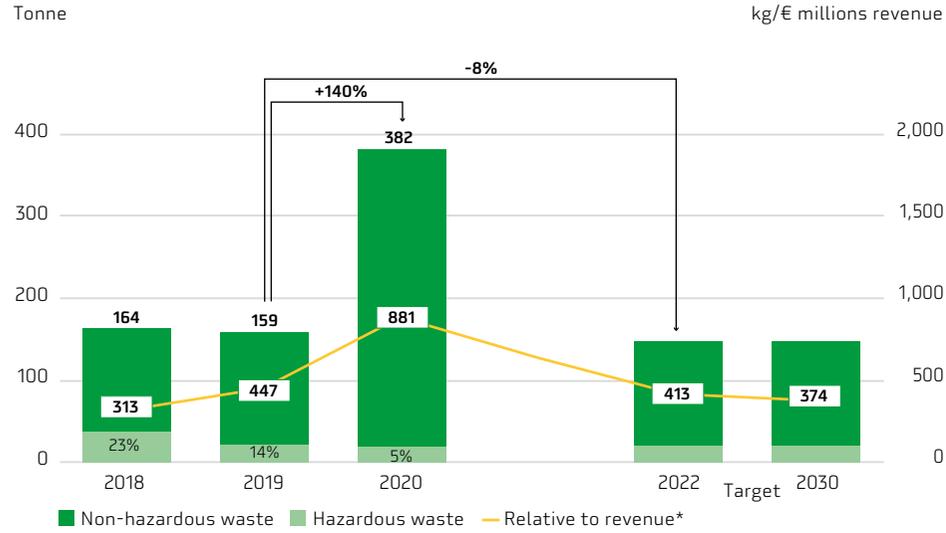
Energy consumption



* Targets for 2022 and 2030 based on 2019 revenue.

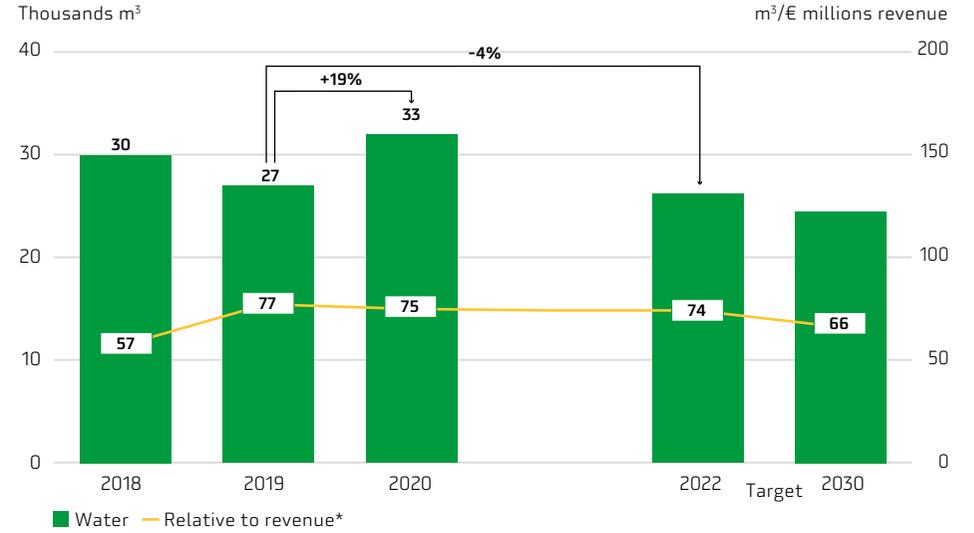
* Targets for 2022 and 2030 based on 2019 revenue.

Waste



* Targets for 2022 and 2030 based on 2019 revenue.

Water consumption



* Targets for 2022 and 2030 based on 2019 revenue.

Material topic	2020 progress update	2022 target
Energy use and renewable energy	<ul style="list-style-type: none"> Fuel and energy consumption down on a relative basis versus 2019. Our second Dutch facility switched to 100% renewable energy utilization, bringing the number of locations to three operating fully with 100% renewable energy. Optimized building energy efficiency (heating, air-conditioning, ventilation systems and settings) at Besi's Chinese, Dutch and Swiss operations resulting in a -3% reduction of local energy consumption and carbon emissions. 	<ul style="list-style-type: none"> 15% reduction in gas usage 10% reduction in electricity usage 100% renewable energy at European operations 25% renewable energy utilized globally
Carbon emissions	<ul style="list-style-type: none"> Absolute and relative Scope 1 and 2 emissions declined meaningfully. Scope 3 absolute and relative emissions declined significantly primarily as a result of reduced travel and freight costs related to the COVID-19 pandemic. Carbon emissions also reduced through use of augmented reality software to perform service and installation remotely. 	<ul style="list-style-type: none"> 15% reduction in Scope 1 and 2 carbon emissions 10% reduction in Scope 3 carbon emissions
Waste and hazardous material use	<ul style="list-style-type: none"> Waste reduction target not achieved due to the construction of a new cleanroom at Besi Austria which generated 207 MT of non-hazardous waste. Relative hazardous waste usage declined significantly. 	<ul style="list-style-type: none"> 8% reduction in total waste 5% reduction in hazardous waste
Water use	<ul style="list-style-type: none"> Water usage reduced on a relative basis versus 2019. 	<ul style="list-style-type: none"> 4% reduction in water consumption
Sustainable design	<ul style="list-style-type: none"> Conducted life cycle assessments to ascertain the environmental impact of the materials used in our fabricated parts. Also evaluated their recycling potential. 	<ul style="list-style-type: none"> Develop additional targets for sustainable system design

Case study: 100% renewable energy usage achieved at Besi's Dutch facilities

Besi's Meco Equipment Engineers site in Drunen was the second of our two locations in the Netherlands to be certified as using 100% renewable energy in September 2020, making Besi 100% renewable across the country. The Drunen site received its certification from EECs (European Energy Certificate System), an independent third party. Besi Netherlands, located in Duiven, received its certification in January 2019. The electricity used at both sites comes from European hydro-electric power plants.



Meco Equipment Engineers office, Drunen, the Netherlands.

Case study: reducing Besi China's freight transportation impact

Besi made greater use of land freight to ship products to customers from its Asia-Pacific facilities as a result of air and sea transportation disruptions caused by the COVID-19 pandemic. The shift to more environmentally friendly transport methods such as trucks and rail reduced freight costs by approximately 25% and Scope 3 emissions by approximately 16%. In addition, we are exploring opportunities to further reduce the environmental impact of our packaging use by decreasing the utilization of plastics and replacing wooden crates with cardboard packaging.



A Besi APac truck en route to Leshan, China via the landbridge created by DB Schenker.

Future priorities

- Achieve 100% renewable energy at Besi Austria and Besi Switzerland by the end of 2021. If successful, 100% of Besi's European energy needs will be supplied by renewable energy sources.
- Expansion of renewable energy use across Asia.
- Relocation of the Meco Equipment Engineers B.V. office in 2021 to reduce energy consumption through more environmentally friendly heating and air conditioning systems.
- Utilize LED lights at all of Besi's Dutch facilities by the end of 2021.
- Complete recycling manual at Besi Netherlands by 2022.
- Expand the sustainable design mindset across the entire global development team.
- Develop roadmap for additional corporate processes and training programs to further advance sustainable system design and development.
- Identify additional opportunities with customers and suppliers to advance sustainable design.

People wellbeing

Material topics

- Diversity and inclusion
- Employee health and safety
- Employee engagement and career development

Besi is committed to being a good employer and promoting a workplace culture conducive to the achievement of its business and ESG objectives. We comply with all applicable employment laws and regulations in the countries in which we operate. In addition, employees are made aware of their rights including the right to freedom of association and collective bargaining. We seek to be a preferred employer by emphasizing diversity, health, safety and wellbeing of our employees, flexible working arrangements and career growth and development.

Diversity and inclusion

Besi values and encourages cultural, age and gender diversity in its workforce and management, believing it helps broaden our perspective and contribute to growth. Our Code of Conduct emphasizes equal opportunity for all employees and applicants. Diversity and inclusion is a key strategic focus of which gender diversity across all operations is the most immediate current topic.



MMA (Multi Module Attach) team at Besi Singapore.

Employee health and safety

Employee health and safety represents another material topic. Besi monitors incidents in the workplace at all locations worldwide. Incidents are grouped into categories by severity: (i) fatalities, (ii) major absences (of more than four days), (iii) minor absences (of less than four days) and (iv) first aid cases in which employees can resume work immediately after treatment or the following day. Safety hazards at Besi are limited. There were no incidents recorded last year as our production facilities are predominantly clean environments with no heavy chemicals present. In addition, there were no legal proceedings related to health and safety incidents during the year. We are investigating a consolidation of all our current ESH practices that are compliant with local laws and mandated by ISO 14001 under an additional ISO 45001 certification.

Employee engagement and career development

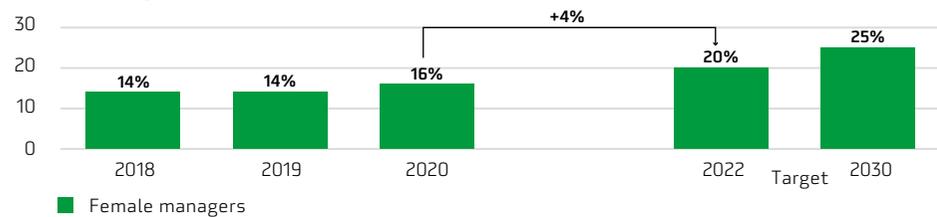
Skilled, engaged and satisfied employees are critical to our success. One of Besi’s principal challenges is to attract skilled workers at both our European and Asian operations. As such, a key component of our strategy is training and talent development. Toward this end, we provide a variety of education and training programs and monitor employee engagement and satisfaction across all regional operations.

ESG performance and targets

PEOPLE AND WELLBEING TRENDS

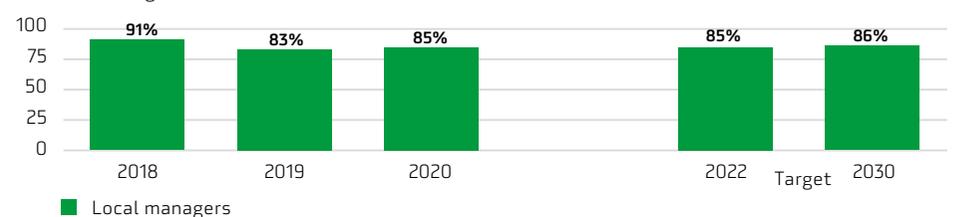
Female managers

% of FTE Managers



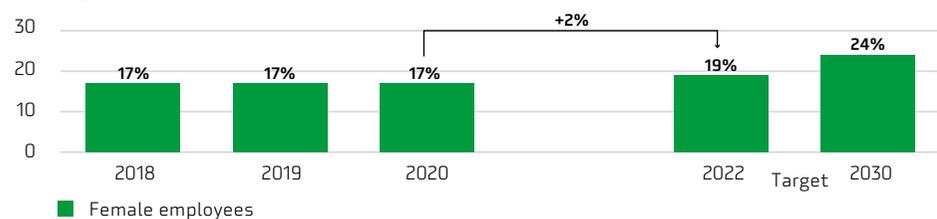
Local managers

% of FTE Managers



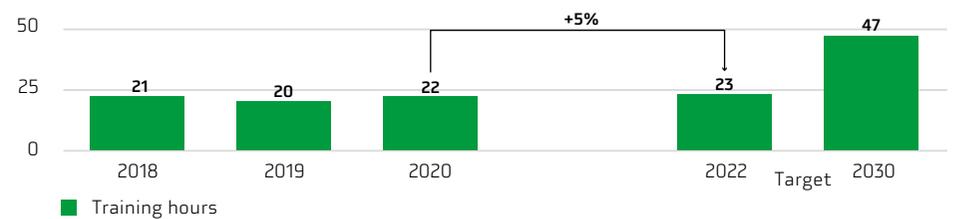
Female employees

% of FTE

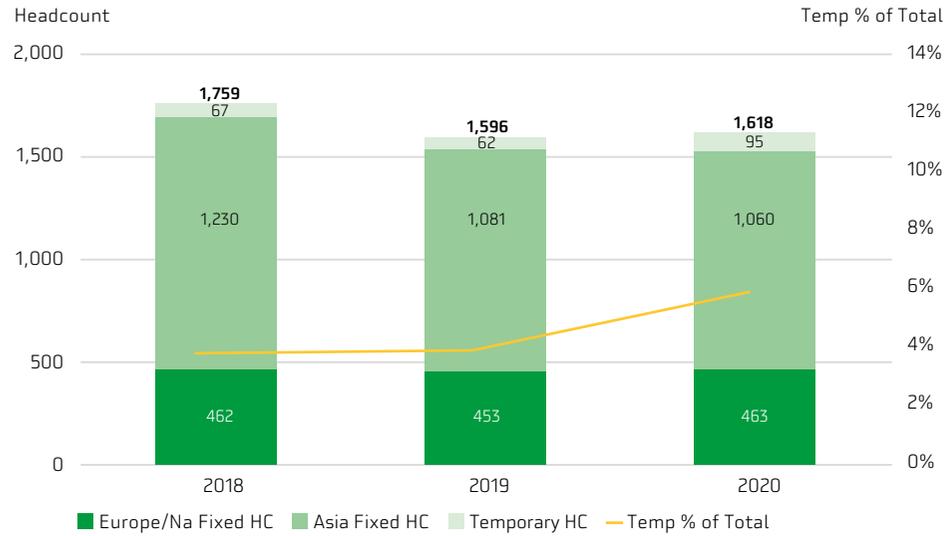


Training

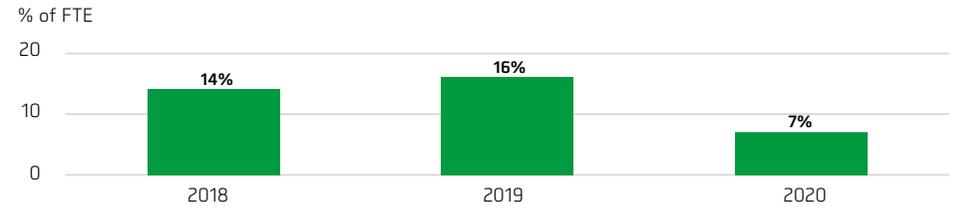
Hours/FTE



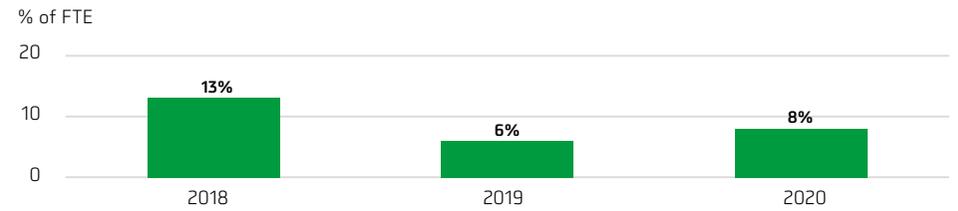
Headcount trends (FTE)



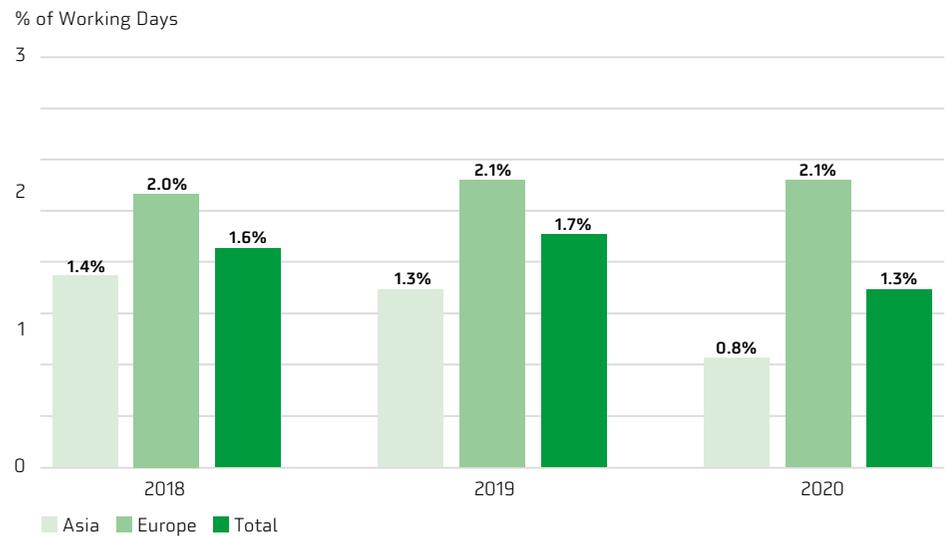
Employee turnover



New hires



Sickness rate



Material topic	2020 progress update	2022 target
Diversity and inclusion	<ul style="list-style-type: none"> Diversity initiatives were promoted to improve gender diversity with new hires and promotions at Besi Austria and China driving progress versus targets. Additional local hires in China (Leshan and Shanghai) increased the overall % of local managers in our management team. Female representation on Besi's Supervisory Board is proposed to increase from 20% to 40% upon confirmation at this year's AGM. Proportion of female managers increased on aggregate basis. 	<ul style="list-style-type: none"> Increase percentage of women in workforce to >19% (+2%). Increase percentage of women in management to >20% (+5%). Increase percentage of local nationals in management to >85% (+2%).
Employee health and safety	<ul style="list-style-type: none"> No fatalities nor serious first aid cases were reported. Initiatives were implemented to increase the number of training and development programs and hours related thereto to meet future targets. Complied with all COVID-regulations and protocols in all jurisdictions in which we operate associated with production, travel, movement, personal interaction and hygiene. Instituted on-site temperature checks at all our Malaysian, Chinese and Singapore facilities representing approximately 62% of Besi's workforce. 	<ul style="list-style-type: none"> Maintain a safety incident record of zero.
Employee engagement and career development	<ul style="list-style-type: none"> More frequent management and staff meetings held during pandemic to navigate the crisis, adjust to work at home environment for office personnel and sustain employee engagement. Invested in IT systems to facilitate efficient work at home conditions for our employees. COVID-19 employee engagement survey was conducted to understand how employees viewed our handling of the pandemic. Survey indicated strong level of employee engagement and positive sentiment towards Besi for its response. (See COVID-19 case study below). Overall training hours increased by 10% versus 2019 driven by Besi APac. 	<ul style="list-style-type: none"> Maintain employee engagement >85%. Remain above high-tech benchmark. Increase investment in employee training to >23 working hours per employee per year (+15%).

Case study: improving diversity and inclusion at Besi Austria

Data gathered in 2019 identified that Besi had no female managers at its Radfeld, Austria operations. To improve management diversity, we initiated events such as education trade fairs (e.g. *Bildungsmesse*) to increase awareness of IT and engineering opportunities targeting women in particular. Since inception of this initiative, the female manager percentage has increased from 0 to 4%. We expect that the more flexible working schedules developed in response to COVID-19 will help encourage further progress in this area.

Case study: COVID-19 pulse survey

Besi hired Willis Towers Watson, an independent global advisory firm, to conduct a worldwide employee survey as a way to evaluate our response to the pandemic. Employees were engaged on topics such as leadership and communications, support, safety and working conditions and overall employee wellbeing. The feedback was encouraging with overall engagement increasing by 6% versus the 2019 biennial survey results. Increased favorable sentiment was noted across most key topics at our principal operations. Besi intends to use the survey findings as a basis to help refine its post-COVID-19 operating model.

Overall employee engagement increased **6%** from the most recent biennial survey conducted in 2019

Future priorities

- Improve gender diversity across all locations
- Update personnel contracts to incorporate new flexible working possibilities
- Continue to prioritize the health and safety of all employees
- Increase training and development hours
- Attain ISO 45001 certification

Responsible business

Material topics

- Ethics and compliance
- Responsible supply chain
- Community impact
- Tax practices

Besi is committed to operating in a responsible and sustainable manner for the benefit of all stakeholders. We are committed to the UN Universal Declaration of Human Rights and adhere to high ethical standards. We expect the same commitment from key stakeholders, particularly across our supply chain. We also seek to have a positive impact on the communities and countries in which we operate via charitable activities, by following responsible tax practices and by maintaining open, constructive and mutually respectful relations with tax authorities.

Ethics and compliance

The importance of appropriate anti-corruption and human rights policies has increased with the expansion of Besi's Asian operations, supply chain and logistics activities. In this regard, Besi has a Code of Conduct and whistleblower procedure, both of which are available on our website, to guide the activities of our employees and suppliers and to set out responsibilities, procedures and support functions in reporting violations. All employees are required to undertake training and sign our Code of Conduct upon hiring. In addition, all employees at our Chinese operations undertook mandatory training in 2020 with respect to Besi's Code of Conduct. From 2021 onwards, we will conduct mandatory training for all our employees globally on an annual basis. We have also introduced a confidential whistleblowing procedure through which employees can report suspected cases of misconduct. These cases are investigated immediately and overseen by local management or the Board of Management, who have responsibility for approving appropriate corrective measures.

Our Code of Conduct prohibits anti-competitive practices. There were no legal proceedings associated with anti-competitive behavior during the year.

Responsible supply chain

Besi adheres to high ethical standards and expects the same from its suppliers. As such, we have three policies to promote a sustainable supply chain: A Conflict Minerals Policy, a Supply Chain Policy and a Supplier Code of Conduct based on the code set forth by the Responsible Business Alliance ("RBA"). The Code of Conduct is based on international norms and standards including the Universal Declaration of Human Rights, ILO International Labor Standards and the OECD Guidelines for Multinational Enterprises. Besi's Supply Chain Policy and Code of Conduct have been fully in accordance with RBA requirements since 2018. In addition, we seek to align our operations and supply chain with the Restriction of Hazardous Substances ("RoHS") directive. This year, 92% of our relevant purchase volume was compliant with the RoHS directive.

Besi is committed to developing a sustainable supply chain. Our supply chain activities include the sourcing of raw materials, components and semi-finished products from vendors. The issue of conflict minerals is an important topic for supply chain management, particularly in Europe and the United States. We seek to minimize the impact of conflict minerals wherever possible. Besi evaluates suppliers by means of its quarterly business review process under which we regularly conduct performance reviews and key supplier audits. In 2020, we significantly increased the number of performance reviews and audits of our suppliers.

Community impact

Besi supports activities in the local communities in which we operate, particularly in Asia where the assistance is more greatly needed. Further, we support local technical universities through active interchange and dialogue. In 2020, Besi APac continued its long-term commitment to supporting the Ideas Academy, a local education institution, by means of a donation and the organization of a charity bike ride on their behalf.

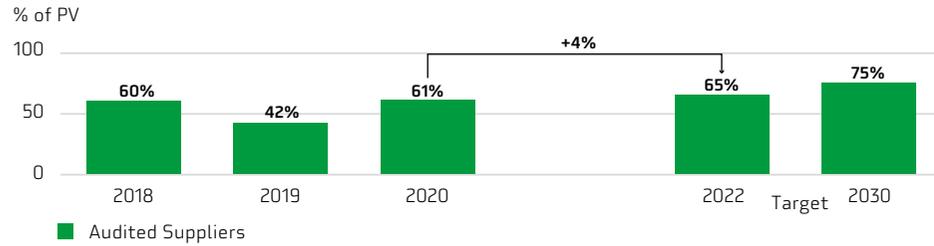
Tax practices

Besi regards taxation as part of its social responsibility and follows the principle of responsible tax practices whereby the interests of all stakeholders (including customers, shareholders, local governments and communities in the countries in which Besi operates) are taken into consideration. We strive to comply with the letter and spirit of applicable laws, are guided by relevant international standards and do not use 'artificial' structures in tax haven jurisdictions to avoid taxes. This means that taxes are paid where factual economic activities are executed and that transactions should have a business rationale. Furthermore, Besi seeks to develop and maintain open, constructive and mutually respectful relations with local tax authorities based on the principles of transparency and mutual trust.

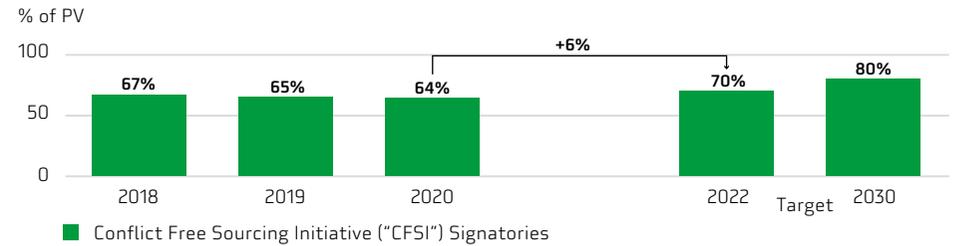
ESG performance and targets

RESPONSIBLE SUPPLY CHAIN TRENDS

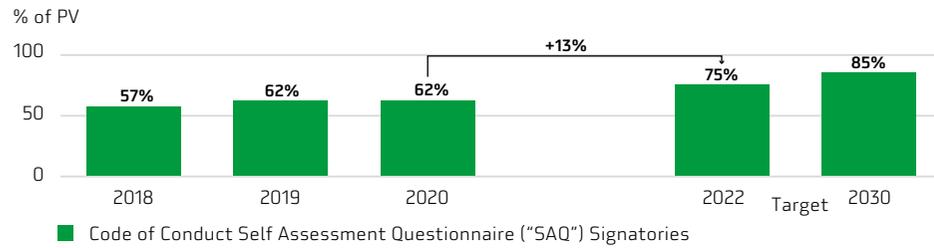
Purchase Volume ("PV") Audited



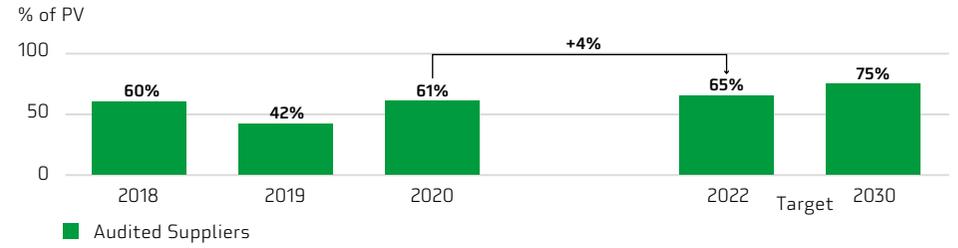
Conflict Free Sourcing Initiative



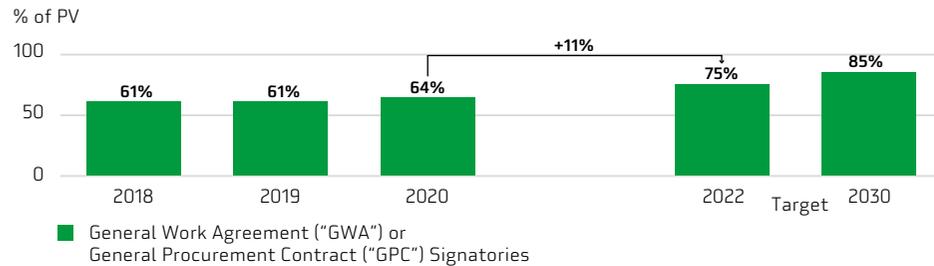
Self Assessment Questionnaire



Restriction on Hazardous Substances



Code of Conduct Supplier Agreements



Material topic	2020 progress	2022 targets
Ethics and compliance	<ul style="list-style-type: none"> Whistleblower procedure in place. No reported violations of Besi's Code of Conduct. 	<ul style="list-style-type: none"> Increase employee participation in training related to Besi's Code of Conduct.
Responsible supply chain	<ul style="list-style-type: none"> Increased purchase volume ("PV") audited despite pandemic 62% of PV signed SAQ with respect to our Code of Conduct. 64% of PV signed supplier GWA or GPC. 64% of PV signed CFSI. Set targets for 2022 and 2030 related to GWA/GPC, SAQ and CFSI. 	<ul style="list-style-type: none"> 65% of PV audited. 75% of PV to sign SAQ with respect to our Code of Conduct. 75% of PV to sign GWA or GPC. 70% of PV to sign CFSI.
Community impact	<ul style="list-style-type: none"> Supported local charities during the pandemic. Community outreach was limited given the restrictions on personal interaction and movement during the pandemic. 	<ul style="list-style-type: none"> Increase number of hours volunteered, monetary donations and education projects supported.
Tax practices	<ul style="list-style-type: none"> Compliant with tax obligations where factual economic activities take place. 	<ul style="list-style-type: none"> Compliant with tax obligations where factual economic activities take place.

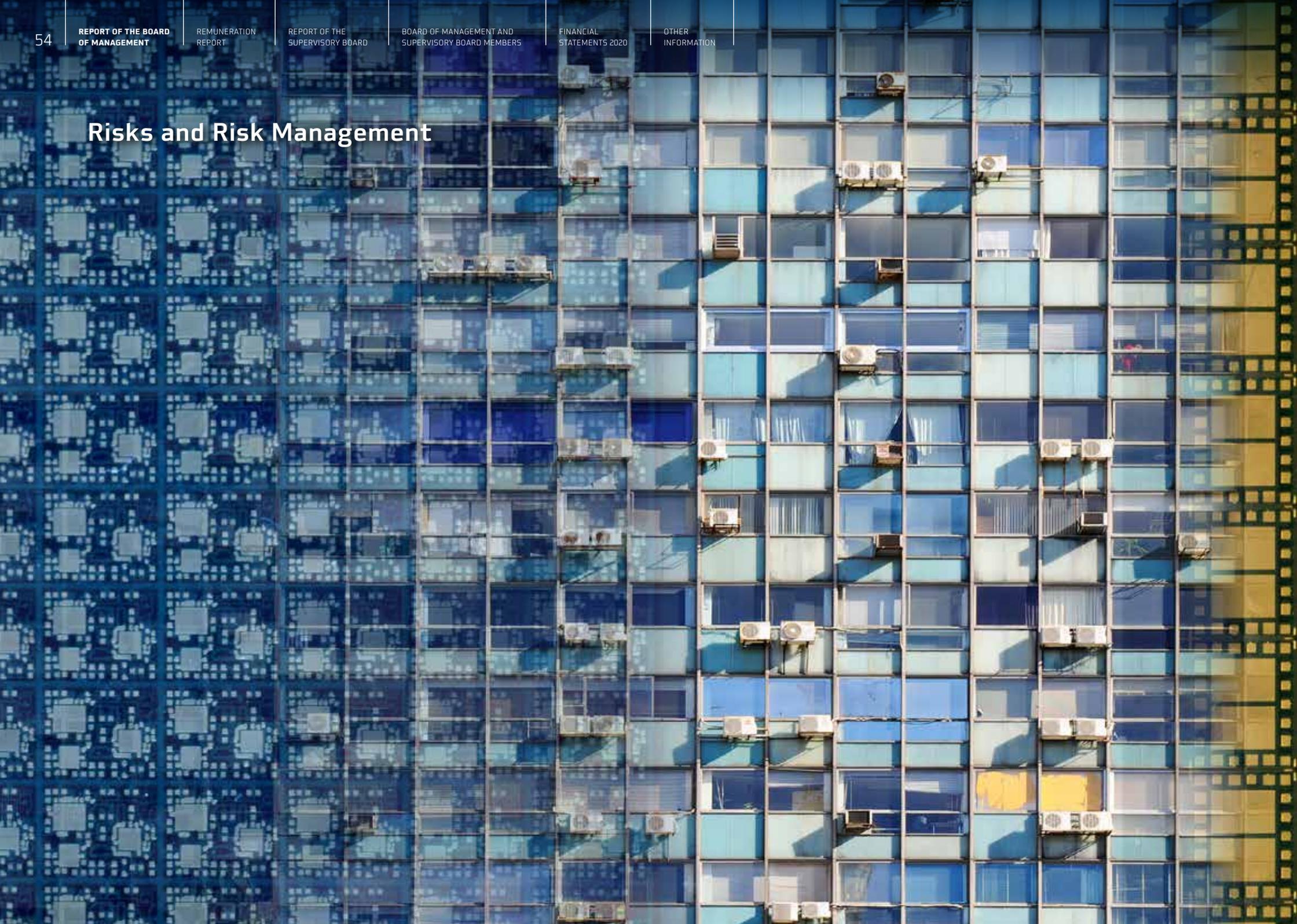
Case study: reducing the impact of conflict minerals in our supply chain

Building on the standard set forth in our Code of Conduct, Besi has formalized long-term targets to minimize the impact of conflict minerals in our supply chain. We support the Responsible Business Alliance Code of Conduct, including its commitment to conflict-free sourcing and the Conflict Free Sourcing Initiative and encourage all suppliers to participate. As part of our commitment, we engage in a rolling three-year supply chain audit program under which we completed audits for 61.4% of Besi's supply chain in 2020. This level was significantly higher than 2019 and prior years with many suppliers willing to undergo audits via Webex during the pandemic.

Future priorities

- Complete audits representing 75% of Besi's purchasing volume by 2030.
- Encourage more suppliers to join the CFSI such that 80% of our purchasing volume has signed by 2030.
- Communicate Besi's ESG strategy and targets to stakeholders in an efficient and transparent manner.
- Progressively adopt best practice ESG reporting standards including alignment with additional external reporting frameworks such as SASB and TCFD.

Risks and Risk Management



Risks and Risk Management

Identifying and controlling potential events and risks which may affect Besi's strategy, continuity, business and performance are of the utmost importance for management and the subject of continuous focus. Our risk management efforts extend throughout our processes, people and systems. In recent years, the importance of internal control and risk management systems has grown substantially as a result of Besi's increased size and complexity, changing market conditions and substantial expansion of its business operations outside of Europe. Besi's internal control and risk management systems have been designed to address and help mitigate such risks and risk factors.

In 2020, the most important components of Besi's internal control and risk management system were:

Financial risk management

- An extensive and documented process for preparing Besi's annual budget, quarterly estimates and reports of its monthly financial and non-financial information compared with the budgeted and quarterly estimated information.
- Monthly business reviews with product group and production site managers with respect to their monthly and quarterly bookings, revenue, working capital and results of operations together with discussions of general market, economic, technological, ecological and competitive developments.
- Daily reviews of the foreign currency positions of all significant operating companies.
- Annual documentation and analysis of key risks and the development and control of such risks.
- Weekly management reviews of its business, operations, cash and inventory development.
- Compliance with finance and controlling guidelines governing its financial accounting and reporting procedures.
- Compliance with internal controls over financial reporting that have been implemented in all significant operating companies.
- Regular management review of key staff development.
- Regular analyses of operational risks at the subsidiary level.
- Regular analyses of Besi's capital structure, financing requirements, tax position and transfer pricing system.

All material findings that result from the use of Besi's internal control and risk management system for financial risks are discussed with the Audit Committee and Supervisory Board including the:

- Development of Besi's revenue, orders, results of operations and balance sheet versus budget as well as developments in the global economy and semiconductor assembly equipment market and their impact on Besi's financial results.
- Progress of ongoing strategic initiatives and cost reduction efforts.
- Status of key customer relationships.

- Analysis of orders lost to competitors and the development of Besi's competitors' business.
- Material developments in Besi's research and development activities.
- Foreign currency exchange rate developments.
- Status of its current corporate governance procedures.
- Status of systems and procedures and activities to monitor and evaluate risks from fraud, bribery or corruption in Besi's operations.

In addition to internal controls over financial reporting, the operation of Besi's internal control system is also assessed by the external auditor where deemed relevant in the context of the audit of the annual Financial Statements. The results of this audit are discussed with the Board of Management and the Audit Committee of the Supervisory Board.

Other operational risks such as the hedging of financial exposures, internal financial reporting and transfer pricing are governed by a set of internal Besi guidelines. In addition, insurance policies are in place to cover the typical business risks associated with Besi's operations and are reviewed every year. Besi's policies regarding foreign currency hedging, interest rate, credit, market and liquidity risks are further described in the Financial Statements. In addition, our use of global and diverse information technology systems could expose us to security threats to our data resources and intellectual property from a variety of risks including natural disasters, power outages, cyberattacks, acts of terrorism and malware and/or ransomware infiltration. We have established an information-security program which implements measures to prevent, detect and respond to security threats. Furthermore, in 2020, we focused specifically on raising awareness of the risks and potential risks of cybercrime among our employees.

Besi also evaluates non-financial risks that could affect both its strategy and business operations as well as emerging non-financial risks such as climate change, natural resource conservation, pollution and the circular economy and human challenges such as diversity, human rights and the recruitment of qualified technical personnel. Short and long-term topics are assessed through measures such as materiality analyses, key performance indicators for Scope 1, 2 and 3 emissions, water and waste usage, customer and employee satisfaction metrics, supplier audits and continuous stakeholder dialogue. Besi's non-financial risks are governed by a set of guidelines and instructions.

There were no indications that Besi's internal control and risk management systems did not function properly in 2020. Please refer to [Internal Control and Risk Management](#) of the Corporate Governance section for further information.



Virtual team building day Besi Singapore.

Risk appetite

Besi's risk appetite is primarily based on defined and agreed upon strategies and the individual objectives and initiatives within such strategies. Management believes that Besi's risk appetite is aligned with its strategy and priorities. The Board of Management monitors the operation of its internal control and risk management system and carries out a systematic assessment of its design and effectiveness at which time it also assesses its risks, including residual risks, net of risk mitigating measures. The Board of Management discusses the effectiveness of the design and operation of the internal control and risk management system with the Audit Committee and provides input to the Supervisory Board.

Our risk appetite differs per risk type:

- Strategic risks and risks related to the semiconductor industry: Besi seeks to realize its strategic ambitions and priorities and is willing to accept reasonable risks to achieve such objectives.
- Operational risks: Besi has a variety of operating initiatives and challenges in its strategic planning that require an appropriate level of management attention. We seek to mitigate risks that could negatively affect our realization of operating initiatives and efficiency targets while ensuring that our quality standards are unaffected in the process.
- Financial risks: Besi's financial strategy is focused on generating increased revenue, profit and cash flow from its business model, maintaining a strong financial position and creating long-term value for its shareholders. We seek to mitigate risks which could negatively influence our results of operations, financial condition and access to capital markets while maintaining optimal operating and financing flexibility and an attractive capital allocation policy for the benefit of stakeholders.
- Legal and regulatory risks: Besi strives to be fully compliant with its Code of Conduct and all applicable national and international laws and regulations in the markets and jurisdictions in which it operates. Besi seeks to comply with all environmental and labor laws and uses its best efforts to comply with best practice standards in the jurisdictions in which Besi operates.

Besi does not rank the individual risks identified by management. We believe that all risks described herein have significant relevance and that a ranking process would negate the purpose of a comprehensive risk assessment.

Risks factors relating to Besi, its industry, its business and its shares

Strategic risks

Besi faces risks related to the COVID-19 pandemic that could significantly disrupt or materially adversely affect its business and financial performance.

The COVID-19 pandemic has had a significant adverse impact on global commercial activity and has created significant volatility in financial markets. Many governmental authorities have instituted quarantines, work-from-home directives, shelter-in-place orders, social distancing mandates, travel restrictions, border closures, limitations on public gatherings and closures of, or operational limitations on, non-essential businesses that are adversely impacting many industries. There is significant uncertainty surrounding the breadth and duration of business disruptions related to COVID-19 as well as its impact on the global economy and consumer confidence. The pandemic could have a sustained adverse impact on economic and market conditions and trigger a prolonged global economic slowdown, which could decrease spending on semiconductor manufacturing equipment, adversely affect demand for Besi's product offerings and harm Besi's business and operating results.

Significant uncertainty exists as well concerning the impact of the pandemic on the business and operations of Besi's customers in future periods. Until the effects of the pandemic have subsided, Besi's revenue may be negatively impacted in future periods due to a general increase in the length of time necessary to close transactions in the current macroeconomic environment. The uncertainty related to COVID-19 may also result in increased volatility in the financial projections Besi uses as the basis for estimates and assumptions used in its financial statements.

Furthermore, some of Besi's customers have experienced significant adverse effects from the pandemic and related containment and mitigation measures. A significant economic downturn or adverse effects of the pandemic may cause organizations to reduce their expenditures in general or specifically reduce their spending on semiconductor manufacturing equipment. Customers may delay or cancel projects or seek to lower their costs by renegotiating vendor contracts. In addition, Besi's competitors may respond to challenging market conditions by lowering prices in an attempt to make their product offerings more attractive to potential customers.

In light of the uncertain and rapidly evolving situation with respect to COVID-19, we have taken precautionary measures intended to reduce the risk of the virus to our employees, customers, suppliers and the communities in which we operate. These operational changes could have a negative impact on Besi's manufacturing, sales, marketing and customer

acquisition efforts, delays in production and sales cycles, delays in the release or delivery of new or enhanced offerings or unexpected changes to such offerings, or operational or other challenges, any of which could significantly disrupt our business and operating results. Additionally, while Besi has not experienced any material disruptions to date, its technological systems or infrastructure may not be equipped to facilitate effective remote working arrangements or operations in compliance with all laws and regulations for its employees in the short- or long-term.

Considerable uncertainty still surrounds COVID-19 and its potential long-term economic effects, as well as the effectiveness of any responses taken by government authorities and businesses. Although Besi continues to actively monitor the situation across its operations and may take further actions as required by government authorities or as more information and public health guidance become available, the full extent to which COVID-19 affects our business and operating results will depend on future developments, including the duration, spread, severity, and potential recurrence of the pandemic, the timetable and effectiveness of new vaccines designed to mitigate its spread, the impact on our manufacturing operations and sales cycles, our ability to generate new business leads and the impact on our customers, suppliers and employees, all of which are highly uncertain and cannot be predicted.

Besi's business and results of operations may be negatively affected by general economic and financial market conditions and volatile spending patterns by its customers.

Although the semiconductor industry's business cycle can be independent of the general economy, global economic conditions may have a direct impact on demand for semiconductor devices and ultimately demand for semiconductor manufacturing equipment. Accordingly, Besi's business and financial performance are affected, both positively and negatively, by fluctuations in the macroeconomic environment. As a result, the Company's visibility as to future demand is generally limited and its ability to forecast future demand is difficult.

For example, in the third quarter of 2015, Besi experienced an abrupt and rapid reduction in orders as customers digested capacity added in 2014 and the first half of 2015, along with typical downward order pressure from seasonal factors. Similarly, an abrupt decline in demand for mobile applications (in particular order cancellations by a single IDM customer) caused second quarter 2018 orders to decline by 58% relative to the first quarter of 2018. Such order weakness continued in the second half of 2018 and throughout 2019 as customers digested significant capacity added in 2017.

Besi believes that historic volatility in capital spending by customers is likely to persist in the future. In addition, future economic downturns and/or geopolitical events could adversely affect Besi's customers and suppliers which would in turn have an impact on Besi's business and financial condition.

Besi's business includes significant operations in Europe. Disruptions to European economies could have a material adverse effect on Besi's operations, financial performance, share price and access to credit markets.

Over the past decade, the financial markets have experienced concern as to the ability of certain European countries to finance their deficits, service debt burdens and refinance debt maturities, as well as the effects of a potential default by a European sovereign issuer, its impact on economic growth in emerging markets and other developed markets and its impact on corporations' abilities to access credit and capital markets. Markets have also expressed concern as to the impact of the COVID-19 pandemic on European economies, unemployment levels and any potential long-lasting damage which could ensue as a result of its extended duration.

Besi also may face heightened risks as a result of the withdrawal of the United Kingdom from the European Union, commonly referred to as "Brexit". The future effects of Brexit are uncertain and will depend on the implementation of the Brexit withdrawal agreement and any other agreements the United Kingdom may make to retain access to European Union markets post their separation. Brexit could, among other outcomes, disrupt the free movement of goods, services and people between the United Kingdom and the European Union and significantly disrupt trade between the United Kingdom and the European Union. In addition, Brexit could lead to legal uncertainty and potentially divergent national laws and regulations, including tax laws and regulations, as the United Kingdom determines which European Union laws to replace or replicate.

Given the scale of its European operations and scope of its relationships with customers and counterparties, Besi's results of operations and financial condition could be materially and adversely affected by persistent disruptions in European financial markets, the attempt of a country to abandon the euro, the impact of Brexit, the effects of austerity measures on eurozone economies, the failure of a significant European financial institution, even if not an immediate counterparty to Besi, persistent weakness in the value of the euro, the potential adverse impact on global economic growth and capital markets if eurozone issues spread to other parts of the world as a result of the default of a eurozone sovereign or corporate issuer and by a failure of government actions and vaccines to stop the spread of the COVID-19 pandemic.

Besi may acquire or make investments in companies or technologies that could disrupt its ongoing business, distract its management and employees, increase its expenses and adversely affect its results of operations.

As part of its growth strategy, Besi may from time to time acquire or make investments in companies and technologies. Besi could face difficulties in integrating personnel and operations from the acquired businesses or technology and in retaining and motivating key personnel from these businesses. In addition, these acquisitions may disrupt Besi's

ongoing operations, divert management resources and attention from day to day activities, increase its expenses and adversely affect its results of operations and the market price of its ordinary shares. In addition, these types of transactions often result in charges to earnings for items such as business unit restructuring, including charges for personnel and facility termination and the amortization of intangible assets or in-process research and development expenses. Any future acquisitions or investments in companies or technologies could involve other risks, including the assumption of additional liabilities, dilutive issuances of equity securities, the utilization of cash and the incurrence of debt.

Acts of war or terrorism could adversely affect Besi's business and results of operations.

Threats or acts of war or terrorism may adversely affect our business. Terrorist attacks in Europe and other regions globally as well as continuing hostilities in the Middle East and elsewhere have created significant instability and uncertainty in the world. In addition, terrorist attacks, including cyberterrorism, that directly impact our facilities or those of our suppliers or customers could have an adverse impact on our sales, supply chain, production capabilities and costs. Any such events could have a material adverse effect on world markets, our business and our results of operations.

Trade, political and economic frictions in the Asia Pacific region could adversely affect Besi's revenue and results of operations.

Due to the complex relationships among China, Japan, Korea, Taiwan and the United States, there is inherent risk that political and diplomatic influences might lead to trade disruptions. In particular, heightened trade tensions and retaliatory tariffs between the United States and China in recent years past could potentially limit or restrict the sale of Besi's semiconductor assembly equipment to China. A significant trade disruption in any area where we do business could have a material adverse impact on our future revenue and profitability. Tariffs, additional taxes or trade barriers may increase our manufacturing costs, decrease margins, reduce the competitiveness of our products or inhibit Besi's ability to sell products or purchase necessary equipment and supplies, all of which could have a material adverse effect on our business, results of operations and financial condition.

In addition, there are risks that governments may, among other things, insist on the use of local suppliers, compel companies to partner with local companies to design and supply equipment on a local basis, require the transfer of intellectual property rights and/or local manufacturing or provide special incentives to government backed local customers to buy from local competitors even if their products are inferior to ours, all of which could adversely impact our revenue, margins and financial condition. Many of these challenges are particularly applicable in China, which is a fast-developing market for the semiconductor equipment industry and an area of anticipated growth for Besi's business. Further, the political and economic climate in China at both the national and regional levels can be fluid

and unpredictable. China has announced and begun implementation of state-sponsored initiatives to build domestic semiconductor capacity and supply chains. As such, Besi may be at a disadvantage in competing with entities associated with such government efforts based on their lower cost of capital, access to government subsidies and decision making, preferential sourcing practices, stronger local relationships or otherwise.

Semiconductor industry related risks

Besi's revenue and results of operations depend in significant part on demand for semiconductors which is highly cyclical and has increasingly become more seasonal in nature.

Besi's customers' capital expenditures for semiconductor manufacturing equipment depend on the current and anticipated market demand for semiconductors and products using semiconductors. The semiconductor industry is highly cyclical and volatile and is characterized by periods of rapid growth followed by industry-wide retrenchment. These periodic downturns have included, among other things, diminished product demand, production overcapacity, oversupply and reduced prices, all of which have been regularly associated with substantial reductions in capital expenditures for semiconductor facilities and equipment and a reduction of Besi's revenue.

Final assembly area 2200 evo at Besi Leshan, China.



Over the past decade, Besi has experienced significant upward and downward movements in quarterly order rates due to global macroeconomic concerns, the timing of industry capacity additions and seasonality associated with end-user application revenue which materially affected and, in certain instances, adversely affected its revenue, results of operations and orders. Customer order patterns have become increasingly more seasonal due to the growing influence of more retail-oriented electronics applications in the overall demand for semiconductor devices such as smart phones, tablets, wearables and automotive electronics and the timing of new product introductions. As such, typical annual order patterns have been characterized by a strong ramp in the first half of the year to build capacity to meet anticipated year end demand followed by a subsequent decline in the second half of the year as capacity additions are digested by customers.

Due to the lead times associated with the production of semiconductor equipment, a rise or fall in the level of sales of semiconductor equipment typically lags any downturn or recovery in the semiconductor market by approximately three to six months. This cyclicity has had, and is expected to continue to have, a direct adverse effect on Besi's revenue, results of operations and orders. Industry downturns can be severe and protracted and will continue to adversely affect Besi's revenue, results of operations and orders.

Because of the lengthy and unpredictable sales cycle for its products, Besi may not succeed in closing transactions on a timely basis, if at all, which could adversely affect its revenue and operating results.

The average selling price for a material portion of Besi's equipment exceeds € 300,000 and, as a result of such potential investment size, the sales cycles for these transactions are often lengthy and unpredictable. Factors affecting the sales cycle include:

- Customers' capital spending plans, capacity utilization rates, technology roadmaps and budgetary constraints.
- Timing related to the adoption, testing, qualification and introduction of new devices and process technologies and related equipment.
- The timing of customers' budget cycles.
- Customers' internal approval processes.

These lengthy sales cycles may cause Besi's revenue and results of operations to vary from period to period and it may be difficult to predict the timing and amount of any variations. Besi may not succeed in closing such large transactions on a timely basis or at all, which could cause significant variability in its revenue and results of operations for any particular period.

Recent consolidation activity and industry alliances in the semiconductor industry have further increased customer concentration and the risk of loss.

There has been, and Besi expects that there will continue to be, consolidation within the semiconductor industry resulting in fewer potential customers for its products and services, and, more significantly, the potential loss of business from existing customers that are a party to a merger if the combined entity decides to purchase all of its equipment from one of Besi's competitors. Further industry consolidation could result in additional negative consequences to Besi including increased pricing pressure, increased customer demands for enhanced or new products, greater sales and promotional costs and the potential for increased oversight from regulatory agencies. Any of the foregoing events would have an adverse impact on Besi's business, results of operations and financial condition.

Some of our customers and potential customers are entering into alliances or other forms of cooperation with one another to expedite the development of processes and other manufacturing technologies. One of the results of this cooperation may be the definition of a system or particular tool set for a certain function or a series of process steps that uses a specific set of manufacturing equipment. These decisions could work to Besi's disadvantage if a competitor's equipment becomes the standard equipment for such function or process. Even if Besi's equipment was previously used by a customer, that equipment may be displaced in current and future applications by the equipment standardized through such cooperation. These forms of cooperation may have a material adverse effect on Besi's business, financial condition and results of operations.

In addition, various industries have experienced consolidation and other ownership changes or the emergence of dominant firms and supply chains within those industries, including the smart phone, computing and automotive industries. Any future changes in market structure to industries in which we sell our equipment could decrease the number of potential customers for our product offerings and/or risk an increase in competition for our clients' equipment purchases. Moreover, our competitors may respond to such changes in market conditions by lowering prices and attempting to lure away our customers.

Besi may experience increased price pressure on its product sales.

Typically, Besi's average selling prices for mature products have declined over time. Besi seeks to offset this decline, in part, by continually developing and introducing next generations of its principal products. In addition, it has reduced its cost structure by consolidating and transferring production operations to lower cost areas, expanding its lower cost Asian sources of supply, reducing other operating costs and pursuing product strategies focused on product performance and customer service. If these efforts do not fully offset any such price declines, Besi's financial condition and operating results may be materially and adversely affected.

Besi may fail to compete effectively in its markets.

Besi faces substantial competition on a worldwide basis from established companies based in Japan, Korea, Singapore, China, various other Pacific Rim countries and the United States, many of which have greater financial, engineering, manufacturing and marketing resources than Besi. Besi believes that once a semiconductor manufacturer has decided to buy semiconductor assembly equipment from a particular vendor, the manufacturer often continues to use that vendor's equipment in the future. Accordingly, it is often difficult to achieve significant sales to a particular customer once another vendor's products have been installed. Furthermore, some companies have historically developed, manufactured and installed back-end assembly equipment internally, and it may be difficult for Besi to sell its products to these companies or, in attempting to make sales to such companies, risk exposing Besi's proprietary technology to a potential competitor.

Besi's ability to compete successfully in its markets depends on a number of factors both within and outside its control including:

- Price, product quality and system performance to customer specifications.
- Ease of use and reliability of its products.
- Manufacturing lead times, including the lead times of Besi's subcontractors.
- Cost of ownership.
- Success in developing or otherwise introducing new products.
- Market and economic conditions.
- Local market presence, particularly in Asian markets, and the quality of Besi's after-market sales and service support in each region in which it operates.

In addition, there is substantial competition for qualified and capable personnel who are in high demand, particularly in Asia, which may make it difficult for Besi to recruit and retain qualified employees.

If Besi fails to compete effectively based upon these or other factors, its business and results of operations could be adversely affected.

Besi must introduce new products in a timely fashion and its success is dependent upon the market acceptance of these products.

The semiconductor equipment industry is subject to rapid technological change and new product introductions and enhancements. The success of Besi's business strategy and results of operations are largely based upon accurate anticipation of customer and market requirements. Besi's ability to implement its overall strategy and remain competitive will depend in part upon its ability to develop new and enhanced products and introduce them at competitive price levels in order to gain market acceptance. Besi must also accurately forecast commercial and technical trends in the semiconductor industry so that its products provide the functions required by its customers and are configured for use in

their facilities. Besi may not be able to respond effectively to technological changes or to specific product announcements by competitors. As a result, the introduction of new products embodying new technologies or the emergence of new or enhanced industry standards could render Besi's existing products uncompetitive from a pricing standpoint, obsolete or unmarketable.

In addition, Besi is required to invest significant financial resources in the development of new products or upgrades to existing products and in its sales and marketing efforts before such products are made commercially available and before Besi is able to determine whether they will be accepted by the market. Revenue from such products will not be recognized until long after Besi has incurred the costs associated with designing, creating and selling such products. In addition, due to the rapid technological changes in its market, a customer may cancel or modify a product before it begins manufacture of the product and receives revenue from the customer. While Besi typically imposes a fee when its customers cancel an order, that fee may not be sufficient to offset the costs Besi incurred in designing and manufacturing such product. In addition, the customer may refuse or be unable to pay the cancellation fee Besi assesses. It is difficult to predict with any certainty the frequency with which customers will cancel or modify their projects or the effect that any cancellation or modification would have on Besi's results of operations.

Besi cannot provide any assurance that it will be successful in developing new or enhanced products in a timely manner or that any new or enhanced products that it introduces will achieve market acceptance.

Besi may not be able to protect its intellectual property rights which could make it less competitive and cause it to lose market share.

Although Besi seeks to protect its intellectual property rights through patents, trademarks, copyrights, trade secrets, confidentiality and assignment of invention agreements and other measures, there can be no assurance that it will be able to protect its technology adequately, that Besi's competitors will not be able to develop similar technology independently, that any of Besi's pending patent applications will be issued or that intellectual property laws will protect Besi's intellectual property rights. In addition, Besi operates internationally and intellectual property protection varies among the jurisdictions in which it conducts business. In certain jurisdictions, the prevention of theft or copying can be challenging. Litigation may be necessary in order to enforce Besi's patents, copyrights or other intellectual property rights, to protect its trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. Litigation could result in substantial costs and diversion of resources, distract Besi's management from operating the business and could have a material adverse effect on its business and operating results.

In addition, third parties may seek to challenge, invalidate or circumvent any patent issued to Besi, the rights granted under any patent issued to Besi may not provide competitive advantages and third parties may assert that Besi's products infringe patents, copyrights or trade secrets of such parties. Also third parties may challenge, invalidate or circumvent technology which Besi licenses from third parties. If any party is able to successfully claim that Besi's creation or use of proprietary technology infringes upon their intellectual property rights, Besi may be forced to pay damages. In addition to any damages Besi may have to pay, a court could require Besi to stop the infringing activity or obtain a license which may not be available on terms which are favorable to Besi or at all.

Operational risks

Difficulties in forecasting demand for Besi's product lines may lead to periodic inventory shortages or surpluses.

Besi typically operates its business with limited visibility of future demand. As a result, it sometimes experiences inventory shortages or surpluses. Besi generally orders supplies and otherwise plans production based on internal forecasts for demand. Besi has in the past failed, and may fail again in the future, to accurately forecast demand for its products. This has led to, and may in the future lead to, delays in product shipments or, alternatively, an increased risk of inventory obsolescence. If it fails to accurately forecast demand for its products, Besi's business, results of operations and financial condition may be materially and adversely affected.

Besi depends on its suppliers for critical raw materials, components and subassemblies on a timely basis. If suppliers do not deliver their products on a timely basis, particularly during a large order ramp, our revenue, customer relationships and market share could be materially and adversely affected.

Besi's assembly equipment, particularly its advanced packaging product lines, is highly complex and requires raw materials, components, modules and subassemblies having a high degree of reliability, accuracy and performance. Besi relies on subcontractors to manufacture many of these components and subassemblies and, in certain instances, on sole suppliers for such items, on a timely basis as our order ramps can be steep and industry cycle times are decreasing. As a result, Besi is exposed to a number of significant risks, including:

- Decreased control over the manufacturing process for components, modules and subassemblies.
- Changes in our manufacturing processes in response to changes in the market, which may delay our shipments.
- Potential for inadvertent use of defective or contaminated raw materials.

- The relatively small operations and limited manufacturing resources of some of our suppliers, which may limit their ability to manufacture and sell subassemblies, modules, components or parts in the volumes Besi requires and at acceptable quality levels, prices and timetables.
- The potential inability of suppliers to meet customer demand requirements during volatile cycles.
- Reliability or quality issues with certain key components, modules and subassemblies provided by single source suppliers as to which Besi may not have any short-term alternative.
- Shortages caused by disruptions at our suppliers and subcontractors for a variety of reasons, including the COVID-19 pandemic, work stoppage or fire, earthquake, flooding or other natural disasters.
- Delays in the delivery of raw materials, modules or subassemblies, which, in turn, may delay shipments to our customers.
- Loss of suppliers as a result of consolidation of suppliers in the industry, bankruptcy or insolvency.
- The potential copying or theft of proprietary designs for unauthorized use or sale to third parties including competitors.

If Besi were unable to deliver products to its customers on time and at expected costs for these or any other reasons, or it were unable to meet customer expectations as to cycle time, or it were unable to maintain acceptable product quality or reliability, then its business relationships, market share, financial condition and operating results could be materially and adversely affected.

Undetected problems in Besi's products could directly impair its financial results.

If flaws in design, production, assembly or testing of its products (by Besi or its suppliers) were to occur, Besi could experience a rate of failure in its products that could result in substantial repair, replacement or service costs and potential damage to its reputation. Continued improvements in manufacturing capabilities, control of material and manufacturing quality and costs and product testing are critical factors to Besi's future growth. There can be no assurance that Besi's efforts to monitor, develop, modify and implement appropriate tests and manufacturing processes for its products will be sufficient to permit it to avoid a rate of failure in its products that results in substantial delays in shipments, significant repair, replacement or service costs and/or potential damage to its reputation, any of which could have a material adverse effect on Besi's business, results of operations and financial condition.

Costs of product defects and errata (deviations from product specifications) due to, for example, problems in Besi's design and manufacturing processes could include:

- Writing off the value of inventory.
- Disposing of products that cannot be fixed.
- Retrofitting products that have been shipped.
- Providing product replacements or modifications.
- Defending against litigation.

Besi's use of global and diverse information technology systems could result in ineffective or inefficient business management and could expose it to security threats to its data resources and intellectual property.

Besi currently utilizes a variety of information technology ("IT") systems to run its global operations. At present, Besi's operations rely on a range of different software systems to manage its sales, administrative and production functions. Some of these systems are proprietary and others are purchased from third party vendors. In addition, some of these systems are maintained on-site by Besi personnel while others are maintained off-site by third parties.

Epoxy process engineer setting up recipe for new product at Besi Singapore.



We maintain and rely extensively on IT systems and network infrastructures for the effective operation of our business and protection of our technological resources. We also hold large amounts of data in data center facilities around the world upon which our business depends. We could experience a disruption or failure of our systems, or of the third-party hosting facilities or other services that we use. Such disruptions or failures could include a major earthquake, fire, cyber-attack, act of terrorism or other catastrophic event, as well as power outages or telecommunications infrastructure outages, or a decision by one of our third-party service providers to close facilities that we use without adequate notice or other unanticipated problems with the third-party services that we use, including a failure to meet service standards. As a highly automated business, any such disruptions or failures could (i) result in the destruction or disruption of any of our critical business operations, controls or procedures, or IT systems, (ii) severely affect our ability to conduct normal business operations, including delaying completion of sales and provision of services, (iii) result in a material weakness in our internal control over financial reporting, (iv) harm our reputation and (v) adversely affect our ability to attract and retain customers, any of which could materially adversely affect our future operating results.

Besi believes that there has been a global increase in IT security threats and higher levels of professionalism in computer crime which pose a greater risk to the confidentiality, availability, distribution and integrity of its internal data and information. Besi relies on commercially available systems, software, tools and monitoring to provide security for the processing, transmission and storage of confidential information. A disruption, infiltration or failure of our IT systems or any of our data centers could occur as a result of technological error, computer viruses, or third-party action, including intentional misconduct by computer hackers, physical break-ins, the actions of state actors, industrial espionage, fraudulent inducement of employees, or customers to disclose sensitive information such as user names or passwords, and employee or customer error or malfeasance.

A security breach could result in unauthorized access to or disclosure, modification, misuse, loss, or destruction of our or our customer's data (including proprietary design information, intellectual property, or trade secrets). Because there are many different security breach techniques and such techniques continue to evolve, we may be unable to anticipate attempted security breaches and implement adequate preventative measures. Any security breach or successful denial of service attack could result in a loss of customer confidence in the security of our products and damage to our brand, reduce the demand for our offerings, disrupt our normal business operations, compromise our competitive technological position, require us to spend material resources to investigate or correct the breach, expose us to legal liabilities, including litigation, regulatory enforcement, and indemnity obligations, and materially adversely affect our operating results.

Any significant disruption in Besi's operations could reduce the attractiveness of its products and result in a loss of customers.

The timely delivery and satisfactory performance of Besi's products are critical to its operations, reputation and ability to attract new customers and retain existing customers. Besi's administrative, design and systems manufacturing are located all over the world, including locations in the Netherlands, Malaysia, Singapore, Austria, China and Switzerland. Some of Besi's facilities are in locations that have experienced severe weather conditions, fire, natural disasters, flooding, political unrest and/or terrorist incidents. If the operations at any of its facilities were damaged or destroyed as a result of any of the foregoing, or as a result of other factors, Besi could experience interruptions in its service, delays in product deliveries and it would likely incur additional expense in arranging new production facilities which may not be available on timely or commercially reasonable terms, or at all. Any interruptions in Besi's operations or delays in delivering its products could harm its customer relationships, damage its brand and reputation, divert its employees' attention, reduce its revenue, subject it to liability and cause customers to cancel their orders, any of which could adversely affect Besi's business, financial condition and results of operations. It is unclear whether Besi's insurance policies would adequately compensate it for any losses that it would incur as the result of a production or service disruption or delay.

Besi is largely dependent upon its international operations.

Besi has manufacturing and/or sales and service facilities and personnel in the Netherlands, Austria, Malaysia, Korea, Hong Kong, Singapore, China, the Philippines, Taiwan, Thailand, Switzerland and the United States. Its products are marketed, sold and serviced worldwide. In addition, 90% of its sales in 2020 were to customers outside of Europe and 69% of its employees were located in facilities outside of Europe at year end 2020.

Besi's operations are subject to risks inherent in international business activities including, in particular:

- General economic, banking and political conditions in each country.
- The overlap of different tax structures and potentially conflicting interpretations of tax regulations.
- Management of an organization spread over various countries.
- Currency fluctuations which could result in increased operating expenses and reduced revenue and foreign currency controls.
- Greater difficulty in accounts receivable collection and longer collection periods.
- Difficulty in enforcing or adequately protecting Besi's intellectual property in foreign jurisdictions.
- Unexpected changes in regulatory requirements, compliance with a variety of foreign laws and regulations, including restrictions on immigration, travel, or availability of visas, including restrictions imposed in response to the COVID-19 pandemic.
- Less developed and predictable legal systems.

- Tariffs, import and export licensing requirements, trade restrictions, restrictions on foreign investments and changes in freight rates.
- Political unrest and terrorist activities in the countries in which it operates.
- Ethical issues such as corruption, bribery and human rights violations.

Also each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period.

Besi's Asian operations represented approximately 83% of its revenue in 2020 and 68% of its employees at year end 2020. Geographically focused disruptions or failures, such as natural disasters, acts of terrorism, geopolitical conflict or other localized catastrophic events as well as power outages or telecommunications infrastructure outages in our Asian operations could have a material adverse effect on our business and results of operations.

In addition, compliance with foreign laws and regulations that are applicable to our international operations is complex and may increase our cost of doing business in international jurisdictions, and our international operations could expose us to fines and penalties if we fail to comply with these regulations. These laws and regulations include anti-bribery laws and local laws prohibiting corrupt payments to governmental officials. Although we have implemented policies and procedures designed to help ensure compliance with these laws, there can be no assurance that our employees, partners, and other persons with whom we do business will not take actions in violation of our policies or these laws. Any violations of these laws could subject us to civil or criminal penalties, including substantial fines or prohibitions on our ability to offer our products and services to one or more countries, and could also materially damage our reputation and our brand.

Recent regulations and increased customer focus on the usage of conflict minerals in product supply chains may force us to incur additional expenses, make our supply chain more complex and result in damage to Besi's customer reputation.

US, European and Chinese regulatory authorities have established initiatives with respect to the usage by corporations of certain minerals and metals, known as conflict minerals, in their products, regardless of whether these products are manufactured by third parties. These regulations require companies to conduct due diligence and disclose whether such minerals originate from the Democratic Republic of Congo ("DRC") and/or certain adjoining countries. The implementation of such regulations could adversely affect the sourcing, availability and pricing of minerals used in the manufacture and assembly of semiconductor devices. However, since Besi's supply chain is complex, verification of the origins of these materials in our products through such due diligence procedures initiated by us may be difficult and costly and may not be possible at all, which may harm Besi's reputation. In such event, we may also face difficulties in satisfying customers who require that all our

product components be certified as conflict-free. [Please refer to Besi's Conflicts Mineral and Supply Chain Policy in the [ESG section](#) of this Annual Report.

Besi is subject to environmental rules and regulations in a variety of jurisdictions.

We are subject to a variety of governmental regulations related to the use, storage, discharge and disposal of chemical by-products of, and water used in, our manufacturing processes. Environmental claims or the failure to comply with any present or future regulations could result in the assessment of damages or imposition of fines against Besi, the suspension of production or the cessation of operations. New regulations could require us to acquire costly equipment or to incur other significant expenses. Any failure by us to control the use or adequately restrict the discharge of hazardous substances could subject Besi to future liabilities.

Our business may be harmed if we fail to attract and retain qualified personnel.

Besi's future success depends in significant part on the continued contribution of its senior executive officers and key employees including a number of specialists with advanced university qualifications in engineering, electronics, software and computing. In addition, we need to ensure that we can attract and retain other qualified management, technical, sales and support personnel for operations, particularly to help expand Asian production and technical capabilities.

Besi's business and future operating results also depend on the continuous monitoring and adjustment of our Asian production capacity given increased seasonal influences on order rates. We believe that our ability to increase the manufacturing capacity of subsidiaries has from time to time been constrained by the limited number of available skilled technical and production personnel. Competition for such personnel is intense and competition may be amplified by evolving and periodic restrictions on immigration, travel or availability of visas for skilled technology workers, including restrictions imposed in response to the COVID-19 pandemic. The loss of any key executive or employee or the inability to attract and retain skilled executives and employees as needed could adversely affect our business, financial condition and results of operations.

Asian production and personnel expansion could expose us to additional risks related to corruption and human rights issues in the region.

In recent years, we have significantly increased our production, engineering and supply chain capabilities in Asia (Malaysia, China and Singapore) to increase Besi's local presence and make our operations more efficient. Asian personnel represented 68% of our total headcount at year end 2020 and revenue from Asian customers represented approximately 83% of consolidated revenue. As a more active Asian participant, we may be confronted with issues of corruption and human rights violations which are significant topics in the region. In addition, our expanded operations in Asia could expose us to the risk of fraud or bribery in our supply chain activities.

Financial risks

Besi's historical financial results have fluctuated significantly and may continue to do so in the future.

Besi's quarterly revenue, orders and operating results have fluctuated significantly in the past and may continue to do so in the future. Besi believes that period to period comparisons of its operating results are not necessarily indicative of future operating results. Factors that have caused Besi's operating results to fluctuate in the past and which are likely to affect them in the future, many of which are beyond its control, include the following:

- The impact of the COVID-19 pandemic on our customers, suppliers and employees.
- Global macroeconomic trends and geopolitical events which may influence levels of gross domestic product, purchasing power and consumer confidence of various regions, including both developed and lesser developed countries, and may affect the willingness of our customers to invest in new production capacity.
- The number and frequency of new electronics introductions, particularly for retail applications such as mobile, computing and automotive end-user markets.
- The volatility and seasonality of the semiconductor industry and its impact on semiconductor equipment suppliers.
- Industry capacity utilization, pricing and inventory levels.
- The timing of new customer device introductions and production processes which could require the addition of new assembly equipment capacity.
- The length of sales cycles and lead-times associated with Besi's product offerings.
- The timing, size and nature of Besi's transactions.
- The financial health and business prospects of Besi's customers.
- The impact on potential orders from consolidation trends among semiconductor producers.
- The proportion of semiconductor demand represented by corporate and retail end-user applications.
- Besi's ability to scale its operations on a timely basis consistent with demand for its products.
- The ability of Besi's suppliers to meet its needs for products on a timely basis.
- The success of Besi's research and development activities.
- The market acceptance of new products or product enhancements by Besi or its competitors.
- The timing of new personnel hires and the rate at which new personnel becomes productive.
- Changes in pricing policies by Besi's competitors.
- Changes in Besi's operating expenses.
- Besi's ability to adequately protect its intellectual property.
- Besi's ability to integrate any future acquisitions and any restructuring charges related thereto.
- The fluctuation of foreign currency exchange rates.

Because of these factors, investors should not rely on quarter to quarter comparisons of Besi's results of operations as an indication of future performance. In future periods, Besi's results of operations could differ from estimates of public market analysts and investors. Such discrepancies could cause the market price of its securities to decline.

Besi's orders at any particular date may not be indicative of its future operating results.

Besi's orders aggregated € 472.1 million in 2020. Orders are subject to customer cancellation at any time upon payment of a negotiated cancellation fee. During market downturns, semiconductor manufacturers historically have cancelled or deferred additional equipment purchases. Besi's bookings may also be influenced by seasonal factors which typically cause order levels to decline in the second half of the year from peak levels reached in the first half year. Orders can also be affected by customer cancellations. For example, orders declined by 34.8% in the second quarter of 2018 versus the first quarter of 2018 primarily due to the cancellation by a single customer of € 28 million in orders.

Because of the possibility of changes in delivery schedules, expedited cycle times, cancellations and delays in product shipments, Besi's orders at any particular date may not be representative of actual revenue for any succeeding period. Besi's current and future dependence on a limited number of customers increases the revenue impact of each customer's delay or deferral activity.

Final testing of the first AMS-X machine at the Besi Netherlands site in Duiven for shipment to a customer in Thailand.



Besi may not be able to adjust its costs and overhead levels quickly enough to offset revenue declines that it may experience in the future.

Besi's business is characterized by high fixed cost levels, including personnel, facility and general and administrative costs as well as expenses related to the maintenance of its manufacturing equipment. Besi's expense levels in future periods will be based, in large part, on its expectations regarding future revenue sources and, as a result, its operating results for any given period in which material orders fail to occur, are delayed or deferred could vary significantly. Due to the nature of such fixed costs, Besi may not be able to reduce its fixed costs sufficiently or in a timely manner to offset any future revenue declines. Besi's inability to align revenue and expenses in a timely and sufficient manner will have an adverse impact on its gross margins and results of operations.

A limited number of customers have accounted for a significant percentage of Besi's revenue, and its future revenue could decline if it cannot maintain or replace these customer relationships.

Historically, a limited number of Besi's customers have accounted for a significant percentage of its revenue. In 2020, two customers represented 10.9% and 10.0% of Besi's revenue and its largest 10 customers accounted for 50.5% of its revenue. Besi anticipates that its results of operations in any given period will continue to depend to a significant extent upon revenue from a relatively limited number of customers. In addition, Besi anticipates that the composition of such customers will continue to vary from year to year so that the achievement of its long-term goals will require the maintenance of relationships with existing customers and obtaining additional customers on an ongoing basis. Besi's failure to enter into and realize revenue from a sufficient number of customers during a particular period could have a significant adverse effect on Besi's revenue.

In addition, there are a limited number of customers worldwide interested in purchasing semiconductor manufacturing equipment and an even more limited number of major customers and supply chains for specific end market applications such as smart phones, tablets, wearables, laptops, computers and automotive electronics. As a result, if only a few potential customers were to experience financial difficulties or file for bankruptcy protection or if there were further customer or supply chain consolidation, the semiconductor equipment manufacturing market as a whole, and Besi's revenue and results of operations specifically, could be negatively affected.

Besi's results of operations have in the past and could in the future be affected by currency exchange rate fluctuations.

The following tables set forth Besi's revenue and costs and expenses by principal functional currency for 2020, 2019 and 2018:

	2020	2019	Revenue 2018
Euro	27%	32%	33%
US dollar	73%	68%	67%
Total	100%	100%	100%

	2020	2019	Costs and Expenses 2018
Euro	31%	33%	29%
Malaysian ringgit	28%	25%	31%
Chinese yuan	11%	11%	10%
US dollar	10%	9%	9%
Swiss franc	9%	10%	12%
Singapore dollar	8%	9%	6%
Other	3%	3%	3%
Total	100%	100%	100%

Besi's principal reporting currency is the euro. In 2020, 2019 and 2018, Besi's revenue denominated in euro represented 27%, 32% and 33% of its total revenue, respectively, while its costs and expenses denominated in euro represented 31%, 33% and 29%, respectively, each year. The majority of its revenue is denominated in US dollars while in 2020, its costs were denominated in a variety of European and Asian currencies. In 2020, 59% of Besi's costs and expenses were denominated in Malaysian ringgit and euro. The remainder of its costs were primarily represented by the Swiss franc, Chinese yuan, US dollar and Singapore dollar.

Due to its global operations and differences in the foreign currency composition of its revenue and costs and expenses, Besi's results of operations could be adversely affected by fluctuations in the values of, and the relationships between, the euro, the US dollar, Swiss franc, Malaysian ringgit, Chinese yuan and Singapore dollar. Besi seeks to manage its exposure to currency fluctuations in part by hedging firmly committed sales contracts denominated in US dollars. While management will continue to monitor its exposure to currency fluctuations and may use financial hedging instruments to minimize the effect of these fluctuations, Besi cannot assure that exchange rate fluctuations will not have a material adverse effect on its results of operations or financial condition.

Besi's principal competitors are domiciled in countries utilizing primarily US dollars and/or Japanese yen as their principal currencies for the conduct of their operations. Besi believes that a decrease in the value of the US dollar and US dollar linked currencies or Japanese yen in relation to the euro could lead to intensified price-based competition in its markets resulting in lower prices and margins and could have a negative impact on its business and results of operations.

Our business, reputation and financial position may be harmed by unethical behavior and non-compliance with Besi's Code of Conduct.

Besi seeks to conduct its business in accordance with internationally recognized standards and best practices. We have adopted social, ethical and environmental standards for our operations that typically exceed minimum legal and regulatory compliance levels and applied European social and ethical standards wherever possible. Besi has established a Code of Conduct which governs the behavior of our employees worldwide on matters such as corruption and human rights behavior as well as integrity and ethical behavior, all of which are important values to the Company.

However, we might still encounter unethical behavior and breaches to our Code of Conduct due to intentional fraudulent behavior by individual employees. Issues can arise unintentionally as well as from a lack of adherence to appropriate rules and regulations. Unethical behavior and misconduct could lead to fines, penalties and claims by injured parties as well as material financial loss and damage to the reputation of Besi and its stakeholders.

Ordinary share related risks

Anti-takeover provisions could delay or prevent a change of control including a takeover attempt that might result in a premium over the market price for Besi's ordinary shares.

Besi's articles of association provide for the possible issuance of preference shares. In April 2000, Besi established the foundation "Stichting Continuïteit BE Semiconductor Industries" (the "Foundation") whose board consists of four members, three of whom are independent of Besi. Besi has granted the Foundation a call option pursuant to which the Foundation may purchase preference shares in a maximum amount equal to the total number of Besi's ordinary shares outstanding at the time of exercise of the option minus one. If the Foundation were to exercise the call option, it may result in delaying or preventing a takeover attempt including a takeover attempt that might result in a premium over the market price for Besi's ordinary shares.

We may not declare dividends at all or in any particular amount in any given year.

Besi aims to pay an annual dividend in accordance with its dividend policy and seeks to increase its annual dividend over time. On an annual basis, the Board of Management (with Supervisory Board approval) will submit a proposal for approval at the Annual General Meeting of Shareholders with respect to the amount of dividend to be declared for the prior financial year. The proposal in any given year will be subject to (i) Besi's review of its annual and prospective financial performance and liquidity and financing needs, the prevailing market outlook, its strategy, market position and acquisition strategy and/or (ii) a target dividend payout ratio in the range of 40-100% relative to net income to be adjusted accordingly if the factors referred to under (i) so require.

Accordingly, the Board of Management may decide not to pay a dividend, or a lower dividend, with respect to any particular year in the future which could have a material adverse effect on the price of Besi's ordinary shares.

Shareholder Information



Shareholder Information

Euronext Amsterdam listing

Besi's ordinary shares are listed on Euronext Amsterdam and are included in the Euronext AMX index. The stock symbol is BESI and the ISIN code is NL0012866412.

	At December 31,	
	2020	2019
Number of ordinary shares, net of shares held in treasury	72,865,911	72,212,422
Average daily shares traded*	695,213	809,816
Highest closing price (in euro)	49.58	35.12
Lowest closing price (in euro)	21.33	17.50
Year end share price (in euro)	49.58	34.46

* Includes Euronext and all secondary markets.

Nasdaq International Designation

Besi's Level 1 ADRs are traded in the OTC markets (symbol: BESIY) and have participated in the Nasdaq International Designation program since December 2015. Investors in Besi's Level 1 ADRs can find real-time quotes, news and financial information about Besi at www.nasdaq.com.

Convertible Note listings

At December 31, 2020, Besi had outstanding € 110 million of 2.5% Senior Unsecured Convertible Notes due 2023 (the "2016 Convertible Notes"), € 175 million of 0.5% Senior Unsecured Convertible Notes due 2024 (the "2017 Convertible Notes") and € 150 million of 0.75% Senior Unsecured Convertible Notes due 2027 (the "2020 Convertible Notes"), all of which are listed on Deutsche Börse's Freiverkehr market (ISIN XS1529879600, XS1731596257 and XS2211511949, respectively), www.boerse-frankfurt.de.

Besi's equity structure

At the Annual General Meeting of Shareholders on April 26, 2018, the General Meeting of Shareholders approved a stock split of Besi's shares which was effectuated on May 4, 2018 whereby each issued ordinary share was split into two shares. Besi's authorized share capital now consists of 160,000,000 ordinary shares and 160,000,000 preference shares. In October 2020, Besi cancelled 1.5 million of its 7.4 million ordinary shares held in treasury. At December 31, 2020, the number of issued and outstanding ordinary shares was 78,567,842 of which Besi held 5,701,931 shares in treasury.

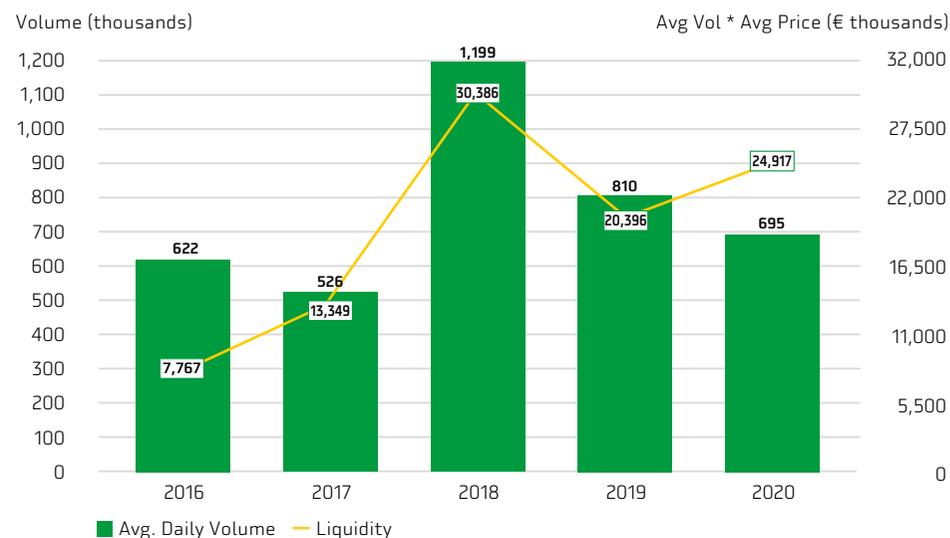
The foundation "Stichting Continuïteit BE Semiconductor Industries" (the "Foundation") has been granted an option to acquire preference shares, which would, if the option were exercised, allow the Foundation to acquire a maximum of 50% of the total issued share capital including the preference shares.

BESI MARKET INFORMATION

Symbol/Index	<ul style="list-style-type: none"> BESI Euronext Midcap AMX
Market Cap*	<ul style="list-style-type: none"> € 3.6 billion (\$ 4.4 billion)
Dividend Policy	<ul style="list-style-type: none"> Pay out 40-100% of net income per annum

* As of December 31, 2020.

AVERAGE DAILY VOLUME AND LIQUIDITY



Issuance of ordinary shares and pre-emptive rights

Ordinary shares may be issued pursuant to a resolution of the General Meeting of Shareholders. The General Meeting of Shareholders may grant the authority to issue ordinary shares to the Board of Management for a maximum period of five years. After such designation, the Board of Management may determine the issuance of ordinary shares subject to the approval of the Supervisory Board. The foregoing applies accordingly to the granting of rights to subscribe for ordinary shares but shall not be applicable to the issuance of ordinary shares to a party exercising a previously acquired right to subscribe for ordinary shares.

Currently, the General Meeting of Shareholders has delegated its authority to the Board of Management until May 14, 2022, subject to the approval of the Supervisory Board, to issue ordinary shares and grant rights to subscribe for ordinary shares up to a maximum of 10% of Besi's issued share capital as at April 30, 2020.

Holders of ordinary shares have a pro-rata, pre-emptive right in relation to any ordinary shares issued, which right may be limited or excluded. Such shareholders have no pro-rata pre-emptive right with respect to (i) any ordinary shares issued against contributions other than in cash, (ii) any issuance of preference shares, or (iii) any ordinary shares issued to employees (including members of the Board of Management). The foregoing applies accordingly to the granting of rights to subscribe for ordinary shares but shall not be applicable to the issuance of ordinary shares to a party exercising a previously acquired right to subscribe for ordinary shares. On the basis of a designation by the General Meeting of Shareholders, the Board of Management has the power, subject to the approval of the Supervisory Board, to limit or exclude the pre-emptive right in relation to any ordinary shares issued and rights to subscribe for ordinary shares granted until May 14, 2022, subject to the 10% maximum as described above. The designation may be renewed for a maximum period of five years. In the absence of such designation, the General Meeting of Shareholders has the power to limit or exclude such pre-emptive right.

Issuance of preference shares

The provisions in Besi's articles of association for the issuance of preference shares are similar to the provisions for the issuance of ordinary shares described herein. However, an issuance of preference shares will require the prior approval of the General Meeting of Shareholders if it would result in an outstanding number of preference shares exceeding 100% of the number of outstanding ordinary shares and the issuance is effected pursuant to a resolution of a corporate body other than the General Meeting of Shareholders, such as the Board of Management. Furthermore, within two years after the first issuance of such preference shares, a General Meeting of Shareholders will be held to determine the repurchase or cancellation of the preference shares. If no resolution to repurchase or cancel the preference shares is adopted, another General Meeting of Shareholders with the same agenda must be convened and held within two years after the previous meeting and this meeting will be repeated until no more preference shares are outstanding. This procedure does not apply to preference shares that have been issued pursuant to a resolution by the General Meeting of Shareholders.

In connection with the issuance of preference shares, it may be stipulated that an amount not exceeding 75% of the nominal amount ordinarily payable upon issuance of shares may be paid only if the Company requests payment.



Besi's virtual AGM on April 30, 2020.

The Foundation

Under the terms of an agreement entered into in April 2002 between the Company and the Foundation, the Foundation has been granted a call option, pursuant to which it may purchase a number of preference shares up to a maximum of the total number of outstanding ordinary shares at the time of exercise of the option minus one. This call option agreement was revised in May 2008 to comply with applicable laws. The purpose of the Foundation is to safeguard the interests of the Company, the enterprise connected therewith and all the parties having an interest therein and to exclude as much as possible influences which could threaten, among other things, the Company's continuity, independence and identity. Until the call option is exercised by the Foundation, it can be revoked by the Company, with immediate effect. The aim of the preference shares is, amongst other things, to provide a protective measure against unfriendly take-over bids and other possible influences that could threaten the Company's continuity, independence and identity, including, but not limited to, a proposed resolution to dismiss the Supervisory Board or the Board of Management.

The Foundation was established in April 2000. The board of the Foundation currently consists of four members, three of whom are independent of Besi and one of whom is a former member of the Supervisory Board. Please refer to the chapter [Other Information](#) for additional information about the Foundation and its board members.

Voting rights

Each share (whether it is an ordinary share or a preference share) carries the right to cast one vote. Resolutions by the General Meeting of Shareholders require the approval of an absolute majority of votes validly cast, unless otherwise required by Dutch law or Besi's articles of association.

Repurchase and cancellation of shares

The Board of Management may cause the Company to repurchase for consideration any class of shares in its own share capital which have been paid-up, subject to certain provisions of Dutch law and Besi's articles of association, if (i) the shareholders' equity less the payment required to make the acquisition does not fall below the sum of the paid-up and called part of the issued share capital and any reserves required to be maintained by Dutch law or Besi's articles of association and (ii) the Company and its subsidiaries would thereafter not hold shares (in pledge) with an aggregate nominal value exceeding 50% of the Company's issued share capital. Shares held by the Company or any of its subsidiaries will have no voting rights and the Company may not receive dividends on shares it holds in its own share capital. Any such repurchases may only take place if the General Meeting of Shareholders has granted the Board of Management the authority to effect such repurchases, which authorization may apply for a maximum period of 18 months. The Board of Management, with the approval of the Supervisory Board, is currently authorized to repurchase up to 10% of Besi's issued share capital as at April 30, 2020 through October 30, 2021.

FC Quantum software engineers testing new features in the lab at Besi Singapore.



Upon a proposal of the Board of Management, with the approval of the Supervisory Board, the General Meeting of Shareholders has the power to reduce the Company's issued share capital by means of cancelling shares held in treasury or by reducing the nominal value of the shares by way of an amendment of the Company's articles of association. Any such proposal is subject to the relevant provisions of Dutch law and Besi's articles of association. Upon the proposal of the Board of Management, with the approval of the Supervisory Board, the General Meeting of Shareholders agreed to authorize the cancellation of ordinary shares held in treasury of up to a maximum of 10% of the Company's issued share capital as at April 30, 2020. In accordance therewith, the Board of Management was authorized to determine the exact number of ordinary shares to be so cancelled. Pursuant to this resolution, Besi cancelled 1.5 million of its 7.4 million ordinary shares held in treasury during October 2020.

Change of control provisions in significant agreements

Each of Besi's 2016, 2017 and 2020 Convertible Notes contain change of control provisions under which in the event of a change of control of Besi (as defined), the holder of a Convertible Note will have the right to require Besi to redeem that Convertible Note at 100% of its principal amount together with accrued and unpaid interest thereon. In addition, Besi's revolving credit facility entered into in July 2019 with a consortium of banks contains a provision requiring the repayment of all borrowings outstanding upon a change of control of Besi (as defined) at 100% of its principal amount outstanding. At December 31, 2020, there was no change of control provision contained in any other of Besi's material agreements.

Dividend policy

Besi considers the payment of dividends on an annual basis based upon (i) a review of its annual and prospective financial performance, liquidity and financing needs, the prevailing market outlook and Besi's strategy, market position and acquisition strategy and/or (ii) a dividend payout ratio in the range of 40-100% relative to net income to be adjusted if the factors referred to under (i) so require.

Due to Besi's earnings and cash flow generation in 2019, the Board of Management, with the approval of the Supervisory Board, proposed and Besi paid a cash dividend to shareholders equal to € 1.01 per share for 2019 which resulted in cash payments to shareholders of € 73.5 million. Due to Besi's earnings and cash flow generation in 2020, the Board of Management will, with the approval of the Supervisory Board, propose a cash dividend to shareholders equal to € 1.70 per share for 2020 for approval at Besi's Annual General Meeting of Shareholders to be held on April 30, 2021. The payments for the year 2019 and proposed for the year 2020 represent a dividend payout ratio relative to net income of 90% and 94%, respectively.

Ownership interests in the ordinary shares

Under the Dutch Financial Supervision Act (Wet op het financieel toezicht, "Wft"), the following parties have notified the Dutch Authority for the Financial Markets (Autoriteit Financiële Markten, "AFM") of their share interests in the Company equal to or exceeding 3%:

	Notification effective	Share interest
BlackRock, Inc.	February 8, 2021	12.39% ¹
BE Semiconductor Industries N.V.	April 16, 2011	5.12% ²
Wellington Management Group LLP	July 23, 2020	4.96% ³
Capital Research and Management Company	October 1, 2020	4.90% ³
Goldman Sachs Group, Inc.	January 11, 2021	3.19%
Schroders Plc	February 15, 2021	3.07% ³

¹ Voting rights as per the filing were 12.79%.

² As of December 31, 2020, the Company holds 7.3% in treasury shares.

³ Represents voting rights held by the institution as per the AFM filing.

A list of share and voting interests in the Company of 3% or more can be found on the AFM website: www.afm.nl.

Analysts

The following sell side analysts cover Besi's shares:

ABN AMRO	Stéphane Hourì
Arete Research	Martin Alipiev
Berenberg	Trion Reid
Bryan, Garnier & Co.	Frédéric Yoboué
Degroof Petercam	Michael Roeg
Deutsche Bank	Rob Sanders
ING	Marc Hesselink
Insinger Gilissen	Jos Versteeg
Kempen	Nigel van Putten
Kepler Cheuvreux	Peter Olofsen

Investor relations

Besi uses a range of activities to initiate and maintain contact with investors. After publication of its annual and quarterly results, roadshows are held in Europe and the United States to meet existing and potential new institutional investors. Planned roadshows and presentations can be found on the Besi website. Contacts with institutional investors are further maintained by means of conference calls, conferences and investor visits.

The Company's investor outreach also includes meetings with retail investors, research analysts, private investors, journalists and media outlets to help communicate the Besi story to the investment community and general public. Shareholders are also engaged through quarterly and annual conference calls and participation at Besi's Annual General Meeting of Shareholders.

Investors in Europe and North American markets are increasingly considering sustainability and Environmental, Social and Governance ("ESG") themes as part of their investment process. Investors are requesting more ESG information from us than in previous years particularly in the areas of conflict minerals, climate change, fossil fuels, direct emissions and human rights within the supply chain. Shareholders expect Besi to protect their investment and provide a competitive return on invested capital while operating in a sustainable and responsible manner as a good corporate citizen. Besi has engaged in important face to face dialogue with such stakeholders and received valuable feedback about its business and ESG issues in its 2020 investor relations program.

Important investor relations dates in 2021 that are currently planned (subject to change) are as follows:

April 30, 2021	2021 first quarter results
April 30, 2021	Annual General Meeting of Shareholders at 10.00 a.m.
July 27, 2021	2021 second quarter results
October 26, 2021	2021 third quarter results
February 2022	2021 fourth quarter and annual results

Prevention insider trading

Besi has implemented a Code of Conduct governing the use of inside information by the members of the Supervisory Board, the member of the Board of Management and any other designated persons, including key staff members. In addition, there is a separate Code of Conduct governing the use of inside information by Besi employees generally. Designated persons have agreed in writing to observe the relevant Code of Conduct concerning the reporting and regulation of transactions in Besi securities (and other designated securities) and the treatment of price-sensitive information. Besi has appointed a compliance officer who is responsible for monitoring compliance with the Codes of Conduct and communication with the AFM.

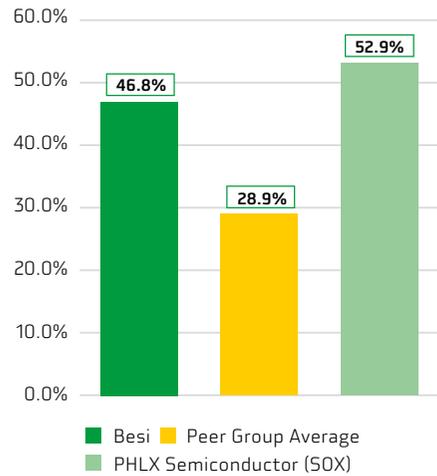
Besi Incentive Plan

Besi may grant performance shares on an annual conditional basis to the member of the Board of Management, key employees and officers under the current Besi Incentive Plan. Further information on this subject is given in the [Remuneration Report](#).

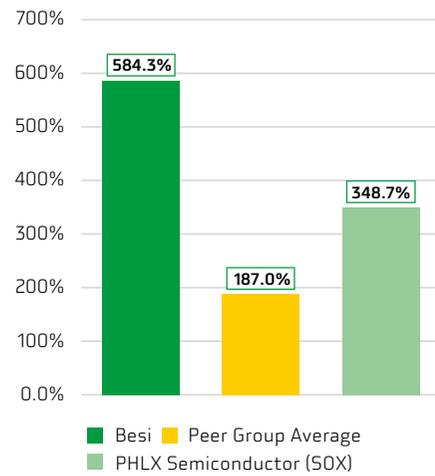
Besi share price development

TOTAL SHAREHOLDER RETURN

2020 Total Shareholder Return* Besi vs. Peer Group and SOX Index



Total Cumulative Shareholder Return* Besi vs. SOX Index 2016-2020



- Total shareholder return includes reinvestment of dividends.
- Besi returns calculated in euro. Philadelphia SOX returns calculated in US dollars.
- Peer group average consists of Kulicke & Soffa, ASM PT, Disco Corp., Towa, Tokyo Seimitsu.

Source: Morningstar

BESI'S SHARE PRICE VS. SOX INDEX AND STOXX EUROPE 600 INDEX

(Since January 1, 2018 until December 31, 2020; rebased to 100)



Source: Capital iQ

BESI'S SHARE PRICE VS. SOX INDEX AND STOXX EUROPE 600 INDEX

(Since January 1, 2020 until December 31, 2020; rebased to 100)



Source: Capital iQ

Corporate Governance

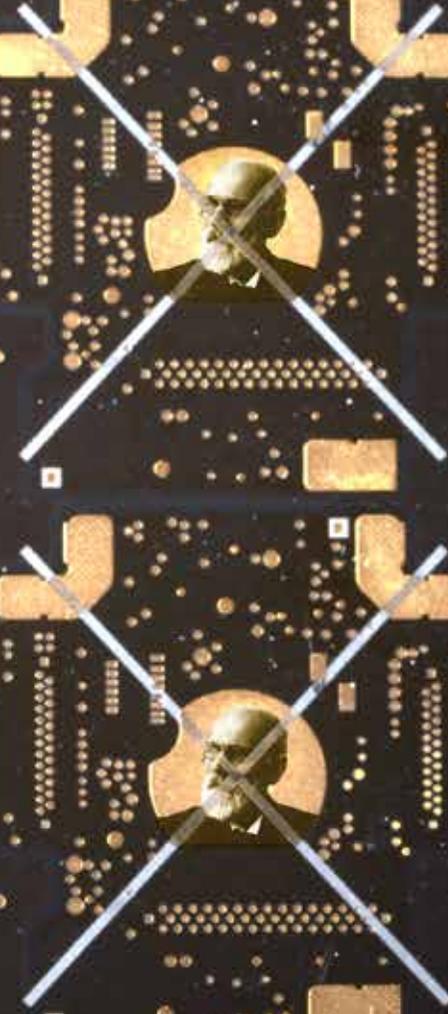


NOBEL PRIZE IN PHYSICS 1910

NOBEL PRIZE IN PHYSICS 1910

JOHANNES VAN DER WAALS 1837-1923

JOHANNES VAN DER WAALS 1837-1923



Corporate Governance

Besi acknowledges the importance of good corporate governance, the most important elements of which are transparency, independence and accountability. Important corporate governance developments in applicable jurisdictions are followed closely and rules are implemented where appropriate.

Besi's ordinary shares are listed on Euronext Amsterdam. Accordingly, Besi complies with all applicable listing rules of Euronext Amsterdam.

Besi applied the Dutch Corporate Governance Code as revised in 2016. Deviations from the Dutch Corporate Governance Code are explained below under [Explanation of Deviations from the Dutch Corporate Governance Code](#). The Dutch Corporate Governance Code can be found at www.mccg.nl.

Board of Management

The role of the Board of Management is to manage the Company and its affiliated enterprises and to ensure their continuity, which includes, among other things, (i) the formulation of a long-term value creation strategy, (ii) the identification, analysis and management of the risks inherent in the business and associated with the long-term value creation strategy and initiatives related thereto, (iii) the establishment of Besi's risk appetite and implementation of measures necessary to mitigate any risks undertaken and (iv) a due regard for environmental, social and governmental issues that are relevant to Besi and the global communities in which it operates.

In discharging their role, members of the Board of Management shall be guided by the interests of the Company and its affiliated enterprises as well as the interests of the Company's shareholders and other stakeholders. Members of the Board of Management are required to put the interests of the Company ahead of their own interests and to act critically and independently when carrying out their responsibilities. The Board of Management is also charged with establishing and maintaining internal procedures which ensure that all relevant information is provided to the Board of Management and the Supervisory Board in a timely manner.

The Company's articles of association provide that certain resolutions of the Board of Management require the prior approval of the Supervisory Board. Pursuant to Dutch law and the Company's articles of association, any decisions of the Board of Management involving a major change in the identity or character of the Company and/or its affiliated enterprises are subject to the approval of the General Meeting of Shareholders.

Appointment and replacement of members of the Board of Management

Members of the Board of Management are appointed by the General Meeting of Shareholders. A resolution of the General Meeting of Shareholders to appoint a member of

the Board of Management requires an absolute majority of the votes validly cast in the event and to the extent the appointment occurs pursuant to, and in accordance with, a proposal of the Supervisory Board. Such resolution requires at least two thirds of the votes validly cast representing more than one third of the issued share capital in the event and to the extent the appointment does not occur pursuant to, and in accordance with, a proposal thereto of the Supervisory Board.

Members of the Board of Management may at any time be suspended or dismissed by the General Meeting of Shareholders. A resolution for suspension or dismissal of a member of the Board of Management requires an absolute majority of the votes validly cast in the event and to the extent the suspension or dismissal occurs pursuant to, and in accordance with, a proposal of the Supervisory Board. Such resolution requires at least two thirds of the votes validly cast representing more than one third of the issued share capital in the event and to the extent the suspension or dismissal does not occur pursuant to, and in accordance with, a proposal thereto of the Supervisory Board. Members of the Board of Management may also be suspended by the Supervisory Board.

Remuneration Report

The [Remuneration Report](#) is included in a separate section in this Annual Report.

Conflicts of interest – members of the Board of Management

Any appearance of a conflict of interest between the Company and members of the Board of Management should be prevented. If a member of the Board of Management has a direct or indirect personal conflict of interest with the Company, he or she shall not participate in the deliberations and the decision-making process of the Board of Management for such matter. If, as a result thereof, no resolution of the Board of Management can be adopted, the resolution may be adopted by the Supervisory Board. No conflict of interest of material significance to Besi and/or the member of the Board of Management was reported in 2020.

Supervisory Board

The role of the Supervisory Board is to supervise the policies executed by the Board of Management and the general affairs of the Company and its affiliated enterprises and to assist the Board of Management by providing advice. In discharging their role, Supervisory Board members shall be guided by the interests of Besi and its affiliated enterprises as well as the interests of Besi's shareholders and other stakeholders. Supervisory Board members are required to put the interests of Besi ahead of their own interests and to act critically and independently vis-a-vis one another, the Board of Management and any particular third party interests involved. Further, the Supervisory Board also has due regard for environmental, social and governmental issues that are relevant to Besi. The Supervisory Board annually evaluates its own functioning.

Each member of the Supervisory Board is currently considered independent within the meaning of best practice provision 2.1.8 of the Dutch Corporate Governance Code. Each Supervisory Board member has the specific expertise required for the fulfilment of his or her duties. The composition of the Supervisory Board shall be such that the requisite expertise, background, competencies and independence are present for it to carry out its duties properly. The Supervisory Board shall aim for a diverse composition with respect to experience, background, competencies, education, nationality, age and gender. A Supervisory Board member shall be reappointed only after careful consideration. The profile criteria referred to above shall also be taken into account in the event of a reappointment.

Regulations governing the Supervisory Board (“Regulations Supervisory Board”) are posted on Besi’s website: www.besi.com.

Appointment and replacement of members of the Supervisory Board

Members of the Supervisory Board are appointed with due observance of the requisite profile for the size and composition as adopted by the Supervisory Board from time to time, subject to the provisions of Dutch law and Besi’s articles of association.

Members of the Supervisory Board are appointed by the General Meeting of Shareholders. A resolution for appointment requires an absolute majority of the votes validly cast in the event and to the extent the appointment occurs pursuant to, and in accordance with, a proposal of the Supervisory Board. Such resolution requires at least two thirds of the votes validly cast representing more than one third of the issued share capital in the event and to the extent the appointment does not occur pursuant to, and in accordance with, a proposal thereto of the Supervisory Board.

Members of the Supervisory Board may be suspended or dismissed at any time by the General Meeting of Shareholders. A resolution for suspension or dismissal requires an absolute majority of the votes validly cast in the event and to the extent the suspension or dismissal occurs pursuant to, and in accordance with, a proposal of the Supervisory Board. A resolution for suspension or dismissal requires at least two thirds of the votes validly cast representing more than one third of the issued share capital in the event and to the extent the suspension or dismissal does not occur pursuant to, and in accordance with, a proposal thereto of the Supervisory Board.

Supervisory Board committees

The Supervisory Board has two committees: the Audit Committee and the Remuneration and Nomination Committee. The function of the committees is to prepare and facilitate the decision-making of the Supervisory Board. The terms of reference of the committees are posted on Besi’s website: www.besi.com.

Remuneration Supervisory Board

The General Meeting of Shareholders shall determine the Remuneration of the Supervisory Board members with due observance of the Remuneration Policy for the Supervisory Board that was adopted at the Annual General Meeting of Shareholders held on April 30, 2020. The remuneration of the members of the Supervisory Board is fixed and does not depend on the results of the Company. In addition, Besi does not grant Supervisory Board members any personal loans, guarantees or advance payments. The Remuneration Report contains the information prescribed by applicable law on the level and structure of the remuneration of individual Supervisory Board members.

Further, none of the members of the Supervisory Board personally maintains a business relationship with Besi other than as a member of the Supervisory Board. As at December 31, 2020, none of the members of the Supervisory Board owned shares of the Company.

Conflicts of interest – members of the Supervisory Board

Any appearance of a conflict of interest between the Company and Supervisory Board members should be prevented. If a member of the Supervisory Board has a direct or indirect personal conflict of interest with the Company, he or she shall not participate in the deliberations and the decision-making process of the Supervisory Board for such matter. The Supervisory Board is responsible for resolving conflicts of interest regarding members of the Board of Management, members of the Supervisory Board and majority shareholders. If all members of the Supervisory Board are conflicted, then the Supervisory Board shall remain authorized to adopt resolutions. No conflicts of interest of material significance to Besi and/or the members of the Supervisory Board were reported in 2020.

Diversity

The Supervisory Board has a diverse composition in terms of experience, background, competencies, education and nationality and is on all those points in line with the objectives of its profile and diversity policy. Although gender diversity is high on the agenda, the Supervisory Board’s current composition of an 80/20 male/female ratio is not in compliance with its profile and diversity policy pursuant to which it is the Supervisory Board’s aim to achieve that at least one third of its members are men and at least one third of its members are women, nor in compliance with the pending legislative proposal introducing a diversity quota. Diversity in general and gender diversity in particular are important factors in the selection process of Supervisory Board candidates. When considering new candidates, the Supervisory Board will retain an active and open attitude with respect to the selection of female candidates. Gender is, however, only one factor of diversity. The qualifications of a particular person and the requirements for the position shall in principle always prevail over all other factors and considerations when filling a vacancy, unless otherwise required by Dutch law. The proposed appointments for approval at the AGM to be held at April 30, 2021 of Dr Oliphant and Ms Eckstein as Supervisory Board

members will enhance the gender diversity of the Supervisory Board in 2021 and will bring the Supervisory Board's male/female ratio to 60/40. This ratio will be in compliance with the Supervisory Board's profile and diversity policy as well as with the legislative proposal introducing a diversity quota.

At present, the Board of Management consists of one person who is Besi's Chief Executive Officer and Chairman of the Board of Management. As such, there is currently no diversity policy or target for the Board of Management.

Directors and Officers insurance policy

Members of the Board of Management and the Supervisory Board and certain senior management members are covered under Besi's Directors and Officers' insurance policy. Although the insurance policy provides for broad coverage, members of the Board of Management and the Supervisory Board and certain senior management members may be subject to uninsured liabilities. Besi has agreed to indemnify members of the Board of Management and the Supervisory Board and certain senior management members against certain claims brought against them in connection with their position with the Company provided that such individual acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of Besi and, with respect to any criminal action or proceedings, such individual had no reasonable cause to believe his or her conduct was unlawful.

Shareholders and the General Meeting of Shareholders

Good corporate governance requires the participation of shareholders. It is in the interest of the Company that as many shareholders as possible participate in Besi's decision-making at the Annual General Meeting of Shareholders or any Extraordinary General Meeting of Shareholders. Pursuant to Dutch law and the Company's articles of association, any decisions of the Board of Management involving a major change in the identity or character of the Company and/or its affiliated enterprises are subject to the approval of the General Meeting of Shareholders.

The Board of Management provides shareholders and other parties in the financial markets with equal and simultaneous information about matters that may influence Besi's share price. Contacts between the Board of Management on the one hand and the press, analysts and shareholders on the other hand should be handled and structured carefully. Besi should do nothing which might compromise the independence of analysts in relation to the Company and vice versa.

The Board of Management and the Supervisory Board shall provide the General Meeting of Shareholders with the information that it requires for the exercise of its powers subject to such limitations allowable under applicable law. If price-sensitive information is provided

during a General Meeting of Shareholders or if a response to shareholders' questions has resulted in the disclosure of price-sensitive information, then such information will be made public without delay.

Good corporate governance requires significant attendance by shareholders at Besi's General Meeting of Shareholders. Therefore, Besi is actively involved in proxy solicitation as a means of increasing the attendance and participation of its shareholders at its General Meeting of Shareholders.

Amendment of Besi's articles of association

Besi's articles of association may be amended by a resolution of the General Meeting of Shareholders. A resolution of the General Meeting of Shareholders to amend the articles of association may only be adopted at the proposal of the Board of Management, which proposal requires the approval of the Supervisory Board. Those who have convened a General Meeting of Shareholders at which a proposal to amend the articles of association will be brought up for discussion must deposit simultaneously with the convocation a copy of the proposal in which the proposed amendment has been included at Besi's office for inspection by every person entitled to attend the General Meeting of Shareholders until the end of the relevant meeting. The persons entitled to attend the General Meeting of Shareholders must be given the opportunity to obtain a copy of the proposal free of charge. The proposal will also be published on Besi's website: www.besi.com.

External audit

The Board of Management is primarily responsible for the quality and completeness of any publicly disclosed financial reports. The Supervisory Board oversees the Board of Management as it fulfills this responsibility.

The General Meeting of Shareholders appoints the external auditor. The Supervisory Board submits a nomination for the appointment of the external auditor to the General Meeting of Shareholders upon the advice of the Audit Committee and the Board of Management. It negotiates the terms of engagement of the external auditor, including their remuneration, upon the proposal of the Audit Committee and after consultation with the Board of Management. The Chairman of the Audit Committee acts as the principal contact for the external auditor if, during the performance of its audit, it discovers or suspects an instance of misconduct or an irregularity. The external auditor attends the meeting of the Supervisory Board at which the report of the external auditor is discussed. The external auditor also discusses the findings and outcomes of its audit work and the management letter with the Audit Committee and the Board of Management simultaneously.

Internal control and risk management

Besi has an internal control and risk management system that is suitable for the Company. The form and structure of this system is outlined under [Risks and Risk Management](#).

The Company's internal control and risk management function operates under the responsibility of the Board of Management and is monitored on an ongoing basis. The Board of Management reviews the effectiveness of the design and operation of the internal control and risk management system twice a year as part of Besi's internal control procedures.

Besi's internal control system consists of a formal framework defining key risks and key controls over financial reporting, an internal control charter outlining audit systems and procedures as well as the internal control and audit plan for the year. Operational, IT, compliance, tax and fraud controls are included in this framework. The internal control system over financial reporting also contains clear accounting rules. It has been implemented in substantially all operations and material subsidiaries and supports common accounting and regular financial reporting in standard forms.

In 2020, Besi's finance staff carried out all planned internal control activities and reported its findings to the Board of Management and the Audit Committee. In 2018, Besi hired an independent audit firm to help identify and monitor potential risks of fraud, bribery and corruption in its Asian supply chain, logistics and purchasing activities and further enhanced its internal control procedures during 2019 and 2020. In addition, it has enhanced its global internal audit function in recent years as well as systems and procedures in such areas in view of increased business and risk management activities at Besi's Chinese, Malaysian and Singapore operations. In 2020, Besi hired an independent audit firm to monitor and identify any internal control risks at Besi's Asian operations as a result of the COVID-19 pandemic.

In consideration of the above factors, the Board of Management states that for the year ended December 31, 2020:

- This Annual Report provides sufficient insights into any failings in the effectiveness of Besi's internal control and risk management systems.
- Besi's internal control and risk management systems provide reasonable assurances that the financial reporting contains no material inaccuracies.
- It is justified that Besi's financial reporting is prepared on a going concern basis considering the current state of affairs.
- This Annual Report refers to those material risks and uncertainties which are relevant to Besi's continuity for the twelve months following the preparation of this Annual Report.

Explanation of deviations from the Dutch Corporate Governance Code

Deviations from the Dutch Corporate Governance Code are listed and explained below.

Provision 1.3.1

Since the internal audit function is the responsibility of the Board of Management, the appointment and dismissal of the senior internal auditor by the Board of Management is not submitted for approval to the Supervisory Board. Instead, the Supervisory Board only oversees the appointment and dismissal of the senior internal auditor.

Provision 1.4.2

The sensitivity of the Company's results to material changes in external factors is not provided for competitive reasons. For a detailed description of material risks, reference is made to [Risks and Risk Management](#).

Provision 2.2.1

The Company respects the rights of the member of the Board of Management who was a member at the time of the first implementation of the Dutch Corporate Governance Code. For that reason, there was no adjustment of his employment agreement.

Provision 2.3.2

In order to simplify and enhance the efficiency of Besi's governance structure, the Supervisory Board decided to reduce the number of committees to two: the Audit Committee and the Remuneration and Nomination Committee.

Provision 3.2.3

The Company respects the rights of the member of the Board of Management who was a member at the time the Dutch Corporate Governance Code came into force. For that reason, it did not adjust his employment agreement as it was signed prior to that date.

Provision 4.2.3

The Company acknowledges the importance of disclosing material information to all shareholders similarly at the same moment in time. It is currently not practically possible to make every meeting and presentation to analysts and investors accessible to all shareholders. As far as practicably possible, meetings and presentations will be announced and posted on Besi's website: www.besi.com.

Disclosures required by the Dutch Decree Article 10 of the Takeover Directive

Under the Dutch Decree Article 10 of the Takeover Directive, the Company, being a company whose securities are admitted to trading on a regulated market, must disclose the following information in its Annual Report:

- As of December 31, 2020, the Company's issued share capital consisted exclusively of ordinary shares. Information about the Company's share capital structure can be found in Besi's equity structure in the [Shareholder Information](#) section and in Note 21 Equity of the Notes to the Financial Statements. Information on the rights and obligations attached to such shares can be found in the Company's articles of association.
- The Company has not imposed any limitations on the transfer of ordinary shares. The Company's articles of association do stipulate a blocking procedure for the transfer of preference shares. Further, the Company is not aware of any shares having been exchanged for depositary receipts for shares.
- The Company is not aware of any agreements with shareholders which may result in restrictions on the transfer of shares or the exercise of any voting rights.
- Information concerning ownership interests in the Company's ordinary shares as per AFM notification can be found in the [Shareholder Information](#) section under Ownership interests in the ordinary shares.
- There are no special control rights attached to the shares.
- There is no system of control regulating any scheme granting employees' rights to acquire shares in the share capital of the Company or of a subsidiary where the control rights are not exercised directly by the employees.
- No restrictions or deadlines apply to the exercise of voting rights.
- The Company's articles of association contain the following information:
 - The appointment and dismissal of members of the Board of Management or Supervisory Board members which are also summarized in Appointment and replacement of members of the Board of Management and Appointment and replacement of members of the Supervisory Board.
 - The amendment of the Company's articles of association which is also summarized in Amendment of Besi's articles of association.
 - The powers of the Board of Management.
 - The issuance of shares in the share capital of the Company and the repurchase of shares in the share capital of the Company (including the powers of the Board of Management related thereto) which are also summarized in Issuance of ordinary shares and pre-emptive rights, Issuance of preference shares and Repurchase and cancellation of shares.

- The Company is not a party to any material agreements which take effect or are altered or terminated upon a change of control of the Company following a takeover bid other than (i) the agreement between the Company and the Foundation by which the Foundation has been granted a call option as is summarized in Besi's equity structure and The Foundation contained in the [Shareholder Information](#) section and in Preference Shares contained in the [Other Information](#) section and (ii) in the indentures governing Besi's € 97.5 million bank lines of credit and in each of its Convertible Notes due 2023, 2024 and 2027.
- There is no agreement between the Company and the member of the Board of Management if their employment ceases because of a takeover bid.

Director's Statement of Responsibilities

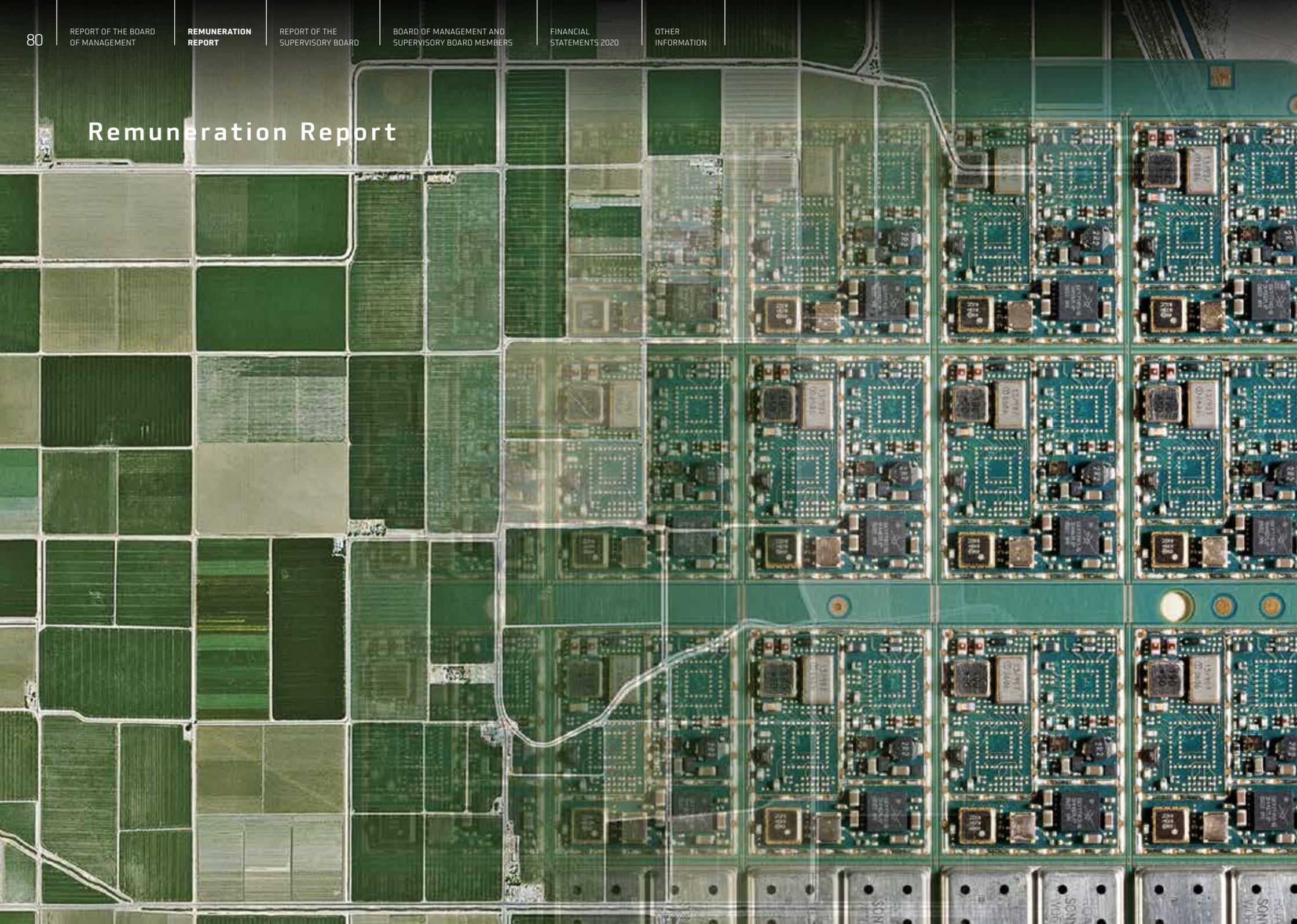
In accordance with statutory provisions, the Board of Management states, to the best of its knowledge, that:

- The Financial Statements provide a true and fair view of the assets, liabilities, financial position and result for the financial year of Besi and its subsidiaries included in the consolidation as a whole.
- The Report of the Board of Management provides a true and fair view of the position at the balance sheet date and of the performance of the business during the financial year of Besi and its subsidiaries, details of which are contained in the Financial Statements. The Report of the Board of Management provides information on any material risks to which Besi is exposed.

Board of Management
Richard W. Blickman

February 18, 2021

Remuneration Report



Remuneration Report

This Remuneration Report provides an overview of Besi's:

- Remuneration Policy
- Remuneration structure
- Application of the Remuneration Policy in 2020
- Remuneration of the Board of Management
- Proposed amendments to the Remuneration Policy 2020-2023
- Remuneration of the Supervisory Board

The Company has successfully attracted and retained executives who are capable of leading and overseeing the Company at all levels. The Remuneration Policy is designed to facilitate this process. This Remuneration Report is drafted in accordance with article 2:135b of the Dutch Civil Code and the Dutch Corporate Governance Code.

The Remuneration and Nomination Committee (the "Committee") oversees all remuneration decisions. The Supervisory Board, upon proposal by the Committee, determines the criteria with which to measure the performance of the Board of Management considering their roles and responsibilities. For determining the remuneration of the Board of Management, the Committee is also informed of the remuneration scheme of the direct reports to the Board of Management including the applicable Short-Term and Long-Term Incentive Plans related thereto. Remuneration paid to such direct reports are fully aligned with the performance conditions under the Remuneration Policy.

Besi is committed to fair and responsible remuneration as we believe that all employees are integral to our success. We therefore consider the remuneration of the Board of Management and the Supervisory Board in the context of the remuneration of all Besi employees, including associated pay ratios. Over time, we have made adjustments to our Remuneration Policy to reflect our commitment to develop fair, responsible and transparent compensation plans. Furthermore, the Supervisory Board pro-actively engages with shareholders on matters regarding our Remuneration Policy and invites shareholder feedback whenever there are reasonable objections or concerns.

In implementing the Remuneration Policy, the Committee analyzes the possible outcomes of its variable remuneration elements and how they may affect the total remuneration of the Board of Management. In this respect, the Committee evaluates the development of the Company's underlying share price as well as the risks to which variable remuneration may expose the Company such as the Company's financial performance, business, strategy and ESG execution. Variable remuneration is primarily linked to predetermined, assessable and quantifiable targets which are predominantly of a sustainable nature. It is also linked to Besi's strategy including associated business objectives, values, purpose and vision, all of which are aligned with long-term shareholder value creation.

The dynamic environment in which Besi participates requires the implementation of our Remuneration Policy based on our common values and vision. Our common values help Besi provide a uniform response to internal and external challenges so that we achieve business goals in a fair and equitable manner. For this purpose, we have developed a Code of Conduct which addresses our responsibilities to the Company and to each other and what our stakeholders may expect from us. It is available on our website for further review (www.besi.com). In determining the actual remuneration of the Board of Management, the Committee assesses its actual performance relative to Besi's strategy and Code of Conduct. The Committee also takes into account the impact of the overall remuneration of the Board of Management relative to the pay differentials within the Company and obtains the views of the Board of Management with respect to the level and structure of remuneration.

Remuneration Policy

The Remuneration Policy applicable for the years 2020 up to and including 2023 for the Board of Management (the "Remuneration Policy 2020-2023") was approved by the Annual General Meeting of Shareholders held on April 26, 2019. The Remuneration Policy 2020-2023 was developed in view of changes in legislation, market developments, external market best practices and best practice provisions of the Dutch Corporate Governance Code. During the Annual General Meeting of Shareholders held on April 30, 2020 (the "2020 AGM"), the "Remuneration Principles and Procedures underlying the Remuneration Policies applicable for the years 2020 up to and including 2023 for the Board of Management and the Supervisory Board" were proposed for approval. This proposal received a simple majority of the votes cast but did not receive the required voting majority of 75%. As a result of input received from shareholders in connection with the 2020 AGM, certain amendments to the Remuneration Policy 2020-2023 will be proposed to the Annual General Meeting of Shareholders to be held on April 30, 2021 (the "2021 AGM") as described in "Proposed amendments to the Remuneration Policy 2020-2023" elsewhere in this Remuneration Report.

In addition to the "Remuneration Principles and Procedures underlying the Remuneration Policies applicable for the years 2020 up to and including 2023 Policy for the Board of Management and the Supervisory Board", the Annual General Meeting of Shareholders was asked to provide an advisory vote on the Remuneration Report 2019 at the 2020 AGM. Such proposal received the required simple majority of the votes cast.

The Supervisory Board seeks to achieve three broad goals in connection with Besi's Remuneration Policy and decisions regarding individual compensation:

- The Supervisory Board structures the Company's remuneration programs in a manner that it believes will enable Besi to retain, motivate and attract executives who are capable of achieving its business objectives.
- The Supervisory Board establishes remuneration programs that are designed to reward the Board of Management for the achievement of specified business objectives or related to the member's particular business unit. By linking remuneration to specific goals, the Supervisory Board believes that it creates a performance-oriented environment for the Company's executives.
- The Company's remuneration programs are intended to provide the Board of Management with an equity interest in the Company so as to link a portion of executive remuneration with the long-term performance of Besi's ordinary shares and to align their interests with those of shareholders.

The Supervisory Board regularly (i) reviews Besi's business and strategic objectives, (ii) undertakes risk assessments, (iii) assesses Besi's overall performance with respect to its business and strategic objectives and (iv) considers the performance of the individual member of the Board of Management compared to specific business objectives. Based on these considerations, the Supervisory Board then determines a balanced mix between fixed and variable remuneration components. It also determines a set of key performance indicators linked to variable remuneration components that are aligned with the Company's business and strategic objectives.

In its evaluation of the efficacy of Besi's Remuneration Policy, the Supervisory Board uses a third-party consulting firm to conduct scenario analyses of the variable remuneration components under the policy including the usage of the Monte Carlo stochastic model for the expected Total Shareholder Return ("TSR") performance analysis. The probability of vesting and pay-out of the performance share awards have also been taken into account in the scenario analyses. The Supervisory Board has set the performance targets based on the outcome of the scenario analyses, pay differentials, the executive's position within Besi and the internal pay ratio. In 2020, the internal pay ratio was 42 (2019: 37) based on the annual total remuneration of the Chief Executive Officer relative to the average total remuneration of all other full-time employees as reported in accordance with IFRS (excluding additional performance share awards). Furthermore, when drafting the remuneration proposal for the member of the Board of Management, the Supervisory Board annually considers the views of the member of the Board of Management regarding the level and structure of his own remuneration. The member of the Board of Management is not present when the Committee discusses his fixed and variable pay components.

Remuneration structure

The total remuneration package and pay mix for the member of the Board of Management is established on an annual basis by the Supervisory Board upon proposal by the Committee and consists of five components based on the goals set forth below:

1. Base Salary
2. Short-Term Incentive (annual performance-based cash bonus)
3. Long-Term Incentive (annual conditional award of performance shares and additional performance share awards)
4. Pension
5. Other Benefits

The above components are regularly compared to a remuneration reference group of companies selected based on industry, size, profitability, market capitalization and geography. The following companies are included in this remuneration reference group as adjusted for any acquisition or stock delisting related thereto.

Remuneration Reference Group

Aixtron SE	Jenoptik AG
AMG N.V.	Kendrion N.V.
ASM International N.V.	Koninklijke Wessanen N.V.
Axcelis Technologies, Inc.	Kulicke & Soffa Industries, Inc.
Brooks Automation, Inc.	MTS Systems Corporation
Cohu, Inc.	Siltronic AG
Corbion N.V.	TKH Group N.V.
Entegris, Inc	Ultra Clean Holdings, Inc.
Ichor Holdings, Inc.	Veeco Instruments, Inc.
IMCD N.V.	Xperi Corporation

The composition of this remuneration reference group will be reviewed by the Supervisory Board on a regular basis and updated, if necessary, to ensure an appropriate composition. Any substantial changes to the composition of the remuneration reference group will be subject to the approval of the Annual General Meeting of Shareholders.

In establishing remuneration for the Board of Management, the Supervisory Board consults PwC, a professional external remuneration consultant, in carrying out its duties. The Supervisory Board conducts a remuneration benchmark survey every two years and verifies that the consultant selected does not similarly provide advice to the Board of Management so that no conflicts of interest exist.

1. Base salary

Each year, the Supervisory Board reviews the annual base salary for the member of the Board of Management and considers whether to adjust his base salary level. The base salary of the member of the Board of Management will be determined in relation to the median and 90th percentile base salary levels of the remuneration reference group. The Supervisory Board also considers the historic salary levels of the individual and the nature of the individual's roles and responsibilities in positioning the base salary level relative to the remuneration reference group.

2. Short-Term Incentive (annual performance-based cash bonus)

The annual cash bonus opportunity is linked to the achievement of predetermined performance conditions based on financial, non-financial and ESG objectives as determined by the Supervisory Board. The following performance measures apply:

- *Net income expressed as a percentage of revenue*
The financial measure net income is preferred over other financial ratios for the Short-Term Incentive because net income is:
 - A key indicator in evaluating Besi's overall performance for the year and therefore an important contributor to shareholder value.
 - A key factor given the cyclical market in which Besi operates.
 - A financial measure that can be influenced by the member of the Board of Management.
 - A key component utilized to help determine Besi's stock market valuation.
- *Personal performance of the member of the Board of Management*
The annual criteria to measure the personal performance of the member of the Board of Management are at the sole discretion of the Supervisory Board. As such, the Supervisory Board focuses on a variety of business, strategic, financial and ESG targets that are considered important for the upcoming year and that help contribute to sustainable value creation in the medium- and long-term in line with Besi's strategy.

The Committee will propose annually to the Supervisory Board financial, non-financial and ESG goals to measure the performance of the member of the Board of Management.

The total annual cash bonus opportunity for the member of the Board of Management shall be determined on the basis of the following performance/pay-out grid.

Short-Term Incentive: Performance versus pay-out	At minimum performance (below threshold)	At target performance	At maximum performance
	as % of the individual's gross annual base salary		
Net income as % of revenue	0%	70%	105%
Personal performance targets	0%	30%	45%
Total annual bonus pay-out	0%	100%	150%

3. Long-Term Incentive (annual conditional award of performance shares and additional performance share awards)

The Long-Term Incentive consists of a conditional award of performance shares. The award represents a conditional right to receive a certain number of Besi shares depending on the achievement of predetermined financial performance objectives set by the Supervisory Board over a three-year performance period, subject to continued service, which include:

- *Net income as a percentage of revenue over three calendar years*
Net income as a percentage of revenue over the three-year performance period is considered a key measure for creating sustainable long-term shareholder value.
- *Relative Total Shareholder Return ("TSR") over three calendar years*
The development of Besi's share price including the reinvestment of dividends during a three-year performance period will be compared to a comparator group of 19 listed companies operating in the semiconductor equipment industry in which three-month share price averaging will be applied at the start and at the end of the TSR performance period. The TSR over the three-year performance period is also considered a key measure for indicating the development of shareholder value and Besi's TSR relative to its peers in the semiconductor equipment industry. It is also an appropriate performance measure to align the interests of the Board of Management with those of shareholders. The composition of the comparator group will be reviewed and adjusted by the Supervisory Board if circumstances arise which could affect the comparability of the companies involved, particularly in the event of a merger, acquisition or material change of business. Adjustments to the comparator group, including replacements, will be based on predetermined internal guidelines. The TSR comparator group currently consists of the following companies:

TSR comparator group (excluding Besi)

Aixtron SE	Kulicke & Soffa Industries, Inc.
Applied Materials, Inc.	Lam Research Corporation
ASM International N.V.	Nova Measuring Instruments Ltd.
ASML Holding N.V.	Onto Innovation, Inc. ¹
ASM Pacific Technology Ltd.	FormFactor, Inc. ²
Axcelis Technologies, Inc.	SÜSS MicroTec SE
Brooks Automation, Inc.	Tokyo Electron Ltd.
Cohu, Inc.	Tokyo Seimitsu Co., Ltd.
DISCO Corporation	Veeco Instruments, Inc.
Entegris, Inc.	

¹ Following the completion of the merger between Nanometrics, Inc. and Rudolph Technologies, Inc. on October 25, 2019, Nanometrics, Inc. was replaced by Onto Innovation, Inc., the successor post-merger entity.

² Shinkawa Ltd, was renamed Yamaha Motor Robotics following its business Integration into Yamaha Motor Robotics Holdings. Shinkawa was delisted on May 25, 2020 and replaced by FormFactor, Inc. in the TSR comparator group.

Conditional award

The at target number of performance shares conditionally awarded will be determined by the Supervisory Board based on a ratio equal to (i) 175% of the individual's gross annual base salary divided by (ii) the average closing price of Besi's shares for all trading days in the calendar quarter immediately preceding the start of the three-year performance period.

Vesting of performance shares

The number of shares that become unconditional (which vest) will be determined at the end of the three-year performance period depending on Besi's actual performance during such period. Vested shares are subject to a two-year lock-up period which means that the member of the Board of Management will have to retain such shares for two years following the vesting date. However, he will be allowed to sell shares sufficient to cover the income tax liability related to the vesting of the performance shares. The actual number of performance shares which will vest at the end of the three-year performance period will be determined based on the following grid:

Long-Term Incentive: Performance versus vesting	At minimum (below threshold)	At target	At maximum (stretched performance)
	% of performance shares awarded		
Net income as % of revenue ¹	0%	50%	75%
Relative TSR performance ²	0%	50%	75%
Total number of shares vesting	0%	100%	150%

¹ Half of the vesting of the conditional awards is linked to Besi's net income relative to its revenue over the three-year performance period.

² Half of the vesting of the conditional awards is linked to Besi's relative TSR performance over the three-year performance period.

The vesting range of the performance shares awarded subject to Besi's net income as a percentage of revenue is between 0% and 75% of the total number of performance shares awarded to the individual. The performance shares awarded from 2020 onwards subject to Besi's TSR performance are based on the actual absolute ranking of Besi within the comparator group and vest in a range between 0% and 75% of the total number of performance shares awarded to the individual. Vesting is determined based on the following schedule, whereby straight-line vesting percentages are being applied on a pro rata basis between rank 12 and rank 3 for awards made as from 2020:

Besi TSR ranking relative to comparator group	Vesting percentage
Top 3	75%
Rank 6	50% (at target)
Rank 12	25%
Rank 13 - Rank 20	0%

Performance adjustment

After evaluating the three-year performance period for awards made in 2018 and 2019, the Supervisory Board may at its absolute discretion upwardly or downwardly adjust the number of performance shares that will vest by a maximum of 20%. This discretionary performance adjustment may be applied by the Supervisory Board to reflect the Company's overall performance and market developments and further aligns the interests of the Board of Management with those of shareholders. In accordance with the Remuneration Policy 2020-2023, this performance adjustment was eliminated as from 2020 onwards.

Clawback and ultimate remedium

The Short-Term Incentive and Long-Term Incentive components for the Board of Management are subject to clawback provisions. In addition, risk assessment tests are in place and measures are included in the variable remuneration documentation for the Board of Management to ensure that shareholders' interests are protected. In this respect, the Supervisory Board holds the discretionary authority to reclaim all or part of the Short-Term Incentive and Long-Term Incentive if such variable remuneration has been made based on incorrect financial data or other data or in the case of fraud, gross negligence, willful misconduct or any activity detrimental to the Company. This clawback is applicable to both the vested and unvested part of the Long-Term Incentive components.

The Short-Term Incentive and Long-Term Incentive components for the Board of Management are also subject to ultimate remedium clauses under which the Supervisory Board can adjust the value of the conditional variable remuneration components downwards as well as upwards. The adjustment can be made if the Supervisory Board is of the opinion that an unfair result would be produced due to extraordinary circumstances.

Additional performance share awards

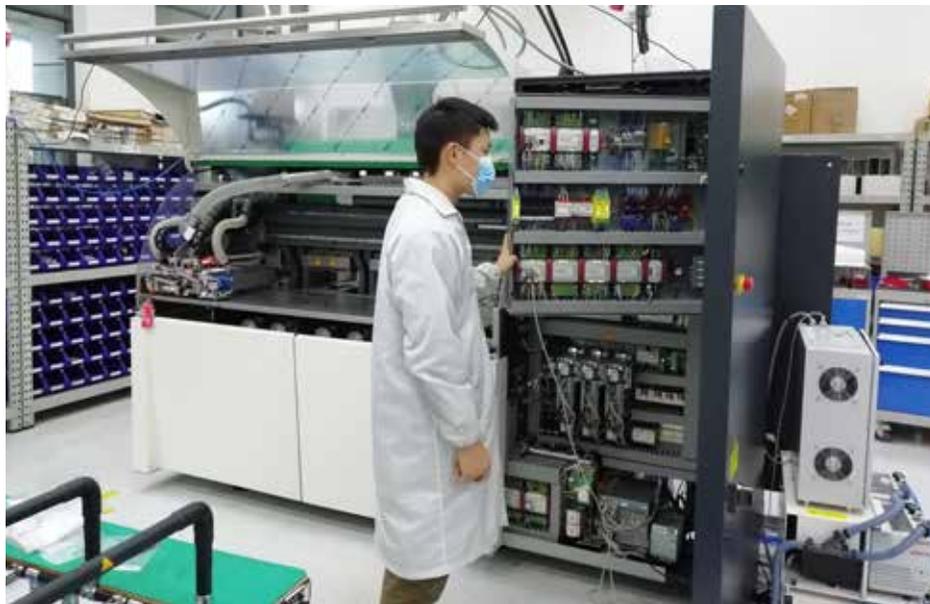
The Supervisory Board may, at its absolute discretion and upon the recommendation of the Committee, award up to a maximum of 120,000 additional performance shares to the Board of Management in the event of extraordinary achievements or exceptional performance in a year. Market developments and the views of society are also considered in addition to the performance of the Company and the Board of Management. In case of a market downturn or a high underlying share price, the Supervisory Board may consider a maximum 20% downward adjustment to the additional performance shares awarded.

Additional performance shares awarded are subject to a five-year lock-up period, which means that the Board of Management will have to retain them for five years following the award date. However, the Board of Management is allowed to sell shares sufficient to cover the income tax liability following the transfer of the additional performance shares. Additional performance share awards may also be subject to additional terms and conditions as determined by the Supervisory Board.

If the number of Long-Term Incentive performance shares awarded under the Remuneration Policy 2020-2023 vest between at target and maximum performance levels (stretched performance), such stretched performance shares awarded will be deducted against the 120,000 maximum additional performance shares that can be awarded to the Board of Management at the discretion of the Supervisory Board. Furthermore, in case the Supervisory Board in any year decides to apply an upward adjustment of the number of vested Long-Term Incentive performance shares granted up to and including 2019 (as referred to under Performance Shares Adjustment above), such adjustment will be deducted against the 120,000 maximum additional performance shares.

The Company intends to eliminate the discretionary component associated with the award of up to a maximum of 120,000 additional performance shares as part of a proposal to amend its Remuneration Policy 2020-2023 at the 2021 AGM. It is intended that such awards for extraordinary performance will instead be linked to the achievement of a variety of defined financial and non-financial targets.

Final assembly AMS-LM at Besi Leshan, China.



Number of shares available

The aggregate total number of performance shares available under Besi's Long-Term Incentive arrangement (for all participants including the Board of Management) shall not exceed 1.5% of the total number of outstanding shares as at December 31 of the year prior to the year in which the performance shares are awarded.

4. Pensions

Different pension arrangements are provided to the Board of Management based on their salaries, local customs and the rules existing in their countries of origin. A defined contribution scheme is in place for statutory directors, of whom the CEO is currently the only one. Due to legislative changes enacted in the Netherlands as from the beginning of 2015, part of the pension contribution is no longer tax exempt. As such, in order to provide for a market competitive pension arrangement for Dutch members of the Board of Management, the pension contribution is now based on a premium ladder as in effect from 2014. However, commencing in 2015, a portion of this contribution is funded directly to the personal pension account of the statutory director as a tax-exempt contribution and the remaining balance is paid to the statutory director as a taxable pension allowance which can be used by the statutory director to build up his net pension on a voluntary basis.

5. Other benefits

Other benefits awarded to the Board of Management are linked to base pay and in line with general prevailing market practice. These other benefits include expense compensation, medical insurance and social security premiums.

Loans

As a matter of policy, the Company does not provide loans to members of the Board of Management.

Employment contracts/service contracts

Service contracts with any new member of the Board of Management will in principle be entered into for a period of four years. Existing employment contracts for members of the Board of Management with an indefinite period of time will not be replaced by contracts with a limited period or by contracts with different conditions. The current notice period applicable to the member of the Board of Management is six months.

Severance payment

The remuneration paid to members of the Board of Management in the event of dismissal may not exceed the individual's gross annual base salary (fixed component). If the maximum of one year's salary would be manifestly unreasonable for a member of the Board of Management who is dismissed during his first term of office, such member of the Board of Management shall be eligible for severance pay not exceeding two times his annual base salary.

Application of the Remuneration Policy in 2020

The Supervisory Board, upon the recommendation of the Committee, applied the Remuneration Policy in 2020 without exception as set forth below. The only member of the Board of Management in 2020 was Richard W. Blickman, Besi's CEO.

1. Base salary

At the end of 2019, the base salary of the CEO was reviewed, taking into consideration the remuneration reference group. The Committee analyzed and considered the outcome of this review and recommended to the Supervisory Board a base salary for the CEO set between the median and 90th percentile levels of the remuneration reference group, as outlined in the Remuneration Policy 2020-2023. The Supervisory Board, upon the recommendation of the Committee, decided that the 2020 base salary of the CEO would remain unchanged at € 600,000, equal to the base salary applicable for both 2018 and 2019.

At the end of 2020, the base salary of the CEO was reviewed, taking into consideration the remuneration reference group. The Committee analyzed and considered the outcome of this review and recommended to the Supervisory Board a base salary for the CEO set between the median and 90th percentile levels of the remuneration reference group, as outlined in the Remuneration Policy 2020-2023. The Supervisory Board, upon the recommendation of the Committee, decided that the 2021 base salary of the CEO will remain unchanged at € 600,000.

2. Short-Term Incentive

The Short-Term Incentive (annual performance-based cash bonus) awarded to the member of the Board of Management is based on the following predetermined performance conditions: (i) net income as a percentage of revenue and (ii) personal performance of the member of the Board of Management expressed in certain non-financial and ESG goals that were considered important for 2020. The Committee reviewed at year end the quality of the predetermined financial, non-financial and ESG performance goals and the sustainable value delivered in order to determine the Short-Term Incentive awarded for 2020.

The total annual cash bonus for the member of the Board of Management was as follows.

Short-Term Incentive: Performance versus pay-out	At maximum performance (in euros)
(a) Net income as % of revenue	630,000
(b) Personal performance targets	270,000
(c) Total annual bonus pay-out	900,000

(a) Net income as a percentage of revenue

Besi's 2020 net income as a percentage of revenue was 30.5%. The performance achieved was well above the maximum pre-defined target range set. Upon the recommendation by the Committee, the Supervisory Board awarded the member of the Board of Management for the first financial performance condition a cash bonus equal to 105% of his annual base salary, or € 630,000, for the year 2020.

(b) Personal performance of the member of the Board of Management

The Committee reviewed the performance realized by the member of the Board of Management in relation to five equally weighted and pre-defined personal non-financial and ESG performance objectives representing 30% of the total cash bonus. These five pre-defined personal, non-financial and ESG performance objectives were:

1. The implementation of Besi's strategic plan 2020-2024, including ten COVID-19 related initiatives.
2. The implementation of career development and succession planning for Besi's management team and key staff.
3. The execution of <10 nanometer and hybrid bonding research and development programs with key industry players.
4. The enhancement of ESG programs including ambitions, short-, medium- and long-term targets and reporting metrics related thereto.
5. The development of initiatives to reduce European infrastructure costs via European facility relocation/consolidation.

During 2020, the Committee regularly reviewed the progress of the pre-defined personal, non-financial and ESG performance objectives. Additional objectives were set during the year due to the outbreak of the COVID-19 pandemic. While STI non-financial targets are set prior to the performance year, the Committee decided that the addition of such COVID-19 targets was relevant given their importance to Besi's short- and long-term success.

Based on the strategic updates provided, the effectiveness and progress of the objectives set were tested and monitored by the Supervisory Board during the year. An overall assessment was also completed after year end 2020 including a review of customer satisfaction, strategic plan execution and effectiveness, ESG development and cost reduction initiatives achieved. Based upon the review, it was judged that the execution of strategic initiatives proved to exceed the challenging goals and timelines initially set, including the successful execution in the fourth quarter of 2020 of a hybrid bonding joint development agreement with Applied Materials, Inc. Furthermore, the Committee noted success relative to the additional COVID-19 initiatives and timelines set with respect to the continuity of Besi's supply chain, production and customer deliveries, installation and service amidst unprecedented disruptions to the business caused by the pandemic. This was measured by Besi's superior financial performance, working capital management and

cash flow generation during the pandemic and achievement or over achievement of quarterly financial guidance to investors and analyst expectations set at the beginning of the year (pre-COVID-19), as well as increased customer satisfaction as highlighted in our annual survey. In addition, IT, personnel and management initiatives with respect to the implementation of work from home procedures proved to be very successful resulting in favorable employee retention and satisfaction as measured by the results of a special COVID-19 pulse survey conducted. Targets set for succession planning and ESG progress were also reviewed. The Chief Executive Officer proved to have initiated progress and overachieved targets on both such topics, in particular with respect to the new ESG program and goals related thereto for 2022 through 2030 as explained in further detail elsewhere in this Annual Report.

BESI VALUE CREATION: 2020/2019

(in millions, except share price)	2020	2019	Δ	Highlights
Revenue	€ 433.6	€ 356.2	+21.7%	<ul style="list-style-type: none"> Renewed revenue and net income growth amidst COVID-19 pandemic Peer leading financial metrics maintained Return on average equity increased to 39.5% (+15.3 pts) Share price increased by 43.9%. Total return 46.8% Signed hybrid bonding joint development agreement Enhanced ESG program. Set long-term targets
Gross Margin	59.6%	55.8%	+3.8 pts	
Net Income	€ 132.3	€ 81.3	+62.7%	
Net Margin	30.5%	22.8%	+7.7 pts	
ROAE	39.5%	24.2%	+15.3 pts	
Share Price	€ 49.58	€ 34.46	+43.9%	

In addition, the Chief Executive Officer enhanced Besi's liquidity, market presence and financial position via the issuance of € 150 million of 0.75% Convertible Notes due 2027. The offering took advantage of market opportunities, further enhanced our position with customers who view Besi as an important partner in their development efforts and provided additional liquidity to deal with external challenges in the future such as the pandemic. Finally, our cost reduction programs and targets set were achieved which helped result in an only 1.7% increase in operating expenses in the face of 21.7% revenue growth achieved in 2020.

In the aggregate, the Committee review found that the Chief Executive Officer attained his goals even despite the unprecedented challenges to Besi's business model created by the outbreak of the COVID-19 pandemic. In the face of such a sudden and external threat, the Committee noted a resilient, flexible and sustainable organization capable of addressing the multi-faceted business, societal and human challenges posed by the pandemic.

Based on this review and upon the recommendation by the Committee, the Supervisory Board decided to award the member of the Board of Management a cash bonus related to his personal performance equal to 45% of his annual base salary for 2020, or € 270,000.

(c) Total Short-term Incentive

The sum of the financial, non-financial and ESG targets comprising the total cash bonus for the year 2020 equaled € 900,000, or 150% of the gross annual base salary, of the member of the Board of Management.

The Supervisory Board, upon the recommendation of the Committee, unanimously decided on such cash bonus based on the Company's superior revenue and net income growth, cash flow generation and return on average equity despite the outbreak of the COVID-19 pandemic. It was also based on Besi's share price appreciation, progress in strategic plan execution, peer leading financial metrics, new hybrid development partnerships realized and progress on ESG and sustainability goals.

3. Long-Term Incentive

Conditional award

As from 2014, the Long-Term Incentive (annual conditional award of performance shares and additional performance share awards) is subject to continued employment and based on the following predetermined performance conditions: (i) net income as a percentage of revenue over three calendar years and (ii) the development of Besi's share price including the reinvestment of dividends during a three-year performance period compared to a comparator group of 19 listed companies operating in the semiconductor equipment industry.

Conditional grants outstanding as of December 31, 2020	Vesting period		
	2018-2020	2019-2021	2020-2022
Conditionally awarded at target	18,026	32,887	31,920
Year of vesting	2021	2022	2023
Range of shares potential vesting (0-150%)	0-27,039	0-49,331	0-47,880

The at target number of conditional performance shares awarded was calculated based on the gross annual base salary of the member of the Board of Management divided by the average closing share price for all trading days in the last calendar quarter of the year immediately preceding the start of the three-year performance period. The number of shares that will actually vest will be based on the above mentioned predetermined performance conditions.

Vesting of performance shares

The vesting of the conditional performance shares for the member of the Board of Management for the 2018-2020 performance share award period was based on the following:

- (i) Net income as a percentage of revenue over the three-year performance period of 26.6% overachieved the target resulting in a maximum vesting of 75% of this part of the performance shares awarded (50% of the total award made). The performance achieved was well above the maximum pre-defined target range set; and
- (ii) Besi ranked at the 9th position within the TSR comparator group resulting in a vesting of 25% of this part of the performance shares awarded (50% of the total award made).

As a result, 100% of the 18,026 shares related to the 2018 performance share award will vest on April 30, 2021, subject to the member of the Board of Management's continued employment until such date. The vested shares are subject to a two-year lock-up period except for the shares that may be sold to cover the withholding/income tax liability upon vesting of the performance shares.

The following table presents the summary of the applicable performance incentive zones and the performance realized for the Short-Term Incentive and Long-Term Incentive awards for 2020:

	Performance criteria applicable for STI and LTI	Relative weighting	Performance incentive zones (as % of base salary)			Performance realized and actual award outcome 2020
			Threshold levels	Target levels and corresponding award	Maximum performance levels and corresponding award	
R.W. Blickman, CEO	STI - net income as % of revenue ("NIR") (NIR Performance incentive zone between 5% and 20%)	70%	Below threshold (0%), vesting starting at threshold levels	Target performance (70%); € 420,000	Maximum performance (105%); € 630,000	Maximum performance (105%); € 630,000
	Personal performance (see above)	30%	Below threshold (0%), vesting starting at threshold levels	Target performance (30%); € 180,000	Maximum performance (45%); € 270,000	Maximum performance (45%); € 270,000
R.W. Blickman, CEO	LTI - net income as % of revenue (NIR Performance incentive zone between 5% and 15%)	50%	At threshold (25%); 4,507 shares Below threshold (0%)	At target (50%) 9,013 shares	Maximum performance (75%); 13,520 shares	Vesting at maximum level 75%; 13,520 shares
	LTI - Relative Total Shareholder Return (performance incentive zone depending on actual ranking of Besi in reference group, see above)	50%	At threshold (25%); 4,506 shares Below threshold (0%)	At target (50%) 9,013 shares	Maximum performance (75%); 13,520 shares	Vesting at threshold level 25%; 4,506 shares
	LTI - Performance adjustment	20%	Minimum (-20% of award): -3,605		At max (+20% of award); +3,605	No performance adjustment
	Additional performance shares (see below)					103,000 shares

Additional performance share awards for the member of the Board of Management

Under the Remuneration Policy 2020-2023, the Supervisory Board may, upon the recommendation of the Committee, award additional performance shares to the member of the Board of Management for extraordinary achievements or exceptional performance, up to a maximum of 120,000 shares.

In January 2020, the Supervisory Board awarded the member of the Board of Management 103,000 additional performance shares. This award was made following the review, inter alia, of quantitative and qualitative financial and strategic/non-financial performance criteria applied for determining whether overperformance was achieved. The financial criteria utilized related to the following financial metrics: (i) Besi's absolute net margin, return on average equity and cash flow efficiency targets for one-year and three-year average periods and (ii) Besi's relative gross margin, net margin and return on average equity as compared to ASM Pacific Technologies and Kulicke & Soffa Industries, Besi's two most directly comparable public company peers with whom we compete. The non-financial criteria utilized related to specific strategic operating initiatives in accordance with Besi's strategic plan 2015-2019 and ESG goals.

The conditional award of additional performance shares was made, in part, due to the recognition of the following business developments:

- The continued successful implementation of Besi's business and ESG strategy.
- Active measures implemented to significantly reduce headcount and overhead in alignment with volatile market conditions.
- The achievement of peer leading gross and net margins of 55.8% and 22.8%, respectively, despite a significant industry downturn and a revenue decrease of 32.2%.
- Overperformance relative to challenging STI and LTI targets.
- The continued expansion of the performance gap between Besi and its peers in terms of key financial metrics such as gross margin, net margin, average return on equity and cash flow generation relative to revenue in a difficult market environment.
- Continued implementation of an attractive capital allocation plan whereby approximately € 167 million was distributed to shareholders even during an industry downcycle.

As a result of the activities and leadership of the member of the Board of Management, the Company is fit for purpose, has successfully retained and enhanced its position (i) as a technological leader in the highly cyclical assembly equipment industry with timely and sustainable forward strategic thinking as to Besi's internal development, (ii) in the assembly equipment market and with its key customers, and (iii) relative to its direct competition. Other items have also been considered in addition to the Company's performance and performance of the member of the Board of Management such as market developments and the views of society. The extraordinary award vested on January 23, 2020 as approved by the Supervisory Board. The vested shares are subject to a five-year

lock-up period which means that the member of the Board of Management will have to retain such shares for five years following the vesting date.

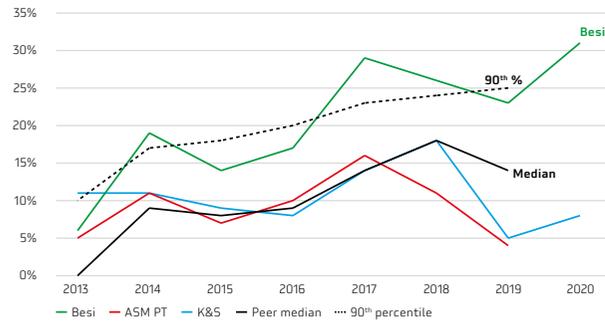
The award is also supported by an analysis of Besi's performance versus its direct competitors in the assembly equipment market (ASM Pacific Technology and Kulicke & Soffa Industries), the median of all industry peers used in our TSR comparator group and the median of all companies used in our remuneration reference group. This analysis includes both one-year and three-year rolling performance periods wherein return on average equity, gross margin and the ratio of cash flow as a percentage of revenue are also considered, reviewed and analyzed in addition to the net income as a percentage of revenue metric as applied under the Remuneration Policy.

As compared to the TSR comparator group, Besi's performance consistently tracks the 90th percentile for the one-year and three-year periods examined. This substantiates the Company's very strong performance over the past seven years in both significant industry up and downcycles and was an important consideration in setting and determining the member of the Board of Management's performance under the Remuneration Policy. In addition, the charts below present Besi's growing outperformance gap versus its direct assembly equipment peers on all metrics analyzed. Both ASM Pacific Technology and Kulicke & Soffa Industries have consistently performed more in line with market median levels which also contributes to the extraordinary performance achieved and considered for awarding the additional performance shares.

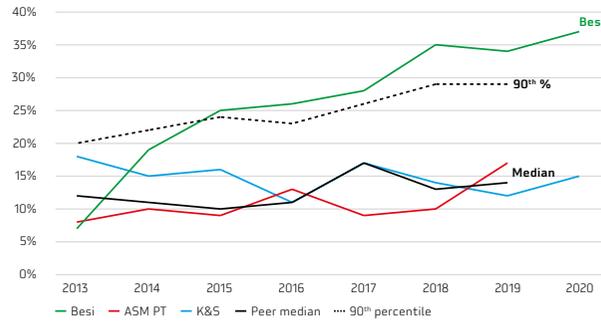
The charts below clearly indicate the success of Besi's strategic execution and the strong development of its financial metrics in a challenging industry environment for the award period. They also highlight Besi's superior performance versus each of its TSR and remuneration reference group peers and growth in its outperformance versus its most direct peers. All such factors help underpin the Supervisory Board's rationale in awarding the additional performance shares to the Chief Executive Officer.

PERFORMANCE COMPARED TO THE TSR REFERENCE GROUP

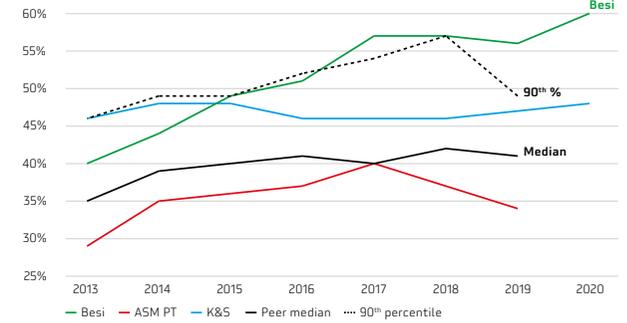
Net Income/Revenue



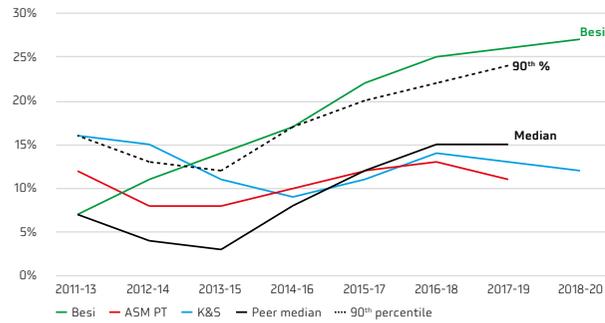
Cash Flow from Operations/Revenue



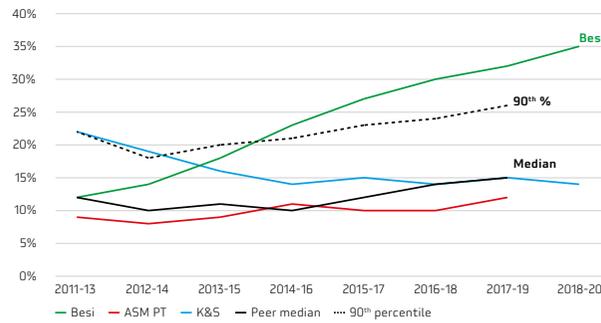
Gross Margin



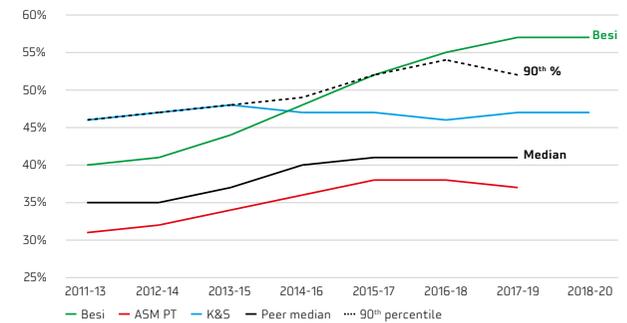
Net Income/Revenue (3yr)



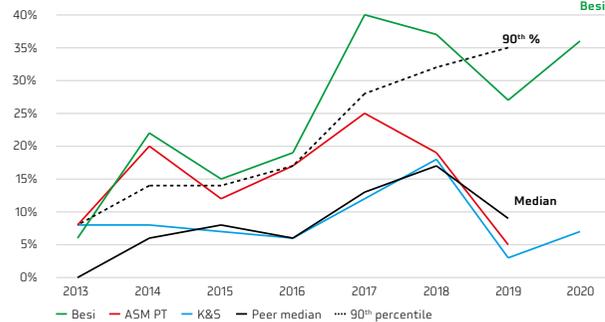
Cash Flow from Operations/Revenue (3yr)



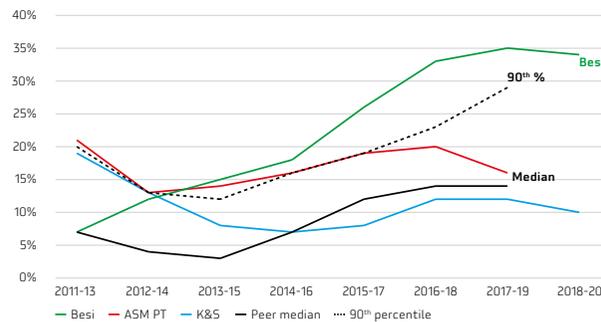
Gross Margin (3yr)



Return on Equity

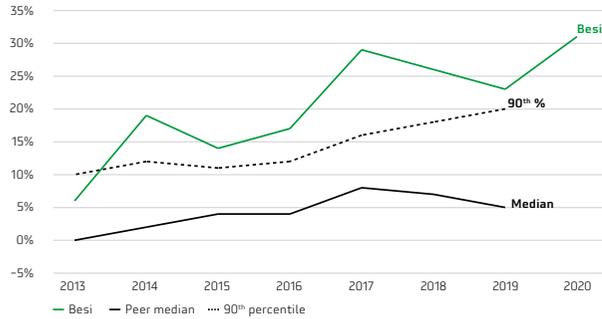


Return on Equity (3yr)

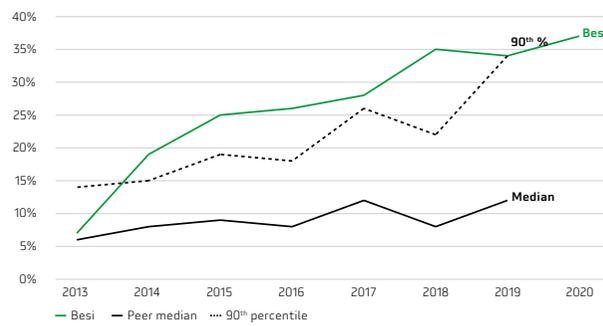


PERFORMANCE COMPARED TO THE REMUNERATION REFERENCE GROUP

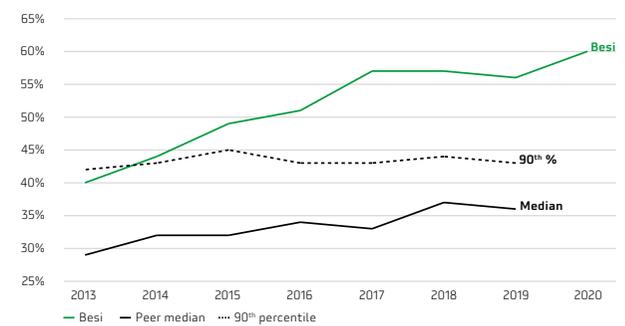
Net Income/Revenue



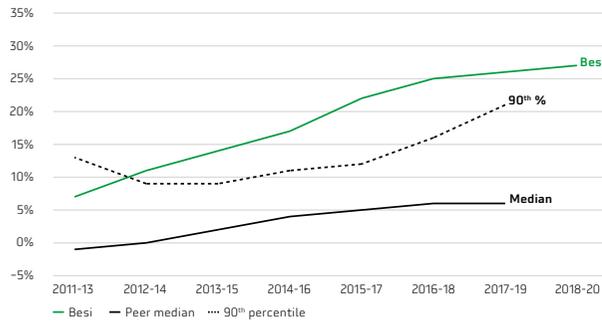
Cash Flow from Operations/Revenue



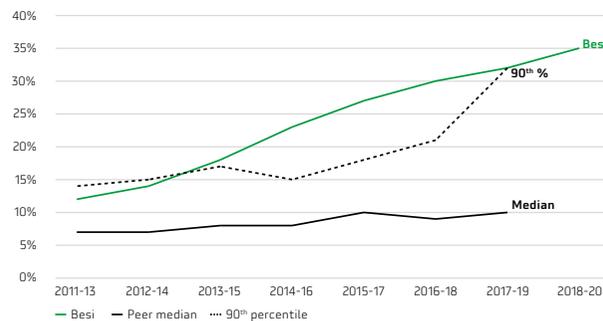
Gross Margin



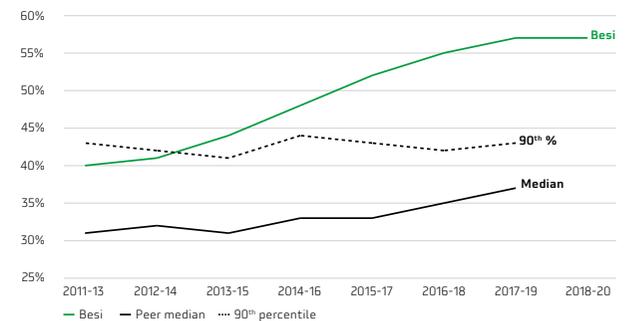
Net Income/Revenue (3yr Avg.)



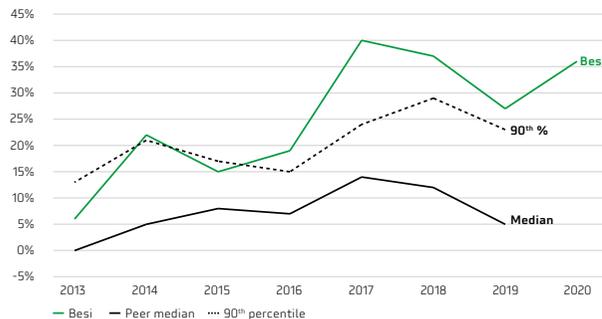
Cash Flow from Operations/Revenue (3yr Avg.)



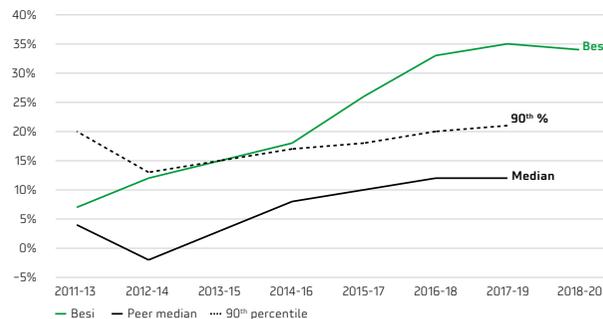
Gross Margin (3yr Avg.)



Return on Equity



Return on Equity (3yr Avg.)



The following table presents the shares awarded or due to the member of the Board of Management for the last five reported financial years and unvested or subject to a holding period as at December 31, 2020:

Name of Director, position	Specification of plan	Performance period	The main conditions of share award plans			Information regarding the reported financial year					
						Opening balance	During the year			Closing balance	
			Award date	Vesting date	End of holding period	Shares awarded at the beginning of the year	Shares awarded	Shares vested	Shares subject to a performance condition	Shares awarded and unvested at year end	Shares subject to a holding period
R.W. Blickman, CEO	2015 PSP	Jan 1, 2015 - Dec 31, 2017	April 30, 2015	April 30, 2018	April 30, 2020	-	-	-	-	-	-
	2016 PSP	Jan 1, 2016 - Dec 31, 2018	April 29, 2016	April 29, 2019	April 29, 2021	-	-	-	-	-	84,672
	2017 PSP	Jan 1, 2017 - Dec 31, 2019	May 1, 2017	April 30, 2020	April 30, 2022	36,074	-	36,074	-	-	36,074
	2018 PSP	Jan 1, 2018 - Dec 31, 2020	April 26, 2018	AGM 2021	AGM 2021+ 2 years	18,026	-	-	18,026	18,026	-
	2019 PSP	Jan 1, 2019 - Dec 31, 2021	April 26, 2019	AGM 2022	AGM 2022+ 2 years	32,887	32,887	-	32,887	32,887	-
	2019 add. PSP		Jan. 17, 2019	Jan. 17, 2019	Jan. 17, 2021	-	-	-	-	-	120,000
	2020 PSP	Jan 1, 2020 - Dec 31, 2022	April 30, 2020	AGM 2023	AGM 2023+ 2 years	-	31,920	-	31,920	31,920	-
	2020 add. PSP		Jan. 23, 2020	Jan. 23, 2020	Jan. 23, 2025	-	103,000	103,000	-	-	103,000
					Total	86,987	167,807	139,074	82,833	82,833	343,746

Clawback and ultimate remedium

In accordance with Dutch law and the Remuneration Policy, the Short-Term Incentive and Long-Term Incentive components for the member of the Board of Management are subject to clawback provisions and ultimate remedium clauses. During 2020, no circumstances were identified by the Supervisory Board that could result in any adjustments or clawback.

4. Pensions

Prior to 2015, a defined contribution scheme with an annual contribution (based on a maximum allowed percentage of base salary for tax purposes) was in place for the member of the Board of Management. As a result of the legislative changes applicable for Dutch pension arrangements as from January 1, 2015, the Committee reviewed Besi's pension policy for the members of the Board of Management during 2014.

Based on the outcome of this review, as from January 1, 2015, pension contributions for the member of the Board of Management have continued to be based on contributions applicable for 2014. However, a portion of this contribution is now funded directly to the personal pension account of the member of the Board of Management as a tax-exempt contribution and the remaining balance is now paid as a taxed pension allowance, which can be used by the member of the Board of Management to build up his pension on a voluntary basis.

5. Other benefits

Other benefits include expense compensation, medical insurance and social security premiums.

BESI PAY-TSR ALIGNMENT (2015-2020)

Indexed to 2015. Base = 100



Remuneration of the Board of Management

Remuneration of the member of the Board of Management recognized by the Company for the years ended December 31, 2020 and 2019 was as follows:

(in euros, except for performance shares)	Year ended December 31,	
	2020	2019
Base salary	600,000	600,000
Annual cash bonus	900,000	600,000
Other benefits ¹	230,260	239,475
Total cash benefits	1,730,260	1,439,475
Pension contribution ²	35,904	33,159
Equity compensation benefits: Incentive Plan ³	938,690	791,569
Total remuneration, excluding discretionary elements	2,704,854	2,264,203
Equity compensation benefits: additional performance shares ⁴	3,944,900	2,270,400
Total remuneration	6,649,754	4,534,603
Conditional performance shares awarded ⁵	31,920	32,887

¹ Other benefits include expense compensation, medical insurance, employer social security contributions and for 2020 and 2019 a taxable pension allowance of € 181,740 and € 181,008, respectively.

² The pension arrangements for the member of the Board of Management are defined contribution plans. The Company does not have any further pension obligations beyond an annual contribution.

³ Expenses recognized in 2020 and 2019 for performance shares awarded from 2018 to 2020 made under the Incentive Plan as determined in accordance with IFRS.

⁴ Expenses recognized in 2020 and 2019 for the additional performance share award of 103,000 shares which vested on January 23, 2020 and of 120,000 shares which vested on January 17, 2019, as determined in accordance with IFRS.

⁵ Performance shares for 2020 and 2019 may vest in 2023 and 2022, respectively, subject to continued service and the actual performance during the performance period 2020-2022 and 2019-2021, respectively.

Other remuneration information

The actual cash remuneration paid by the Company and the value of the vested equity remuneration to the Board of Management for the years ended December 31, 2020 and 2019 were as follows:

(in euros)	Year ended December 31,	
	2020	2019
Base salary	600,000	600,000
Fringe benefits	230,260	239,475
Total fixed remuneration	830,260	839,475
One-year variable	4,844,900	2,870,400
Equity compensation benefits: Incentive Plan	1,354,939	2,325,093
Total variable remuneration	6,199,839	5,195,493
Pension expense	35,904	33,159
Total remuneration	7,066,003	6,068,127
Proportion of fixed and variable remuneration	12%/88%	14%/86%

The following table presents the items used to evaluate remuneration and Company performance over the last five reported financial years:

Year ended December 31,	2020	2019	2018	2017	2016
<i>Director's actual cash remuneration and value of equity remuneration</i>					
R.W. Blickman, CEO	7,066,003	6,068,127	9,096,692	7,911,037	5,857,080
Board of Management					
Annual change	16%	-33%	15%	35%	12%
<i>Company performance</i>					
Net income as % of revenue realized	30.5%	22.8%	25.9%	29.2%	17.4%
Total shareholder return (base 2015 = 100%)	688%	465%	234%	410%	179%
<i>Average actual cash remuneration and value of equity remuneration</i>					
Full-time equivalent basis of employees, excluding CEO (in thousands)	68.2	64.8	64.7	66.2	61.9
Annual change	5%	0%	-2%	7%	3%

Loans

At the end of 2020, no loans, advances or guarantees were outstanding to the CEO in accordance with the Remuneration Policy.

Proposed amendments to the Remuneration Policy 2020-2023

As a result of input received from shareholders in connection with the 2020 AGM, we conducted a review of the Remuneration Policy 2020-2023 with a specific focus on key areas of shareholder concern. We engaged an independent consulting firm to help us analyze the additional performance share awards of Besi's Long-Term Incentive compensation plan for members of the Board of Management as well as our pay for performance metrics relative to comparable peers. In addition, we reviewed the composition of our remuneration reference group given the significant change in Besi's financial profile, market presence, profitability and market capitalization since the time the remuneration reference group was first constructed ten years ago. Upon the completion of the review, meetings were conducted in the second half of 2020 between members of the Supervisory Board and key institutional shareholders both in Europe and the United States.

The proposals focus primarily on the elimination of the discretionary basis upon which additional performance shares can be awarded to members of the Board of Management and the composition of our remuneration reference group and its impact on our pay for performance alignment. The Supervisory Board also agreed to implement a minimum shareholding requirement for members of the Board of Management equal to three times their base salary. Such proposed elements would further align management's interests with those of Besi's shareholders.

Set forth below is a summary of the principal proposals for approval at Besi's 2021 AGM.

Proposed change to Additional Performance Shares (effective 2021)	Proposed change Remuneration Reference Group (effective 2021)
<ul style="list-style-type: none"> Discretionary performance share element eliminated Replaced by defined financial and non-financial targets against which additional performance shares will be awarded 	<ul style="list-style-type: none"> Revision of remuneration reference group structure <ul style="list-style-type: none"> Proposed change better reflects: <ul style="list-style-type: none"> Peers with whom we compete for talent Our improved business and financial profile, enhanced market presence and market capitalization since initial reference group construction in 2011

The Supervisory Board believes that the financial and non-financial program components and specific targets associated therewith reward exceptional performance, both with respect to defined internal metrics as well as versus the performance of direct peers. They are also strongly aligned with the strategic initiatives set forth in Besi's strategic plan 2020-2024 as well as with stakeholders' interests associated with Besi's long-term, sustainable value creation.

Remuneration Supervisory Board members

The remuneration of the members of the Supervisory Board is reviewed on an annual basis. Effective April 30, 2020, the General Meeting of Shareholders approved the Remuneration Policy of the Supervisory Board. The Remuneration Policy was applied in 2020 as set forth below.

The total cash remuneration of the members of the Supervisory Board for the five years ended December 31, 2020 was as follows:

(in euros)	Year ended December 31,				
	2020	2019	2018	2017	2016
L.J. Hijmans van den Bergh – Chair	79,200	53,900	-	-	-
D.J. Dunn – Member and chair Remuneration and Nomination Committee	66,000	66,000	64,088	60,000	60,000
N. Hoek – Member and chair Audit Committee	66,000	66,000	44,967	-	-
C. Bozotti – Member	62,700	62,700	31,350	-	-
M. ElNaggar – Member	68,700	70,700	60,884	57,000	57,000
Former members of the Supervisory Board:					
T. de Waard	-	26,400	76,800	72,000	72,000
K.W. Loh	-	26,900	60,884	57,000	57,000
J.E. Vaandrager	-	-	20,000	60,000	60,000
Total remuneration	342,600	372,600	358,973	306,000	306,000

The current remuneration of Supervisory Board members is as follows:

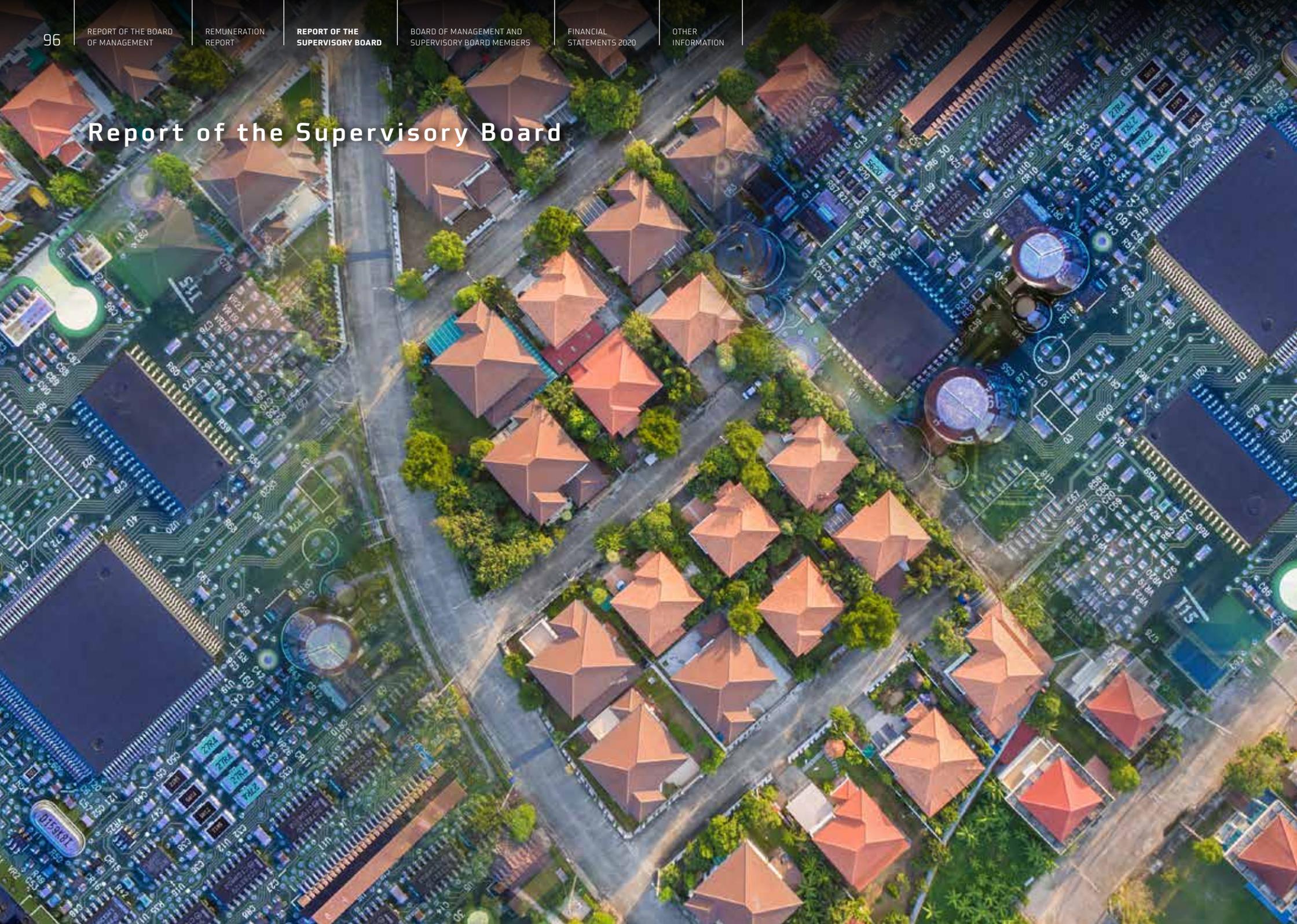
- Member of the Supervisory Board, including committee membership(s): € 62,700.
- Member of the Supervisory Board and Chair of a committee: € 66,000.
- Chairman of the Supervisory Board: € 79,200.
- Meeting attendance fees, including conference calls: none.
- Intercontinental travel allowance: € 6,000 for physical attendance at a minimum of three meetings.

The members of the Supervisory Board are not entitled to any performance or equity related compensation and are not entitled to any pension allowance or contribution.

Loans

At the end of 2020, no loans, advances or guarantees were outstanding for any of the members of the Supervisory Board.

Report of the Supervisory Board



Report of the Supervisory Board

Besi is pleased to present its 2020 Annual Report prepared by the Board of Management. The Annual Report includes Besi's Financial Statements as prepared by the Board of Management for the financial year ended December 31, 2020. At its meeting on February 18, 2021, the Supervisory Board approved these Financial Statements. Ernst & Young Accountants LLP ("EY"), independent external auditors, duly examined the 2020 Besi Financial Statements and issued an unqualified opinion thereon.

The Supervisory Board recommends that the General Meeting of Shareholders adopts the 2020 Financial Statements as submitted by the Board of Management and approved by the Supervisory Board. The Board of Management, with the approval of the Supervisory Board, has also submitted a proposal to declare a cash dividend of € 1.70 per share for the year ended December 31, 2020.

Supervision

Besi has a two-tier board structure consisting of a Board of Management and a Supervisory Board that is responsible for supervising and guiding the Board of Management. The Board of Management is currently comprised of one member, Mr Richard Blickman. The Supervisory Board is currently comprised of five members, all of whom are considered independent within the meaning of best practice provision 2.1.8 of the Dutch Corporate Governance Code. In the opinion of the Supervisory Board, the independence requirements referred to in best practice provisions 2.1.7 to 2.1.9 (inclusive) of the Dutch Corporate Governance Code have been fulfilled.

Name	Year elected	Term end
Mr Lodewijk Hijmans van den Bergh, Chairman	2019	2023
Mr Douglas Dunn, Vice Chairman	2019	2021
Ms Mona ElNaggar	2020	2022
Mr Niek Hoek	2018	2022
Mr Carlo Bozotti	2018	2022

At the Annual General Meeting of Shareholders held on April 30, 2020, Ms Mona ElNaggar was reappointed to the Supervisory Board for a two-year term. Ms ElNaggar intends to resign her position as a member of the Supervisory Board prior to the end of her current term to pursue other interests. Her resignation will become effective at such time that Ms Eckstein's appointment as a Supervisory Board member (as described below) becomes effective.

In addition, Mr Douglas Dunn, Vice Chairman of the Supervisory Board, will not seek re-appointment for another term upon the expiration of his current two-year term at Besi's Annual General Meeting of Shareholders to be held on April 30, 2021. Mr Dunn served as a member of Besi's Supervisory Board for twelve years.

The Supervisory Board proposes to nominate Dr Laura Oliphant to be appointed as a Supervisory Board member for a four-year term at Besi's Annual General Meeting of Shareholders to be held on April 30, 2021. Ms Oliphant (58) is a venture capital investor and technology veteran with significant experience in the semiconductor, semiconductor equipment and software industries. Currently, Ms Oliphant is an independent consultant with Serendibite Partners, where she provides expertise to early-stage businesses, Fortune 500 companies and venture capital firms. Prior thereto, Ms Oliphant served as CEO of Translarity, Inc., a venture backed, advanced probe card startup. Between 2001 and 2016, Ms Oliphant served as an investment director in Intel Capital, and between 1991 and 2001, she served in various capacities at Intel Corporation in the Technology and Manufacturing Group, including as a supply chain program manager and senior process engineer. She received her PhD in Chemical Engineering from the University of California, Berkeley where her research focused on plating technologies. Currently, Ms Oliphant also serves on the board of directors of Aehr Test Systems (NASDAQ), Feasible Inc., Novelda AS and Numascale AS. She is considered independent for the purposes of the Dutch Corporate Governance Code.

In addition, the Supervisory Board proposes to nominate Ms Elke Eckstein to be appointed as a Supervisory Board member for a four-year term at Besi's Annual General Meeting of Shareholders to be held on April 30, 2021 with effect as of September 1, 2021. Ms Eckstein (56) currently serves as CEO and President of ENICS Group Electronics, an electronics manufacturing services company based in Zürich, Switzerland, a position she has held since 2019. Prior thereto, she served in senior management positions at a variety of global semiconductor, photonics and electronics firms in Germany, USA, France and Taiwan, including Weidmüller Group, Osram AG, Global Foundries, AMD, Altis Semiconductor, Infineon AG and Siemens AG. Ms Eckstein is considered independent for the purposes of the Dutch Corporate Governance Code.

Composition and diversity

The Supervisory Board considers its current composition to be aligned with its objective for an adequate spread of knowledge and experience amongst its members in relation to the technological and global character of Besi's business as well as an adequate level of knowledge and experience in financial, economical, technological, social and legal aspects of international business and government and public administration. The Supervisory Board believes that it has the requisite expertise, background, competencies and independence to carry out its duties properly and that all members of the Supervisory Board have sufficient time to spend on their respective duties and responsibilities.

The Supervisory Board currently has a diverse composition in terms of experience, background, competencies, education and nationality and is on all those points in line with the objectives of its profile and diversity policy. Although gender diversity is high on

the agenda, the Supervisory Board's current composition of an 80/20 male/female ratio is not in compliance with its profile and diversity policy pursuant to which it is the Supervisory Board's aim to achieve that at least one third of its members are men and at least one third of its members are women, nor in compliance with the pending legislative proposal introducing a diversity quota. Diversity in general and gender diversity in particular are important factors in the selection process of Supervisory Board candidates. When considering new candidates, the Supervisory Board will retain an active and open attitude with respect to the selection of female candidates. Gender is, however, only one factor of diversity. The qualifications of a particular person and the requirements for the position shall in principle always prevail over all other factors and considerations when filling a vacancy, unless otherwise required by Dutch law.

The proposed appointments of Ms Oliphant and Ms Eckstein as Supervisory Board members will enhance the gender diversity of the Supervisory Board in 2021 and will bring the Supervisory Board's male/female ratio to 60/40. This ratio will be in compliance with the Supervisory Board's profile and diversity policy as well as with the legislative proposal introducing a diversity quota.

Meetings and attendance

In 2020, the Supervisory Board held six meetings, of which four were combined meetings of the Supervisory Board and the Audit Committee. As a result of the COVID-19 pandemic and the implementation of stay at home orders, only the meeting in February was a physical meeting. All other meetings were held virtually. The Supervisory Board also held a virtual half day meeting with Besi's management team and local management of Besi APac, Besi Leshan and Besi Singapore. In addition, because of the COVID-19 pandemic and to keep track of the latest developments related thereto, the Supervisory Board held virtual bi-weekly update meetings as from April until June (eight additional meetings in total) and virtual monthly update meetings as from August onwards (two additional meetings in total).

In 2020, the Audit Committee held four meetings to discuss the topics set forth below and the scope and results of EY's audit of the Financial Statements. EY attended virtually two meetings of the Audit Committee in 2020. The Audit Committee separately met with EY once without the presence of the Board of Management.

The Remuneration and Nomination Committee met once in 2020 to discuss the topics set forth below. The member of the Board of Management was not present during this meeting.

Meeting attendance by individual Supervisory Board members was as follows:

Name	Supervisory Board	Audit Committee	Remuneration and Nomination Committee
Mr Lodewijk Hijmans van den Bergh, Chairman	6/6	4/4	1/1
Mr Douglas Dunn, Vice Chairman	6/6	4/4	1/1
Ms Mona ElNaggar	4/6	3/4	1/1
Mr Niek Hoek	6/6	4/4	1/1
Mr Carlo Bozotti	6/6	4/4	1/1

As from the moment Ms Oliphant was prospectively appointed to the Supervisory Board on August 1, 2020, she attended all meetings of the Supervisory Board, including all additional bi-weekly/monthly update meetings.

Supervisory Board meeting topics

Key topics discussed by the Supervisory Board during 2020 included:

- Besi's annual budget as well as quarterly revised estimates related thereto.
- Quarterly business reviews and a review and discussion of Besi's 2020 annual budget with the Board of Management, certain members of senior management and key Besi staff.
- Semi-annual reviews of current strategic planning initiatives and the principal risks associated therewith as well as the implementation of Besi's long-term value creation strategy.
- Besi's technology roadmap and related research and development programs.
- The ongoing transfer of operations from Europe to Asia and reductions to Besi's cost structure.
- The general risks associated with Besi's operations.
- The ongoing operational development of Besi's processes, procedures, ERP and IT systems.
- The assessment and review provided by the Board of Management of the structure and operation of Besi's internal control and risk management systems as well as any significant changes thereto.
- Potential strategic alliances and acquisitions including the hybrid bonding joint development agreement signed with Applied Materials, Inc.
- ESG related topics including a review and enhancement of Besi's current policies and the [Environmental, Social and Governmental Report](#) included in this Annual Report.
- The placement of € 150 million of senior unsecured Convertible Notes due 2027.

- The functioning and performance evaluation of the Board of Management, the Supervisory Board, the Audit Committee, the Remuneration and Nomination Committee and the individual members of the Supervisory Board. As part of this evaluation, the Supervisory Board conducted a self-assessment in association with a third-party consulting firm (without the presence of the member of the Board of Management), the results of which concluded that there is a proper mix of background and skills at the Supervisory Board level and that the Supervisory Board works well as a team with open and direct communication. The conclusion of the evaluation has been shared with the member of the Board of Management and members of the Supervisory Board.
- Succession planning and related career development programs for members of senior management and key Besi staff.
- The proposed amendments to Besi's Remuneration Policy 2020-2023, the remuneration of the Board of Management and the Remuneration Report.
- The findings of an independent consulting firm engaged to conduct a strategic planning review for the period 2020-2024 as well as issues and initiatives to consider related thereto.
- Besi's capital allocation policy including the extension and expansion of its 2018 share repurchase program.

Final application 8800 Quantum Flip Chip at Besi APac, Malaysia.



Capital allocation policy

The Board of Management is responsible for Besi's optimal capital allocation and has adopted a policy which aims to enhance shareholder returns via dividends and share repurchases.

Due to Besi's earnings and cash flow generation in 2020, the Board of Management, with the approval of the Supervisory Board, will propose a cash dividend to shareholders equal to € 1.70 per share for 2020 for approval at Besi's Annual General Meeting of Shareholders to be held on April 30, 2021.

In addition, on July 28, 2020, Besi announced the extension of its 2018 share repurchase program (the "2018 Program") until October 30, 2021, and an increase of the total amount from € 75 million to € 125 million. Under the 2018 Program, € 125 million of shares can be repurchased for capital reduction purposes and to help offset potential dilution from Besi's Convertible Notes and employee share issuances under Besi's long-term incentive compensation plans. Under the 2018 Program, a total of 3.5 million shares were repurchased from July 26, 2018 (inception) through December 31, 2020 at an average price per share of € 24.05 for a total of € 84.8 million. A total of 0.5 million shares were repurchased in 2020 at an average price per share of € 38.05 for a total of € 17.8 million.

Supervisory Board committees

The Supervisory Board has established two committees, the Audit Committee and the Remuneration and Nomination Committee. These committees operate under terms of reference that have been approved by the Supervisory Board. Members of these committees are appointed from among the Supervisory Board members.

Audit Committee

The Audit Committee consists of all Supervisory Board members. The Chairman is Mr Niek Hoek who is considered a financial expert. The Audit Committee fulfills its responsibilities by carrying out the activities enumerated in its terms of reference, including assisting the Supervisory Board in fulfilling its oversight responsibilities by reviewing:

- The effectiveness of Besi's internal control and risk management systems and the internal audit function as described under [Risks and Risk Management](#) and in the chapter [Internal control and risk management](#) under Corporate Governance in this Annual Report.
- The analysis and assessment provided by the Board of Management of the structure and operation of Besi's internal control and risk management systems and any significant changes thereto.
- Besi's capital structure, financing and treasury operations.
- Besi's European and global tax structure and transfer pricing policy, including, in particular, developments affecting fiscal Base Erosion and Profit Shifting ("BEPS").

- Auditing, accounting and financial reporting processes and critical accounting policies, new accounting pronouncements and the further development of International Financial Reporting Standards as adopted by the EU (“IFRS”).
- The quality of work, reporting, expertise and independence of EY, Besi’s independent external auditor on a regular basis, including, in particular, the appropriateness of the provision of non-audit services. During 2020, no non-audit services took place in the Netherlands. Non-audit services outside the Netherlands were kept to a minimum to avoid any potential conflicts of interest.
- The terms of EY’s engagement, including the scope of the audit, the materiality thresholds to be used and the audit fee.
- The receipt, retention and treatment of complaints and the anonymous submission of confidential concerns by employees involving accounting matters on the basis of Besi’s Whistleblower procedure, which can be found on the Company’s website: www.besi.com.
- The information and communication technology deployment, including the ongoing implementation of the global ERP system and monitoring enhancements made to the SAP system in 2019 and 2020.
- Besi’s cyber security profile, including risks and measures available to counter the rising threat of cyber crime and cyber terrorism.

The Audit Committee terms of reference are posted on Besi’s website: www.besi.com.

Remuneration and Nomination Committee

The Remuneration and Nomination Committee consists of all Supervisory Board members. The Chairman of the Remuneration and Nomination Committee is Mr Dunn.

The Remuneration and Nomination Committee has the following responsibilities with respect to remuneration for which it fulfills its obligations by:

- Making a proposal to the Supervisory Board for the Remuneration Policies to be pursued.
- Annually reviewing and proposing the corporate goals and objectives related to the compensation of the Board of Management.
- Making a proposal for the remuneration of the Board of Management within the scope of the Remuneration Policy for the Board of Management adopted by the General Meeting of Shareholders for adoption by the Supervisory Board. Such proposal shall, in any event, deal with:
 - The remuneration structure.
 - The amount of the fixed and variable remuneration components.
 - The performance criteria used.
 - The scenario analyses carried out.
 - Company-wide pay ratios.
- Overseeing Besi’s equity incentive plans.
- Preparing the Remuneration Report.

The Remuneration and Nomination Committee has the following responsibilities with respect to the selection and nomination of Supervisory Board members and members of the Board of Management for which it fulfills its obligations by:

- Determining selection criteria and appointment procedures for Supervisory Board members and members of the Board of Management.
- Periodically assessing the size and composition of the Supervisory Board and the Board of Management and making proposals for the composition profile of the Supervisory Board.
- Periodically assessing the functioning of individual Supervisory Board members and members of the Board of Management and providing reports to the Supervisory Board.
- Creating and updating succession plans for Supervisory Board members and members of the Board of Management.
- Making proposals for appointments and reappointments.
- Supervising the policy of the Board of Management on selection criteria and appointment procedures for senior management.

The Remuneration and Nomination Committee’s terms of reference are posted on the Company’s website: www.besi.com.

Remuneration Report

The [Remuneration Report](#) is included in a separate section in this Annual Report.

Corporate governance

The Supervisory Board acknowledges the importance of good corporate governance, the most important elements of which are transparency, independence and accountability. The Supervisory Board continuously reviews important corporate governance developments. Reference is made to the [Corporate Governance](#) section in this Annual Report. Deviations from the Dutch Corporate Governance Code are explained in that section.

The Supervisory Board would like to express its thanks and appreciation to all involved for their hard work and dedication to the Company in 2020. In particular, we would like to thank management and employees for their actions taken this year to help Besi achieve a solid performance in a challenging industry environment.

The Supervisory Board
Lodewijk J. Hijmans van den Bergh, Chairman

February 18, 2021

Board of Management and Supervisory Board Members



Board of Management and Supervisory Board Members

Board of Management

Richard W. Blickman (male, 1954)

Dutch nationality
Appointed since 1995

Chief Executive Officer, Chairman of the Board of Management

Additional functions

Member of the Netherlands Academy of Technology and Innovation.

Supervisory Board

Lodewijk J. Hijmans van den Bergh (male, 1963)

Chairman
Dutch nationality
Member since 2019
Current term 2019 - 2023

Additional functions

Member of the Supervisory Board of HAL Holding N.V. (Vice Chairman), Chairman of the Boards of Stichting Utrechts Universiteitsfonds, Fortino Capital Partners N.V. and the Supervisory Council of Stichting NKI-AVL (Stichting Het Nederlands Kanker Instituut-Antoni van Leeuwenhoek Ziekenhuis) and board member of Vereniging Aegon and adviser to De Brauw Blackstone Westbroek N.V.

Douglas J. Dunn (male, 1944)

Vice Chairman
British nationality
Member since 2009
Current term 2019 - 2021

Mona ElNaggar (female, 1967)

British and American nationality
Member since 2012
Current term 2020 - 2022

Partner at Valo Ventures

Niek Hoek (male, 1956)

Dutch nationality
Member since 2018
Current term 2018 - 2022

Managing director of Brandaris Capital Holding B.V.

Additional functions

Chairman of the Supervisory Board of Arcadis N.V., Chairman of the Supervisory Board of Van Oord N.V., member of the Supervisory Board of Anthony Veder Group N.V. (Netherlands Antilles), Chairman of the Board of Stichting Preferente Aandelen Nedap and Executive Director of Dutch Star Companies Two B.V.

Carlo Bozotti (male, 1952)

Italian and Swiss nationality
Member since 2018
Current term 2018 - 2022

Industrial Partner of FSI, private equity firm

Additional functions

Non-executive director of the board of Avnet Inc. and Lumsom S.p.A.

The Supervisory Board has formed the following committees:

Audit Committee

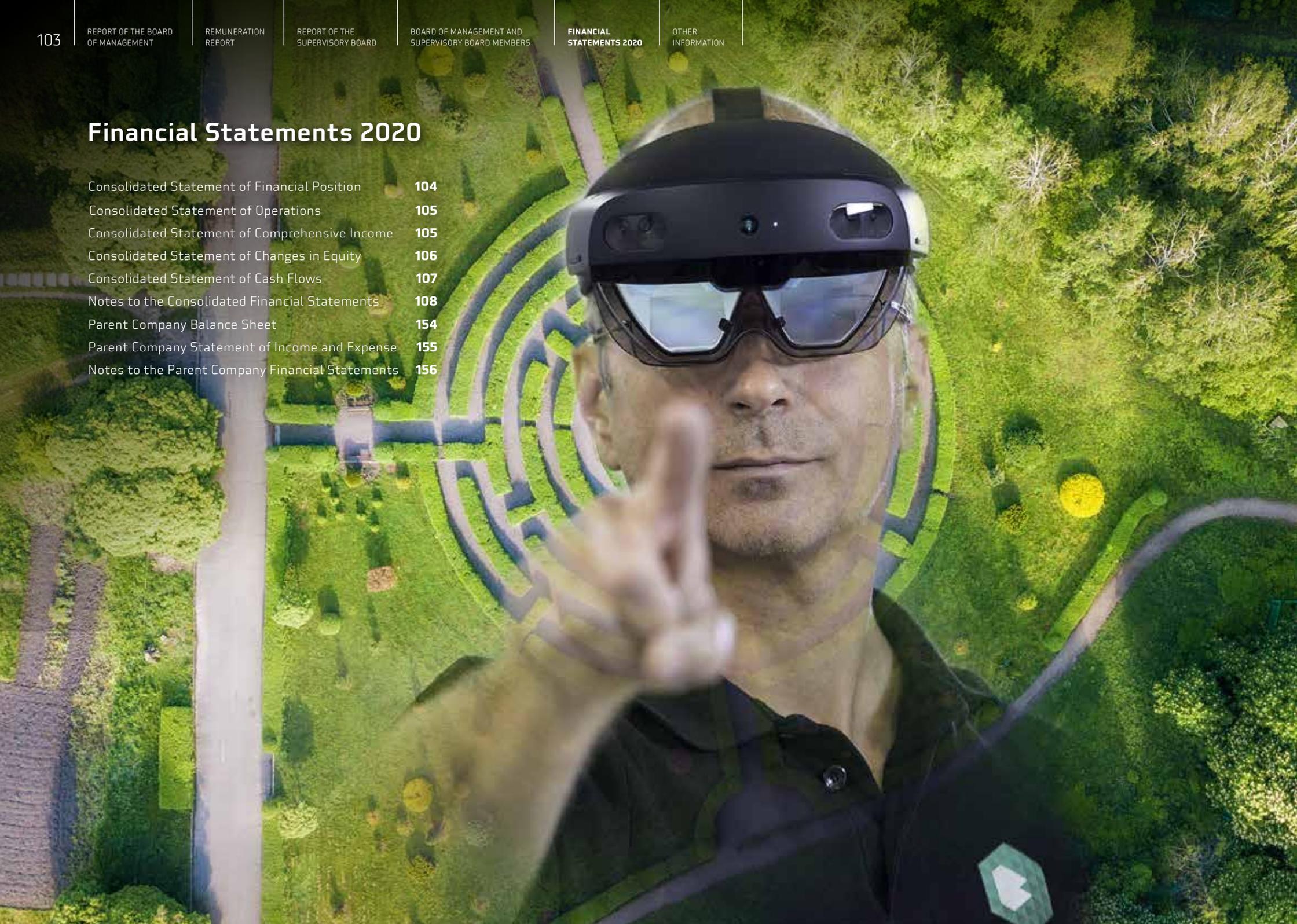
Members: Niek Hoek (Chairman), Carlo Bozotti, Douglas Dunn, Mona ElNaggar and Lodewijk Hijmans van den Bergh

Remuneration and Nomination Committee

Members: Douglas Dunn (Chairman), Carlo Bozotti, Mona ElNaggar, Lodewijk Hijmans van den Bergh and Niek Hoek

Financial Statements 2020

Consolidated Statement of Financial Position	104
Consolidated Statement of Operations	105
Consolidated Statement of Comprehensive Income	105
Consolidated Statement of Changes in Equity	106
Consolidated Statement of Cash Flows	107
Notes to the Consolidated Financial Statements	108
Parent Company Balance Sheet	154
Parent Company Statement of Income and Expense	155
Notes to the Parent Company Financial Statements	156



Consolidated Statement of Financial Position

(euro in thousands)	Note	December 31, 2020	December 31, 2019
<i>Assets</i>			
Cash and cash equivalents	3	375,406	278,398
Deposits	4	223,299	130,000
Trade receivables	5	93,218	81,420
Inventories	6	51,645	46,578
Income tax receivable		1,438	1,114
Other receivables	7	7,930	9,132
Prepayments	8	2,596	3,608
Total current assets		755,532	550,250
Property, plant and equipment	9	27,840	30,383
Right of use assets	19	9,873	11,132
Goodwill	10	44,484	45,289
Other intangible assets	11	50,660	42,593
Deferred tax assets	29	21,924	14,978
Other non-current assets	12	1,043	2,255
Total non-current assets		155,824	146,630
Total assets		911,356	696,880

(euro in thousands)	Note	December 31, 2020	December 31, 2019
<i>Liabilities and equity</i>			
Notes payable to banks	13	-	476
Current portion of long-term debt	18	-	515
Trade payables	14	44,017	30,278
Income tax payable		9,244	7,612
Provisions	15	3,478	2,868
Lease liabilities	19	2,976	3,300
Other payables	16	28,052	24,982
Other current liabilities	17	13,719	16,597
Total current liabilities		101,486	86,628
Long-term debt	18	399,956	277,067
Lease liabilities	19	6,952	7,859
Deferred tax liabilities	29	12,840	8,858
Provisions	20, 25	18,118	16,890
Other non-current liabilities	17	777	1,070
Total non-current liabilities		438,643	311,744
Share capital	21	786	801
Share premium		178,600	159,671
Retained earnings		127,425	77,417
Other reserves	21	64,416	60,619
Equity attributable to owners of the Company		371,227	298,508
Total liabilities and equity		911,356	696,880

Consolidated Statement of Operations

(euro in thousands, except share and per share data)	Note	Year ended December 31,	
		2020	2019
Revenue	23, 24	433,623	356,195
Cost of sales		175,056	157,389
Gross profit		258,567	198,806
Selling, general and administrative expenses		75,802	71,519
Research and development expenses		32,905	35,366
Total operating expenses		108,707	106,885
Operating income		149,860	91,921
Financial income	28	1,355	200
Financial expense	28	(13,698)	(13,984)
Financial income (expense), net		(12,343)	(13,784)
Income before income tax		137,517	78,137
Income tax expense (benefit)	29	5,242	(3,183)
Net income		132,275	81,320
Total net income per share			
Basic		1.82	1.12
Diluted ¹		1.67	1.06
Weighted average number of shares used to compute income per share			
Basic	30	72,501,386	72,796,679
Diluted	30	83,773,385	83,149,840

Consolidated Statement of Comprehensive Income

(euro in thousands)	Year ended December 31,	
	2020	2019
Net income	132,275	81,320
<i>Other comprehensive income</i>		
Actuarial gain (loss), net of income tax	(828)	(1,315)
Items that will not be reclassified to profit and loss	(828)	(1,315)
Currency translation differences	(4,940)	5,878
Unrealized hedging results, net of income tax	784	464
Items that may be reclassified subsequently to profit or loss	(4,156)	6,342
Other comprehensive income (loss), net of income tax	(4,984)	5,027
Total comprehensive income	127,291	86,347

¹ The calculation of the diluted income per share for the year 2020 and 2019 assumes the exercise of equity-settled share-based payments. The calculation also assumes the conversion of the Company's Convertible Notes due 2023, 2024 and 2027, respectively, as such conversion would have a dilutive effect.

Consolidated Statement of Changes in Equity

(euro in thousands, except for share data)	Number of ordinary shares outstanding ¹	Share capital	Share premium	Retained earnings	Other reserves (Note 21)	Total share- holders' equity
Balance at January 1, 2020	80,067,842	801	159,671	77,417	60,619	298,508
Currency translation differences	-	-	-	-	(4,940)	(4,940)
Actuarial gain (loss)	-	-	-	-	(828)	(828)
Unrealized hedging results	-	-	-	-	784	784
Other comprehensive income for the year	-	-	-	-	(4,984)	(4,984)
Net income	-	-	-	132,275	-	132,275
Total comprehensive income for the year	-	-	-	132,275	(4,984)	127,291
Dividend paid to owners of the Company	-	-	-	(73,486)	-	(73,486)
Convertible notes converted into equity	-	-	14,337	-	-	14,337
Legal reserve	-	-	-	(8,781)	8,781	-
Equity-settled share-based payments	-	-	10,470	-	-	10,470
Purchase of treasury shares	-	-	(17,781)	-	-	(17,781)
Cancellation of shares	(1,500,000)	(15)	15	-	-	-
Equity component new Convertible Notes	-	-	12,913	-	-	12,913
Deferred tax convertible	-	-	(1,025)	-	-	(1,025)
Balance at December 31, 2020	78,567,842	786	178,600	127,425	64,416	371,227
Balance at January 1, 2019	80,067,842	801	197,279	125,859	48,249	372,188
Currency translation differences	-	-	-	-	5,878	5,878
Actuarial gain (loss)	-	-	-	-	(1,315)	(1,315)
Unrealized hedging results	-	-	-	-	464	464
Other comprehensive income for the year	-	-	-	-	5,027	5,027
Net income	-	-	-	81,320	-	81,320
Total comprehensive income for the year	-	-	-	81,320	5,027	86,347
Dividend paid to owners of the Company	-	-	-	(122,419)	-	(122,419)
Legal reserve	-	-	-	(7,343)	7,343	-
Equity-settled share-based payments	-	-	7,289	-	-	7,289
Purchase of treasury shares	-	-	(44,678)	-	-	(44,678)
Deferred tax convertible	-	-	(219)	-	-	(219)
Balance at December 31, 2019	80,067,842	801	159,671	77,417	60,619	298,508

¹ The outstanding number of ordinary shares includes 5,701,931 and 7,855,420 treasury shares at December 31, 2020 and December 31, 2019, respectively.

Consolidated Statement of Cash Flows

(euro in thousands)	Note	Year ended December 31,	
		2020	2019
<i>Cash flows from operating activities</i>			
Income before income tax		137,517	78,137
<i>Adjustments to reconcile income before income tax to net cash flows</i>			
Depreciation, amortization and impairment	9, 11, 19	19,176	19,825
Share-based payment expense	25	10,470	7,289
Financial expense, net	28	12,343	13,784
<i>Effects on changes in assets and liabilities</i>			
Decrease (increase) in trade receivables		(20,617)	26,437
Decrease (increase) in inventories		(9,050)	7,699
Increase (decrease) in trade payables		15,671	(3,227)
Changes in provisions		1,427	(1,982)
Changes in other working capital		11,228	(6,733)
		178,165	141,229
Interest received		79	185
Interest paid		(5,143)	(4,947)
Income tax paid		(11,080)	(16,359)
Net cash provided by operating activities		162,021	120,108
<i>Cash flows from investing activities</i>			
Capital expenditures	9, 11	(4,242)	(2,511)
Proceeds from sale of property		345	159
Capitalized development expenditures	11	(17,621)	(13,226)
Repayment of (investments in) deposits	4	(93,920)	50,000
Net cash provided by (used in) investing activities		(115,438)	34,422
<i>Cash flows from financing activities</i>			
Payments of bank lines of credit	18	(434)	(2,336)
Payments on debts	18	(507)	(419)
Proceeds from Convertible Notes	18	147,756	-
Payments on lease liabilities	18, 19	(3,700)	(3,525)
Purchase treasury shares		(17,781)	(44,678)
Dividend paid to shareholders		(73,486)	(122,419)
Net cash provided by (used in) financing activities		51,848	(173,377)
Net change in cash and cash equivalents		98,431	(18,847)
Effect of changes in exchange rates on cash and cash equivalents		(1,423)	1,706
Cash and cash equivalents at beginning of the period	3	278,398	295,539
Cash and cash equivalents at end of the period	3	375,406	278,398

Notes to the Consolidated Financial Statements

1. Basis of presentation

General

BE Semiconductor Industries N.V. (“Besi” or “the Company”) was incorporated in the Netherlands in May 1995 as the holding company for a worldwide business engaged in the development, production, marketing and sales of back-end equipment for the semiconductor industry. BE Semiconductor Industries N.V.’s principal operations are in the Netherlands, Austria, Switzerland, Malaysia, Singapore and China. BE Semiconductor Industries N.V.’s principal executive office is located at Ratio 6, 6921 RW Duiven, the Netherlands. Statutory seat of the Company is Amsterdam; number at Chamber of Commerce is 09092395.

The Consolidated Financial Statements of BE Semiconductor Industries N.V. for the year ended December 31, 2020, were authorized for issue in accordance with a resolution of the directors on February 18, 2021. The Consolidated Financial Statements of the Company as at December 31, 2020 will be presented to the Annual General Meeting of Shareholders for their adoption on April 30, 2021.

COVID-19

The emergence of the COVID-19 virus in the first quarter of 2020 presented a challenge unlike any we have encountered. Post the pandemic outbreak, the Company took immediate precautionary measures to protect the safety and health of our employees, customers and suppliers. We significantly increased the frequency of management and board meetings in order to sustain employee and customer engagement in the face of restrictions on personal movement and interaction. In addition, we flexibly adjusted the management and organization to the new and uncertain realities of the pandemic as it evolved. Fortunately, Besi’s operations in Leshan, China and most Chinese customers were outside of the primary quarantine zone in Wuhan. In addition, due to our flexible Asian supply chain, labor force and assembly capacity, we were able to shift production and final assembly sufficiently among our Malaysian, Chinese and Singapore facilities to satisfy customer demand. Virtually all Besi office personnel worked remotely with careful adherence to local regulations. Our production also benefited from Besi’s dual source supplier strategy and advance purchases of components deemed critical to our operations.

The Company has assessed the impact on its Consolidated Financial Statements and implemented the accounting and disclosure requirements with regards to government grants.

Statement of compliance

The Company’s Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as adopted by the European Union. They also comply with the financial reporting requirements included in section 9 of Book 2 of the Netherlands Civil Code, as far as applicable.

2. Summary of significant accounting principles

Presentation

The accompanying Consolidated Financial Statements include the accounts of BE Semiconductor Industries N.V. and its consolidated subsidiaries (collectively, “the Company”). The financial statements are presented in thousands of euro, rounded to the nearest thousand, unless stated otherwise. The accounting principles which the Company uses to prepare the Consolidated Financial Statements are based on historical cost, unless stated otherwise. Exceptions to the historical cost basis include derivative financial instruments and share-based compensation which are based on fair value. In addition, for pensions and other post-retirement benefits, actuarial present value calculations are used.

Principles of consolidation

The Consolidated Financial Statements comprise the financial statements of BE Semiconductor Industries N.V. and its subsidiaries as at December 31, 2020. Subsidiaries are entities controlled by the Company. The Company controls an entity when it is exposed to, or has right to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the Consolidated Financial Statements from the date on which control commences until the date on which control ceases. The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies. All intra-group balances, income and expenses and unrealized gains and losses resulting from intra-group transactions are eliminated in full. Accounting policies, as set out below, have been applied consistently for all periods presented in these Consolidated Financial Statements and by all subsidiaries.

As of December 31, 2020 and 2019, the following subsidiaries are included in the accompanying Consolidated Financial Statements:

Name	Location and country of incorporation	Percentage of ownership
BE Semiconductor Industries Holding GmbH	Radfeld, Austria	100%
BE Semiconductor Industries USA, Inc.	Chandler, Arizona, USA	100%
Besi APac Sdn. Bhd.	Shah Alam, Malaysia	100% ¹
Besi Asia Pacific Holding B.V.	Duiven, the Netherlands	100%
Besi Austria GmbH	Radfeld, Austria	100%
Besi Korea Ltd.	Seoul, South Korea	100%
Besi Leshan Co., Ltd.	Leshan, China	100%
Besi Netherlands B.V.	Duiven, the Netherlands	100%
Besi North America, Inc.	Chandler, Arizona, USA	100%
Besi Philippines, Inc.	Muntinlupa City, Philippines	100%
Besi (Shanghai) Trading Co., Ltd.	Shanghai, China	100%
Besi Singapore Pte. Ltd.	Singapore, Singapore	100%
Besi Spares and Tooling AG	Steinhausen, Switzerland	100% ²
Besi Switzerland AG	Steinhausen, Switzerland	100%
Besi (Thai) S&S Ltd.	Bangkok, Thailand	100% ¹
Besi USA, Inc.	Chandler, Arizona, USA	100%
Datacon Beteiligungs GmbH	Radfeld, Austria	100%
Datacon Eurotec GmbH i.L.	Berlin, Germany	100%
Esec China Financial Ltd.	Hong Kong, China	100%
Esec International B.V.	Duiven, the Netherlands	100%
Fico Hong Kong Ltd.	Hong Kong, China	100%
Fico International B.V.	Duiven, the Netherlands	100%
Meco Equipment Engineers B.V.	Drunen, the Netherlands	100%
Meco International B.V.	Drunen, the Netherlands	100%
ASM Fico (F.E.) Sdn. Bhd.	Shah Alam, Malaysia	99.9% ³

¹ In order to comply with local corporate law, a non-controlling shareholding (less than 0.1%) is held by Company Management.

² Effective January 1, 2020, Besi Spares and Tooling AG merged into Besi Switzerland AG and ceased to exist.

³ In order to comply with local corporate law, a non-controlling shareholding is held by Company Management.

All intercompany profits, transactions and balances have been eliminated in the consolidation.

Foreign currency translation

The Consolidated Financial Statements are presented in euros, which is the parent company's functional and presentation currency. Each entity in the group determines its own functional currency and items included in the financial statements of each entity are measured using that functional currency. The principal exchange rates against the euro used in preparing the Consolidated Statement of Financial Position, the Consolidated Statement of Operations and Consolidated Statement of Comprehensive Income are:

	Consolidated Statement of Financial Position		Consolidated Statement of Operations and Consolidated Statement of Comprehensive Income	
	2020	2019	2020	2019
US dollar	1.23	1.12	1.14	1.12
Swiss franc	1.08	1.09	1.07	1.11
Malaysian ringgit	4.94	4.58	4.79	4.64
Chinese yuan	8.01	7.82	7.87	7.73

Transactions in foreign currencies are initially recorded at the functional currency rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency rate of exchange ruling at the balance sheet date. All differences are accounted for into the Consolidated Statement of Comprehensive Income. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition are treated as assets and liabilities of the foreign operation and translated at the closing rate. The assets and liabilities of foreign operations are translated into euros at the rate of exchange ruling at the balance sheet date and their Statement of Operations is translated at the weighted average exchange rates for the year. The exchange differences arising on the translation of assets and liabilities are recognized in other comprehensive income ("OCI"), and presented as legal currency translation adjustment in equity. On disposal of a foreign entity, the deferred cumulative amount recognized in equity relating to that particular foreign operation is recognized in the Consolidated Statement of Operations.

Changes in accounting policies

The Company has consistently applied the accounting policies to all periods presented in these Consolidated Financial Statements.

A number of new standards and amendments are effective as from January 1, 2020. They do not have a material effect on the Company's Consolidated Financial Statements. These new standards and amendments are as follows:

- Amendments to IFRS 3 Definition of a Business
- Amendments to IFRS 7, IFRS 9 and IAS 39 Interest Rates Benchmark Reform
- Amendments to IAS 1 and IAS 8 Definition of Material
- Conceptual Framework for Financial Reporting

Cash and cash equivalents

Cash and cash equivalents consist of highly liquid investments with an original maturity date at the date of acquisition of three months or less or include a notice period of three months or less. Cash and cash equivalents are measured at amortized cost. Money market funds are also included as cash equivalents. The money market funds are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value.

Deposits

Deposits consist of cash and cash equivalents which have been placed on deposit with an original maturity between 3 and 24 months.

Trade receivables and other receivables

Trade and other receivables are initially measured at transaction price and subsequently at amortized cost less any impairment loss. The Company applies the expected credit loss model to determine any trade receivables impairment losses. The trade receivables do not contain a significant financing component (in accordance with IFRS 15) and therefore the loss allowance is always measured as equal to lifetime expected credit losses. The Company uses a provisioning matrix to calculate the level of the provision and measures lifetime expected credit losses at percentages of amounts outstanding for current trade receivables, 30 days past due, 60 days past due, 90 days past due and over 120 days past due. The total accounts receivable impairment consists of two elements: provision if and when required based on Company estimates and additional provision as determined by the use of the provision matrix. Impairment losses and any subsequent reversals are recognized in the Consolidated Statement of Operations.

Inventories

Inventories are stated at the lower of cost (using moving weighted average costs) or net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and costs to make the sales. Cost includes net prices paid for materials purchased and all expenses to bring the inventory to its current location, charges for freight and custom duties, production labor costs and factory overhead.

Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and impairment charges. Costs include expenditures that are directly attributable to the acquisition of the asset, including financing expenses of capital investment projects under construction.

Depreciation is calculated using the straight-line method, based on the following estimated useful lives:

Category	Estimated useful life
Land	Not depreciated
Buildings	15-30 years
Leasehold improvements ¹	10-15 years
Machinery and equipment	2-10 years
Office furniture and equipment	3-10 years

¹ Leasehold improvements are depreciated over the shorter of the lease term or economic life of the asset.

Where parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items of property, plant and equipment. The residual value, if not insignificant, is reassessed annually.

The Company recognizes in the carrying amount of an item of property, plant and equipment the cost of replacing part of such an item when that cost is incurred if it is probable that the future economic benefit relating to that subsequent expenditure will flow to the Company and the cost can be measured reliably. Other costs are recognized in the Consolidated Statement of Operations as expense, as incurred.

Right of use assets

Definition of a lease

At inception of a contract, the Company assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Company uses the definition of a lease in IFRS 16.

At commencement or on modification of a contract that contains a lease component, the Company allocates the consideration in the contract to each lease component on the basis of its relative stand-alone price.

Right of use assets

The Company recognizes right of use assets at the commencement date of the lease (i.e. the date the underlying asset is available for use). Right of use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right of use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. The right of use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets, as follows:

Category	
Land and buildings	1-10 years
Office furniture and equipment	1-10 years

In addition, the right of use asset is periodically assessed for impairment losses, and adjusted for certain remeasurements of the lease liability.

Lease liabilities

Lease liabilities are initially measured at the present value of the lease payments that are not paid at the commencement date discounted using the Company's incremental borrowing rate.

Lease payments included in the measurement of the lease liabilities comprise the following:

- Fixed payments, including in-substance fixed payments.
- Lease payments in an optional renewal period if the Company is reasonably certain to exercise an extension option.

In calculating the present value of lease payments, the Company uses the incremental borrowing rate at the lease commencement date. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term and/or a change in the in-substance fixed lease payments. When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right of use asset, or is recorded in profit or loss if the carrying amount of the right of use asset has been reduced to zero.

Short-term leases and leases of low-value assets

The Company applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (i.e. those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered of low value (i.e. below € 5). Lease payments on short-term leases and leases of low-value assets are recognized as expense on a straight-line basis over the lease term.

Intangible assets

Intangible assets are valued at cost less accumulated amortization and impairment charges. All intangible assets are tested for impairment whenever there is an indication that the intangible asset may be impaired. Other intangible assets, such as goodwill and intangible assets not yet in use, are not amortized, but tested for impairment annually. In cases where the carrying value of the intangibles exceeds the recoverable amount, an impairment charge is recognized in the Consolidated Statement of Operations.

Business combinations and goodwill

Business combinations are accounted for using the acquisition method as at the acquisition date, which is the date on which control is transferred to the Company. Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. In assessing control, the Company takes into consideration potential voting rights that currently are exercisable.

The Company measures goodwill at the acquisition date as:

- The fair value of the consideration transferred; plus
- The recognized amount of any non-controlling interests in the acquiree; plus
- If the business combination is achieved in stages, the fair value of the existing equity interest in the acquiree; less
- The net recognized amount (generally fair value) of the identifiable assets acquired and liabilities assumed.

Costs related to the acquisition, other than those associated with the issue of debt or equity securities, that the Company incurs in connection with a business combination are expensed as incurred.

Any contingent consideration payable is recognized at fair value at the acquisition date. If the contingent consideration is classified as equity, it is not measured and settlement is accounted for within equity. Otherwise, subsequent changes to fair value of the contingent consideration are recognized in profit or loss.

Capitalized development expenses

Expenditures for research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, are recognized in the Consolidated Statement of Operations as an expense, as incurred. Expenditure for development activities, whereby research findings are applied to a plan or design for the production of new or substantially improved products and processes, is capitalized if (i) the product or process is technically and commercially feasible, (ii) the Company has the intention and sufficient resources to complete development, (iii) the Company has the ability to use or sell the development and (iv) the ability to reliably measure the expenditure attributable to the development during its process.

The expenditure capitalized includes the cost of materials, direct labor and other directly attributable costs. Other development expenditures are recognized in the Consolidated Statement of Operations as an expense, as incurred. Government grants to compensate for the cost of an asset are deducted from the cost of the related asset. Capitalized development expenditures are stated at cost less accumulated amortization and impairment losses.

Other identifiable intangible assets

Other intangible assets that are acquired by the Company are stated at cost (i.e. fair value of the consideration given) at the date of acquisition less accumulated amortization and impairment losses.

Amortization

Amortization is charged to the Consolidated Statement of Operations on a straight-line basis over the estimated useful lives of intangible assets unless such lives are indefinite. Amortization of capitalized development expenses and other intangible assets commence from the date they are available for use.

The estimated useful lives are as follows:

Category	Estimated useful life
Software	3-5 years
Development expenses	3-7 years

The Company does not have any other intangible assets with indefinite lives.

The amortization is recognized in the Consolidated Statement of Operations in cost of sales, selling, general and administrative expenses and research and development expenses.

Impairment of non-financial assets

The carrying amounts of the Company's non-financial assets are reviewed at each year's end balance sheet date to determine whether there is any indication of impairment. If such indication exists, the asset's recoverable amount is estimated. For goodwill and intangible assets that are not yet available for use, the recoverable amount is estimated at each balance sheet date.

An impairment loss is recognized whenever the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. Impairment losses are recognized in the Consolidated Statement of Operations. Impairment losses recognized in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to cash-generating units (group of units) and then to reduce the carrying amount of the other assets in the unit (group of units) on a pro-rata basis.

Calculation of recoverable amount

The recoverable amount of other assets is the higher of their fair value less costs of disposal and value-in-use. In assessing value-in-use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate largely independent cash inflows, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

Reversals of impairment

An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. Impairment losses in respect of goodwill are not reversed. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

Other non-current assets

Funds with insurance companies for pension liability are stated at fair value.

Other current liabilities

Other current liabilities consist of notes payable to banks, trade payables and other payables and are initially measured at fair value and subsequently at amortized cost, using the effective interest method.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial assets

Initial recognition and measurement

Trade receivables and debt securities issued are initially recognized when they are originated. All other financial assets and financial liabilities are initially recognized when the Company becomes a party to the contractual provisions of the instrument. Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace are recognized on the trade date, i.e. the date that the Company commits to purchase or sell the asset.

On initial recognition, a financial asset is classified as measured at: amortized cost; fair value through other comprehensive income ("FVOCI") – debt investment; FVOCI – equity investment; or fair value through profit and loss ("FVTPL"). Financial assets are not reclassified subsequent to their initial recognition unless the Company changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Company's business model for managing them. With the exception of trade receivables that do not contain a significant financing component, the Company initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs.

In order for a financial asset to be classified and measured at amortized cost or fair value through OCI, it needs to give rise to cash flows that are solely payments of principal and interest ("SPPI") on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level. Financial assets with cash flows that are not SPPI are classified and measured at fair value through profit or loss, irrespective of the business model.

The Company's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both. Financial assets classified and measured at amortized cost are held within a business model with the objective to hold financial assets in order to collect contractual cash flows while financial assets classified and measured at fair value through OCI are held within a business model with the objective of both holding to collect contractual cash flows and selling.

Financial assets that are held for trading or are managed and whose performance is evaluated on a fair value basis are measured at FVTPL.

On initial recognition of an equity investment that is not held for trading, the Company may irrevocably elect to present subsequent changes in the investment's fair value in other comprehensive income. This election is made on an investment-by-investment basis. All financial assets not classified as measured at amortized cost or FVOCI as described above are measured at FVTPL. This includes all derivative financial assets. On initial recognition, the Company may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at FVOCI as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

Subsequent measurement and gains and losses

Financial assets at FVTPL: These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss. Financial assets at amortized cost: These assets are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss. Debt investments at FVOCI: These assets are subsequently measured at fair value. Interest income calculated using the effective interest method, foreign exchange gains and losses and impairment are recognized in profit or loss. Other net gains and losses are recognized in OCI. On derecognition, gains and losses accumulated in OCI are reclassified to profit or loss. Equity investments at FVOCI: These assets are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in OCI and are never reclassified to profit or loss.

Derecognition

The Company derecognizes a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Company neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Company enters into transactions whereby it transfers assets recognized in its statement of financial position, but retains either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognized.

Impairment of financial assets

Impairment

The Company recognizes loss allowances for expected credit losses (“ECLs”) on the following:

- Financial assets measured at amortized cost
- Debt investments measured at FVOCI, and
- Contract assets.

The Company measures loss allowances at an amount equal to lifetime ECLs, except for debt securities that are determined to have low credit risk at the reporting date and other debt securities and bank balances for which credit risk has not increased significantly since initial recognition, which are measured at 12-month ECLs. 12-month ECLs are the portion of ECLs that result from default events on a financial instrument that are possible within the 12 months after the reporting date. Financial instruments for which a 12-month ECL is recognized are referred to as “Stage 1 financial instruments”. Life-time ECLs are the ECLs that result from all possible default events over the expected life of the financial instrument. Financial instruments for which a lifetime ECL is recognized but which are not credit-impaired are referred to as “Stage 2 financial instruments”.

Loss allowances for trade receivables and contract assets are always measured at equal to lifetime expected credit losses. When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Company’s historical experience and informed credit assessment and including forward-looking information.

Measurement of ECLs

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Company expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

Credit-impaired financial assets

At each reporting date, the Company assesses whether financial assets carried at amortized cost and debt securities at FVOCI are credit-impaired. A financial asset is “credit-impaired” when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Presentation of allowance for ECL in the Statement of Financial Position

Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets. For debt securities at FVOCI, the loss allowance is charged to profit or loss and is recognized in OCI.

Write-off

The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. The Company individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery. The Company expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company’s procedures for recovery of amounts due.

Financial liabilities

Initial recognition and subsequent measurement

Financial liabilities are classified as measured at amortized cost or FVTPL. A financial liability is classified as at FVTPL if it is classified as held-for-trading, it is a derivative or it is designated as such on initial recognition. Financial liabilities at FVTPL are measured at fair value and net gains and losses, including any interest expense, are recognized in profit or loss. Other financial liabilities are subsequently measured at amortized cost using the effective interest method. Interest expense and foreign exchange gains and losses are recognized in profit or loss. Any gain or loss on derecognition is also recognized in profit or loss.

The Company’s financial liabilities include trade and other payables, bank overdrafts, loans and borrowings and compound financial instruments, such as Convertible Notes.

Derecognition

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expired. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognized in the Consolidated Statement of Operations.

Compound financial instruments issued by the Company comprise Convertible Notes denominated in euro that can be converted to share capital at the option of the holder, when the number of shares to be issued is fixed and does not vary with changes in fair value. The liability component of a compound financial instrument is recognized initially at the fair value of a similar liability that does not have an equity conversion option. The equity component is recognized initially at the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts. Subsequent to initial recognition, the liability component of a compound financial instrument is measured at amortized cost using the effective interest method. The equity component of a compound financial instrument is not remeasured. Interest related to the financial liability is recognized in profit or loss. On conversion, the financial liability is reclassified to equity and no gain or loss is recognized.

Derivative financial instruments and hedge accounting

In line with its hedging strategy, the Company uses derivative financial instruments to hedge its exposure to foreign currency exchange rate fluctuations relating to operational activities denominated in foreign currencies. In accordance with its treasury and risk policy, the Company does not hold or issue derivative financial instruments for trading purposes. The Company uses hedge accounting. However, derivatives that do not qualify for hedge accounting are accounted for as trading instruments.

The Company recognizes derivative financial instruments initially at fair value; attributable transaction costs are recognized in profit or loss as incurred. Subsequent to initial recognition, derivative financial instruments are measured at fair value. The gain or loss on remeasurement to fair value is recognized immediately in the Consolidated Statement of Operations in financial income (expense). Where derivatives qualify for hedge accounting, recognition of any gain or loss depends on the nature of the item being hedged.

The Company applies the cash flow hedge accounting model. In this hedging model, the effective part of a hedge transaction is reported as a component of other comprehensive income, which is reclassified to earnings in the same period(s) in which the hedged

forecasted transaction affects earnings. The ineffective part of the hedge is recognized directly in the Consolidated Statement of Operations in financial income (expense).

Provisions

A provision is recognized in the Statement of Financial Position when the Company has a present legal or constructive obligation as a result of a past event, and it is probable that an outflow of economic benefits will be required to settle the obligation. If the effect is material, provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and, where appropriate, the risks specific to the liability.

Warranties

A provision for warranties is recognized when the underlying products or services are sold. The provision is based on historical warranty data and a weighting of all possible outcomes against their associated probabilities.

Restructuring

A provision for restructuring is recognized when the Company has approved a detailed and formal restructuring plan, the restructuring has either commenced or has been announced publicly and is irrevocable. Future operating costs are not provided for.

Revenue recognition

Significant accounting policy revenue

Revenue is measured on the consideration specified in the contract with a customer and excludes amounts collected on behalf of third parties. The Company recognizes revenue when it transfers control over a product of service to a customer.

Nature of goods and services

The following is a description of principal activities - aggregated into a single reporting segment, the semiconductor's back-end segment - from which the Company generates its revenue.

The main portion of our revenue is derived from contractual arrangements that have multiple deliverables. The Company accounts for individual products and services separately if they are a distinct performance obligation - i.e. if a product or service is separately identifiable from other items in the arrangement and if a customer can benefit from it. The consideration is allocated between separate products and services in the arrangement based on their relative stand-alone selling prices. The relative stand-alone selling prices are determined based on the list prices for products and services that are sold separately or based on the expected costs plus a margin approach. For products and

services that are not sold separately, the Company estimates relative stand-alone selling prices using the expected costs plus margin approach.

Products and services	Nature and timing of satisfaction of performance obligations and significant payment terms
Machines Conversion kits and upgrades	<p>After successful internal buy-off, machines are shipped to customers at the following shipping terms:</p> <ul style="list-style-type: none"> • Ex Works: the customer takes control once the machine leaves the Besi premises and the customer pays for shipping and handling activities. • Free on Board: the customer takes control once the machine is delivered to the carrier (on to the ship in case of sea or to airport in case of air freight) and Besi pays for the shipping and handling activities until the hand-over to the sea or air carrier. • Delivery at Place: the customer takes control once the machine arrives at the customers' premises and Besi pays for the shipping and handling activities. • Revenue is recognized when the customer takes control of the shipped item. • Regular payment terms vary between 30 and 90 days after date of delivery.
Installation, start-up, paid services and training services	These services are separate performance obligations and revenue is recognized at the moment of performance of these services. Regular payment terms vary between 30 and 90 days after date of delivery.
Spare parts	Revenue of spare parts is recognized upon transfer of control, based on the applicable shipment terms (refer to above). Regular payment terms vary between 30 and 90 days after date of delivery.
Extended warranty	Extended warranty is considered a separate performance obligation. Revenue for extended warranty for a warranty term in excess of the standard warranty term is deferred and recognized over the term of the extended warranty period. Extended warranty, if any, is sold as part of the machine contract.

Contract assets and liabilities

Contract assets are recognized according to the Company's rights to consideration for the fulfilled but not yet invoiced performance obligations at the reported date. Contract liabilities are recognized when advanced consideration is received from a customer or when the Company has outstanding performance obligations relating to warranties and installation.

The Company applies the practical expedient in IFRS 15.121 and does not disclose information about the remaining performance obligations that have original expected durations of one year or less.

Segment reporting

Operating segments

The Company is engaged in one line of business, the development, manufacturing, marketing, sales and service of semiconductor assembly equipment for the global semiconductor and electronics industries. The Company identifies three operating segments (Product Groups). These Product Groups are Die Attach, Packaging and Plating. The chief operating decision maker reviews each Product Group in detail and all operational functions are allocated to these Product Groups: 1) Product Marketing, 2) Research and Development, 3) Product Group management, 4) Customer Project management and 5) Operations. Corporate functions (Finance, Legal, Human Resources and Sales & Service) do not qualify as operating segments. Hence, Besi identifies three operating segments which meet the IFRS 8 criteria.

Reportable segment

IFRS 8 allows for operating segments to be aggregated into reportable segments if the operating segments share similar economic characteristics. The Company deems the three operating segments to meet the aggregation criteria, as the nature of the products and services, production processes, classes of customer and methods used to distribute the products and provide services and gross margins are similar. Hence the three Product Groups are aggregated into a single reporting segment; the development, manufacturing, marketing, sales and service of assembly equipment for the semiconductor's back-end segment. The basis for aggregation is explained directly below and as the Company has only one reporting segment all financial segment information can be found in the Consolidated Financial Statements.

Indicators for aggregation into single reporting segment

The similarity of economic characteristics can be evaluated based on future prospects. Within the semiconductor back-end segment the market information is based on VLSI Research, a leading independent industry analyst, forecasts. Industry trends are captured in these forecasts and always used as a source when referring to the future developments (e.g. press releases). Demand for semiconductor devices and expenditures for the equipment required to assemble semiconductors is cyclical, depending in large part on levels of demand worldwide for computing and peripheral equipment, telecommunications devices and automotive and industrial components as well as the production capacity of global semiconductor manufacturers. All operating segments move up or down in the same response to the same positive and negative factors like general economic upturns and downturns, changes in interest rates and currency exchange rates.

The nature of products and services within the Besi group is very much the same, all captured in the semiconductor back-end industry and served by one service organization, which is designing and supporting that equipment.

Furthermore, all production processes are organized as manufacturing and assembly of projects and are mainly produced in our Asian production facilities in Malaysia and China. This means that the production of the different Product Groups shares the same facilities, employees and processes. Also, similar materials are used to produce the systems.

The evaluation of the type or class of customer for products and services leads to the conclusion that the risk exposure profile of the customers is similar because of the fact that all customers are leading US, European and Asian semiconductor manufacturers and assembly subcontractors which in their turn depend on the global market conditions.

One worldwide responsible person for Sales & Customer Support, indicates the centralization of the Sales organization and the method used to distribute our products. The Besi name is used throughout the global operations and the Besi logo has been adopted to be used by all Product Groups.

Furthermore, in order to assess performance and to make resource allocation decisions based on sufficient detailed information, the chief operating decision maker must have financial information which covers all of the Product Groups, including corporate functions, meaning full Consolidated Financial Statements. For example, the total external financing of the Besi group is evaluated on consolidated level and not split into business operations.

Accordingly, all information consolidated is the reportable segment under IFRS 8, reported in the semiconductor back-end industry.

Employee benefits

Pension plans

Obligations for contributions to defined contribution plans are expensed as the related service is provided. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

The Company's net obligation in respect of defined benefit pension plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value, and the fair value of any plan assets is deducted. The Company determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the net defined benefit liability (asset).

The calculation is performed by a qualified actuary using the projected unit credit method. When the calculation results in a benefit to the Company, the recognized asset is limited to the present value of economic benefits available in the form of any future refund from the plan or reductions in future contributions paid to the plan. In order to calculate the present value of economic benefits, consideration is given to any minimum funding requirements that apply to any plan in the Company. An economic benefit is available to the Company if it is realizable during the life of the plan, or on settlement of the plan liabilities.

Remeasurements arising from defined benefit plans comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest). The Company recognizes them immediately in other comprehensive income and all other expenses related to defined benefit plans in employee benefit expenses in profit or loss. When the benefits of a plan are changed, or when a plan is curtailed, the portion of the changed benefit related to past service by employees, or the gain or loss on curtailment, is recognized immediately in profit or loss when the plan amendment or curtailment occurs.

A majority of the Company's Dutch employees participate in a pension plan operated by an industry-wide pension fund, which classifies as a defined contribution plan under IAS 19.

Severance provisions

A provision for severance obligations is recognized in the Statement of Financial Position if the Company is obligated to severance payments, even if future termination of the contract is initiated by the employee. For some of our subsidiaries this is mandatory by law.

Share-based payments

In 2019, the Company adopted the Remuneration Policy 2020-2023 which is mainly a prolongation of the Remuneration Policy 2017-2019 which contains specific conditions for the performance shares awarded to the Board of Management. The Company established the BE Semiconductor Industries N.V. Long-Term Incentive plan for the Board of Management and other employees (the "2017 and the 2020 Framework Incentive Plan"). For more details, reference is made to [Note 25](#).

The grant date fair value of the performance shares granted to Board Members and key employees is measured taking into account the impact of any market performance conditions and non-vesting conditions, but excludes the impact of any service and non-market performance conditions.

The grant date fair value of the equity-settled share-based payment awards is recognized as an employee expense, with a corresponding increase in equity, over the period between the grant date and the vesting date of the awards. The amount recognized as an expense is adjusted to reflect the number of awards for which the related service condition and any non-market performance conditions are expected to be met, such that the amount ultimately recognized as an expense is based on the number of awards that meet the related service and non-market performance conditions at the vesting date.

Subsidies and other governmental credits

Subsidies and other governmental credits to cover research and development costs relating to approved projects are recorded as research and development credits in the period when the research and development costs to which such subsidy or credit relates occurs. If the related development costs are capitalized, the subsidies and other governmental credits will be offset against capitalization.

The Company has received direct grants and social security exemptions relating to COVID-19 pandemic measures implemented by various governments. These governmental grants have been recorded in the same period and reporting line as the expenses to which these grants or exemptions relate to.

Net financing expenses and borrowing costs

Net financing costs comprise interest payable on borrowings calculated using the effective interest rate method, foreign exchange gains and losses and gains and losses on hedging instruments that are recognized in the Consolidated Statement of Operations. Interest income is recognized in the Consolidated Statement of Operations as it accrues, using the effective interest method. The interest expense component of lease payments is recognized in the Consolidated Statement of Operations. Borrowing costs that are not directly attributable to the acquisition or production of a qualifying asset are recognized in the Consolidated Statement of Operations using the effective interest method.

Income taxes

The Company applies the liability method of accounting for taxes. Under the liability method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using substantively enactment tax rates expected to apply to taxable income in the years which these temporary differences are expected to be recovered or settled.

The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the Consolidated Statement of Operations or directly in equity in the period that includes the enactment date, depending on how the deferred tax assets and liabilities were initially recognized. A deferred tax asset is recognized only to the extent that it is probable that future taxable profits will be available against which the asset can be utilized. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

Significant accounting judgements, estimates and assumptions

The preparation of the Company's Consolidated Financial Statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities, at the reporting date. However, uncertainty about these assumptions and estimates could result in outcomes that could require a material adjustment to the carrying amount of the asset or liability affected in the future.

Judgements

In the process of applying the Company's accounting policies, management has made the following judgements, apart from those involving estimates, that have the most significant effect on the amounts recognized in the Consolidated Financial Statements.

Impairment of non-financial assets

The Company assesses whether there are any indicators of impairment for all non-financial assets at each reporting date. Goodwill and other indefinite life intangibles are tested for impairment annually and at other times when such indicators exist. Other non-financial assets are tested for impairment when there are indicators that the carrying amounts may not be recoverable. When value-in-use calculations are undertaken, management must estimate the expected future cash flows from the asset or cash-generating unit and determine a suitable discount rate in order to calculate the present value of those cash flows. Further details are contained in [Notes 9, 10 and 11](#).

Deferred tax assets

Deferred tax assets are recognized for all unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Significant management judgement is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and level of future taxable profits together with future tax planning strategies. Further details are contained in [Note 29](#).

Pension and other post-employment benefits

The costs of defined benefit pension plans and other post-employment benefits are determined using actuarial valuations. The actuarial valuation involves making assumptions about discount rates, future salary increases, mortality rates and future pension increases. Due to the long-term nature of these plans, such estimates are subject to significant uncertainty. Further details are given in [Note 25](#).

Development costs

Development costs are capitalized in accordance with the accounting policy as reflected before. Initial capitalization of costs is based on management judgement that technological and economic feasibility is confirmed, usually when a product development project has reached a defined milestone according to an established project management model. In determining the amounts to be capitalized, management makes assumptions regarding the expected future cash generation of the assets, discount rates to be applied and the expected period of benefits. Further details are contained in [Note 11](#).

Inventory obsolescence

Provisions for obsolete inventories are recognized for inventories which are deemed obsolete. Significant management judgement is required to determine the amount which is considered obsolete. Further details are contained in [Note 6](#).

Lease contracts with renewal options

The Company determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised. The Company has the option, under some of its leases to lease the assets for additional terms of one to five years. The Company applies judgement in evaluating whether it is reasonably certain to exercise the option to renew. It considers all relevant factors that create an economic incentive for it to exercise the renewal. After the commencement date, the Company reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise (or not to exercise) the option to renew.

New IFRS standards and interpretations

A number of new standards, amendments to standards and interpretations are effective for annual periods beginning on or after January 1, 2020. However, the Company expects no material impact on the Consolidated Financial Statements.

3. Cash and cash equivalents

(euro in thousands)	December 31, 2020	December 31, 2019
Cash at banks	193,037	248,412
Short-term deposits	62,520	-
Money market funds (readily convertible funds)	119,849	29,986
Total cash and cash equivalents	375,406	278,398

Interest rates on cash at banks are variable. At December 31, 2020 and 2019, no amount in cash and cash equivalents was restricted. Short-term deposits have a maturity or notice period between one and three months and carry interest at the respective short-term deposit rates. Deposits with initial maturities longer than three months are reported under deposits.

The money market funds as of December 31, 2020 and 2019 are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value.

4. Deposits

At December 31, 2020 and 2019, an amount of € 223 million and € 130 million, respectively, was placed on deposit for various periods and with initial maturity longer than three months. The expected credit loss on deposits is considered immaterial.

5. Trade receivables

Trade receivables, generally with payment terms of 30 to 90 days, with expected credit losses amounting to € 807 and € 790 at December 31, 2020 and 2019, respectively, are as follows:

(euro in thousands)	December 31, 2020	December 31, 2019
Trade accounts receivable	94,025	82,210
Allowance for expected credit losses	(807)	(790)
Total trade receivables, net	93,218	81,420

All trade accounts receivables have an estimated maturity shorter than one year. The carrying values of the recorded receivables are a reasonable approximation of their respective fair values, given the short maturities of the positions and the fact that allowances for expected credit losses have been recognized.

The movements in the allowance for expected credit losses are as follows:

(euro in thousands)	2020	2019
Balance at January 1	790	821
Additions (releases)	35	(53)
Usage	-	(13)
Foreign currency translation	(18)	35
Balance at December 31	807	790

6. Inventories

Inventories consist of the following:

(euro in thousands)	December 31, 2020	December 31, 2019
Raw materials	15,557	18,858
Work in progress	35,136	26,409
Finished goods	952	1,311
Total inventories, net	51,645	46,578

In 2020, raw materials and changes in work in progress and finished goods included in cost of sales amounted to € 138.5 million (2019: € 115.6 million).

The movements in the provision for obsolescence are as follows:

(euro in thousands)	2020	2019
Balance at January 1	13,060	11,271
Additions	721	2,242
Usage	(278)	(783)
Foreign currency translation	(716)	330
Balance at December 31	12,787	13,060

7. Other receivables

Other receivables consist of the following:

(euro in thousands)	December 31, 2020	December 31, 2019
R&D grants	4,173	4,801
VAT receivables	2,252	2,182
Forward exchange contracts	831	1,396
Deposits	143	204
Other	531	549
Total other receivables	7,930	9,132

Other receivables do not include any amounts with expected remaining terms of more than one year. Reference is made to [Note 31](#) for additional information with respect to forward foreign currency exchange contracts.

8. Prepayments

Prepayments consist of the following:

(euro in thousands)	December 31, 2020	December 31, 2019
Prepaid licenses	825	589
Prepaid insurances	323	182
Prepaid suppliers	313	1,787
Prepaid pensions and social security	199	190
Other prepayments	936	860
Total prepayments	2,596	3,608

Prepayments do not include any amounts with expected remaining terms of more than one year. Other prepayments consist of prepaid maintenance, prepaid exhibitions and other prepayments.

9. Property, plant and equipment

Property, plant and equipment, net consist of the following:

(euro in thousands)	Land, buildings and leasehold improvements	Machinery and equipment	Office furniture and equipment	Assets under construction	Total
<i>Balance at January 1, 2020</i>					
Cost	30,765	44,785	10,336	53	85,939
Accumulated depreciation and impairment	(17,367)	(28,938)	(9,251)	-	(55,556)
Property, plant and equipment, net	13,398	15,847	1,085	53	30,383
<i>Changes in book value in 2020</i>					
Capital expenditures	240	1,749	515	1,422	3,926
Transfers from inventory	-	224	102	-	326
Disposals (cost)	(1,017)	(2,590)	(1,213)	-	(4,820)
Disposals (accumulated depreciation)	739	2,403	1,213	-	4,355
Depreciation	(1,310)	(3,681)	(777)	-	(5,768)
Impairment (reversal)	130	-	-	-	130
Foreign currency translation	(349)	(334)	(9)	-	(692)
Total changes	(1,567)	(2,229)	(169)	1,422	(2,543)
<i>Balance at December 31, 2020</i>					
Cost	29,232	42,490	9,619	1,475	82,816
Accumulated depreciation and impairment	(17,401)	(28,872)	(8,703)	-	(54,976)
Property, plant and equipment, net	11,831	13,618	916	1,475	27,840

Capital expenditures increased to € 3.9 million in 2020 versus € 1.7 million in 2019 primarily as a result of the construction of a cleanroom at Besi Austria.

(euro in thousands)	Land, buildings and leasehold improvements	Machinery and equipment	Office furniture and equipment	Assets under construction	Total
<i>Balance at January 1, 2019</i>					
Cost	30,241	38,090	10,471	1,348	80,150
Accumulated depreciation and impairment	(16,041)	(26,617)	(8,941)	-	(51,599)
Property, plant and equipment, net	14,200	11,473	1,530	1,348	28,551
Effect of adoption of new accounting standards IFRS 16	-	-	(75)	-	(75)
Property, plant and equipment, net adjusted	14,200	11,473	1,455	1,348	28,476
<i>Changes in book value in 2019</i>					
Capital expenditures	387	2,115	460	(1,295)	1,667
Transfers from inventory	-	5,669	-	-	5,669
Disposals (cost)	(214)	(890)	(630)	-	(1,734)
Disposals (accumulated depreciation)	55	867	630	-	1,552
Depreciation	(1,361)	(3,472)	(847)	-	(5,680)
Impairment (reversal)	175	-	-	-	175
Foreign currency translation	156	85	17	-	258
Total changes	(802)	4,374	(370)	(1,295)	1,907
<i>Balance at December 31, 2019</i>					
Cost	30,765	44,785	10,336	53	85,939
Accumulated depreciation and impairment	(17,367)	(28,938)	(9,251)	-	(55,556)
Property, plant and equipment, net	13,398	15,847	1,085	53	30,383

Depreciation and impairment

The depreciation and impairment is recognized in the following line items in the Consolidated Statement of Operations:

(euro in thousands)	Year ended December 31,	
	2020	2019
Cost of sales	1,568	1,838
Selling, general and administrative expenses	3,436	3,051
Research and development expenses	634	616
Total depreciation and impairment	5,638	5,505

10. Goodwill

Goodwill, net consists of the following:

(euro in thousands)	2020	2019
<i>Balance at January 1</i>		
Cost	65,489	65,299
Accumulated impairment	(20,200)	(20,200)
Goodwill, net	45,289	45,099
<i>Changes in book value</i>		
Foreign currency translation	(805)	190
Total changes	(805)	190
<i>Balance at December 31</i>		
Cost	64,684	65,489
Accumulated impairment	(20,200)	(20,200)
Goodwill, net	44,484	45,289

Impairment tests for cash-generating units containing goodwill

The Company annually carries out impairment tests on capitalized goodwill, based on the cash-generating units.

The aggregate carrying amounts of goodwill with indefinite lives allocated to each cash-generating unit are as follows:

(euro in thousands)	December 31, 2020	December 31, 2019
Die Attach	42,503	43,308
Plating	1,981	1,981
Total	44,484	45,289

The value-in-use of the cash-generating units subject to impairment testing is calculated based on the discounted cash flow method. The value-in-use calculations use discounted cash flow projections based on the budget for the year 2021 and financial projections per Product Group approved by management for the projection period (2022-2025).

The key assumptions used by management underlying the value-in-use calculation per cash-generating unit are as follows.

Cash flows per cash-generating unit for the five-year projection period are based on:

- The Company's budget for 2021.
- Revenue forecasts for 2022-2025 as per market growth estimates from VLSI Research, a leading independent analyst for the semiconductor and semiconductor equipment industries, and the Company's estimated market shares.
- Bottom-up estimates for gross profit, research and development and selling, general and administrative expenses as per management's strategic planning.
- A pre-tax discount rate of 9.4% (Die Attach) to 9.9% (Plating) representing the pre-tax weighted average cost of capital is determined using the Capital Asset Pricing Model (in 2019 a pre-tax discount rate of 9.9% (Die Attach) and 10.2% (Plating)).
- Residual value is based on a 1.0% perpetual growth rate (in 2019: 1.0%).
- The risk free rate of negative 0.1% (in 2019: 0.3%) and equity risk premium of 6.8% (in 2019: 5.8%).

All assumptions used reflect the current market assessment and are based on published indices and management estimates which are challenged by a third party financial advisor. Based on this analysis, management believes that the value-in-use of the cash-generating units subject to impairment testing substantially exceeded their carrying values and that, therefore, goodwill was not impaired as of December 31, 2020.

The outcome of a sensitivity analysis was that reasonably possible adverse changes in key assumptions of 100 basis points (lower revenue growth rates and higher discount rates, respectively) would not result in other conclusions for the impairment test performed.

11. Other intangible assets

Other intangible assets, net consist of the following:

(euro in thousands)	Software	Development expenses	Total
<i>Balance at January 1, 2020</i>			
Cost	12,934	67,535	80,469
Accumulated amortization	(11,450)	(26,426)	(37,876)
Other intangible assets, net	1,484	41,109	42,593
<i>Changes in book value in 2020</i>			
Capitalized development expenses	-	17,621	17,621
Capitalized expenditures	316	-	316
Disposals (cost)	(517)	(22,596)	(23,113)
Disposals (accumulated depreciation)	517	22,596	23,113
Amortization	(821)	(9,079)	(9,900)
Foreign currency differences	-	30	30
Total changes	(505)	8,572	8,067
<i>Balance at December 31, 2020</i>			
Cost	12,952	62,560	75,512
Accumulated amortization	(11,973)	(12,879)	(24,852)
Other intangible assets, net	979	49,681	50,660
(euro in thousands)	Software	Development expenses	Total
<i>Balance at January 1, 2019</i>			
Cost	12,105	59,004	71,109
Accumulated amortization	(10,734)	(22,041)	(32,775)
Other intangible assets, net	1,371	36,963	38,334
<i>Changes in book value in 2019</i>			
Capitalized development expenses	-	13,226	13,226
Capitalized expenditures	844	-	844
Disposals (cost)	(329)	(7,363)	(7,692)
Disposals (accumulated depreciation)	329	7,363	7,692
Amortization	(733)	(10,163)	(10,896)
Foreign currency differences	2	1,083	1,085
Total changes	113	4,146	4,259
<i>Balance at December 31, 2019</i>			
Cost	12,934	67,535	80,469
Accumulated amortization	(11,450)	(26,426)	(37,876)
Other intangible assets, net	1,484	41,109	42,593

At December 31, 2020 an amount of € 28.6 million (2019: € 20.0 million) relates to capitalized development expenses not available for use, which have been tested for impairment. The impairment tests did not indicate any required impairment of capitalized development expenses. The outcome of a sensitivity analysis was that reasonably possible adverse changes in key assumptions (10% lower revenue and 100 basis points higher discount rates) would not result in other conclusions for the impairment tests performed.

The disposals of software and development expenses relate to intangible assets that have been fully amortized.

Amortization

The amortization charge is recognized in the following line items in the Consolidated Statement of Operations:

(euro in thousands)	Year ended December 31,	
	2020	2019
Cost of sales	15	16
Selling, general and administrative expenses	743	655
Research and development expenses	9,142	10,225
Total amortization	9,900	10,896

12. Other non-current assets

Other non-current assets consist of the following:

(euro in thousands)	December 31,	December 31,
	2020	2019
Funds with insurance companies for pension liability	-	1,132
Marketable securities for pension liability	581	571
Guarantee deposits	462	552
Total other non-current assets	1,043	2,255

Reference is made to [Note 25](#) for more details.

13. Borrowing facilities

At December 31, 2020, Besi and its subsidiaries had available lines of credit aggregating € 97.5 million (2019: € 97.8 million), under which € 0.8 million (2019: € 1.7 million) was utilized related to bank guarantees (2019: € 0.5 million related to notes payable to banks and € 1.2 million related to bank guarantees). In general, interest is charged at the banks' base lending rates or Euribor/Libor plus an increment. There were no defaults at December 31, 2020.

A summary of Besi's principal credit lines is as follows:

- A € 80 million committed revolving credit facility ("the Facility") with a consortium of European banks, which originally matured in 2024. The Company exercised the option to extend the maturity to 2025. Outstanding amounts under the Facility will bear interest at Euribor/Libor plus a margin that depends on the Company's financial position. The agreement contains an extension option up to 2026 and can be increased to € 136 million. Borrowings under the Facility can be repaid at any time at 100% of principal amount and can be used for working capital and other corporate purposes. The principal covenants associated with the Facility include a maintenance test of consolidated debt to equity and a limitation on the incurrence of additional permitted indebtedness. The Facility is granted without securities.
- An uncommitted overdraft facility of € 10.0 million for the purpose of short-term overdrafts (maximum of 15 days) in current accounts. The facility has no contractual maturity date.
- A credit line of € 1.0 million for bank guarantees is granted without securities. The borrowing facility has no contractual maturity date.
- A credit line of € 0.5 million related to Besi APac Sdn. Bhd. for bank guarantees is granted without securities, however, with the requirement that BE Semiconductor Industries N.V. holds, directly or indirectly, an interest of at least 51%. The borrowing facility has no contractual maturity date.
- A credit line of € 1.9 million related to Besi Singapore Pte. Ltd. for bank guarantees is granted without securities, however, with the requirement that BE Semiconductor Industries N.V. holds, directly or indirectly, an interest of at least 51%. The credit facility is secured by a parent company guarantee. The borrowing facility has no contractual maturity date.
- A credit line of € 2.7 million related to Besi Leshan Co., Ltd. is granted without securities, however, with the requirement that BE Semiconductor Industries N.V. holds, directly or indirectly, an interest of at least 51%. The credit facility is secured by a guarantee of BE Semiconductor Industries N.V. The borrowing facility has no contractual maturity date.
- A credit line of € 1.4 million related to Besi Leshan Co., Ltd. The credit facility is secured by a mortgage on land and buildings. The maturity date is November 30, 2021.

14. Trade payables

Trade payables are non-interest bearing and are normally settled on 30-90 day terms.

15. Provisions

(euro in thousands)	December 31, 2020	December 31, 2019
Warranty provision	3,478	2,851
Restructuring provision	-	17
Total provisions	3,478	2,868

Warranty provision

A summary of activity in the warranty provision is as follows:

(euro in thousands)	2020	2019
<i>Balance at January 1</i>	2,851	5,029
Additions	4,275	4,220
Usage	(3,036)	(3,646)
Releases	(622)	(2,869)
Foreign currency translation	10	117
Balance at December 31	3,478	2,851

A provision for warranty is recognized when the underlying products or services are sold and presented in selling, general and administrative expenses. The provision is based on historical warranty data and a weighting of all possible outcomes against their associated probabilities. The warranty provision encompasses the standard warranty provided to customers only. Extended warranty provided, if any, is considered a separate performance obligation under IFRS 15 and is accounted for as contract liability under the other current liabilities. The provision at December 31, 2020 is expected to be fully utilized during 2021.

16. Other payables

(euro in thousands)	December 31, 2020	December 31, 2019
Payroll accruals	13,084	11,802
Volume rebate	3,438	2,161
Project costs	1,957	1,854
Interest expenses	1,091	626
Audit and consultancy fees	1,043	1,500
Freight and packaging costs	746	797
Temporaries	502	280
Commissions	467	20
Invoices to be received	320	1,036
Forward exchange contracts	180	173
Tax payable	58	335
Other payables	5,166	4,398
Total other payables	28,052	24,982

Other payables are non-interest bearing and have an average term of three months. Interest payable is normally settled quarterly throughout the year with the exception of the Convertible Notes on which interest is settled semi-annually. Reference is made to [Note 31](#) for additional information with respect to forward foreign currency exchange contracts.

17. Other current liabilities

(euro in thousands)	December 31, 2020	December 31, 2019
Contract liabilities	6,493	9,434
Payroll liabilities	2,973	2,855
Advances from customers	2,810	3,839
Other	2,220	1,539
Total other liabilities	14,496	17,667
Contract liabilities non-current portion	(777)	(1,070)
Total other current liabilities	13,719	16,597

Other current liabilities are non-interest bearing and are not expected to be settled in cash.

18. Long-term debt

(euro in thousands)	December 31, 2020	December 31, 2019
<i>Long-term debt</i>		
Convertible Notes	399,429	276,540
Credit line Besi Leshan Co., Ltd.	-	515
Research and development loan from Österreichische Forschungsförderungsgesellschaft mbH, Wien, Austria (interest rate at 0.75% at December 31, 2020)	527	527
Subtotal	399,956	277,582
Less: current portion	-	(515)
Total long-term debt	399,956	277,067

Aggregate required principal payments due on long-term debt, assuming no further conversion of the Convertible Notes for the next years are as follows:

(euro in thousands)	Long-term debt
2023	110,000
2024	175,000
2025	527
2027	150,000
Non-current portion of long-term debt	435,527

The Company and its subsidiaries had no defaults for its long-term debt at December 31, 2020.

Convertible Notes

In December 2016, the Company issued € 125 million principal amount of Convertible Notes with a maturity date of December 2, 2023 (the "2016 Convertible Notes"). The 2016 Convertible Notes carry a nominal interest rate of 2.5% per year, payable semi-annually. Bondholders can convert the bonds into ordinary shares at a conversion price of € 19.93 (subject to adjustments). The original exercise price of € 43.51 has been adjusted for the two-for-one stock split effective May 4, 2018 and dividends paid subsequent to the date of issuance of the 2016 Convertible Notes in accordance with the terms and conditions related thereto. The 2016 Convertible Notes will be repaid at maturity at a price of 100% of their principal amount plus accrued and unpaid interest. If not converted, at any time from December 23, 2020, the Company may redeem the outstanding 2016 Convertible Notes at

their principal amount, subject to giving a minimum of 30 days' and maximum of 60 days' prior notice to Bondholders, if the value of the shares underlying the 2016 Convertible Notes equals or exceeds 130% of the then effective conversion price for at least 20 out of 30 consecutive dealing days. The 2016 Convertible Notes may be redeemed at the option of the holder in the event of a change of control, at the principal amount plus accrued interest.

In 2020, € 15.0 million principal amount of the 2016 Convertible Notes were converted into 752,540 ordinary shares, issued from treasury shares. The carrying value amounted to € 14.2 million at conversion. As a result, the principal amount outstanding of the 2016 Convertible Notes declined from € 125.0 million to € 110.0 million.

The amount of the 2016 Convertible Notes classified as equity of € 11,310 is net of attributable debt issuance cost of € 215.

In November 2017, the Company issued € 175 million principal amount of Convertible Notes with a maturity date of December 6, 2024 (the "2017 Convertible Notes"). The 2017 Convertible Notes carry a nominal interest rate of 0.5% per year, payable semi-annually. Bondholders can convert the bonds into ordinary shares at a conversion price of € 48.68 (subject to adjustments). The original exercise price of € 99.74 has been adjusted for the two-for-one stock split effective May 4, 2018 and dividends paid subsequent to the date of issuance of the 2017 Convertible Notes in accordance with the terms and conditions related thereto. The 2017 Convertible Notes will be repaid at maturity at a price of 100% of their principal amount plus accrued and unpaid interest. If not converted, at any time from December 27, 2021, the Company may redeem the outstanding 2017 Convertible Notes at their principal amount, subject to giving a minimum of 30 days' and maximum of 60 days' prior notice to Bondholders, if the value of the shares underlying the 2017 Convertible Notes equals or exceeds 130% of the then effective conversion price for at least 20 out of 30 consecutive dealing days. The 2017 Convertible Notes may be redeemed at the option of the holder in the event of a change of control, at the principal amount plus accrued interest.

The amount of the 2017 Convertible Notes classified as equity of € 18,479 is net of attributable debt issuance cost of € 292.

In August 2020, the Company issued € 150 million principal amount of Convertible Notes with a maturity date of August 5, 2027 (the "2020 Convertible Notes"). The 2020 Convertible Notes carry a nominal interest rate of 0.75% per year, payable semi-annually, with the first payment to be made on February 5, 2021. Bondholders can convert the bonds into ordinary shares at a conversion price of € 51.56 (subject to adjustments). The 2020 Convertible Notes will be repaid at maturity at a price of 100% of their principal amount plus accrued

and unpaid interest. If not converted, at any time from August 26, 2024, the Company may redeem the outstanding 2020 Convertible Notes at their principal amount, subject to giving a minimum of 30 days' and maximum of 60 days' prior notice to Bondholders, if the value of the shares underlying the 2020 Convertible Notes equals or exceeds 130% of the then effective conversion price for at least 20 out of 30 consecutive dealing days. The 2020 Convertible Notes may be redeemed at the option of the holder (i) on August 5, 2025 at their principal amount plus accrued interest and (ii) in the event of a change of control, at the principal amount plus accrued interest.

The amount of the 2020 Convertible Notes classified as equity of € 16,528 is net of attributable debt issuance cost of € 251.

Reconciliation of liabilities arising from financing activities

The tables below detail the changes in the Company's liabilities arising from financing activities, including both cash and non-cash changes. Liabilities arising from financing activities are those for which cash flows were, or future cash flows will be, classified in the Company's Consolidated Statement of Cash Flows as cash flows from financing activities.

(euro in thousands)	January 1, 2020	Financing cash flows	Equity component of Convertible Notes	Amortization/ accretion of interest	Conversion of 2016 Convertible Notes	Other changes ¹	December 31, 2020
Convertible Notes	276,540	147,756	(16,528)	5,848	(14,187)	-	399,429
Government loans	527	-	-	-	-	-	527
Bank loans	515	(507)	-	-	-	(8)	-
Other borrowings	476	(434)	-	-	-	(42)	-
Lease liabilities	11,159	(3,700)	-	92	-	2,377 ²	9,928
Total	289,217	143,115	(16,528)	5,940	(14,187)	2,327	409,884

¹ Includes foreign currency translation on liabilities.

² Mainly related to new lease liabilities recognized. Reference is made to [Note 19](#).

(euro in thousands)	January 1, 2019	IFRS16 application and non-cash movements ¹	Financing cash flows	Amortization/ accretion of interest	Foreign currency translation	December 31, 2019
Convertible Notes	271,790	-	-	4,750	-	276,540
Government loans	-	-	527	-	-	527
Bank loans	1,461	-	(946)	-	-	515
Other borrowings	2,812	-	(2,336)	-	-	476
Lease liabilities	-	14,300	(3,525)	128	256	11,159
Financial leases	75	(75)	-	-	-	-
Total	276,138	14,225	(6,280)	4,878	256	289,217

¹ Includes initial recognition of lease liabilities of € 14,458 and net decrease of € 158 for additions and changes in extension option assessment.

19. Leases

The Company has lease contracts for various facilities and other equipment used in its operations. Leases of facilities generally have lease terms between 1 and 10 years, while motor vehicles and other equipment generally have lease terms between 1 and 4 years. The Company's obligations under its leases are secured by the lessor's title to the leased assets. There are several lease contracts that include extension options. These options are negotiated by management to provide flexibility in managing the leased-asset portfolio and align with the Company's business needs. Management exercises significant judgement in determining whether these extension options are reasonably certain to be exercised. The Company also has certain leases of machinery and offices with lease terms of 12 months or less and leases of office equipment with low value. The Company applies the short-term lease and lease of low-value assets recognition exemptions for these leases.

Right of use assets

Right of use assets consist of the following:

(euro in thousands)	Land and buildings	Office furniture and equipment	Total
Balance at January 1, 2020	10,870	262	11,132
Additions	1,916	605	2,521
Depreciation	(3,312)	(326)	(3,638)
Other	44	-	44
Foreign currency translation	(166)	(20)	(186)
Balance at December 31, 2020	9,352	521	9,873

(euro in thousands)	Land and buildings	Office furniture and equipment	Total
Balance at January 1, 2019, adjusted	13,964	494	14,458
Additions	1,235	39	1,274
Depreciation	(3,150)	(274)	(3,424)
Change in extension option assessment	(1,432)	-	(1,432)
Foreign currency translation	253	3	256
Balance at December 31, 2019	10,870	262	11,132

The following amounts are recognized in the Consolidated Statement of Operations:

(euro in thousands)	Year ended December 31,	
	2020	2019
Depreciation expense of right of use assets	3,638	3,424
Interest expenses on lease liabilities	92	128
Expenses related to the short-term leases	58	335
Expenses related to the leases of low-value assets	231	263
Total	4,019	4,150

Lease liabilities

Lease liabilities consist of the following:

(euro in thousands)	December 31, 2020	December 31, 2019
Current	2,976	3,300
Non-current	6,952	7,859
Total lease liabilities	9,928	11,159

Principal payments due on lease liabilities for the next five years and thereafter are as follows:

(euro in thousands)	Lease liabilities
2021	3,016
2022 - 2025	6,432
2026 and thereafter	542
Total payments due on lease liabilities	9,990
Discount	(62)
Lease liabilities	9,928

Extension options

Below schedule provides an overview of the contractually agreed extension options and the Company's assessment and accounting treatment:

(euro in thousands)	Within 5 years	More than 5 years	Total
Extension option reasonably certain to be exercised - included in lease liabilities	530	-	530
Extension option reasonably certain not to be exercised - excluded from lease liabilities	344	3,135	3,479
Total (undiscounted)	874	3,135	4,009

20. Provisions

Provisions consist of the following:

(euro in thousands)	December 31, 2020	December 31, 2019
Pension liabilities Switzerland	10,206	9,615
Pension liabilities Austria	692	636
Severance obligations Austria	4,900	4,433
Severance obligations Korea	2,076	1,959
Other provisions	244	247
Provisions	18,118	16,890

Reference is made to [Note 25](#) for more details.

21. Equity

At December 31, 2020 and December 31, 2019, Besi's authorized share capital consisted of 160,000,000 ordinary shares, nominal value € 0.01 per share, and 160,000,000 preference shares, nominal value € 0.01 per share. At December 31, 2020, Besi's issued share capital consisted of 78,567,842 shares after the cancellation of 1,500,000 shares on October 22, 2020.

At December 31, 2020 and December 31, 2019, 72,865,911 and 72,212,422 ordinary shares were outstanding, excluding treasury shares of 5,701,931 and 7,855,420, respectively. No preference shares were outstanding at each of December 31, 2020 and December 31, 2019. All issued shares have been paid in full.

Changes in other reserves during 2020 and 2019 are as follows:

(euro in thousands)	Accumulated other comprehensive income	Legal reserve currency translation adjustment	Legal reserve capitalized R&D expenses	Legal reserve cash flow hedging	Legal reserve subsidiaries	Total other reserves
Balance at January 1, 2020	(12,619)	28,391	41,109	541	3,197	60,619
Total comprehensive income (loss) for the period	(904)	(4,940)	-	860	-	(4,984)
Transfer from retained earnings	-	-	8,572	-	209	8,781
Balance at December 31, 2020	(13,523)	23,451	49,681	1,401	3,406	64,416
Balance at January 1, 2019	(11,240)	22,513	36,963	13	-	48,249
Total comprehensive income (loss) for the period	(1,379)	5,878	-	528	-	5,027
Transfer from retained earnings	-	-	4,146	-	3,197	7,343
Balance at December 31, 2019	(12,619)	28,391	41,109	541	3,197	60,619

Accumulated other comprehensive income (loss) consists of:

(euro in thousands)	December 31, 2020	December 31, 2019
Actuarial gains (losses)	(16,333)	(15,359)
Deferred taxes	2,047	1,977
Other	763	763
Accumulated other comprehensive income (loss)	(13,523)	(12,619)

Dividends

Proposed for approval at the Annual General Meeting of Shareholders to be held on April 30, 2021 (not recognized as a liability as at December 31, 2020 and December 31, 2019):

(euro in thousands)	Year ended December 31,	
	2020	2019
€ 1.70 per ordinary share (2019: € 1.01)	123,872	72,934

The Board of Management proposes to allocate the part of the net income for the year 2020 remaining after payment of the dividend to the retained earnings. The Supervisory Board has approved this proposal.

For further notes to the Company's equity, reference is made to the [Notes to the Parent Company Financial Statements](#).

22. Commitments and contingencies

The Company has an unconditional obligation related to the purchase of materials and equipment totalling € 109.4 million and € 69.7 million as of December 31, 2020 and 2019, respectively.

Research and development subsidies and credits available to offset research and development expenses were € 3.7 million in 2020 and € 5.2 million in 2019. R&D grants have been received from the EU, from the Österreichische Forschungsförderungsgesellschaft and from local governments.

23. Revenue

Disaggregation of revenue

The following table disaggregates the geographical distribution of the Company's revenue billed to customers:

(euro in thousands)	Year ended December 31,	
	2020	2019
China	151,656	112,139
Korea	57,666	16,149
Malaysia	44,091	30,272
Taiwan	40,333	35,242
United States	25,181	29,911
Ireland	18,374	20,523
Other Asia Pacific ¹	67,607	63,389
Other Europe ¹	26,286	46,529
Rest of the World ¹	2,429	2,041
Total revenue	433,623	356,195

¹ Countries with revenue representing more than 5% of the consolidated revenue in 2020 or 2019 are separately disclosed.

The following table disaggregates the Company's revenue of the three different operating segments (Product Groups):

(euro in thousands)	Year ended December 31,	
	2020	2019
Die Attach	346,197	269,046
Packaging	73,434	69,908
Plating	13,992	17,241
Total revenue	433,623	356,195

The Company's revenue is generated by shipments to leading US, European and Asian multinational chip manufacturers, assembly subcontractors and electronics and industrial companies.

Contract balances

The following table provides information about receivables, contract liabilities and other payables from contracts with customers:

(euro in thousands)	December 31,	December 31,
	2020	2019
Receivables, which are included in trade receivables and other receivables	93,218	81,420
Contract liabilities	6,493	9,434
Volume rebates	3,438	2,161

The amount of contract liabilities in the table above primarily relates to the advance consideration received from customers and for some customers to extended warranty provided, for which revenue is recognized upon fulfilment of the performance obligation.

Significant changes in the contract liabilities are as follows:

(euro in thousands)	2020	2019
Balance at January 1	9,434	12,867
Revenue recognized that was included in the contract liability balance at the beginning of the period	(8,266)	(9,814)
Increases due to cash received, excluding amounts recognized as revenue during the period	5,254	6,216
Foreign currency translation	71	165
Balance at December 31	6,493	9,434

An amount of € 777 in the contract liabilities as per December 31, 2020 is expected to be recognized after more than one year and is presented under other non-current liabilities.

Transaction price allocated to the remaining performance obligations

The following table includes revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partly unsatisfied) at the reporting date with:

(euro in thousands)	December 31, 2020	December 31, 2019
Within 12 months	22,980	23,698
From 12-24 months	505	565
Total	23,485	24,263

24. Segment, geographic and customer information

Geographical information

The following table summarizes revenue, non-financial assets and total assets of the Company's operations in the Netherlands, Switzerland, Austria, the US and Asia Pacific, the significant geographic areas in which the Company operates. Intra-area revenues are based on the sales prices at arm's length:

(euro in thousands)	The Netherlands	Switzerland	Austria	United States	Asia Pacific	Total
<i>Year ended December 31, 2020</i>						
Total revenue	67,815	314,770	5,219	619	584,715	973,138
Intercompany revenue	(64,588)	(296,393)	(5,199)	-	(173,335)	(539,515)
External revenue	3,227	18,377	20	619	411,380	433,623
Non-financial assets	19,321	85,285	11,762	30	16,459	132,857
Capital expenditures	454	202	2,544	-	1,042	4,242
<i>Year ended December 31, 2019</i>						
Total revenue	70,336	276,765	27,326	12,589	385,134	772,150
Intercompany revenue	(55,733)	(219,207)	(7,650)	(412)	(132,953)	(415,955)
External revenue	14,603	57,558	19,676	12,177	252,181	356,195
Non-financial assets	18,664	79,463	9,718	62	21,490	129,397
Capital expenditures	919	104	380	-	1,108	2,511

Major customer(s)

For the year ended December 31, 2020, two customers represented more than 10% of the Company's revenue. One customer represented 10.9% of the Company's revenue and one customer represented 10.0% of the Company's revenue. For the year ended December 31, 2019, one customer represented 10.5% of the Company's revenue.

25. Employee benefits

Post-employment benefits

Employee post-employment benefit plans have been established in many countries in accordance with legal requirements, customs and local practices in the countries involved.

Pension plan parent company

Type:	Defined contribution plan.
Company obligations:	No continuing obligations other than the annual payments.
Contributions:	€ 0.1 million in 2020.

Effective January 1, 2020 the pension arrangement for employees of the parent company has changed to a defined contribution plan. The Company recorded a curtailment gain of € 114 upon the plan change.

Pension plan Dutch subsidiaries

Type:	Defined contribution plan. Industry-wide pension plan managed by Bedrijfstakpensioen- fonds Metalektro.
Company obligations:	No continuing obligations other than the annual payments.
Contributions:	€ 1.2 million in 2020 and € 1.0 million in 2019.
Other:	Excedent plan for certain employees which is a defined contribution plan.

Pension plan Switzerland

Type:	Defined benefit plan for guaranteed pension payments. Insured with an independent insurance company.
Company obligations:	The contributions required are based on the agreement with the insurer. The Company does not hold any transferable financial instruments as plan assets.
Duration:	The weighted average duration of the plan is 18 years.
Valuation:	The pension assets related to this defined benefit plan are netted with the pension liability. The cost of providing benefits under the defined benefit plan is calculated using the project unit cost method. Remeasurements are reported in accumulated other comprehensive income (loss).
Discount rate:	The discount rate is based on the available information at November 30, 2020 and determined as follows: Swiss franc bonds with rating AA as included in the Swiss Bond Index. These bonds are used to determine a yield curve for durations up to 10 years. This yield curve is extended based on the government bond rates for longer duration.

Principal actuarial assumptions at the reporting date:

	December 31, 2020	December 31, 2019
Discount rate	0.2%	0.2%
Future salary increases	1.5%	1.5%
Future pension increases	0.1%	0.1%

Movement in the present value of the defined benefit obligations:

(euro in thousands)	2020	2019
Liability for defined benefit obligations at January 1	50,272	42,969
Current service cost	1,357	1,251
Interest expense	99	361
Actuarial loss arising from changes in economic assumptions	75	5,388
Actuarial loss arising from experience	944	131
Plan participants' contribution	425	424
Gains on curtailment	-	(307)
Gain on plan amendment	(533)	-
Liabilities extinguished on settlements	(899)	-
Benefits paid through pension assets	(2,142)	(1,710)
Foreign currency translation	148	1,765
Liability for defined benefit obligations at December 31	49,746	50,272

Total defined benefit cost recognized in the Consolidated Statement of Operations and Consolidated Statement of Comprehensive Income:

(euro in thousands)	Year ended December 31, 2020	2019
Current service costs	1,357	1,251
Interest expense on benefit obligation	99	361
Interest income on plan assets	(80)	(294)
Past service costs including effects of amendments	(533)	(307)
Administration expenses	33	39
Defined benefit cost recognized in net income	876	1,050
Remeasurement from changes in financial assumptions and experience	1,019	5,519
Return on plan assets (excluding amounts in net interest)	(344)	(4,812)
Defined benefit cost recognized in comprehensive income	1,551	1,757

Movement in the fair value of plan assets:

(euro in thousands)	2020	2019
Fair value of plan assets at January 1	40,657	34,454
Interest income	80	294
Return on plan assets (excluding amounts included in net interest)	344	4,812
Plan participants' contribution	425	424
Company contributions	970	1,000
Benefits paid through pension assets	(2,142)	(1,710)
Administration expenses	(33)	(39)
Assets extinguished on settlements	(888)	-
Foreign currency translation	127	1,422
Fair value of plan assets at December 31	39,540	40,657

The major categories of plan assets as a percentage of the fair value of total plan assets are as follows:

	December 31, 2020	December 31, 2019
Qualified insurance policies	39%	42%
Bonds	21%	19%
Real estate	15%	16%
Equities	16%	13%
Other/cash	9%	10%
Total	100%	100%

The insurance policies cover in principle the minimum funding requirements. Future contributions can be increased due to changes in the annuity factors. This is subject to decision of the Company.

Net pension liability:

(euro in thousands)	December 31, 2020	December 31, 2019
Defined benefit obligations	49,746	50,272
Fair value of plan assets	(39,540)	(40,657)
Net liability	10,206	9,615

Total expected payments or contributions to the defined benefit plan for 2021 amount to € 1.0 million.

Sensitivity analysis

The calculation of the defined benefit obligations is sensitive to the assumptions as set out above. The following table summarizes how the defined benefit obligation at the end of the reporting period would have increased (decreased) as a result of a change in the respective assumptions by 0.5%.

(euro in thousands)	Defined benefit obligations	
	0.5% increase	0.5% decrease
Discount rate	(4,149)	4,818
Salary increase	365	(347)

The above sensitivities are based on the average duration of the defined benefit obligations determined at the date of the last full actuarial valuation at December 31, 2020 and are applied to adjust the defined benefit obligation at the end of the reporting period of the assumptions concerned.

Pension plan Austria

Type:	Voluntary defined benefit plan for guaranteed pension payments covering certain persons, as well as a defined benefit plan for severance payments in accordance with Austrian labor law. Both plans are insured with an independent insurance company.
Company obligations:	The contributions required based on the agreement with the insurer. The Company does not hold any transferable financial instruments as plan assets.
Duration:	The weighted average duration of the pension plan is 7 years and the plan for severance payments is 18 years.
Valuation:	The pension assets related to this defined benefit plan do not qualify as plan assets and are therefore presented separately, not netted with the pension liability. The cost of providing benefits under the defined benefit plans is determined separately for each plan using the project unit cost method. Remeasurements are recognized in accumulated other comprehensive income (loss). There were no gains or losses from changes in demographic and financial assumptions for either pension or severance payment plan.
Discount rate:	The discount rate was derived by reference to appropriate benchmark yields on high quality corporate bonds.
Principal actuarial assumptions at the reporting date:	

	December 31, 2020	December 31, 2019
Discount rate	0.5%	0.8%
Future salary increases (severance payments)	3.0%	3.0%

Movements in the present value of the defined benefit and severance obligations recognized in the Consolidated Statement of Financial Position are as follows:

(euro in thousands)	Pension liabilities	Severance obligations	2020 Total
Liability for defined benefit and severance obligations at January 1	636	4,433	5,069
Current service cost	22	215	237
Interest expense	5	35	40
Actuarial loss recognized	36	217	253
Benefits paid	(7)	-	(7)
Liability for defined benefit and severance obligations at December 31	692	4,900	5,592

(euro in thousands)	Pension liabilities	Severance obligations	2019 Total
Liability for defined benefit and severance obligations at January 1	519	3,636	4,155
Current service cost	18	183	201
Interest expense	9	63	72
Actuarial loss recognized	97	639	736
Benefits paid	(7)	(88)	(95)
Liability for defined benefit and severance obligations at December 31	636	4,433	5,069

The accumulated defined benefit obligation amounts to € 5.6 million at December 31, 2020. Future expected benefit payments to (former) employees regarding pensions and leave over the next 10 years are considered immaterial.

A summary of the components of the defined benefit cost recognized in the Consolidated Statement of Operations and Statement of Comprehensive Income is as follows:

(euro in thousands)	Year ended December 31,	
	2020	2019
Current service cost	237	201
Interest expense on benefit obligation	40	72
Defined benefit cost recognized in net income	277	273
Remeasurement losses recognized	253	736
Defined benefit cost recognized in comprehensive income	530	1,009

Changes in assets related to the liability for defined benefit and severance obligations recognized in the Consolidated Statement of Financial Position are as follows:

(euro in thousands)	2020	2019
	Fair value of plan assets at January 1	1,703
Return on assets	10	53
Employer contribution/additions to assets	-	48
Termination of reinsurance fund	(1,132)	-
Benefits paid	-	(83)
Fair value of assets at December 31	581	1,703

At December 31, 2020, the assets consisted of investment funds. At December 31, 2019 the assets consisted of bonds (4%), investment funds (29%) and insurance policies (67%).

Total expected payments or contributions to the defined benefit plan for 2021 amount to € 0.1 million.

Sensitivity analysis

The calculation of the defined benefit and severance obligations is sensitive to the assumptions as set out earlier. The following table summarizes how the defined benefit and severance obligation at the end of the reporting period would have increased (decreased) as a result of a change in the respective assumptions by 0.5%.

(euro in thousands)	Defined benefit and severance obligations	
	0.5% increase	0.5% decrease
Discount rate	(446)	496
Salary increase	417	(381)

The above sensitivities are based on the average duration of the defined benefit and severance obligations determined at the date of the last full actuarial valuation at December 31, 2020 and are applied to adjust the defined benefit and severance obligations at the end of the reporting period of the assumptions concerned.

Severance plan Korea

Type:	Defined benefit plan for severance payments in accordance with Korean law. The plan is partially covered through an independent insurance company.
Company obligations:	The current plan is unfunded and the Company is responsible for the payment of the severance payment upon the termination of the employee contract.
Duration:	The weighted average duration for severance payments is 9 years.
Valuation:	The assets related to this defined benefit plan are netted with the liability. The cost of providing benefits under the defined benefit plan is calculated using the project unit cost method. Remeasurements are reported in accumulated other comprehensive income (loss).
Discount rate:	The discount rate was derived by reference to appropriate benchmark yields on high quality corporate bonds.

The severance plan for Korea is accounted for and disclosed for as post-employment benefits starting January 1, 2020.

Principal actuarial assumptions at the reporting date:

(euro in thousands)	December 31, 2020
Discount rate	2.1%
Future salary increases	3.0%

Movements in the present value of the severance obligations recognized in the Consolidated Statement of Financial Position are as follows:

(euro in thousands)	2020
Liability for severance obligations at January 1	2,300
Prior year adjustment	172
Current service cost	221
Interest expense	52
Actuarial loss recognized	21
Benefits paid (partly through plan assets)	(378)
Foreign currency translation	(63)
Liability severance obligations at December 31	2,325

The accumulated defined benefit obligation amounts to € 2.3 million at December 31, 2020. Total expected benefits payable under this plan amount to € 0.1 million in 2021.

A summary of the components of the defined benefit cost recognized in the Consolidated Statement of Operations and Consolidated Statement of Comprehensive Income is as follows:

(euro in thousands)	Year ended December 31, 2020
Prior year adjustment	172
Current service cost	221
Interest expense on severance obligation	52
Interest income on plan assets	(7)
Defined benefit cost recognized in net income	438
Remeasurement loss recognized	21
Return on plan assets (excluding amounts in net interest)	(2)
Defined benefit cost recognized in comprehensive income	457

Changes in assets related to the liability for severance obligations recognized in the Consolidated Statement of Financial Position are as follows:

(euro in thousands)	2020
Fair value of plan assets at January 1	341
Interest income	7
Return on plan assets (excluding amounts included in net interest)	2
Benefits paid through pension assets	(91)
Foreign currency translation	(10)
Fair value of plan assets at December 31	249

Net liability:

(euro in thousands)	December 31, 2020	December 31, 2019
Severance obligations	2,325	2,300
Fair value of plan assets	(249)	(341)
Net liability	2,076	1,959

Sensitivity analysis

The calculation of the severance obligations is sensitive to the assumptions as set out earlier. The following table summarizes how the severance obligation at the end of the reporting period would have increased (decreased) as a result of a change in the respective assumptions by 0.5%.

(euro in thousands)	Severance obligations	
	0.5% increase	0.5% decrease
Discount rate	(97)	104
Salary increase	103	(97)

The above sensitivities are based on the average duration of the severance obligations determined at the date of the last full actuarial valuation at December 31, 2020 and are applied to adjust the severance obligations at the end of the reporting period of the assumptions concerned.

Pension plan - other countries

The Company's US, Malaysian, Chinese and Singapore subsidiaries have defined contribution plans that supplement the governmental benefits provided under local legislation.

Share-based payments

Remuneration Policy

In 2019, the Company adopted the Remuneration Policy 2020-2023, which is mainly a prolongation of the Remuneration Policy 2017-2019. The total number of ordinary shares that will be awarded may not exceed 1.5% of the total number of outstanding shares at December 31 of the year prior to the year in which the award is made.

At the Annual General Meeting in 2018, shareholders approved a proposal whereby each Besi ordinary share is split into two ordinary shares with a simultaneous increase in the number of total ordinary shares authorized from 80 million to 160 million. For comparative purposes, the award numbers prior to the stock split have been multiplied by two and the share prices and fair values prior to the stock split have been divided by two in this share-based payment note.

Under the Remuneration Policy 2020-2023, the Supervisory Board may, at its own discretion and upon recommendation of the Remuneration and Nomination Committee, award additional shares to a member of the Board of Management as a reward for extraordinary achievements of excellent performance, up to a maximum of 120,000 shares. In January 2020, the Supervisory Board at its own discretion and upon recommendation by the Remuneration and Nomination Committee, awarded the member of the Board of Management 103,000 shares, which vested on January 23, 2020.

2014, 2017 and 2020 Framework Incentive Plan

The performance shares awarded as from 2014 to the member of the Board of Management and other employees under the 2014, 2017 and 2020 Framework Incentive Plan will vest at the end of the three-year performance period, depending on the actual performance of the Company. If at target performance is achieved, 100% of the performance shares awarded will vest. The maximum number of shares that can vest amounts to 150% of the target number of performance shares conditionally awarded.

After the three-year performance period the actual number of performance shares that vests, subject to continued employment, will be determined based on:

- Net income as a percentage of revenue ("NIR") over a three-year performance period (50%).
- The Company's Total Shareholder Return ("TSR") relative to that of the TSR peer group consisting of 19 peer companies operating in the semiconductor industry (50%).

The TSR comparator group consists of the following companies:

TSR comparator group (excluding Besi)	
Aixtron SE	Kulicke & Soffa Industries, Inc.
Applied Materials, Inc.	Lam Research Corporation
ASM International N.V.	Nova Measuring Instruments Ltd.
ASML Holding N.V.	Onto Innovation, Inc. ¹
ASM Pacific Technology Ltd.	FormFactor, Inc. ²
Axcelis Technologies, Inc.	SÜSS MicroTec SE
Brooks Automation, Inc.	Tokyo Electron Ltd.
Cohu, Inc.	Tokyo Seimitsu Co., Ltd.
DISCO Corporation	Veeco Instruments, Inc.
Entegris, Inc.	

¹ Following the completion of the merger between Nanometrics, Inc. and Rudolph Technologies, Inc. on October 25, 2019, Nanometrics, Inc. has been replaced by Onto Innovation, Inc., the successor post-merger entity.

² Shinkawa Ltd, was renamed Yamaha Motor Robotics following its business Integration into Yamaha Motor Robotics Holdings. Shinkawa was delisted on May 25, 2020 and replaced by FormFactor, Inc. in the TSR comparator group.

Vesting is determined based on the following schedule, whereby as from the 2020 Framework Incentive Plan the straight-line vesting percentages are being applied on a pro rate basis between rank 12 and rank 3 for awards made as from 2020:

Besi TSR ranking relative to comparator group	Vesting percentage
Top 3	75%
Rank 4 - Rank 6	50% (at target)
Rank 7 - Rank 12	25%
Rank 13 - Rank 20	0%

Summary of outstanding performance shares

Following is a summary of changes in performance shares (award numbers adjusted for the two-for-one stock split):

	2020	2019
Outstanding at January 1	430,764	525,154
Performance shares granted (at target level)	143,908	142,066
Shares discretionary granted to the Board of Management	103,000	120,000
Shares discretionary granted to key employees	70,200	39,400
Performance adjustments	26,023	106,123
Performance shares settled in equity instruments (re-issued from treasury shares)	(367,315)	(477,769)
Performance shares forfeited	(15,371)	(24,210)
Outstanding at December 31	391,209	430,764

The market price of the Company's ordinary shares at the date of grant of the performance shares in 2020 and 2019 was € 37.56 and € 27.00, respectively. The market price of the Company's ordinary shares at the date of grant of the additional shares to the member of the Board of Management was € 38.30 (2019: € 18.92) and the market price at the date of grant to key employees was € 29.47 (2019: € 22.91).

The following table shows the outstanding at target number of performance shares conditionally awarded to the Board of Management and selected key employees, in accordance with the Besi 2017 and 2020 Framework Incentive Plan (award numbers adjusted for two-for-one stock split):

Performance shares	Year of grant	Three-year performance period	Number of performance shares
	2018	2018-2020	117,434
	2019	2019-2021	130,437
	2020	2020-2022	143,338
Total			391,209

Fair value measurement performance shares

2017 and 2020 Framework Incentive Plan (Board of Management and other key employees)

For the awards made in 2020, the fair value at the grant date of the 50% portion with a TSR performance condition was € 35.23 (2019: € 21.67) and has been derived using a Monte Carlo Simulation model. The significant inputs into the model were:

	2020	2019
Market price of the Company's ordinary shares (in euro)	37.56	27.00
Expected volatility	45.1%	36.4%
Expected dividend yield	2.65%	6.00%
Vesting period (in years)	3	3
Risk-free interest rate	(0.75%)	(0.58%)

For the 2020 awards, the fair value at the grant date of the 50% portion with a NIR performance condition was € 34.69 (2019: € 22.55). This fair value has been derived from the market price of the Company's ordinary shares at the grant date, adjusted based on the present value for expected dividends over the three-year vesting period.

The expenses related to share-based payment plans recognized in the Statement of Operations are as follows:

(euro in thousands)	Year ended December 31,	
	2020	2019
Performance shares granted and delivered to the Board of Management	3,945	2,270
Performance shares granted and delivered to key employees	2,069	903
Conditional performance shares Board of Management	939	792
Conditional performance shares key employees	3,517	3,324
Total expense recognized as personnel expenses	10,470	7,289

26. Related-party transactions

BE Semiconductor Industries N.V. and all its subsidiaries are consolidated and all transactions between these entities have been eliminated in these financial statements. There are no non-consolidated companies considered as related parties.

The Board of Management and the Supervisory Board are considered "Key Management Personnel" in accordance with IAS 24. The remuneration of the Board of Management and the Supervisory Board is as follows.

Remuneration of the Board of Management

The remuneration of the member of the Board of Management is determined by the Supervisory Board, all with due observance of the Remuneration Policy adopted by the General Meeting of Shareholders. The Supervisory Board is required to present any scheme providing for the remuneration of the member of the Board of Management in the form of shares or options to the General Meeting of Shareholders for adoption.

The total cash remuneration and related costs of the member of the Board of Management for the years ended December 31, 2020 and 2019, are as follows:

(in euros)	Year ended December 31,	
	2020	2019
Salaries and other short-term employee benefits ¹	1,730,260	1,439,475
Post-employment benefits ²	35,904	33,159
Equity compensation benefits: Incentive Plan	938,690	791,569
Equity compensation benefits: Discretionary grant	3,944,900	2,270,400
Total	6,649,754	4,534,603

¹ Salaries include a bonus earned over the applicable year, which will be payable in the second quarter of the year thereafter. Furthermore, other benefits include expense compensation, medical insurance and social security premiums.

² The pension arrangements for the member of the Board of Management are defined contribution plans. The Company does not have further pension obligations beyond an annual contribution.

Remuneration of the Supervisory Board

The aggregate remuneration paid to current members of the Supervisory Board was € 343 in 2020 and € 373 in 2019. The remuneration of the Supervisory Board is determined by the General Meeting of Shareholders.

For further details for the remuneration of the Board of Management and the Supervisory Board reference is made to the [Remuneration Report](#) in this Annual Report.

Ordinary shares and performance shares held by the member of the Board of Management

The aggregate number of ordinary shares held by the current member of the Board of Management is as follows:

Ordinary number of shares	December 31, 2020	December 31, 2019
Board of Management	1,787,702	1,728,628

Performance shares	Year of grant	Three-year performance period	Number of performance shares
Board of Management	2018	2018-2020	18,026
	2019	2019-2021	32,887
	2020	2020-2022	31,920
Total			82,833

The performance shares awarded will vest at the end of the three-year performance period, depending on the actual performance of the Company.

27. Selected operating expenses and additional information

Personnel expenses for all employees are as follows:

(euro in thousands)	Year ended December 31,	
	2020	2019
Wages and salaries	82,014	81,972
COVID-19 related grants and exemptions	(2,583)	-
Social security expenses	9,641	9,381
Pension and retirement expenses defined contribution	4,527	4,209
Pension and retirement expenses defined benefit	1,964	2,031
Pension plan amendments/curtailment gain	(533)	(421)
Share-based compensation plans	10,470	7,289
Total personnel expenses	105,500	104,461

The COVID-19 related grants and exemptions relate to the Company's subsidiaries in Singapore and China and are unconditional.

The average number of fulltime equivalent employees during 2020 and 2019 was 1,540 and 1,599, respectively. For pension and retirement expenses, reference is made to [Note 25](#).

The total number of fulltime equivalent employees per department is:

	December 31, 2020	December 31, 2019
Sales and Marketing	386	393
Manufacturing and Assembly	633	654
Research and Development	361	347
General and Administrative	143	140
Total number of personnel	1,523	1,534

As of December 31, 2020 and 2019, a total of 154 and 160 fulltime equivalent employees, respectively, were employed in the Netherlands.

28. Financial income and expense

The components of financial income and expense are as follows:

(euro in thousands)	Year ended December 31,	
	2020	2019
Interest income	58	200
Net foreign currency results	1,297	-
Subtotal financial income	1,355	200
Interest expense	(11,871)	(10,179)
Hedging results	(1,827)	(3,422)
Net foreign currency results	-	(383)
Subtotal financial expense	(13,698)	(13,984)
Financial income (expense), net	(12,343)	(13,784)

Hedging expenses have decreased mainly due to lower interest differences between Swiss franc and euro on the one hand and US dollar on the other hand.

29. Income taxes

Deferred tax assets (liabilities) consist of the following:

(euro in thousands)	December 31, 2020	December 31, 2019
Deferred tax assets	21,924	14,978
Deferred tax liabilities	(12,840)	(8,858)
Total deferred tax assets (liabilities), net	9,084	6,120

The items giving rise to the deferred tax assets (liabilities), net are as follows:

(euro in thousands)	December 31, 2020	December 31, 2019
<i>Deferred tax assets (liabilities)</i>		
Swiss tax credits	18,581	11,641
Provision for pensions	2,952	2,797
Operating losses carry forward	2,281	3,317
Lease liabilities	1,895	1,811
Interest	1,419	651
Inventories	1,036	905
Foreign currency differences	(126)	590
Right of use assets	(1,888)	(1,813)
Convertible Notes	(7,770)	(4,530)
Intangible assets	(9,839)	(9,748)
Other items	543	499
Total deferred tax assets (liabilities), net	9,084	6,120

Following is a summary of changes in items giving rise to deferred tax assets (liabilities), net:

(euro in thousands)	January 1, 2020	Profit and loss 2020	OCI	Equity	Foreign currency translation	December 31, 2020
<i>Deferred tax assets (liabilities), net</i>						
Swiss tax credits	11,641	6,911	-	-	29	18,581
Provision for pensions	2,797	24	141	-	(10)	2,952
Operating losses carry forward	3,317	(1,031)	-	-	(5)	2,281
Lease liabilities	1,811	114	-	-	(30)	1,895
Interest	651	768	-	-	-	1,419
Inventories	905	146	-	-	(15)	1,036
Foreign currency differences	590	(623)	(71)	-	(22)	(126)
Right of use assets	(1,813)	(105)	-	-	30	(1,888)
Convertible Notes	(4,530)	1,248	-	(4,488)	-	(7,770)
Intangible assets	(9,748)	(89)	-	-	(2)	(9,839)
Other items	499	84	-	-	(40)	543
Total	6,120	7,447	70	(4,488)	(65)	9,084

(euro in thousands)	January 1, 2019	Profit and loss 2019	OCI	Equity	Foreign currency translation	Initial recognition IFRS 16	December 31, 2019
<i>Deferred tax assets (liabilities), net</i>							
Swiss tax credits	-	11,561	-	-	80	-	11,641
Operating losses carry forward	5,016	(2,359)	590	-	70	-	3,317
Provision for pensions	1,917	247	595	-	38	-	2,797
Lease liabilities	-	(506)	-	-	27	2,290	1,811
Inventories	571	327	-	-	7	-	905
Interest	-	651	-	-	-	-	651
Foreign currency differences	599	(40)	-	-	31	-	590
Right of use assets	-	504	-	-	(27)	(2,290)	(1,813)
Convertible Notes	(5,318)	1,007	-	(219)	-	-	(4,530)
Intangible assets	(9,317)	(414)	-	-	(17)	-	(9,748)
Contract liability	511	(511)	-	-	-	-	-
Other items	546	3	(65)	-	15	-	499
Total	(5,475)	10,470	1,120	(219)	224	-	6,120

Up to and including 2019, Besi's Swiss operations had a mixed company status on Cantonal and Communal level. Effective January 1, 2020, the Federal Act on Tax Reform and AHV Financial ("Swiss Tax Reform") became effective, abolishing the current privileged corporate tax regimes. Upon transition, the Company has decided to use the current law step up method, which creates tax free reserves. These tax free reserves can be depreciated against taxable income on Cantonal and Communal level for a period of five years (years 2020 up to and including 2024) and to a maximum of 70% of the taxable income. The Company recorded a net deferred tax asset of € 11.6 million in 2019. In 2020, the Company utilized € 3.5 million of the deferred tax assets related to these tax free reserves. Based on the updated projections for the Company's Swiss operations for the years 2021 up to and including 2024, the Company recorded an additional deferred tax asset of € 10.2 million. An amount of € 12.4 million related to the Swiss Tax Reform is not recognized, as the Company does not expect to utilize these tax credits within four years.

The key assumptions used by management for the projections for the Company's Swiss operations are consistent with the assumptions used for the impairment test on capitalized goodwill and are based on:

- The Company's budget for 2021.
- Revenue forecasts for 2022-2024 as per market growth estimates from VLSI Research, a leading independent analyst for the semiconductor and semiconductor equipment industries, and the Company's estimated market shares.
- Bottom-up estimates for gross profit, research and development and selling, general and administrative expenses as per management's strategic planning.

The Company estimates that reasonably possible adverse or positive changes in key assumptions (10% lower or higher aggregate revenue over the four years projection period) would result in an adjustment in the valuation of the deferred tax asset of approximately € 2.5 million.

The deferred tax assets for operating losses carry forward are related to the US, Dutch and Austrian operations of the Company. In assessing the recoverability of deferred tax assets, the Company considers whether it is probable that sufficient taxable profits will be available to realize some portion or all of the deferred tax assets. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible.

The US carry forwards amounted to € 2.3 million as of December 31, 2020 and expire during the period of 2022 and thereafter. Based on actual results realized in 2020 and projection for the US operations, the Company released € 1.0 million of the valuation allowance in 2020. The net deferred tax asset related to the US carry forward amounts to € 1.9 million and is expected to be fully recovered.

The Dutch carry forwards relating to operating losses amount to € 0.1 million and expire in 2021. In 2020, the Dutch Government reversed the earlier adopted reduction in statutory tax rate from 2021 onwards. Statutory tax rate will remain at 25.0%.

Under the Dutch innovation box regime, qualifying income that results from endeavors in the field of R&D, is taxed at an effective Dutch corporation tax rate of 7% (9% as from 2021 onwards). In 2019, the Company has been granted the Dutch innovation box regime, effective January 1, 2015 for the years up to and including 2022.

The distinction in recognized and unrecognized tax losses carry forward and tax credits is as follows:

(euro in millions)	2020		2019	
	Recognized	Unrecognized	Recognized	Unrecognized
Netherlands	0.1	-	1.7	-
USA	1.9	0.4	1.2	1.5
Austria	0.3	-	0.4	-
Total tax losses carried forward	2.3	0.4	3.3	1.5
Switzerland tax free reserves	18.6	12.4	11.6	20.8
Total	20.9	12.8	14.9	22.3

The aggregate deferred tax related to items recognized outside of profit and loss amounts to € 4.4 million.

The Dutch domestic statutory tax rate is 25.0% for the years ended December 31, 2020 and 2019. The reconciliation between the actual income tax shown in the Consolidated Statement of Operations and the expense (benefit) that would be expected based on the application of the domestic tax rate to income before income tax is as follows:

(euro in thousands)	Year ended December 31, 2020 in % of income before taxes		Year ended December 31, 2019 in % of income before taxes	
“Expected” income tax expense based on domestic rate	34,379	25.0%	19,534	25.0%
Foreign tax rate differential	(16,129)	(11.7%)	(10,659)	(13.6%)
Recognition of Swiss tax credit	(427)	(0.3%)	(11,564)	(14.8%)
Non-deductible expenses	2,643	1.9%	1,877	2.4%
Tax incentive	(3,284)	(2.4%)	(1,985)	(2.5%)
Tax exempt income	(658)	(0.5%)	(997)	(1.3%)
Valuation allowance adjustments	(11,246)	(8.2%)	1,591	2.0%
Changes in enacted tax rates	(191)	(0.1%)	127	0.1%
Adjustments prior years	(158)	(0.1%)	(1,237)	(1.6%)
Other	313	0.2%	130	0.2%
Income tax expense (benefit) shown in Consolidated Statement of Operations	5,242	3.8%	(3,183)	(4.1%)

The difference between the effective tax rate and the statutory rate in the Netherlands is mainly due to different statutory tax rates in the countries in which Besi operates outside the Netherlands, primarily in Switzerland, as well as the recognition and valuation of Swiss tax credit. The tax incentive mainly relates to the application of the innovation box regime in the Netherlands. The non-deductible expenses mainly relate to the share-based payment expense. The valuation allowance adjustment of € 11.2 million in 2020 relates to the upward revaluation of tax credits and net operating losses, principally at Besi’s Swiss (€ 10.2 million) and US operations (€ 1.0 million) due to the improved financial performance and outlook. The tax benefit in 2019 was primarily due to the recognition of a deferred tax asset of € 11.6 million in the fourth quarter as a result of changes in Swiss fiscal policy.

The income tax expense shown in the Consolidated Statement of Operations consists of the following:

(euro in thousands)	Year ended December 31,	
	2020	2019
Current	12,689	7,287
Deferred	(7,447)	(10,470)
Total	5,242	(3,183)

There are no income tax consequences attached to the proposed payment of dividends by the Company to its shareholders.

Tax risk

Given the international business structure of the Company and the increasing number and amounts of intercompany transactions certain tax risks hereto may exist. Profits are allocated to countries where value is created in accordance with national and international rules and standards. Knowledge in this domain, along with related compliance and application are embedded in procedures within the organization. In cases where insufficient knowledge is available in-house, external advisors are consulted.

Description of uncertain tax position

The Company has been subject to a tax audit in Malaysia focused at transfer pricing for the years 2013 to 2016. The audit was finalized in 2020 and certain transfer pricing adjustments were made and reported under adjustments prior year.

30. Earnings per share

The following table reconciles ordinary shares outstanding at the beginning of the year to average shares outstanding used to compute income per share.

	2020	2019
Shares outstanding at beginning of the year	72,212,422	73,569,611
Shares re-issued from treasury shares for the vesting of performance stock awards (LTI)	194,115	318,369
Shares re-issued from treasury shares for the vesting of shares discretionary granted	173,200	159,400
Shares re-issued from treasury shares for partial conversion of the 2016 Convertible Notes	752,540	-
Shares bought under the share repurchase program	(466,366)	(1,834,958)
Shares outstanding at end of the year	72,865,911	72,212,422
Average shares outstanding - basic	72,501,386	72,796,679
Dilutive effect of outstanding performance shares	477,320	486,919
Dilutive effect of 2016, 2017 and 2020 Convertible Notes	10,794,679	9,866,242
Average shares outstanding - diluted	83,773,385	83,149,840

Net income in 2020 used in calculating dilutive earnings per share amounts to € 139.9 million (2019: € 87.9 million) and is adjusted for the after tax effects of interest charges related to the 2016, 2017 and 2020 Convertible Notes amounting to € 7.6 million in 2020 (2019: € 6.6 million).

31. Financial instruments, financial risk management objectives and policies

Fair value of financial instruments

The Company assumes that the book value of the Company's financial instruments, which consist of cash and cash equivalents, deposits, trade receivables and accounts payable, does not significantly differ from their fair value due to the short maturity of those instruments and to the fact that interest rates are floating or approximate the rates currently available to the Company. For the valuation of the Convertible Notes reference is made to [Note 18](#).

The Company uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

Level 1: Quoted (unadjusted) prices in active markets for identical assets or liabilities.

Level 2: Other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly.

Level 3: Techniques which use inputs which have a significant effect on the recorded fair value that are not based on observable market data.

The fair values of other financial assets and financial liabilities, together with the carrying amounts in the Consolidated Statements of Financial Position, are as follows:

(euro in thousands)		December 31, 2020		
	Note	Carrying amount	Level	Fair value
<i>Financial assets</i>				
Forward exchange contracts	7	831	2	831
Marketable securities for pension liability	12	581	1, 2	581
Total		1,412		1,412
<i>Financial liabilities</i>				
Forward exchange contracts	16	180	2	180
Long-term debt ¹	18	399,956	1	646,044
Total		400,136		646,224

¹ The fair value of the Convertible Notes included in the long-term debt are based on the closing prices of the Notes on the Deutsche Börse Freiverkehr market.

(euro in thousands)		December 31, 2019		
	Note	Carrying amount	Level	Fair value
<i>Financial assets</i>				
Forward exchange contracts	7	1,396	2	1,396
Marketable securities for pension liability	12	571	1, 2	571
Total		1,967		1,967
<i>Financial liabilities</i>				
Forward exchange contracts	16	173	2	173
Long-term debt ¹	18	277,067	1	403,077
Total		277,240		403,250

¹ The fair value of the Convertible Notes included in the long-term debt are based on the closing prices of the Notes on the Deutsche Börse Freiverkehr market.

There were no transfers between levels during the years ended December 31, 2020 and December 31, 2019.

The only recurring fair value measurement is the valuation of forward exchange contracts for hedging purposes. According to IFRS 13 this measurement is categorized as Level 2. Non-recurring fair value measurements were not applicable in the reporting period.

Financial risk management objectives and policies

Risk management framework

The Company is exposed to a variety of financial risks, such as foreign currency risk, interest rate risk, credit risk, market risk, liquidity risk and capital risk. These risks are inherent to the way the Company operates as a multinational with a number of local operating companies.

The Company's overall risk management policy is established to identify and analyze the risks faced by the Company, to set appropriate risk limits and controls, and to monitor risks and adherence to risk limits. Risk management policies and systems are managed at central level and reviewed regularly to reflect changes in market conditions and the Company's activities.

All material findings that result from the use of the Company's risk management policy are discussed with our Audit Committee and Supervisory Board.

The Company, through its training, management standards and procedures, such as guidelines and instructions governing hedging of financial risks, developed a disciplined and constructive control environment in which all employees understand their roles and obligations. In addition, the Company performs several reviews at all significant operating companies, such as reviews of the foreign currency positions. The Company's policies, specifically regarding foreign currency hedging, interest rate, credit, market and liquidity risks, are further described in the remainder of this Note.

Foreign exchange

Due to the international scope of the Company's operations, the Company is exposed to the risk of adverse movements in foreign currency exchange rates. The Company is primarily exposed to fluctuations in the value of the euro, Swiss franc, Singapore dollar, Malaysian ringgit and Chinese yuan against the US dollar and US dollar-linked currencies, since approximately 73% of its sales in 2020 (2019: approximately 68%) are denominated in US dollar. Furthermore, due to the Company's ongoing transfer of the supply chain to Asia, the Company is increasingly exposed to fluctuations of the Malaysian ringgit, Chinese yuan and Singapore dollar against the euro and US dollar.

The Company seeks to protect itself from adverse movements in foreign currency exchange rates by hedging firmly committed sales contracts, which are denominated in foreign currencies through the use of forward foreign currency exchange contracts. In addition, the Company also uses forward foreign currency exchange contracts to hedge balance sheet positions that are denominated in a foreign currency. During 2020 and 2019, the Company did not have any derivative financial instruments that were held for trading or speculative purposes. Furthermore, the Company does not use financial instruments to hedge the translation risk related to equity, intercompany loans of a permanent nature and earnings of foreign subsidiaries. The Company has adopted the cash flow hedge model in line with IFRS 9. In this hedging model, the effective part of a hedge transaction is reported as a component of other comprehensive income, which is reclassified to earnings in the same period(s) in which the hedged forecasted transaction affects earnings.

Due to cash flow hedge transactions, € 1,401 was reported as other comprehensive income at December 31, 2020. The amount in 2020 released from equity in revenue in the Consolidated Statement of Operations was € 3,587. The cash flow hedging reserve included in equity comprises the effective portion of the cumulative net change in the fair value of cash flow hedges related to hedged transactions that have not yet occurred. The ineffective part of the hedges recognized, directly in the Consolidated Statement of Comprehensive Income was a gain of € 28 in 2020 and a loss of € 488 in 2019.

The movement of the cash flow hedging reserve is as follows:

(euro in thousands)	2020	2019
Balance at January 1	541	13
Amount recognized in equity	4,475	(198)
Amount recycled in Consolidated Statement of Operations	(3,587)	238
Amount reclassified to Consolidated Statement of Operations due to ineffectiveness	(28)	488
Balance at December 31	1,401	541

The Company has exposure to credit risk to the extent that the counterparty to the transaction fails to perform according to the term of the contract. The amount of such credit risk, measured as the fair value of all forward foreign currency exchange contracts that have a positive fair value position, was € 831 and € 1,396 at December 31, 2020 and 2019, respectively. The Company believes that the risk of significant loss from credit risk is remote, because it deals with credit-worthy financial institutions. The Company does not, in the normal course of business, demand collateral from the counterparties.

Following is a summary of the Company's most important forward foreign currency exchange contracts at foreign currency contract rate:

	Nominal Value	Average rate	Maturity	Fair Value, net
<i>December 31, 2020</i>				
To sell US dollars for Swiss francs	141,546	1.128	< 1 month	628
To sell US dollars for euros	20,384	1.216	< 1 month	117
To buy Malaysian ringgits for Swiss franc	15,500	4.568	< 1 month	1
To buy euro for US dollars	12,230	1.226	< 1 month	(29)
To sell euros for Swiss francs	11,300	1.079	< 1 month	(35)
Other FX pair contracts	28,002			(31)
Total	228,962			651
<i>December 31, 2019</i>				
To sell US dollars for Swiss francs	66,247	1.022	< 1 month	718
To sell euros for Swiss francs	51,737	1.096	< 1 month	593
To sell US dollars for euros	10,521	1.113	< 1 month	86
Other FX pair contracts	34,024			(174)
Total	162,529			1,223

The contracts to sell US dollars for euros and Swiss francs predominantly apply for hedge accounting. All other forward foreign currency exchange contracts are economic hedges.

At December 31, 2020 and 2019, the unrealized gain on forward foreign currency exchange contracts that were designated as a hedge of firmly committed transactions amounted to € 651 and € 1,223, respectively.

The fair value of the Company's forward foreign currency exchange contracts, which are categorized as Level 2 is as follows:

(euro in thousands)	2020		2019	
	Positive	Negative	Positive	Negative
<i>Forward foreign currency exchange contracts</i>				
Fair value	831	180	1,396	173

The fair value of the forward foreign currency exchange contracts is included in the Company's other receivables and the other payables. The Company recorded no changes in the fair value of the financial instruments that were attributable to changes in the credit risk of the forward exchange contracts. All foreign exchange currency contracts have a maturity of less than three months. The cash flows related to foreign currency contracts with positive fair values and related to foreign currency contracts with negative fair values may be settled gross or net and are expected to occur as follows:

(euro in thousands)	December 31, 2020	December 31, 2019
Proceeds	228,962	162,529
Payments	(228,311)	(161,306)
Net	651	1,223

The Company's principal financial liabilities, other than derivatives, comprise of bank loans and overdrafts, Convertible Notes, financial leases and trade payables. The main purpose of these financial liabilities is to finance the Company's operations. The Company has various financial assets such as trade receivables and cash and short-term deposits, which arise directly from its operations.

The Company enters into derivative transactions exclusively with forward currency contracts. The purpose of these transactions is to manage the currency risks arising from the Company's operations.

The Company's policy is, and has been throughout 2020 and 2019, that no trading in derivatives shall be undertaken. The main risks arising from the Company's financial instruments are foreign currency risk, interest rate risk, credit risk and liquidity risk.

Foreign currency risk

As a consequence of the global nature of Besi's businesses, its operations, reported financial results and cash flows are exposed to the risks associated with fluctuations in exchange rates between the euro and other major world currencies. Currency exchange rate movements typically also affect economic growth, inflation, interest rates, government actions and other factors. These changes can cause the Company to adjust its financing and operating strategies.

The discussion below of changes in currency exchange rates does not incorporate these other economic factors. For example, the sensitivity analysis presented in the foreign exchange rate risk discussion below does not take into account the possibility that rates can move in opposite directions and that gains from one category may or may not be offset by losses from another category. As currency exchange rates change, translation of the statements of operations of Besi's international business into euro affects year over year comparability.

Besi's currency risk exposure primarily occurs because the Company generates a portion of its revenue in currencies other than the euro while the major share of the corresponding cost of sales is incurred in euro, Swiss franc, Malaysian ringgit and Chinese yuan. The percentage of its consolidated net revenue which is presented by US dollar amounted to approximately 73% and 68% of total revenue in the years ended December 31, 2020 and 2019, respectively, whereas revenue denominated in euro amounted to approximately 27% in 2020. Approximately 31% of its costs and expenses were denominated in euro, 28% in Malaysian ringgit, 11% in Chinese yuan, 10% in US dollar and the remaining 20% in various currencies. In order to mitigate the impact of currency exchange rate fluctuations, Besi continually assesses its remaining exposure to currency risks and hedges such risks through the use of derivative financial instruments. The principal derivative financial instruments currently used by the Company to cover foreign currency exposures are forward foreign currency exchange contracts that qualify for hedge accounting.

The following table presents a sensitivity analysis of the Company's profit before tax (due to changes in the fair value of monetary assets and liabilities) and the Company's equity (due to changes in the fair value of forward exchange contracts) related to reasonable potential changes in the US dollar exchange rate compared to the euro, Swiss franc and Malaysian ringgit, with all other variables held constant. This comparison is done as most transactions are in US dollar and are hedged against the local currencies of the main

operations in the Netherlands, Switzerland and Malaysia. The analysis includes the effects of fair value changes of the financial instruments used to hedge the currency exposures and focuses only on balance sheet positions.

(euro in thousands)	Effect on		2020		Effect on		2019	
	profit	Effect	Effect	profit	Effect	Effect	Effect	
	before tax	on equity						
Increase/decrease in US dollar rate compared to euro	+10%	-	(1,500)	-	(1,000)	-	(1,000)	-
	-10%	-	1,500	-	1,000	-	1,000	-
Increase/decrease in US dollar rate compared to Swiss franc	+10%	-	(6,000)	-	(3,000)	-	(3,000)	-
	-10%	-	6,000	-	3,000	-	3,000	-

The current outstanding forward exchange contracts have been included in this calculation.

Interest rate risk

The Company has interest-bearing assets and liabilities exposing it to fluctuations in market interest rates. The Company is hardly exposed to the risk of changes in market interest rates through borrowing activities due to very limited debt with floating interest rates. Given the Company's cash position, fluctuations in market interest rates are affecting the Company's results. An increase of interest rates will have a positive effect, while a decrease of market interest rates will negatively impact the Company's results. No derivative interest rate related swaps have been entered into for trading or speculative purposes or to manage interest exposures.

Credit risk

Credit risk is the risk that the counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Company is exposed to credit risk from its operating activities (primarily for trade receivables) and from its financing activities for cash and cash equivalents and derivative financial instruments. With its treasury and cash investment policies the Company manages exposure to credit risks on an ongoing basis including monitoring of the creditworthiness of counterparties. The Company does not anticipate on non-performance by counterparties given their high creditworthiness expressed in good credit rates.

The Company's maximum exposure to credit risk for financial instruments are the carrying amounts of financial assets as illustrated in the table at the beginning of [Note 31](#). The Company does not hold collateral as security.

Cash and cash equivalents

The Company is managing the credit risk from balances with banks and cash equivalents in accordance with the Company's cash investment policy. In addition to preserving the principal amount main objectives of this policy are maintaining appropriate liquidity for business operations, diversifying cash investments to minimize risk from inappropriate investments and concentrating the Company's cash at the highest level, i.e. BE Semiconductor Industries N.V. Diversification is aimed by distributing the cash and cash equivalents over at least five counterparties including money market funds. Cash pool arrangements based on zero-balancing are in place to concentrate cash enabling BE Semiconductor Industries N.V. to fulfil the role of internal bank.

The Company invests cash and cash equivalents in (short-term) deposits with financial institutions that have good credit ratings and in AA and AAA money market funds that invest in highly rated short-term debt securities of governments, financial institutions and corporates. These investments are readily convertible to a known amount in cash and are subject to an insignificant risk of change in value.

Trade receivables and other receivables

The Company has established a credit policy under which credit evaluations are performed on all customers requiring credit over specified thresholds. The Company's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, management also considers the demographics of the Company's customer base, including the default risk of the industry and country in which customers operate, as these factors may have an influence on credit risk. As the Company's revenue is generated by shipments to Asian manufacturing operations of leading US, European and Asian semiconductor manufacturers and subcontractors, an industry and geographical concentration of credit risk exists, however, this risk is reduced through the long-term relationships with its customers.

Ageing of trade receivables and other receivables:

(euro in thousands)	Total	Impaired	Current		Past due			
			< 30 days	30-60 days	60-90 days	90-120 days	> 120 days	
2020	101,148	(807)	88,653	8,490	2,169	1,002	379	1,262
2019	90,552	(790)	70,419	10,400	4,817	1,519	1,158	3,029

Expected credit loss assessment

The Company recognizes an allowance for expected credit losses (“ECLs”). ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Company expects to receive, discounted at an approximation of the original effective interest rate. For trade receivables and contract assets, the Company applies a simplified approach in calculating ECLs. Therefore, the Company does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date. The Company has established provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment. In addition, the Company has, compared the outcome based on historical losses with the credit ratings of its largest individual customers.

Based on the above, an amount of € 807 of impairment has been recognized on trade receivables and contract assets as per December 31, 2020.

Forward exchange contracts

The forward exchange contracts are with multiple counterparties that have high credit ratings. Currently, the Company does not expect any counterparty to fail to meet its obligations.

Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices, will affect the Company’s income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return. The Company buys and sells derivatives, and also incurs financial liabilities, in order to manage market risks. All such transactions are carried out within the guidelines set by the Company.

Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Company’s liquidity needs are affected by many factors including uncertainties of the global economy and the semiconductor industry resulting in fluctuating cash requirements. The Company believes that it will have sufficient liquidity to meet its current liabilities including expected capital expenditures and repayment obligations in 2020. The Company monitors its risk to a shortage of funds by reviewing cash flows of all entities throughout the year. The Company intends to return cash to the shareholders on a regular basis in the form of dividend payments and, subject to actual and anticipated liquidity requirements and other relevant factors, share buybacks.

The table below summarizes the maturity profile of the Company's financial liabilities at December 31, 2020 and 2019, based on contractual undiscounted payments:

(euro in thousands)	On demand	Less than 3 months	3 to 12 months	1 to 5 years	> 5 years	Total
<i>Year ended December 31, 2020</i>						
Convertible Notes (assuming no conversion)	-	-	-	285,000	150,000	435,000
Other long-term debt	-	-	-	527	-	527
Lease liabilities (Note 19)	-	888	2,128	6,432	542	9,990
Interest payable convertible	-	1,125	4,750	13,750	1,125	20,750
Accounts payable	1,601	40,855	1,561	-	-	44,017
Other payables	1,678	10,793	14,852	-	-	27,323
Total	3,279	53,661	23,291	305,709	151,667	537,607
<i>Year ended December 31, 2019</i>						
Convertible Notes (assuming no conversion)	-	-	-	300,000	-	300,000
Other long-term debt	-	-	515	527	-	1,042
Lease liabilities (Note 19)	-	846	2,540	7,512	414	11,312
Interest payable convertible	-	-	4,000	12,875	-	16,875
Accounts payable	384	29,413	481	-	-	30,278
Other payables	1,042	13,356	10,124	152	-	24,674
Total	1,426	43,615	17,660	321,066	414	384,181

It is not expected that the cash flows included in the maturity profile could occur significantly earlier, or at significantly different amounts.

Capital management

The primary objective of the Company's capital management is to ensure healthy capital ratios, with focus on liquidity and financial stability throughout the industry cycles, in order to support its business and maximize shareholder value.

The Company manages its capital structure and makes adjustments to it, in light of changes in economic conditions. To maintain or adjust the capital structure, the Company may make a dividend payment to shareholders, return capital to shareholders or issue new shares. No changes were made in the objectives, policies or processes during the years ended December 31, 2020 and December 31, 2019. The Company only regards equity as capital. This capital is managed using solvency ratio (excluding intangible assets) and return on investment.

(euro in thousands, except for percentages)	2020	2019
Equity	371,227	298,508
Solvency ratio	40.7%	42.8%
Solvency ratio (excluding intangible fixed assets)	33.8%	34.6%
Return on average investment	39.5%	24.2%

The return on average investment is calculated using the opening and closing balance of equity and the net income of 2020.

The total number of ordinary shares that will be awarded under the 2020 Framework Incentive Plan may not exceed 1.5% of the total number of outstanding shares at December 31 of the year prior to the year in which the award is made.

32. Events after the balance sheet date

Subsequent events were evaluated up to February 18, 2021, which is the date the Financial Statements included in this Annual Report were approved. In January 2021, € 13.1 million principal amount of the 2016 Convertible Notes were converted into 657,219 ordinary shares, issued from treasury shares. As a result, the principal amount outstanding of the 2016 Convertible Notes declined from € 110.0 million at December 31, 2020 to € 96.9 million. There are no other events to report.

Parent Company Balance Sheet

(Before appropriation of the result)

(euro in thousands)	Note	December 31, 2020	December 31, 2019
<i>Assets</i>			
Intangible fixed assets	2	670	1,074
Tangible fixed assets	3	65	62
Investments in subsidiaries	4	329,048	293,517
Loans due from subsidiaries	4	15,262	16,095
Financial fixed assets		344,310	309,612
Total fixed assets		345,045	310,748
Amounts due from subsidiaries		1,489	13,227
Other receivables		1,108	1,663
Receivables		2,597	14,890
Deposits		160,000	130,000
Cash and cash equivalents		356,375	292,746
Total current assets		518,972	437,636
Total assets		864,017	748,384
<i>Shareholders' equity, provisions and liabilities</i>			
Share capital	5	786	801
Share premium	5	178,600	159,671
Retained earnings	5	(4,850)	(3,903)
Legal reserves	5	77,939	73,238
Other comprehensive income	5	(13,523)	(12,619)
Undistributed result	5	132,275	81,320
Shareholders' equity		371,227	298,508
Provisions		2,865	1,362
Provisions		2,865	1,362
Convertible Notes	7	399,429	276,540
Non-current liabilities		399,429	276,540
Trade payables		236	1,409
Amounts due to subsidiaries		87,685	168,674
Other payables		2,575	1,891
Current liabilities		90,496	171,974
Total shareholders' equity, provisions and liabilities		864,017	748,384

Parent Company Statement of Income and Expense

(euro in thousands)	Note	Year ended December 31,	
		2020	2019
General and administrative expenses		9,016	6,935
Total operating expenses		9,016	6,935
Operating loss		(9,016)	(6,935)
Financial income	9	728	1,576
Financial expense	9	(12,018)	(10,382)
Financial income (expense), net		(11,290)	(8,806)
Income (loss) before income tax		(20,306)	(15,741)
Income tax expense (benefit)		(2,929)	(2,591)
Income from subsidiaries, after taxes	4	149,652	94,470
Net income		132,275	81,320

Notes to the Parent Company Financial Statements

1. Summary of significant accounting policies

The Financial Statements of the parent company have been prepared using the option of article 362.8 of Book 2 of the Netherlands Civil Code, meaning that the accounting principles used are the same as for the Consolidated Financial Statements.

Foreign currency amounts have been translated, assets and liabilities have been valued, and net income has been determined, in accordance with the principles of valuation and determination of income presented in the summary of significant accounting policies included in the Notes to the Consolidated Financial Statements. Subsidiaries of the parent company are accounted for using the net equity value. The net equity value is determined on the basis of IFRS accounting principles applied in the Consolidated Financial Statements. In case of a negative net equity value of a subsidiary, the negative value is deducted from the loan due from the respective subsidiary.

In addition, the Company will apply the option provided under RJ 100.107a to eliminate the impact of IFRS 9 on intercompany receivables and payables in the parent company financial statements against their book value of these receivables and payables in order to have no impact on the reconciliation between the consolidated equity and company equity position.

The remuneration paragraph is included in [Note 25](#) of the Consolidated Financial Statements and reference is also made to the [Remuneration Report](#) included in this Annual Report.

2. Intangible fixed assets

Intangible assets, net consist of the following:

(euro in thousands)	Software
<i>Balance at January 1, 2020</i>	
Cost	3,227
Accumulated amortization	(2,153)
Other intangible assets, net	1,074
<i>Changes in book value in 2020</i>	
Capital expenditures	89
Amortization	(493)
Total changes	(404)
<i>Balance at December 31, 2020</i>	
Cost	3,316
Accumulated amortization	(2,646)
Other intangible assets, net	670

The intangible fixed assets consist of capitalized licenses and are amortized in three to five years.

3. Tangible fixed assets

The tangible fixed assets include right of use assets for leased cars.

4. Financial fixed assets

Investments in subsidiaries

The movement is as follows:

(euro in thousands)	Investment in subsidiaries	Loans due from subsidiaries	Total
Balance at January 1, 2020	293,517	16,095	309,612
Income for the period	149,652	-	149,652
Negative equity adjustments	(2,878)	2,878	-
Loans	-	(2,104)	(2,104)
Dividend payments	(107,749)	-	(107,749)
Changes in accumulated other comprehensive income	(43)	-	(43)
Currency translation adjustment	(3,451)	(1,607)	(5,058)
Balance at December 31, 2020	329,048	15,262	344,310

(euro in thousands)	Investment in subsidiaries	Loans due from subsidiaries	Total
Balance at January 1, 2019	307,308	20,351	327,659
Income for the period	94,470	-	94,470
Negative equity adjustments	(358)	358	-
Loans	-	(5,178)	(5,178)
Dividend payments	(111,928)	-	(111,928)
Changes in accumulated other comprehensive income	(974)	-	(974)
Currency translation adjustment	4,999	564	5,563
Balance at December 31, 2019	293,517	16,095	309,612

The negative equity adjustments in the movement schedule are adjustments of the income for the period related to the net income of the subsidiaries with a negative equity value.

Loans due from/to subsidiaries

Interest on loans due from subsidiaries is calculated based on monthly base rates plus a market-conform mark-up. An amount of € 15.7 million relates to loans granted by BE Semiconductor Industries N.V. to its US subsidiaries. These loans are repaid upon lenders' demand for repayment. Therefore, no interest is calculated on these loans.

For an overview of all subsidiaries, reference is made to "Principals of consolidation" in the [Notes to the Consolidated Financial Statements](#).

5. Shareholder's equity

Besi's authorized share capital consisted of 160,000,000 ordinary shares, nominal value € 0.01 per share, and 160,000,000 preference shares, nominal value € 0.01 per share. At December 31, 2020, Besi's issued share capital consisted of 78,567,842 shares after the cancellation of 1,500,000 shares on October 22, 2020.

(euro in thousands, except for share data)	Number of ordinary shares outstanding ¹	Share capital	Share premium	Retained earnings	Legal reserves	Other compre- hensive income	Undistri- buted result	Total share- holders' equity
Balance at January 1, 2020	80,067,842	801	159,671	(3,903)	73,238	(12,619)	81,320	298,508
Total comprehensive income for the period	-	-	-	-	(4,080)	(904)	132,275	127,291
Dividend paid to owners of the Company	-	-	-	-	-	-	(73,486)	(73,486)
Convertible Notes converted into equity	-	-	14,337	-	-	-	-	14,337
Legal reserve	-	-	-	(8,781)	8,781	-	-	-
Appropriation of the result	-	-	-	7,834	-	-	(7,834)	-
Equity-settled share-based payments expense	-	-	10,470	-	-	-	-	10,470
Purchase of treasury shares	-	-	(17,781)	-	-	-	-	(17,781)
Cancellation of shares (1,500,000)	(1,500,000)	(15)	15	-	-	-	-	-
Equity component new Convertible Notes	-	-	12,913	-	-	-	-	12,913
Deferred tax convertible	-	-	(1,025)	-	-	-	-	(1,025)
Balance at December 31, 2020	78,567,842	786	178,600	(4,850)	77,939	(13,523)	132,275	371,227

(euro in thousands, except for share data)	Number of ordinary shares outstanding¹	Share capital	Share premium	Retained earnings	Legal reserves	Other compre- hensive income	Undistri- buted result	Total share- holders' equity
Balance at January 1, 2019	80,067,842	801	197,279	(10,397)	59,489	(11,240)	136,256	372,188
Total comprehensive income for the period	-	-	-	-	6,406	(1,379)	81,320	86,347
Dividend paid to owners of the Company	-	-	-	-	-	-	(122,419)	(122,419)
Legal reserve	-	-	-	(7,343)	7,343	-	-	-
Appropriation of the result	-	-	-	13,837	-	-	(13,837)	-
Equity-settled share-based payments expense	-	-	7,289	-	-	-	-	7,289
Purchase of treasury shares	-	-	(44,678)	-	-	-	-	(44,678)
Deferred tax convertible	-	-	(219)	-	-	-	-	(219)
Balance at December 31, 2019	80,067,842	801	159,671	(3,903)	73,238	(12,619)	81,320	298,508

¹ The outstanding number of ordinary shares includes 5,701,931 and 7,855,420 treasury shares at December 31, 2020 and December 31, 2019, respectively.

Changes in legal reserves during 2020 and 2019 are as follows:

(euro in thousands)	Currency translation adjustment	Capitalized R&D expenses	Reserves for subsidiaries	Cash flow hedging	Total legal reserves
Balance at January 1, 2020	28,391	41,109	3,197	541	73,238
Total comprehensive income (loss) for the period	(4,940)	-	-	860	(4,080)
Transfer from retained earnings	-	8,572	209	-	8,781
Balance at December 31, 2020	23,451	49,681	3,406	1,401	77,939
Balance at January 1, 2019	22,513	36,963	-	13	59,489
Total comprehensive income (loss) for the period	5,878	-	-	528	6,406
Transfer from retained earnings	-	4,146	3,197	-	7,343
Balance at December 31, 2019	28,391	41,109	3,197	541	73,238

Preference shares

Besi's authorized share capital consists of 160,000,000 ordinary shares, nominal value € 0.01 per share, and 160,000,000 preference shares, nominal value € 0.01 per share.

No preference shares were outstanding at December 31, 2020 and December 31, 2019.

In April 2000, the foundation "Stichting Continuïteit BE Semiconductor Industries" (the "Foundation") was established. The Foundation is an independent legal entity and is not owned or controlled by any other legal person. The purpose of the Foundation is to safeguard the interests of the Company, the enterprise connected therewith and all the parties having an interest therein and to exclude as much as possible influences which could threaten, among other things, the continuity, independence and identity of the Company contrary to such interests. The aim of the preference shares is, among other things, to provide a protective measure against unfriendly take-over bids and other possible unsolicited influences which could threaten the Company's continuity, independence and identity. The issue of preference shares would enable the Company to consider its position in the then-existing circumstances.

By agreement of May 19, 2008, between the Company and the Foundation, which replaces a similar agreement dated April 19, 2002, the Foundation has been granted a call option pursuant to which it may purchase a number of preference shares up to a maximum of the number of ordinary shares issued and outstanding at the time of exercise of this option, minus one.

The Company has also granted to the Foundation the right to file an application for an inquiry into the policy and conduct of business of the Company with the Enterprise Chamber of the Amsterdam Court of Appeal (*Ondernemingskamer*). The Company believes that this may be a useful option in the period before the issuance of preference shares, without causing a dilution of the rights of other shareholders at that stage.

Foreign currency translation adjustment

The foreign currency translation adjustment comprises all foreign currency differences arising from the translation of the financial statements of foreign operations.

Accumulated other comprehensive income (loss)

Accumulated other comprehensive income (loss) consists of:

(euro in thousands)	December 31, 2020	December 31, 2019
Actuarial gains (losses)	(16,333)	(15,359)
Deferred taxes	2,047	1,977
Others	763	763
Accumulated other comprehensive income (loss)	(13,523)	(12,619)

Actuarial gains (losses)

The reserve for actuarial gains and losses arises from the actuarial calculations for the defined benefit pension plans.

Deferred taxes

The deferred taxes in accumulated other comprehensive income primarily relate to the deferred tax on the recognized actuarial gains and losses on the Austrian and Swiss pension plans and cash flow hedges.

Dividends

Proposed for approval at the Annual General Meeting of Shareholders to be held on April 30, 2021 (not recognized as a liability as at December 31, 2020 and December 31, 2019):

(euro in thousands)	Year ended December 31,	
	2020	2019
€ 1.70 per ordinary share (2019: € 1.01)	123,872	72,934

The Board of Management proposes to allocate the part of the net income for the year 2020 remaining after payment of the dividend to the retained earnings. The Supervisory Board has approved this proposal.

6. Borrowing facilities

A summary of Besi's principal credit lines is as follows:

- A € 80 million committed revolving credit facility with a consortium of European banks, which originally matured in 2024. The Company exercised the option to extend the maturity to 2025. Outstanding amounts under this credit facility will bear interest at Euribor/Libor plus a margin that depends on the Company's financial position. The agreement contains an extension option up to 2026 and can be increased to € 136 million. Borrowings under the Facility can be repaid at any time at 100% of principal amount and can be used for working capital and other corporate purposes. The principal covenants associated with the Facility include a maintenance test of Consolidated Debt to Equity and a limitation on the incurrence of additional permitted indebtedness. The Facility is granted without securities.
- An uncommitted overdraft facility of € 10.0 million for the purpose of short-term overdrafts (maximum of 15 days) in current accounts. The facility has no contractual maturity date.
- A credit line of € 1.0 million for bank guarantees is granted without securities. The borrowing facility has no contractual maturity date.

No borrowings were utilized.

7. Convertible Notes

In December 2016, the Company issued € 125 million principal amount of Convertible Notes with a maturity date of December 2, 2023 (the "2016 Convertible Notes"). The 2016 Convertible Notes carry a nominal interest rate of 2.5% per year, payable semi-annually. Bondholders can convert the bonds into ordinary shares at a conversion price of € 19.93 (subject to adjustments). The original exercise price of € 43.51 has been adjusted for the two-for-one stock split effective May 4, 2018 and dividends paid subsequent to the date of issuance of the 2016 Convertible Notes in accordance with the terms and conditions related thereto. The 2016 Convertible Notes will be repaid at maturity at a price of 100% of their principal amount plus accrued and unpaid interest. If not converted, at any time from December 23, 2020, the Company may redeem the outstanding 2016 Convertible Notes at their principal amount, subject to giving a minimum of 30 days' and maximum of 60 days' prior notice to Bondholders, if the value of the Shares underlying the 2016 Convertible Notes equals or exceeds 130% of the then effective conversion price for at least 20 out of 30 consecutive dealing days. The 2016 Convertible Notes may be redeemed at the option of the holder in the event of a change of control, at the principal amount plus accrued interest.

In 2020, € 15.0 million principal amount of the 2016 Convertible Notes were converted into 752,540 ordinary shares, issued from treasury shares. The carrying value amounted to € 14.2 million at conversion. As a result, the principal amount outstanding of the 2016 Convertible Notes declined from € 125.0 million to € 110.0 million.

The amount of the 2016 Convertible Notes classified as equity of € 11,310 is net of attributable debt issuance cost of € 215.

In November 2017, the Company issued € 175 million principal amount of Convertible Notes with a maturity date of December 6, 2024 (the "2017 Convertible Notes"). The 2017 Convertible Notes carry a nominal interest rate of 0.5% per year, payable semi-annually. Bondholders can convert the bonds into ordinary shares at a conversion price of € 48.68 (subject to adjustments). The original exercise price of € 99.74 has been adjusted for the two-for-one stock split effective May 4, 2018 and dividends paid subsequent to the date of issuance of the 2017 Convertible Notes in accordance with the terms and conditions related thereto. The 2017 Convertible Notes will be repaid at maturity at a price of 100% of their principal amount plus accrued and unpaid interest. If not converted, at any time from December 27, 2021, the Company may redeem the outstanding 2017 Convertible Notes at their principal amount, subject to giving a minimum of 30 days' and maximum of 60 days' prior notice to Bondholders, if the value of the shares underlying the 2017 Convertible Notes equals or exceeds 130% of the then effective conversion price for at least 20 out of 30 consecutive dealing days. The 2017 Convertible Notes may be redeemed at the option of the holder in the event of a change of control, at the principal amount plus accrued interest.

The amount of the 2017 Convertible Notes classified as equity of € 18,479 is net of attributable debt issuance cost of € 292.

In August 2020, the Company issued € 150 million principal amount of Convertible Notes with a maturity date of August 5, 2027 (the "2020 Convertible Notes"). The 2020 Convertible Notes carry a nominal interest rate of 0.75% per year, payable semi-annually, with the first payment to be made on February 5, 2021. Bondholders can convert the bonds into ordinary shares at a conversion price of € 51.56 (subject to adjustments). The 2020 Convertible Notes will be repaid at maturity at a price of 100% of their principal amount plus accrued and unpaid interest. If not converted, at any time from August 26, 2024, the Company may redeem the outstanding 2020 Convertible Notes at their principal amount, subject to giving a minimum of 30 days' and maximum of 60 days' prior notice to Bondholders, if the value of the shares underlying the 2020 Convertible Notes equals or exceeds 130% of the then effective conversion price for at least 20 out of 30 consecutive dealing days. The 2020 Convertible Notes may be redeemed at the option of the holder (i) on August 5, 2025 at their principal amount plus accrued interest and (ii) in the event of a change of control, at the principal amount plus accrued interest.

The amount of the 2020 Convertible Notes classified as equity of € 16,528 is net of attributable debt issuance cost of € 251.

8. Commitments and contingencies

BE Semiconductor Industries N.V. has assumed joint and several liabilities in accordance with article 403 Part 9 of Book 2 of The Dutch Civil Code with respect to its Dutch subsidiaries.

BE Semiconductor Industries N.V. is parent of the fiscal unity BE Semiconductor Industries N.V. and is therefore liable for the liabilities of the fiscal unit as a whole. The credit facilities of Besi Leshan Co. Ltd. and Besi Singapore Pte. Ltd. are secured by a parent company guarantee.

9. Financial income and expense

The components of financial income and expense are as follows:

(euro in thousands)	Year ended December 31,	
	2020	2019
Interest income	728	1,576
Subtotal financial income	728	1,576
Interest expense	(11,891)	(10,326)
Hedging results	(75)	(121)
Net foreign currency results	(52)	65
Subtotal financial expense	(12,018)	(10,382)
Financial income (expense), net	(11,290)	(8,806)

10. Selected operating expenses and additional information

Personnel expenses for all employees are as follows:

(euro in thousands)	Year ended December 31,	
	2020	2019
Wages and salaries	2,103	1,733
Social security expenses	98	104
Pension and retirement expenses	304	268
Share-based compensation plans	10,470	7,289
Other personnel costs	529	535
Total personnel expenses	13,504	9,929

Certain selected operating expenses are recharged to subsidiaries.

The average number of employees during 2020 and 2019 was 9 and 8, respectively.

11. Additional information

Cost of services provided by external auditor

Ernst & Young Accountants LLP has served as our independent registered public accounting firm for the year 2020 and 2019. The following table sets out the aggregated fees for professional audit services and other services rendered Ernst & Young Accountants LLP and its member firms and/or affiliates in 2020 and 2019.

(euro in thousands)	Ernst & Young Accountants LLP	E&Y Network	Year ended December 31, 2020	Ernst & Young Accountants LLP	E&Y Network	Year ended December 31, 2019
Audit services	356	183	539	305	229	534
Other assurance services ¹	-	-	-	-	1	1
Other non-audit services ¹	-	2	2	-	28	28
Total costs	356	185	541	305	258	563

¹ The other services relate to tax related non-audit services, such as corporate income tax compliance and assistance with transfer pricing documentation in Malaysia and Taiwan. Ernst & Young has not provided prohibited non-audit services as referred to in Article 5(1) of the EU Audit Regulation 537/2014 and applicable Dutch laws and regulations relating to auditor Independence.

Events after the balance sheet date

Subsequent events were evaluated up to February 18, 2021, which is the date the Financial Statements included in this Annual Report were approved. In January 2021, € 13.1 million principal amount of the 2016 Convertible Notes were converted into 657,219 ordinary shares, issued from treasury shares. As a result, the principal amount outstanding of the 2016 Convertible Notes declined from € 110.0 million at December 31, 2020 to € 96.9 million.

There are no other events to report.

Duiven, February 18, 2021

Board of Management

Richard W. Blickman

Supervisory Board

Lodewijk Hijmans van den Bergh

Carlo Bozotti

Douglas J. Dunn

Mona ElNaggar

Niek Hoek

Other Information



Corporate Information

Corporate Office

BE Semiconductor Industries N.V.
Ratio 6, 6921 RW Duiven
The Netherlands
Tel. (31) 26 319 4500
www.besi.com
e-mail: info@besi.com, investor.relations@besi.com

For addresses of Besi's offices and manufacturing facilities worldwide, please visit Besi's website: www.besi.com.

Transfer Agent

Ordinary shares (euro)
ABN AMRO Bank N.V., Amsterdam, the Netherlands

Independent Auditors

Ernst & Young Accountants LLP, Eindhoven, the Netherlands

Legal Counsels

Freshfields Bruckhaus Deringer, Amsterdam, the Netherlands
Rutgers Posch Visée Endedijk N.V., Amsterdam, the Netherlands

Trade Register

Chamber of Commerce,
Arnhem, the Netherlands
Number 09092395

Legal form/Principal place of business

Naamloze Vennootschap
Duiven
The Netherlands

Statutory Financial Statements

The statutory financial statements of BE Semiconductor Industries N.V. will be filed with the Chamber of Commerce, Arnhem, the Netherlands.

Annual General Meeting

The Annual General Meeting of Shareholders will be held on April 30, 2021, 10.00 a.m.

Board of Management

Richard W. Blickman (1954)

Chief Executive Officer,
Chairman of the Board of Management

Management Team Members

Ruurd Boomsma (1956)

CTO

Christoph Scheiring (1970)

SVP Die Attach

Jeroen Kleijburg (1974)

SVP Packaging

Ruben Tibben (1978)

VP Plating

Henk Jan Jonge Poerink (1970)

SVP Global Operations

Jong Kwon Park (1965)

SVP Sales & Customer Service APac

René Hendriks (1961)

SVP Sales Europe/North America

Hetwig van Kerkhof (1968)

SVP Finance

Other Members of Management

Chris Scanlan (1969)

SVP Technology

Kin Mun Kok (1980)

VP Besi Product Asia

Seng Po Ho (1972)

VP Support Center Asia

Danilo Gerletti (1967)

VP Global Spares

Michael Leu (1962)

VP Strategic Supply Management

Andrea Kopp-Battaglia (1978)

SVP Finance Die Attach

Leon Verweijen (1976)

VP Finance

Independent Auditor's Report

To: the shareholders and Supervisory Board of BE Semiconductor Industries N.V.

Report on the audit of the financial statements 2020 included in the Annual Report

Our opinion

We have audited the financial statements 2020 of BE Semiconductor Industries N.V. ('the Company') based in Amsterdam. The financial statements comprise the Consolidated and Parent Company Financial Statements.

In our opinion:

- The accompanying Consolidated Financial Statements give a true and fair view of the financial position of BE Semiconductor Industries N.V., as at December 31, 2020 and of its result and its cash flows for 2020 in accordance with International Financial Reporting Standards as adopted by the European Union (EU-IFRS) and with Part 9 of Book 2 of the Dutch Civil Code.
- The accompanying Parent Company Financial Statements give a true and fair view of the financial position of BE Semiconductor Industries N.V. as at December 31, 2020 and of its result for 2020 in accordance with Part 9 of Book 2 of the Dutch Civil Code.

The Consolidated Financial Statements comprise:

- The Consolidated Statement of Financial Position as at December 31, 2020.
- The following statements for 2020: the Consolidated Statement of Operations, the Consolidated Statement of Comprehensive Income, the Consolidated Statement of Changes in Equity and the Consolidated Statement of Cash Flows.
- The Notes comprising a summary of the significant accounting policies and other explanatory information.

The Parent Company Financial Statements comprise:

- The Parent Company Balance Sheet as at December 31, 2020.
- The Parent Company Statement of Income and Expense for 2020.
- The Notes comprising a summary of the accounting policies and other explanatory information.

Basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. Our responsibilities under those standards are further described in the *Our responsibilities for the audit of the financial statements* section of our report.

We are independent of BE Semiconductor Industries N.V. in accordance with the EU Regulation on specific requirements regarding statutory audit of public-interest entities, the "Wet toezicht accountantsorganisaties" (Wta, Audit firms supervision act), the "Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten" (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the "Verordening gedrags- en beroepsregels accountants" (VGBA, Dutch Code of Ethics).

We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Our understanding of the business

BE Semiconductor Industries N.V. is the holding company for a worldwide business engaged in the development, production, marketing and sales of back-end equipment for the semiconductor industry. The group is structured in components and we tailored our group audit approach accordingly. We paid specific attention in our audit to a number of areas driven by the operations of the group and our risk assessment.

We start by determining materiality and identifying and assessing the risks of material misstatement of the financial statements, whether due to fraud, non-compliance with laws and regulations or error in order to design audit procedures responsive to those risks and to obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

In 2020 we were forced to perform our procedures to a greater extent remotely due to the COVID-19 measures. This limits our observation and increases the risk of missing certain signals. In order to compensate for the limitations related to physical contact and direct observation, we performed alternative procedures to obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

Materiality

Materiality	€ 6,800,000 (2019: € 5,600,000)
Benchmark applied	Around 5% of profit before tax
Explanation	Based on our professional judgement we have considered an earnings-based measure as the appropriate basis to determine materiality. We consider profit before tax to be the most relevant measure given the nature of the business and the users of the financial statements.

We have also taken into account misstatements and/or possible misstatements that in our opinion are material for the users of the financial statements for qualitative reasons.

We agreed with the Supervisory Board that misstatements in excess of € 340,000, which are identified during the audit, would be reported to them, as well as smaller misstatements that in our view must be reported on qualitative grounds.

Scope of the group audit

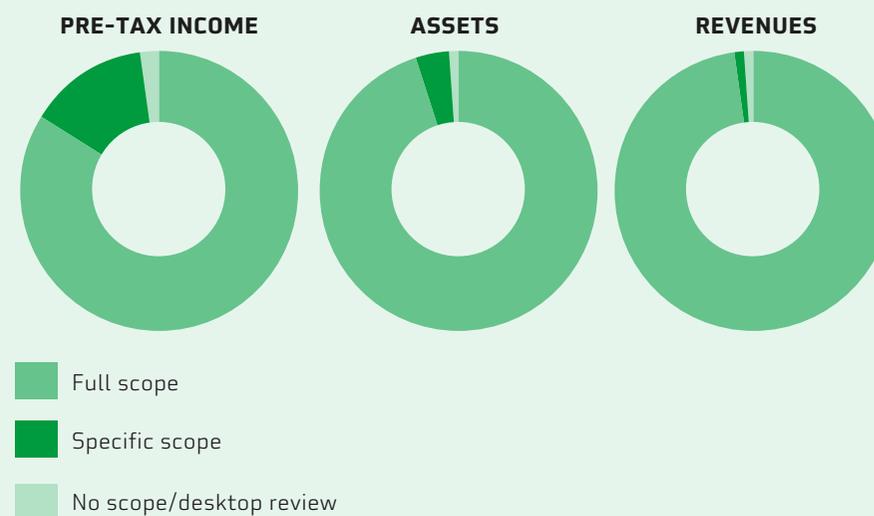
BE Semiconductor Industries N.V. is at the head of a group of entities. The financial information of this group is included in the Consolidated Financial Statements of BE Semiconductor Industries N.V.

Because we are ultimately responsible for the opinion, we are also responsible for directing, supervising and performing the group audit. In this respect we have determined the nature and extent of the audit procedures to be carried out for group entities. Decisive were the size and/or the risk profile of the group entities or operations. On this basis, we selected group entities for which an audit or review had to be carried out on the complete set of financial information or specific items.

Following our assessment of the risk of material misstatement to BE Semiconductor Industries N.V.'s Consolidated Financial Statements, we have selected significant components in Austria, China, the Netherlands, Malaysia, Singapore and Switzerland. For these components we allocated an audit of the complete financial information (full scope components) or we allocated components to perform audit procedures on specific account balances that we considered had the potential for the greatest impact on the significant accounts in the financial statements, either because of the size of these accounts or their risk profile. The central audit team performed audit procedures on accounting areas managed centrally, such as the key audit matter related to revenue recognition, the assessment of forward looking information, the majority of the audit procedures of the Swiss and Dutch components and other centralized accounts. We performed review procedures or specific audit procedures at other group entities.

Because of the travel restrictions and social distancing due to the COVID-19 pandemic, we have been unable to visit foreign management and/or component auditors to discuss, among others, the business activities and the identified significant risks or to review and evaluate relevant parts of the component auditor's audit documentation and to discuss significant matters arising from that evaluation on site. In these extraordinary circumstances we predominantly used communication technology and written information exchange. We have had intensified communication with component teams (including virtual audit file reviews) and performed more audit procedures centrally in order to obtain sufficient and appropriate audit evidence. We have also visited our key foreign components in prior years based on which we obtained a solid understanding of the foreign components which also mitigates the risk.

In total these procedures resulted in the following coverage:



By performing the procedures mentioned above at group entities, together with additional procedures at group level, we have been able to obtain sufficient and appropriate audit evidence about the group's financial information to provide an opinion about the Consolidated Financial Statements.

Teaming and use of specialists

We ensured that the audit teams both at group and at component levels included the appropriate skills and competences which are needed for the audit of a listed client in the semiconductor industry. We included specialists in the areas of IT audit, forensics, income tax and transfer pricing.

Our focus on fraud and non-compliance with laws and regulations

Our responsibility

Although we are not responsible for preventing fraud or non-compliance and cannot be expected to detect non-compliance with all laws and regulations, it is our responsibility to obtain reasonable assurance that the financial statements, taken as a whole, are free from material misstatement, whether caused by fraud or error. Non-compliance with laws and regulations may result in fines, litigation or other consequences for the Company that may have a material effect on the financial statements.

Our audit response related to fraud risks

In order to identify and assess the risks of material misstatements of the financial statements due to fraud, we obtained an understanding of the entity and its environment, including the entity's internal control relevant to the audit and in order to design audit procedures that are appropriate in the circumstances. As in all of our audits, we addressed the risk of management override of internal control. We do not audit internal control per se for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

We considered available information and made enquiries of relevant executives, directors and the Supervisory Board. As part of our process of identifying fraud risks, we evaluated fraud risk factors with respect to financial reporting fraud, misappropriation of assets and bribery and corruption. In our risk assessment we considered the potential impact of performance based bonus schemes which the Company has in place. Furthermore, as the Company is a global company, operating in multiple jurisdictions, we considered the risk of bribery and corruption.

In our process of identifying fraud risks, we considered whether the COVID-19 pandemic gives rise to specific fraud risk factors resulting from a dilution in the effectiveness of controls as a result of the general disruption associated with remote working, illness and workforce reductions, supply chain failures and pressure to make emergency procurements, management overrides and workarounds becoming the norm, manual invoicing and manual payments, abuse of government schemes intended to support companies during the pandemic.

We evaluated the design and the implementation of internal controls that mitigate fraud risks. In addition, we performed procedures to evaluate key accounting estimates for management bias in particular relating to important judgement areas and significant accounting estimates as disclosed in [Note 2](#) in the financial statements. We have also used data analysis to identify and address high-risk journal entries.

We incorporated elements of unpredictability in our audit. We considered the outcome of our other audit procedures and evaluated whether any findings were indicative of fraud or non-compliance. If so, we re-evaluate our assessment of fraud risk and its resulting impact on our audit procedures.

Our audit response related to risks of non-compliance with laws and regulations

We assessed factors related to the risks of non-compliance with laws and regulations that could reasonably be expected to have a material effect on the financial statements from our general industry experience, through discussions with the Board of Management, reading minutes, inspection of internal audit and compliance reports, and performing substantive tests of details of classes of transactions, account balances or disclosures.

We also inspected lawyers' letters and correspondence with regulatory authorities and remained alert to any indication of (suspected) non-compliance throughout the audit. Finally we obtained written representations that all known instances of non-compliance with laws and regulations have been disclosed to us.

Going concern

We performed the following procedures in order to identify and assess the risks of going concern and to conclude on the appropriateness of management's use of the going concern basis of accounting. Management made a specific assessment of the Company's ability to continue as a going concern and to continue its operations for at least the next 12 months. We discussed and evaluated the assessment with management exercising professional judgement and maintaining professional skepticism and specifically focusing on the process followed by management to make the assessment, management bias that could represent a risk, the impact of current events and conditions have on the Company's operations and forecasted cash flows, with a focus on whether the Company will have sufficient liquidity to continue to meet its obligations as they fall due. We consider based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause a company to cease to continue as a going concern.

General audit procedures

Our audit further included among others:

- Performing audit procedures responsive to the risks identified, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion.
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures.
- Evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Our key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements. We have communicated the key audit matters to the Supervisory Board. The key audit matters are not a comprehensive reflection of all matters discussed.

The key audit matter related to the valuation of goodwill which was included in our last year's auditor's report is not considered a key audit matter for this year as the (forecasted) results of the Company have increased significantly and the impairment tests performed in the current and previous years show a significant amount of headroom.

These matters were addressed in the context of our audit of the financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Revenue recognition

Risk	Our audit approach	Key observations
<p>The Company recognizes revenue when it transfers control over a product or service to a customer. Revenue recognition is considered a key audit matter as revenue is a focus area for the Company and the related risk of management override of controls.</p> <p>We identified the following risks related to improper revenue recognition and management override for the Company:</p> <ol style="list-style-type: none"> 1. Cut-off of the primary performance obligation of sales transactions. 2. Manual journal entries in external revenues ledgers. 3. Issuance of invoices for fictitious transactions (which are never settled in cash). <p>Reference is made to Note 2 and 23 to the Consolidated Financial Statements for the significant accounting policies on revenue recognition.</p>	<p>We have assessed the appropriateness of the Company's revenue recognition accounting policies and assessed compliance with EU-IFRS accounting policies (IFRS 15). Our audit procedures included, amongst others, testing individual sales orders and transactions to assess proper identification of the identifiable performance obligations in the contracts and correct allocation of the transaction price to these performance obligations and recognition hereof. We used data analytics to correlate revenues to cash receipts. Furthermore, we tested manual journal entries with supporting evidence. We also selected sales transactions before and after year end to assess whether revenue was recognized in the correct period by, amongst others, inspection of sales contracts, internal acceptance tests, client acceptance documents and shipping documents.</p> <p>We also evaluated the adequacy of the disclosures provided by the Company in Note 2 and 23.</p>	<p>We assessed that the Company's revenue recognition accounting policies were appropriately applied and disclosed in Note 2 and 23 in the Consolidated Financial Statements.</p>

Valuation of deferred tax asset (Swiss Tax Reform)

Risk	Our audit approach	Key observations
<p>Effective January 1, 2020, the Federal Act on Tax Reform and AHV Financial (Swiss Tax Reform) became effective in Switzerland, abolishing the former privileged corporate tax regimes. Upon transition, the Company has decided to use the current law step up method, which creates tax free reserves. The amortization of these tax free reserves can be offset against future taxable Income on Cantonal and Communal level for a period of five years (years 2020 up to and including 2024) and to a maximum of 70% of the taxable income. The Company recorded a net deferred tax asset of € 11.6 million in 2019. In 2020 the Company utilized € 3.5 million of the deferred tax assets related to these tax free reserves. Based on the updated projections for the Company's Swiss operations for the years 2021 up to and including 2024, the Company recorded an additional deferred tax asset of € 10.2 million. An amount of € 12.4 million related to the Swiss Tax Reform is not recognized, as the Company does not expect to utilize these tax credits within four years.</p> <p>The recognition of this deferred tax asset is considered a key audit matter as the amount is material and the valuation of the deferred tax asset is based on forward looking assumptions that may be affected by future market and economic conditions.</p> <p>Reference is made to Note 29 for the disclosure related to income taxes.</p>	<p>Our audit procedures included the use of tax specialists in Switzerland to assess the tax legislation and evaluating the underlying tax calculations of the Company. We have evaluated the Company's assumptions and estimates in relation to the likelihood of generating sufficient future taxable income based on budgets and strategic business plans, principally by performing sensitivity analyses and evaluating and testing the key assumptions used to determine the amounts recognized.</p> <p>For the financial forecast after 2021, the Company used assumptions in respect of market growth estimates from semiconductor equipment industry market reports. We have evaluated the historical accuracy of management's estimates that drive the assessment, such as business plans and verified the consistency of other forward looking information used within the financial closing process.</p> <p>We also evaluated the adequacy of the disclosures provided by the Company in Note 29 in relation to income taxes.</p>	<p>We assessed that the Company's tax accounting policies were appropriately applied in accordance with the EU-IFRS accounting policies (IAS 12 and IFRIC 23) and adequate disclosed in Note 29 in the Consolidated Financial Statements.</p>

Report on other information included in the Annual Report

In addition to the financial statements and our auditor's report thereon, the Annual Report contains other information that consists of:

- Report of the Board of Management.
- Remuneration Report.
- Report of the Supervisory Board.
- Other information as required by Part 9 of Book 2 of the Dutch Civil Code.

Based on the following procedures performed, we conclude that the other information:

- Is consistent with the financial statements and does not contain material misstatements.
- Contains the information as required by Part 9 of Book 2 and Sections 2:135b and 2:145 sub section 2 of the Dutch Civil Code.

We have read the other information. Based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements. By performing these procedures, we comply with the requirements of Part 9 of Book 2 and Section 2:135b sub-Section 7 of the Dutch Civil Code and the Dutch Standard 720. The scope of the procedures performed is substantially less than the scope of those performed in our audit of the financial statements.

Management is responsible for the preparation of the other information, including the Report of the Board of Management in accordance with Part 9 of Book 2 of the Dutch Civil Code, other information required by Part 9 of Book 2 of the Dutch Civil Code and the Remuneration Report in accordance with Sections 2:135b and 2:145 sub section 2 of the Dutch Civil Code.

Report on other legal and regulatory requirements and ESEF

Engagement

We were engaged as auditor of BE Semiconductor Industries N.V. as of the audit for the year 2018 and have operated as statutory auditor since the appointment in the AGM of April 26, 2018.

No prohibited non-audit services

We have not provided prohibited non-audit services as referred to in Article 5(1) of the EU Regulation on specific requirements regarding statutory audit of public-interest entities.

European Single Electronic Reporting Format

BE Semiconductor Industries N.V. has prepared the Annual Report in the European single electronic reporting format (ESEF). The requirements for this format are set out in the Commission Delegated Regulation (EU) 2019/815 with regard to regulatory technical standards on the specification of a single electronic reporting format (hereinafter: the RTS on ESEF).

In our opinion, the Annual Report, prepared in the XHTML format, including the partially marked-up Consolidated Financial Statements, as included in the reporting package by BE Semiconductor Industries N.V., has been prepared in all material respects in accordance with the RTS on ESEF.

Management is responsible for preparing the Annual Report, including the financial statements, in accordance with RTS on ESEF, whereby management combines the various components into a single reporting package.

Our responsibility is to obtain reasonable assurance for our opinion whether the Annual Report in this reporting package is prepared in accordance with the RTS on ESEF.

Our procedures, taking into account Alert 43 of the NBA (the Netherlands Institute of Chartered Accountants), included amongst others:

- Obtaining an understanding of the BE Semiconductor Industries N.V.'s financial reporting process, including the preparation of the reporting package.
- Obtaining the reporting package and performing validations to determine whether the reporting package containing the Inline XBRL instance and the XBRL extension taxonomy files has been prepared in accordance with the technical specifications as included in the RTS on ESEF.
- Examining the information related to the Consolidated Financial Statements in the reporting package to determine whether all required mark-ups have been applied and whether these are in accordance with the RTS on ESEF.

Description of responsibilities for the financial statements

Responsibilities of management and the Supervisory Board for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code. Furthermore, management is responsible for such internal control as management determines is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

As part of the preparation of the financial statements, management is responsible for assessing the Company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, management should prepare the financial statements using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so. Management should disclose events and circumstances that may cast significant doubt on the Company's ability to continue as a going concern in the financial statements.

The Supervisory Board is responsible for overseeing the Company's financial reporting process.

Our responsibilities for the audit of the financial statements

Our objective is to plan and perform the audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

We have exercised professional judgement and have maintained professional skepticism throughout the audit, in accordance with Dutch Standards on Auditing, ethical requirements and independence requirements. The *Our audit approach* section above includes an informative summary of our responsibilities and the work performed as the basis for our opinion.

Communication

We communicate with the Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant findings in internal control that we identify during our audit. In this respect we also submit an additional report to the Audit Committee in accordance with Article 11 of the EU Regulation on specific requirements regarding statutory audit of public-interest entities. The information included in this additional report is consistent with our audit opinion in this auditor's report.

We provide the Supervisory Board with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Supervisory Board, we determine the key audit matters: those matters that were of most significance in the audit of the financial statements. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, not communicating the matter is in the public interest.

Eindhoven, February 18, 2021

Ernst & Young Accountants LLP

M. Moolenaar

Other Information

Preference shares

At December 31, 2020, the Company's authorized capital consisted of 160,000,000 ordinary shares, nominal value € 0.01 per share, and 160,000,000 preference shares, nominal value € 0.01 per share.

No preference shares were outstanding at December 31, 2020.

In April 2000, the foundation "Stichting Continuïteit BE Semiconductor Industries" (the "Foundation") was established. The Foundation is an independent legal entity and is not owned or controlled by any other legal person. The purpose of the Foundation is to safeguard the interests of the Company, the enterprise connected therewith and all the parties having an interest therein and to exclude as much as possible influences which could threaten, among other things, the Company's continuity, independence and identity. The aim of the preference shares is, amongst other things, to provide a protective measure against unfriendly take-over bids and other possible unsolicited influences that could threaten the Company's continuity, independence and identity, including, but not limited to, a proposed resolution to dismiss the Supervisory Board or the Board of Management. The issue of preference shares would enable the Company to consider its position in the then-existing circumstances.

By agreement of May 19, 2008 between the Company and the Foundation, which replaced a similar agreement dated April 19, 2002, the Foundation has been granted a call option pursuant to which it may purchase a number of preference shares up to a maximum of the number of outstanding ordinary shares at the time of exercise of the option minus one.

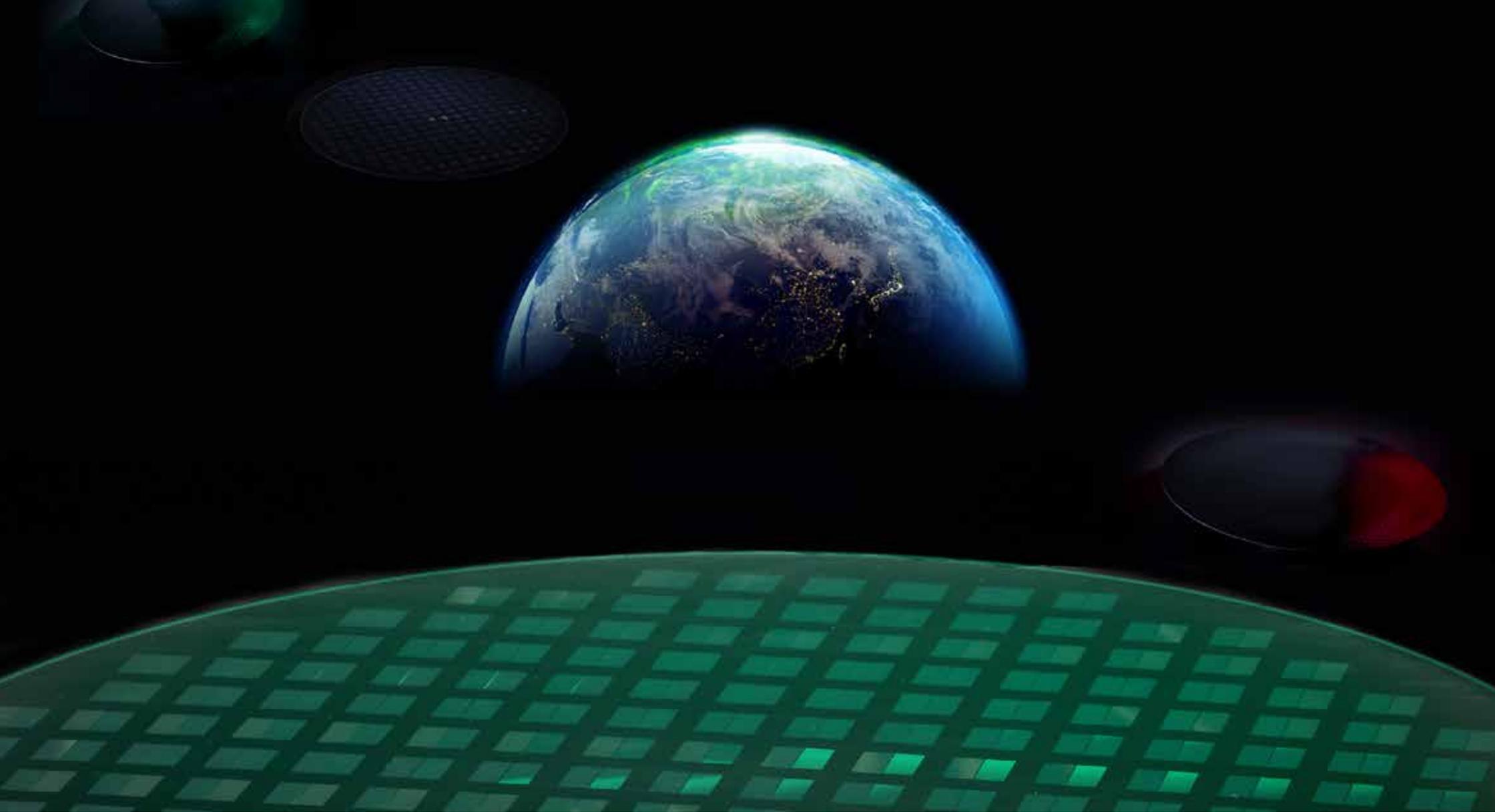
The Company has also granted to the Foundation the right to file an application for an inquiry into the policy and conduct of the business of the Company with the Enterprise Chamber of the Amsterdam Court of Appeal (Ondernemingskamer). The Company believes that this may be a useful option in the period before the issuance of preference shares, without causing a dilution of the rights of other shareholders at that stage.

The members of the board of the Foundation are W.L.J. Bröcker (Chairman), J.N. de Blécourt, F. van Hout and T. de Waard. Except for Mr De Waard who is a former Supervisory Board member, none of the members of the board of the Foundation are connected to the Company. The Foundation therefore qualifies as an independent legal entity within the meaning of section 5:71 paragraph 1 sub c of the Dutch Financial Supervision Act (Wet op het financieel toezicht).

Appropriation of the result

The Articles of Association provide that the Company can only distribute profits from its free distributable reserves. The Board of Management, with the approval of the Supervisory Board, will propose to the Annual General Meeting of Shareholders to determine the total dividend over 2020 at € 1.70 per ordinary share, amounting to a total of € 123.9 million. The Board of Management proposes to allocate the part of the net income for the year 2020 remaining after payment of the dividend to the retained earnings. The Supervisory Board has approved this proposal.

The General Meeting of Shareholders approved the 2019 statutory financial statements on April 30, 2020.



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