

# ANNUAL GENERAL MEETING

April 29, 2022

This presentation contains statements about management's future expectations, plans and prospects of our business that constitute forward-looking statements, which are found in various places throughout the presentation, including, but not limited to, statements relating to expectations of orders, net sales, product shipments, expenses, timing of purchases of assembly equipment by customers, gross margins, operating results and capital expenditures. The use of words such as “anticipate”, “estimate”, “expect”, “can”, “intend”, “believes”, “may”, “plan”, “predict”, “project”, “forecast”, “will”, “would”, and similar expressions are intended to identify forward looking statements, although not all forward looking statements contain these identifying words. The financial guidance set forth under the heading “Outlook” contains such forward looking statements. While these forward looking statements represent our judgments and expectations concerning the development of our business, a number of risks, uncertainties and other important factors could cause actual developments and results to differ materially from those contained in forward looking statements, including any inability to maintain continued demand for our products; failure of anticipated orders to materialize or postponement or cancellation of orders, generally without charges; the volatility in the demand for semiconductors and our products and services; the extent and duration of the COVID-19 pandemic and measures taken to contain the outbreak, and the associated adverse impacts on the global economy, financial markets, global supply chains and our operations as well as those of our customers and suppliers; failure to develop new and enhanced products and introduce them at competitive price levels; failure to adequately decrease costs and expenses as revenues decline; loss of significant customers, including through industry consolidation or the emergence of industry alliances; lengthening of the sales cycle; acts of terrorism and violence; disruption or failure of our information technology systems; consolidation activity and industry alliances in the semiconductor industry that may result in further increased customer concentration, inability to forecast demand and inventory levels for our products; the integrity of product pricing and protection of our intellectual property in foreign jurisdictions; risks, such as changes in trade regulations, conflict minerals regulations, currency fluctuations, political instability and war, associated with substantial foreign customers, suppliers and foreign manufacturing operations, particularly to the extent occurring in the Asia Pacific region where we have a substantial portion of our production facilities; our ability to mitigate the dislocations caused by the flood at one of our Malaysian production facilities, potential instability in foreign capital markets; the risk of failure to successfully manage our diverse operations; any inability to attract and retain skilled personnel, including as a result of restrictions on immigration, travel or the availability of visas for skilled technology workers as a result of the COVID-19 pandemic; those additional risk factors set forth in Besilink's annual report for the year ended December 31, 2021 and other key factors that could adversely affect our businesses and financial performance contained in our filings and reports, including our statutory consolidated statements. We expressly disclaim any obligation to update or alter our forward-looking statements whether as a result of new information, future events or otherwise.

- I. Company Overview
- II. Market
- III. Strategy
- IV. Financial Review
- V. Q1-22 Results & Outlook



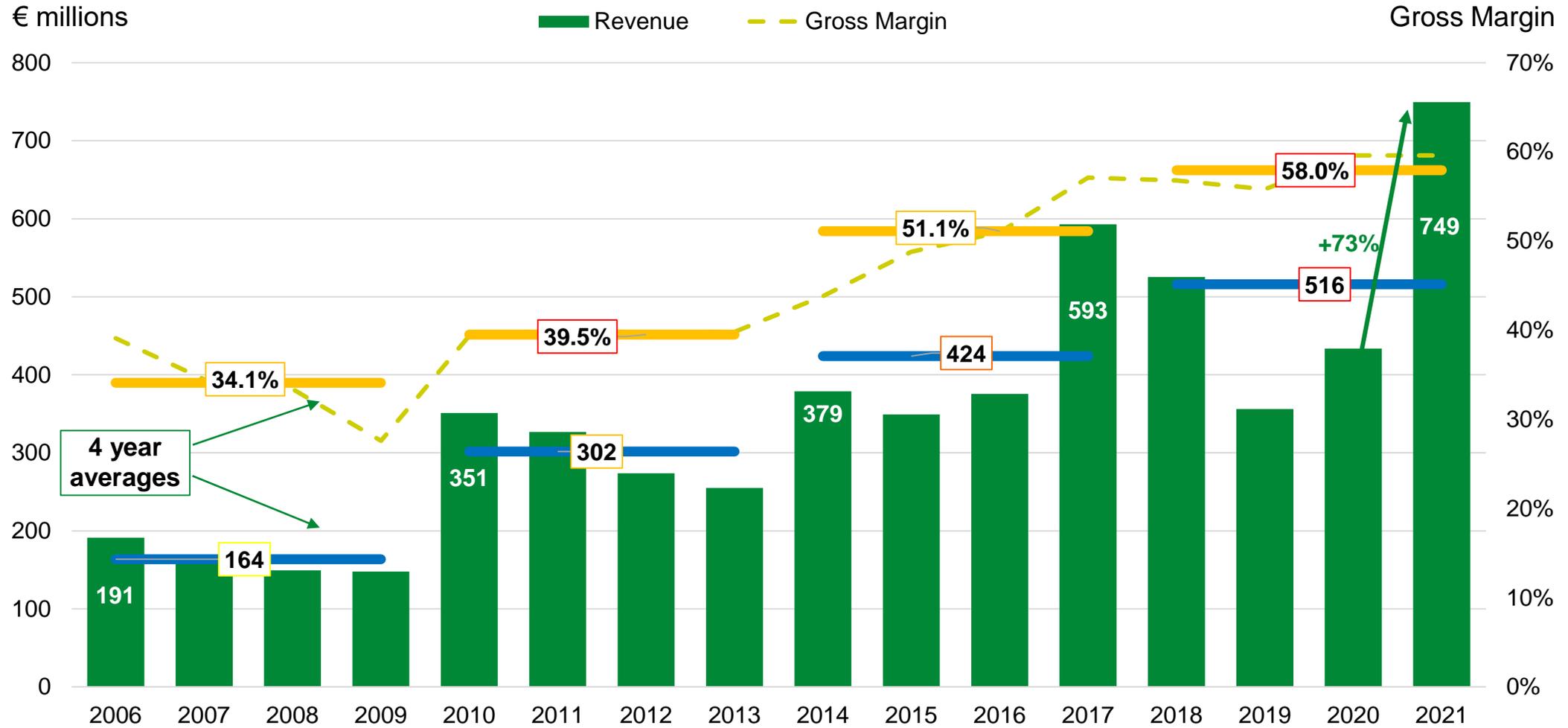
# I. COMPANY OVERVIEW

# Key Highlights 2021 - 2020



€ millions except % and EPS	2021	2020	2021/20 Variance
<b>Revenue</b>	€ 749.3	€ 433.6	<b>+72.8%</b>
<b>Orders</b>	€ 939.1	€ 472.1	<b>+98.9%</b>
<b>Gross Margin</b>	59.6%	59.6%	-
<b>Net Income</b>	€ 282.4	€ 132.3	<b>+113.5%</b>
<b>Net Margin</b>	37.7%	30.5%	<b>+7.2</b>
<b>EPS (Basic)</b>	€ 3.70	€ 1.82	<b>+103.3%</b>
<b>Return on Average Equity</b>	52.1%	39.5%	<b>+17.5</b>
<b>Net Cash</b>	€ 370.4	€ 198.7	<b>+86.4%</b>
<b>Scope 1 and 2 Emissions</b> (tCO <sub>2</sub> e/€ millions revenue)	14.4	19.8	<b>-27.3%</b>

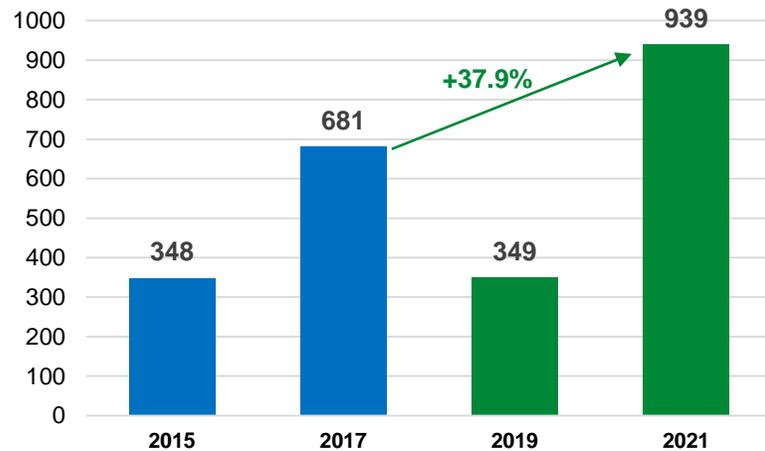
# Through Cycle Revenue and Gross Margin Trends



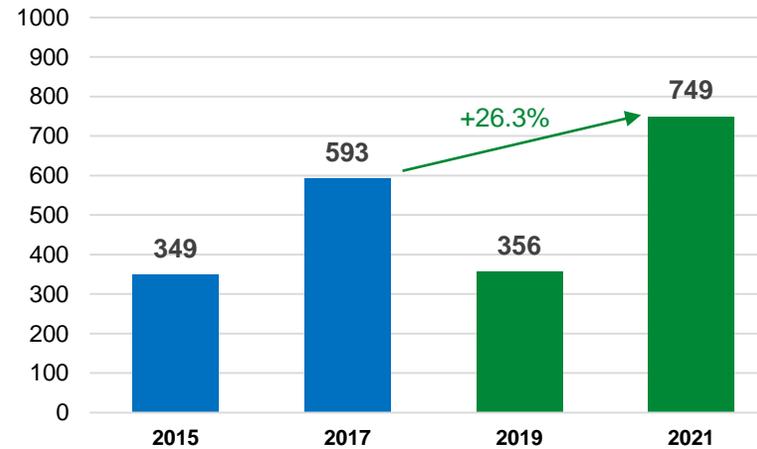
# Performance Significantly Above Last Cycle



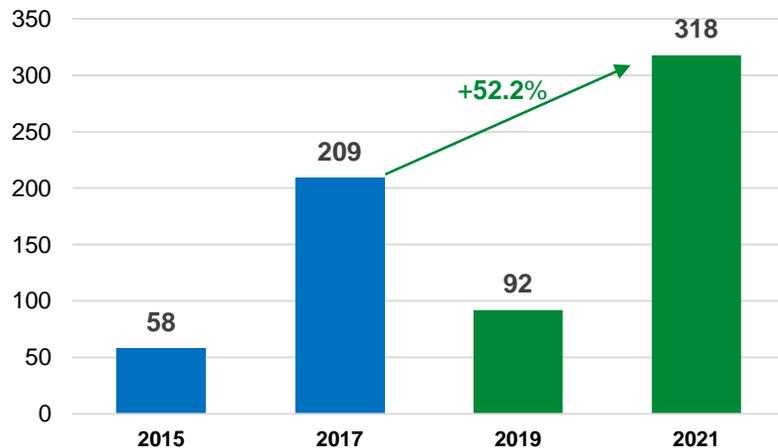
### Orders (€ millions)



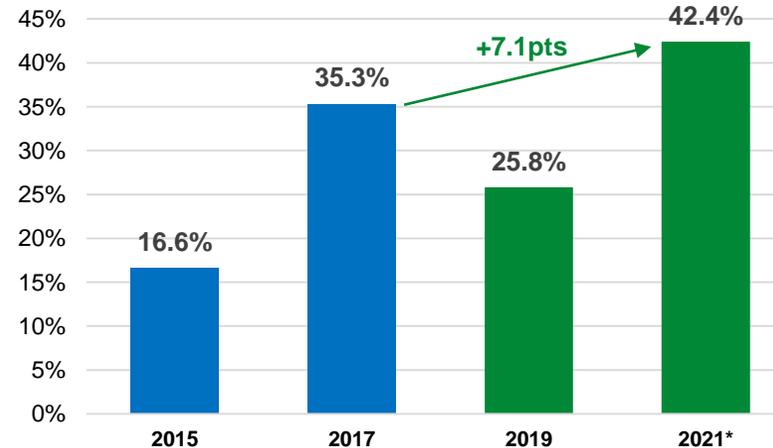
### Revenue (€ millions)



### Operating Profit (€ millions)

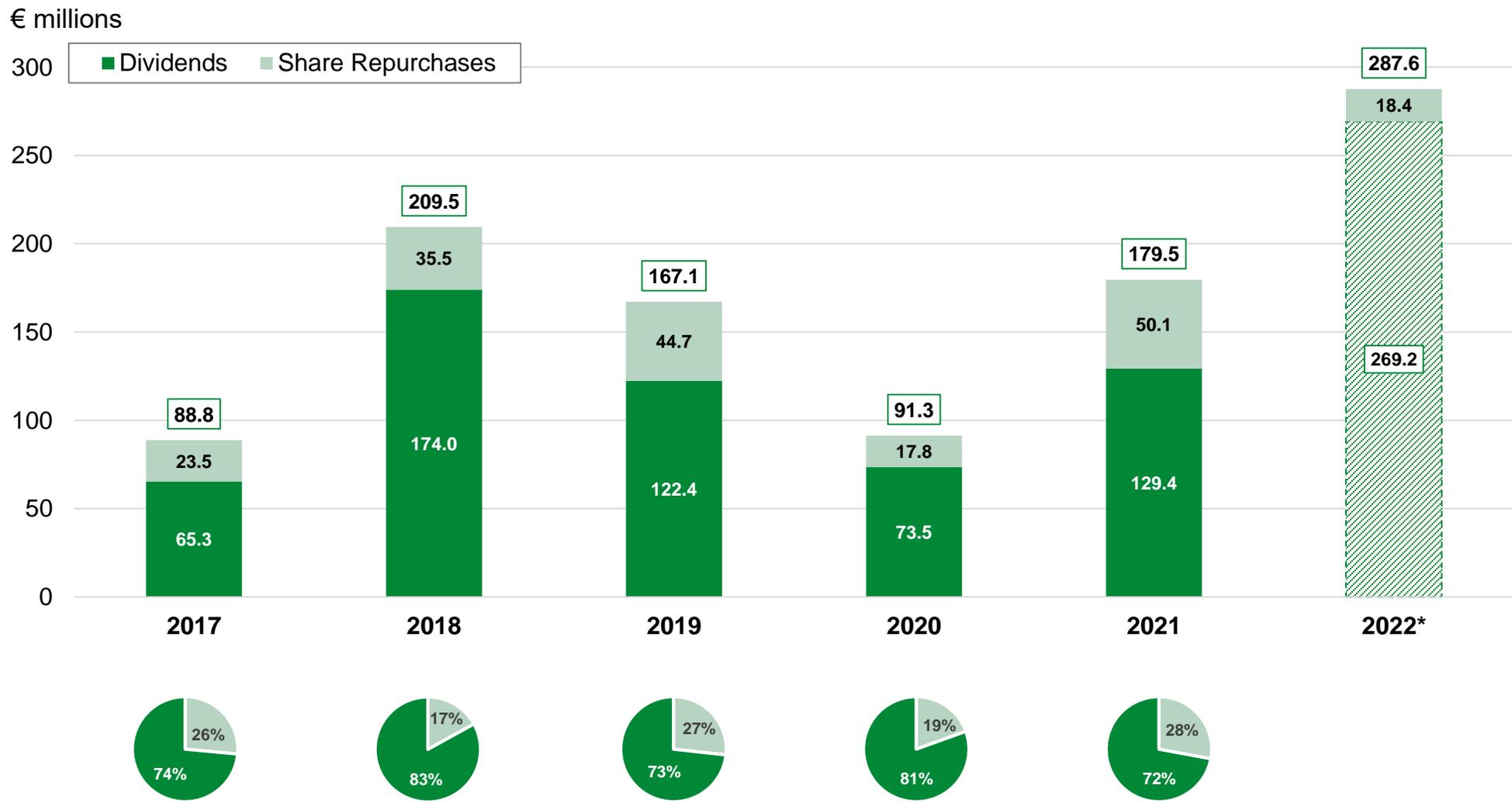


### Operating Margin



- **Orders +37.9% vs. 2017**
- **Revenue +26.3%**
- **Fixed headcount down 5%**
- **Operating profit +52.2%**
- **Operating margin up 7.1 points to 42.4%**

# Shareholder Friendly Capital Allocation. €1.2 Billion Since 2011\*

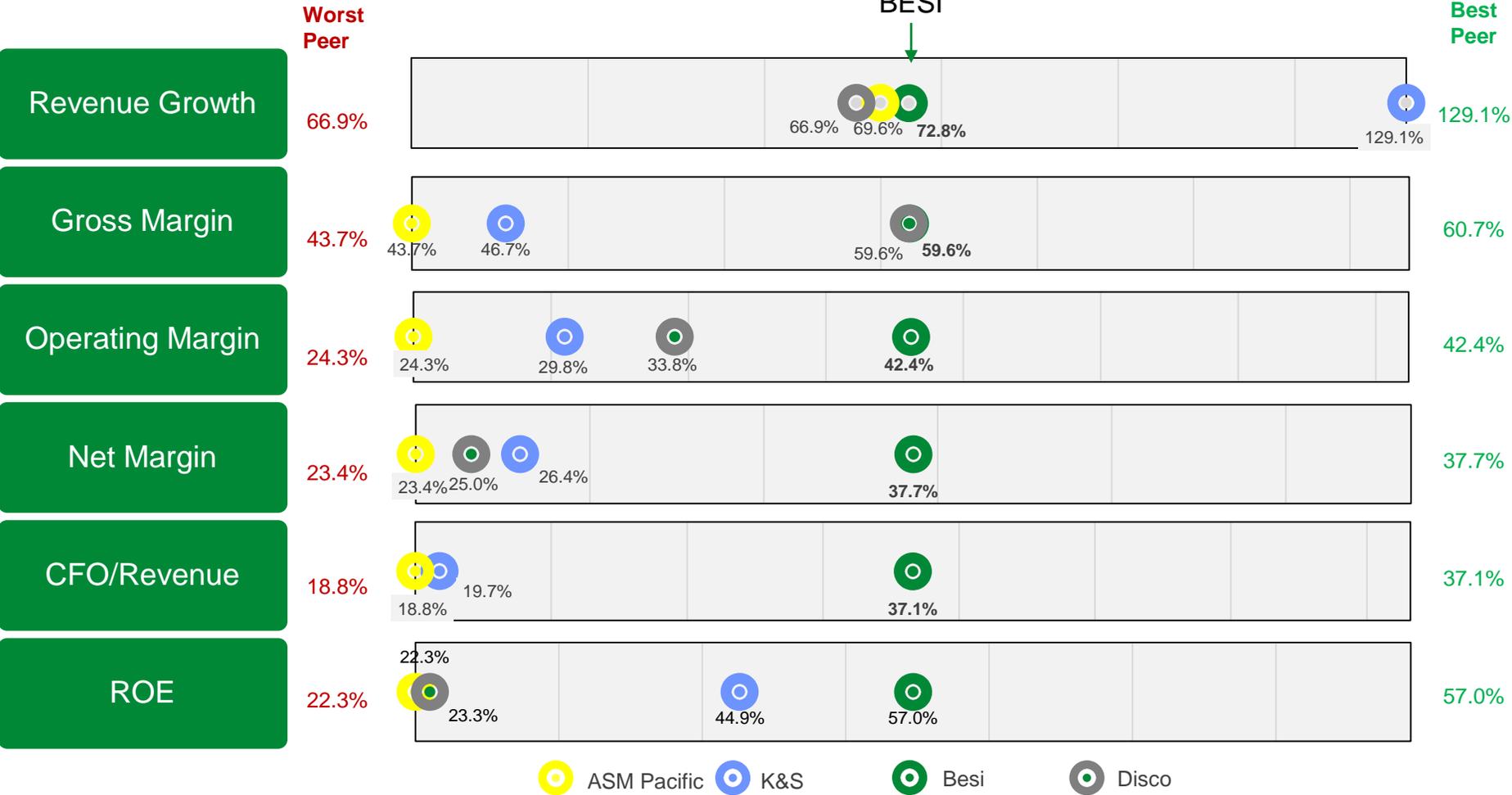


\* Assumes proposed 2021 dividend payment of € 3.33 per share. Includes share repurchases up to April 28, 2022

# Peer Leading Financial Metrics



## Key Financial Metrics (LTM\*)



**Besi's margins and ROE have exceeded direct peers through cycles:**

- Investment in business model has yielded high returns
- Structurally higher gross and operating margins over past five years
- Besi capital allocation strategy has also helped drive ROE outperformance

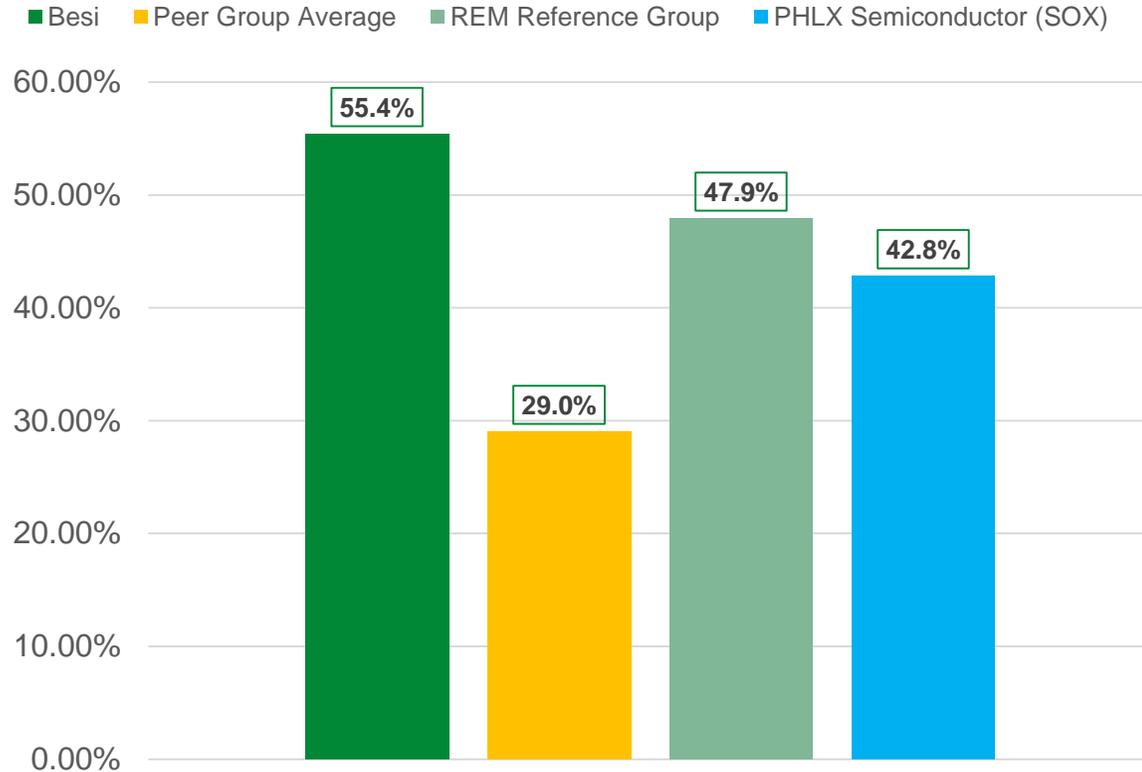
Source: Reuters, ASM PT backend segment information used for revenue, gross margin and operating margins

\* LTM ending December 31, 2021

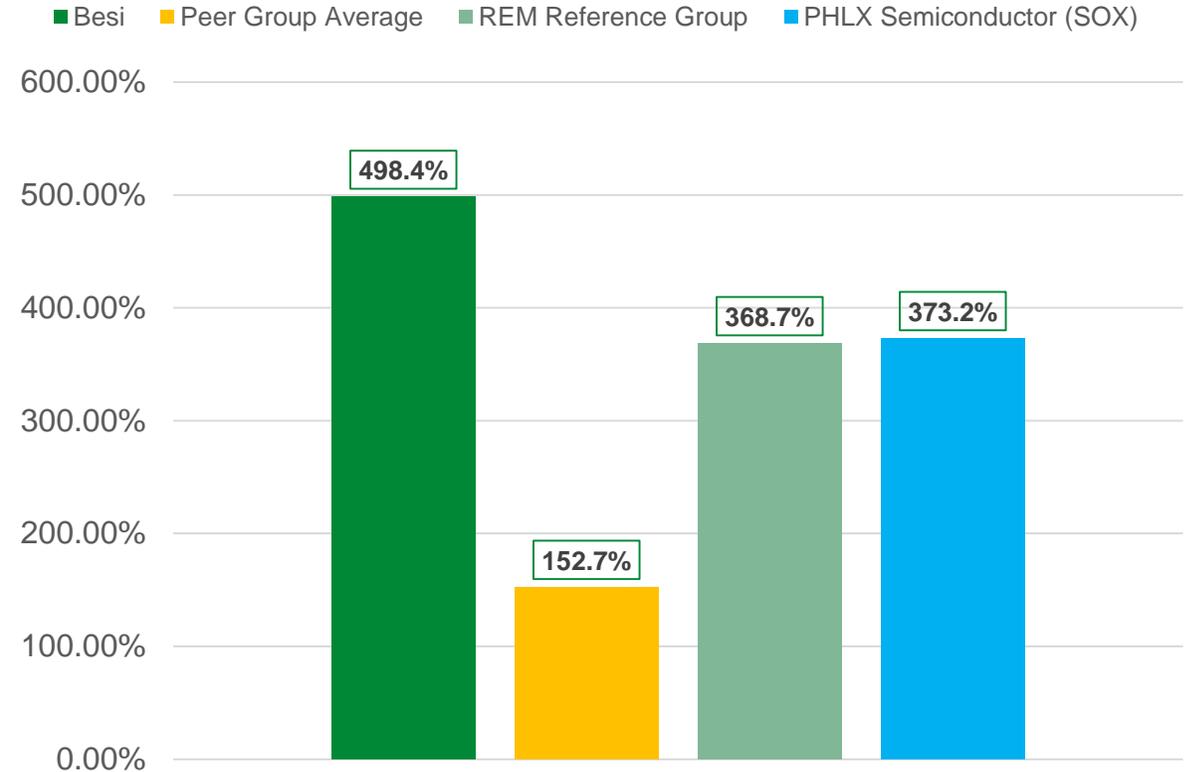
# Total Return Outperformance versus Peers for 2021 and Past 5 Years



**2021 Total Shareholder Return\***  
Besic versus Peer Group, REM Reference Group & SOX Index



**5 Year Cumulative Shareholder Return\***  
Besic versus Peer Group, REM Reference Group & SOX Index



- Total Shareholder Return includes reinvestment of dividends
- Besic returns calculated in euro. Philadelphia SOX returns calculated in USD
- Peer group average consists of Kulicke & Soffa, ASM PT, Disco Corp, Towa, Tokyo Seimitsu

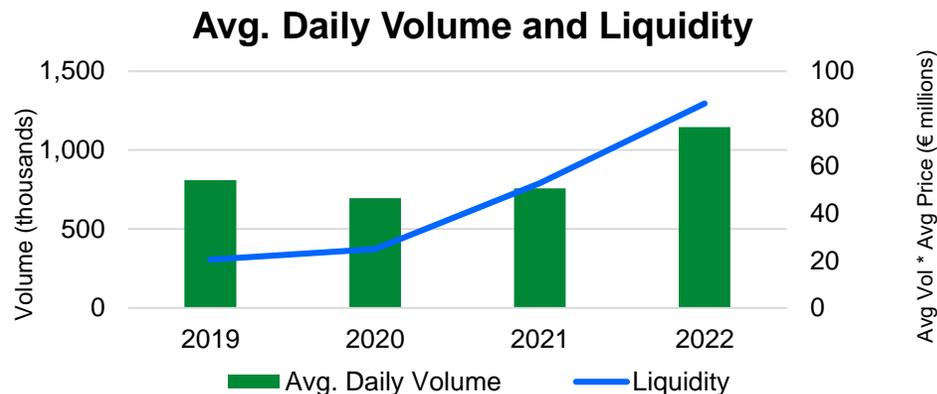
\* Source: Refinitiv Data Stream

# Besi Market Cap & Liquidity Has Expanded Shareholdings Migrated from NL to US/UK over Past 5 Years

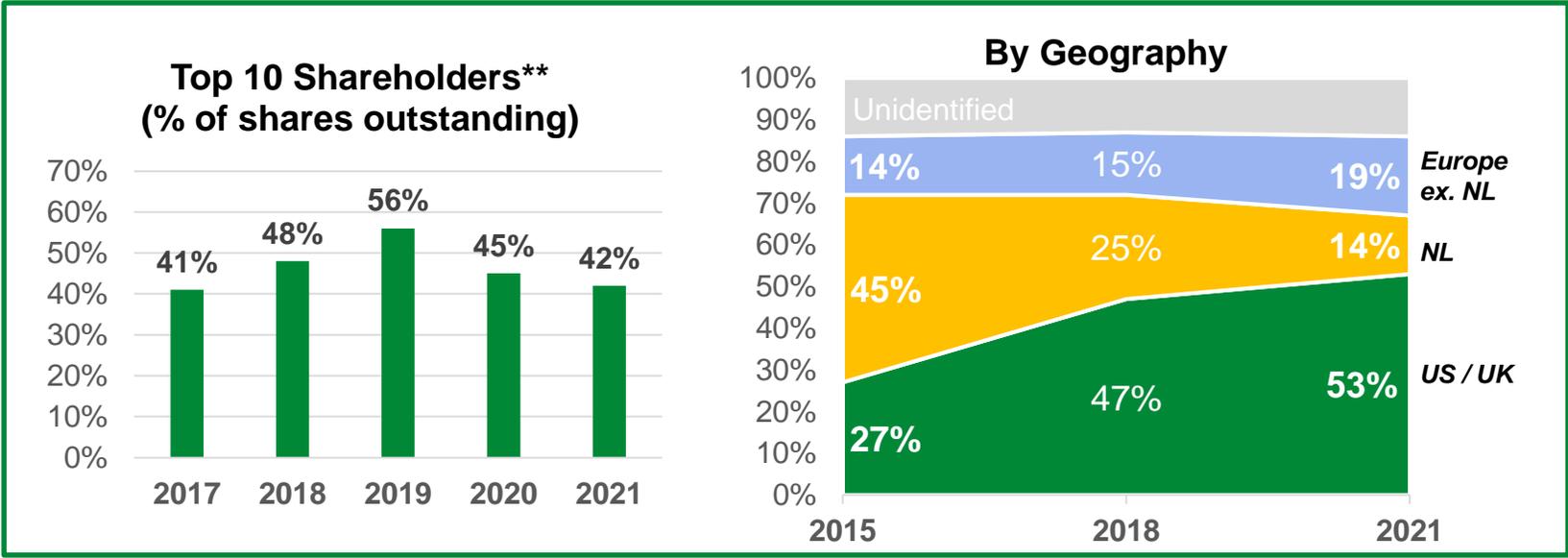


## Market Profile

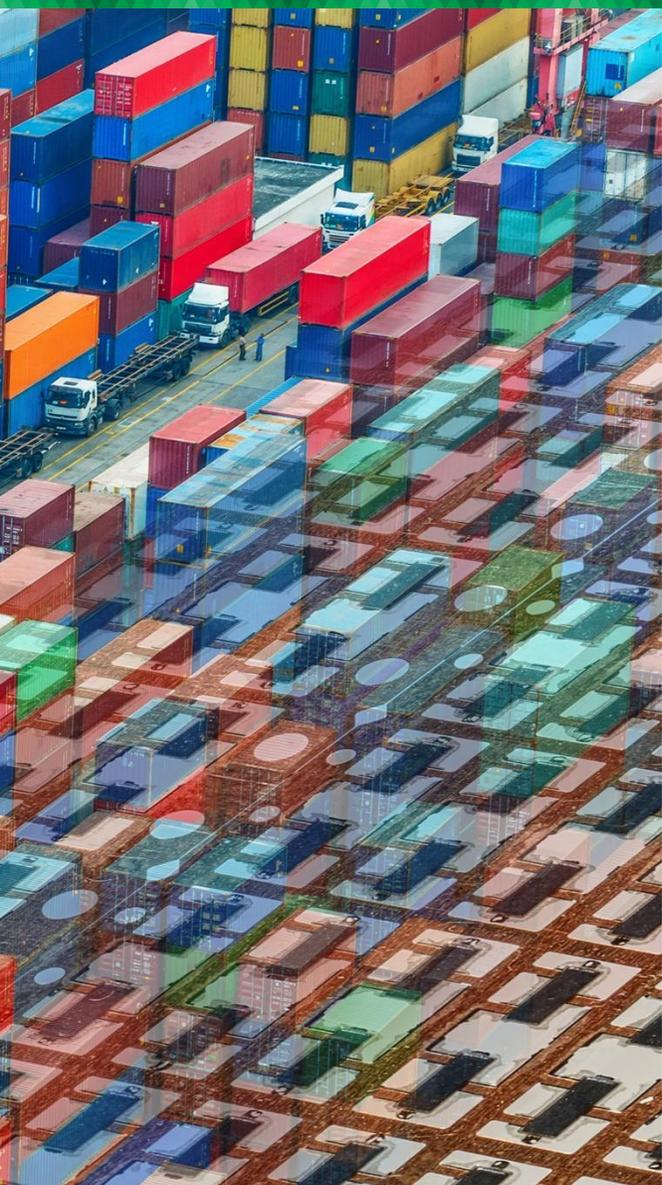
- Symbol/ Index**
  - BESI
  - Euronext AEX
- Market Cap\***
  - € 6.1 billion (\$ 6.5 billion)
- Dividend Policy**
  - Pay out 40-100% of net income per annum



## Share Ownership

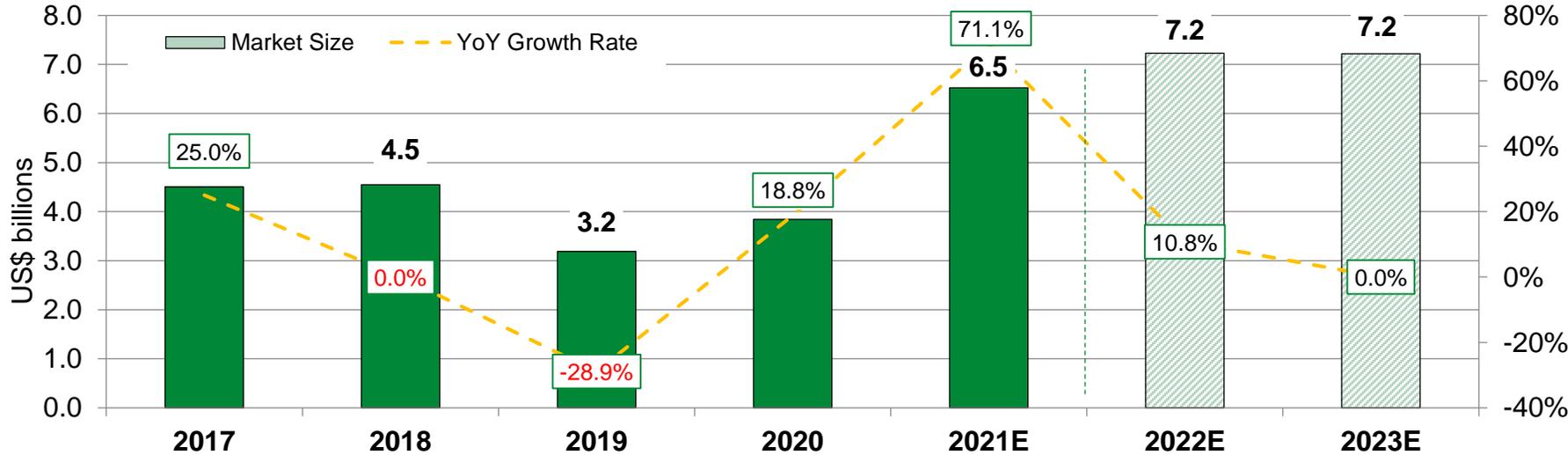


\* As of March 31, 2022 \*\* Besi estimates

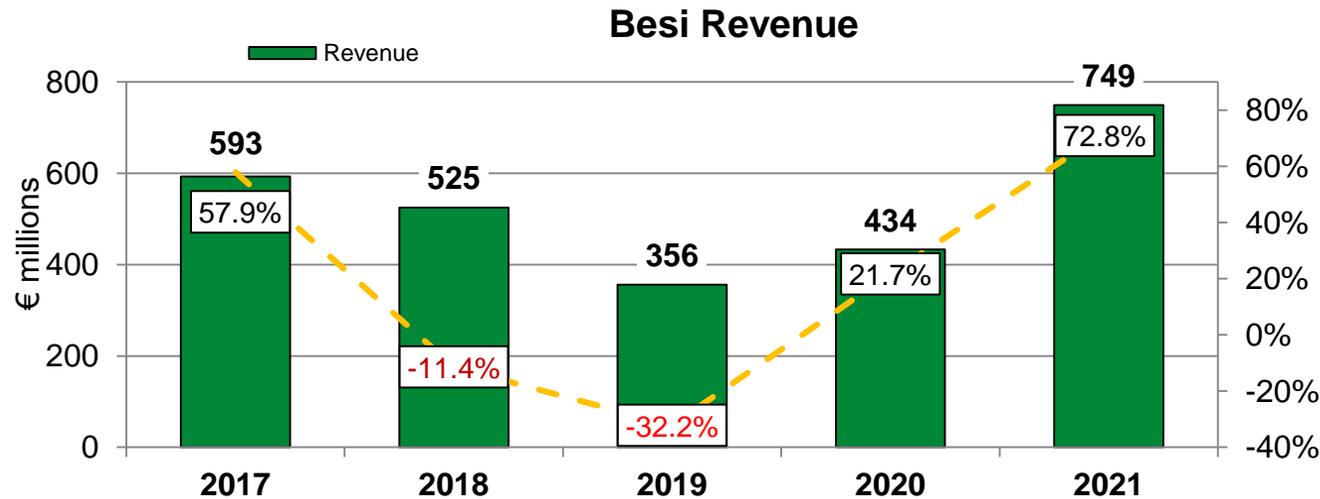


## II. MARKET

# Assembly Equipment Forecast



Source: Tech Insights, April 2022. Assembly equipment revenue excludes hybrid bonding contribution and service revenue.



**+71.1% growth now estimated for 2021**

- Upsized from 55.6% last quarter
- Market reached record \$ 6.5 billion

**Tech Insights expects market to reach \$ 7.2 billion in 2022 (+10.8%)**

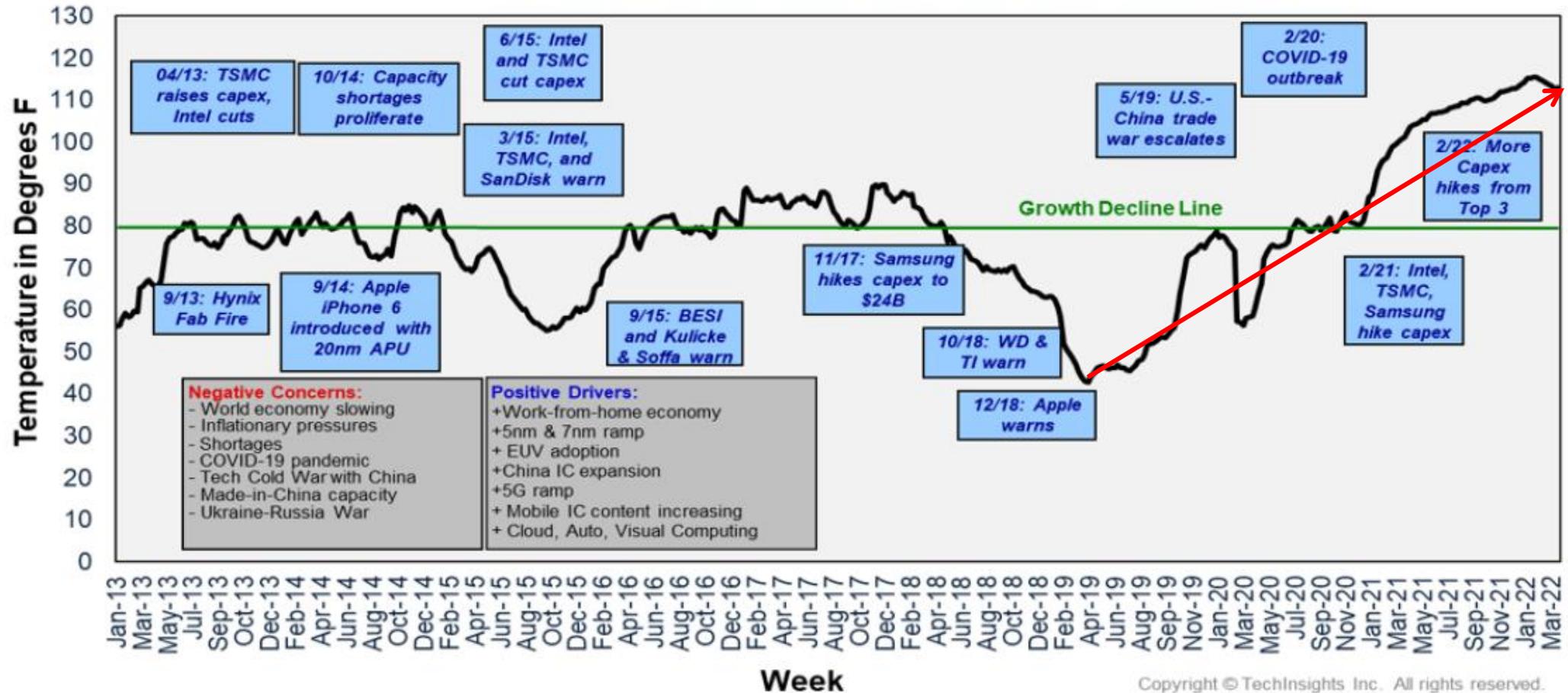
- Excluding hybrid bonding and spares/service revenue

**Strong secular market fundamentals:**

- 5G, Datacenter, AI and HPC primary drivers
- Investment in new process technologies: hybrid bonding/CSP

# Industry Upturn Continues in H1-22

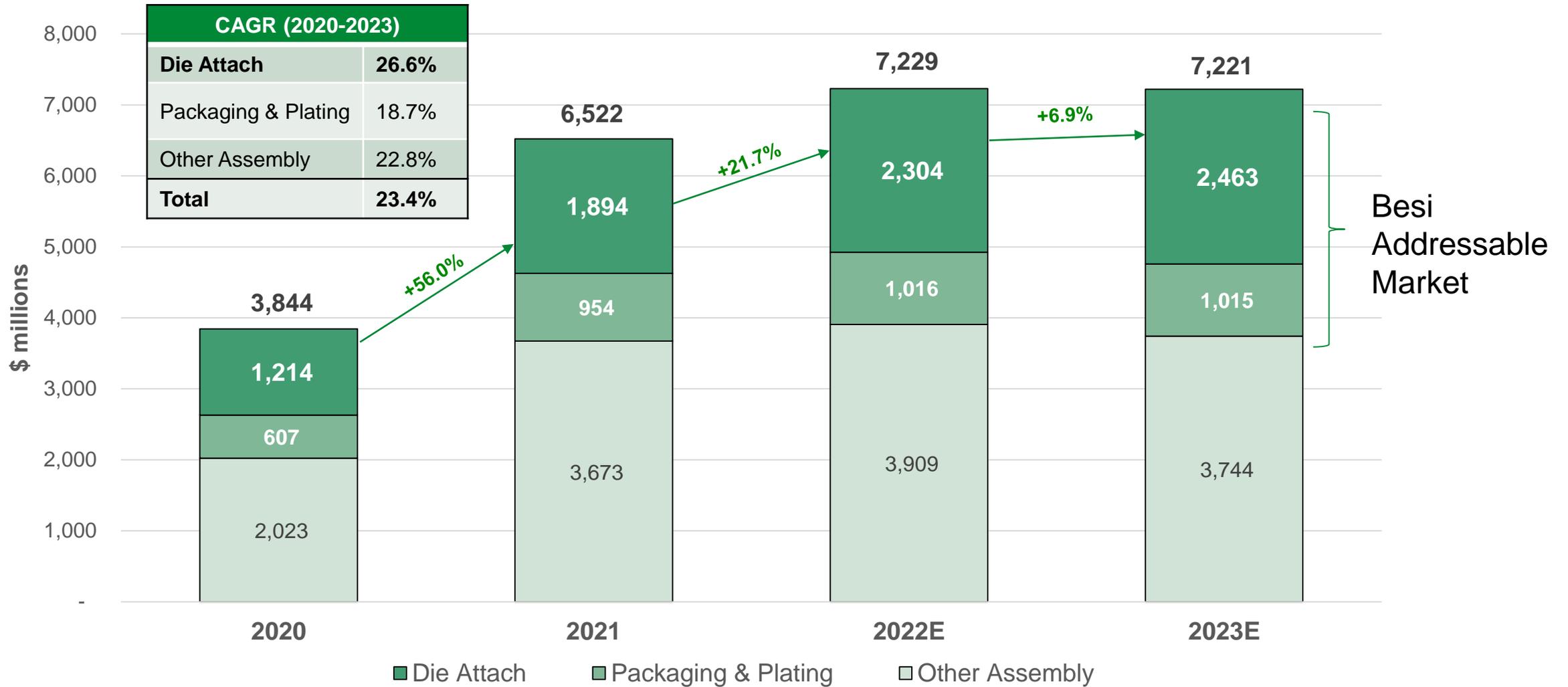
**TECHINSIGHTS' GLOBAL CHIP MAKING CLIMATE TREND INDEX**  
 (Average of Regional Order Activity Patterns in Chip Equipment)



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Source: Tech Insights, April 2022

# Growth Expected to Favor Besi's Product Portfolio, Particularly Die Attach



Source: Tech Insights, April 2022. Addressable market revenue excludes hybrid bonding contribution.

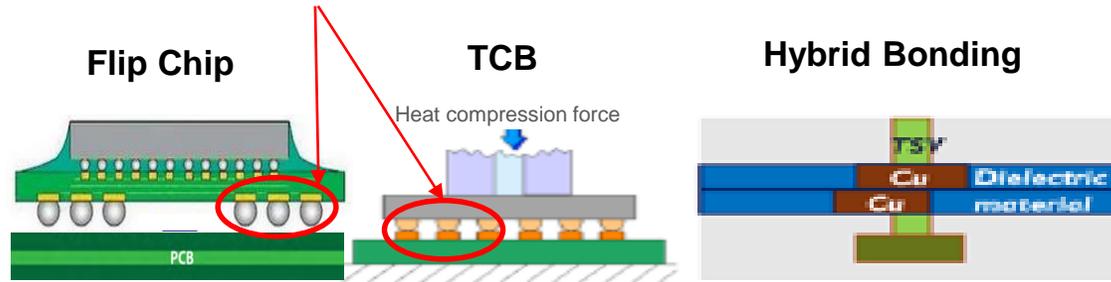
# Hybrid Bonding Adoption Reflects Industry Shift To Smaller, Integrated, Heterogeneous Chip Designs. Besi Has Leading Position



## Direct Cu-Cu Interconnect

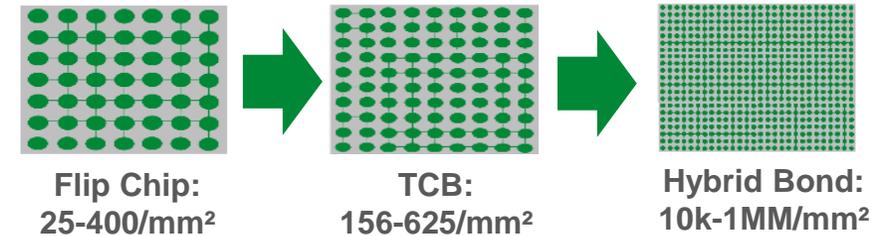
Eliminates need for interposer & solder balls

Results in smaller, thinner form factor to design more complex devices



## Ultra-High Bandwidth & Speed

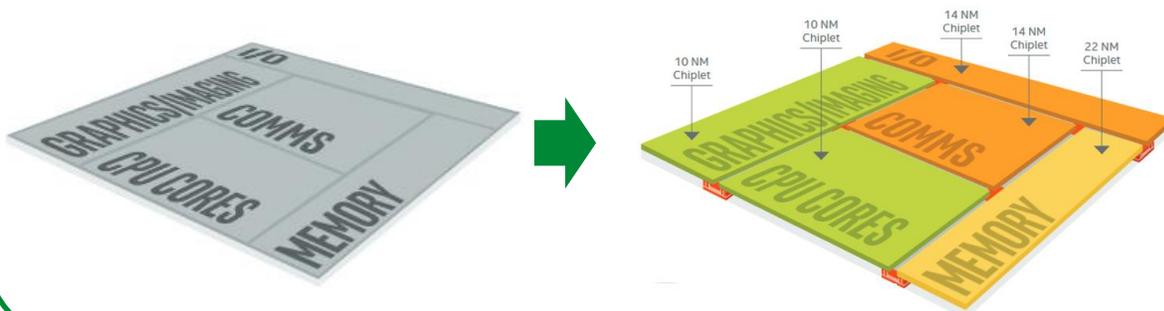
Contact density increased by factor of 1000x by eliminating solder balls, reducing distance between contacts & increasing speed & data transfer



Current design achieves 122 nano placement accuracy at 2,000 uph

## Design Flexibility

Hybrid bonding facilitates development of new 3D chiplet architectures and increased features/functionality in smaller form factor



## Lower Cost of Ownership

### Lower Cost of Ownership

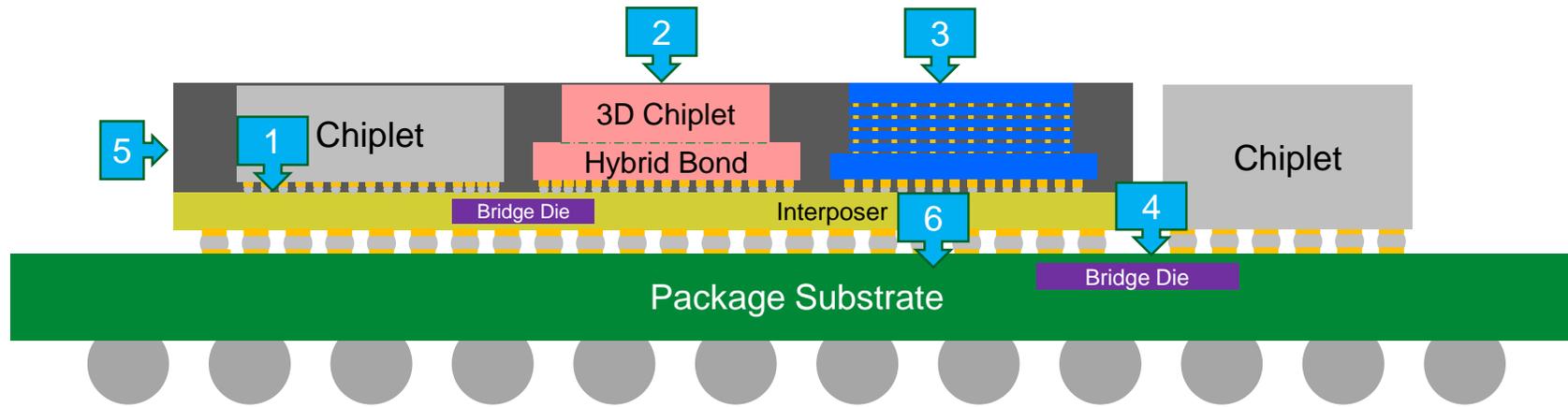
- Performance and functionality increased
- Fewer chips required
- Materials cost lower
- Cost per contact lower
- Lower heat dissipation
- Energy consumption lower

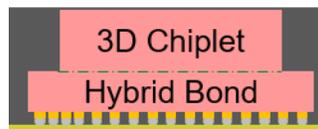
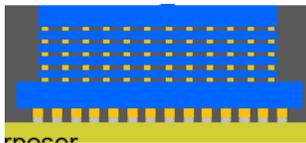
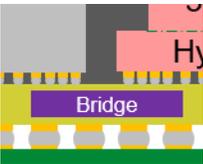
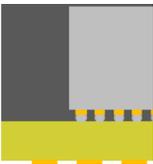
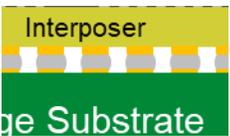
### Energy Efficiency

Process	Flip Chip	TCB	Hybrid Bonding
Energy/Bit	0.5pJ/bit	0.1pJ/bit	<.05pJ/bit

Smaller devices draw less electrical power

# Enables New 3D Structures and Growth of Other Wafer Level Assembly Processes



<p>1</p> <p>Chip to Wafer TCB</p> 	<p>2</p> <p>Hybrid Bonding</p> 	<p>3</p> <p>High Bandwidth Memory Stacking</p> 	<p>4</p> <p>Embedded Bridge Die Attach</p> 	<p>5</p> <p>Wafer Level Die Molding</p> 	<p>6</p> <p>HD Interposer to Substrate</p> 
<p>TC Next C2W</p>	<p>8800 Chameo Ultra Plus</p>	<p>8800 TC Advanced 8800 Chameo Ultra+</p>	<p>8800 Chameo Ultra</p>	<p>FML</p>	<p>2200 evo</p>

# Hybrid Bonding Adoption Leads to Higher Capital Intensity per UPH

**8800 FC Quantum**  
3 micron accuracy



ASP: \$500k

~9,000uph

**8800 Ultra Accurate Chip to Wafer Hybrid Bonder**  
<200 nanometer accuracy



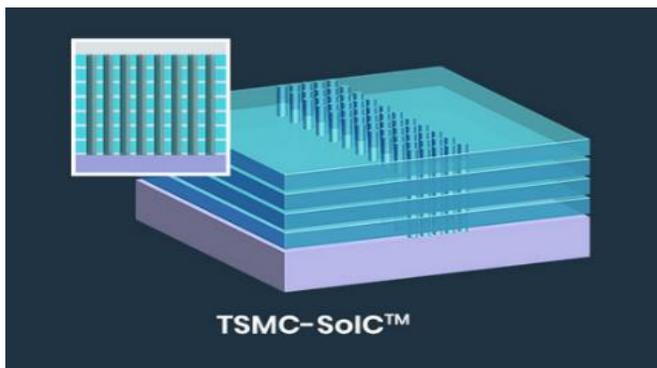
Pricing: \$1.5MM-2.5MM  
Configuration dependent

~1,500uph





# SAMSUNG



## Hybrid Bonding

Enabling new architectures

TSV/Hybrid Bonding



## Cu Hybrid Bonding Technology

Bonding performance affects package performance \*Electrical & thermal



Bandwidth	Band Pitch	Allowable Power	Bond Gap
Up to 300% vs CoW	Up to 85% vs CoW	Up to 33% vs CoW	Up to 67% vs CoW

(source : IWLPCC 2019, SAMSUNG)

## Fine pitch requires continuously New Bump & Bonding Technology



(source : SAFE 2020, SAMSUNG)

Source: TSMC, AMD presentations

Source: Intel Architecture Day 2020

Source: Samsung presentations

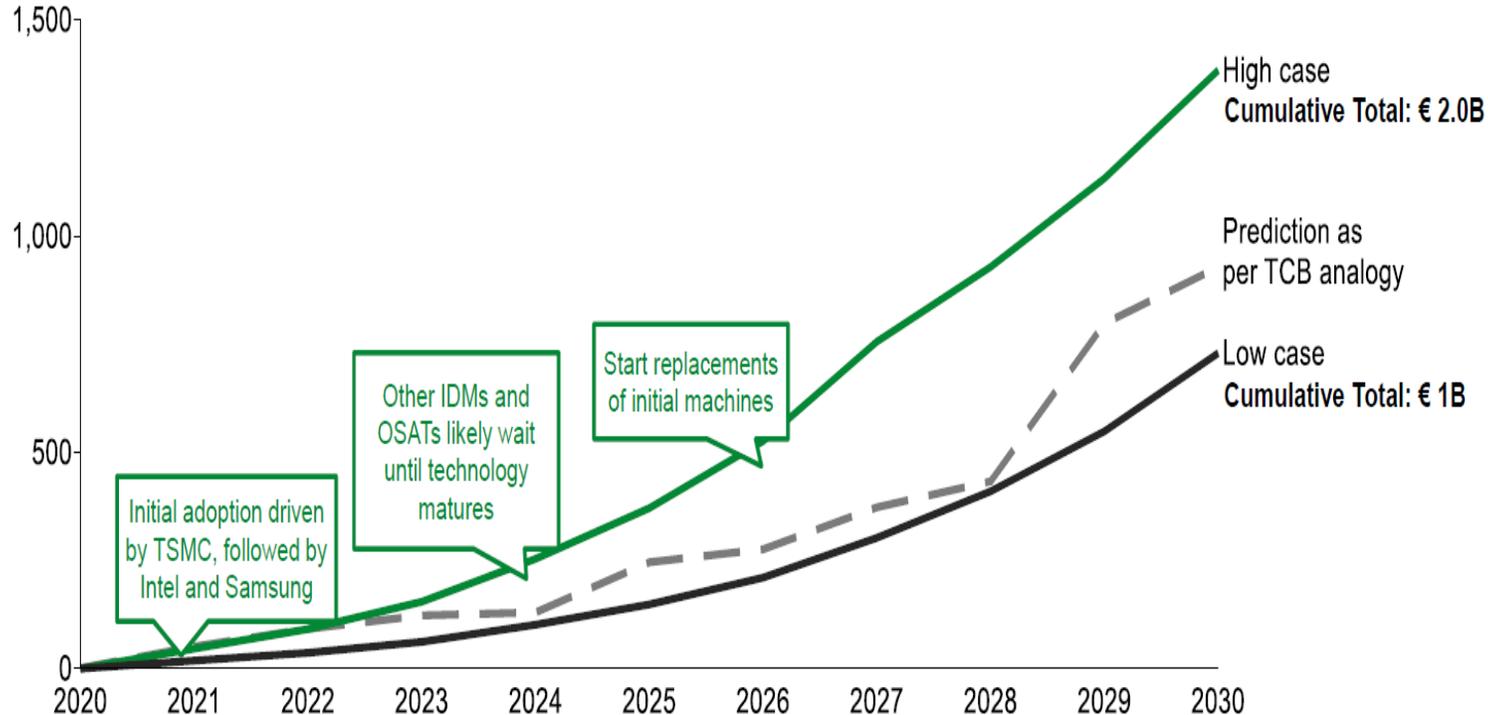
# Hybrid Die Bonding Market Update

HYBRID BONDING

EQUIPMENT MARKET

## June 2020 estimate

Total # of installed back-end machines for hybrid bonding



## Market tracking towards high case developed in June 2020

- High level of customer engagement
- Interest expressed by both logic and memory players
- AMD recently announced first hybrid bonded 3D chiplet-based processor
- Collaboration with Applied Materials enhances market position
- 2020 estimate confirmed with potential upside

## Forecast highly dependent on timing of:

- Successful design and development per IDM
- Customer roadmaps
- Performance in mass production environment



Source: Besii estimates



### III. STRATEGY

## Production

- Supply chain constraints and selected component shortages persist both at Besi and at customer manufacturing sites
  - Impacts H1-22 quarterly delivery schedules
- Began Hybrid Bonding shipments to customer in Q4-21
- Ramping capacity for 2022/2024 demand

## Development

- Gross R&D investment +26% in 2021
- Significant investment in wafer level assembly:
  - Hybrid Bonding, TCB Chip to Wafer and Embedded Bridge Die Attach
- Hybrid Bonding cluster tools available in H1-22

## Organization

- Refined strategy 2021-2025 to support <10nm and existing portfolio
- ESG reporting expanded to comply with SASB
- Certain 2021 ESG metrics realized ahead of 2022 target

# Significant ESG Progress Achieved in 2021



Process Pillar	Progress
<b>Environmental Impact</b>	Reduced Scope 1 & 2 and 3 emissions intensity by 27% and 4%, respectively
	Relative reductions in fuel, energy, hazardous waste and water consumption
	Launched sustainable design initiatives for die bonding platforms
<b>People Wellbeing</b>	Additional COVID-19 health and safety measures implemented
	Increased female and local management % and training hours
	High level of employee engagement and motivation identified in COVID-19 Survey
<b>Responsible Business</b>	Increased % of Purchasing Volume signed CFSI and SAQ
	94% of Purchasing Volume compliant with RoHS directive, up from 92% in 2020

## Key Targets 2022

100% renewable sources for European energy needs

15% reduction in Scope 1 and 2 carbon emissions\*

Above-benchmark employee engagement

Increase training hours per employee

Compliance with SASB benchmark (2021)

TCFD compliance

## Key Targets 2030

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

80% vendor compliance with CFSI

## Carbon Neutral By 2050

\* As per Greenhouse Gas Protocol. Targets relative to 2019 baseline data

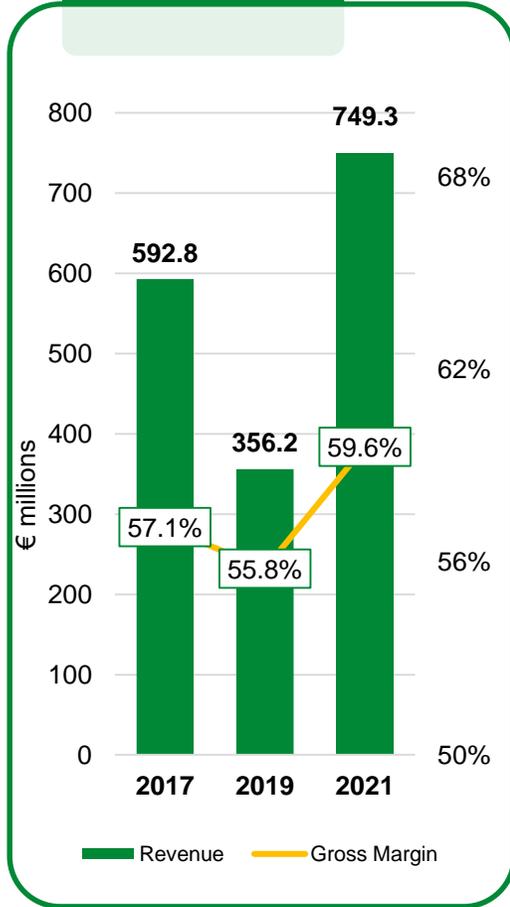


## IV. FINANCIAL REVIEW

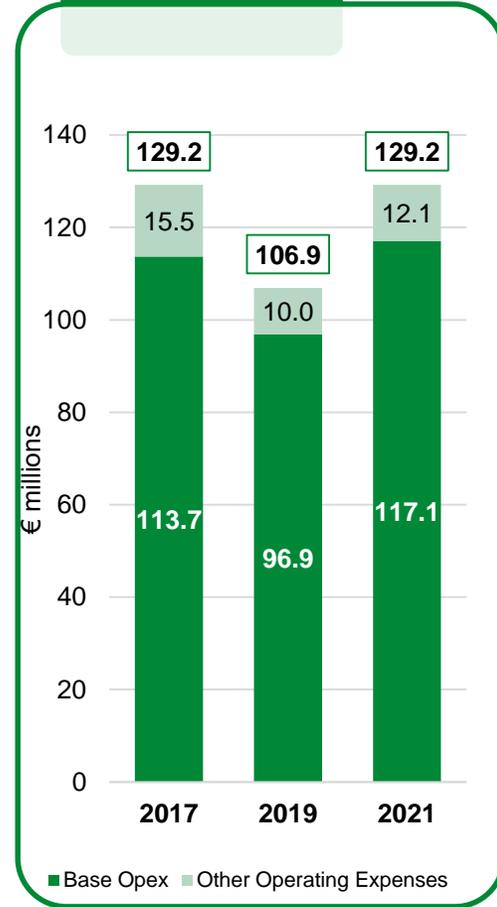
# Key Metrics 2017 – 2021



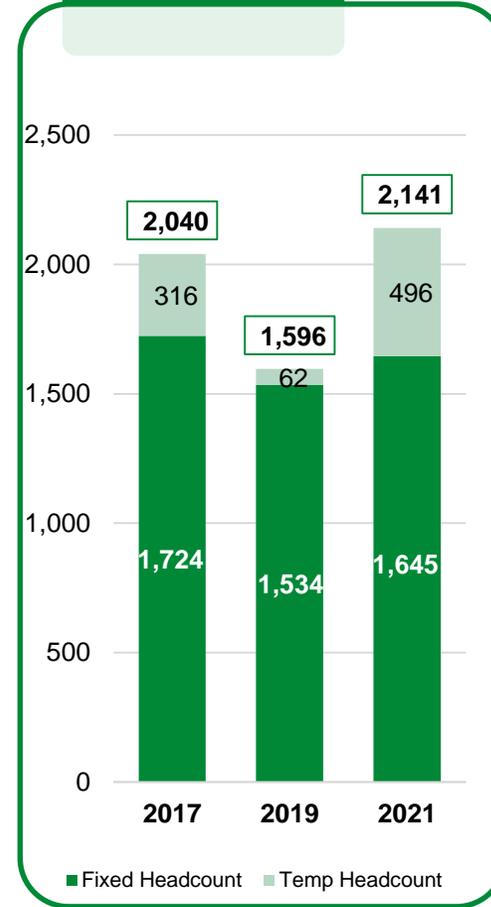
## Revenue & Gross Margin



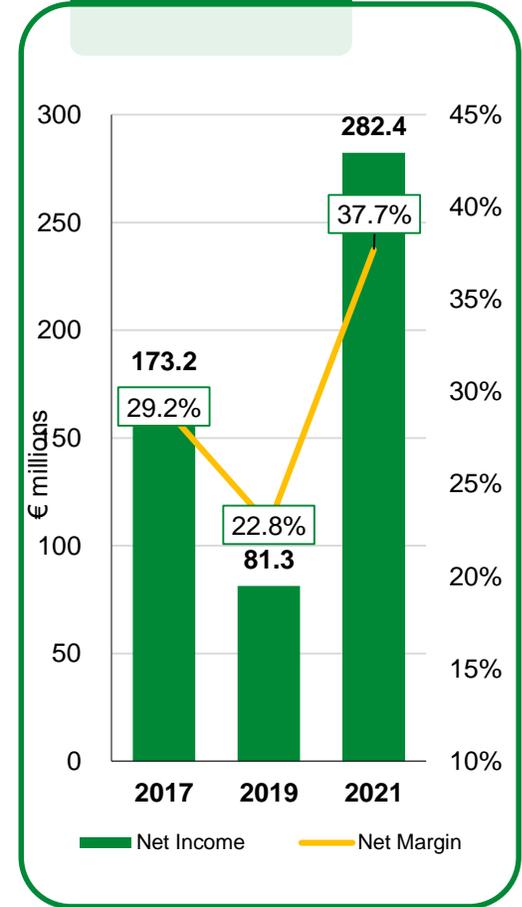
## Baseline Opex



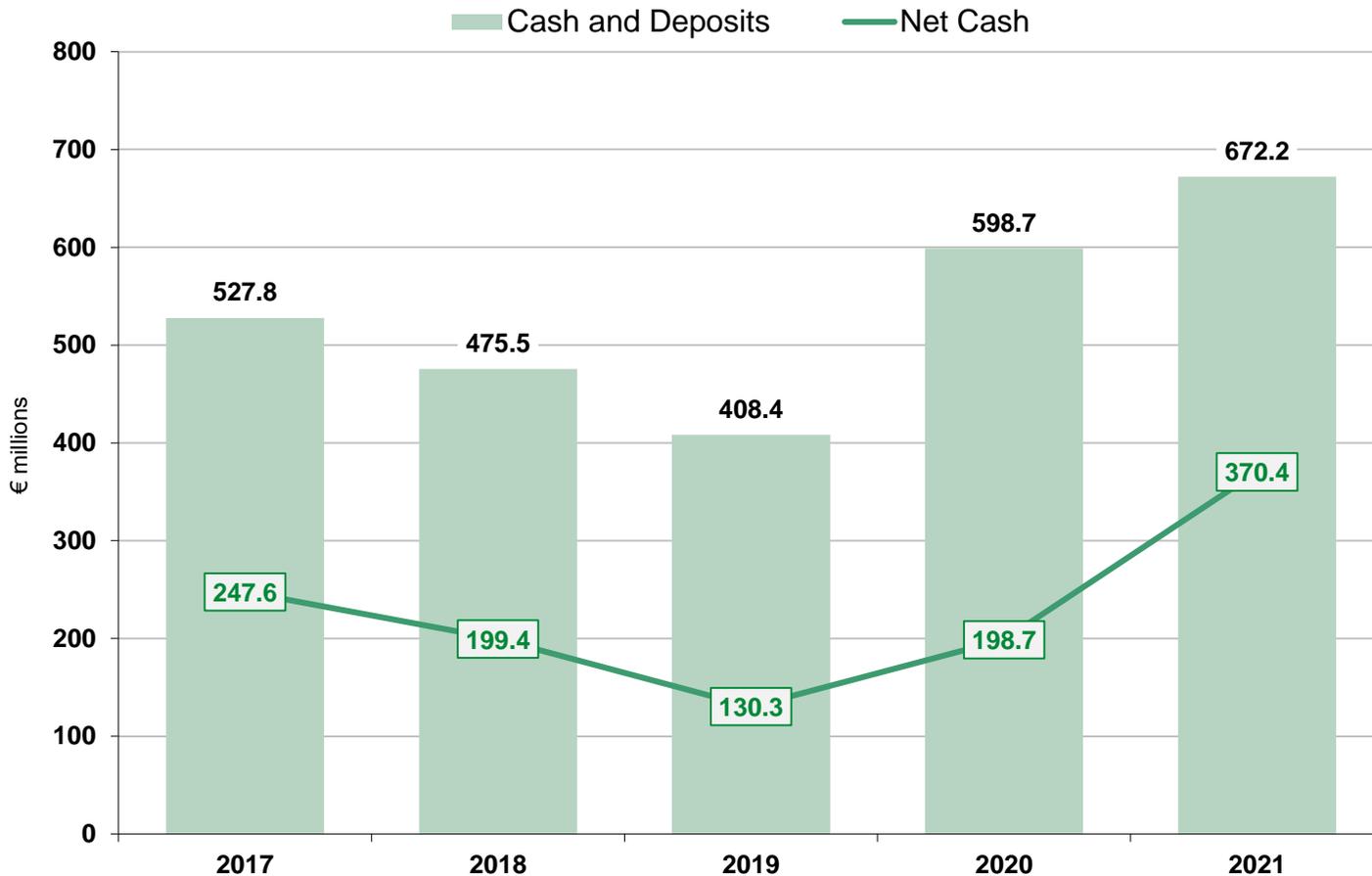
## Headcount



## Net Income



# Liquidity Position Enhanced



- **Strong cash flow generation:**
  - Net cash of € 370.4 million at year end (+68.4%)
    - Includes outflows of € 179.5 million for dividends and share repurchases
- **Attractive funding to help finance growth:**
  - **Convertible debt:**
    - € 324.8 million outstanding
      - Blended interest rate 0.63%
  - **Revolving credit facility**
    - € 80 million expandable to € 136 million



## V. Q1-22 RESULTS & OUTLOOK

# Q1-22 Revenue & Net Income Up Strongly vs Q1-21 & Q4-21



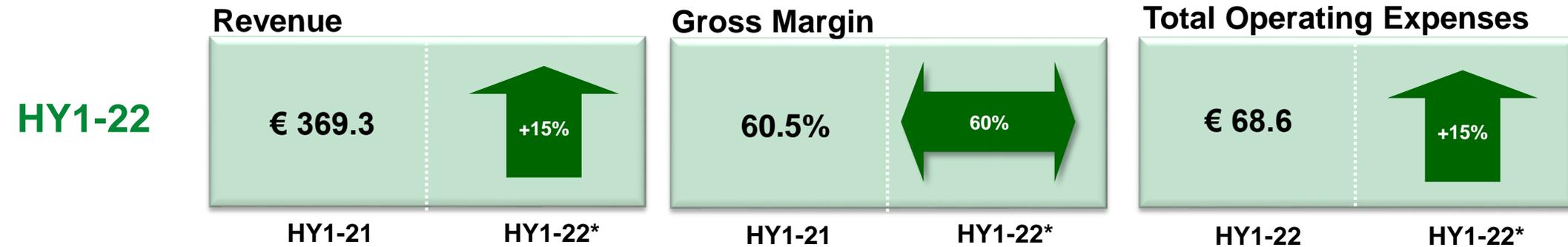
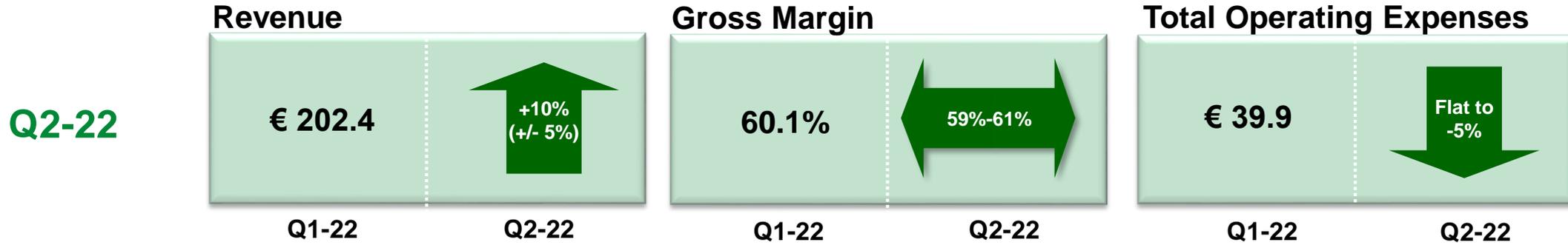
€ millions	Guidance Q1-22	Q1-22	Δ Q4-21	Δ Q1-21
<b>Revenue</b>	Up 15% +/-5%	<b>202.4</b>	+17.9%	+41.3%
<b>Orders</b>		<b>204.8</b>	+1.1%	-37.4%
<b>Gross Margin</b>	59-61%	<b>60.1%</b>	+3.4pts	+1.9pts
<b>Opex</b>	+35-40%	<b>39.9</b>	+31.7%	+14.3%
<b>Net Income</b>		<b>67.5</b>	+0.6%	+79.5%
<b>EPS Basic</b>		<b>0.87</b>	+1.2%	+70.6%
<b>Adj. Net Income*</b>		<b>75.5</b>	+13.9%	+59.3%
<b>Net Cash</b>		<b>407.0</b>	+9.9%	+88.3%

\* Adjusted to exclude one-time inventory charge in Q4-21, share-based compensation expense and tax benefits in each respective period.

# Guidance Q2-22 & H1-22



€ in millions



\* At midpoint of Q2-22 guidance

Assembly market  
ever more critical in  
semiconductor value  
chain

Disciplined strategic  
focus has created an  
industry leader

Long term secular  
trends drive  
advanced packaging  
growth

Wafer level assembly  
new growth  
opportunity

Market presence has  
grown via key IDMs,  
supply chains and  
partners

Tech leadership and  
scalability result in  
superior financial  
returns

Commitment to  
sustainable growth  
and fighting climate  
change

Attractive capital  
allocation policy