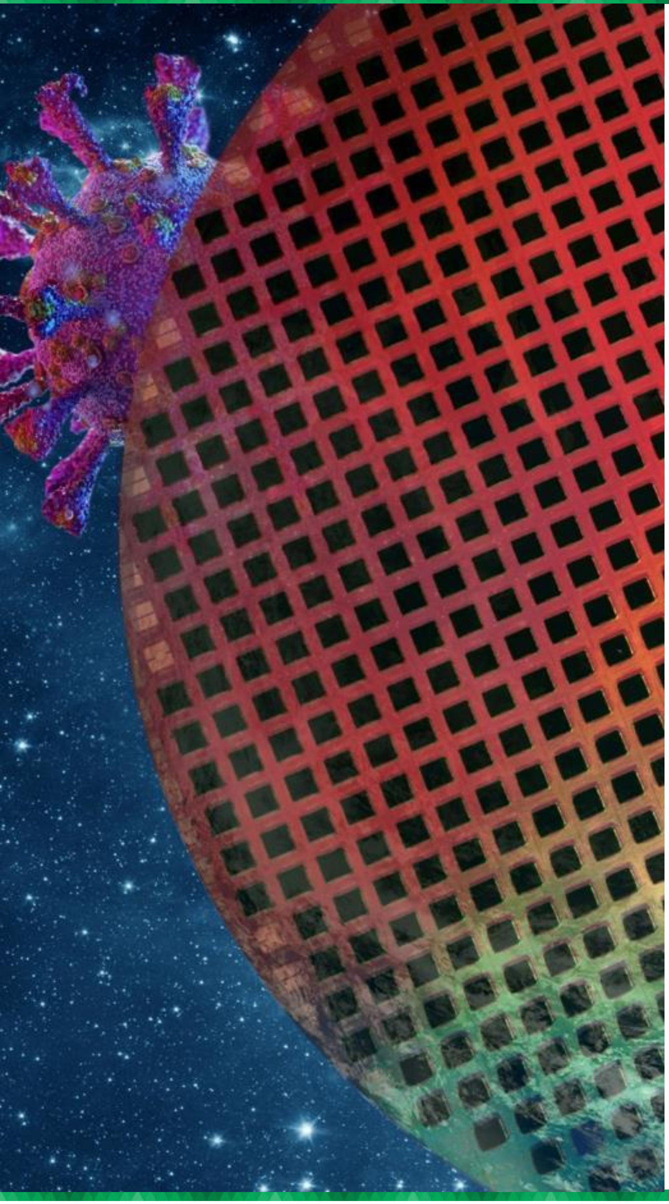


# INVESTOR PRESENTATION

March 2022

# Safe Harbor Statement

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 Besi'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.

# Agenda

I. Company Overview

II. Market

III. Strategy

IV. Financial Update and Summary

V. Appendix

# I. COMPANY OVERVIEW

# Besi Overview

Besi

## Corporate Profile

- Leading assembly equipment supplier with #1 and #2 positions in key markets. ~30% addressable market share
- Broad portfolio: die attach, packaging and plating
- Strategic positioning in substrate and wafer level packaging
- ~75% of systems used for advanced packaging applications
- Global operations in 6 countries; 2,141 employees. HQ in the Netherlands

## Financial Highlights

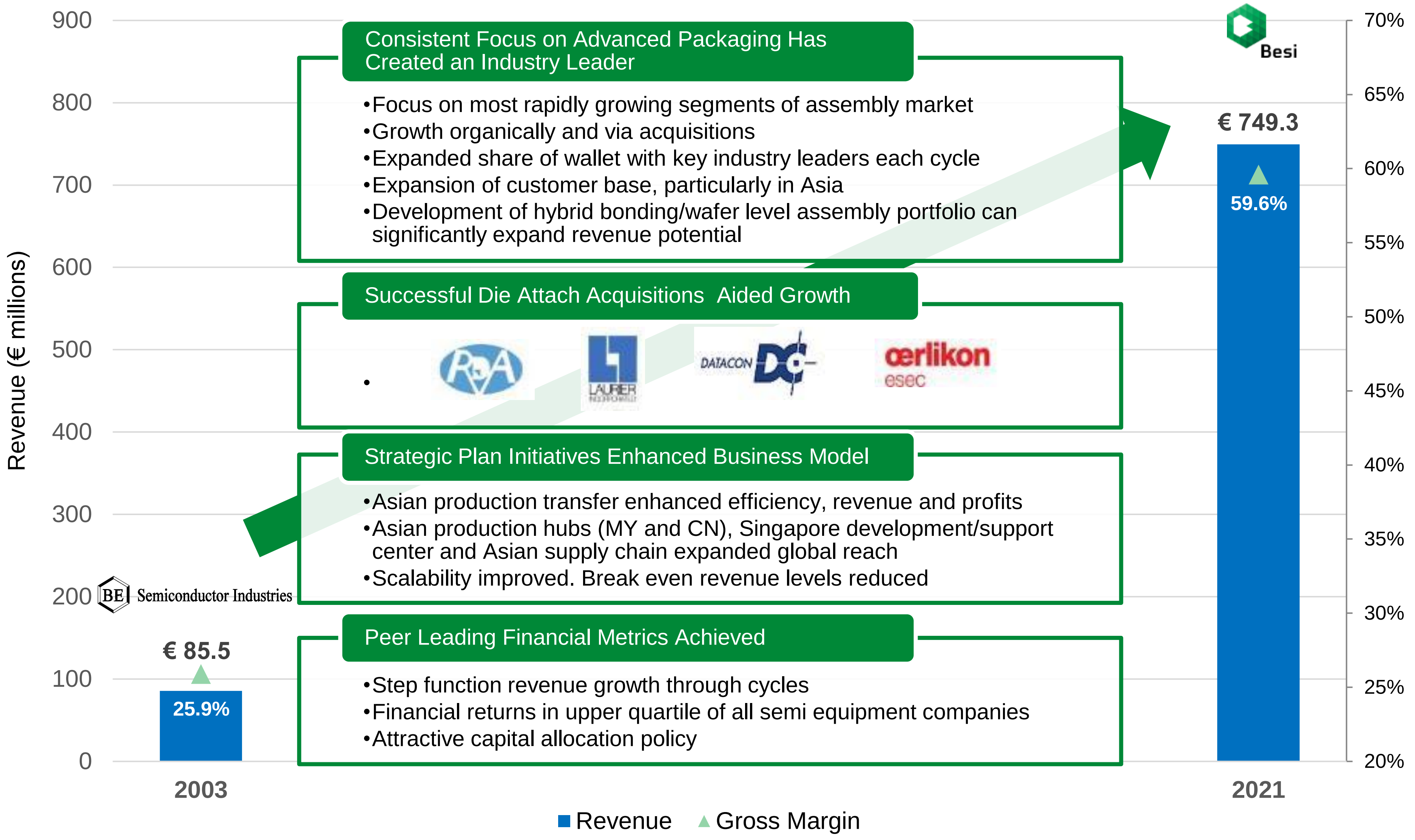
- 2021 revenue and net income of € 749.3 million and € 282.4 million
- Cash/deposits at Q4-21: € 672.2 million
- Net cash/deposits at Q4-21: € 370.4 million
- € 1.2 billion of dividends and share repurchases since 2011*

## Investment Considerations

- Leading position in advanced packaging. Ever more critical part of semi value chain.
- Peer leading financial metrics
- Multiple growth drivers: Digital and cloud infrastructure build out, smart everything, 5G, AI, HPC, Data centers, vehicle electrification
- Hybrid bonding adoption and expansion of wafer level assembly portfolio hold potential to significantly expand revenue and profit potential

* Includes 2021 dividend payment of € 3.33 per share for approval at 2022 AGM.

# Company History



# History of Superior Long-Term Value Creation

## Capital Allocation

**Attractive capital allocation program**

**€ 1.2 billion of dividends and share repurchases since 2011***

**Represents ~25% of total revenue**

## Strategic/Financial

**Disciplined execution has created leader in advanced packaging**

**Superior through cycle financial performance versus peers**

**Best in class financial metrics**

**Record 2021 results**

## Shareholder Return

**Superior Total Returns:**
- **55% (1 year)**
- **357% (3 year)**
- **498% (5 year)**

**Consistent TSR outperformance vs. peers**

**Upper quartile ranking for all semi-equipment companies**

* Includes proposed 2021 dividend for approval at 2022 AGM.

# Industry Leading Equipment Portfolio

Besi

## Die Attach (82% of 2021 Revenue)

### Multi-Module Attach

- 2200 evo
- 2200 evo $^{plus}$
- 2200 evo $^{hS}$
- 2200 evo *advanced*
- 2200 evo $^{hf}$ New

### Epoxy / Soft Solder

- 2100 hS
- 2100 hS $^{i}$
- 2100 sD *advanced i*
- 2100 hS $^{ix}$ New
- 2009 SSI
- 2100 SSI New
- 2100 DS

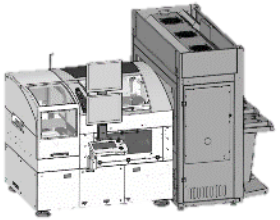
### Flip-chip

- 8800 CHAMEO *advanced / PLP*
- 8800 FC CHAMEO *Ultra* New
- 8800 FC Quantum *adv / sigma*
- 8800 FC Quantum *hs*
- 2100 FC $^{hS}$

### Direct Lid Attach

- DLA
- TGB 2.0 New

### Embedded Bridge Attach



- DBA New

### Thermo Compression

- 8800 TC *advanced* *(Substrate)*
- 8800 TC *NEXT* *(Chip to Wafer)* New

### Hybrid Bonding

- 8800 CHAMEO $^{ultra}$ plus New

## Packaging & Plating (18% of 2021 Revenue)

### Leadframe Molding

**AMS-i**
- MEMS
- Sensors

**AMS-X** New
- HD Leadframe
- Power Devices

### Substrate Molding

**AMS-LM**
- Substrate strip format
- Exposed die

### Wafer & Panel Molding

**FML**
- Wafer molding
- Panel molding

### Trim and Form

**FCL-X/P**
Leadframe trim & form
Sorting

### Singulation

**FSL**
Substrate strip singulation
Sorting

### Plating

- Leadframe
- Solar
- Film & Foil
- Chemical Deflash New
- Wettable Flank New

# Customer Ecosystem

## Customers

**IDMs**

Qorvo, Micron, ST, Samsung, TDK, Bosch, NXP, Infineon, Skyworks, Osram, Renesas, Lumileds

**Subcontractors**

LG Innotek, ASE Group, Amkor Technology, Sharp, tsmc, JCET, SPIL, PTI, TF 通富微电, TF · AMD, UTAC, Hua Tian, Foxconn

## OEMs

Qualcomm, Broadcom, Dell, MediaTek, Samsung, Lenovo, Delphi, HiSilicon, Fujitsu, Motorola Mobility, HTC, LG

## End Products

- Diversified, blue chip customer base, top 10 = ~53% of 2021 revenue
- Leading IDMs and subcontractors. 55%/45% order split in 2021
- Also supply leading fabless companies: Qualcomm, AMD, Broadcom, MediaTek via subcontractors
- Long term relationships, some exceeding 50 years

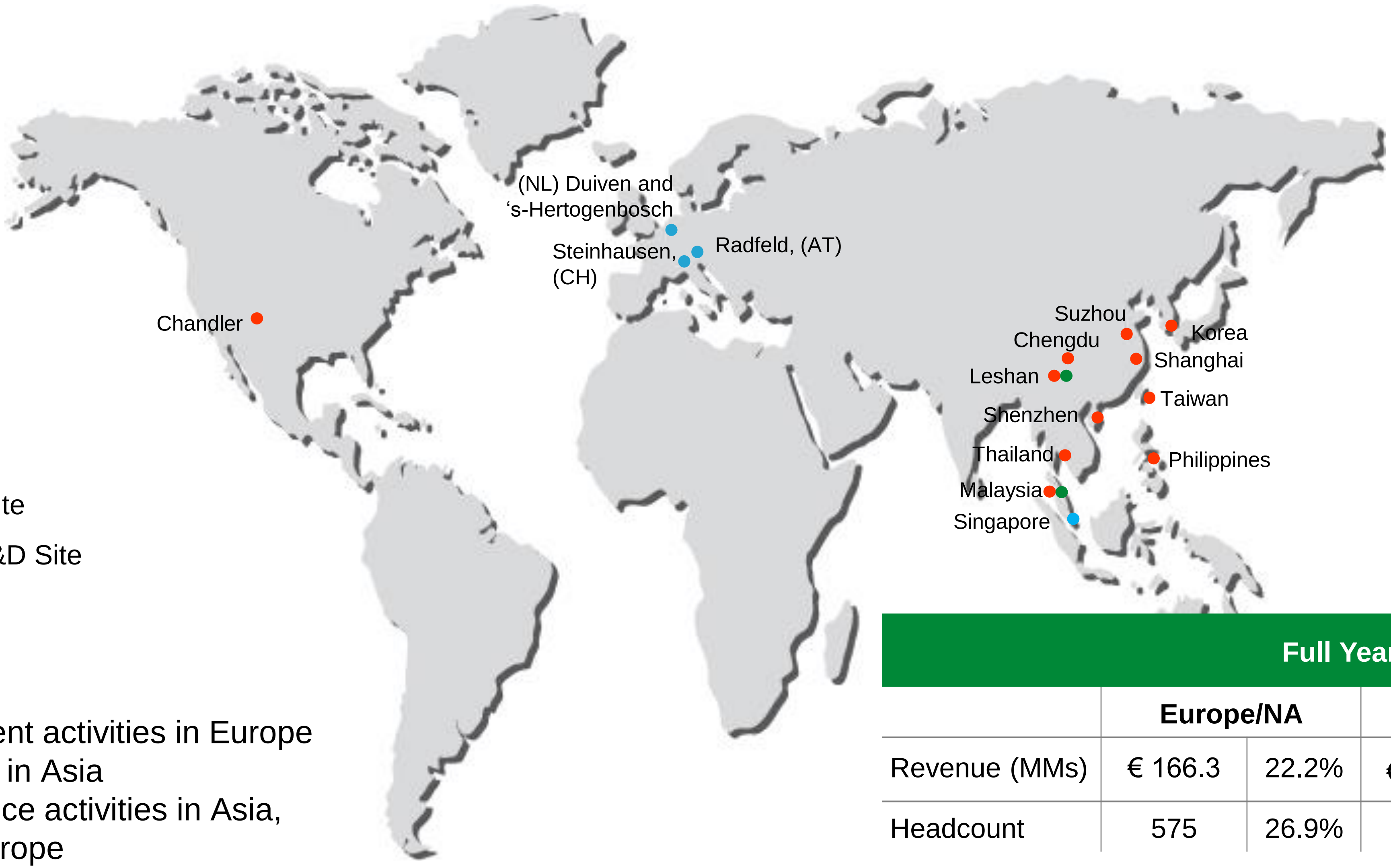
# From Processed Wafer to Assembled Chip

| Semiconductor Manufacturing Equipment 2021: $101.9B* | | |
|---|---|---|
| **Front end: $87.9B (86%)** | **Assembly: $5.6B (6%)** | **Test: $8.4B (8%)** |

| Assembly Process | Dicing | Die Attach | Wire Bond | Packaging | Plating |
|---|---|---|---|---|---|
| **Leadframe** Wire Bond | - | | - | | |
| **Substrate** Wire bond | - | | - | | - |
| **Substrate** Flip chip/TCB | - | | - | | - |
| **Wafer Level** Hybrid, EMIB, TCB, Flip Chip, FOWLP | - | | - | | - |

Source: VLSI, January 2022

# Current Operational Profile




- Sales Office
- Production Site
- Sales and R&D Site

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

| Full Year 2021 | | | | |
|---|---|---|---|---|
| | Europe/NA | | Asia | |
| Revenue (MMs) | € 166.3 | 22.2% | € 583.0 | 77.8% |
| Headcount | 575 | 26.9% | 1,566 | 73.1% |

# Summary Financials

| Year Ended December 31, (€ millions, ex share data) | 2019 | 2020 | 2021 |
|---|---|---|---|
| Revenue | 356.2 | 433.6 | **749.3** |
| *% seq. change* | *-32%* | *+22%* | ***+73%*** |
| *Orders* | 348.7 | 472.1 | **939.1** |
| *Gross margin* | *55.8%* | *59.6%* | ***59.6%*** |
| | | | |
| EBITDA | 111.7 | 169.0 | **335.1** |
| Pretax income | 78.1 | 137.5 | **303.8** |
| Net income | 81.3 | 132.3 | **282.4** |
| *Net margin* | *22.8%* | *30.5%* | ***37.7%*** |
| EPS (diluted) | 1.06 | 1.67 | **3.39** |
| EPS (basic) | 1.12 | 1.82 | **3.70** |
| Dividend per share | 1.01 | 1.70 | **3.33** |
| | | | |
| Net cash & Deposits | 130.3 | 198.7 | **370.4** |

**Long term, step function growth in cyclical business**

- Increased revenue, profitability and market share per cycle
- Peer leading financial metrics

**Strong upturn in 2021 despite supply chain disruptions**

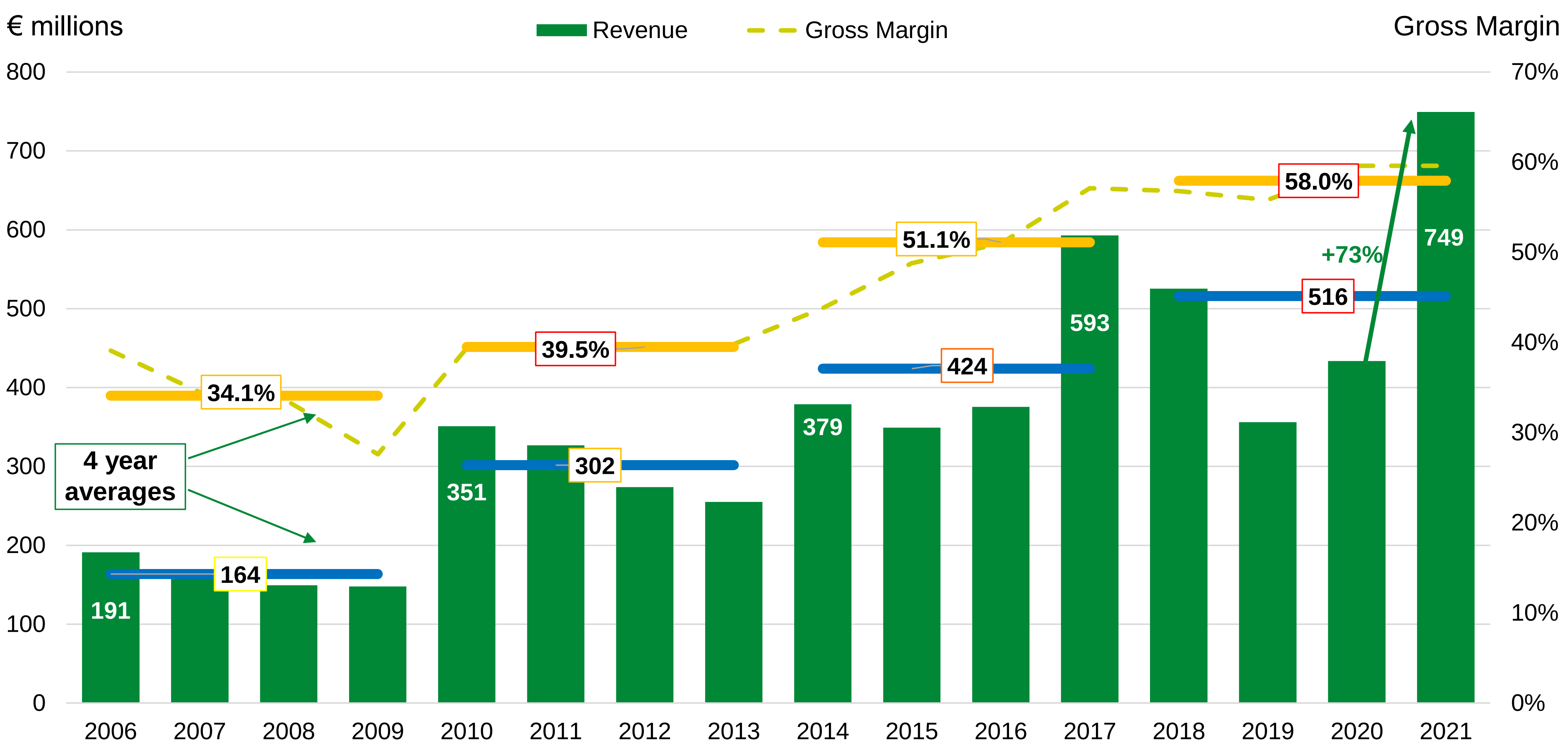
- Revenue and orders grew 72.8% and 98.9% vs. 2020
  - Across all end-user markets and geographies
  - Renewed mobile spending for 5G rollout
  - Order strength in computing and automotive H2-21
  - Accelerating hybrid bonding orders

**Strong margins and profitability**

- Peer leading gross margins due to strong market position and flexible Asian production/workforce
- Cost control efforts lead to significant operating leverage
  - Opex margins declined to 17.2% vs. 25.1% in 2020
- Net income of € 282.4 million up 113.5% vs. 2020
  - Net margins grew to 37.7%

**Strong cash generation supports shareholder friendly capital allocation policy**

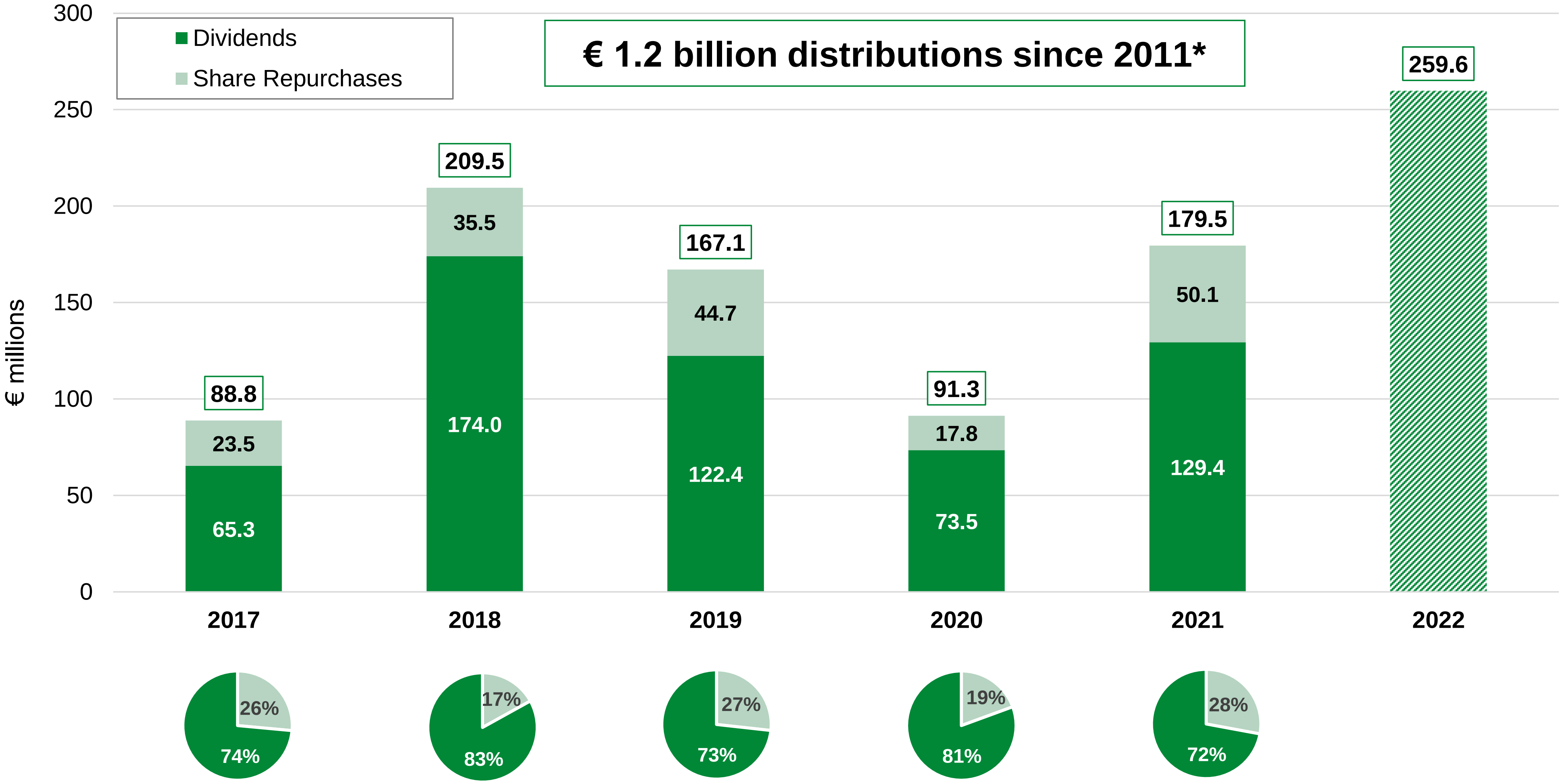
# Through Cycle Revenue and Gross Margin Trends



# Business Model Objectives

| | |
|---|---|
| Revenue | € 1 billion++ |
| Addressable Market Share | 40%+ |
| Gross Margin | 57-62% |
| Net Margin | 30-35% |
| Headcount Split | 80% Asia/20% Europe/NA |
| Scope 1 and 2 Emissions | 60% reduction |
| Global Energy Needs | 65% from renewable sources |

# Capital Allocation Trends



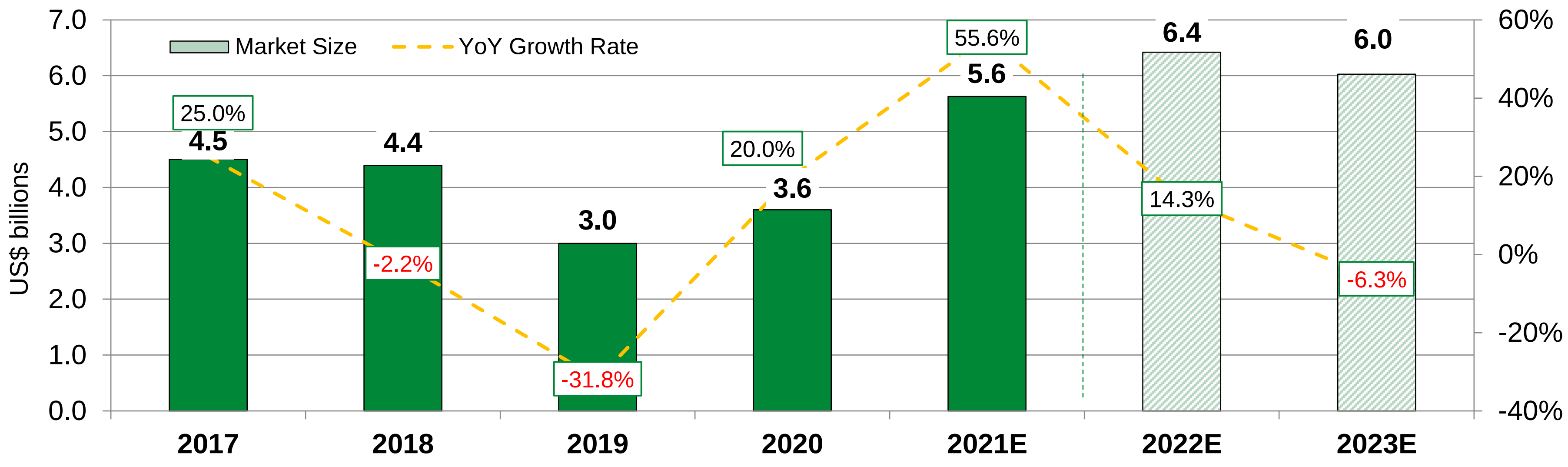

* Includes proposed 2021 dividend of € 3.33 per share for approval at April 29, 2022 AGM.

# II. MARKET

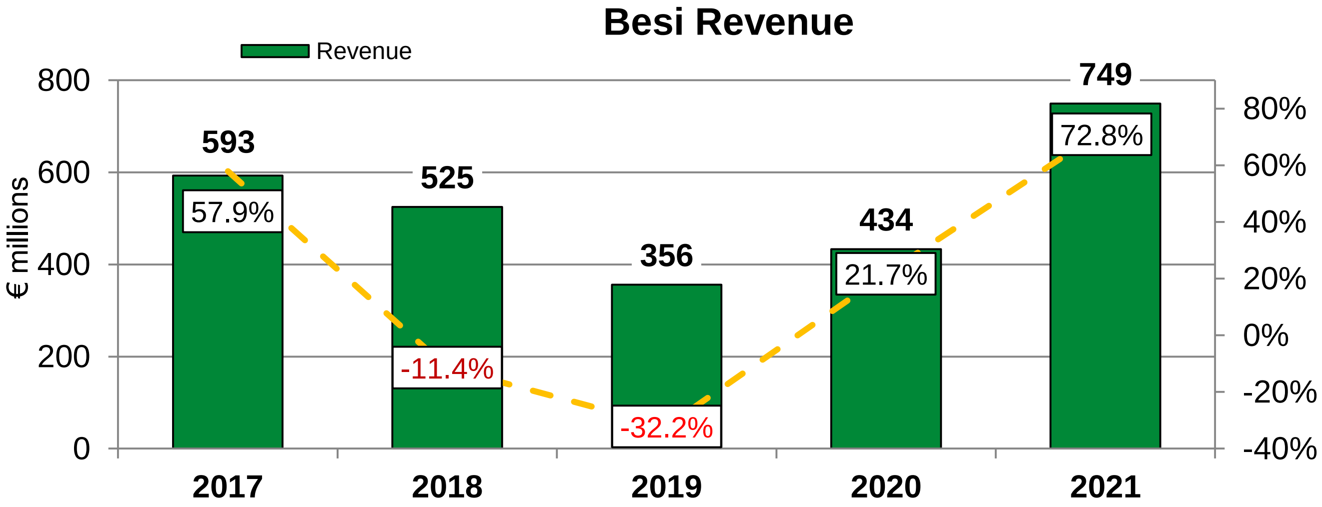
# What Drives Besi's Business?

| | | |
|---|---|---|
| Macro GDP trends | Selection of IDM and supply chain partners | Timing of customer roadmaps |
| Meeting demanding technical specs | Performance in 24/7 production environments | Competitive cycle times and scalability |

# Assembly Equipment Forecast Upgraded vs. December 2021




Source: VLSI, February 2022. Assembly equipment revenue excludes hybrid bonding contribution and service revenue.

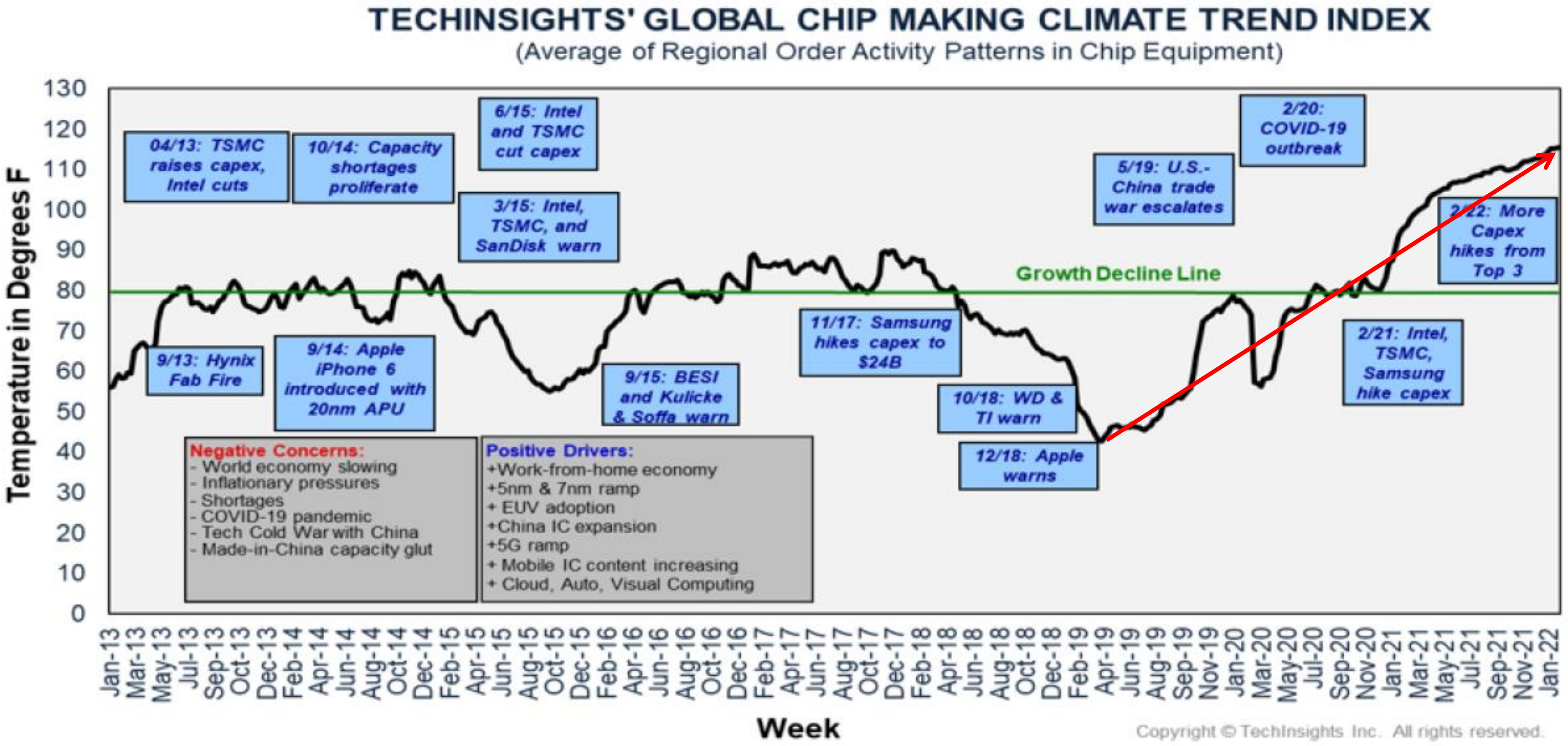



**+55.6% growth now estimated for 2021**
- Besi appears to gain market share

**VLSI expects market to reach $ 6.4 billion in 2022 (+14.3%)**
- 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

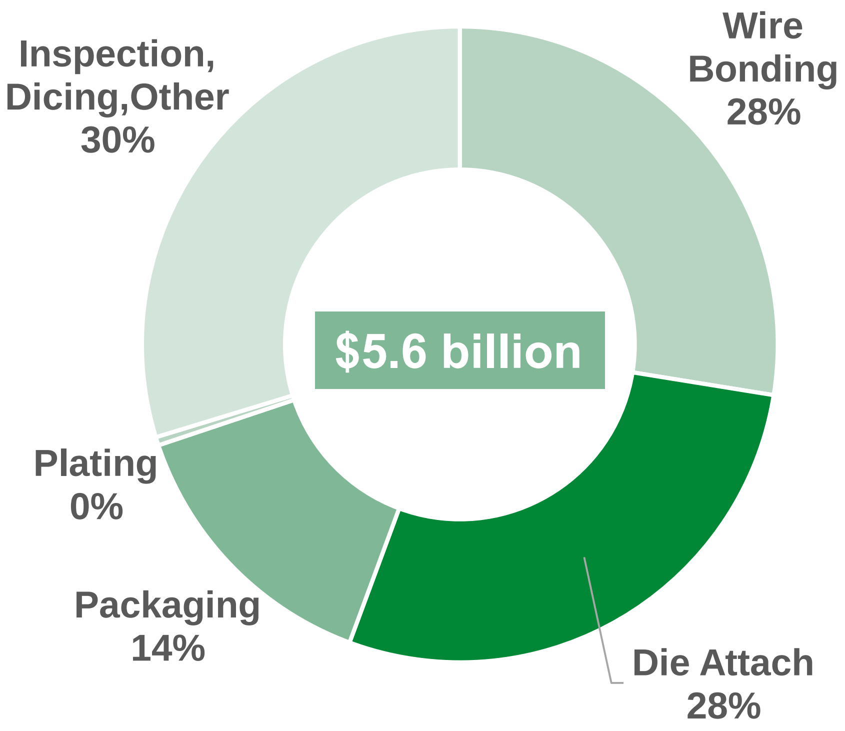
# Industry Upturn Continues in 2022



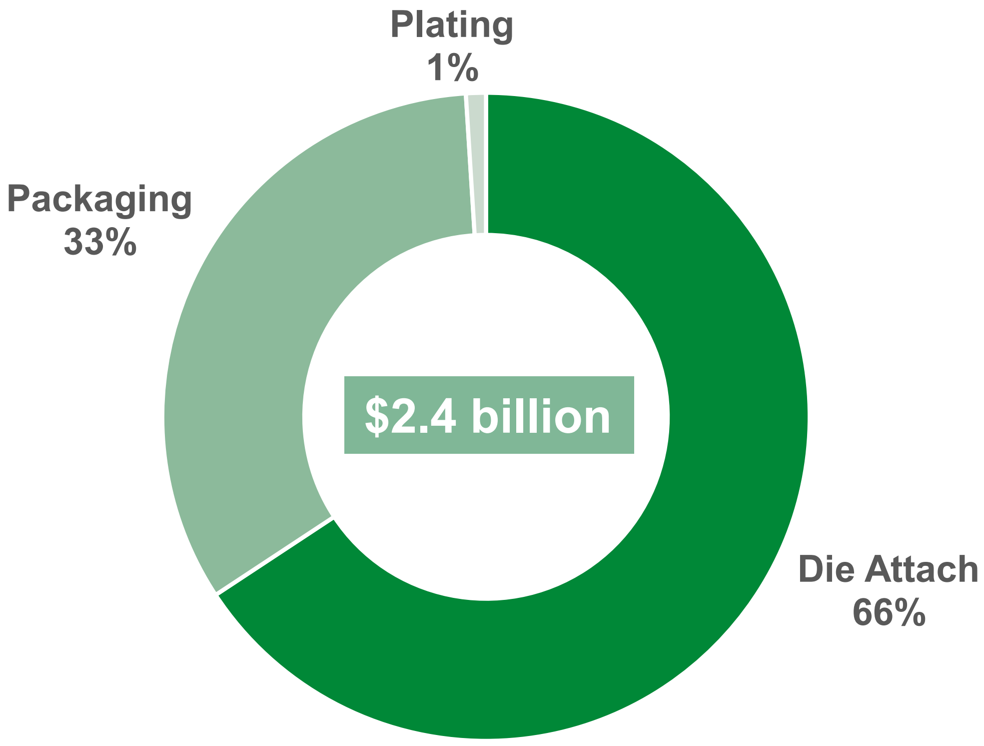

Source: VLSI, February 2022

# Assembly Equipment Market Composition

## Assembly Equipment Market (2021)

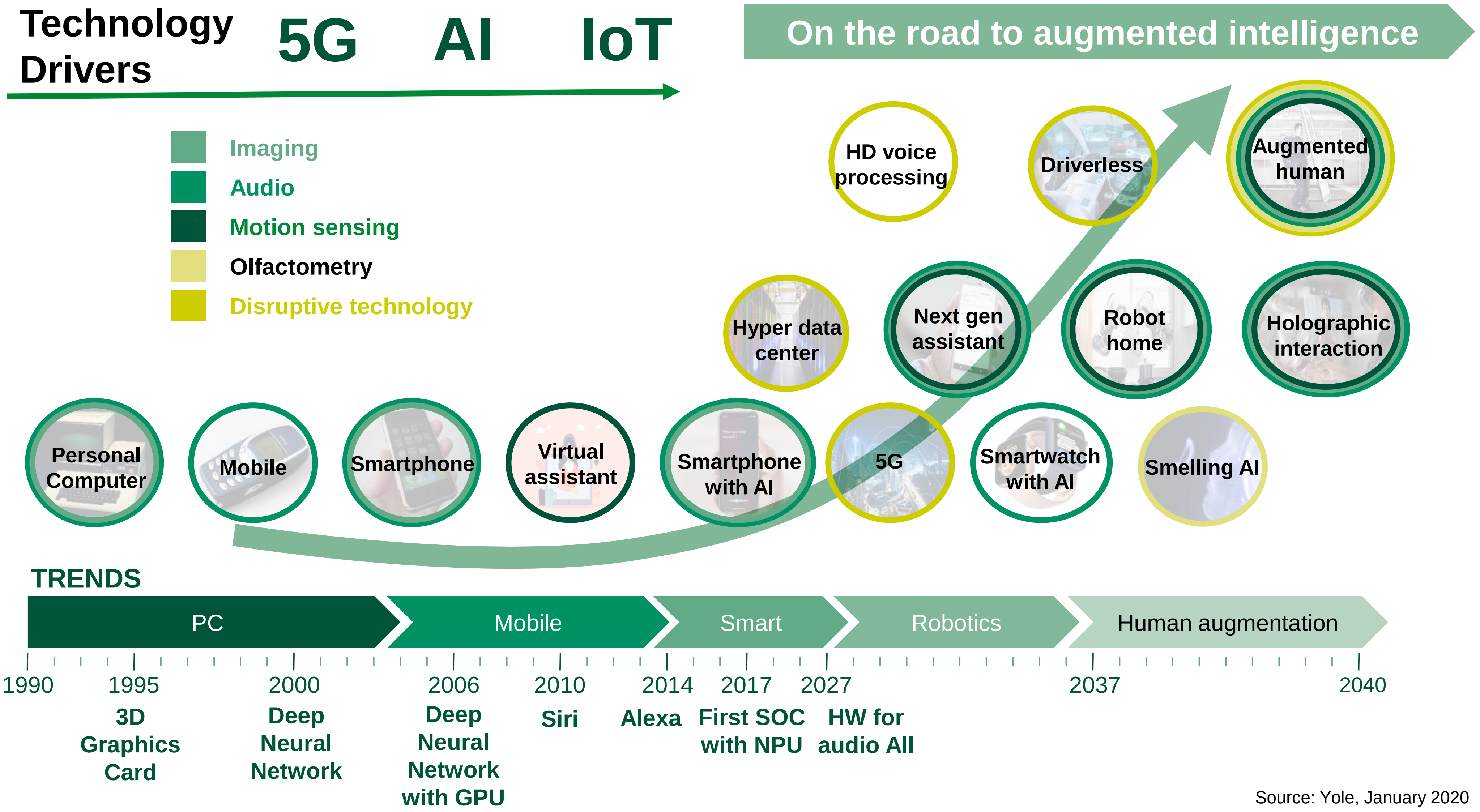



## Besi Addressable Market (2021)




Source: VLSI, February 2022

# Digital Society Drives Greater Computing and Data Needs




Source: Yole, January 2020

# Semiconductor Demand Growing as Everything Gets Smarter

| Semiconductor Content/Unit | 2015 | 2020 | 2025E | Δ'20-'25E |
|---|---|---|---|---|
| High End Smartphone | $100 | $170 | $275 | +61.7% |
| Automotive (Global Average) | $310 | $460 | $690 | +50.0% |
| Datacenter Server (CPU + Accelerator) | $1,620 | $2,810 | $5,600 | +99.3% |
| Smartphone (Global Average) | $2 | $4 | $9 | +125.0% |

Source: Applied Materials, September 2021

# Advanced Packaging Critical to Next Generation Applications

## Growth Drivers

### Mobile Revolution

- Mobile internet
- Messaging
- Social media
- Shared economy
- Gaming
- Geo-location
- Audio/video
- Auto electronics

### Digital Society

- Smart mfg, cities, mobility and homes
- Internet of everything
- 5G mobile/wearable devices
- Artificial intelligence
- Driverless cards
- Data mining
- Cloud servers
- VR/AR
- High performance computing

## Enablers

**Greater miniaturization**

**Higher accuracy**

**Greater complexity**

Besi

**Die Bonding and Packaging portfolio**

**Lower power consumption**

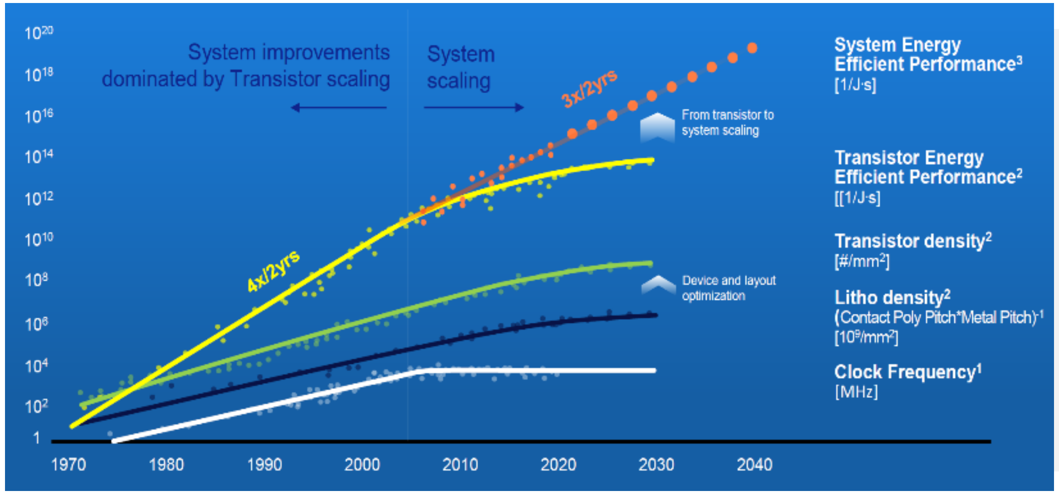
**Increased density**

**Higher performance**

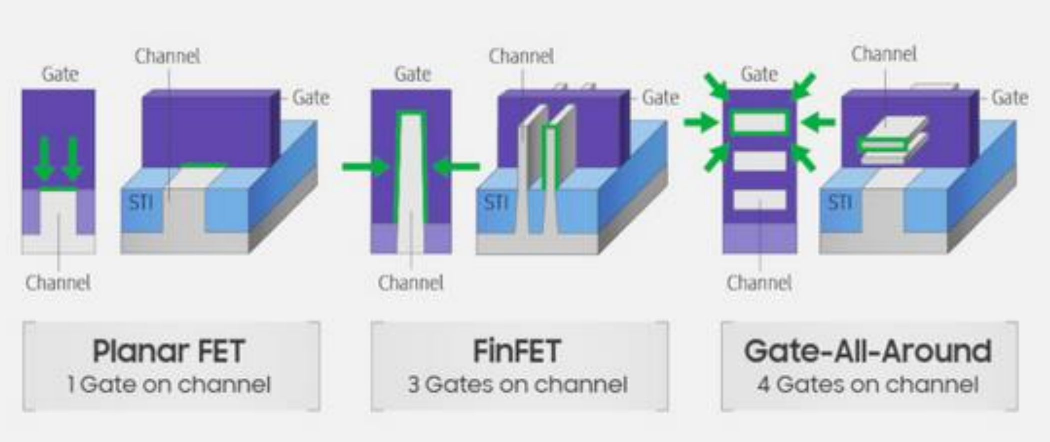
# Requiring Increased Density, Higher Accuracy and Smaller Form Factors for Next Generation Devices

## Front-End Wafer Fab

- **Transistor scaling**
- **Lithography**
- **New 3D structures**



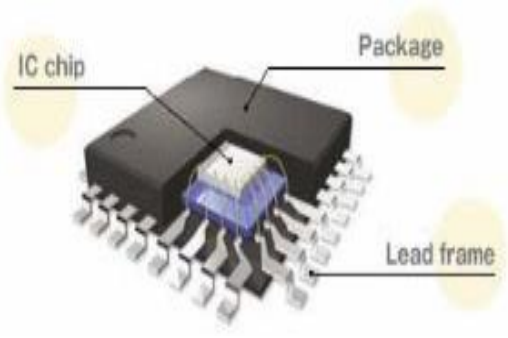

Source: ASML 2021



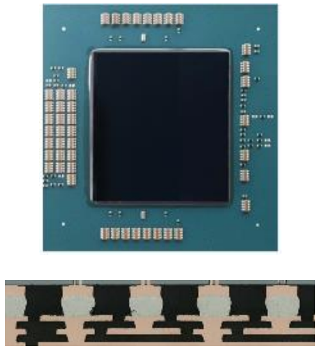

Source: Samsung

## Back-End Assembly

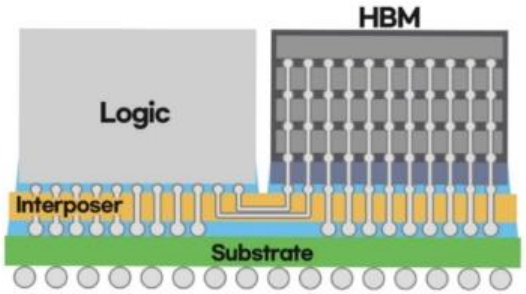
- **More contacts**
- **Smaller pitches**
- **Thinner, denser & more complex packages**
- **Stacked 3D structures**
- **WLP/FOWLP packages**




From simple wire bond

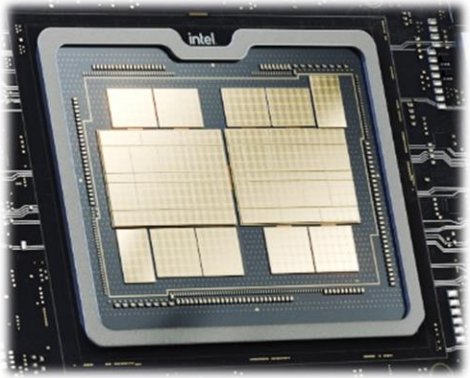


To flip chip and SiP




Source: Samsung

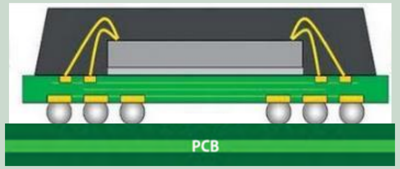
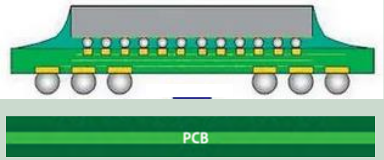
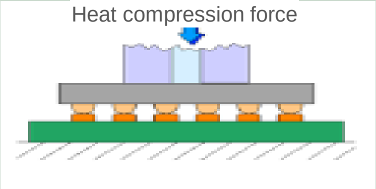
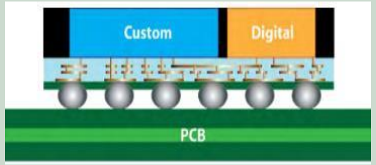
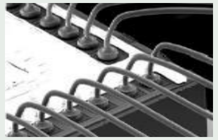
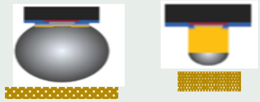
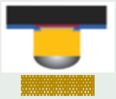
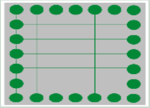
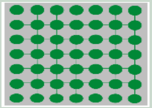
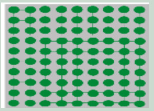
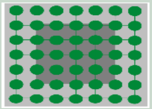
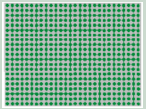
To complex 3D structures with TSVs, microbumps and thin dies




Source: Intel

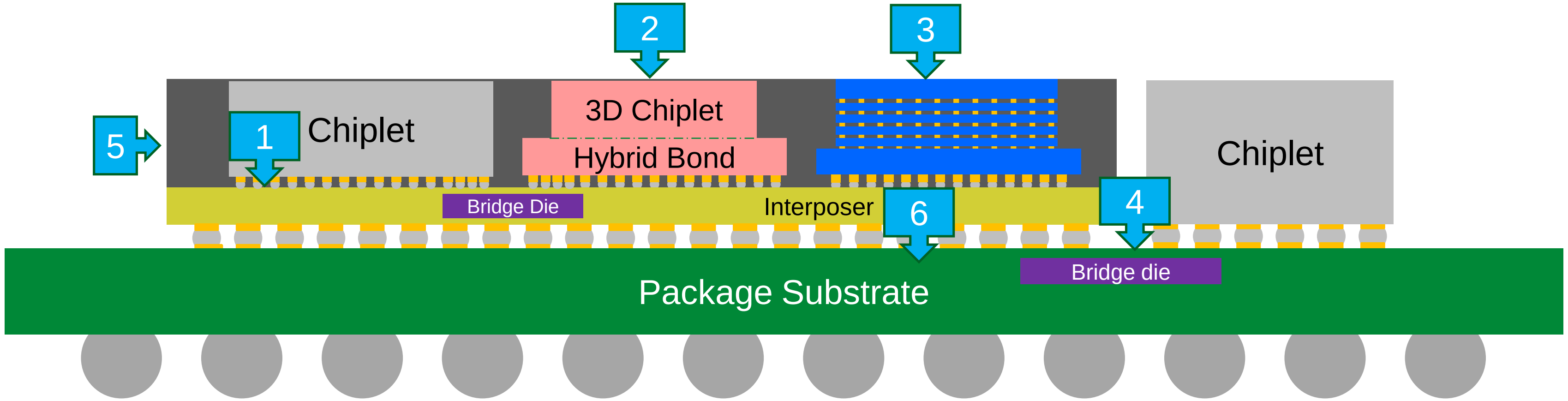
To chiplet systems enabled by Hybrid Bonding

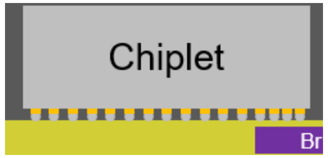
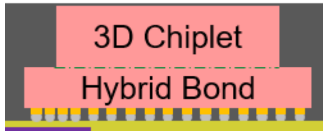
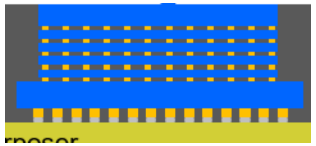
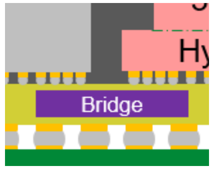
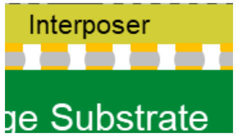
# Moore's Law Helps Drive Growth of Wafer Level Assembly

| | Wire Bond (1975) | Flip Chip (1995) | TCB Bonding (2012) | HD Fan Out (2015) | Hybrid Bonding (2018) |
|---|---|---|---|---|---|
| **Architecture** |  |  |  |  |  |
| **Contact Type** |  Wire |  Solder ball or copper pillar |  Copper pillar |  RDL or copper pillar |  Copper to copper |
| **Contact Density** |  5-10/mm² |  25-400/mm² |  156-625/mm² |  500+/mm² |  10K-1MM/mm² |
| **Substrate** | Organic/leadframe | Organic/leadframe | Organic /Silicon | None | None |
| **Accuracy** | 20-10µm | 10-5µm | 5-1µm | 5-1µm | 0.5-0.1µm |
| **Energy/Bit** | 10pJ/bit | 0.5pJ/bit | 0.1pJ/bit | 0.5pJ/bit | <.05pJ/bit |

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

Besi




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

# Estimated Timetable for Hybrid Bonding Applications

| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|

## Computing

- Servers
- Datacenters
- High performance computing
- Artificial Intelligence

## Consumer

- PC
- Laptop
- Gaming
- Entertainment

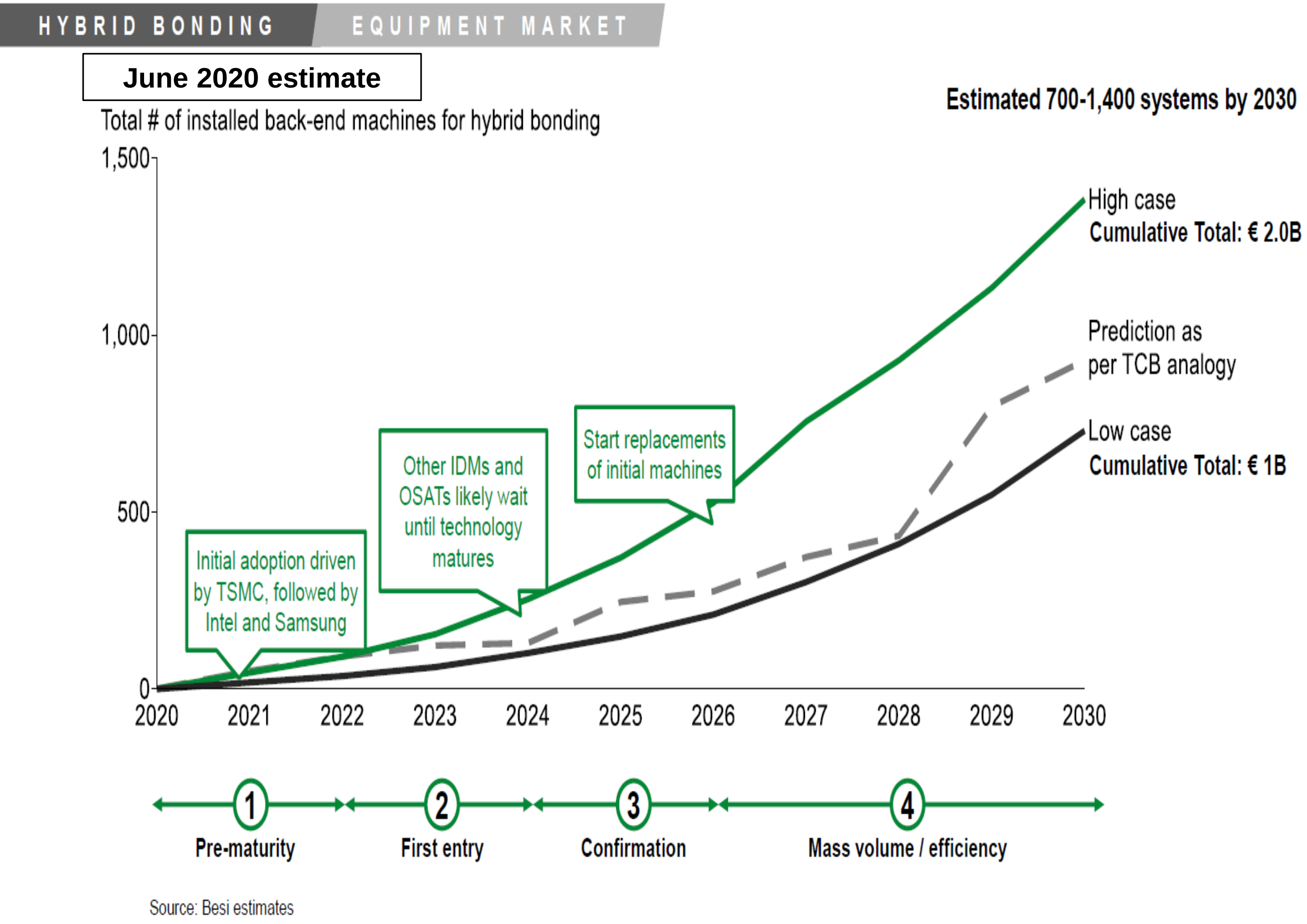
## Memory/Mobile

- High bandwidth memory
- High-end smartphone
- Smart watch
- Airpods

## Auto/Industrial

- Autonomous driving
- Vehicle electrification

# Hybrid Die Bonding Market Update



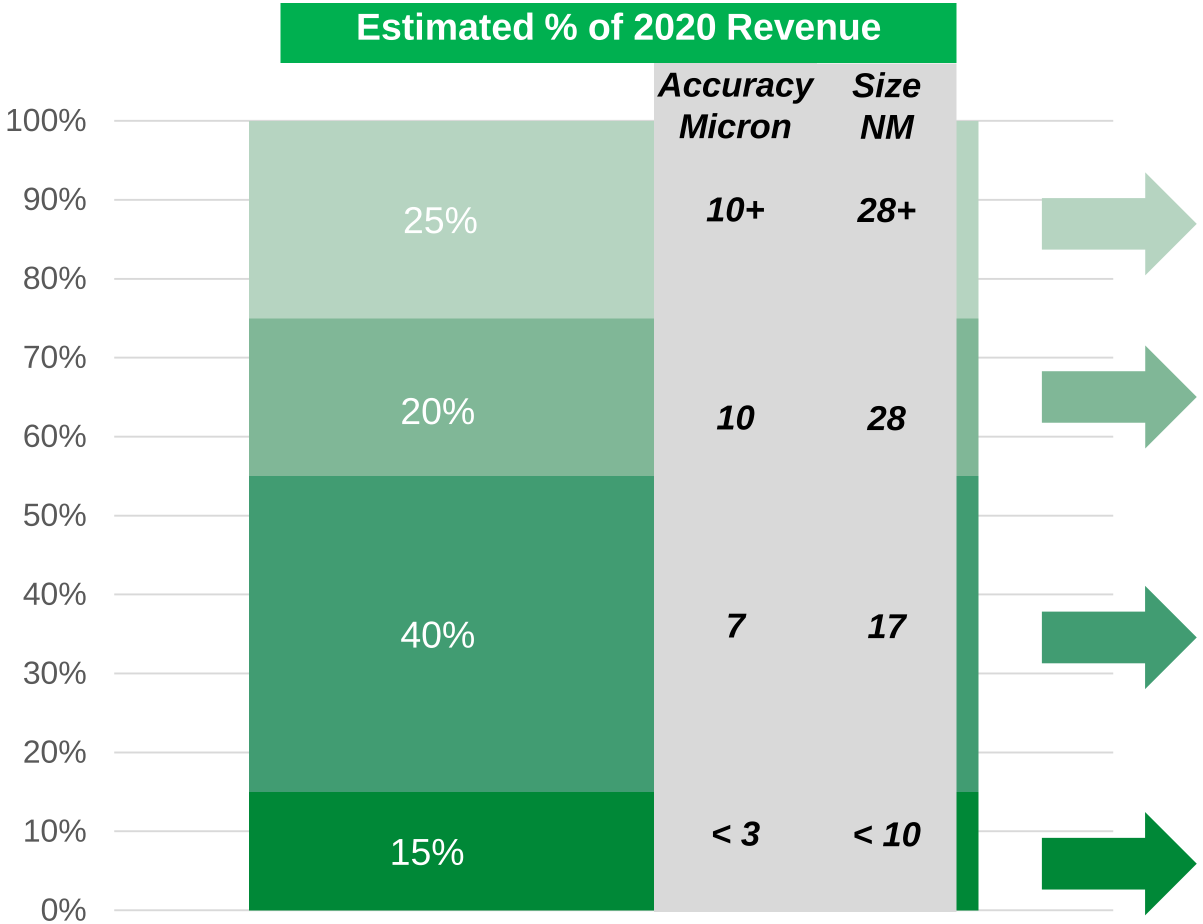

**Market tracking towards high case developed in June 2020**

- 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

# Besi Portfolio Well Positioned by Node Size and Accuracy




| Typical Application | Besi Equipment |
|---|---|
| *Automotive, SiP Power* | *Die Attach Packaging Plating* |
| *IOT General ICs* | *Die Attach Packaging Plating* |
| *Computer, PC, Mobile Cloud Computing* | *Die Attach Packaging* |
| *High Performance Computing Memory, Hybrid Bonding* | *Die Attach Packaging* |

- **75% of Besi equipment revenue advanced packaging as per VLSI definition**
- 55% equipment revenue is < 7 micron accuracy and < 17 nanometer node size
- Most rapidly growing market segment

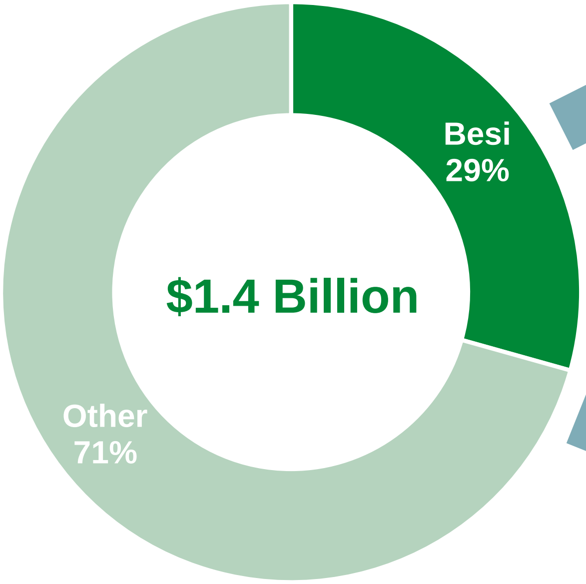
# Besi Addressable Market Share Increasing, Particularly in Die Attach

| | 2016 | 2017 | 2018 | 2019 | 2020 | | Δ '20/'19 | Δ '20/'16 |
|---|---|---|---|---|---|---|---|---|
| **Assembly Market ($MM)** | 3,587 | 4,503 | 4,391 | 2,998 | 3,603 | | +20.1% | +0.4% |
| **Besi Market Share** | **9.9%** | **13.1%%** | **11.6%** | **10.8%** | **11.4%** | | **+0.6pts** | **+1.5pts** |
| | | | | | | | | |
| **Addressable Market ($MM)** | 1,507 | 1,942 | 1,850 | 1,247 | 1,399 | | +12.2% | -7.2% |
| **Besi Market Share** | **23.7%** | **30.3%** | **27.5%** | **25.9%** | **29.3%** | | **+3.4pts** | **+5.6pts** |
| | | | | | | | | |
| **Die Attach** | **30.4%** | **38.2%** | **33.2%** | **30.8%** | **36.8%** | | **+6.0pts** | **+6.4pts** |
| **Packaging & Plating** | **13.6%** | **14.8%** | **17.3%** | **17.0%** | **15.4%** | | **-1.6pts** | **+1.8pts** |
| | | | | | | | | |
| **% of Besi Revenue** | **2016** | **2017** | **2018** | **2019** | **2020** | | **Δ 1yr** | **Δ 4yr** |
| **Die Attach** | **75%** | **82%** | **76%** | **76%** | **82%** | | **+6pts** | **+7pts** |
| **Packaging & Plating** | 25% | 18% | 24% | 24% | 18% | | -6pts | -7pts |

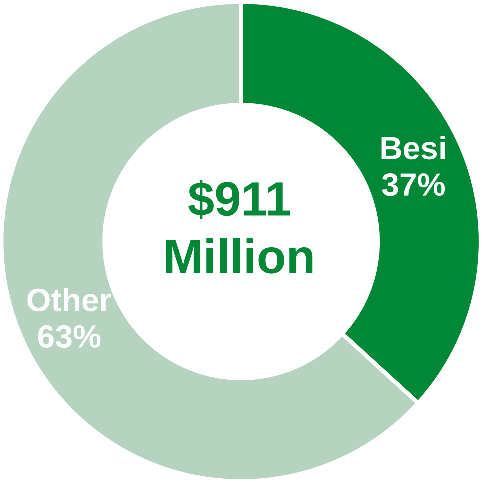
Source: VLSI, June 2021

# Leader in Addressable Market, Die Attach Market and Advanced Die Placement

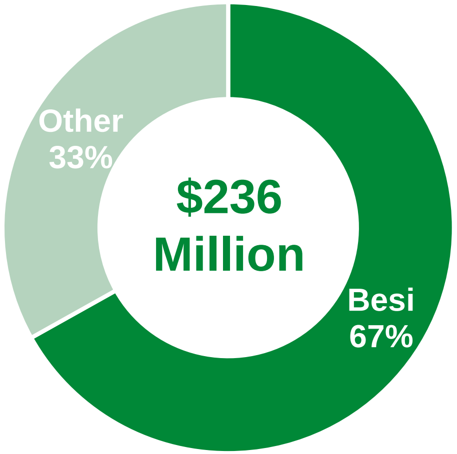
## 2020 Addressable Market*



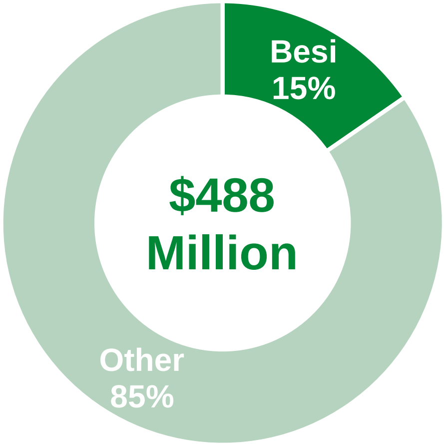

## Die Attach
(82% of Revenue)




## Advanced
## Die Placement**




## Packaging & Plating
(18% of Revenue)

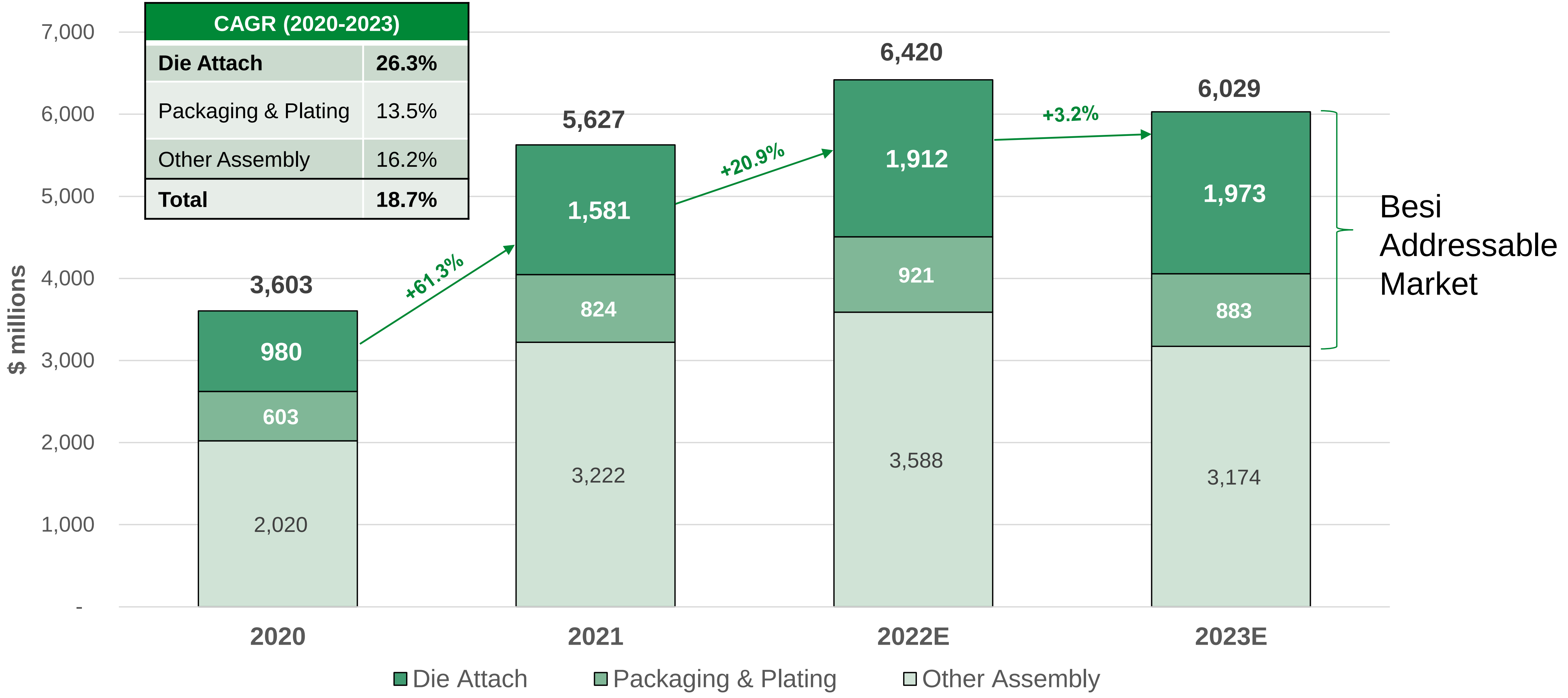



* Excludes wire bonding, dicing, and other.
** Advanced die placement defined as < 7 micron accuracy per VLSI.

Source: VLSI, June 2021. Equipment only.

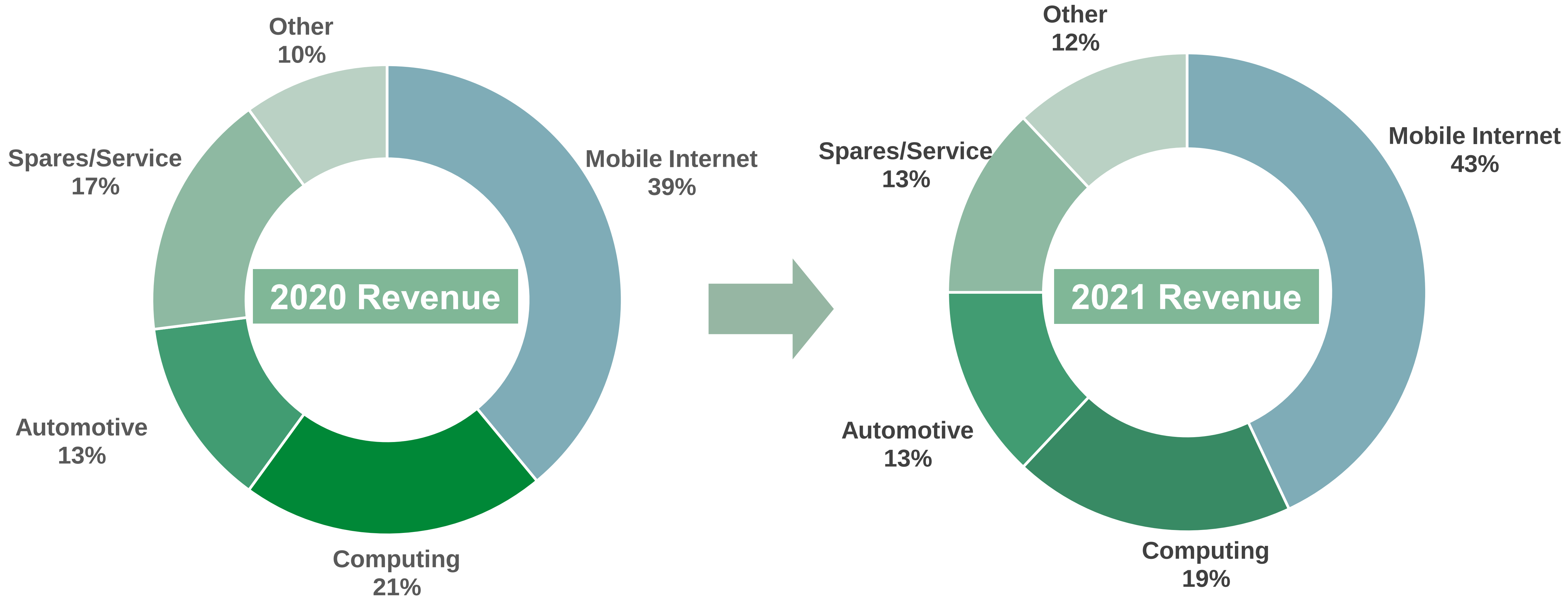
# Growth Expected to Favor Besi's Product Portfolio, Particularly Die Attach

| CAGR (2020-2023) | |
|---|---|
| **Die Attach** | **26.3%** |
| Packaging & Plating | 13.5% |
| Other Assembly | 16.2% |
| **Total** | **18.7%** |




Source: VLSI, January 2022. Addressable market revenue excludes hybrid bonding contribution.

# Besi End-User Markets




Source: Company estimates

# Mobile: Besi’s Largest End-User Market

Besi

RF Front End
Antennas
GPS

RF
Tranceiver
Modem

Local
Connectivity
WiFi/NFC

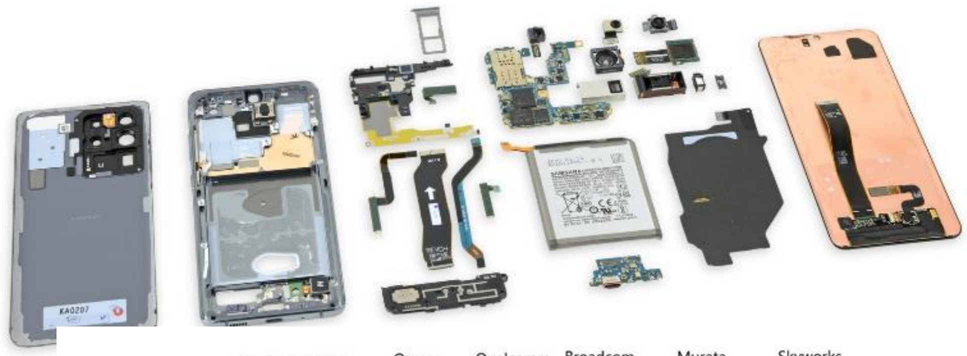
Microphone
Cameras
Sensors

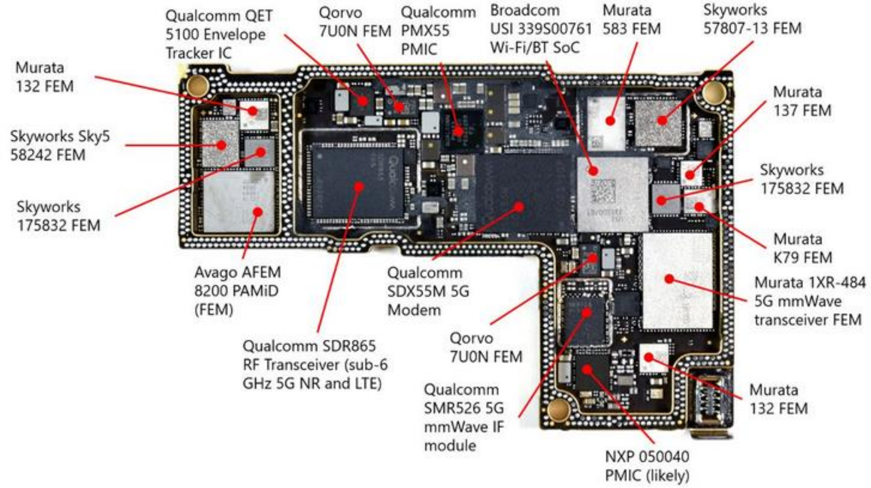
Display
TouchScreen

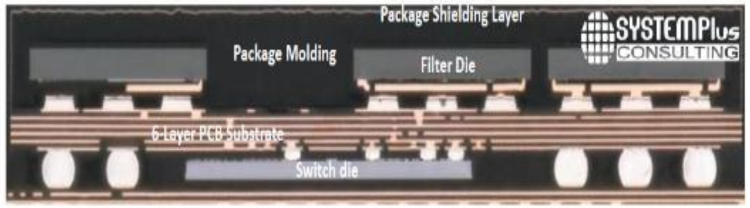
Power
Battery

Memory

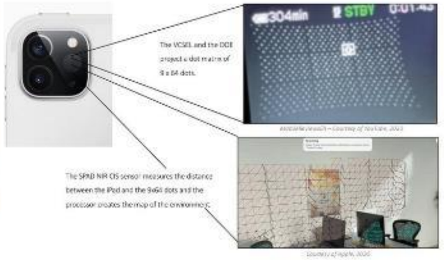
Application Processor






Lidar



## Besi Involved in Almost All Components

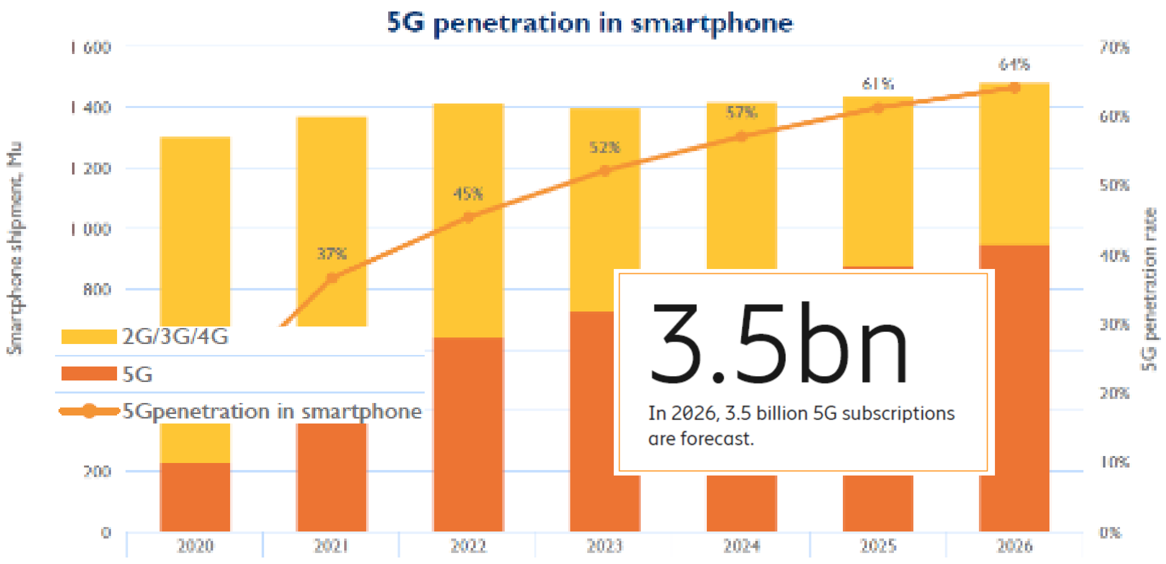
| Main Components | Besi system Utilized |
|---|---|
| Processor | 8800CHM, MMS-LM |
| DRAM Memory | 2100sD, FSL |
| NAND Flash | 2100sD, AMS-W/LM/FCQ8800 |
| PM IC | 2100sD, AMS-W/LM |
| Motion coprocessor | 2100sD, AMS-W/LM |
| Gyroscope | 2100xP, 2100sD, AMS-W/LM, FCL |
| 3-ax accelerometer | 2200evo |
| barometric sensor | 2200evo |
| Charging IC | 2100xP, 2100sD, AMS-W/LM, FCL |
| Power Delivery IC | 21000xP |
| Wireless charging IC | 2100xP, 2100sD, AMS-W/LM |
| **Communications** | **Besi system Utilized** |
| Wifi/Bluetooth module | AMS-W/LM / 2100HSi |
| NFC | 8800FCQ, AMS-W/LM,2009SSI |
| LTE Modem | 8800FCQ, AMS-W/LM |
| Low Band LTE PAD | 2200evo, FSL |
| Mid Band PAD | 2200evo, FSL |
| High Band PAD | 2100xP, 2100sD, AMS-W/LM |
| RF Transceiver | 2100xP, 2100sD, AMS-W/LM |
| RF Receiver | 2100xP, 2100sD, AMS-W/LM |
| Envelop Tracking IC | 8800FCQ, AMS-W/LM |
| Antenna Switch | 2100xP, 2100sD |
| PA | 2100xP, 2100sD, AMS-W/LM |
| PA Module | 2200evo, 2100sD |
| GSM PA module | 2200evo, 2100sD |
| **Video/Audio** | **Besi system Utilized** |
| Cameras Back side | 2200evo |
| Cameras Front Side | 2200evo |
| Face ID | 2200evo |
| Image Sensor | 2200evo |
| Dot Projectors | 2200evo |
| 2+4 microphones | 2100sD |
| Audio Codec | 2100xP, 2100sD, AMS-W/LM |
| Touch screen control | 2100sD |
| Touch Transmitter | FCL |
| OLED PMIC | 2100xP |

Source: Unitedlex.com and ifixit.com and System plus

# Mobile: 5G Adoption Increasing
# Driven By New Smartphone Applications and Features

Besi

## Growing 5G Smartphone Penetration




Source: Yole

## 5G Infrastructure Expanding


Source: Intel

**Number of mobile phones sold per year fairly constant at ~1.7 billion**

- of which 80%+ are represented by smart phones

**Growth driven by new features and innovation:**

- 5G broader spectrum including mm waves
- More and better cameras
- Next generation face recognition
- Bio sensors
- Spacial sensors like Lidar
- Better displays and foldable
- More powerful application processors 5nm and 4nm
- More powerful modems 5nm technology
- Requiring denser packages

**Additional growth drivers:**

- Device to device
- Smart watches, earbuds etc.
- 5G infrastructure expansion

**Growth in new features and functionality requires new/advanced assembly systems**

- To achieve higher performance and more compact form factors

# Computing Demand Expanding Rapidly

## Advanced computing expanding to many commercial applications


**AI/Vision/Recognition**

**Medical**


**Super Computers**

**Mobile Phones**

**Industry 4.0**

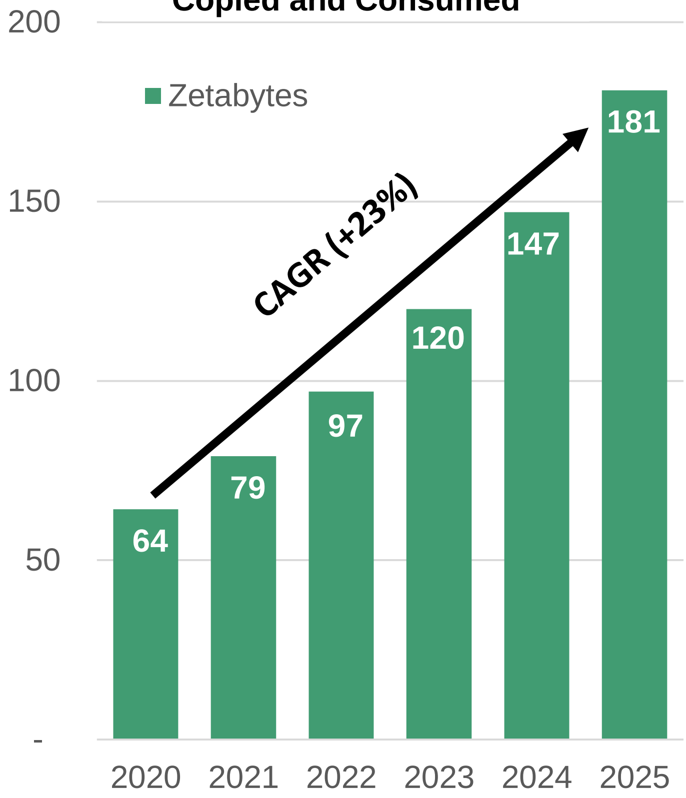
**Autonomous Driving**

**Datacenters**

**Laptops/Gaming/ Engineering**

## Data volumes growing exponentially

**Information Created, Captured, Copied and Consumed**

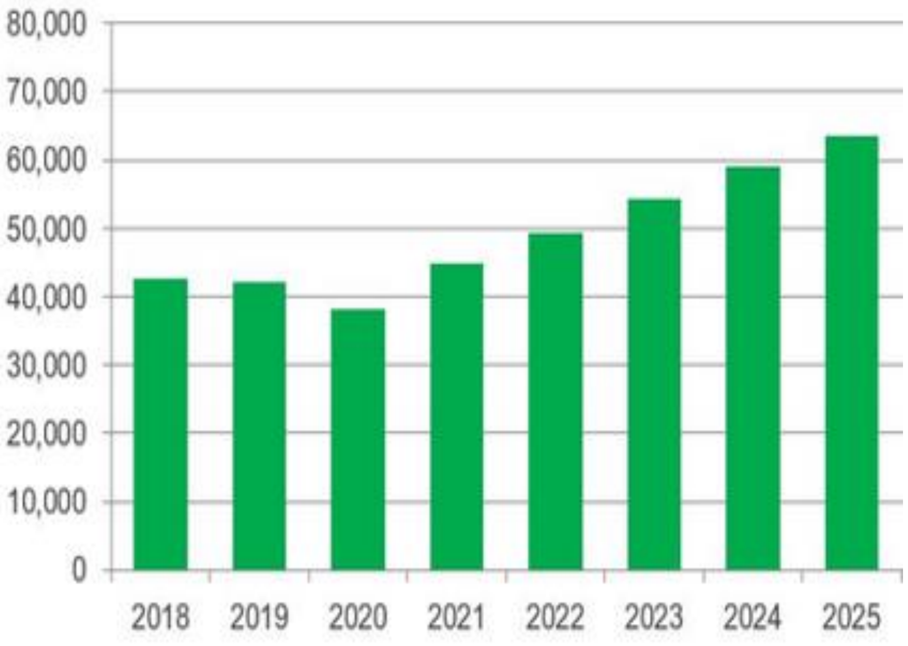



Source: Statista, June 2021

# Automotive: Semiconductor Content and Cost per Car Increasing

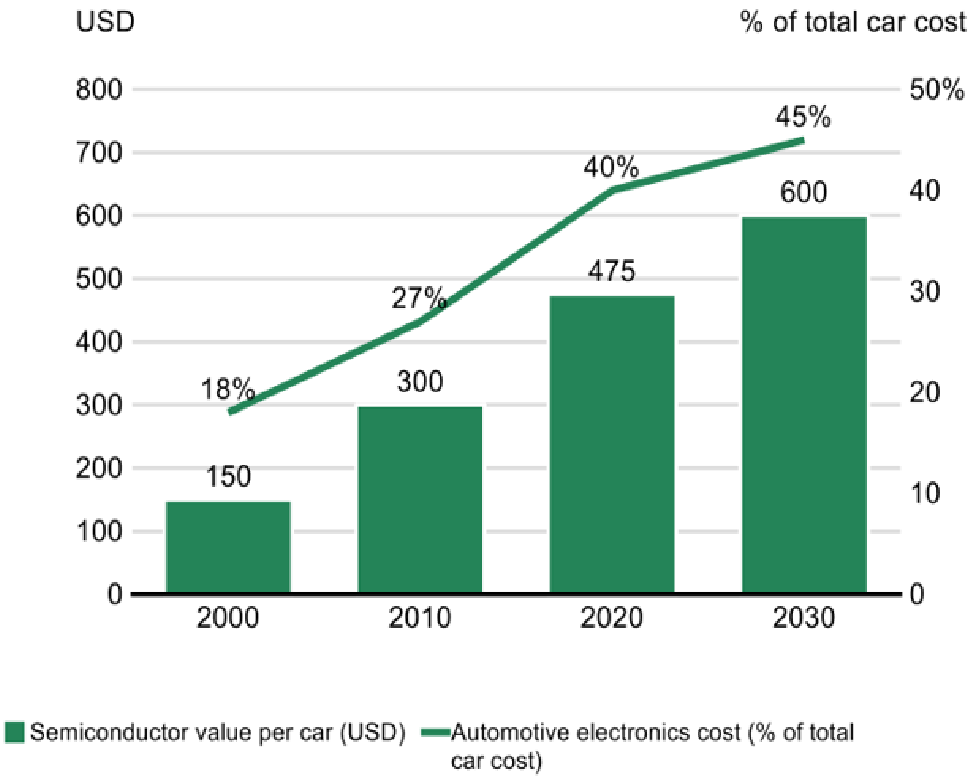
Besi

**Growth in Automotive Semiconductors**



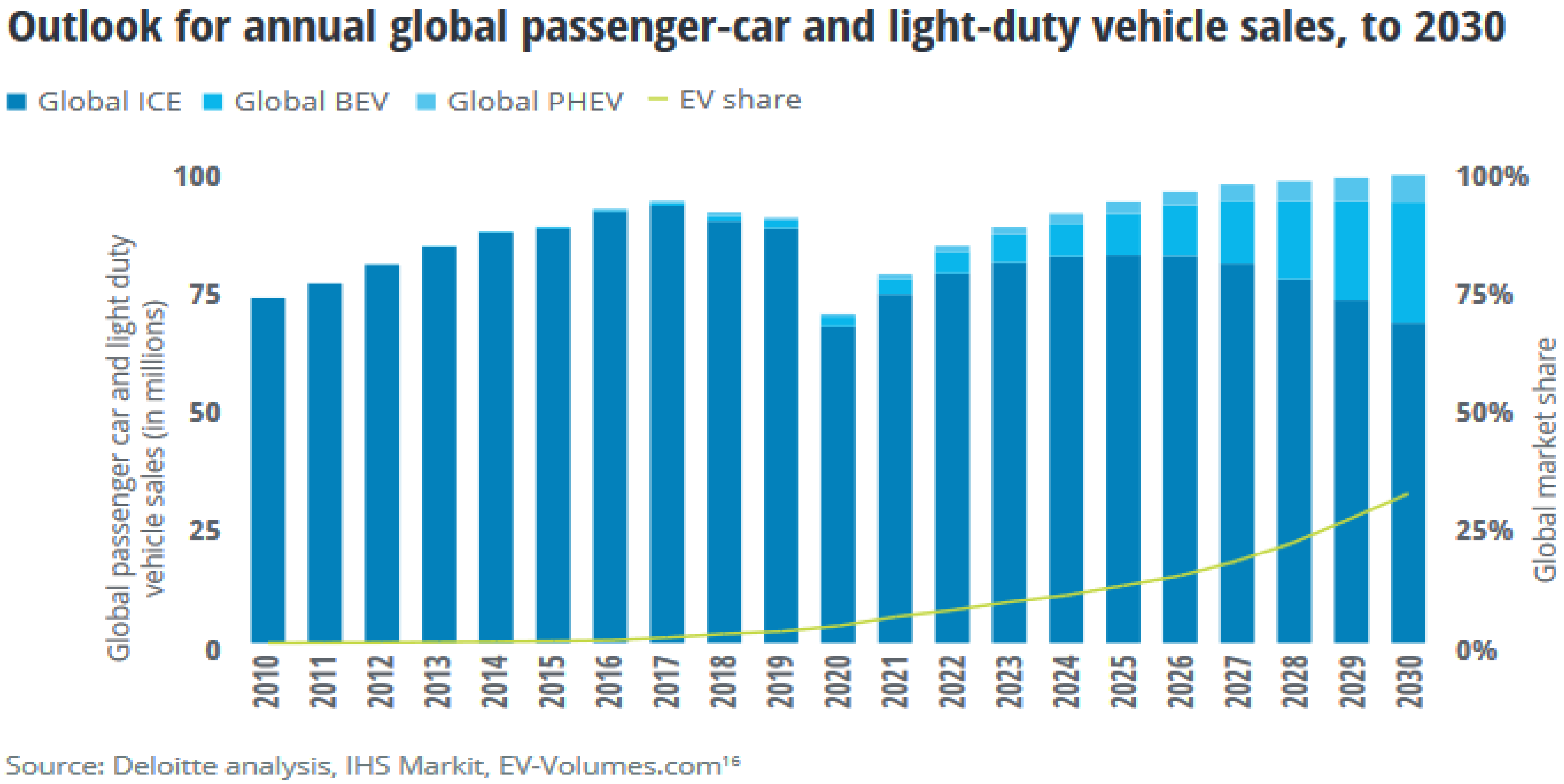

Source: IHS Markit, October 2020

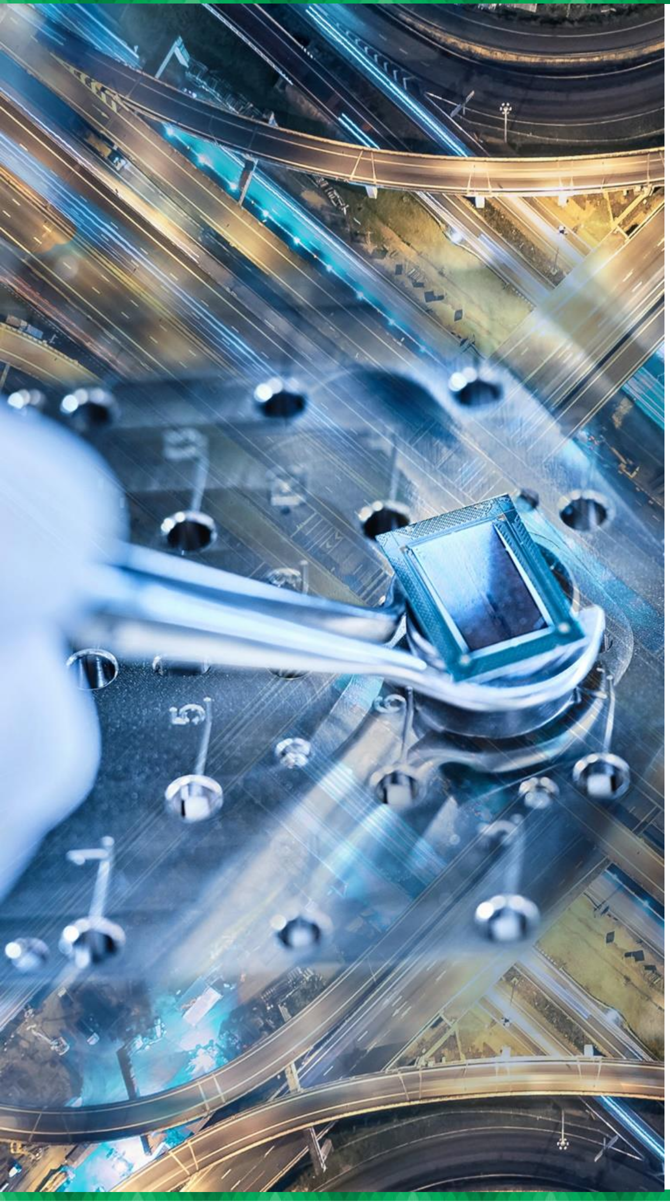
**Semiconductor Cost Content Per Car Is Increasing**




Source: IHS Markit and Deloitte Insights, July 2020

# EV Adoption Will Further Increase Semi Content and Cost/Car





# III. STRATEGY

# Summary Strategy

# Strategy Update

Besi

## 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
- Relative reductions in fuel, energy, hazardous waste and water consumption
- Certain 2021 ESG metrics realized ahead of 2022 target

# Revenue Initiatives

**Revenue Growth Initiatives**

- Pick the winners
- Expand wafer level assembly engagement
- New 5G, AI and HPC applications
- Increase penetration of Korean and Chinese android markets
- Expand Chinese market presence
- Wire bonding to flip chip conversion
- Expand automotive market share

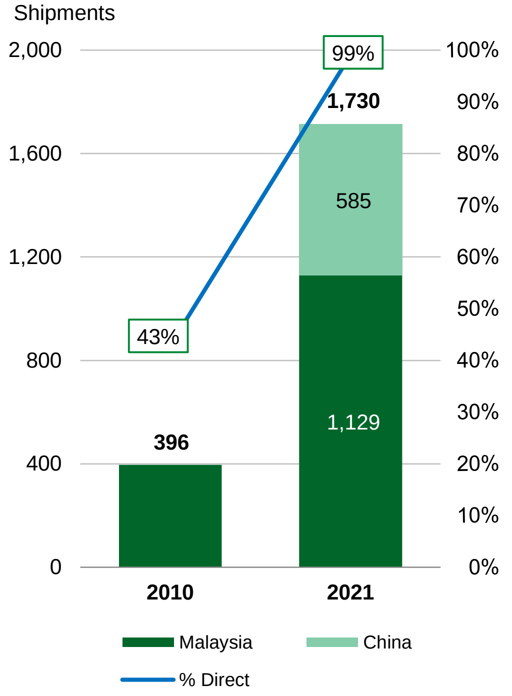
# Asian Production Transfer Has Improved Profitability and Cash Flow

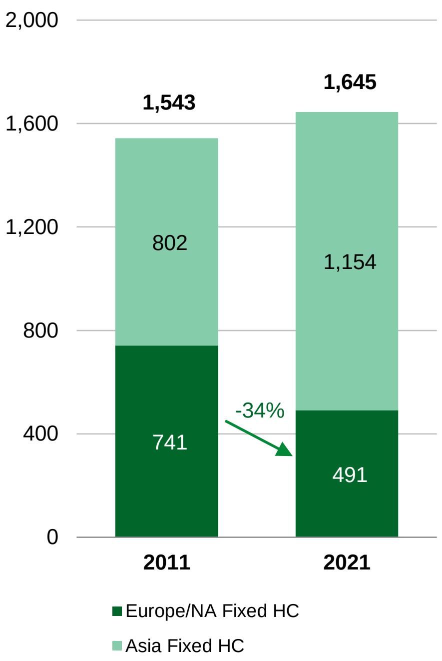
**Asian Production Has Significantly Expanded**

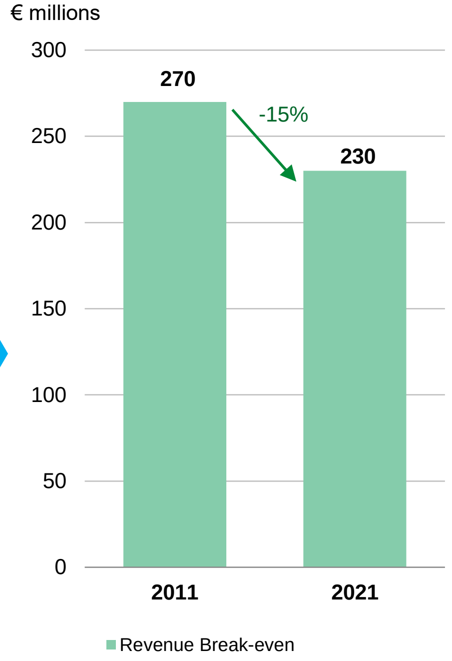
**Leading to Lower Fixed European and NA Headcount**

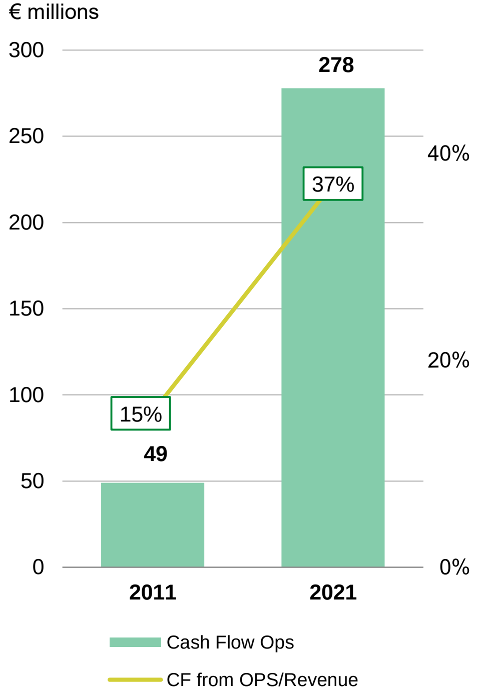
**And Reduced Break Even Revenue Levels**

**And Improved Cash Generation**

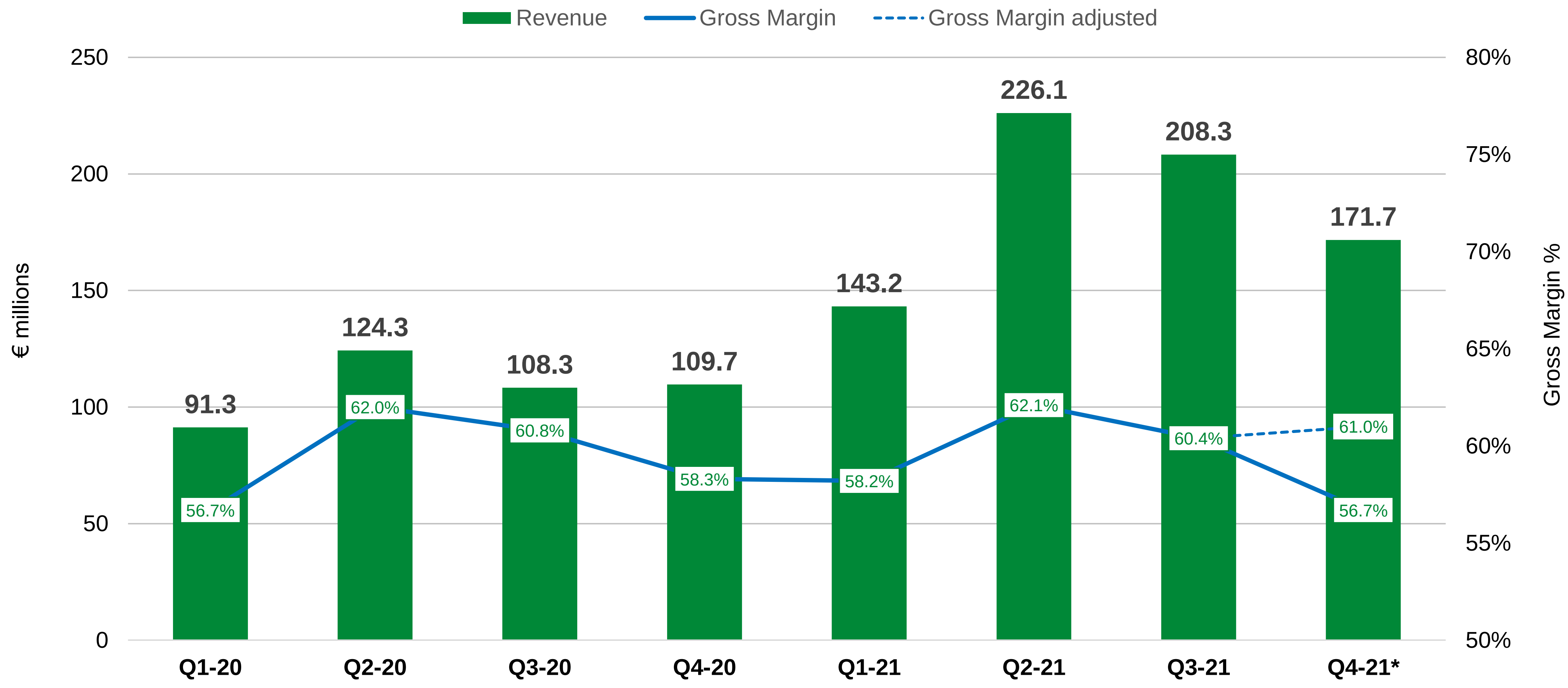


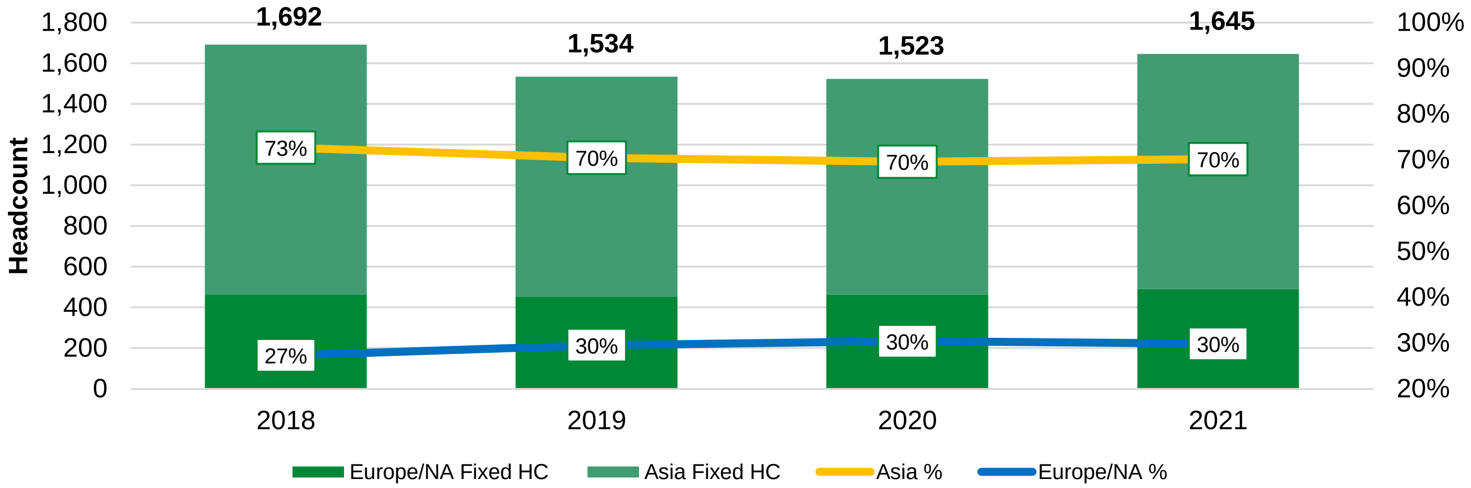
# Flexible Production Model Has Generated Consistent Gross Margins in Market Cycles



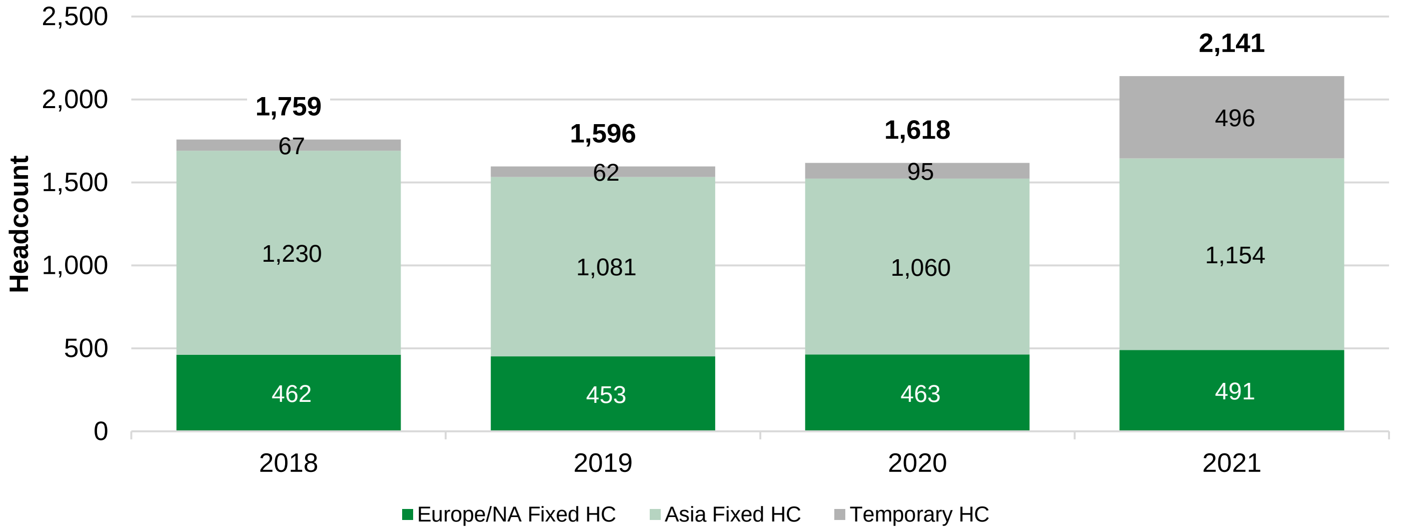

* Includes € 7.4 million (4.3 gross margin point) inventory charge in Q4-21 related to a flood of one of Besi's Malaysian production facilities.

# Flexible Asian Workforce Has Significantly Enhanced Scalability

**Fixed Headcount**




**Total Headcount**



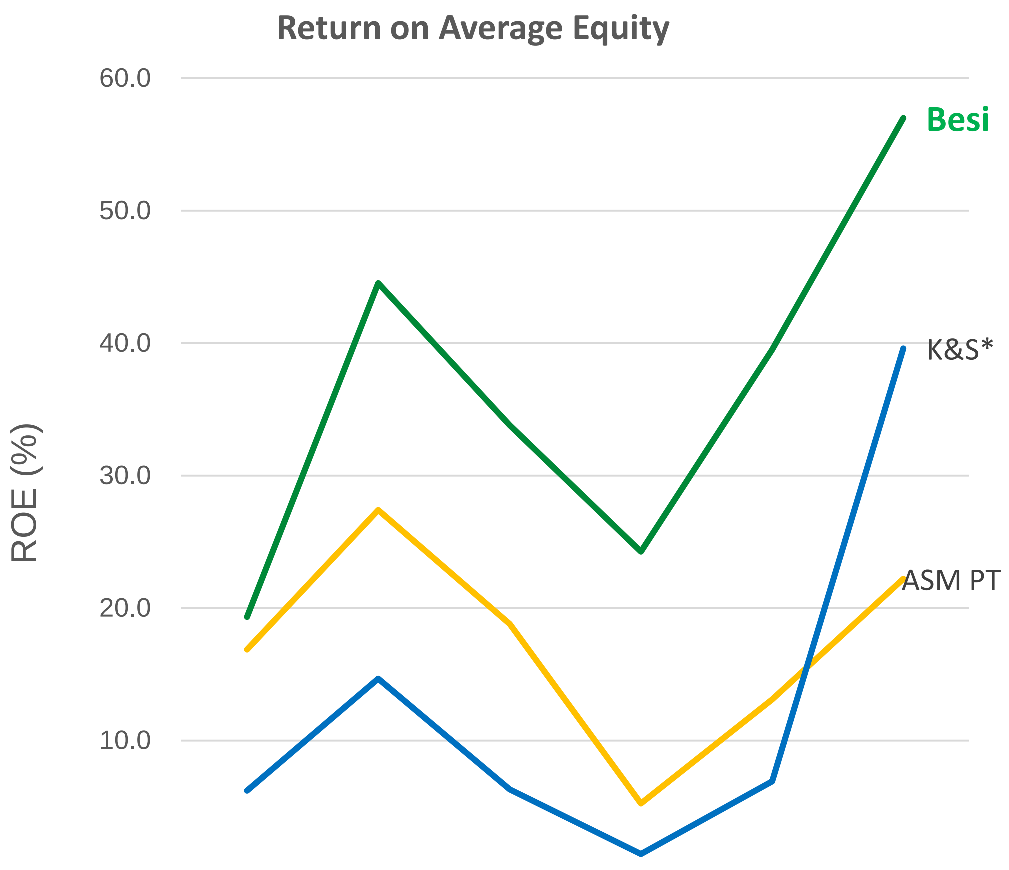

- **Aligning organization to meet projected growth:**
  - Scaling temporary Asian production personnel
  - Increased R&D and service personnel for next generation <10 nm assembly
- **Fixed headcount levels under control**
  - Has aided profit expansion in current cycle

# Structural, Through Cycle Outperformance Achieved vs. Direct Peers

| Gross Margin | 2016 | 2021 | Δ 2016/ 2021 |
|---|---|---|---|
| **Besi** | **51.0%** | **59.6%** | **+8.6%** |
| ASM PT (Back end) | 43.4% | 43.8% | +0.4% |
| K&S* | 44.8% | 45.9% | +1.1% |

| Operating Margin | 2016 | 2021 | Δ 2016/ 2021 |
|---|---|---|---|
| **Besi** | **20.0%** | **42.4%** | **+22.4%** |
| ASM PT (Back end) | 20.6% | 22.4% | +1.8% |
| K&S* | 8.6% | 27.2% | +18.6% |

* K&S on fiscal year basis




| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|
| Besi | 19.3 | 44.5 | 33.8 | 24.3 | 39.5 | 57.0 |
| ASM PT | 16.9 | 27.4 | 18.8 | 5.2 | 13.1 | 22.2 |
| K&S* | 6.2 | 14.7 | 6.3 | 1.4 | 6.9 | 39.6 |

**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
- Gap vs. peers growing, particularly during last down cycle
- Besi capital allocation strategy has also helped drive ROE outperformance

# Significant ESG Progress Achieved in 2021

Besi

| Process Pillar | Progress |
|---|---|
| Environmental Impact | 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 |
| People Wellbeing | 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 |
| Responsible Business | Increased % of Purchasing Volume signed CFSI and SAQ |
| | 94% of Purchasing Volume compliant with RoHS directive, up from 92% in 2020 |

# ESG Ambitions and Targets

## Key Targets 2022

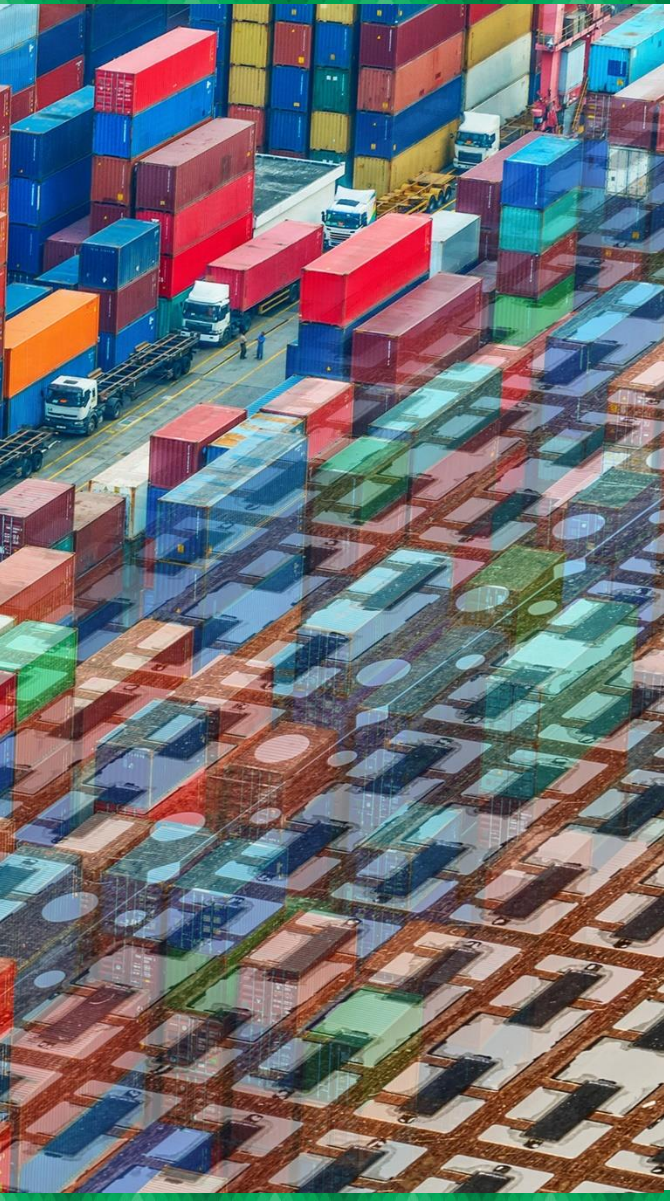
- 100% renewable sources for European energy needs
- 15% reduction in Scope 1 and 2 carbon emissions*
- Above-benchmark employee engagement
- Increase training hours per employee
- Compliance with SASB benchmark (2021)
- TCFD compliance

## 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

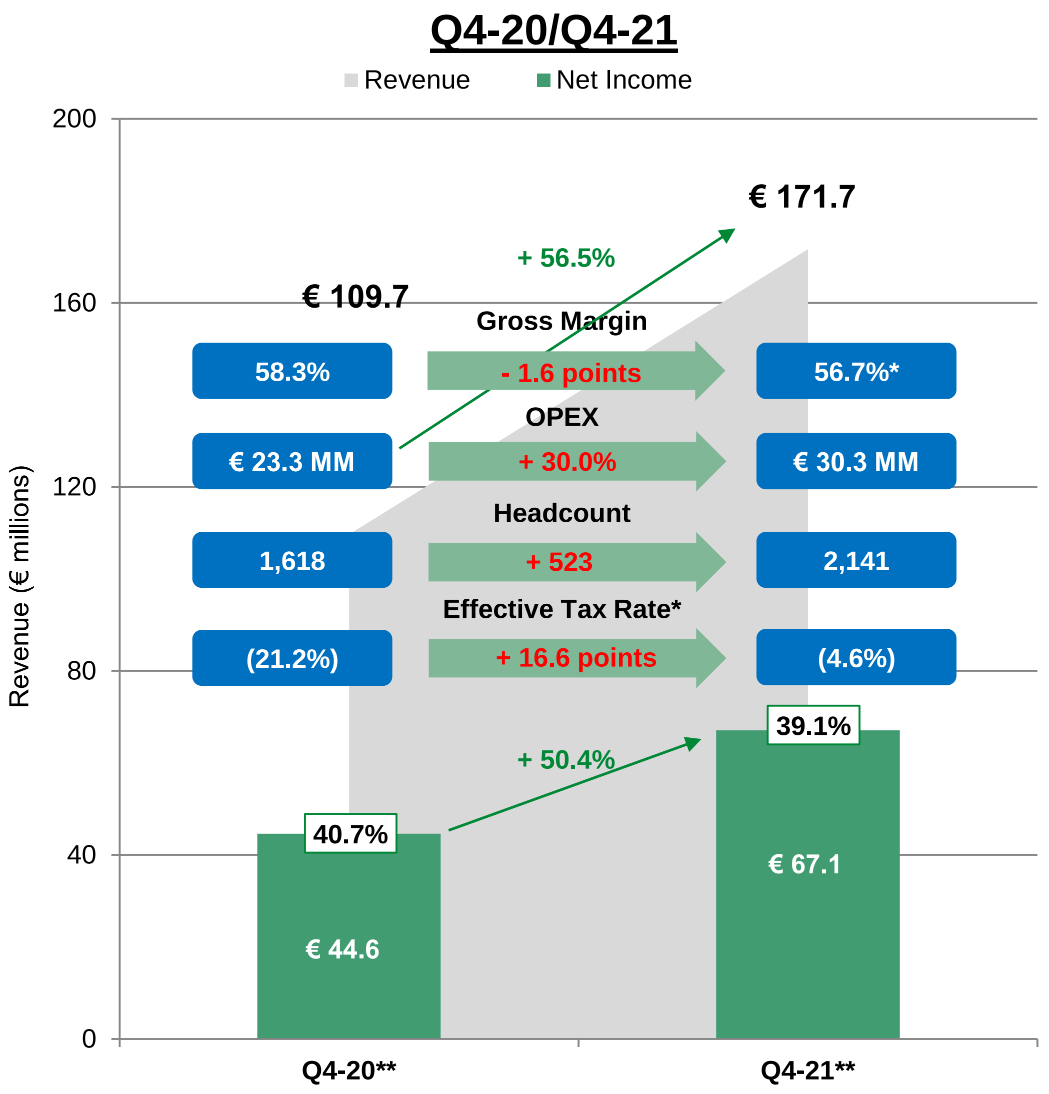
## Carbon Neutral By 2050

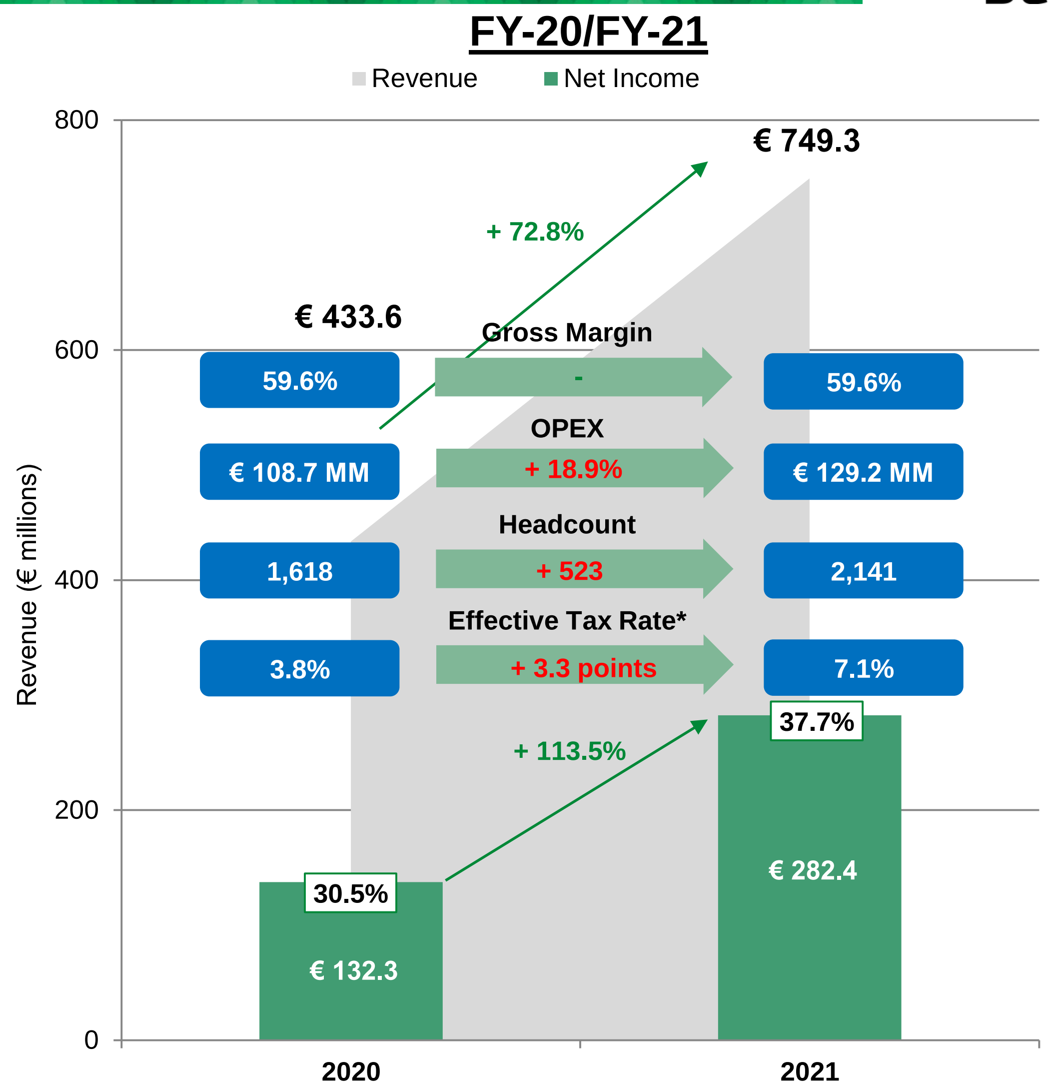
* As per Greenhouse Gas Protocol. Targets relative to 2019 baseline data



# IV. FINANCIAL UPDATE AND SUMMARY

# Revenue and Profitability up Strongly in Q4-21 and FY 2021

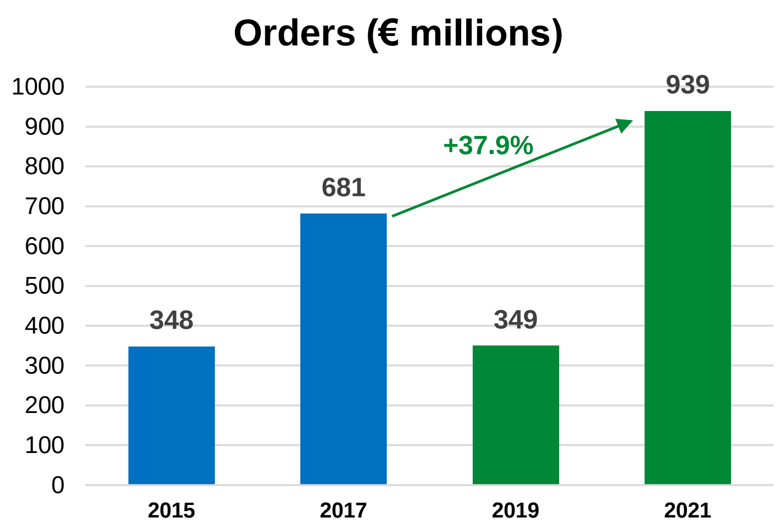


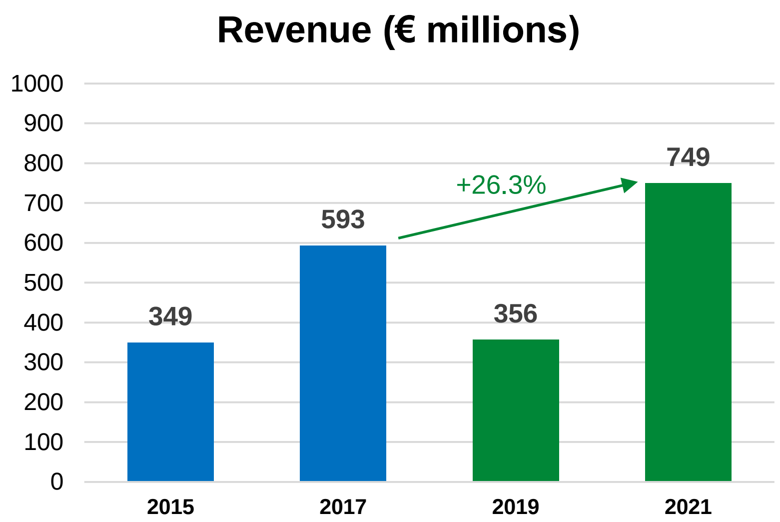



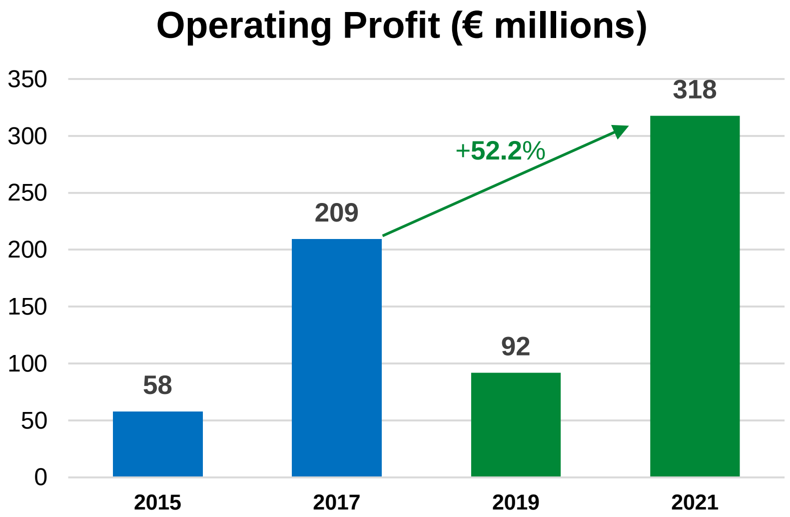

* Besi's gross margin would have been 61.0% in Q4-21 excluding € 7.4 million inventory impairment charge.

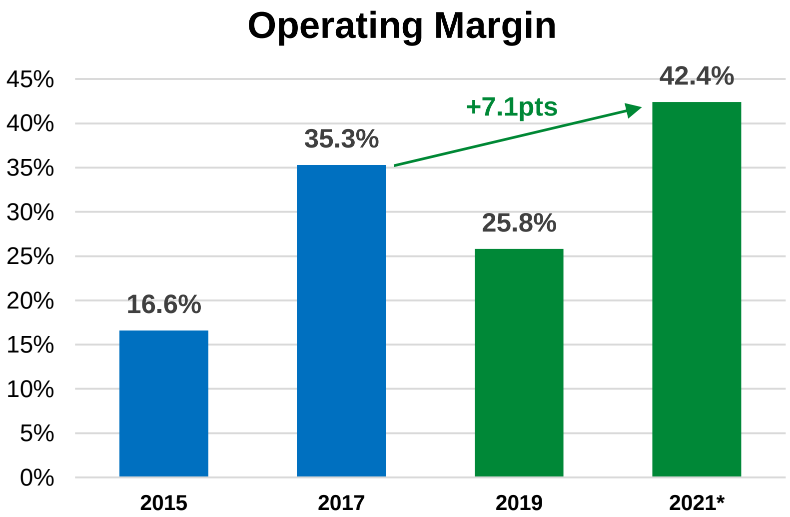
** Adjusted net margin of 37.7% in Q4-21 and 30.5% in Q4-20 excluding tax benefits in each period and Q4-21 inventory impairment charge.

# Performance Significantly Above Last Cycle



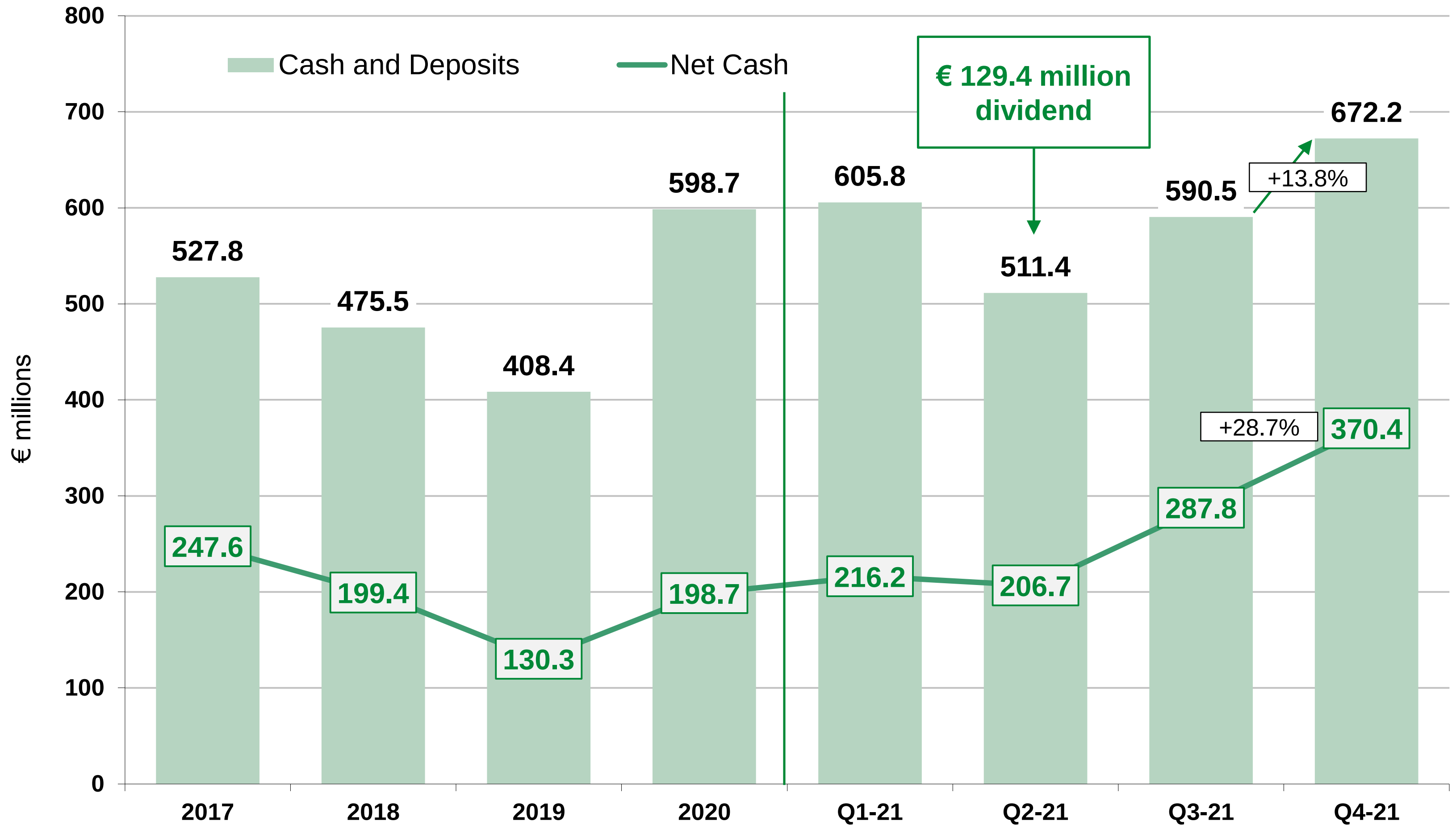




- **Orders +37.9% vs. 2017**
- **Revenue +26.3%**
- **Fixed headcount down 5%**
- **Operating profit +52.2%**
- **Operating margin up 7.1 points to 42.4%**

# Liquidity Position Expanded in 2021




**Q4-21 vs. Q3-21**

- **Total cash up € 81.7 million (13.8%)**
  - +€ 101.8 million cash flow from operations
  - - € 15.7 million share repurchases
  - - € 6.7 million capitalized development

**Q4-21 vs. Q4-20**

- **Total cash up € 73.5 million (+12.3%)**
  - Financed € 46.1 million WC investment to support 2x order growth
- **Net cash of € 370.4 million up € 171.7 million (+86.4%)**
  - +€ 277.9 million cash flow from operations
  - +€ 110.2 million Convertible Notes converted
  - - € 129.4 million dividend paid
  - - € 50.1 million share repurchases
  - - € 23.0 million capitalized development

# Guidance Q1-22

**Revenue**

| Q4-21 | Q1-22 |
|---|---|
| € 171.7 | +15% (+/- 5%) |

**Gross Margin**

| Q4-21 | Q1-22 |
|---|---|
| 56.7%* | 59%-61% |

**Baseline Operating Expenses**

| Q4-21 | Q1-22 |
|---|---|
| € 30.3 | +0% - +5% |

**€ in millions**

**Total Operating Expenses**

| Q4-21 | Q1-22 |
|---|---|
| € 30.3 | +35% - +40% |

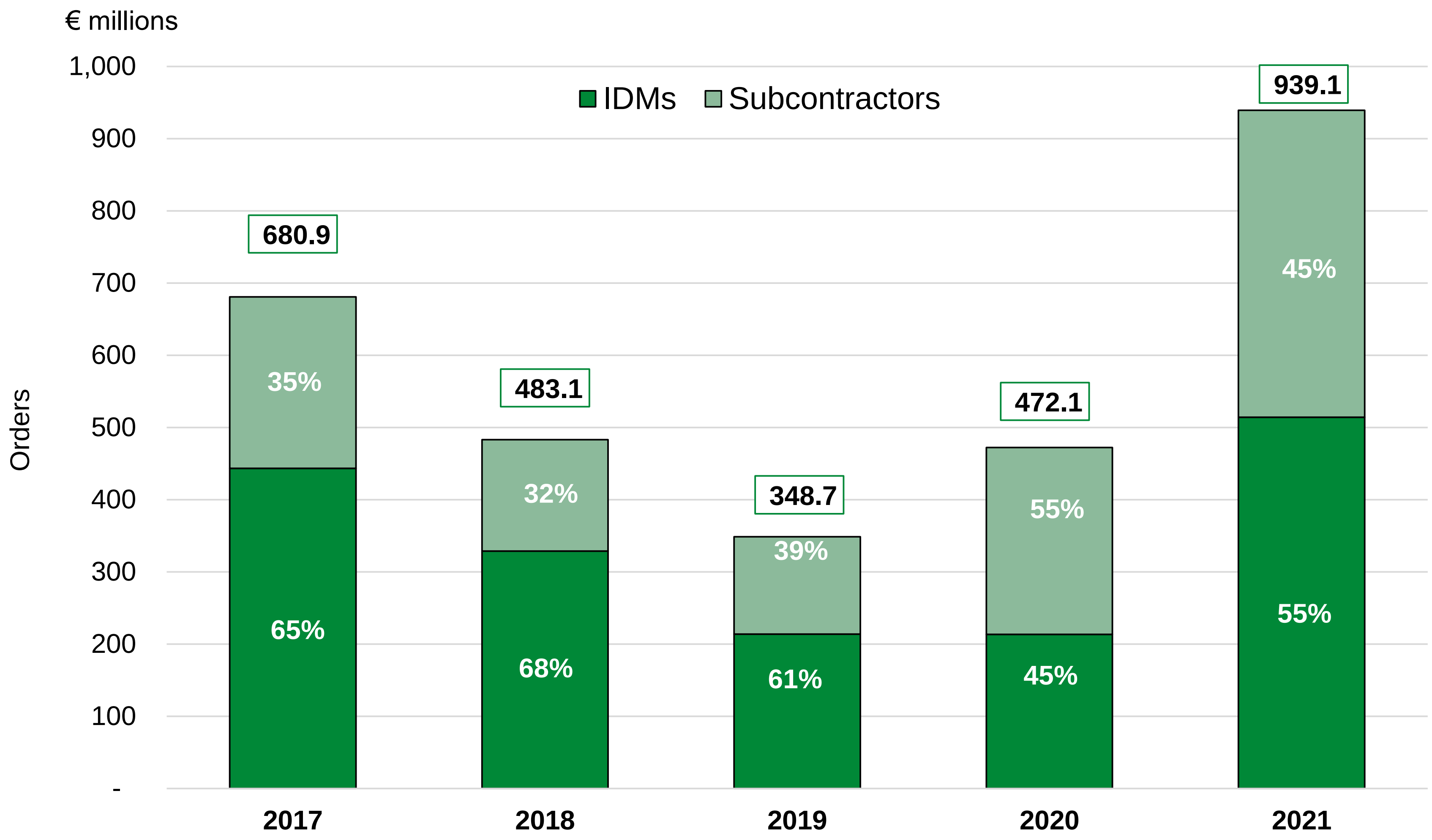
* Adjusted gross margin of 61.0% excluding inventory impairment charge.

# Investment Considerations

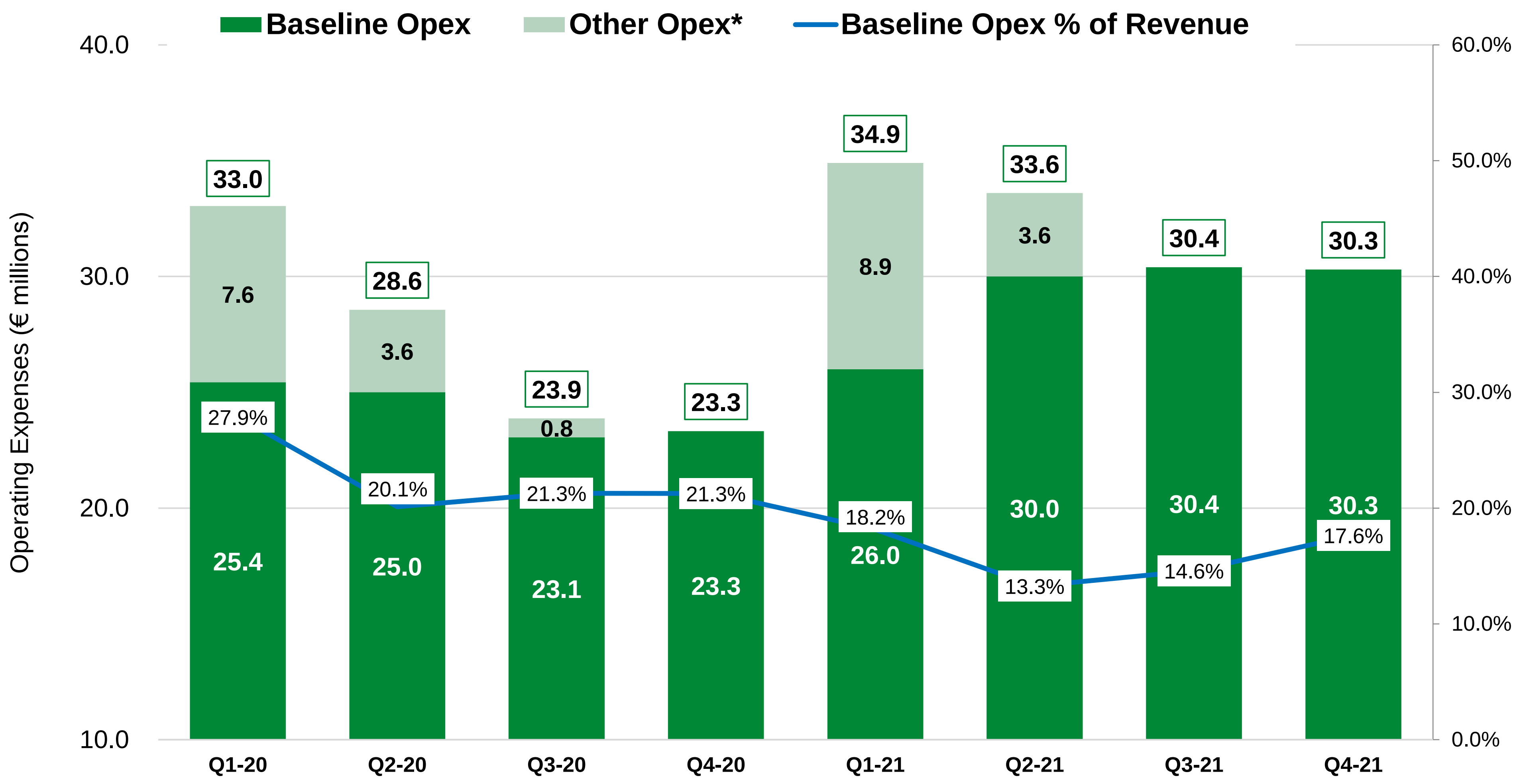
- Assembly market ever more critical in semiconductor value chain
- Disciplined strategic focus has created an industry leader
- Long term secular trends drive advanced packaging growth
- Wafer level assembly new growth opportunity
- Market presence has grown via key IDMs, supply chains and partners
- Tech leadership and scalability result in superior financial returns
- Commitment to sustainable growth and fighting climate change
- Attractive capital allocation policy

# V. APPENDIX

# IDM/Subcontractor Order Trends

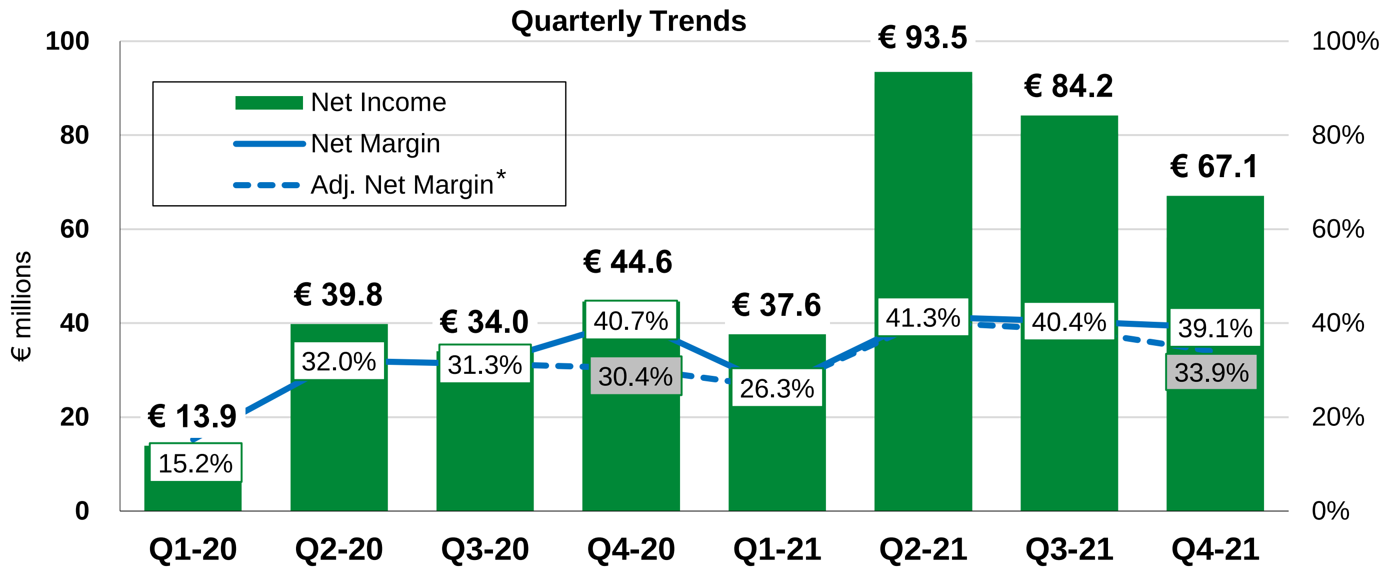


# Baseline Operating Expense Trends

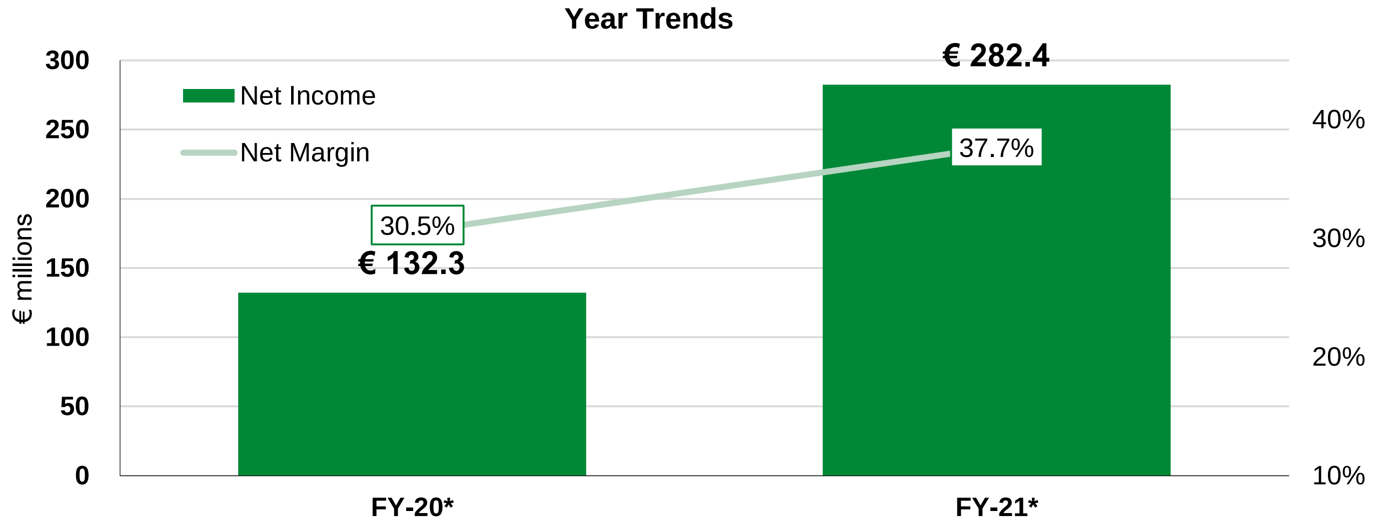



* Other Opex includes both short-term and long-term incentive compensation, seasonal effects, restructuring costs, net R&D capitalization/amortization and certain one-time items.

# Net Income Trends




* Adjusted to exclude tax benefits recognized in each respective period.



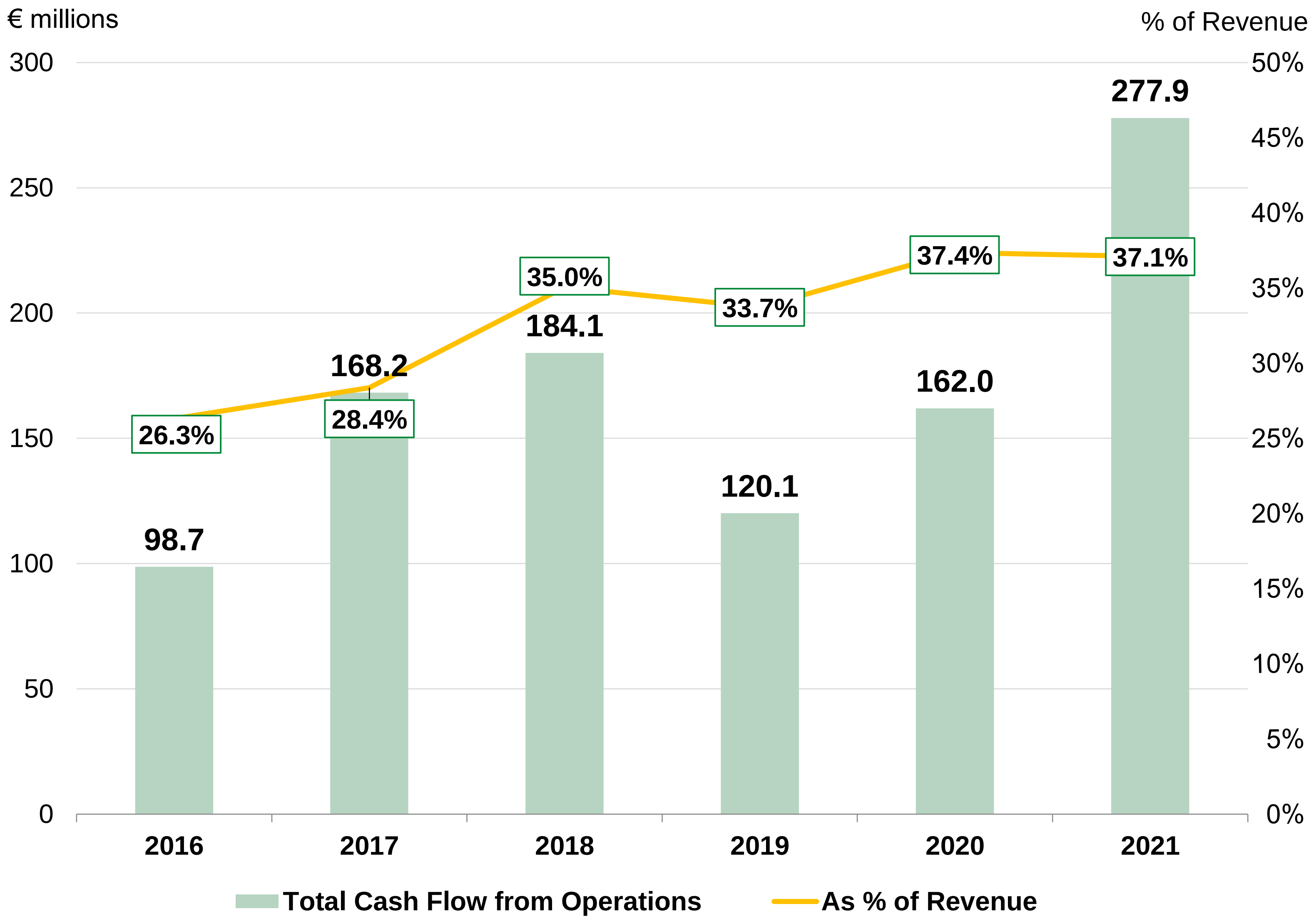

* Includes tax benefits of € 15.0 million and € 11.2 million in 2021 and 2020, respectively.

**Q4-21 vs. Q3-21**
- **€ 67.1 million (-€ 17.1 million)**
- -17.6% revenue decrease
  - Primarily due to shipment deferrals
- -€ 7.4 million inventory impairment charge
- Partial offset:
  - +Lower effective tax rate due to € 8.9 million tax benefit

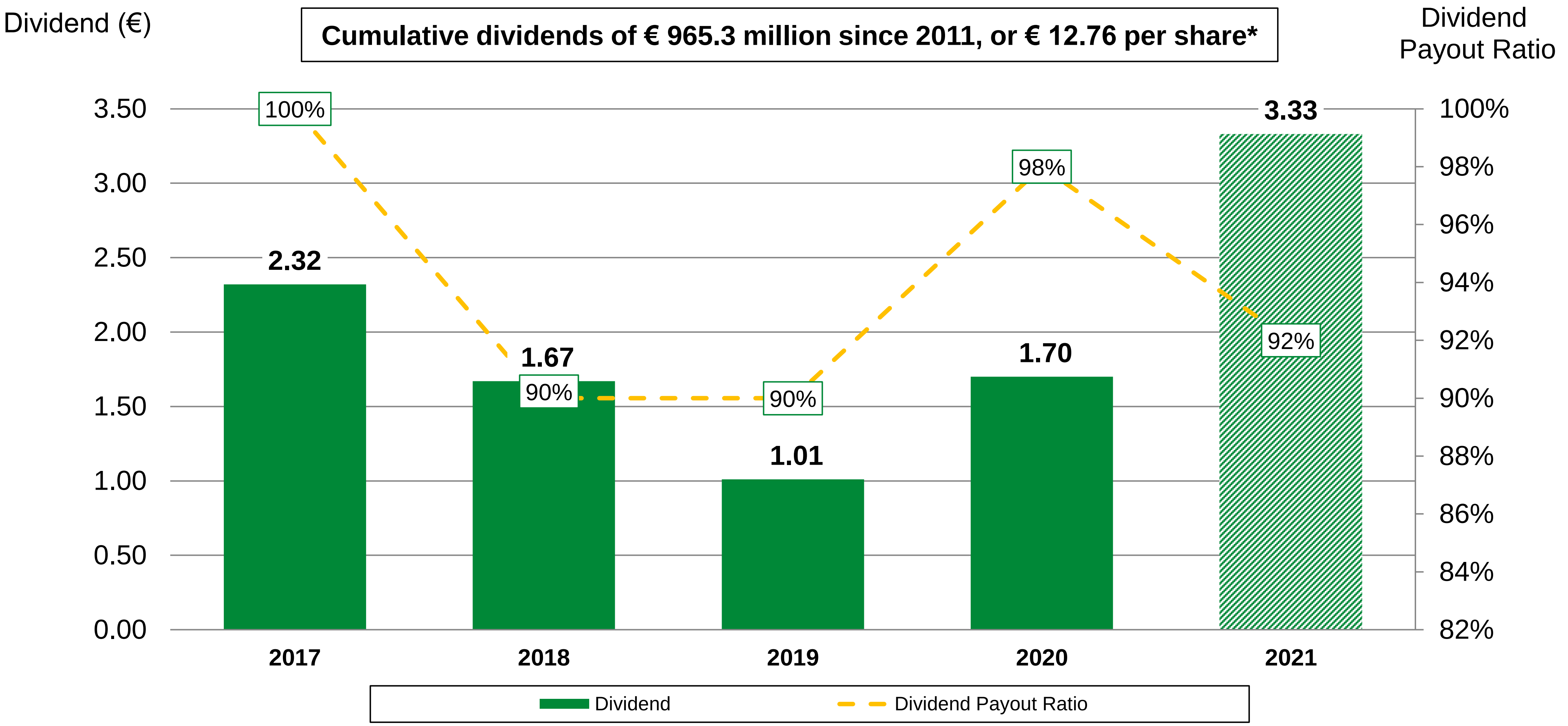
**Q4-21 vs. Q4-20**
- **+€ 22.5 million**
- +56.5% revenue growth
- +Cost control overhead and fixed personnel
  - Opex/revenue down from 21.2% to 17.6%
- Partial offset: higher effective tax rate

**2021 vs. 2020**
- **+€ 150.1 million (+113.5%)**
- +72.8% revenue growth
- +Cost control overhead and fixed personnel
  - Opex/revenue down from 25.1% to 17.2%
- Partial offset: higher effective tax rate (7.1% vs 3.8%)

# Cash Flow Efficiency Trends

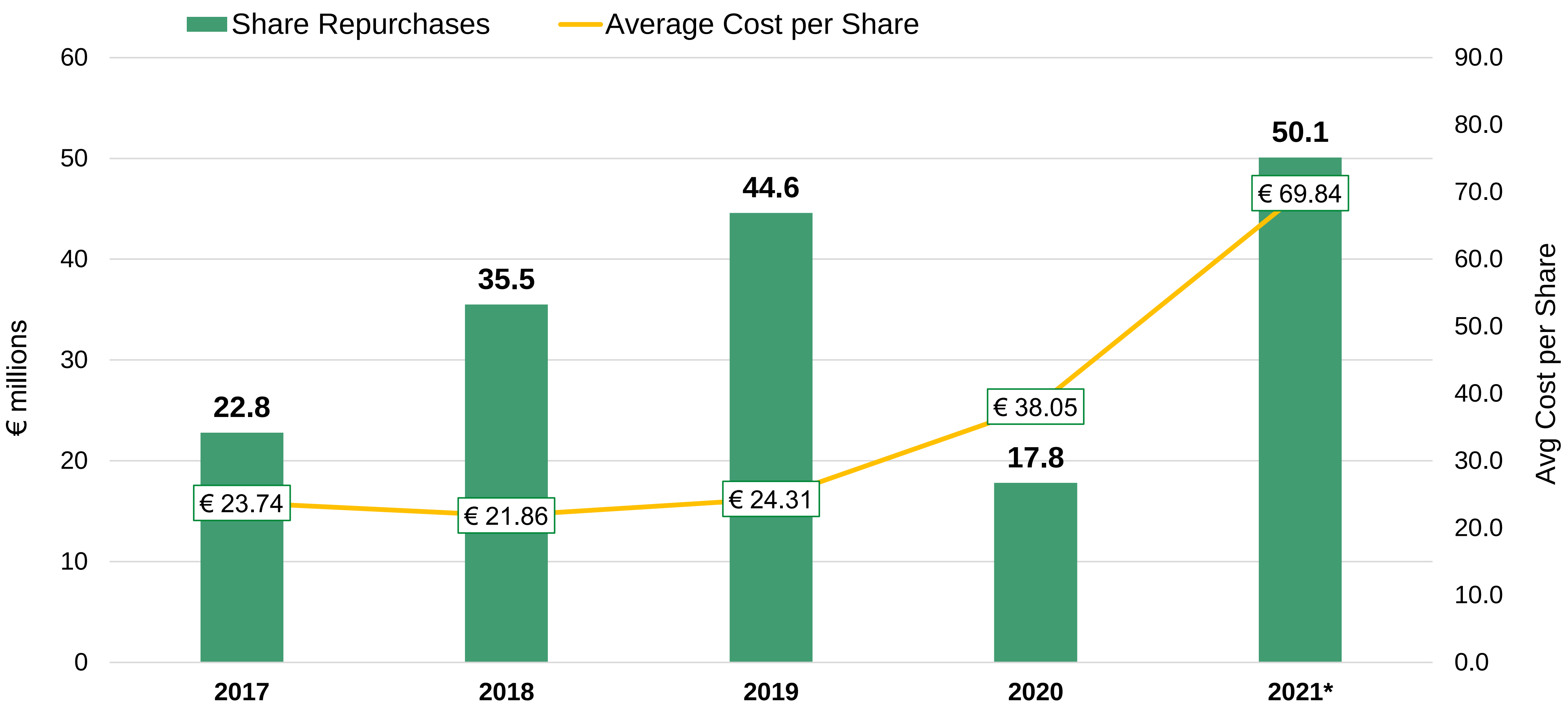


# Dividend Trends




* Includes proposed 2021 dividend for approval at April 29, 2022 AGM

# Share Repurchase Activity



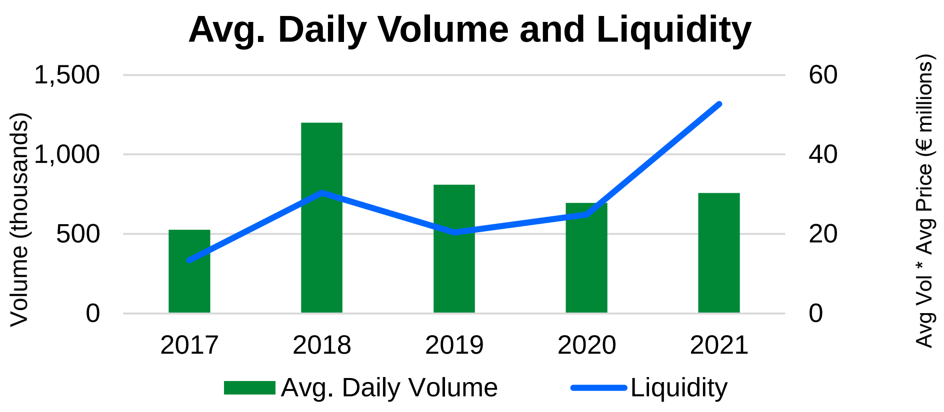

- 0.6 million treasury shares at December 31, 2021. Represents 0.8% of shares outstanding.
- Total 78.0 million shares outstanding at December 31, 2021.

* Share repurchases included up to December 31, 2021.

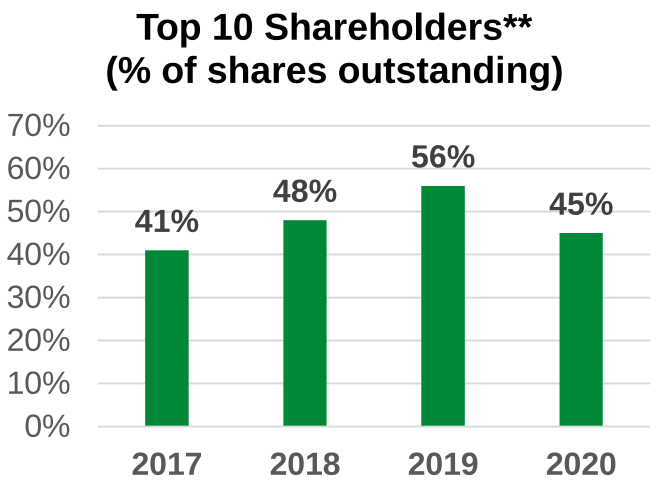
# Shareholder Base and Market Liquidity Has Expanded

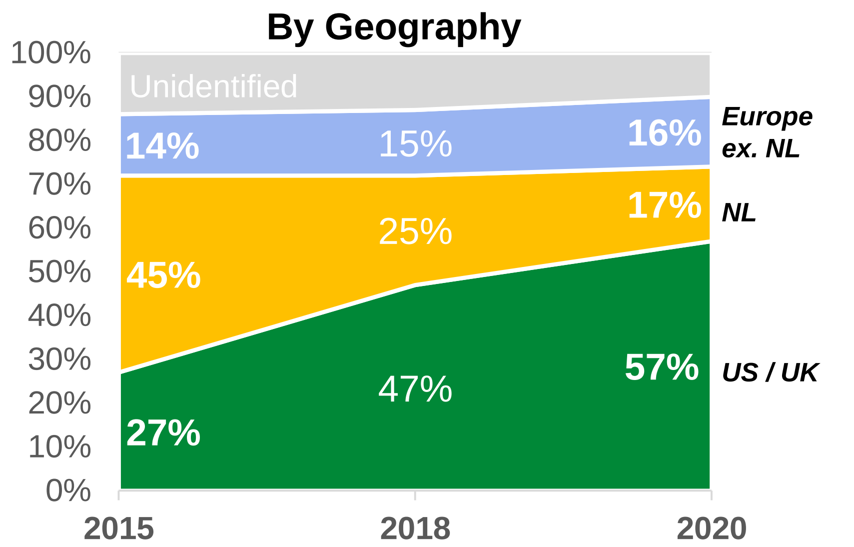
## Market Profile

| | |
|---|---|
| Symbol/ Index | • BESI<br>• Euronext AEX |
| Market Cap* | • € 5.8 billion ($ 6.6 billion) |
| Dividend Policy | • Pay out 40-100% of net income per annum |




## Share Ownership




* As of December 31, 2021 ** Besi estimates