INVESTOR PRESENTATION

November 2019
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 press release, 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; 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 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; 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, 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; potential instability in foreign capital markets; the risk of failure to successfully manage our diverse operations; any inability to attract and retain skilled personnel; those additional risk factors set forth in Besi's annual report for the year ended December 31, 2018; 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 Update and Summary

V. Appendix
I. COMPANY OVERVIEW
Besi Overview

Corporate Profile
- Leading assembly equipment supplier with #1 and #2 positions in key markets.
- 32% addressable market share
- Broad portfolio: die attach, packaging and plating
- Strategic positioning in substrate and wafer level packaging
- Global operations in 6 countries; 1,634 employees. HQ in the Netherlands

Financial Highlights
- LTM revenue and net income of € 356.3 million and € 70.3 million
- Cash/deposits at Q3-19: € 383.7 million
- Net cash/deposits at Q3-19: € 106.9 million
- € 643.6 million of dividends and share repurchases since 2011*

Investment Considerations
- Applications for emerging digital society are key long term drivers: Internet of Everything, AI, Big Data, Cloud computing, 3D imaging, 5G network roll out
- Advanced packaging is critical part of semi value chain to realize promise
- China market growth and share gains also benefit revenue development
- European overhead reduction, optimization of Asian production and common parts initiatives also help drive profit potential

* Includes 2018 dividend payment of € 1.67 per share and share repurchases through October 31, 2019.
Company History

Die Attach Acquisitions

- 2000
- 2002
- 2005
- 2009

Product Strategy

- Expanded advanced packaging leadership into die attach area
- Gained market share organically and via acquisitions
- Gained mindshare with key industry leaders
- Growth in China, key customers and electronics supply chains

Successful Execution of Strategic Plan Initiatives

- Asian production transfer combined with European restructuring enhanced profit potential
- Developed two key Asian production hubs (MY and CN), Singapore development/support center and Asian supply chain
- Scalability enhanced. Break even revenue levels reduced

Financial Metrics

- Achieved peer leading gross and net margins
- Improved cash flow generation
- Implemented attractive capital allocation policy
Best in Class Product Portfolio

Die Attach

Die Bonding
- 2100 xP plus / hS
- 2100 sD plus / PPP plus
- 2100 SC
- 2100 sD advanced
- 2100 SSI

Multi Module Attach
- 2100 DS
- 2200 evo
- 2200 evo plus
- 2200 evo hS
- 2200 evo advanced

Flip Chip
- 8800 CHAMEQ advanced
- 8800 TC advanced
- 8800 FC QUANTUM advanced
- 2100 FC hS

Die Sorting
- WTT
- TTR

Die Lid Attach
- DLA

Packaging

AMS-i/X
- Leadframe
- MEMS
- Sensors

AMS-LM
- Substrate

FML New
- Wafer
- Panel

FCL
- X
- P New
- X/P New

FSL
- Singulation
- Sorting

In Development
- Next generation Die Attach
- Next generation Packaging
- Common modules

Plating

Plating
- Leadframe
- Film & Foil
- Solar
- Battery

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Customer Ecosystem

- Diversified, blue chip customer base, top 10 = 54% of 2018 revenue
- Leading IDMs and subcontractors. 68%/32% split in 2018
- Also supply leading fabless companies: Qualcomm, Broadcom, MediaTek via subcontractors
- Long term relationships, some exceeding 50 years

IDMs
- Toshiba
- Lumileds
- Qorvo
- Renesas
- Samsung
- Sony
- NXP
- Micron
- Bosch

Subcontractors
- Infineon
- Skyworks
- Freescale
- Osram

OEMs
- Samsung
- Dell
- Qualcomm
- Broadcom
- Delphi
- Sharp
- MediaTek
- Fujitsu
- Lenovo
- Huawei
- LG

End Products
- Tablets
- Smartphones
- Cars
- Home appliances
## Product Positioning

### Semiconductor Manufacturing Equipment (2018: $68.6B)*

<table>
<thead>
<tr>
<th></th>
<th>Front end: $57.8B (84.3%)</th>
<th>Assembly: $4.3B (6.3%)</th>
<th>Test: $6.5B (9.4%)</th>
</tr>
</thead>
</table>

* Source: VLSI November, 2019

### Semiconductor Assembly Process

<table>
<thead>
<tr>
<th>Dicing</th>
<th>Die Attach</th>
<th>Wire Bond</th>
<th>Packaging**</th>
<th>Plating</th>
</tr>
</thead>
</table>

- **Leadframe Assembly**
- **Substrate Wire Bond Assembly**
- **Substrate Flip Chip Assembly/TCB**
- **Wafer Level Packaging Flip Chip Assembly/Fan Out**

** Includes Molding, Trim and Form and Singulation Systems
Operational Profile

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

LTM September 30, 2019

<table>
<thead>
<tr>
<th></th>
<th>Europe/NA</th>
<th>Asia</th>
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<tbody>
<tr>
<td>Revenue (MMs)</td>
<td>€ 95.2</td>
<td>€ 261.1</td>
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<tr>
<td></td>
<td>26.7%</td>
<td>73.3%</td>
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<tr>
<td>Headcount</td>
<td>507</td>
<td>1,127</td>
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<tr>
<td></td>
<td>31.0%</td>
<td>69.0%</td>
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</table>
Summary Financials

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<th></th>
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<tr>
<td>Revenue</td>
<td>375.4</td>
<td>592.8</td>
<td>525.3</td>
<td>432.7</td>
<td>263.8</td>
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<tr>
<td>% seq. change</td>
<td>8%</td>
<td>58%</td>
<td>-11%</td>
<td>(39%)</td>
<td></td>
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<tr>
<td>Gross margin</td>
<td>51%</td>
<td>57%</td>
<td>57%</td>
<td>57%</td>
<td>56%</td>
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<tr>
<td>EBITDA</td>
<td>89.8</td>
<td>222.8</td>
<td>187.7</td>
<td>157.2</td>
<td>79.9</td>
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<tr>
<td>Pretax income</td>
<td>73.6</td>
<td>199.2</td>
<td>154.9</td>
<td>132.9</td>
<td>54.7</td>
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<tr>
<td>Net income</td>
<td>65.3</td>
<td>173.2</td>
<td>136.3</td>
<td>113.5</td>
<td>47.6</td>
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<tr>
<td>Net margin</td>
<td>17%</td>
<td>29%</td>
<td>26%</td>
<td>26%</td>
<td>18%</td>
</tr>
<tr>
<td>EPS (diluted) (a)</td>
<td>0.85</td>
<td>2.17</td>
<td>1.68</td>
<td>1.40</td>
<td>0.63</td>
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<tr>
<td>EPS (basic) (a)</td>
<td>0.87</td>
<td>2.32</td>
<td>1.83</td>
<td>1.52</td>
<td>0.63</td>
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<tr>
<td>Dividend per share (a)</td>
<td>0.87</td>
<td>2.32</td>
<td>1.67</td>
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<td></td>
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<tr>
<td>Net cash</td>
<td>168.1</td>
<td>247.6</td>
<td>199.4</td>
<td>160.1</td>
<td>106.9</td>
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</tbody>
</table>

Long term, step function revenue growth
- Last peak reached in 2017 at € 592.8 million
- Current revenue trends affected by market downturn starting in mid 2018
- Orders have stabilized in 2019

Strong margins and profit potential
- Attractive gross margin of 55%+ achieved
- Net margin of 18% in YTD-19 despite 39% YOY revenue decrease
- 29% net margin realized in last market peak
- Flexible production and strategic headcount initiatives have kept costs under control

Cash generation supports shareholder friendly capital allocation policy
- € 161.3 million paid in YTD-19 in form of dividends and share repurchases

(a) Adjusted for 2:1 stock split in May 2018
Business Model Objectives

Objectives

- Revenue: €800MM
- Addressable Market Share: 40%+
- Gross Margin: 55-60%
- Net Margin: 30-35%
- Headcount Split: 80% Asia/20% Euro
Capital Allocation Trends

- Shareholder friendly capital allocation program
- € 643.6 million distributions since 2011:
  - € 165.0 million YTD 2019
  - Share repurchases have increased as % of mix in recent years
- Current share repurchase program extended until October 2020:
  - At end of Q3-19, 7.7 million shares in treasury relative to 8.0 million authorization (10% of shares outstanding)

* Dividend and share repurchases through October 31, 2019

[Graph showing dividends and share repurchases from 2011 to 2019]
II. MARKET
What Drives Besi’s Business?

- Macro GDP trends
- Tech capabilities in 24/7 production environment
- IDM customer and supply chain choice
- Timing of customer roadmaps and capital spending programs
- Competitive cycle times and scalability
Assembly Equipment Market Trends

Assembly Equipment Market

<table>
<thead>
<tr>
<th>Year</th>
<th>Market Size (US$ billions)</th>
<th>YoY Growth Rate</th>
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</thead>
<tbody>
<tr>
<td>2013</td>
<td>3.0</td>
<td>22.3%</td>
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<tr>
<td>2014</td>
<td>3.7</td>
<td>16.3%</td>
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<tr>
<td>2015</td>
<td>3.1</td>
<td>-16.3%</td>
</tr>
<tr>
<td>2016</td>
<td>3.5</td>
<td>12.7%</td>
</tr>
<tr>
<td>2017</td>
<td>4.4</td>
<td>25.8%</td>
</tr>
<tr>
<td>2018</td>
<td>4.3</td>
<td>-2.5%</td>
</tr>
<tr>
<td>2019E</td>
<td>3.1</td>
<td>-27.0%</td>
</tr>
<tr>
<td>2020E</td>
<td>3.5</td>
<td>10.3%</td>
</tr>
<tr>
<td>2021E</td>
<td>3.8</td>
<td>10.3%</td>
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</table>

Besi Revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue (€ millions)</th>
<th>YoY Growth Rate</th>
</tr>
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<tbody>
<tr>
<td>2013</td>
<td>254.9</td>
<td>48.6%</td>
</tr>
<tr>
<td>2014</td>
<td>378.8</td>
<td>-7.8%</td>
</tr>
<tr>
<td>2015</td>
<td>349.2</td>
<td>7.5%</td>
</tr>
<tr>
<td>2016</td>
<td>375.4</td>
<td>57.9%</td>
</tr>
<tr>
<td>2017</td>
<td>525.3</td>
<td>-11.4%</td>
</tr>
<tr>
<td>2018</td>
<td>353.5</td>
<td>-32.7%</td>
</tr>
<tr>
<td>2019E*</td>
<td>592.8</td>
<td></td>
</tr>
</tbody>
</table>

Source: VLSI November 2019

- VLSI now forecasts -27.0% for 2019 with recovery estimated in 2020 and 2021
Assembly Equipment Market Composition

- Roughly half of assembly market represented by die attach and packaging equipment
- Die Attach represents Besi’s largest addressable market

* Source: VLSI July 2019
Besi Market Share Trends

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assembly Market</td>
<td>$3,725</td>
<td>$3,119</td>
<td>$3,515</td>
<td>$4,421</td>
<td>$4,313</td>
</tr>
<tr>
<td></td>
<td>Besi Market Share</td>
<td>13.5%</td>
<td>12.4%</td>
<td>11.9%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Addressable Market</td>
<td>$1,622</td>
<td>$1,286</td>
<td>$1,540</td>
<td>$1,983</td>
<td>$1,848</td>
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<tr>
<td></td>
<td>Besi Market Share</td>
<td>30.4%</td>
<td>29.6%</td>
<td>27.0%</td>
<td>33.5%</td>
</tr>
<tr>
<td>Die Attach</td>
<td>36.9%</td>
<td>34.8%</td>
<td>32.9%</td>
<td>40.6%</td>
<td>38.6%</td>
</tr>
<tr>
<td>Packaging</td>
<td>17.9%</td>
<td>17.5%</td>
<td>14.4%</td>
<td>16.2%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Plating</td>
<td>75.4%</td>
<td>78.5%</td>
<td>85.5%</td>
<td>78.1%</td>
<td>83.6%</td>
</tr>
</tbody>
</table>

- Market share trending upwards
- Can vary p.a. based on customer road maps and advanced packaging needs

Source: VLSI November 2019 and Besi estimates
New Era of Chip Growth and Applications Will Drive Greater Computing and Data Needs

Digital society
Driven by new technologies
- 5G
- AI – big data
- Robotics
- Transportation
- Environment
- Health care

Will need continuous new solutions
- 1zb = 1,000,000,000 tb
- 1zb= 1,000 data centres
- 1zb = 180,000,000 homes (energy requirements)

Source: IMEC ITF 2018
Requiring Increased Density, Higher Accuracy and Smaller Form Factors for Next Generation Devices

Front End
Transistor scaling
Lithography
New structures 3D

Back End Assembly
More contacts
Smaller pitches
Thinner/denser more complex packages
Stacked structures 3D
WLP/FOWLP packages

Today => Tomorrow

From simple Wire Bond to BGA/Flip Chip to complex 3D structures with TSVs, microbumps and thin dies to WLP/FOWLP packages without substrate interposer

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Advanced Packaging Critical to Next Generation Applications

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

- Digital Society
  - Smart mfg, cities, mobility and homes
  - Driverless cars
  - Data mining
  - Cloud servers
  - IoT
  - Wearable devices
  - Artificial intelligence
  - VR/AR
  - High performance Computing
  - MEMS

Greater Miniaturization

Greater Complexity

Higher Accuracy

Lower Power Consumption

Higher Performance

Die Bond
- Datacon 8800 TC
- Datacon 8800 CHAMEO fan-out
- Esec DB2009
- Esec DB2100

Packaging
- Fico AMS-LM
- Fico Singulation Line
- FML Wafer Molding
- Fico Compact Line - X

Increased Density

Mobile Revolution

Digital Society

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Besi Portfolio Well Positioned by Node Size and Accuracy

![Graph showing Estimated % of 2018 Revenue]

- • 75% of Besi equipment revenue advanced packaging as per VLSI definition
- • 55% equipment revenue is < 7 micron accuracy and sub 18 nanometer
- • Most rapidly growing market segment

<table>
<thead>
<tr>
<th>Typical Application</th>
<th>Besi Equipment</th>
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</thead>
<tbody>
<tr>
<td>Automotive, SiP Power</td>
<td>Die Attach Packaging Plating</td>
</tr>
<tr>
<td>IOT General ICs</td>
<td>Die Attach Packaging Plating</td>
</tr>
<tr>
<td>Computer, PC, Mobile Cloud Computing</td>
<td>Die Attach Packaging</td>
</tr>
<tr>
<td>High Performance Computing Memory</td>
<td>Die Attach Packaging</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accuracy Micron</th>
<th>Size NM</th>
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<tbody>
<tr>
<td>10+</td>
<td>28+</td>
</tr>
<tr>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>
Advanced Packaging Unit Volume and Market Share Are Increasing

- Advanced packaging applications have grown significantly since 2010
- Currently, estimated 37% of wafers use advanced packaging interconnects
- Leading growth segment of assembly equipment market
- Flip chip and WLP are leading AP assembly processes next five years

CAGR 2011-2023: 16.6%

Advanced Packaging Silicon Demand Growth & Market Share 2011 - 2023

Source: VLSI March 2019
Fan Out WLP and TCB/TSV Are Emerging Advanced Packaging Process Technologies

Fan Out WLP (Wafer Level)
Preferred process for high data transfer and optical devices in IoT, mobile and power

Fan Out Advantages:
• Wafer scale. Eliminates expensive substrate
• No wire bonding
• More cost effective than TSV in many applications by factor of 2x

Leading market position:
• Installed base of ~70 systems in production
• Estimated 70% market share
• Principal Competition: Shibaura

TCB/TSV (Substrate Based)
Enabling technology for high end memory and optical applications
Next step beyond Flip Chip

32 Stacked Die Capability

Besi TCB Advantage
• 32 die stack at <5 micron accuracy (current market: 4-8 die stack)
• High accuracy over large area placement
• Highly stable
• Industry leading throughput
• Compact form factor

Leading market position
• Installed base of 40 systems in production
• Estimated 25% market share of active systems
• Highest penetration of memory and GPU markets
• Principal competition: Toray, ASM PT, Shinkawa
Besi End User Application Trends

• Mobile Internet, Computing and Automotive are largest end markets
  • Estimated 73% of revenue in 2018
  • Percentages vary p.a. based on customer roadmaps

• Mobile is largest market
  • % varies based on timing and success of new product introductions

• Growth in automotive reflects ever increasing electronic content

• Computing growth associated with increased demand for high end logic, cloud and memory solutions

• Spares/service: 15% of 2018 revenue
  • Growth in installed base
  • Less volatile revenue stream

Source: Company Estimates
Mobile: 5G Is Coming Will Drive Increased Mobile Data Traffic and New Applications

Source: Ericsson Mobility Report Nov 2018
Mobile: Adoption of 5G Will Expand Applications and Features With Increased Performance

A unifying connectivity fabric

Enhanced mobile broadband
Mission-critical services
Massive Internet of Things

Unifying connectivity platform for future innovation
Convergence of spectrum types/bands, diverse services, and deployments, with new technologies to enable a robust, future-proof 5G platform

10x experienced throughput
10x decrease in end-to-end latency
10x connection density
3x spectrum efficiency
100x traffic capacity
100x network efficiency

Source: Qualcomm May 2017 ITF Conference
Besi Addressable Market Share of Mobile Increasing

<table>
<thead>
<tr>
<th>Main Components</th>
<th>Generation 2017</th>
<th>Generation 2018</th>
<th>Manufacturer</th>
<th>IDM/OSAT</th>
<th>Best systems Utilized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>K</td>
<td>X</td>
<td>Apple</td>
<td>TSMC</td>
<td>AMS, TSMC, 5nm, 7nm</td>
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<tr>
<td><strong>DRAM Memory</strong></td>
<td>X</td>
<td>K X</td>
<td>Hyneq/Micron/Samsung</td>
<td>Hyneq/Micron/Taiwansemicon</td>
<td>2100D, T5L</td>
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<tr>
<td><strong>NAND Flash</strong></td>
<td>X</td>
<td>X X</td>
<td>Hyneq/Tohoku/SanDisk</td>
<td>Hyneq/Akamik/Tohoku/SanDisk</td>
<td>2100D, AMS-W/LM/FCCB00</td>
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<tr>
<td><strong>Power Management</strong></td>
<td>X</td>
<td>X X</td>
<td>Apple/Broadcom</td>
<td>Intel</td>
<td>AMS-W/LM/FCCB00, T5L</td>
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<tr>
<td><strong>Motor controller/translator</strong></td>
<td>X</td>
<td>X X</td>
<td>Bosch</td>
<td>Bosch</td>
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<td><strong>Power Delivery IC</strong></td>
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<td>X X</td>
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<td>AMS-W/LM/FCCB00, T5L</td>
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<table>
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<td>K</td>
<td>X X</td>
<td>Apple/Murata</td>
<td>USI</td>
<td>AMS-W/LM / 2100D</td>
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<td>K</td>
<td>X X</td>
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<th>IDM/OSAT</th>
<th>Best systems Utilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera</td>
<td>K</td>
<td>X X</td>
<td>Apple</td>
<td>LS</td>
<td>AMS, Sharp, 7nm, 5nm</td>
</tr>
<tr>
<td>Earbud</td>
<td>X</td>
<td>X X</td>
<td>Apple</td>
<td>LS, Lg</td>
<td>AMS-W/LM / 7nm, 5nm</td>
</tr>
<tr>
<td>Display Port Multiplier</td>
<td>X</td>
<td>X X</td>
<td>Texas Instrument</td>
<td>AMS</td>
<td>AMS-W/LM / 7nm, 5nm</td>
</tr>
</tbody>
</table>

Besi technology can support virtually all device platforms utilized in latest mobile devices.
Automotive: Long-Term Outlook Favorable As Electronic Content and Features Continue to Increase

FOUR MAIN TRENDS IN THE AUTOMOTIVE MARKET

- **Combustion vehicles**
  - EV/HEV/hybrids

- **Electrification***
  - Non-thermal vehicles sold
    - ~14M units in 2022
    - ~25-30M units in 2027

- **Automation**
  - Automated vehicles sold
    - ~1-2M units in 2022
    - ~5M level 3*** units in 2027

- **Connectivity**
  - External connectivity
  - In-cabin connectivity

- **Comfort**
  - In-cabin comfort

*Includes hybrids; ***Level 3 = hands-off

The impact of electrification should be limited over the next five years. Innovations relating to car automation will take over.

2017
- 94M units

2027
- 105M units

Source: Yole

22 November 2019
Automotive: Requiring a Variety of Package Formats For Customers

Advanced Packages
- SIP
- SOIC
- FCBGA
- WLFO
- ADAS (Park Assist, Radar, Blind Spot Detection)
- Infotainment (AV, Center Stack, HUD, Telematics)

Wirebond Packages
- Body Electronics (Comfort, HVAC, Lighting)
- EV/HEV
- Power
- Chassis (Anti-lock Brakes, Traction Control)
- LQFP
- QFN

Source: Amkor investor presentation April 2019
Computing: Demand for Computing Power Growing Exponentially

Source: Intel May 2019
3D STACKING AND MULTI CHIP ARCHITECTURE AS IMPORTANT OR EVEN MORE IMPORTANT THAN FRONT END PROCESSES !!!!!!
III. STRATEGY
Summary Operating Strategy

- Maintain Best in Class Tech Leadership
  - Increase Market Presence and Share
  - Increase Scalability
  - Reduce Cost

- Grow via Timely Acquisitions
  - Acquire companies with complementary technologies and products
  - Emphasis on wafer level processing
  - Seek to leverage Asian production platform and supply chain

- Expand capabilities for:
  - eWLB, TCB, panel size, ultra thin die bonding
  - Large area, ultra thin, wafer level molding
  - Solar and lithium ion battery plating
  - Introduce next generation products for next investment round

- Leverage technology leadership to gain share in next upturn
- Increase mainstream penetration of global supply chains with high quality mid-range products
- Expand presence and share of wallet in China

- Continue West-East personnel transfer
- Target 80% Asian headcount
- Further reduce euro based costs
- Target local production. Shorten cycle times
- Accelerate common parts development
- Seek €15-20 million cost savings

22 November 2019
Revenue Opportunities

Favorable Drivers:

Digital Society
Big Data
Smart Everything
Cloud Expansion

Roll out 3D imaging and other features to 4G and 5G mobile customers

Expand share of Korean and Chinese Android mobile customers

Increase share of wallet in Memory/Logic space

Expand share of Japanese automotive supply chain
  • Capitalize on steady growth of electronic content and safety requirements

Government expansion of Chinese semi infrastructure

Sale of complete Besi portfolio in local Chinese market

Renewed customer interest in WLP, Panel WLP and TCB processes

22 November 2019
Asian production has significantly expanded leading to lower fixed European + NA headcount and reduced break even revenue levels. Improved cash generation.

Shipments have increased from 396 in 2010 to 1,135 in 2018, with a significant increase in Asian production. The percentage of direct shipments also increased from 43% in 2010 to 98% in 2018.

Headcount has decreased from 1,543 in 2011 to 1,692 in 2018, with a decrease in Europe/NA fixed headcount from 802 to 462, and an increase in Asia fixed headcount from 741 to 1,230.

Break even revenue levels have decreased from €270 million in 2011 to €210 million in 2018, with a reduction in break even revenue levels from 36% to 15%.

Cash flow from operations has improved from €49 million in 2011 to €184 million in 2018, with an increase in cash flow from operations from 9% to 45%.
Materials Cost Reduction Is Also a Key Priority

Material costs are significant = ~35% of revenue

Supply Chain Actions
- 80% of material now purchased in Asia
- Increased outsourcing of modules and high level systems
- Vendor consolidation and volume discounts
- Increased common parts
- Increased Asian sourcing/selected products
- Asian supply chain expansion has:
  - Increased scalability
  - Limited capex and inventory investment
  - Reduced personnel, transport and logistic cost

Development Actions
- Redesign products for common parts, platforms
- Increase standardization
- Lower unit cost, design and maintenance hours
- Shorten cycle times

• Management reviews progress weekly component by component

55-60% Thru Cycle Gross Margin
Flexible Production Model Has Generated Consistent Gross Margins in Market Cycles

* Midpoint of guidance: Revenue flat (+/- 5%) vs. Q3-19, Gross Margin 54-56%.
Flexible Asian Workforce Has Significantly Enhanced Scalability

• Headcount adjusted consistent with downturn:
  • 23.5% reduction realized from peak in Q1-18 to Q3-19
  • Particular focus on SG&A structure currently

• Asian HC being rationalized in 2019 post large 2015-2018 ramp
  • Both fixed and temporary workers

• European and NA fixed HC has declined significantly in recent years:
  • -39.0 % since 2011
  • -16.2% vs. 2015
  • Stable in 2019 due to R&D ramp

22 November 2019
Overhead Tightly Controlled Creating Significant Operating Leverage

- Substantial operating leverage in business model:
  - Average Baseline opex of €25.3 million has stayed within narrow band over past three years
  - Scaled back operations since Q1-18 in alignment with market conditions. Back to 2015-2016 levels

<table>
<thead>
<tr>
<th>Operating Expenses (€ millions)</th>
<th>Q3-16</th>
<th>Q3-17</th>
<th>Q3-18</th>
<th>Q3-19</th>
<th>High</th>
<th>Low</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Line Opex</td>
<td>24.6</td>
<td>27.1</td>
<td>26.3</td>
<td>23.3</td>
<td>27.1</td>
<td>23.3</td>
<td>25.3</td>
</tr>
<tr>
<td>Other Opex*</td>
<td>3.6</td>
<td>3.3</td>
<td>2.8</td>
<td>0.9</td>
<td>3.3</td>
<td>0.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>28.2</td>
<td>30.4</td>
<td>29.1</td>
<td>24.2</td>
<td>30.4</td>
<td>24.2</td>
<td>28.0</td>
</tr>
</tbody>
</table>

* Includes short-term and long-term incentive compensation, forex effects, restructuring costs and selected one-time effects
Besi Strategic CSR Objectives

CSR Objectives

- Safeguard safe and healthy working conditions
- Maintain best practices environmental and ethical behavior
- Reduce environmental impact of products and operations
- Promote employee talent, training and diversity
- Conserve natural resources
- Responsible tax practices in all jurisdictions
- Reduce packaging, waste, transportation and energy
- Develop sustainable supply chain. Minimize impact of conflict materials

CSR Activities 2018

- Improvement in KPI metrics for supply chain activities
- RBA certification received
- Conducted customer satisfaction surveys

22 November 2019
IV. FINANCIAL UPDATE AND SUMMARY
Attractive Profit and Margins Maintained in Downturn

Q2-19/Q3-19

- Revenue: €92.7 million (56.0%) to €89.7 million (55.1%)
- Gross Margin: €26.8 million (-0.9 points) to €24.2 million (-9.7%)
- OPEX: €1,716 to €1,634 (-82)
- Headcount: 1,716 to 1,634 (-82)
- Effective Tax Rate: 13.5% to 12.7% (-0.8 points)

Net margin %

Q2-19: 20.4% (21.0 points higher than Q3-19)
Q3-19: 21.4%

YTD-18/YTD-19

- Revenue: €432.7 million (56.9%) to €263.8 million (55.7%)
- Gross Margin: €99.9 million (-1.2 points) to €81.7 MM (-18.2%)
- OPEX: €1,914 to €1,634 (-280)
- Headcount: 1,914 to 1,634 (-280)
- Effective Tax Rate: 14.5% (-1.5 points) to 13.0%

Net margin %

YTD-18: 26.2% (8.2 points lower than YTD-19)
YTD-19: 18.0%

22 November 2019
Liquidity Trends

Q3-19 vs. Q2-19
- Net cash increased by €20.8 million (+24.2%) to €106.9 million

Q3-19 cash movements
- +€ 38.8 million cash provided by operations
- -€ 13.3 million share repurchases
- -€ 3.2 million capitalized R&D
- -€ 1.0 million capex
Guidance Q4-19

Revenue
- Q3-19: €89.7 MM
  - Q4-19: -5% to +5%

Gross Margin
- Q3-19: 55.1%
  - Q4-19: 54%-56%

Operating Expenses
- Q3-19: €24.2 MM
  - Q4-19: 5% - 10%

22 November 2019
Assembly market ever more critical step in semiconductor value chain

Long term secular trends drive continued advanced packaging growth

Disciplined strategic focus has created an industry leader

Market presence has grown via key IDM customers and supply chains

Successful Asian production expansion has been a game changer

Tech leadership, scalability and cycle times have led to benchmark financial returns

Attractive capital allocation policy rewards shareholders

22 November 2019
V. APPENDIX
Revenue and Gross Margin Cycles Since 2006

4 year averages

* 2019E: YTD-19 plus midpoint of Q4-19 guidance
Baseline Operating Expense Trends

<table>
<thead>
<tr>
<th>Baseline Opex</th>
<th>31.2</th>
<th>31.7</th>
<th>30.7</th>
<th>26.3</th>
<th>25.7</th>
<th>25.3</th>
<th>24.7</th>
<th>23.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>As % of Revenue</td>
<td>20.4%</td>
<td>20.5%</td>
<td>19.1%</td>
<td>22.5%</td>
<td>27.8%</td>
<td>31.0%</td>
<td>26.6%</td>
<td>25.9%</td>
</tr>
<tr>
<td>Other Operating Expenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capitalization of R&amp;D</td>
<td>(1.8)</td>
<td>(2.6)</td>
<td>(3.4)</td>
<td>(2.7)</td>
<td>(2.7)</td>
<td>(2.9)</td>
<td>(3.0)</td>
<td>(3.2)</td>
</tr>
<tr>
<td>Amortization of R&amp;D</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.4</td>
<td>2.3</td>
<td>2.5</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Capitalization &amp; Amortization , net</td>
<td>0.3</td>
<td>(0.5)</td>
<td>(1.3)</td>
<td>(0.3)</td>
<td>(0.3)</td>
<td>(0.5)</td>
<td>(0.5)</td>
<td>(0.6)</td>
</tr>
<tr>
<td>Variable Pay (a)</td>
<td>3.9</td>
<td>9.5</td>
<td>3.3</td>
<td>2.7</td>
<td>3.1</td>
<td>5.9</td>
<td>3.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Restructuring cost/(benefit)</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>0.4</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
</tr>
<tr>
<td>Forex (b) and other</td>
<td>(1.2)</td>
<td>(1.6)</td>
<td>(1.0)</td>
<td>0.0</td>
<td>(2.8)</td>
<td>0.0</td>
<td>(0.4)</td>
<td>(1.3)</td>
</tr>
<tr>
<td>Subtotal</td>
<td>3.0</td>
<td>7.4</td>
<td>1.1</td>
<td>2.8</td>
<td>0.2</td>
<td>5.5</td>
<td>2.1</td>
<td>0.9</td>
</tr>
<tr>
<td>Total Opex</td>
<td>34.2</td>
<td>39.1</td>
<td>31.8</td>
<td>29.1</td>
<td>25.9</td>
<td>30.7</td>
<td>26.8</td>
<td>24.2</td>
</tr>
</tbody>
</table>

(a) Includes both short term and long term incentive comp
(b) Year over year variance per quarter
Net Income Trends

Net Income
Variable Compensation (a)
Net Margin

(a) Includes variable compensation from both cost of goods sold and operating expenses

22 November 2019
## Currency Exposure Trends

### Revenue

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro</td>
<td>25%</td>
<td>18%</td>
<td>33%</td>
<td></td>
<td>26%</td>
<td>21%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>US dollar</td>
<td>74%</td>
<td>82%</td>
<td>67%</td>
<td>67%</td>
<td>5%</td>
<td>9%</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Swiss franc</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>21%</td>
<td>19%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Malaysian ringgit</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>30%</td>
<td>31%</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>Chinese renminbi</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>11%</td>
<td>13%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Singapore dollar</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>4%</td>
<td>5%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>-</td>
<td>-</td>
<td></td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

* Currency variance in 2018 based on average forex rates vs. the euro

### Expenses

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro</td>
<td>26%</td>
<td>21%</td>
<td>29%</td>
<td></td>
<td>26%</td>
<td>21%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>US dollar</td>
<td>5%</td>
<td>9%</td>
<td>9%</td>
<td></td>
<td>26%</td>
<td>9%</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Swiss franc</td>
<td>21%</td>
<td>19%</td>
<td>12%</td>
<td></td>
<td>21%</td>
<td>19%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Malaysian ringgit</td>
<td>30%</td>
<td>31%</td>
<td>31%</td>
<td></td>
<td>30%</td>
<td>31%</td>
<td>31%</td>
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</tr>
<tr>
<td>Chinese renminbi</td>
<td>11%</td>
<td>13%</td>
<td>10%</td>
<td></td>
<td>11%</td>
<td>13%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Singapore dollar</td>
<td>4%</td>
<td>5%</td>
<td>6%</td>
<td></td>
<td>4%</td>
<td>5%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
<td></td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

* Currency variance in 2018 based on average forex rates vs. the euro

- USD is largest revenue exposure
- Cost exposure shifting to Asia:
  - Asian costs grew to 47% of 2018 total from 30% in 2013
  - Production transfer increases importance of MYR, CNY and SGD
Cash Generation Trends

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Cash Flow from Operations (€ millions)</th>
<th>As % of Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>73.3</td>
<td>19.3%</td>
</tr>
<tr>
<td>2015</td>
<td>86.5</td>
<td>24.8%</td>
</tr>
<tr>
<td>2016</td>
<td>98.7</td>
<td>26.3%</td>
</tr>
<tr>
<td>2017</td>
<td>168.2</td>
<td>28.4%</td>
</tr>
<tr>
<td>2018</td>
<td>184.1</td>
<td>35.0%</td>
</tr>
<tr>
<td>YTD-18</td>
<td>127.5</td>
<td>29.0%</td>
</tr>
<tr>
<td>YTD-19</td>
<td>184.1</td>
<td>31.8%</td>
</tr>
</tbody>
</table>
• 3.0 million shares bought cumulatively through October 31, 2019 under current € 75 million share repurchase program (average price € 21.67)
• € 42.6 million purchased to date in 2019
• 7.8 million shares held in treasury at October 31, 2019 at average price per share of € 16.78 per share
Dividend Trends

Cumulative dividends: € 6.70/per share since 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Dividend (€)</th>
<th>Dividend Yield (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0.75</td>
<td>8.1%</td>
</tr>
<tr>
<td>2015 (c)</td>
<td>0.60</td>
<td>6.5%</td>
</tr>
<tr>
<td>2016 (c)</td>
<td>0.87</td>
<td>5.5%</td>
</tr>
<tr>
<td>2017</td>
<td>2.32</td>
<td>9.0%</td>
</tr>
<tr>
<td>2018</td>
<td>1.67</td>
<td>6.6%</td>
</tr>
</tbody>
</table>

Payout Ratio (b):
- 2014: 77%
- 2015 (c): 79%
- 2016 (c): 93%
- 2017: 100%
- 2018: 91%

Cumulative dividends since 2011: € 6.70/per share

*Dividend (a)*
- Based on year end stock price
- Based on Basic EPS
- Includes special dividend of € 0.10 and € 0.17 in 2015 and 2016, respectively
Dividend Yield vs. Peers*

* Current quarterly dividend (annualized)/current stock price. As of October 31, 2019

Source: Morningstar
Besi Shareholder Information

**Market Profile**
- **Symbol/Index**
  - BESI
  - Euronext Midcap AMX
- **Market Cap**
  - €2.4 billion ($2.7 billion)
- **Dividend Policy**
  - Pay out 40-100% of net income per annum

**Share Ownership**

**By Geography**
- **Europe ex. NL**
  - 15%
- **NL**
  - 27%
- **UK**
  - 16%
- **US**
  - 31%

**Top 10 Shareholders**

<table>
<thead>
<tr>
<th>Year</th>
<th>Unidentified</th>
<th>Europe ex. NL</th>
<th>NL</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>42%</td>
<td>30%</td>
<td>17%</td>
<td>17%</td>
<td>15%</td>
</tr>
<tr>
<td>2017</td>
<td>41%</td>
<td>20%</td>
<td>22%</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td>2018</td>
<td>48%</td>
<td>22%</td>
<td>21%</td>
<td>22%</td>
<td>31%</td>
</tr>
</tbody>
</table>

*As of October 31, 2019  **Besi estimates

22 November 2019