

SUSS MICROTEC INVESTOR PRESENTATION

February 2021



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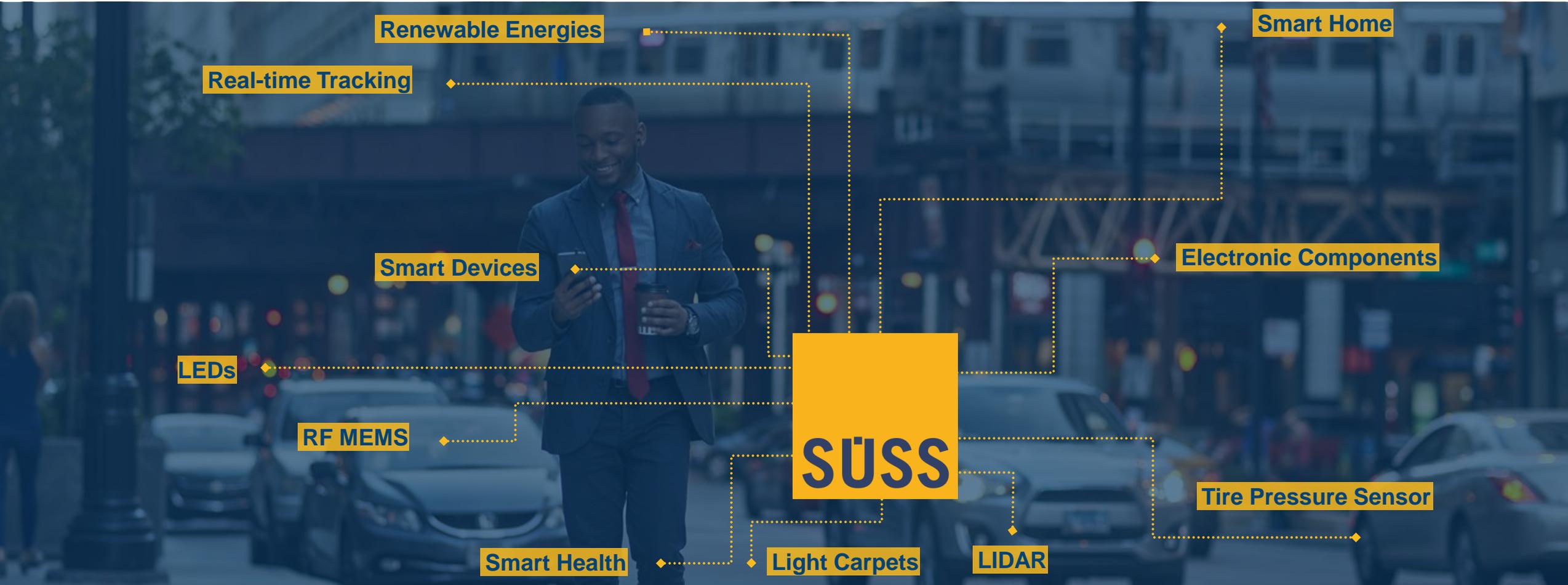


- I. Overview**
- II. Strategy SUSS 2025
- III. 9M and Preliminary Year End Results 2020
- IV. Outlook

SUSS MICROTEC TAKES PART OF ALL ELECTRONIC MEGA TRENDS



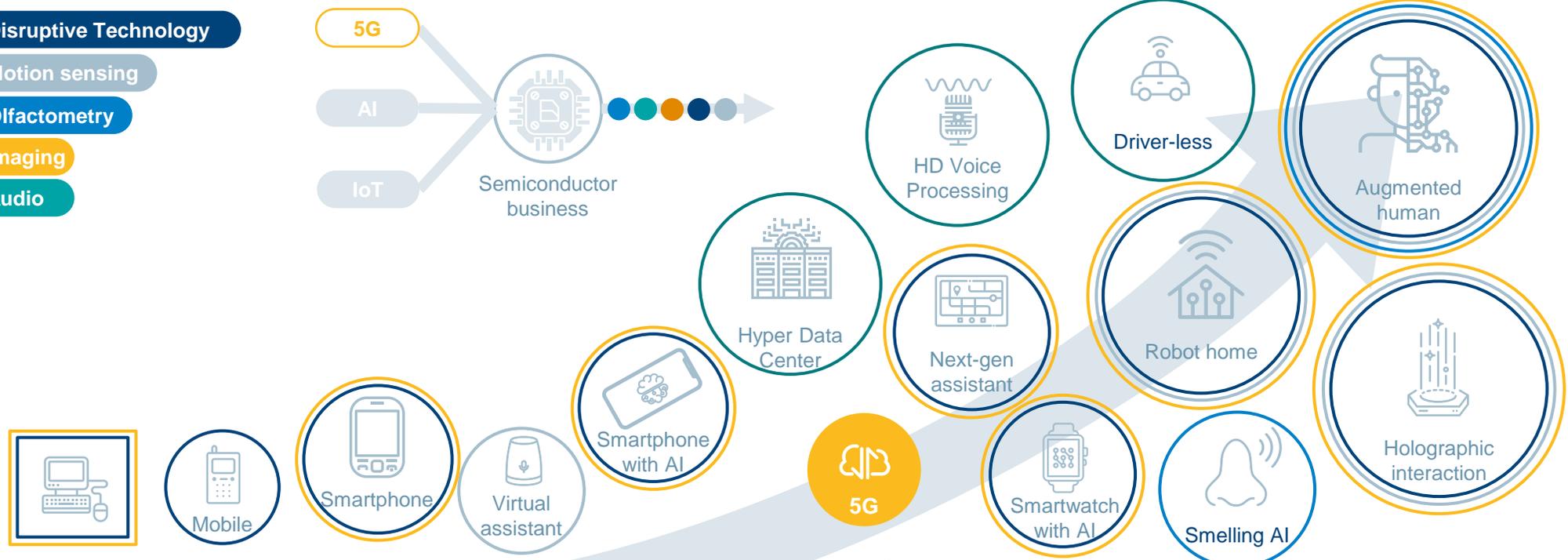
SUSS MICROTEC BENEFITS FROM ALL ELECTRONIC MEGA TRENDS



ROADMAP OF ELECTRONIC MEGA TRENDS

- Disruptive Technology
- Motion sensing
- Olfactometry
- Imaging
- Audio

On the road to augmented intelligence



TRENDS



1990 1995 2000 2006 2010 2014 2017 2020 2030 2040

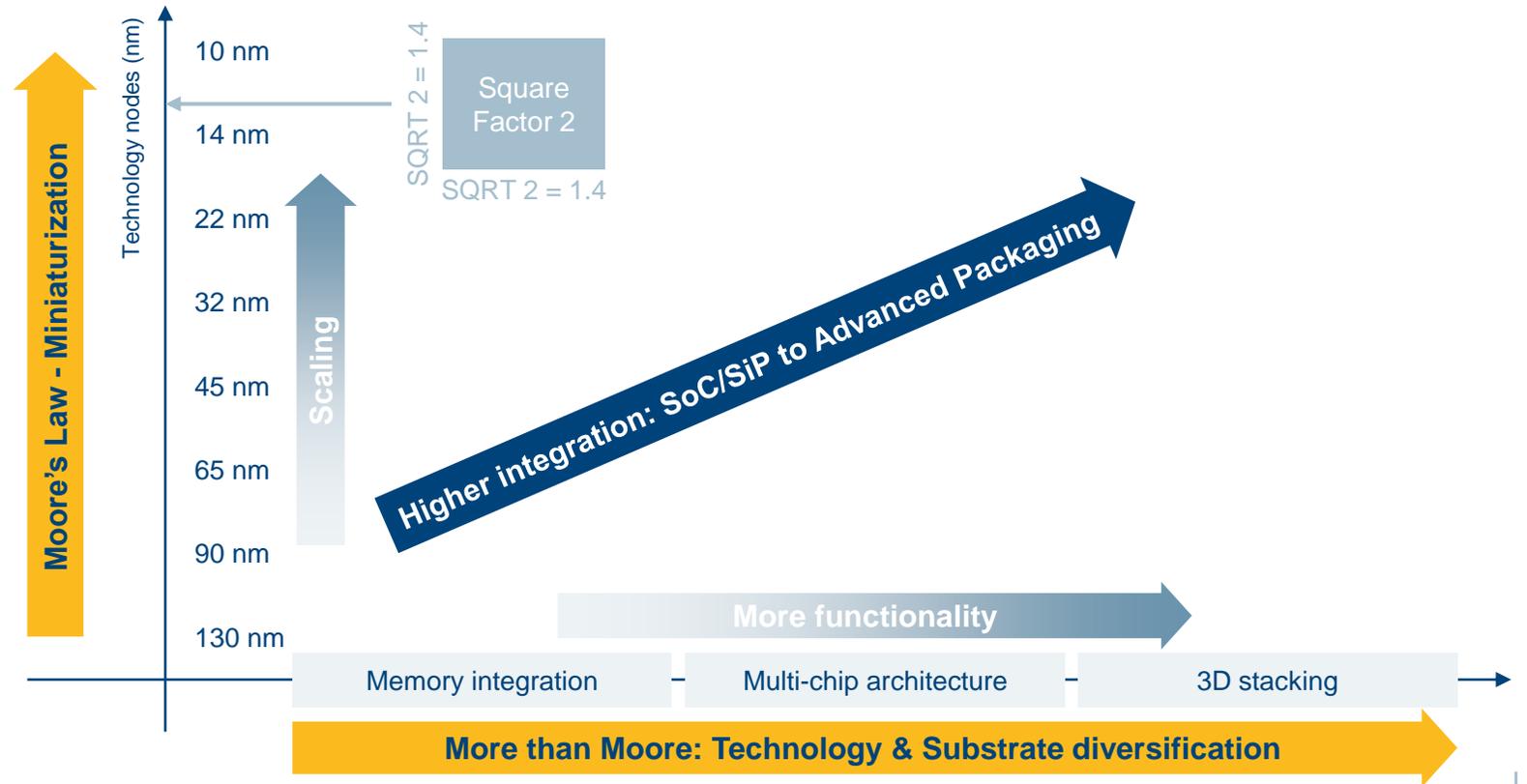
3D graphic cards
Deep neural network with GPU
Siri
Alexa
First SoC with NPU
HW for audio AI



MORE THAN MOORE TECHNOLOGIES GO BEYOND TRANSISTOR SCALING (MOORE'S LAW)

More than Moore technologies, including advanced packaging, enable the underlying requirements of all the mega trends:

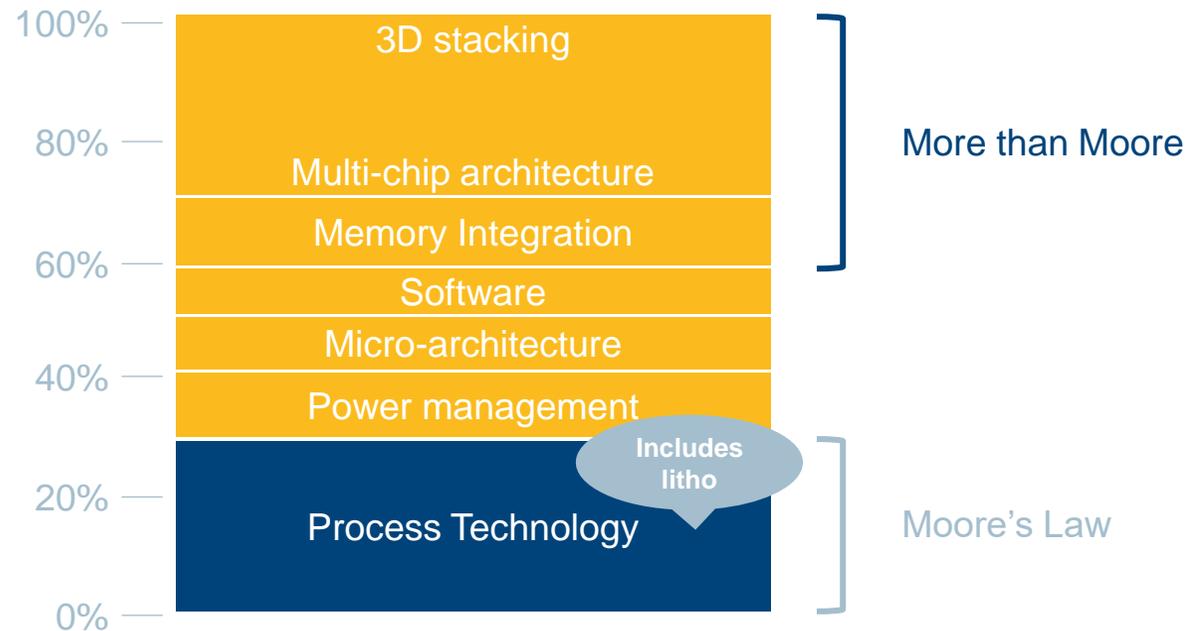
- Increase in computing power
- Optimization of power consumption
- Advanced substrates
- Miniaturization



AN IMPORTANT NEED TO DEVELOP MORE THAN MOORE TECHNOLOGIES

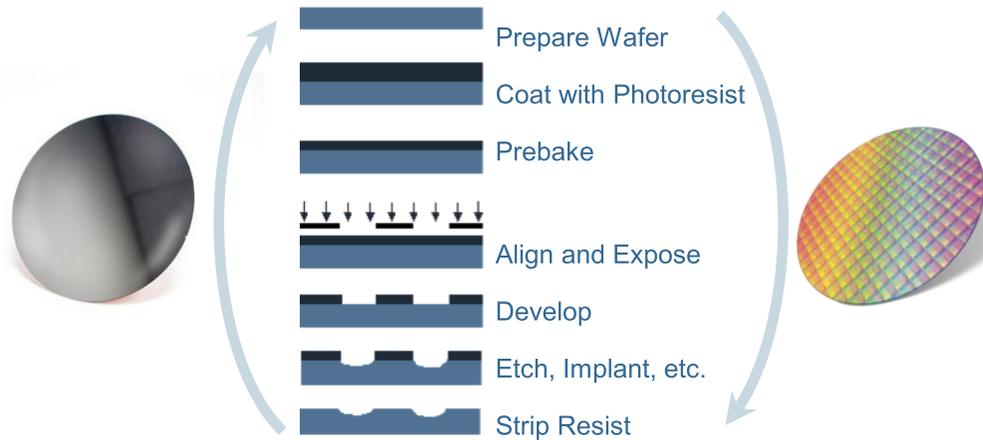
ASML, the most valuable equipment manufacturer and main enabler of Moore's Law, acknowledges the need to develop Moore than More technologies

Improvement opportunities for next decade



ENABLING THE MOST VALUABLE SEMICONDUCTOR PROCESSES

“Moore’s Law” Front-end wafer fab



“More Than Moore” Wafer-level packaging

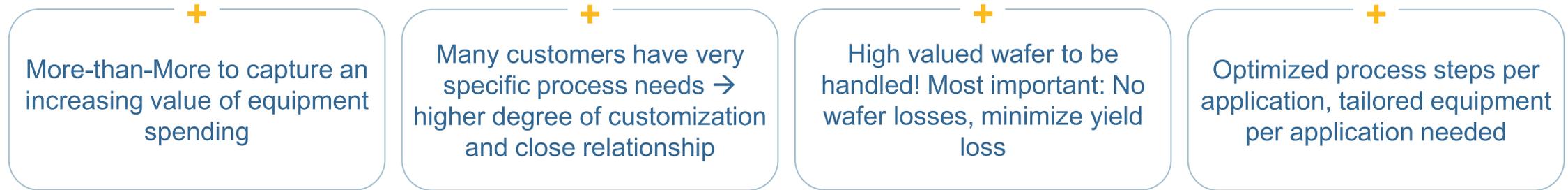
SÜSS field of activity

Supporting key processes:
Coating
Lithography
Bonding
Cleaning
etc.



1/10 of a percent yield improvement is real big money!

'More than Moore' market

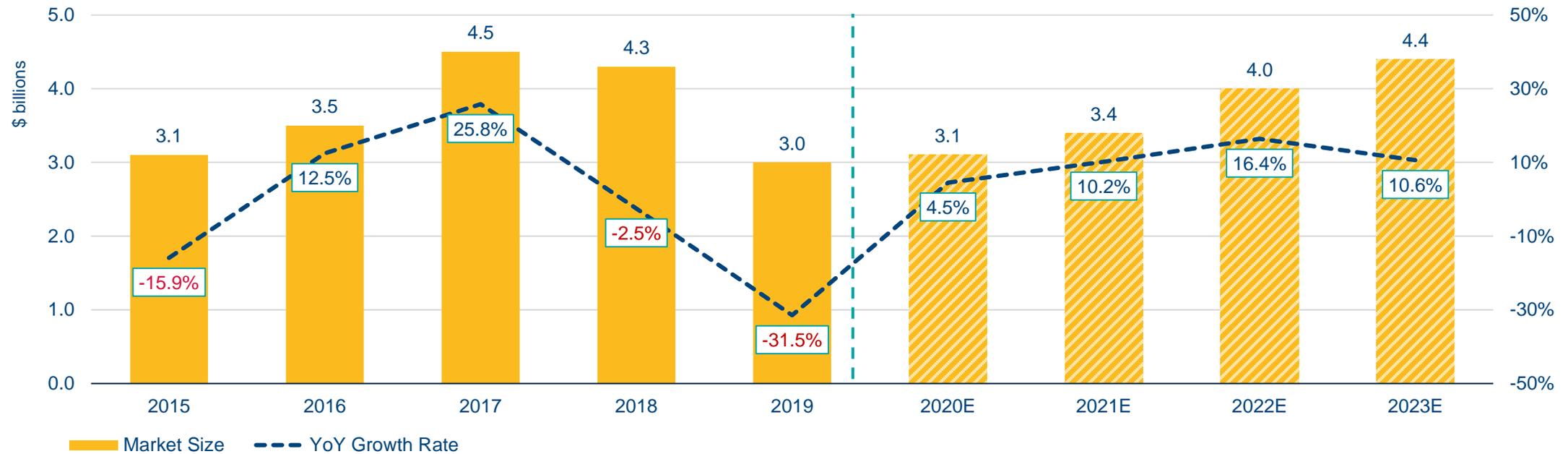


Consequences for SUSS



ENTERING IN A STRONG UP-CYCLE

Assembly Equipment Market



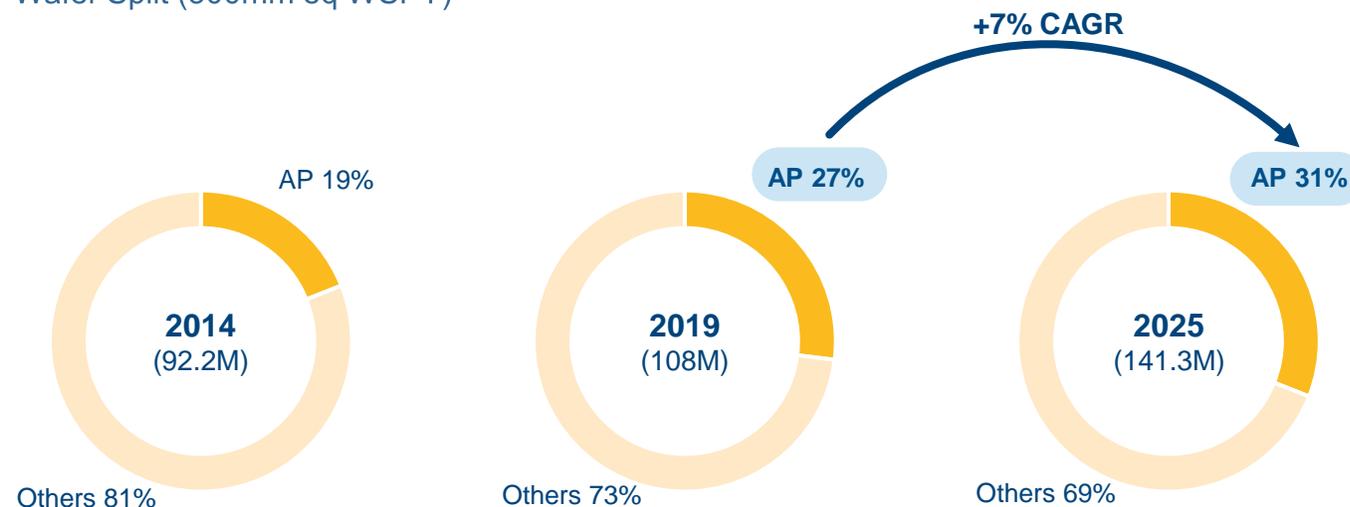
Source: VLSI September 3, 2020

USE OF MTM TECHNOLOGIES IS GROWING FAST

- + In terms of 300mm eq wafers, traditional packaging still dominates with almost 75% of the total market.
- + However, Advanced Packaging is continuously increasing its share of wafers and its market share increases from ~27% in 2019 to 31% in 2025.

Advanced Packaging Overview 2014 -2025

Wafer Split (300mm eq WSPY)



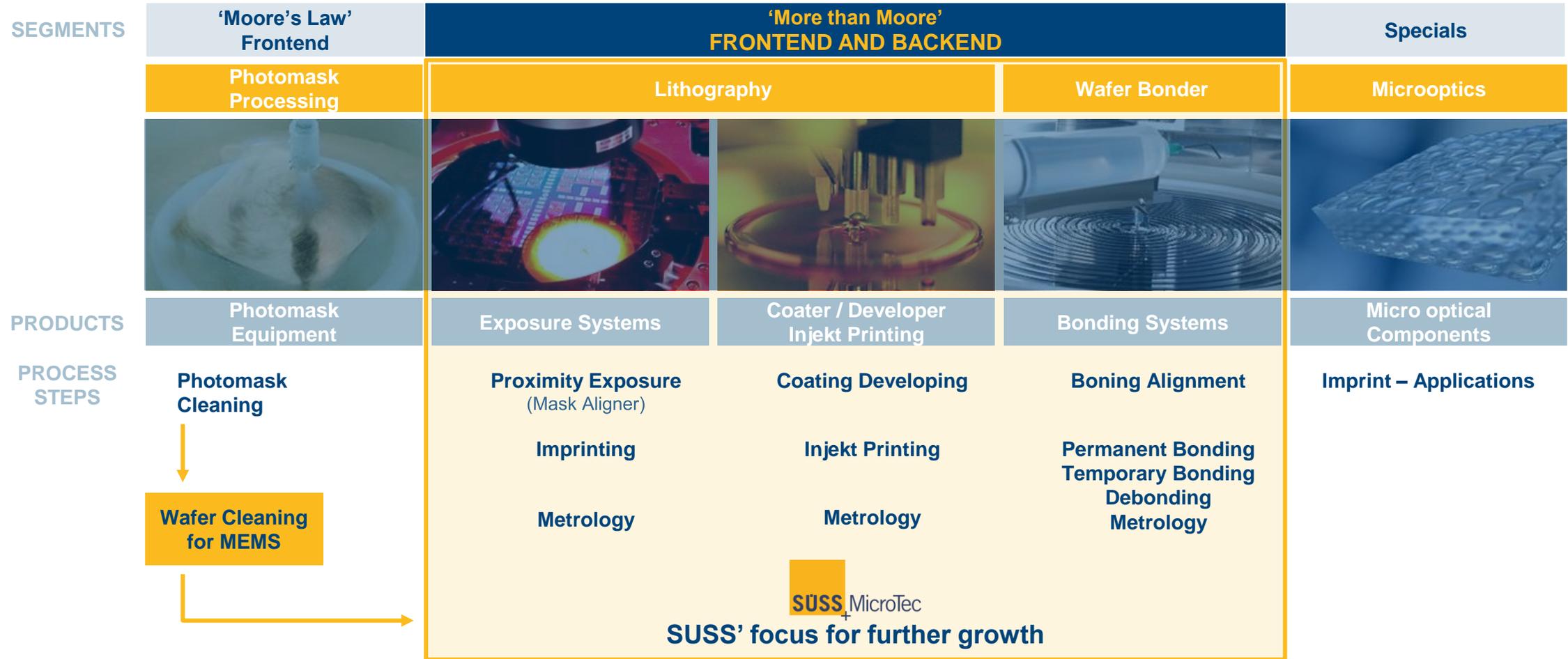
Why do manufacturers need advanced packaging?

- + It enables to create complex modules with a relatively small footprint
- + Complementary solutions to node scaling are needed to further increase performance per watt

Multiple short and mid term drivers

- + 3D sensing
- + 5G smartphones
- + AI and HPC applications
- + Mini-LED and Micro-LED display technologies

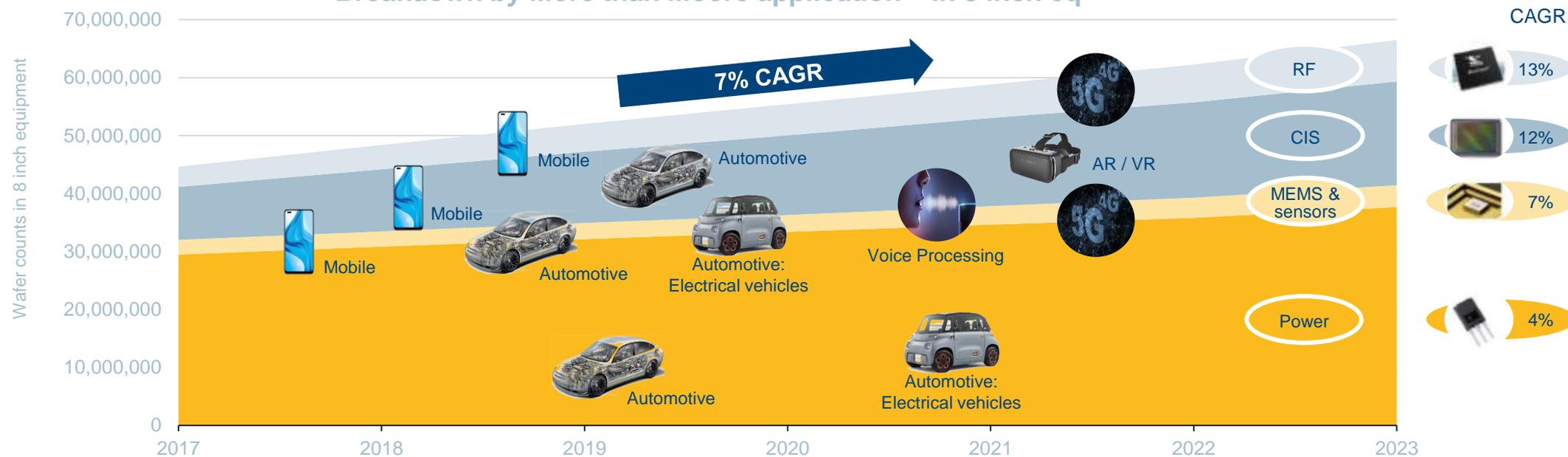
BROAD PRODUCT PORTFOLIO FOR DIFFERENT SEGMENTS AND MARKETS



WAFER BONDING IS A HIGHLY ATTRACTIVE ENDMARKT

- + 2.5D and 3D requires temporary bonding for wafer thinning as well as D2W or W2W bonding
- + D2W bonding enables heterogeneous integration, high yield is achieved by stacking known good dies (KGD)
- + Hybrid bonding will be the main enabler for pitch scaling (TSV and μ bump \rightarrow Cu/Cu interconnects = hybrid bonding)
 - Used for the latest generation of CMOS image sensors since 2017
 - Will be used for other new 3D devices by IDMs and foundries
- + Equipment market is forecasted to grow at a CAGR (2018-25) of ~25% by Yole Développement

Overall wafer demand for More than Moore devices
 Breakdown by More than Moore application – in 8 inch eq

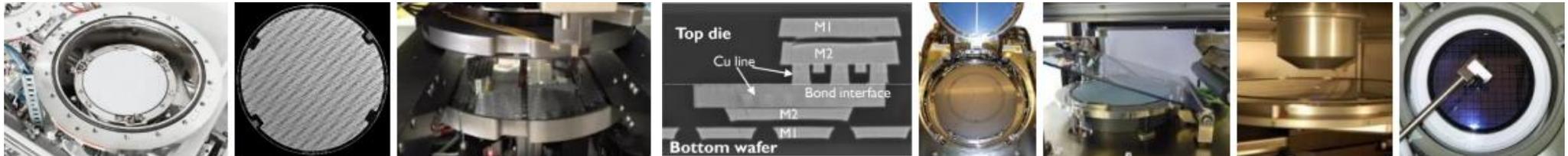


Source: Yole (2018, 2019)

Business Unit Bonder

More than Moore – MEMS and related

More than Moore – 2.5D and 3D



Semi-Automated Bonders

Automated Permanent Bonders

Automated Temporary Bonders, Debonders and Cleaners



SB6/8 Gen2 (20kN)



XB8 (100kN)



XBS200
W2W Bonder



XBS300
W2E / collective D2W Bonder



XBS300
Temporary
Bonder



XBS300 Gen2
Debonders (mechanical / laser)
and Cleaner

Comment /
USP

Large installed base
Supports all traditional
processes

Supports new high
force / high-end
processes

Fixture-less aligned wafer
handling for best cost of
ownership

>100nm overlay to support
pitch scaling trend in hybrid
bonding

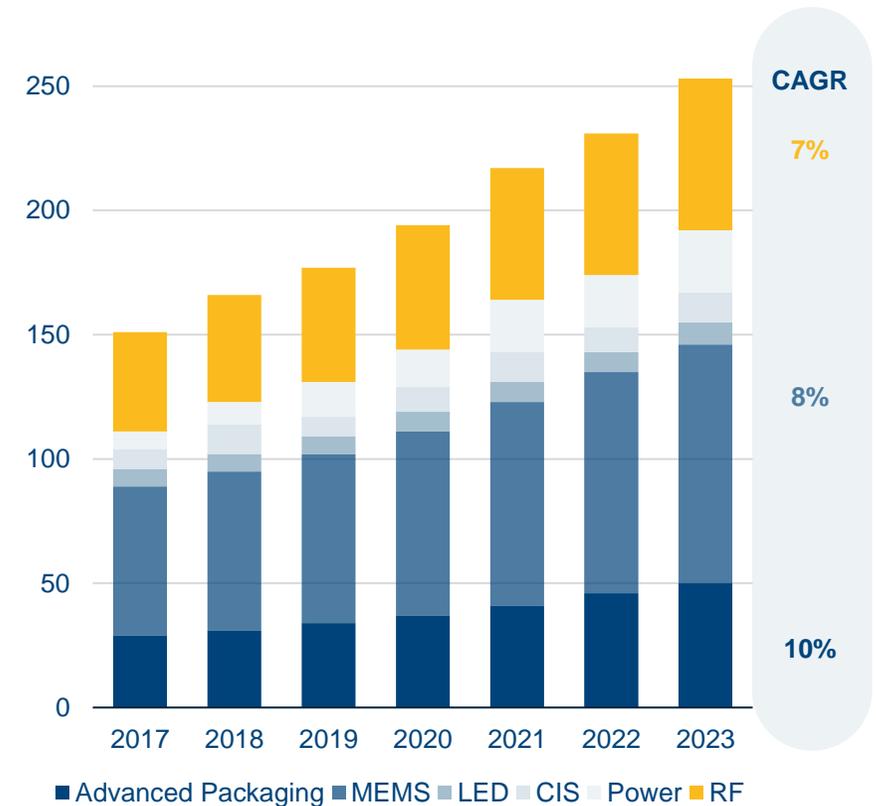
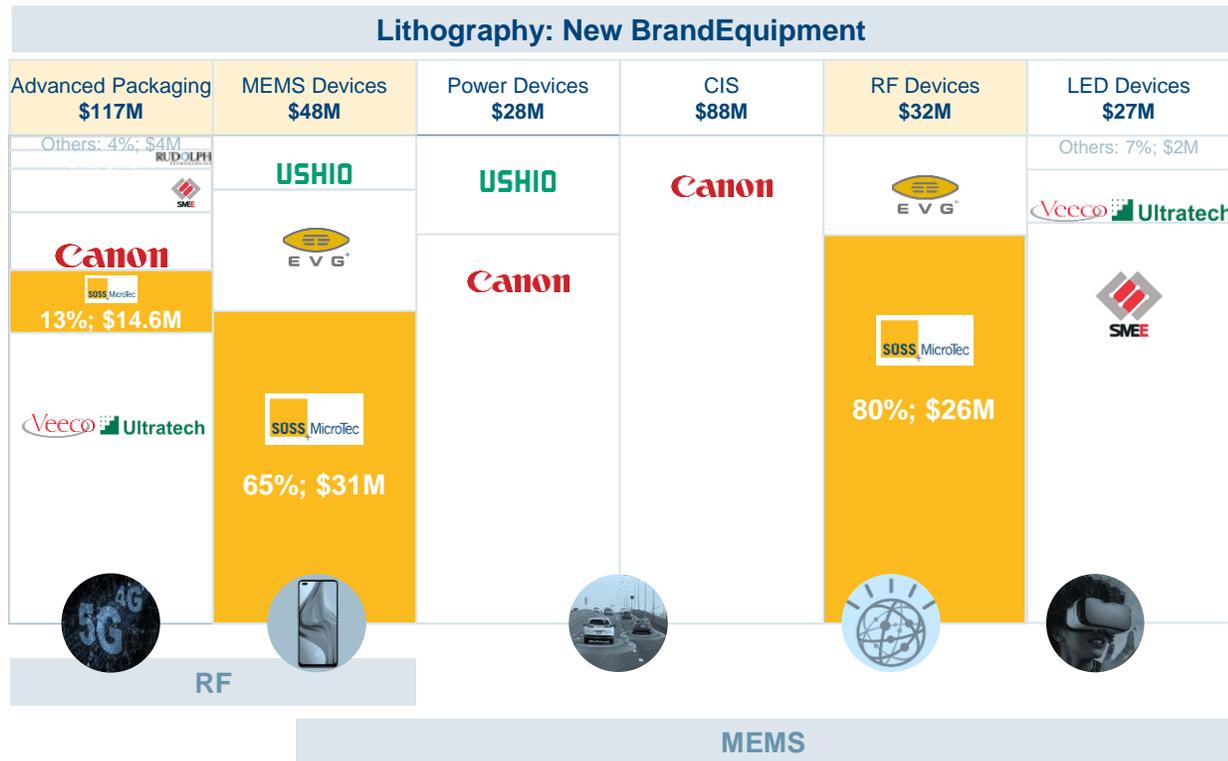
Large installed base with ~40-50%¹⁾ market share for 2.5D and 3D memory
Technology enabler applications such as CIS, FO-WLP
Started transition from mechanical to laser debonding for next generation
devices

¹⁾ SÜSS internal estimation

FAVORABLE LITHOGRAPHY MARKET ENVIRONMENT FOR SUSS

- + Demand for “More than Moore” equipment is expected at CAGR of 7%-10%
- + SUSS Exposure solutions have a dominant share for MEMS and RF devices
- + Target to expand share in Advanced Packaging with Direct Write Projection

New-brand Lithography equipment market (nr. of tools)
Split by More than Moore device



Source: Yole (2018, 2019)

SUSS Exposure Systems



Semi-Automated Aligners	Automated Aligners	Imprint	Metrology
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Comment / USP	Large install base, very versatile	Only offer in the market. Used for special More than Moore	Very high throughput, Linear transport, For cost-sensitive applications	Flagship product. Large install base, very versatile Overlay < 1um	Only offer in market. Used for Advanced Packaging with less challenging requirements	Development targeted for HVM applications in both markets, micro-imprint and nano-imprint. Strong process focus together with SMO	DSM is dedicated offering for back-side alignment processes. Modules integrated SUSS systems for smart manufacturing control
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PACKAGING TECHNOLOGIES OVERVIEW → MTM-APPLICATION

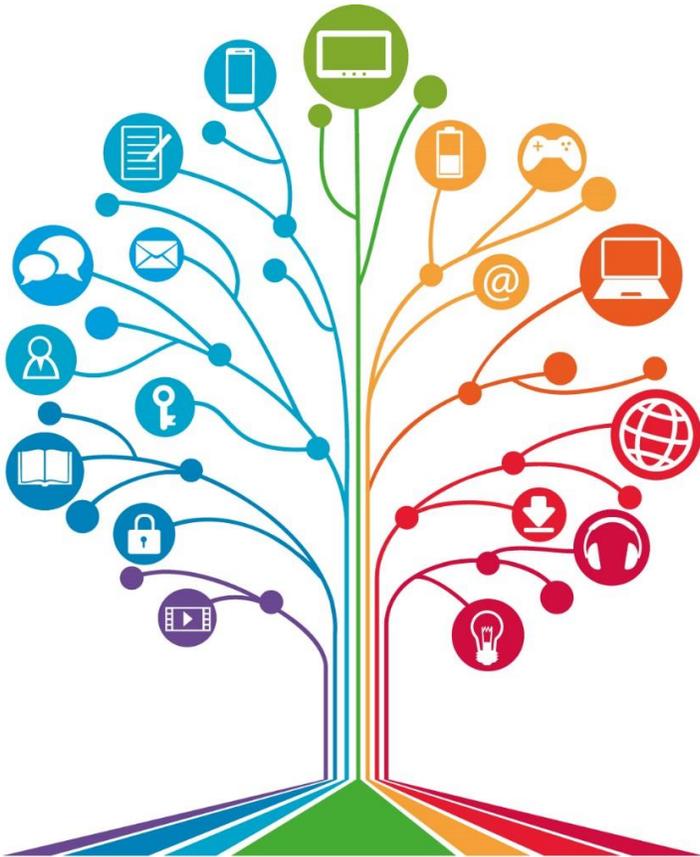
ARCHITECTURE		WIRE BOND	FLIPPED DIE	EMBEDDED DIE	2.5D	3D	EMERGING
		Traditional Packaging		Advanced Packaging			
SUBSTRATE TYPES	IC Substrate (Organic)		FC BGA 	EMIB (Intel) LSI (TSMC) 	Si Interposers CoWoS (TSMC) Foveros (Intel) 	3DS TSV (Samsung) 	SoIC in CoWoS – SoC Hybrid Bonding (TSMC)
			FC CSP 	CO-EMIB (Intel) 	HBM TSV (Samsung) (SK Hynix) Stacked DRAMs INTERPOSER Die 	Production in 2021	
		WB CSP WB BGA 	FC SiP Metal Shielding (JCET) 	Embedded Die / Passives (SEMCO) 	NAND TSV (Toshiba) Stacked NANDs 	Production after 2025	Embedded Multi-Die / Passives (JCET)
		BOC 	Fan-Out on Substrate inFO_oS (TSMC) FoCOS (ASE) 	ePLP / FOPLP (Samsung) 			
	No Substrate	COB 	Fan-Out inFO_PoP 			Cu-Cu Hybrid Bonding – WoW (SONY) 	SoIC in Fan-Out – SoC Hybrid Bonding (TSMC)
			Fan-Out eWLB/M-series 				
			Fan-In (WLCSP) 			TSV, after bonding – WoW (SONY) 	Production after 2021
	Ceramic Substrate	LTCC HTCC 	CPGA 				
	Lead frame Substrate	DIP SOT/TSOP QFN OFP, LCC, etc. 	FC QFN 				

BONDING AND LITHOGRAPHY PROCESSES IN THE “MORE THAN MOORE” FIELD

Process Step		Equipment Technology		Applications				
Bonding Process	Permanent Bonding W2W	Direct Bonding	Fusion bonding	Advanced Packaging; 3D stacked memory	MEMS & Sensors			CIS
			Hybrid bonding					
			Anodic bonding					
		Intermediate Bonding	Insulating bonding	3D stacked memory	MEMS & Sensors		RF	LED
	Metal bonding							
	Temporary Bonding and Debonding	Lift-off process	Mechanical debonding	Advanced Packaging FO WLP 3D TSV	MEMS & Sensors	Power devices	RF	LED
Laser debonding								
Slide-off process		Slide-off						
Exposure / lithography process	Photo-lithography	Mask aligner	Advanced Packaging	MEMS & Sensors	Power devices		CIS	LED
		Stepper						
		Projection Scanner						
	Laser process	Laser direct imaging						
		Laser ablation						

■ = SUSS competencies

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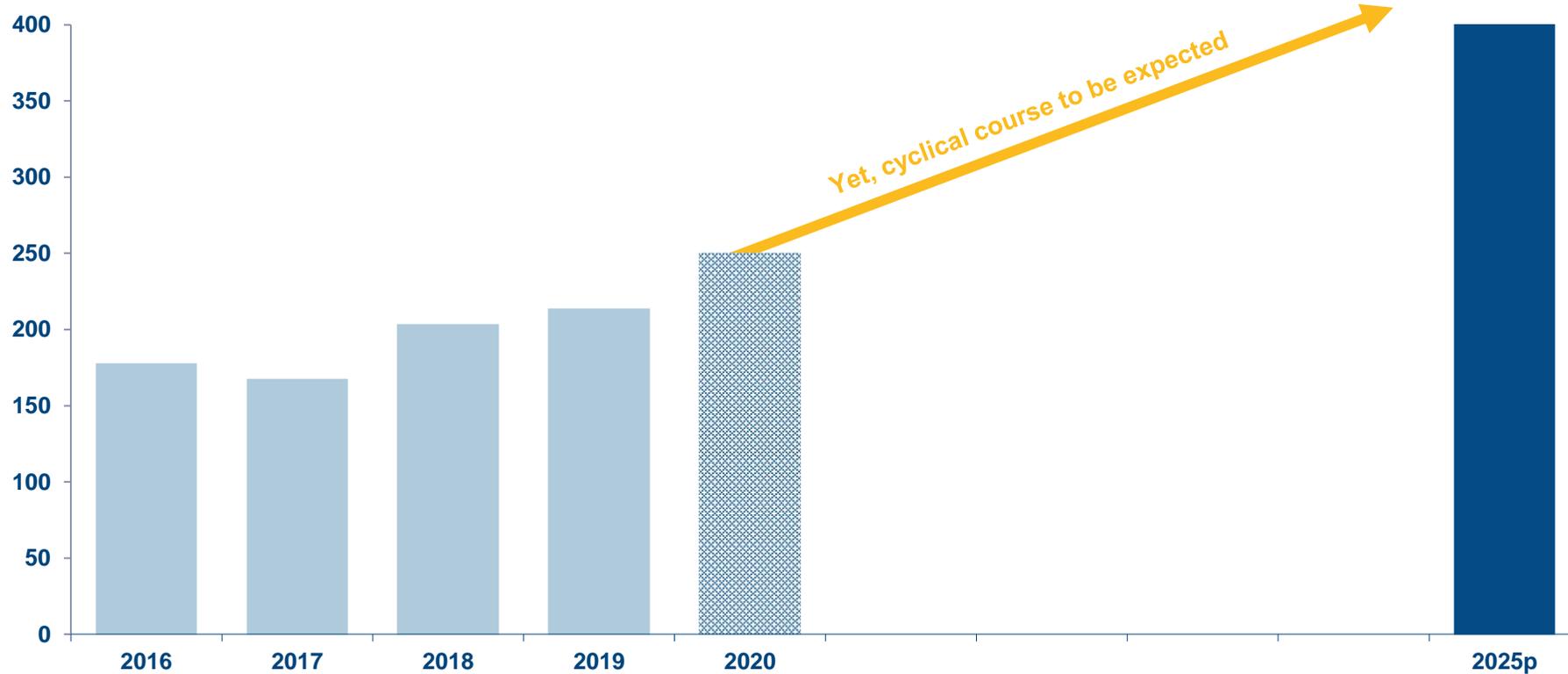


MARKET CONDITIONS

- + **Megatrends** are driving our business, great market outlook
- + **“More than Moore”** provides highly attractive growth potential
- + **5G, AI and IoT** are demanding broadband infrastructure
 - Home office equipment as short-term driver
 - Increased data volume with AI and IoT
 - Autonomous car generates 1 TB/day
- + Customers expect strong support in increasingly complex processes
 - Challenge but also an opportunity
 - SUSS is best positioned to play a strong role based on own strength → performance, reliability and flexibility!

SUSS 2025 STRATEGY: INCREASE IN SALES

Sales in €M



Growth in the coming years through market growth, new products and market share gains



Top-line growth

- Attractive products for maximum productivity and best-in-class yield
- Additional features to increase reliability



Improved operational performance and profitability

- Operational efficiency to be improved, programs are running
- Cost reduction through outsourcing and global purchasing
- Increase cash-flow by better inventory management



Focus on strategic growth areas

- Strong product offering already – short-term growth possible
- Platform design programs – longer term potential for margin increase

Goal 2025: € 400M with > 15% EBIT

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Order entry **plus 21% yoy**

Orders increased
from **€ 61.5M to € 74.4M**

Sales of around
€ 78M (prior year: € 82.7M)

FY 2020

Orders of **€ 281.1M** compared to prior year with
€ 219.3M – plus 28% yoy

Sales of around **€ 252M** (prior year: **€ 213.8M**)

EBIT of **€ 20.9M** (prior year **-€ 13.8M**)

EBIT margin of **8.3%**

Expected Free Cashflow **> € 40M** (prior year **-€ 36.9M**)

Order backlog at December 31, 2020: € 120.1M – plus 29% yoy

Outlook for order entry (Q4 2020 + Q1 2021) increased from € 100 – 110M to more than € 120M

Book-to-Bill ratio >1



**Good
starting
point for
FY 2021**



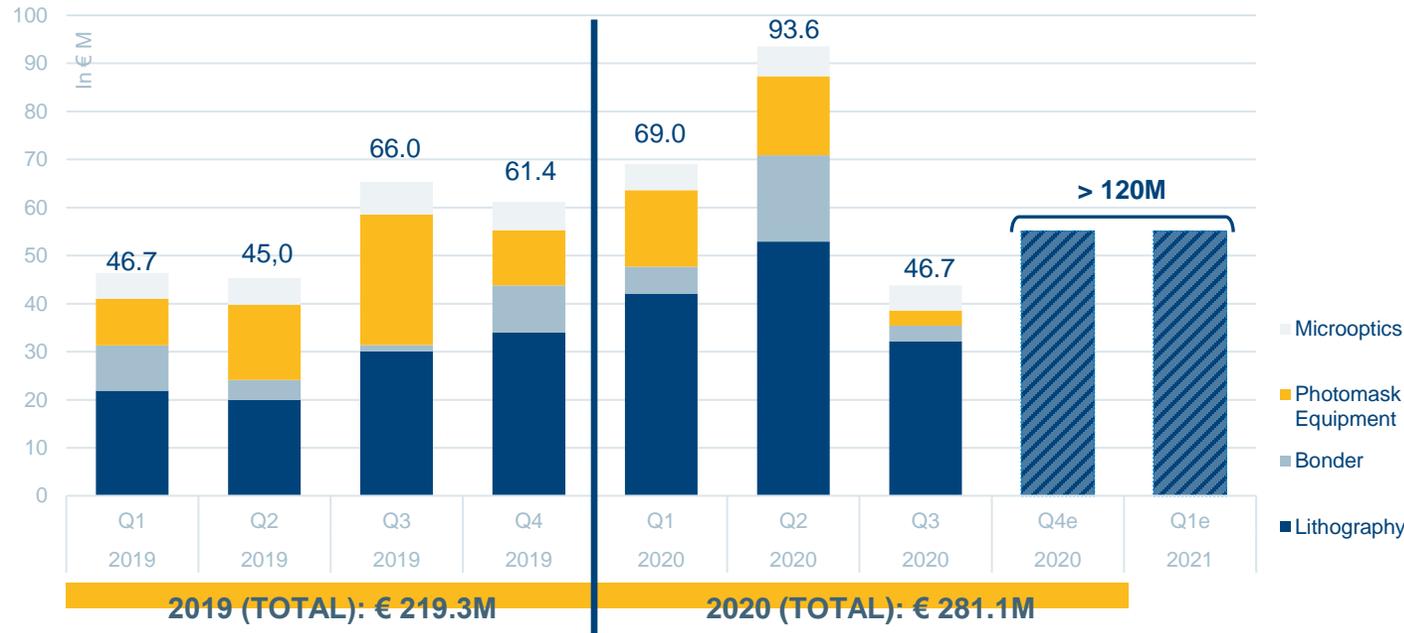
PRELIMINARY KEY GROUP FIGURES 2020

<i>in € M</i>	FY 2020e	FY 2019	Change
Order entry	281.1	219.3	+28.2%
Sales	252	213.8	~18%
EBIT	20.9	-13.8	+27.4M
EBIT margin	8.3%	-6.5%	+ 14.8% points
Adjusted EBIT	~25	0.5	+ € 24.5M
Adjusted EBIT-margin	9.9%	0.2%	+ 9.7% points
Free cash flow (in €)	> +40	-36.9	> +75M

- + Strong order entry FY 2020
- + Book-to-bill ratio: 1.12
- + Strong sales growth combined with a better GP margin resulted in a significantly improved EBIT (including closing cost of € 4M)
- + Free cash flow significantly improved by more than € 75M

ORDER ENTRY: STRONG QUARTERLY PERFORMANCE

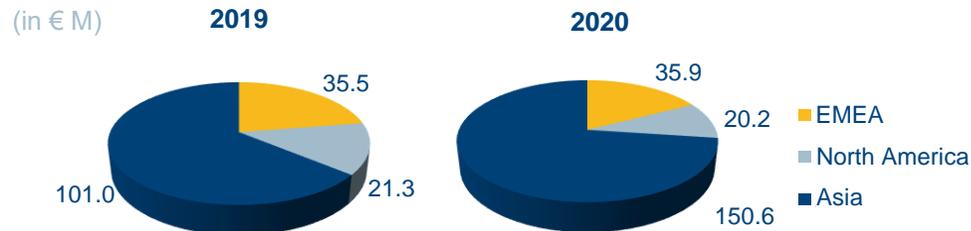
ORDER ENTRY: SPLIT PER SEGMENT



Comments:

- + Overall the order entry level increased over the last years to an average of around and above € 60 M
- + Order entry in Q2 includes a high volume Lithography order
- + Increase in order entry for Bonders and Photomask Equipment expected in Q4 2020
- + Order entry in Q4 expected to be higher than in Q3
- + Increasing demand from Chinese customers is ongoing

ORDER ENTRY 9M: SPLIT PER REGION



Remarks for better understanding:

- + Quarterly order intake since Q3/2019 is between €60 and €65 million. Extraordinary high order intake in Q2/2020 due to order accumulation of approx. “extra €30 million”
- + Distribution of these “extra €30 million” from Q2/2020 over Q3 and Q4 would normalize the actual order flow
- + The guidance provided above hints to an annual order intake of €240 million or a quarterly average of approx. €60 million

SEGMENT OVERVIEW 9M 2020

Lithography

<i>in € M</i>	9m 2020		9m 2019	
Sales	97.8		72.4	
GP (margin)	29.7	(30.4%)	16.1	(22.2%)
EBIT (margin)	6.2	(6.3%)	-8.1	(-11.2%)

- + Higher sales from mask aligners and coaters due to high volume orders from two major customers
- + Increased GP margin due to productivity gains
- + Closing cost Corona €5 M partly offset by sale of a written-off Scanner

Bonder

<i>in € M</i>	9m 2020		9m 2019	
Sales	18.9		17.2	
GP (margin)	5.6	(29.6%)	5.9	34.3 %
EBIT (margin)	-0.6	(-3.2%)	-0.7	(-4.1%)

- + Slight sales increase
- + Despite lower GP contribution EBIT loss could be improved to due lower opex
- + Further reduction of EBIT loss in Q4 expected

Photomask Equipment

<i>in € M</i>	9m 2020		9m 2019	
Sales	40.0		24.6	
GP (margin)	16.7	(41.8%)	9.2	(37.4%)
EBIT (margin)	11.0	(27.5%)	4.4	(17.9%)

- + Strong sales increase
- + Improved GP margin contribution and better fix cost coverage have a positive impact on EBIT / EBIT margin

Microoptics

<i>in € M</i>	9m 2020		9m 2019	
Sales	16.8		16.2	
GP (margin)	4.9	(29.2%)	6.6	(40.7%)
EBIT (margin)	0.3	(1.8%)	2.7	(16.7%)

- + Sales and GP impacted by Covid-19 (two months short-time work) lower demand from automotive OEMs
- + Additional cost due to quality problems with one key supplier
- + FX losses due to strong CHF

PRODUCTION SITES

Garching / Munich
(SUSS MicroTec HQ)



Neuchatel
(Switzerland)



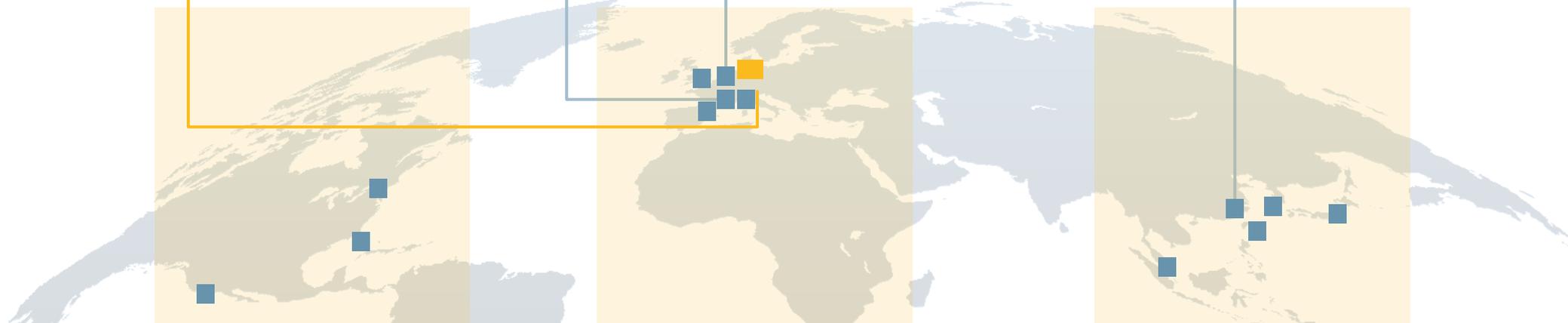
Sternenfels
(Germany)



Hsinchu
(Taiwan)



- (HQ) Germany
- SUSS sites



Order entry (9M 2020):	America 10%	EMEA 17%	Asia Pacific 73%
Order entry (2019):	America 12%	EMEA 25%	Asia Pacific 63%

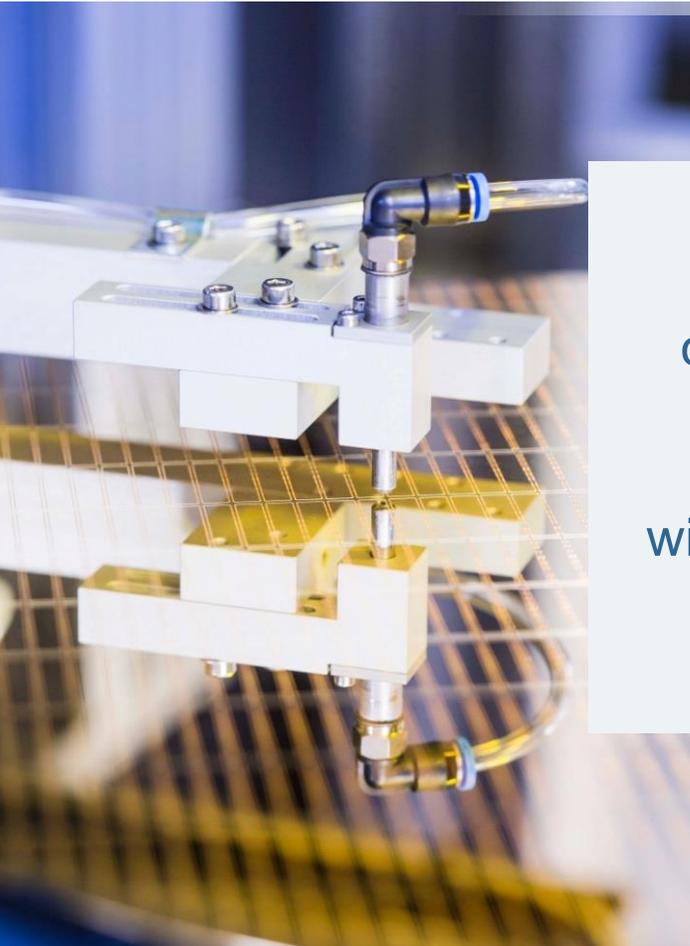
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- Positive market outlook but impacted by COVID-19 uncertainties
- Economic development not easy to forecast
- Uncertain outlook with respect to US / China trade barriers

BUT

- Clear signal for need to invest in broadband communication systems
- Significant increase in demand from telecom market
- Future demand driven by emerging technologies, such as 5G, IoT, high-performance computing, augmented reality, artificial intelligence, autonomous driving, etc.
- Customers still pushing for shorter delivery times



Expected
order entry for
Q4/2020
and Q1/2021
will be more than
€ 120M

Preliminary Sales
€ 252M

Preliminary
EBIT margin
8.3%

Thank you!