

ASMI INVESTOR DAY 2021

GROWTH THROUGH INNOVATION

Benjamin Loh
President and CEO

September 28, 2021

FORWARD-LOOKING STATEMENTS

Cautionary Note Regarding Forward-Looking Statements:

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#1

Strong digitalization trends driving significant growth in the semiconductor and WFE market

#2

ASMI is the leader in ALD and expanding in Epi, technologies that are expected to outgrow the WFE market driven by key inflections such as gate-all-around (GAA)

#3

Strengths in innovation, early customer engagements and product differentiation enables advanced cost effective solutions for customers

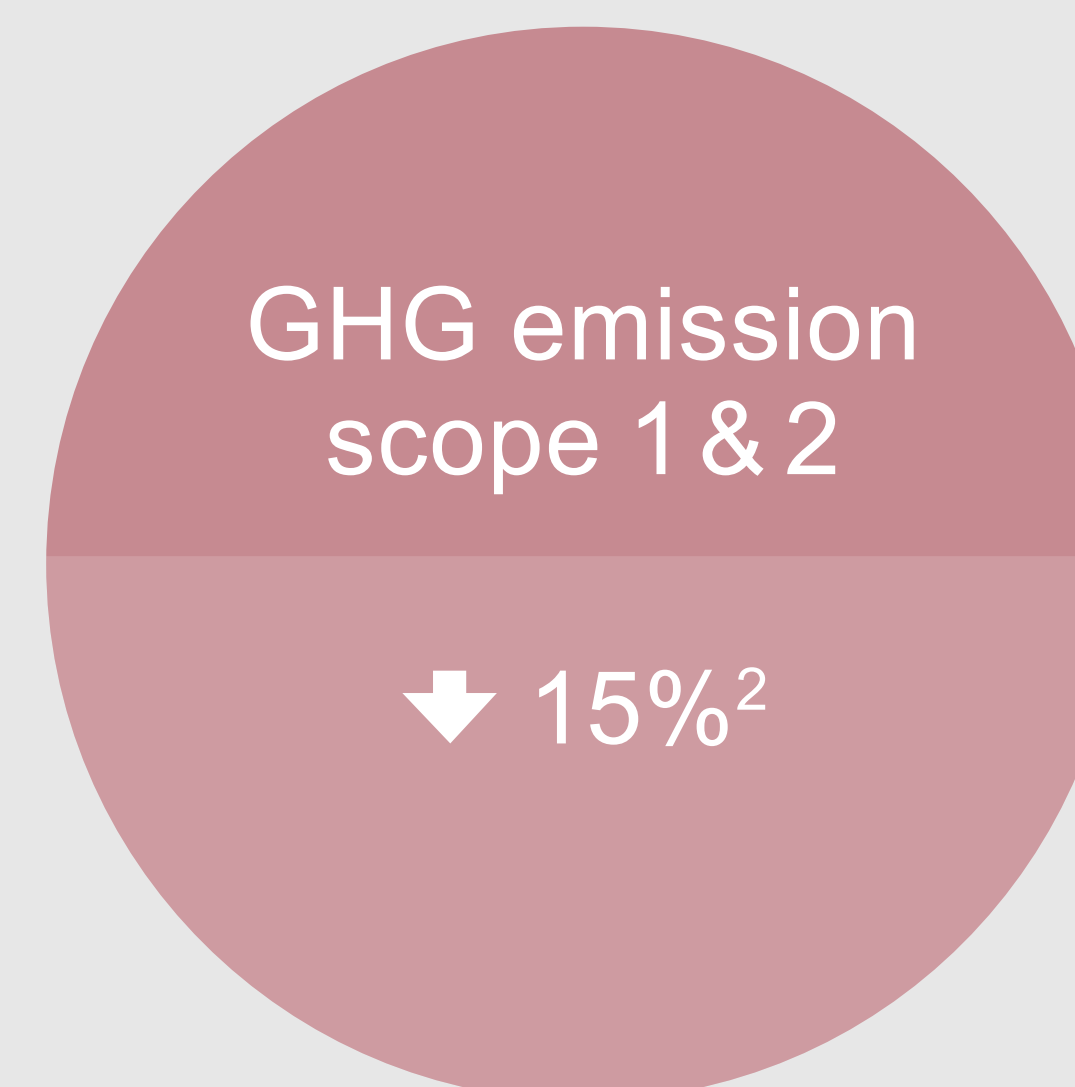
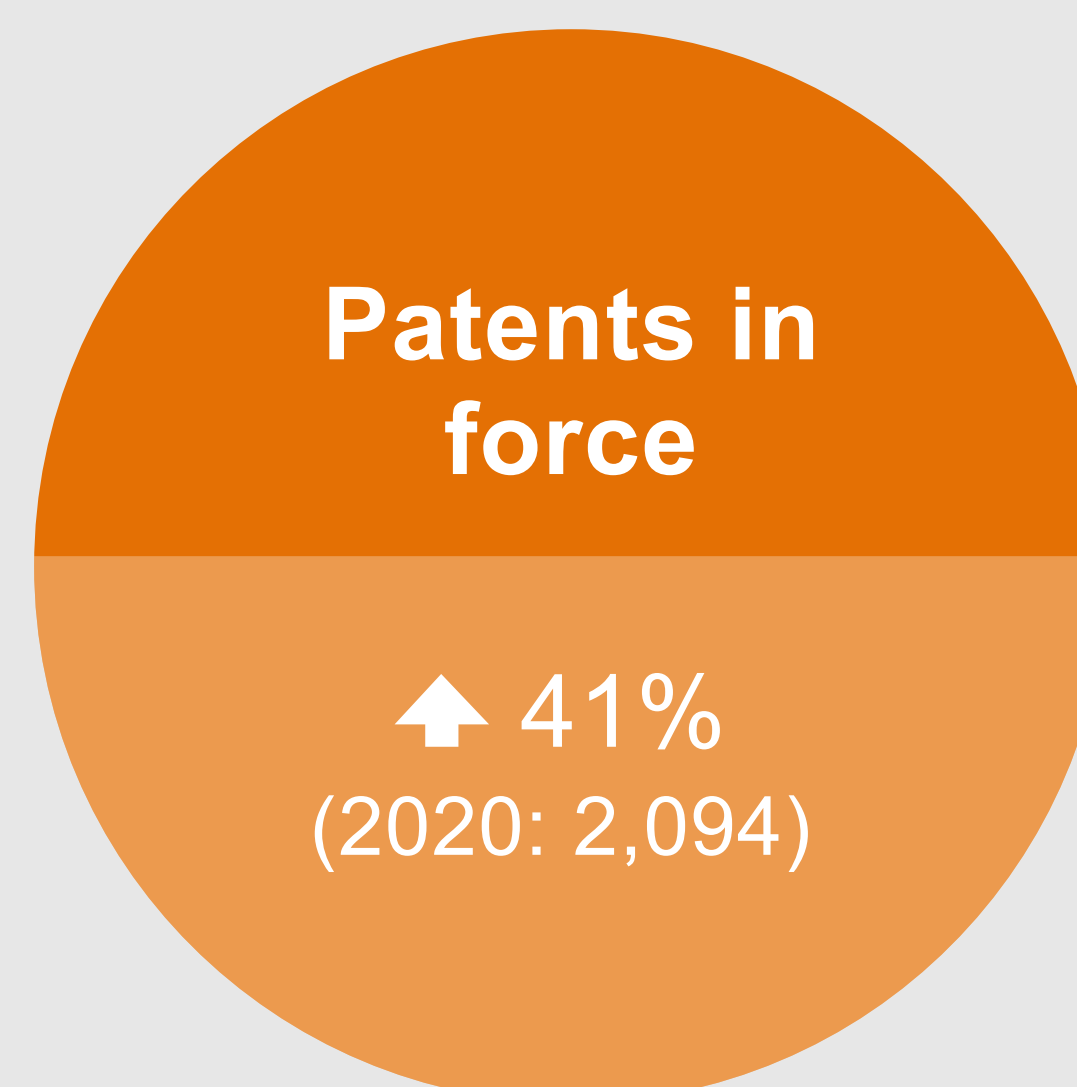
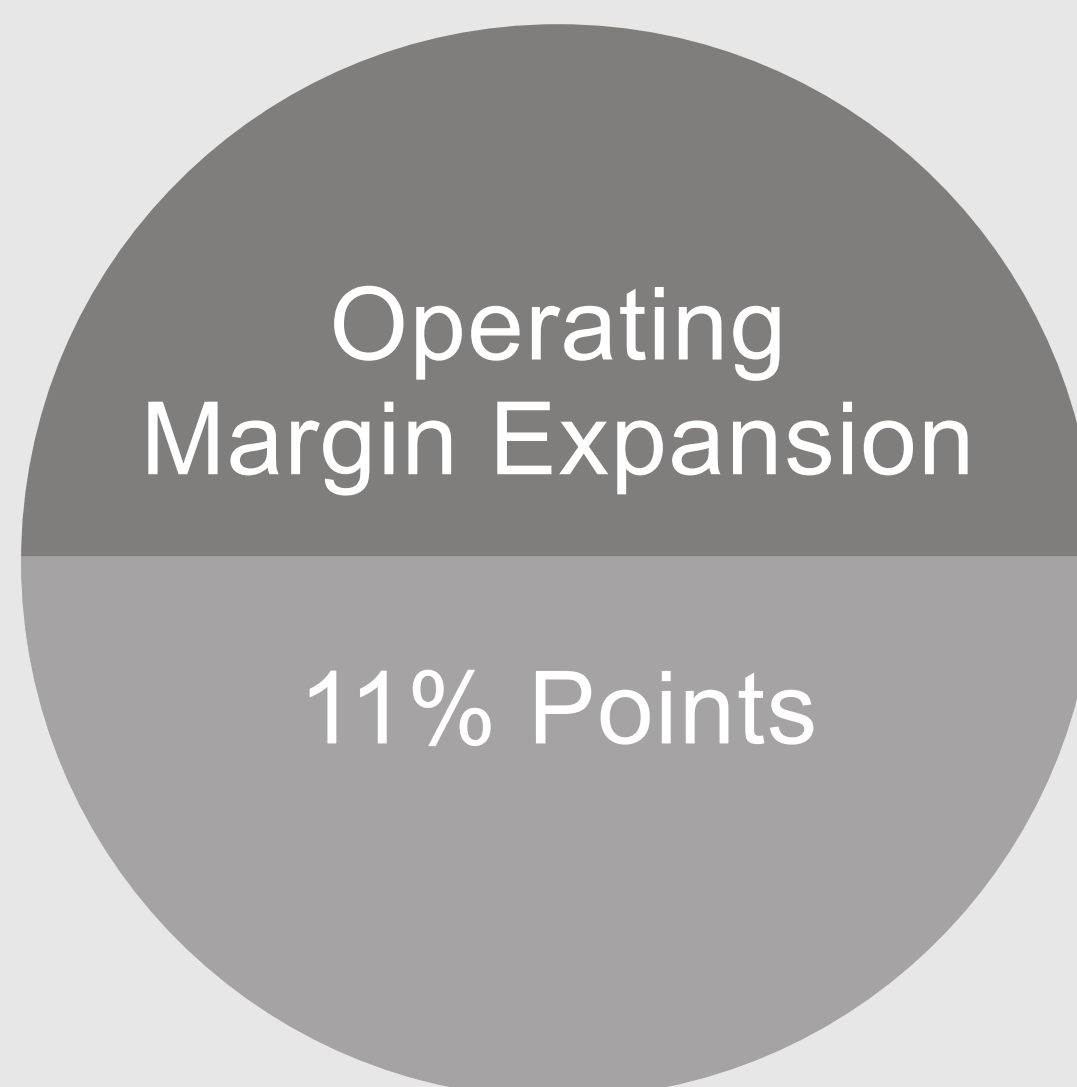
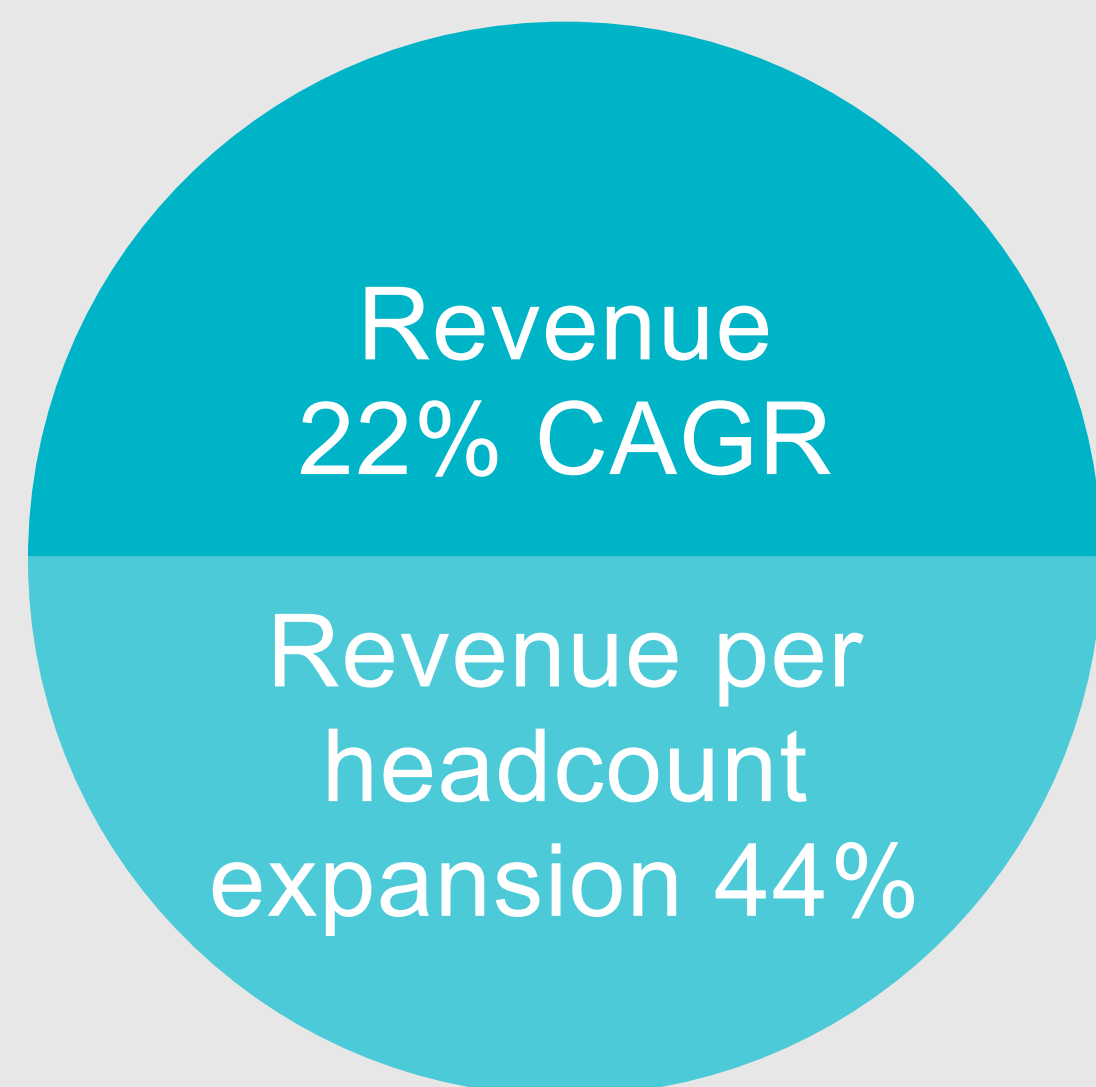
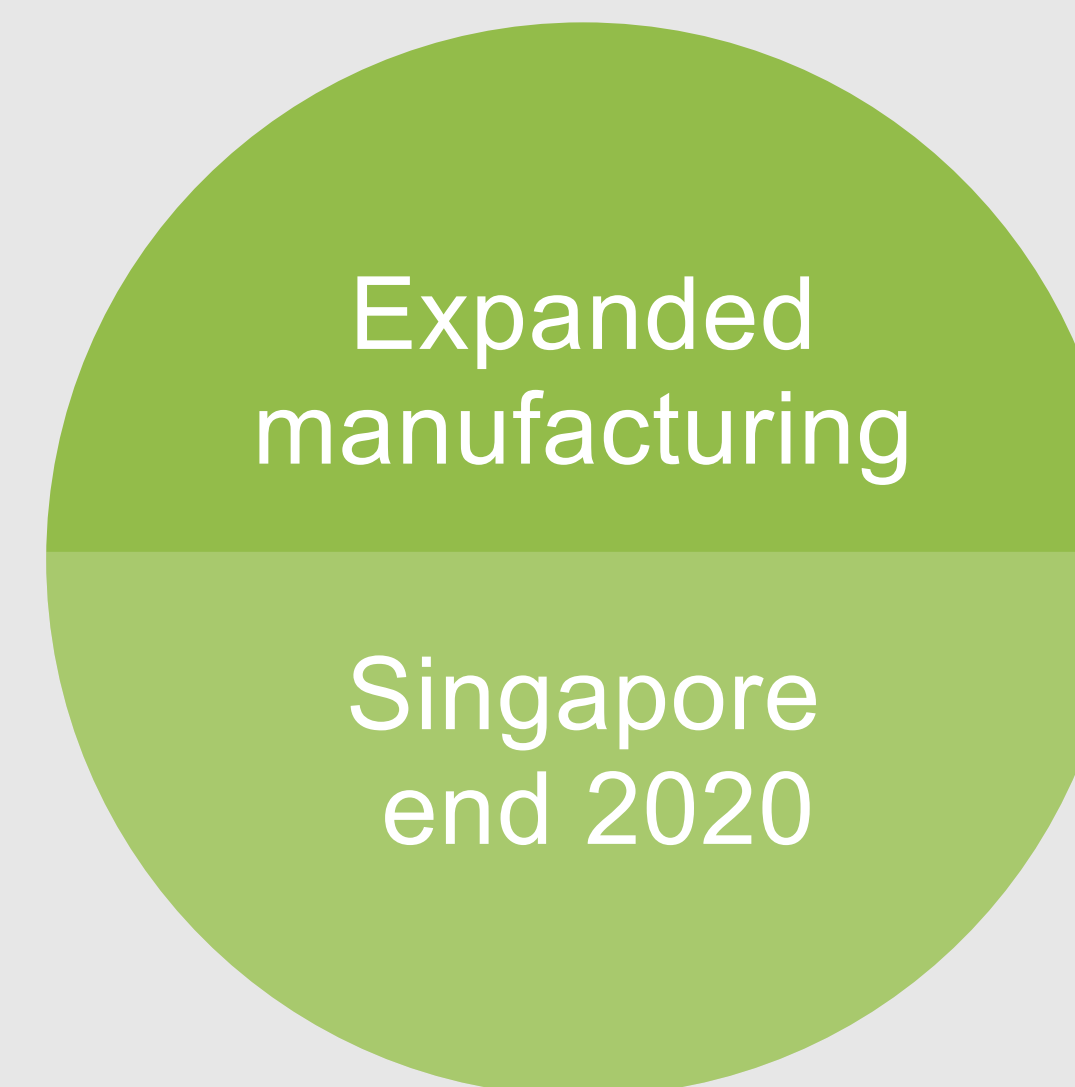
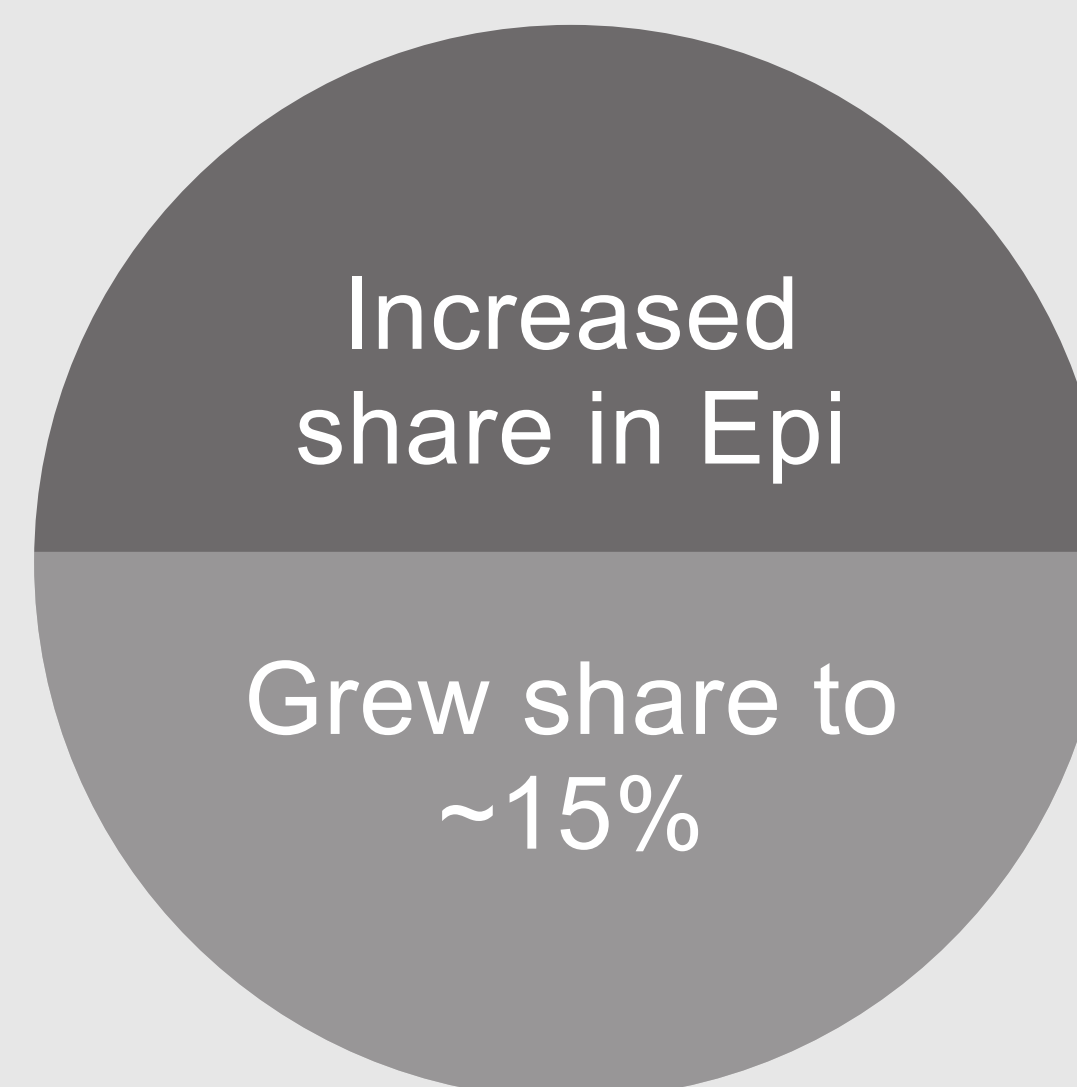
#4

Strategic objectives are maintaining leadership in logic/foundry, expansion in memory, share gains in the Epi market, growing spares and services and increasing focus on sustainability

#5

We target to grow revenue to €2.8-€3.4 billion by 2025 representing a CAGR of 16-21% with an operating margin of 26-31%

KEY HIGHLIGHTS AT A GLANCE 2016-2020



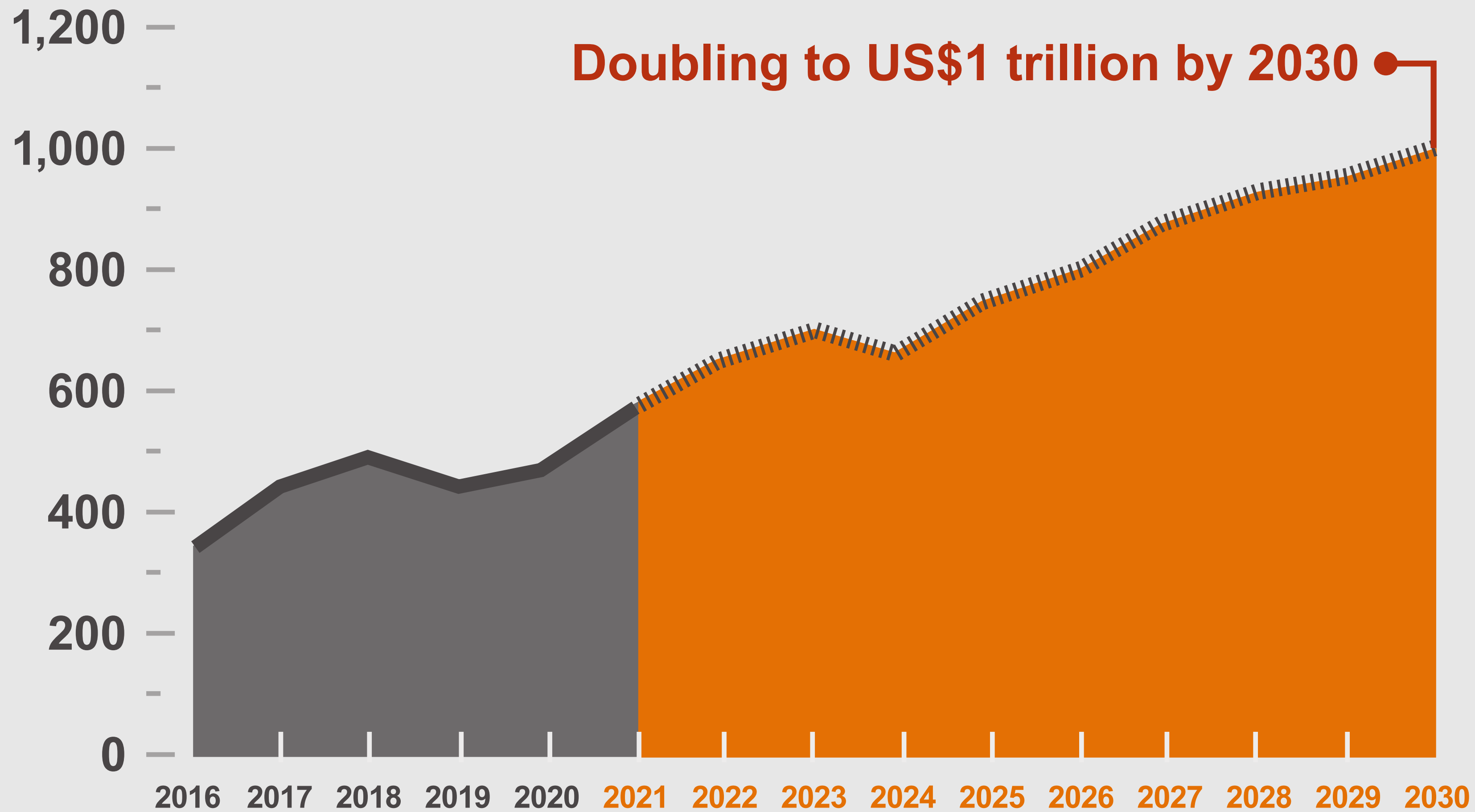
¹ ASM internal data

² Intensity per mtCO₂e/million € R&D investment

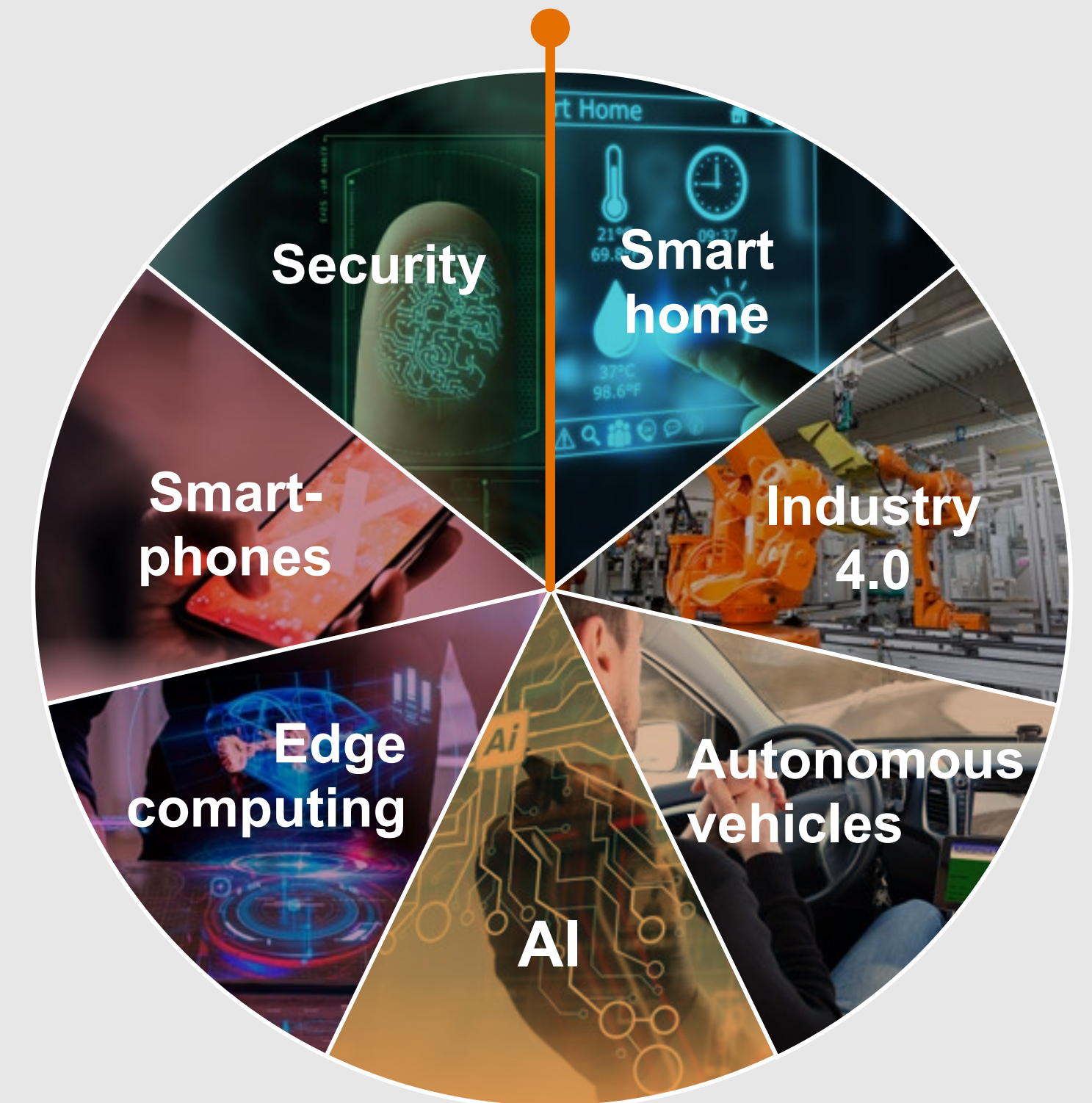
MARKET OPPORTUNITIES



Global semiconductor revenue (US\$ billion)

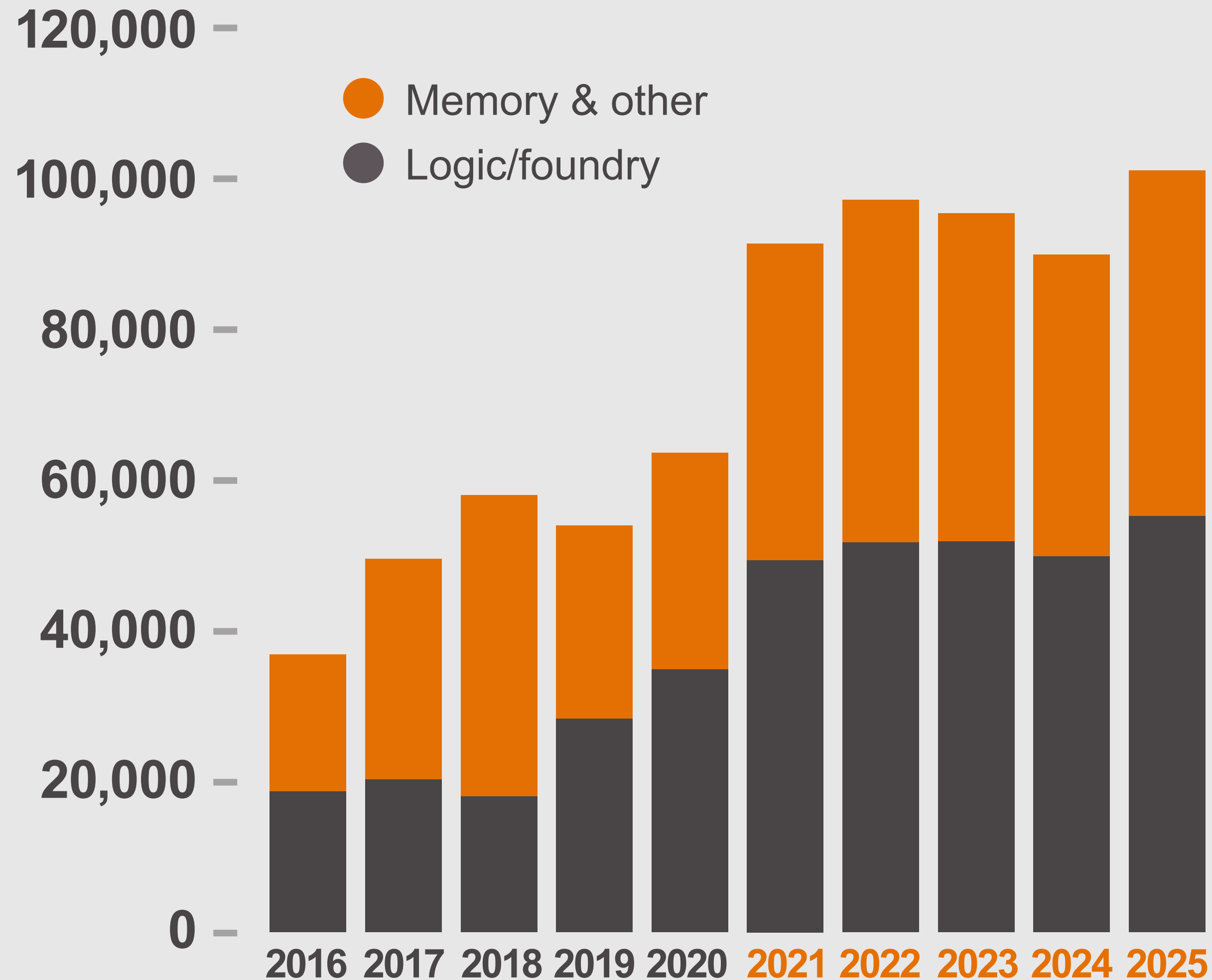


Megatrends driving the semiconductor market



WFE SPENDING EXPECTED TO INCREASE STRONGLY

WFE Market forecast (US\$ million)



WFE growth driven by secular trends of AI, 5G, EV, edge computing etc

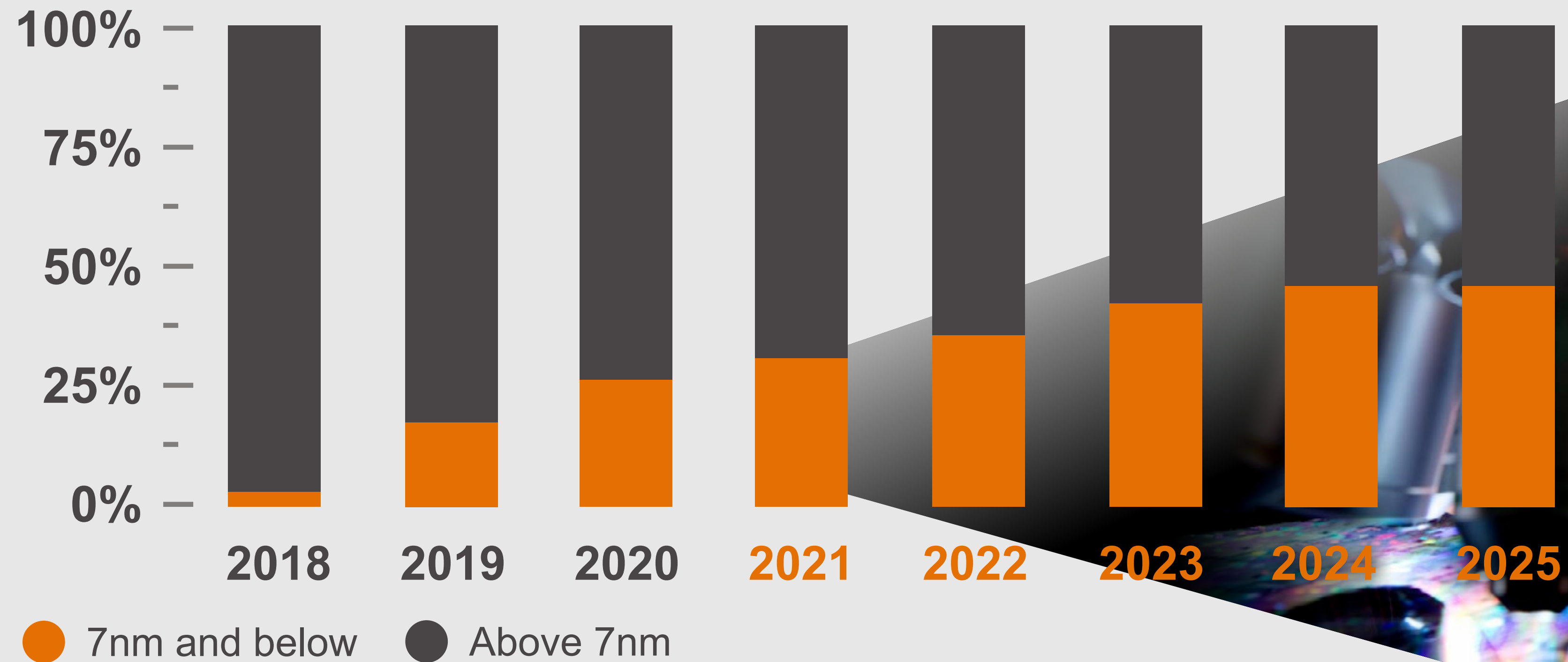
Multi-year investments announced across all market segments

Further scaling, 3D transitions and GAA driving investments in advanced CMOS

Government sovereign efforts could add further investments

WITH INCREASING MIX OF MOST ADVANCED NODES

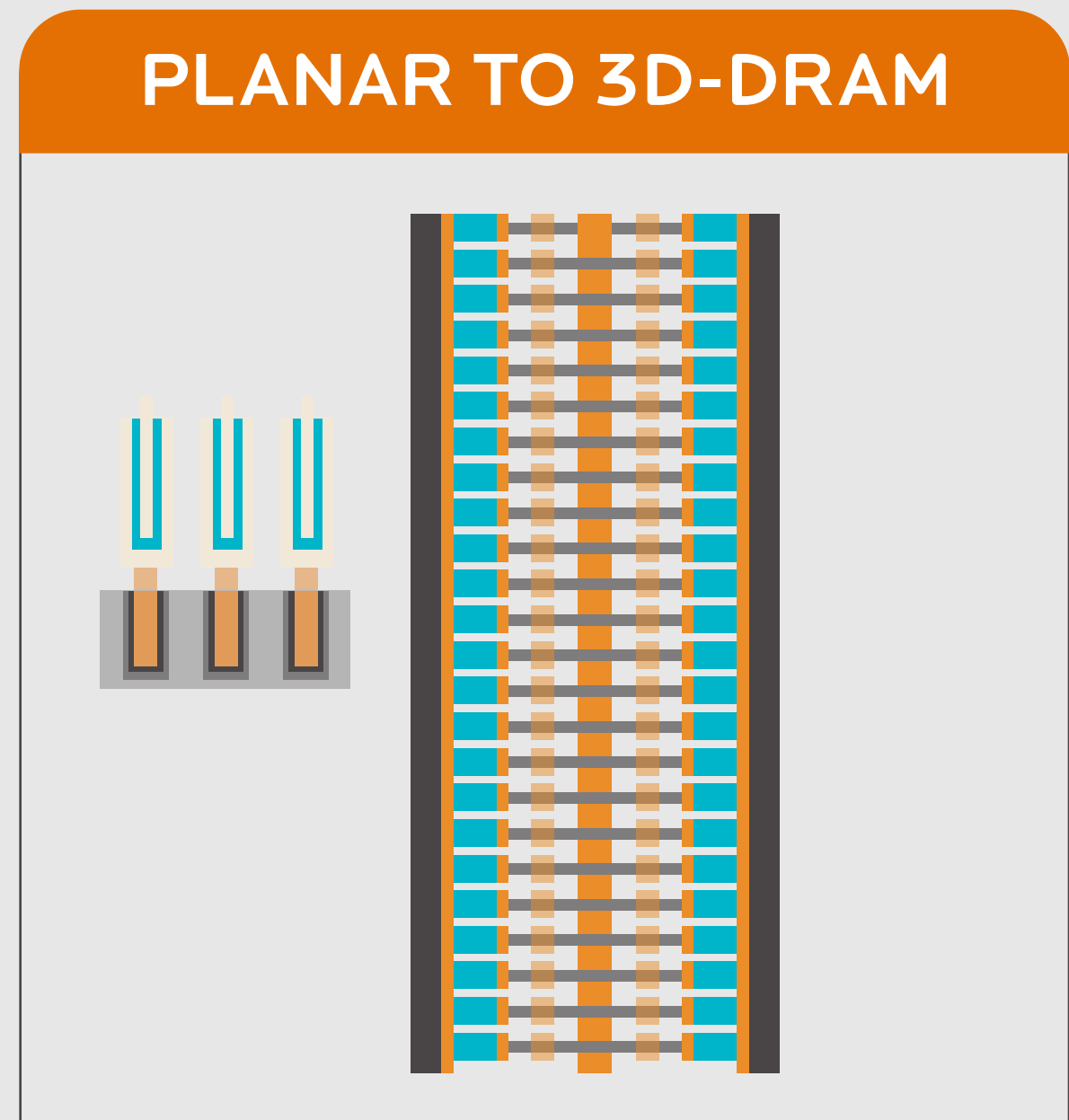
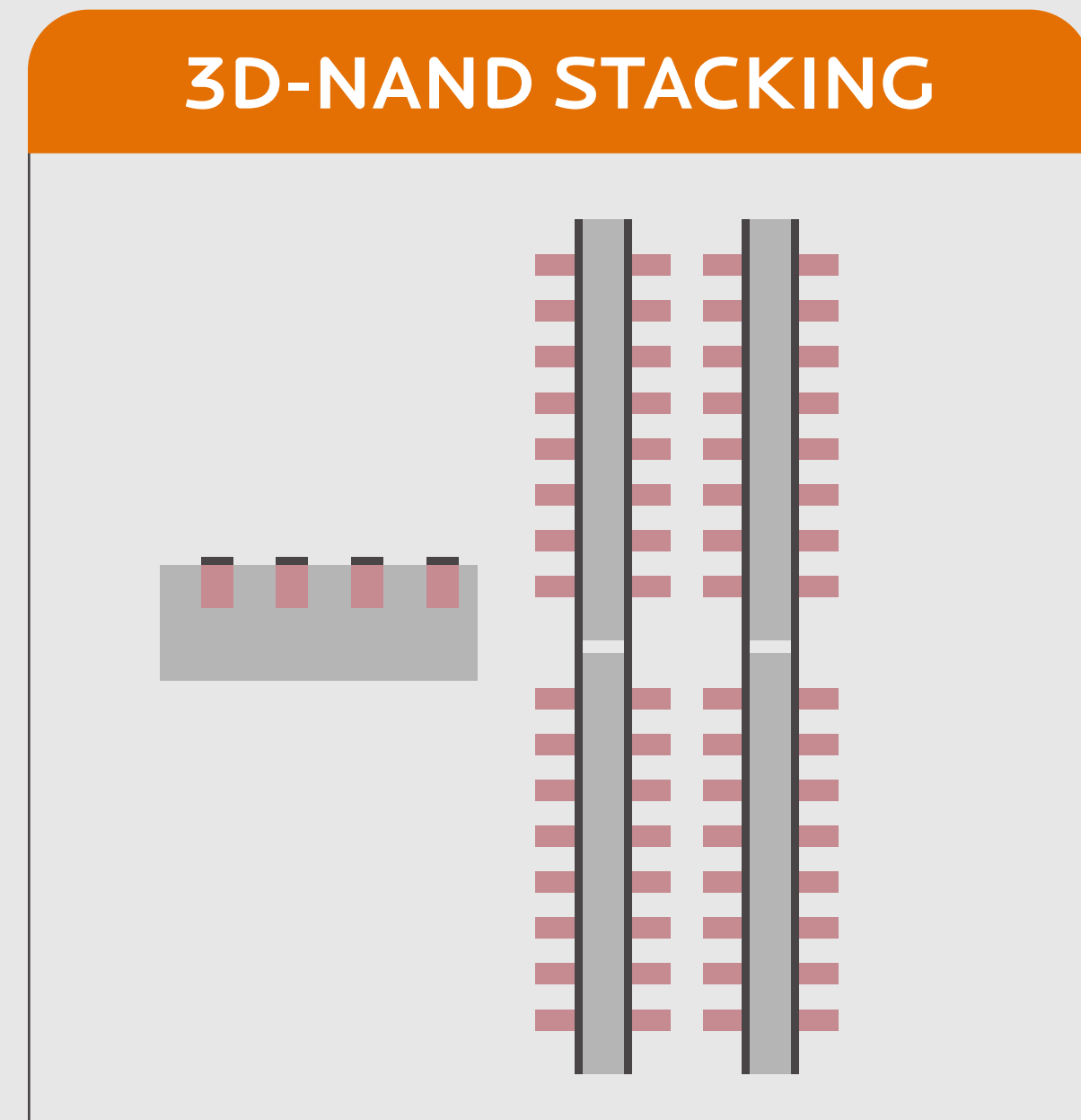
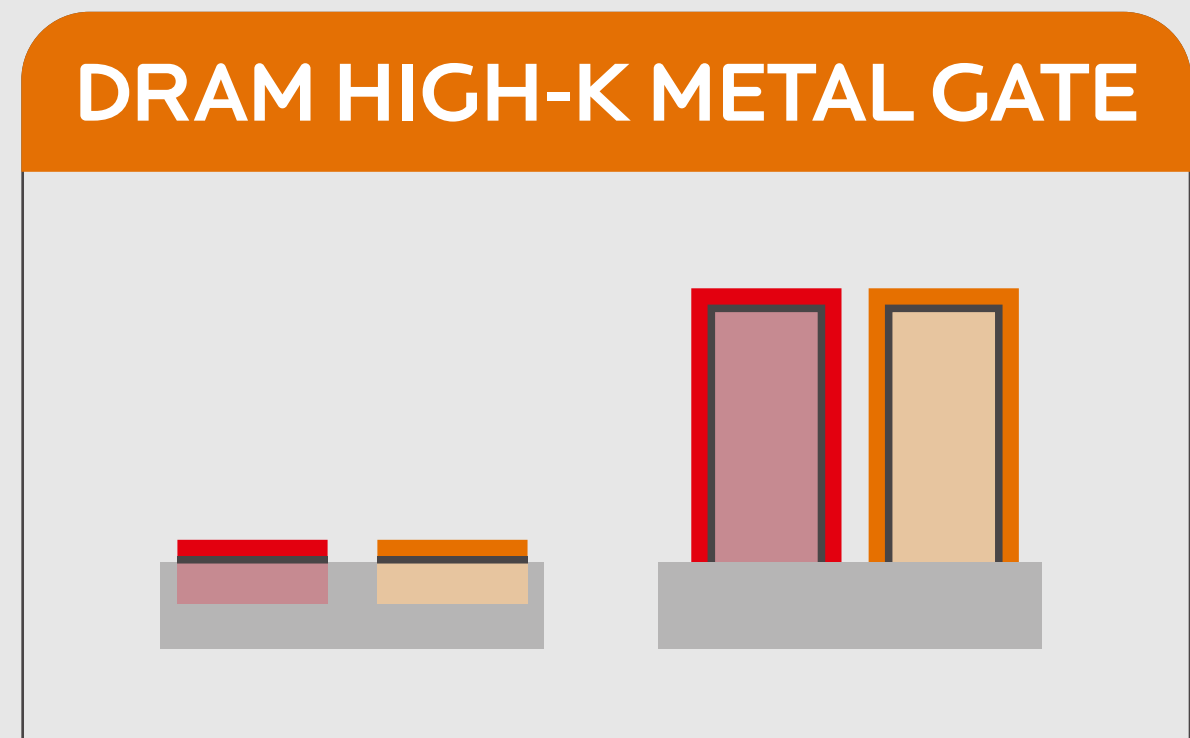
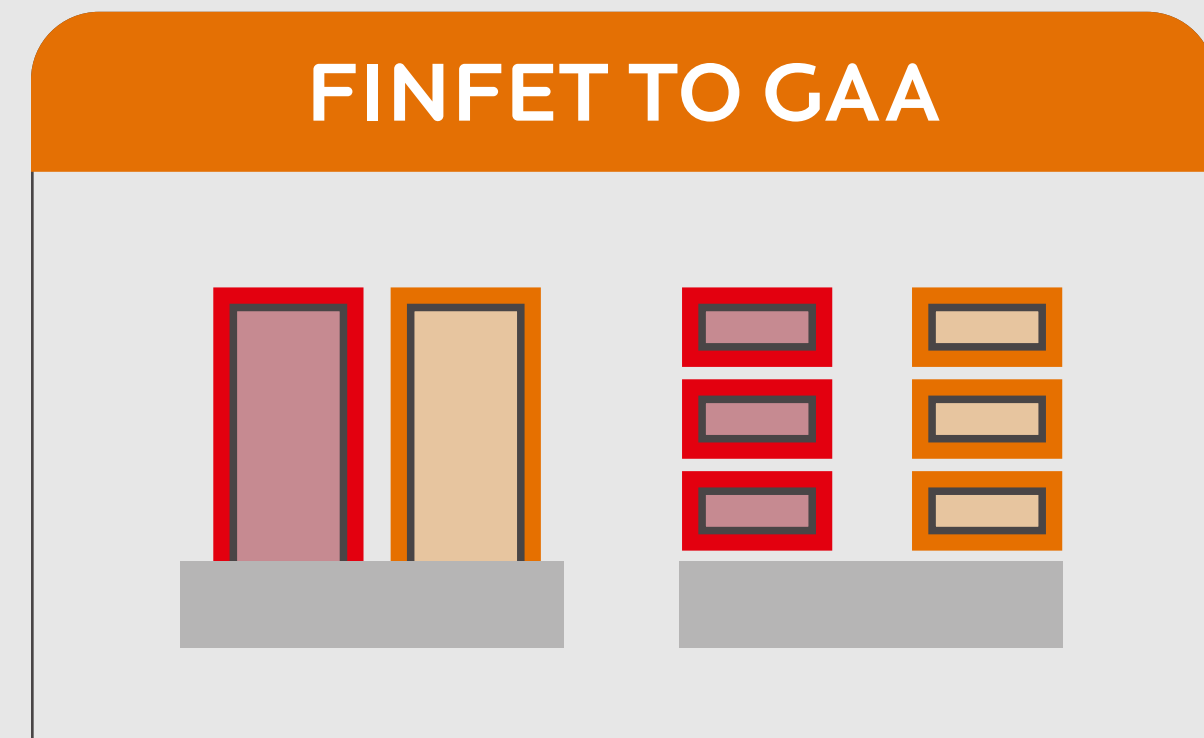
WFE market by technology node



Most advanced nodes (7nm and below) are structurally the fastest growing parts of the WFE market – ASMI strength

WELL POSITIONED TO ADDRESS THE MAJOR TRENDS

3D and new materials increasingly required for next generation semiconductors

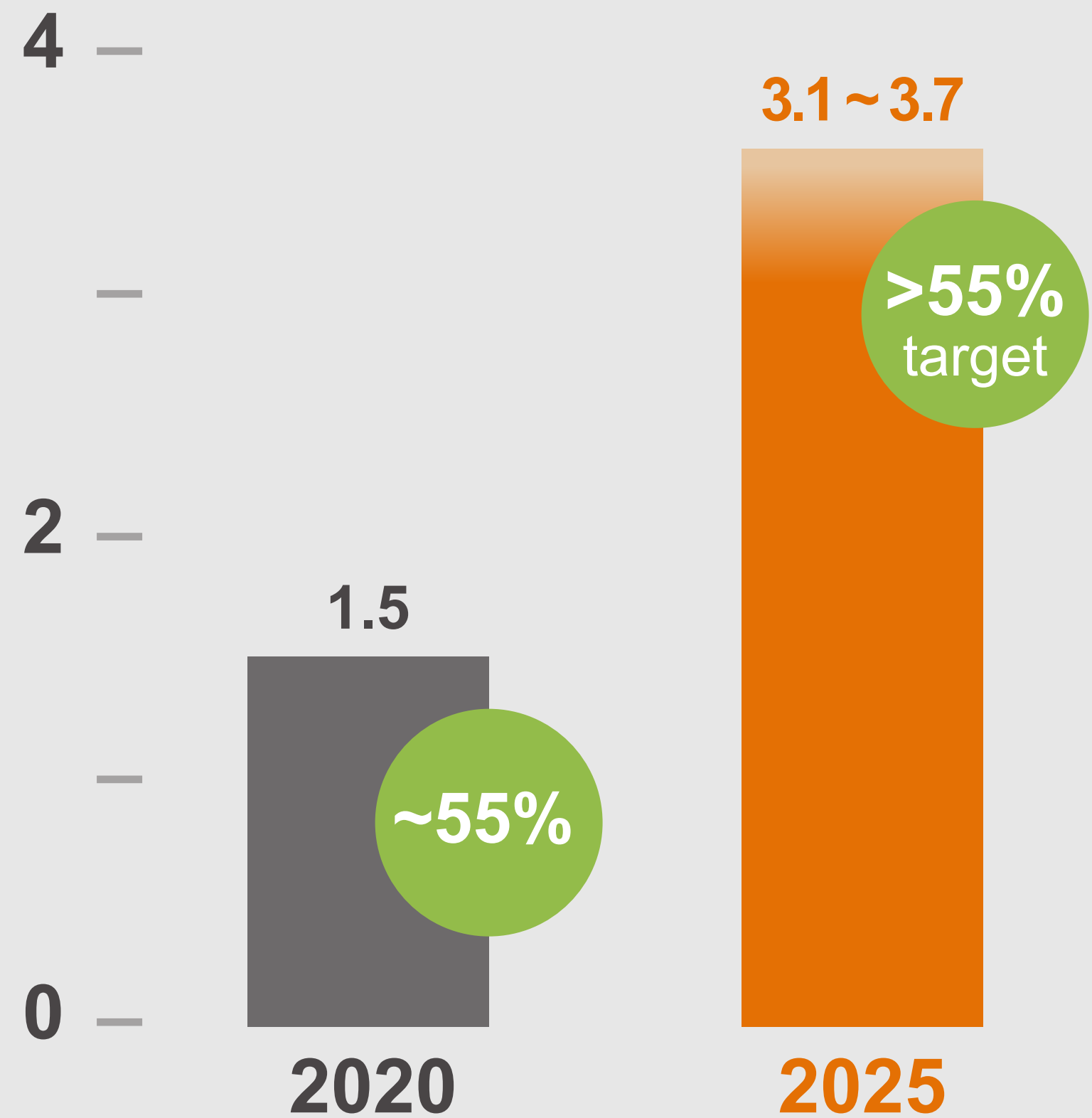


NEW MATERIALS

Elements used now, or expected to be used in the next decade

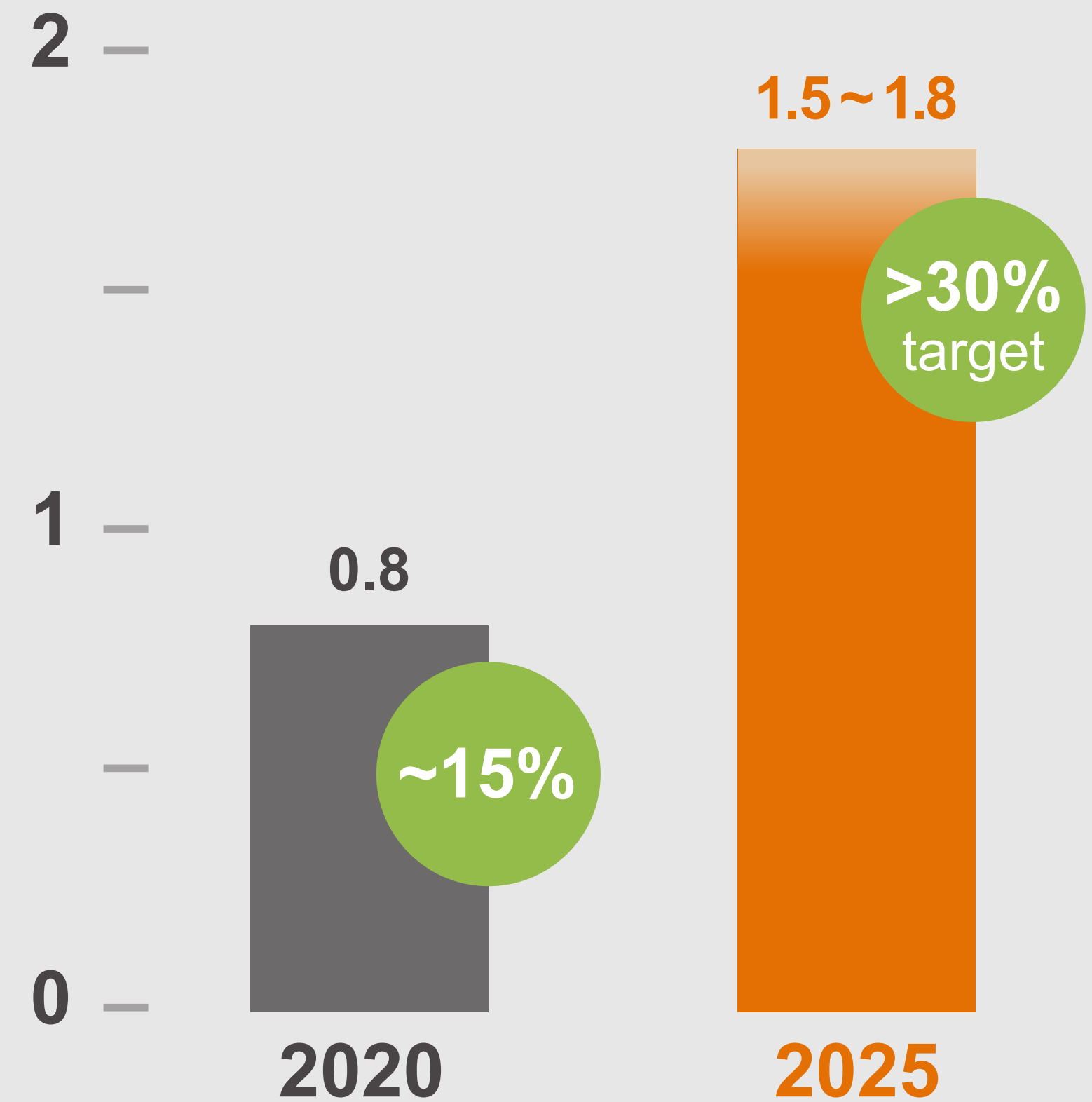
1 H Hydrogen 1.008																	2 He Helium 4.002602
3 Li Lithium 6.94	4 Be Beryllium 9.0121831											5 B Boron 10.81	6 C Carbon 12.011	7 N Nitrogen 14.007	8 O Oxygen 15.999	9 F Fluorine 18.998403163	10 Ne Neon 20.1797
11 Na Sodium 22.98976928	12 Mg Magnesium 24.305											13 Al Aluminium 26.9815385	14 Si Silicon 28.085	15 P Phosphorus 30.973761998	16 S Sulfur 32.06	17 Cl Chlorine 35.45	18 Ar Argon 39.948
19 K Potassium 39.0983	20 Ca Calcium 40.078	21 Sc Scandium 44.955908	22 Ti Titanium 47.867	23 V Vanadium 50.9415	24 Cr Chromium 51.9961	25 Mn Manganese 54.938044	26 Fe Iron 55.845	27 Co Cobalt 58.933194	28 Ni Nickel 58.6934	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.630	33 As Arsenic 74.921595	34 Se Selenium 78.971	35 Br Bromine 79.904	36 Kr Krypton 83.798
37 Rb Rubidium 85.4678	38 Sr Strontium 87.62	39 Y Yttrium 88.90584	40 Zr Zirconium 91.224	41 Nb Niobium 92.90637	42 Mo Molybdenum 95.95	43 Tc Technetium (98)	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.90550	46 Pd Palladium 106.42	47 Ag Silver 107.8682	48 Cd Cadmium 112.414	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.760	52 Te Tellurium 127.60	53 I Iodine 126.90447	54 Xe Xenon 131.293
55 Cs Caesium 132.90545196	56 Ba Barium 137.327	57 - 71 Lanthanoids	72 Hf Hafnium 178.49	73 Ta Tantalum 180.94788	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.227	78 Pt Platinum 195.084	79 Au Gold 196.966569	80 Hg Mercury 200.592	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98040	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)
87 Fr Francium (223)	88 Ra Radium (226)	89 - 103 Actinoids	104 Rf Rutherfordium (261)	105 Db Dubnium (268)	106 Sg Seaborgium (266)	107 Bh Bohrium (264)	108 Hs Hassium (265)	109 Mt Meitnerium (268)	110 Ds Darmstadtium (281)	111 Rg Roentgenium (282)	112 Cn Copernicium (285)	113 Nh Nihonium (286)	114 Fl Flerovium (289)	115 Mc Moscovium (288)	116 Lv Livermorium (293)	117 Ts Tennessine (294)	118 Og Oganesson (294)
57 La Lanthanum 138.90547	58 Ce Cerium 140.12	59 Pr Praseodymium 140.90766	60 Nd Neodymium 144.242	61 Pm Promethium (145)	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.92535	66 Dy Dysprosium 162.500	67 Ho Holmium 164.93033	68 Er Erbium 167.259	69 Tm Thulium 168.93422	70 Yb Ytterbium 173.045	71 Lu Lutetium 174.9668			
89 Ac Actinium (227)	90 Th Thorium 232.0377	91 Pa Protactinium 231.03588	92 U Uranium 238.02891	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (260)			

Single-wafer ALD market outlook (US\$ billion)



● ASMI market share

Epi market outlook (US\$ billion)



● ASMI market share

STRENGTHS & INNOVATION



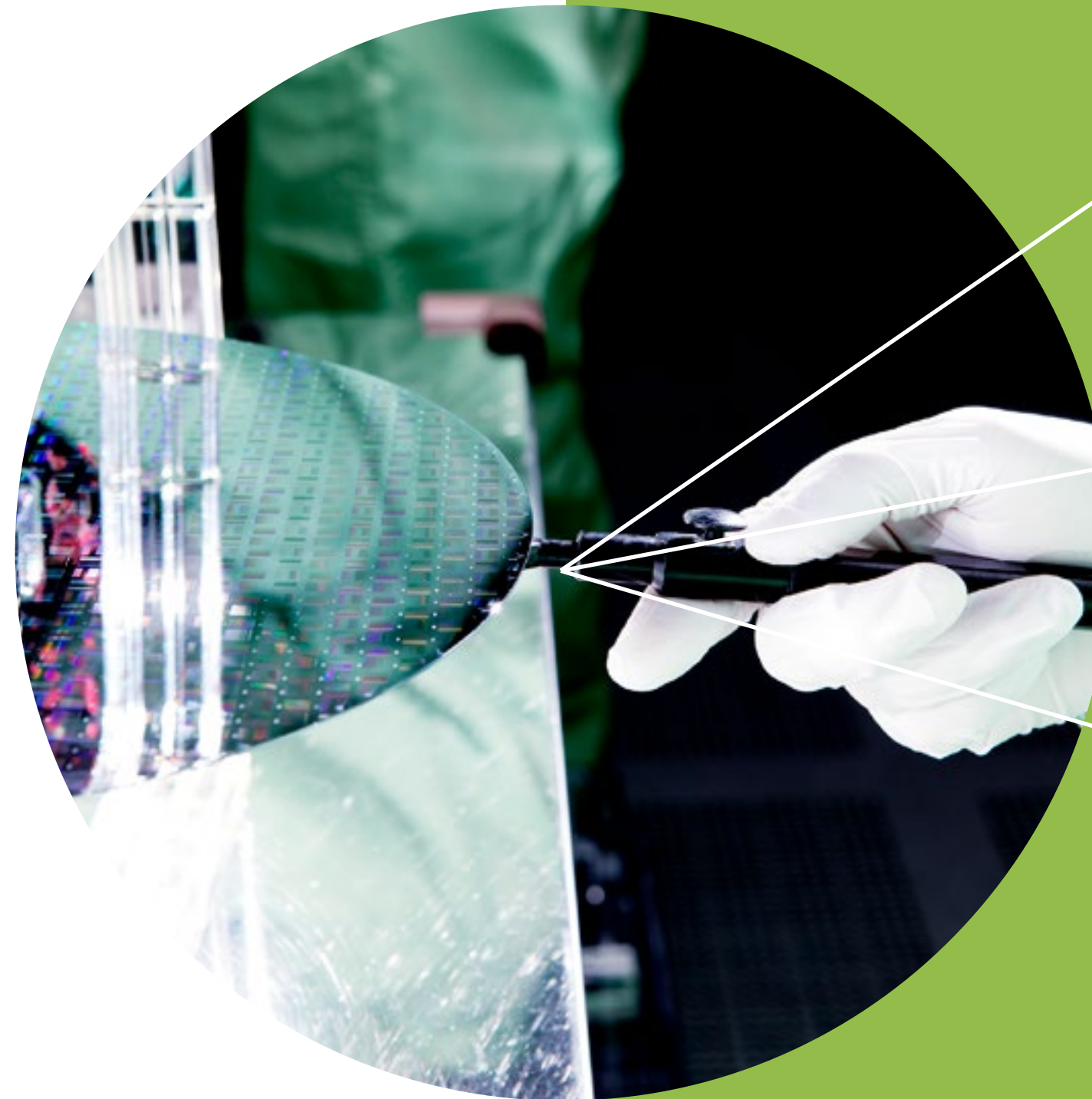
Strengths

Focus on deposition especially ALD and Epi

Strong history in innovation

Leading products and applications

Early customer engagements



• Market leader in single-wafer ALD

• Expanded market position in Epi

• ASMI growing 1.5x faster than WFE market in 2016-2020

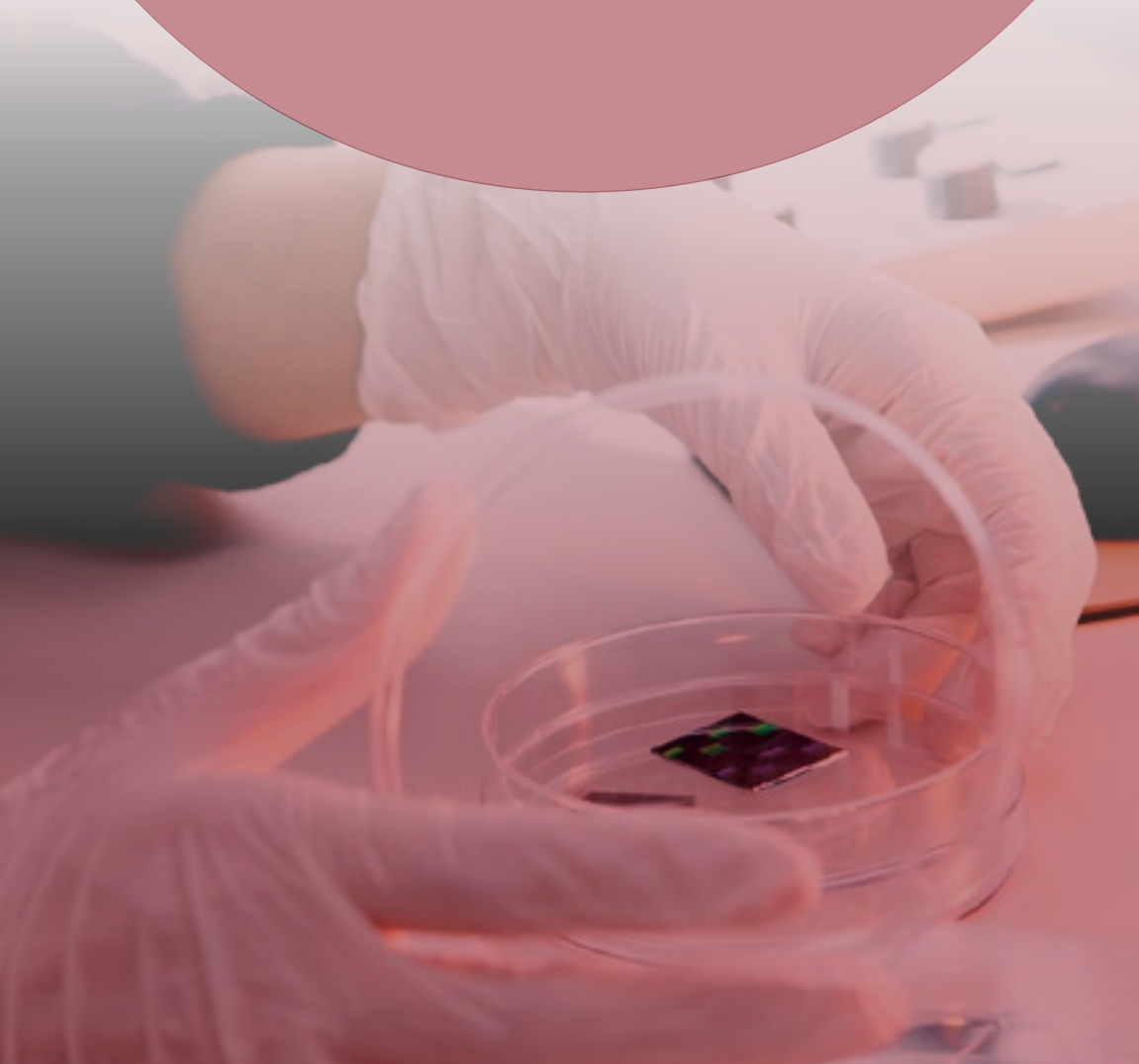
STRONG HISTORY IN INNOVATION

**Global
networked
R&D model**

**Close and early
collaboration
with imec,
universities,
customers**

**More than two
decades of
accumulated
knowhow in
ALD materials
and chemistries**

**Decades of
experience in
developing ALD
and Epi reactors
and processes**



ALD



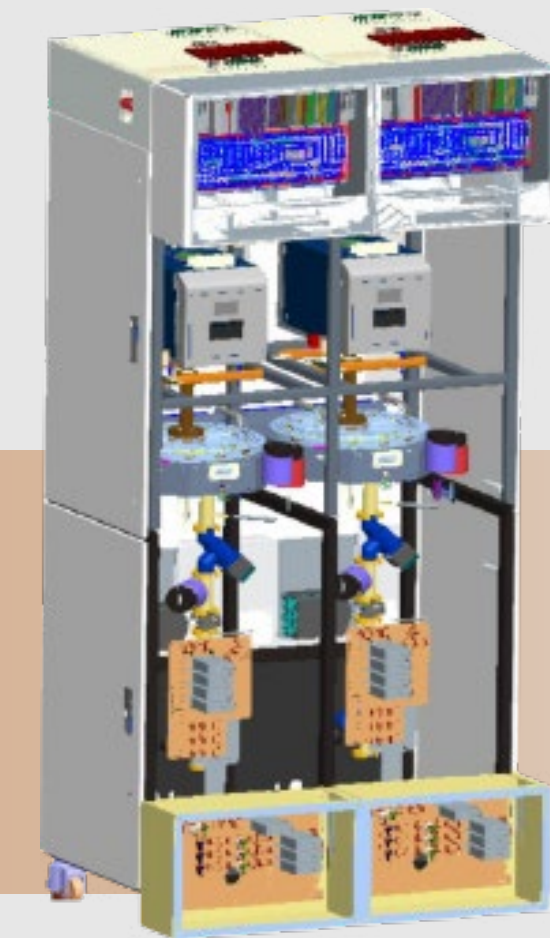
- Broadest portfolio of ALD products and applications
- Innovative strength in ALD reactor design
- Strength in chemistries and applications using new materials
- Superb cost of ownership, film performance, high flexibility in precursor delivery

EPI



- Superb isothermal reactor design with best in class close-loop direct wafer temperature control
- Low cost of ownership and outstanding monolayer film control for advanced CMOS
- Continued innovation to provide outstanding performance and cost of ownership for power/analog/sensor market

INTEGRATED SURFACE CLEAN CAPABILITY



- Developed wide range of critical surface clean technologies
- Clustered with both Epi and ALD

EARLY CUSTOMER ENGAGEMENTS



Working with all major logic/foundry and memory customers to develop solutions for forthcoming technology inflections

STRATEGY



Strategic objectives:

- Maintain leading ALD share in logic/foundry, expand in memory
- Increase Epi market share
- Selective growth in Vertical Furnace and PECVD niches
- Grow spares and services business
- Accelerating progress in sustainability
- Drive continued strong financial performance

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- Grow spares and services business
- Accelerating progress in sustainability
- Drive continued strong financial performance

How:

- Increase R&D investments especially in fastest growing segments – ALD and Epi
- Continue enabling customer roadmaps with most innovative products and applications
- Strengthen culture and develop our people
- Accelerate commitment to sustainability
- Maximize potential from growing installed base and increase outcome-based services
- Expand and optimize manufacturing and supply chain

EXPANSION IN R&D CAPACITY

Expansion in progress

Tama, Japan



Planned expansions

Helsinki, Finland



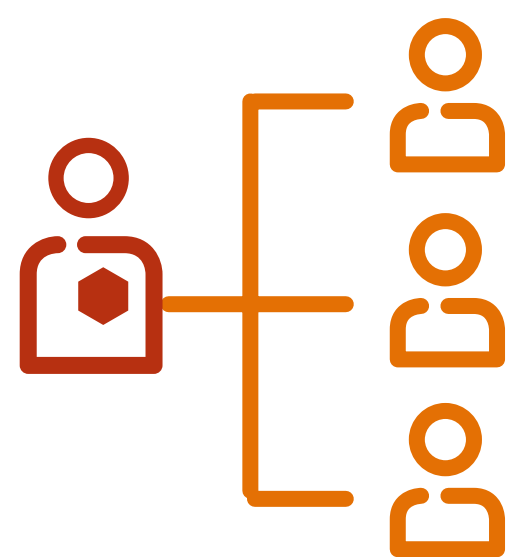
Phoenix, USA



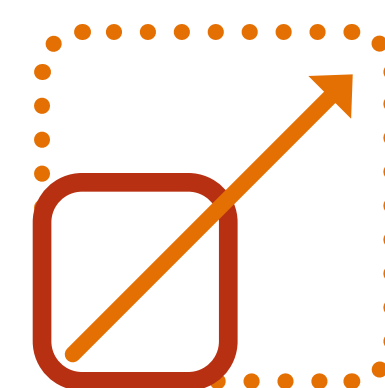
Dongtan, South Korea



Includes:



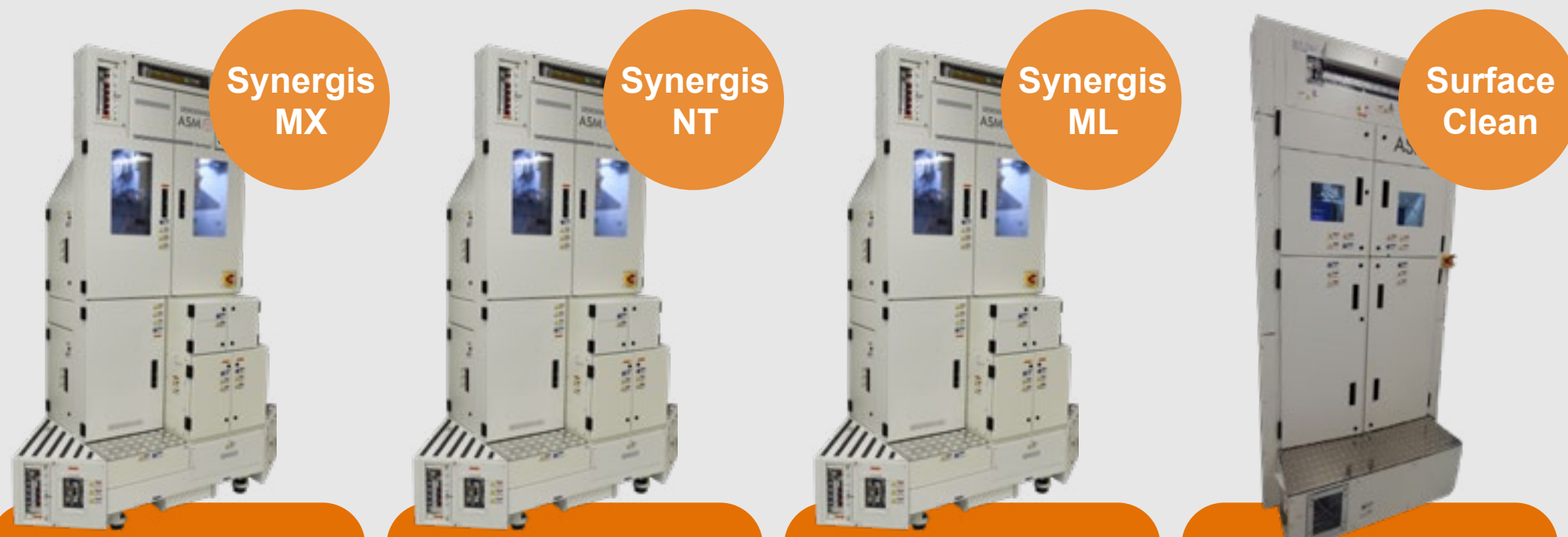
Significant increase
in headcount across
all sites



Significant increase in lab
metrology and development
related tools

New industry ALD workforce with superb performance and cost of ownership

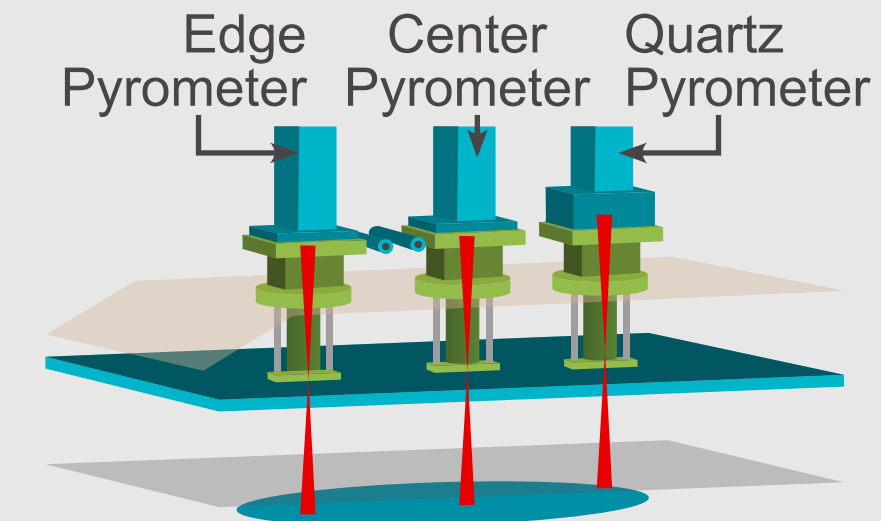
Synergis™



Synergis MX	Synergis NT	Synergis ML	Surface Clean
Metal Oxides	Metal Nitrides	Metals	Clean / Treatment
Patterning high-k	Work function, conducting nitrides	Metallization	Interfacial engineering / clustered Films

Innovative hardware and process control for new Epi applications

VERACE-CL



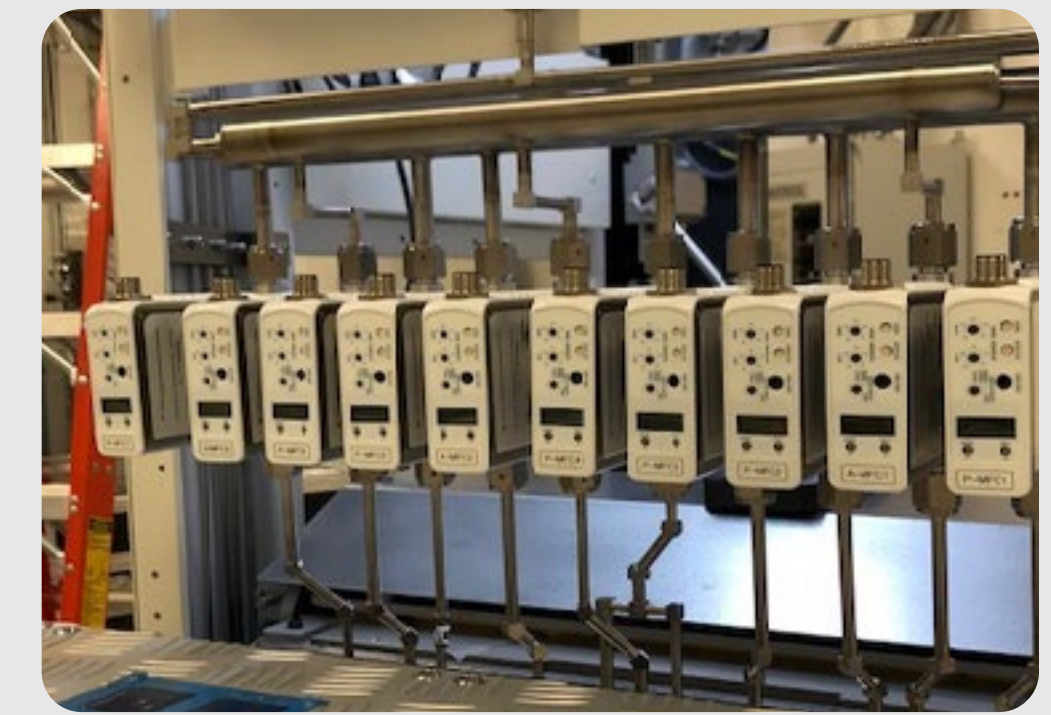
ES



LMS XL



AEGIS





Leadership & Development

Strengthening our talent pool by focusing on long-term career progression with training for all employees and our future leaders.

Growing Engagement

We are making the changes that matter. Engagement initiatives have driven improvements for all at ASMI.

Strengthening our Culture

A renewed focus on our culture and values. Shaping a culture of compassion, inclusivity, innovation, and drive to deliver.

Inclusion & Diversity

We have implemented Employee Resource Groups to create a workplace where employees can be their true selves.

**PEOPLE ARE OUR
BIGGEST ASSET**

Sustainability targets

Addressing climate change is imperative

Fostering inclusion and diversity in our employee base

Innovating to reduce energy consumption and emissions on our equipment



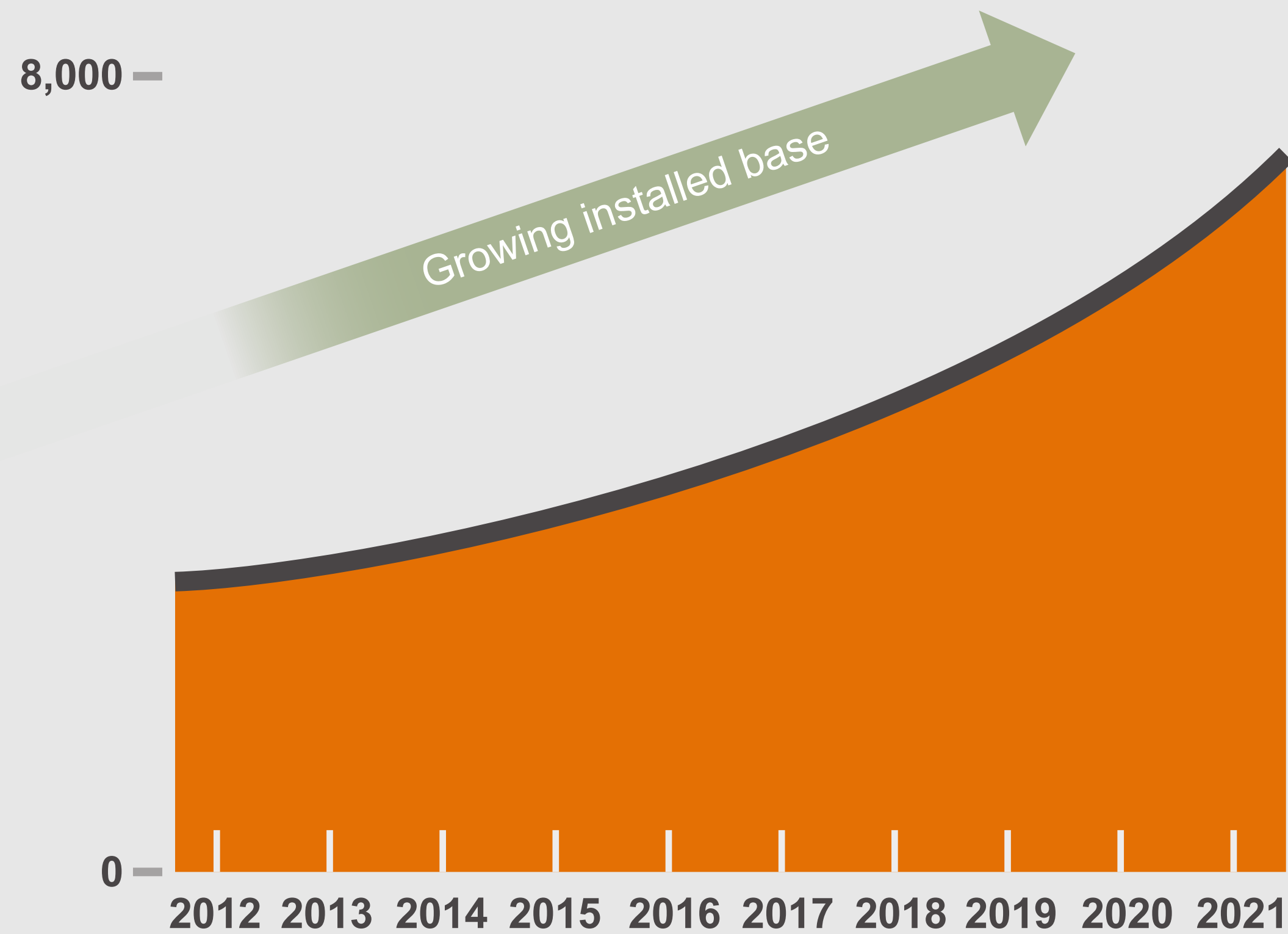
Net zero

- Reduce environmental footprint of our operations

- 100% renewable electricity by 2024

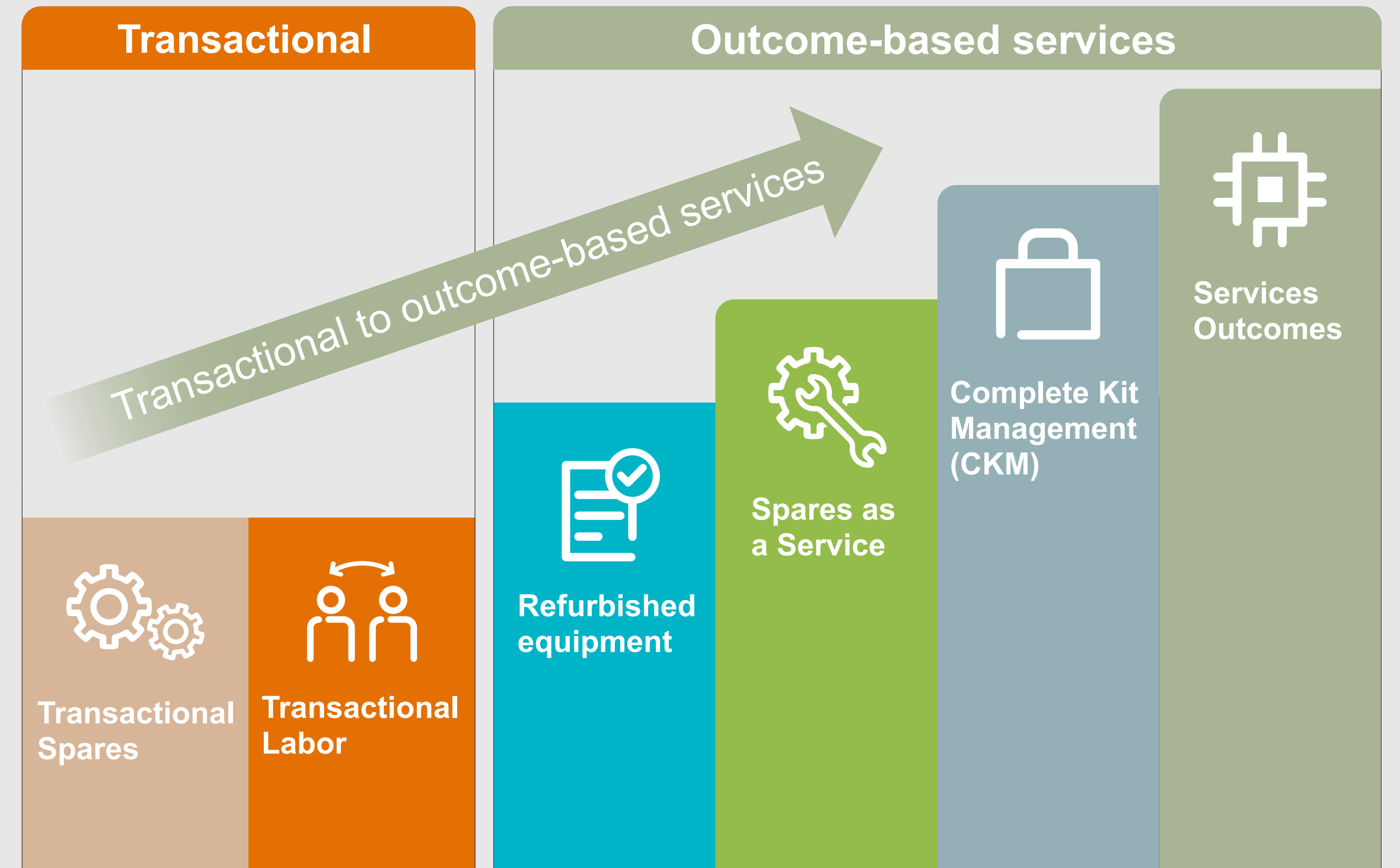
- Aim to be net zero by 2035 (scope 1, 2 and 3 emissions)

Number of systems



Increasing revenue through a rapidly **growing installed base**

← Increasing value to our customers →



Increasing revenue through introduction of more **outcome-based services**

New Singapore manufacturing facility

1st floor in production since Q4 2020

Increased flexibility to meet customer demand

2nd floor design work started and production ready by early 2023

This new facility has been designed with high sustainability standard



Supply chain optimization

- Strengthened base of world class EMS partners
- Increased multiple sourcing

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Strengths in innovation, early customer engagements and product differentiation enables advanced cost effective solutions for customers

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Strategic objectives are maintaining leadership in logic/foundry, expansion in memory, share gains in the Epi market, growing spares and services and increasing focus on sustainability

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ASMI
INVESTOR
DAY 2021



ASMI INVESTOR DAY 2021

DRIVING INNOVATION



Ivo J. Raaijmakers
CTO

September 28, 2021

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#1

Global R&D network enables early R&D collaboration with partners and customers globally

#2

R&D organization driving innovation, accumulating over two decades of ALD experience

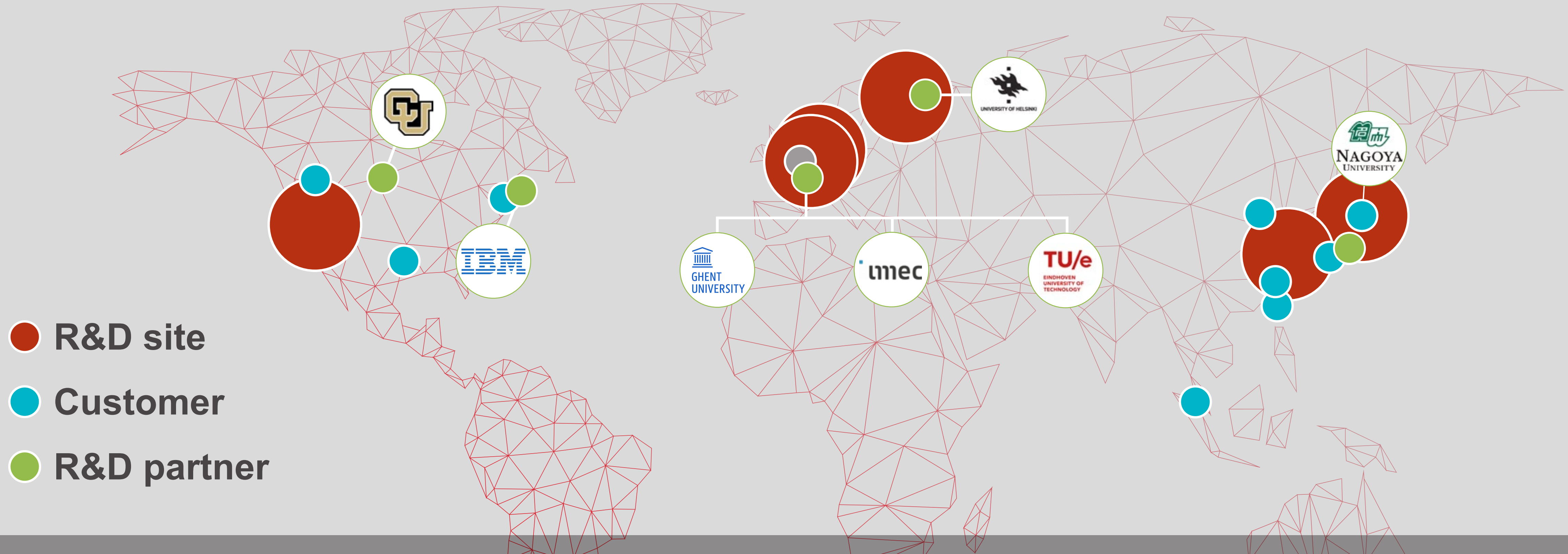
#3

Current R&D portfolio is well aligned with customer roadmaps to further extend Moore's Law

#4

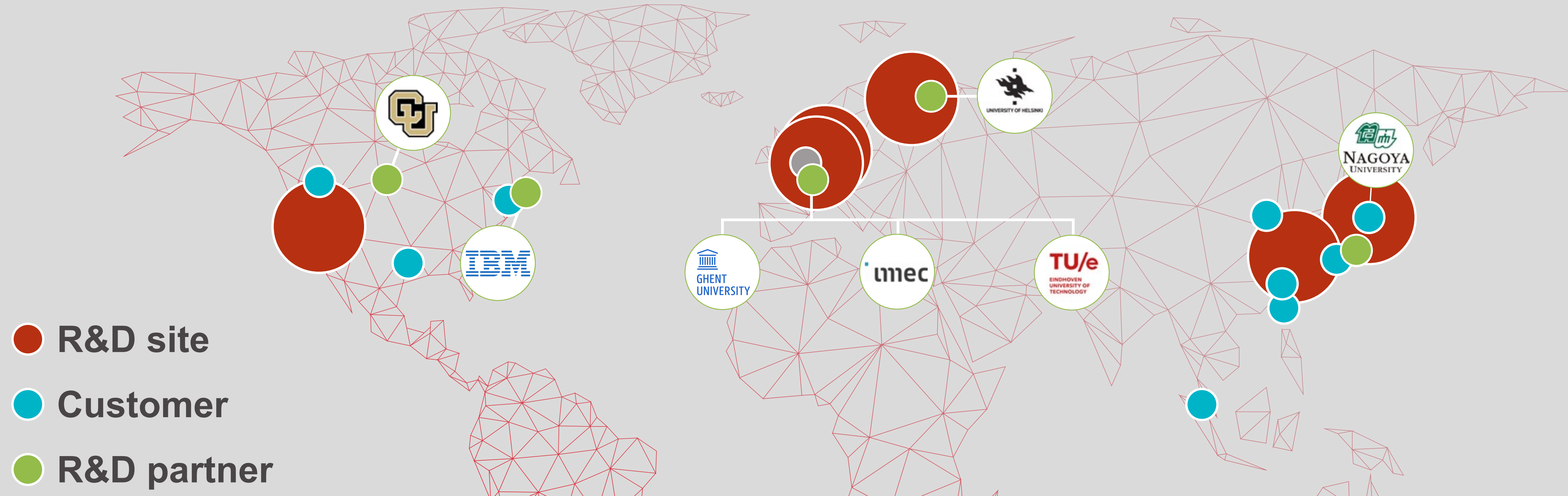
Inflections creating new deposition opportunities

GLOBAL NETWORKED R&D ORGANIZATION



- Equipment and applications development in the Netherlands, USA, Japan and Korea
- Finland and Belgium focus on advanced process and chemistry innovations
- Co-located with University of Helsinki in Finland, and with imec in Belgium

R&D IN NUMBERS



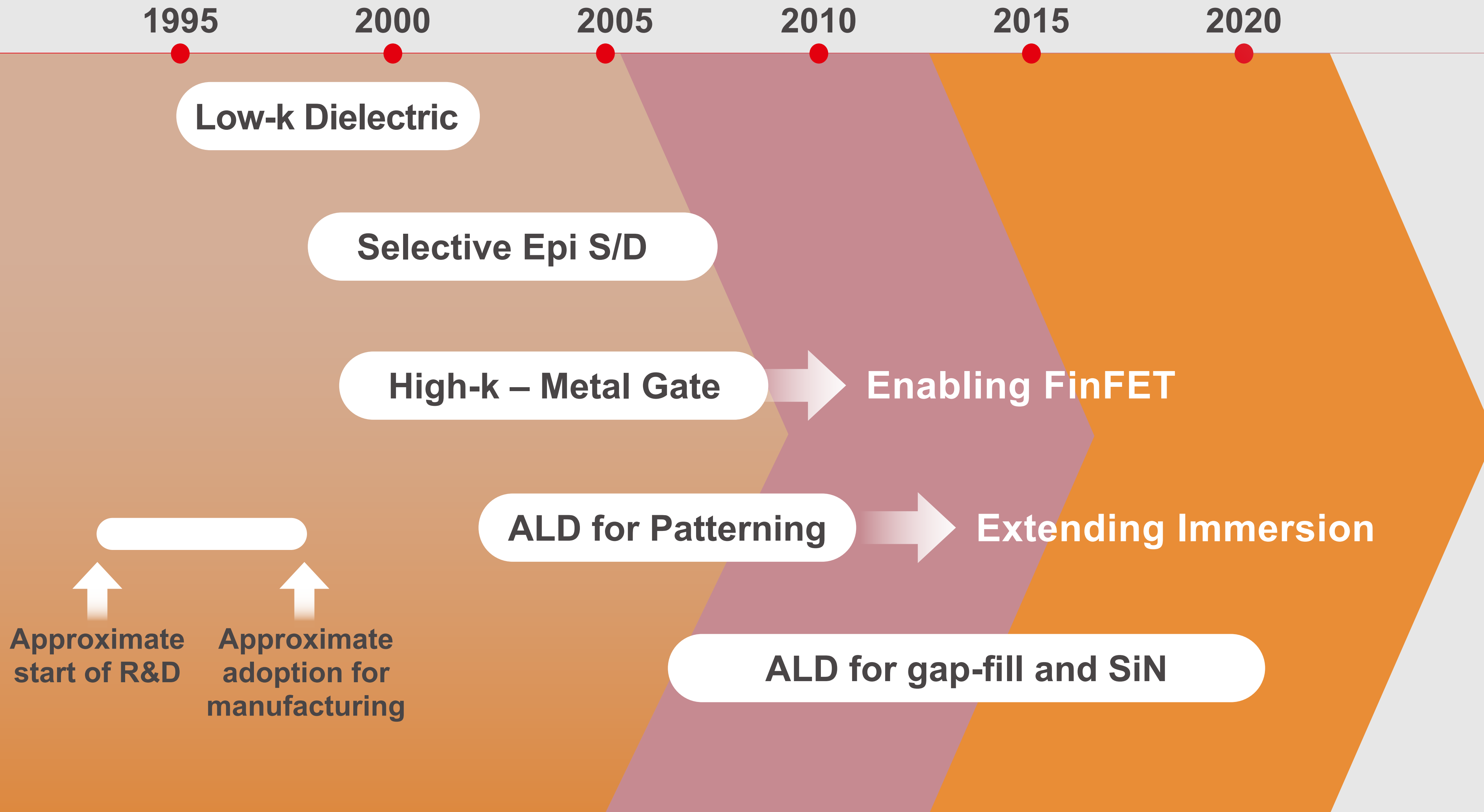
- €172 million gross R&D spending (13% intensity)
- 613 permanent R&D employees, 26 nationalities
- of which 44% having an advanced degree
- 2,094 patents in force

R&D spending: 2020 full year; others: 2020 end of year

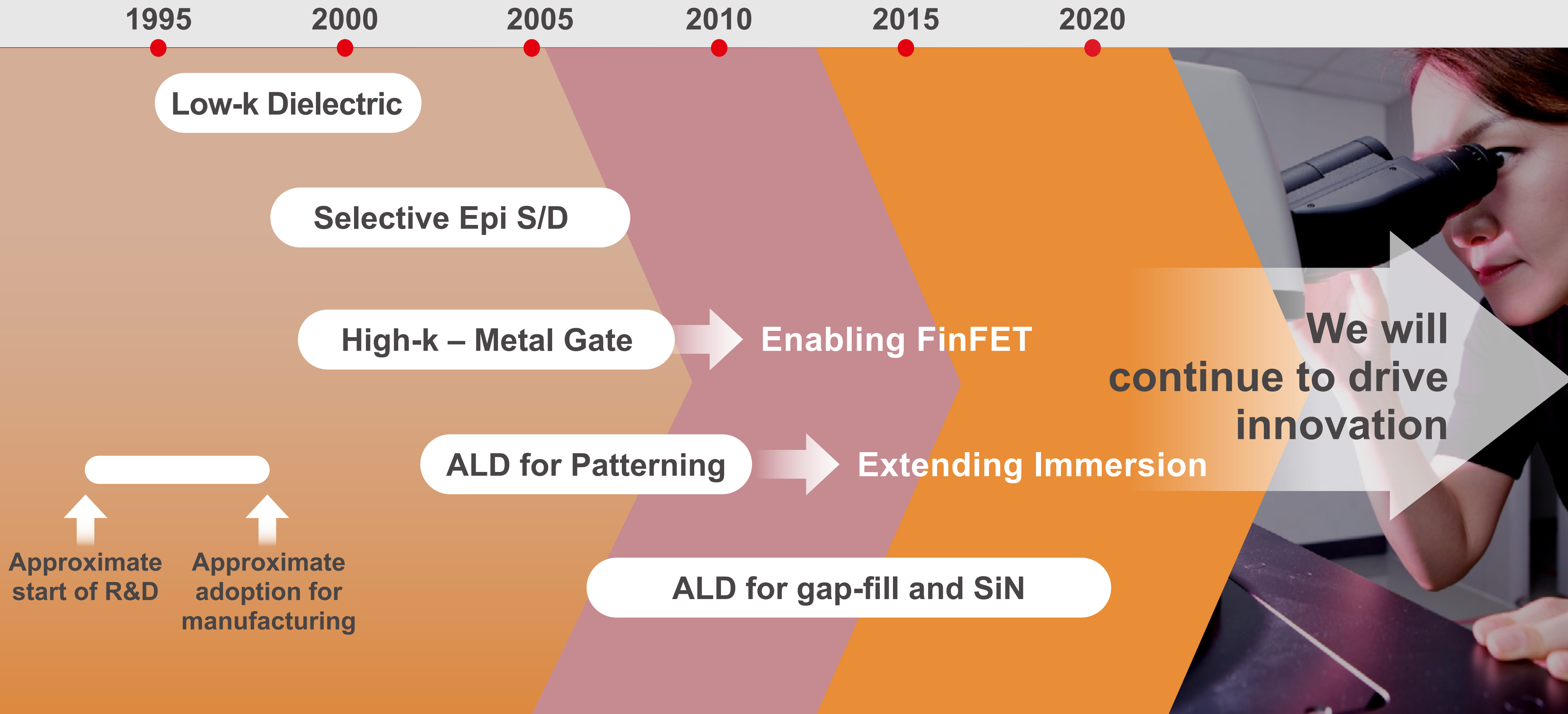
R&D DRIVING INNOVATION AND ALIGNMENT WITH CUSTOMERS ROADMAPS



R&D DRIVING INNOVATION FOR MORE THAN TWO DECADES



R&D DRIVING INNOVATION FOR MORE THAN TWO DECADES



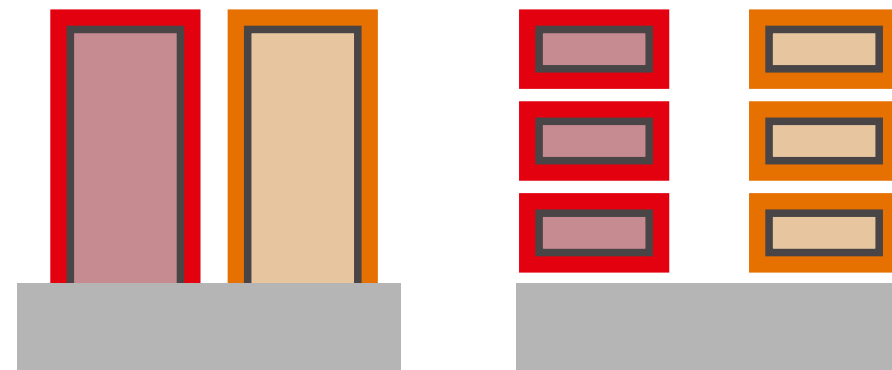
R&D PORTFOLIO ALIGNED WITH CUSTOMERS

Device	N		N+1		N+2		N+3		>N+4	
HVM Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
DRAM	Planar DRAM					3D-DRAM				
3D-NAND	Single to Multi-tier 3D-NAND						Novel Concepts			
Logic/foundry	FinFET 5 → 3nm			GAA ¹ 2nm			FS ² -GAA 15Å → 10Å			
Customer Activity	HVM ³		Pilot Production		Development		Pathfinding		Exploration	
ASMI Activity	Support HVM		PTOR ⁴ Selection		DTOR ⁵ Selection		First demos, Pathfinding JDP ⁶		External R&D, Scouting	

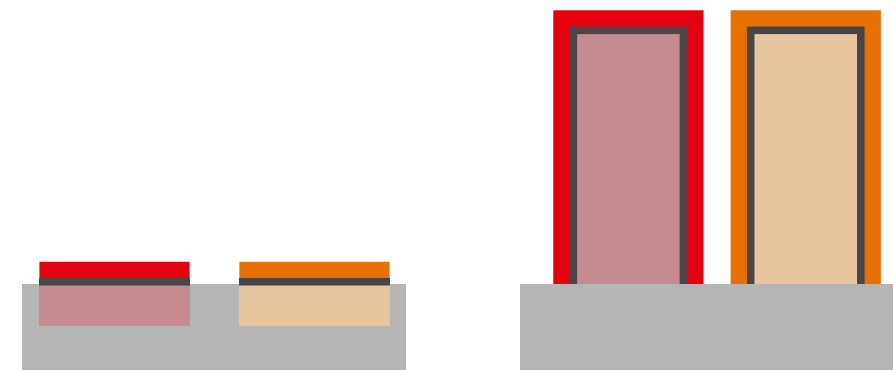
- **Current R&D** aimed at further scaling and architecture changes to **extend Moore's Law**
- ASMI is **engaged with R&D partners and customers** on post 3D-NAND concepts, Fork-Sheet (second generation) GAA and several technologies that will be needed beyond 2028

¹ Gate-all-around; ² Fork Sheet; ³ High Volume Manufacturing; ⁴ Production Tool of Record; ⁵ Development Tool of Record; ⁶ Joint Development Program

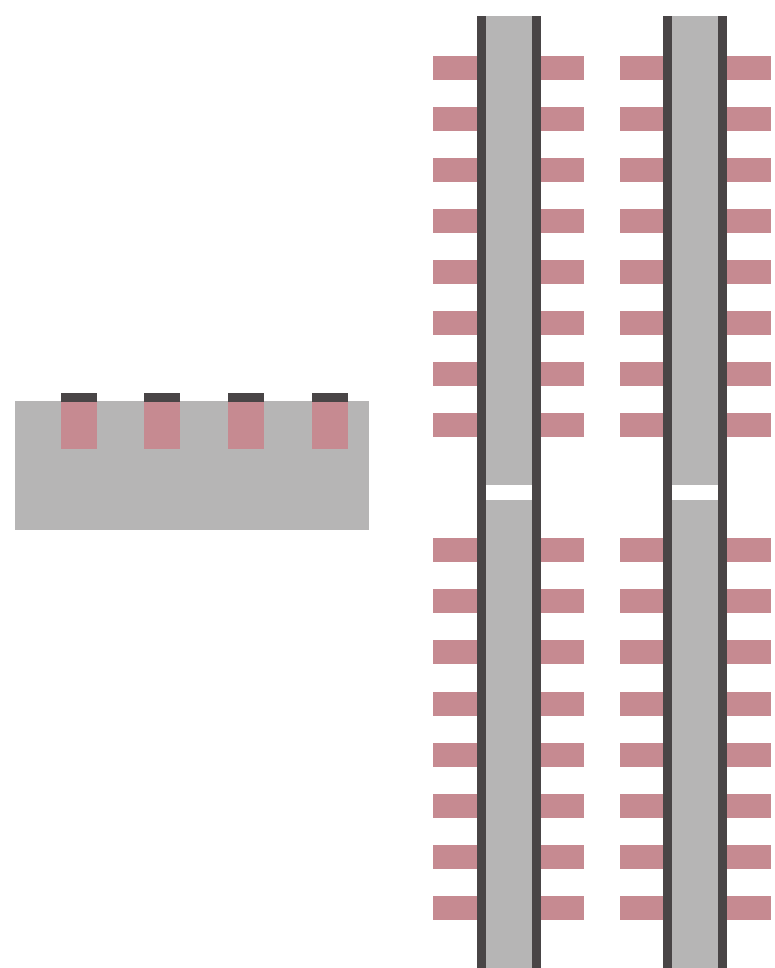
FinFET to GAA



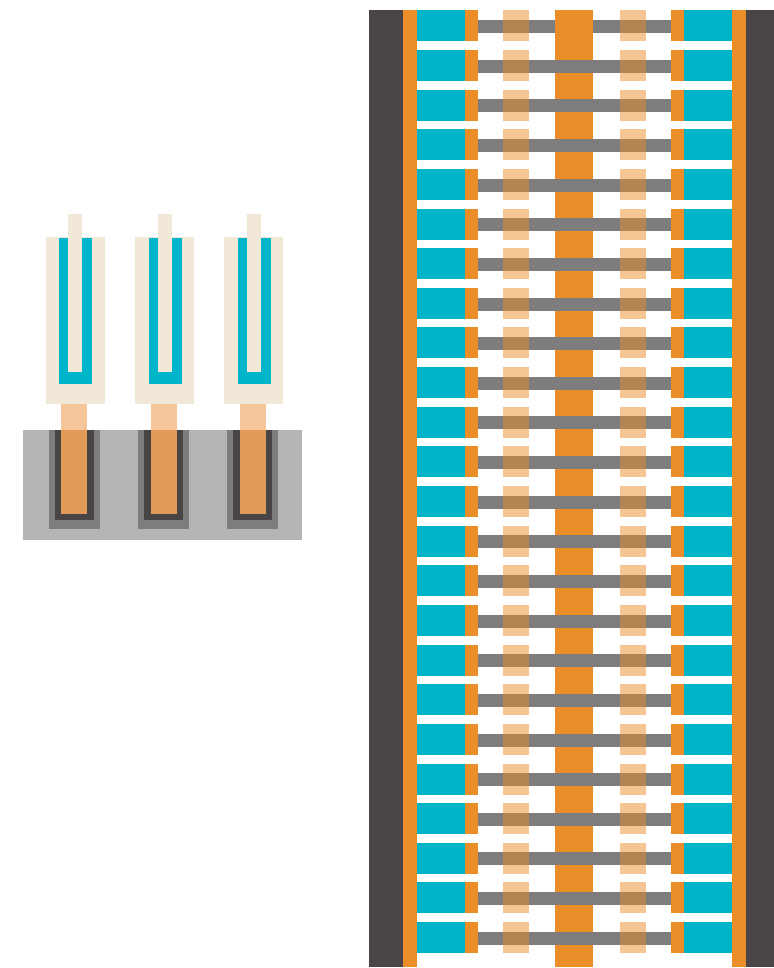
DRAM high-k/metal gate



Planar to 3D-NAND



Planar to 3D-DRAM



Everything going 3D to enable scaling

- Conformal thickness, composition and electrical properties requires more ALD...

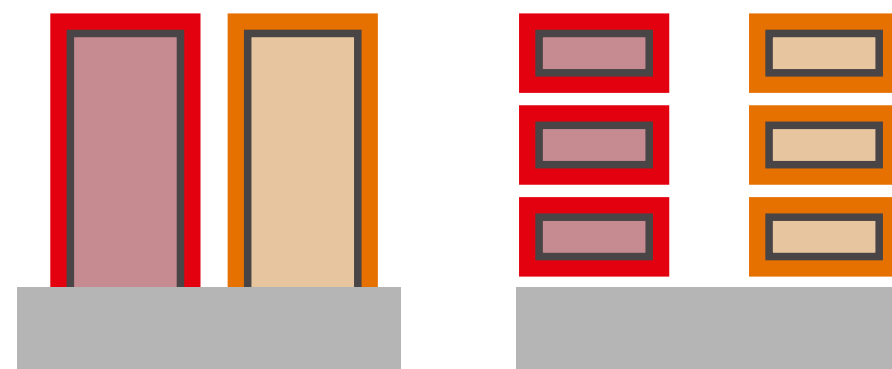
Thinner films, complex stacks, more interfaces

- Atomically engineered surface clean and preparation technology

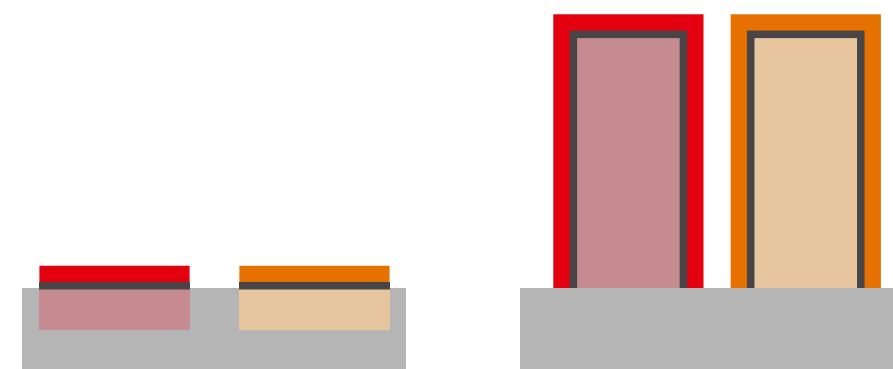
Many new materials are needed

Bottom-up selective deposition to supplement top-down deposition and etch

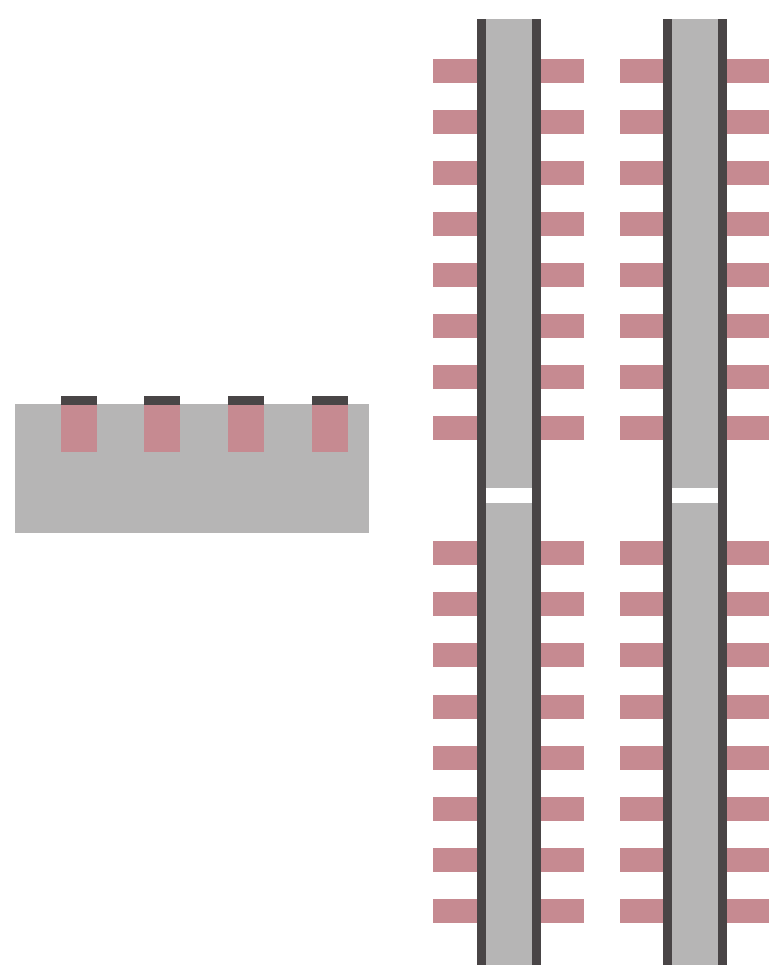
FinFET to GAA



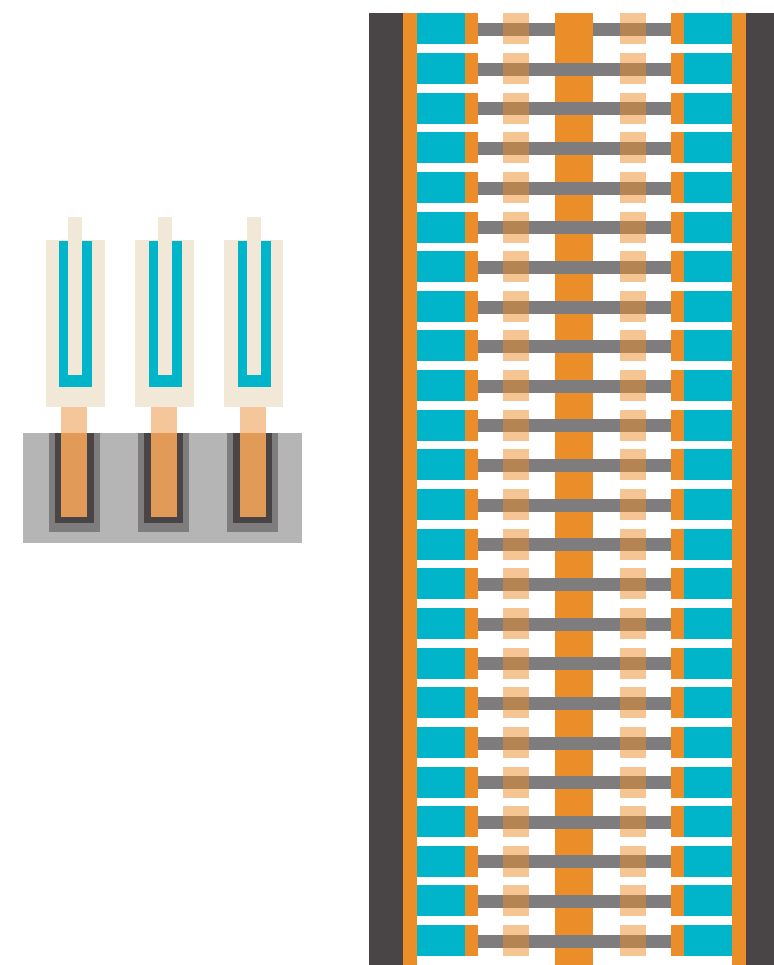
DRAM high-k/metal gate



Planar to 3D-NAND



Planar to 3D-DRAM

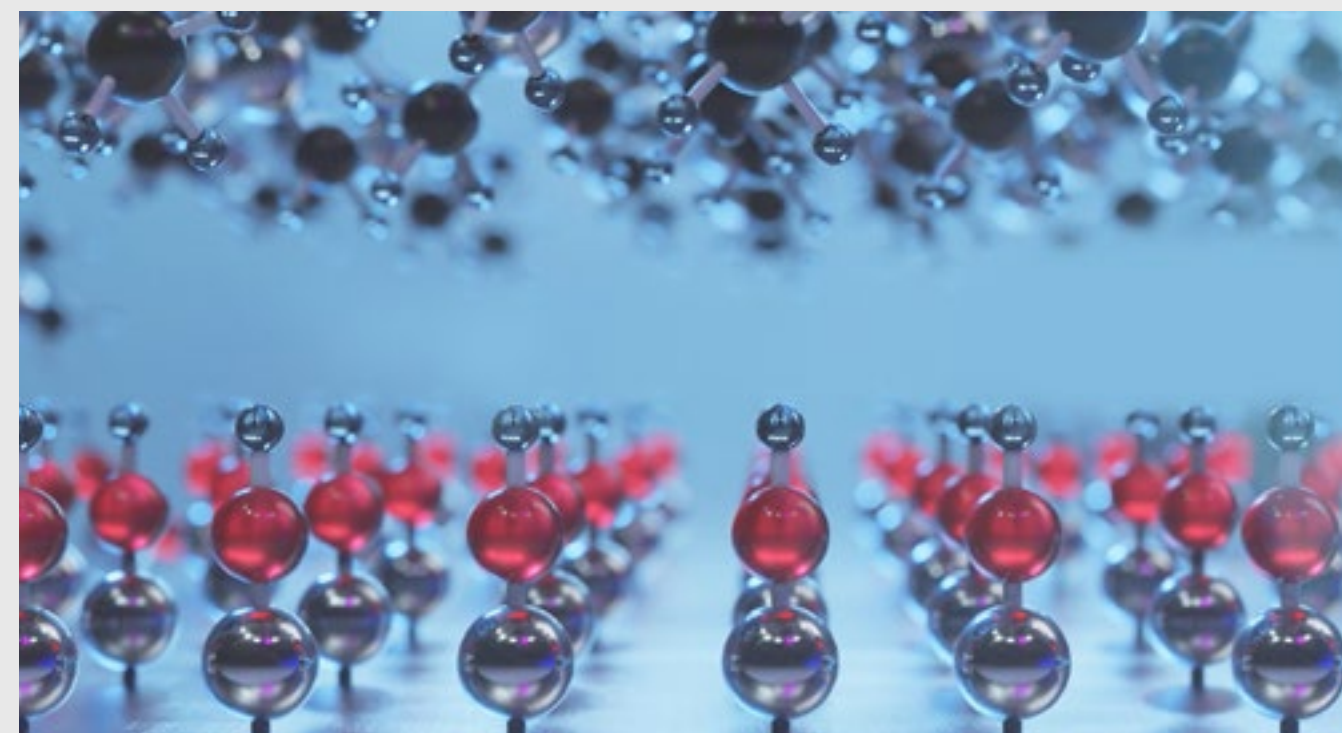


These 3D transitions and materials lead to opportunities for ASMI in ALD and Epi markets

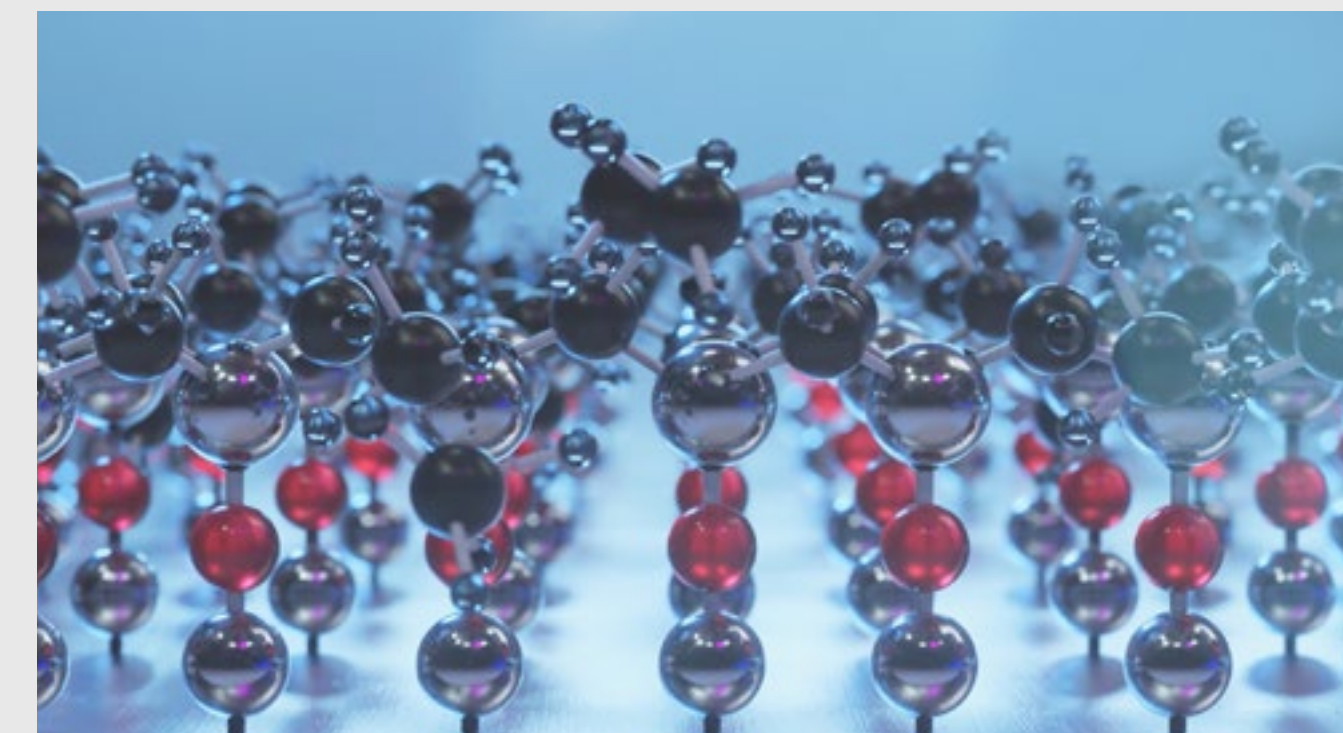
WHAT IS ALD?



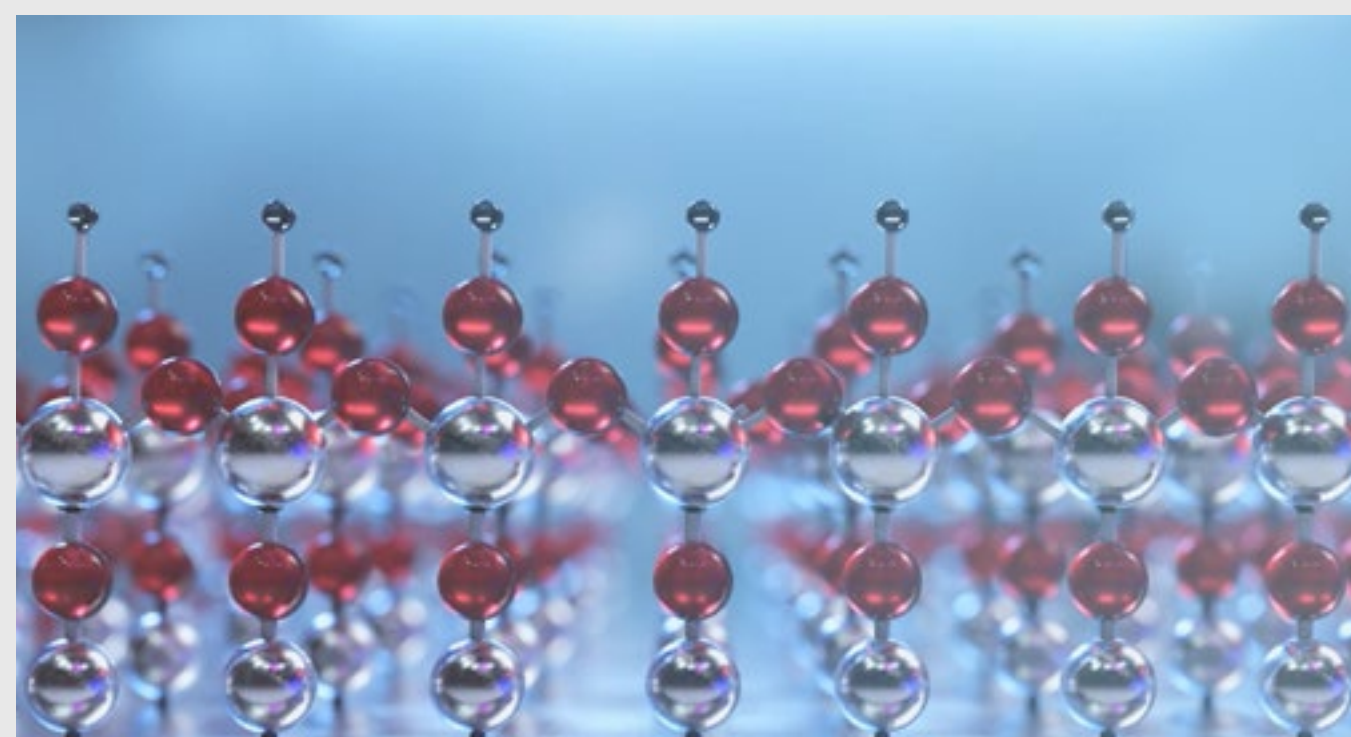
Clean surface before ALD



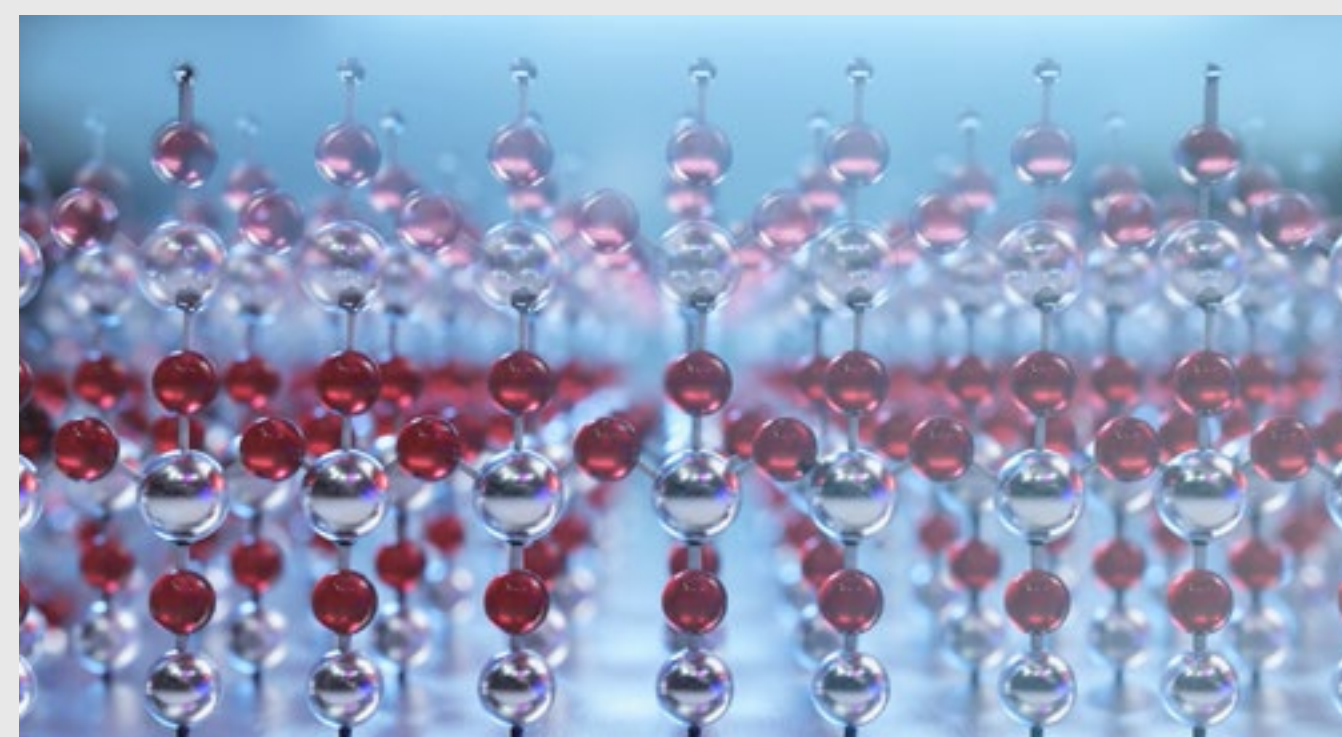
First precursor pulse comes in



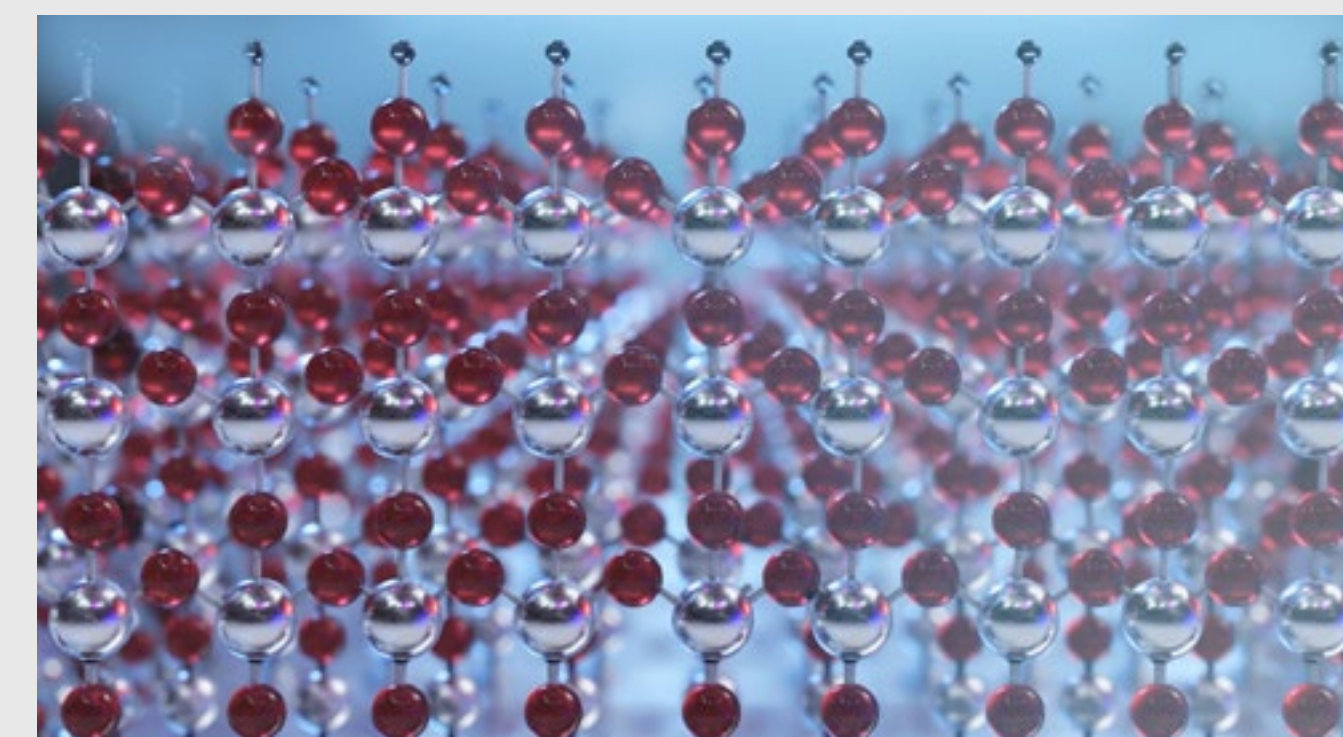
Precursor reacts with, and attaches to surface



A first ALD layer is completed



A second ALD layer is completed



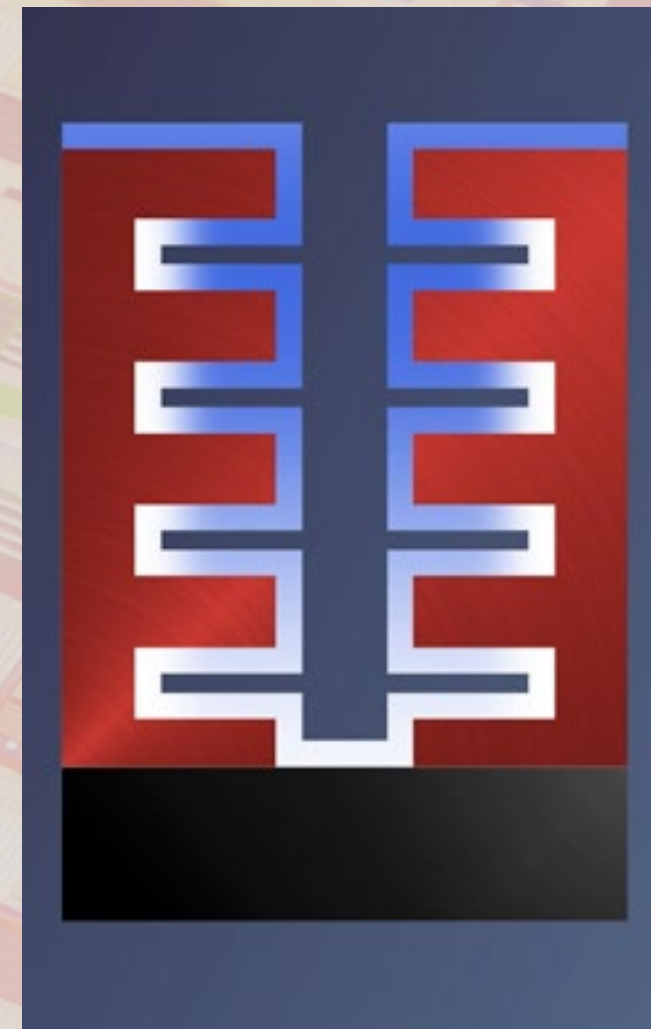
Many ALD layers form a high quality thin film material

**Unmatched capability to conformally cover
3D structures with complex materials,
with near perfect composition and electrical properties control**



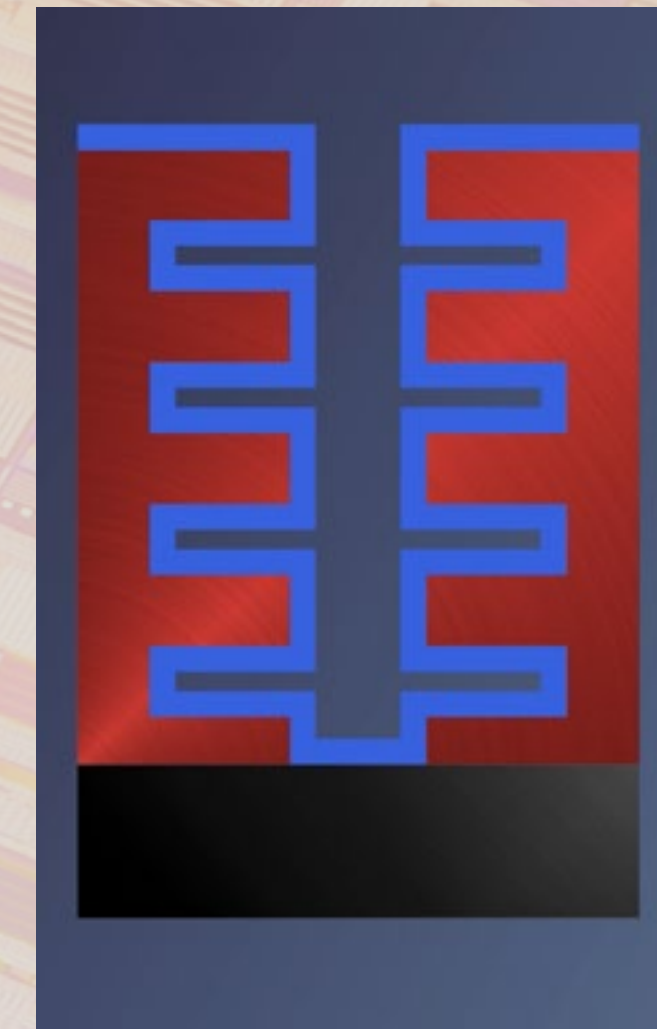
CVD

Step coverage not OK



CVD

Step coverage OK,
but properties not OK



ALD

Step coverage, composition
and properties all OK

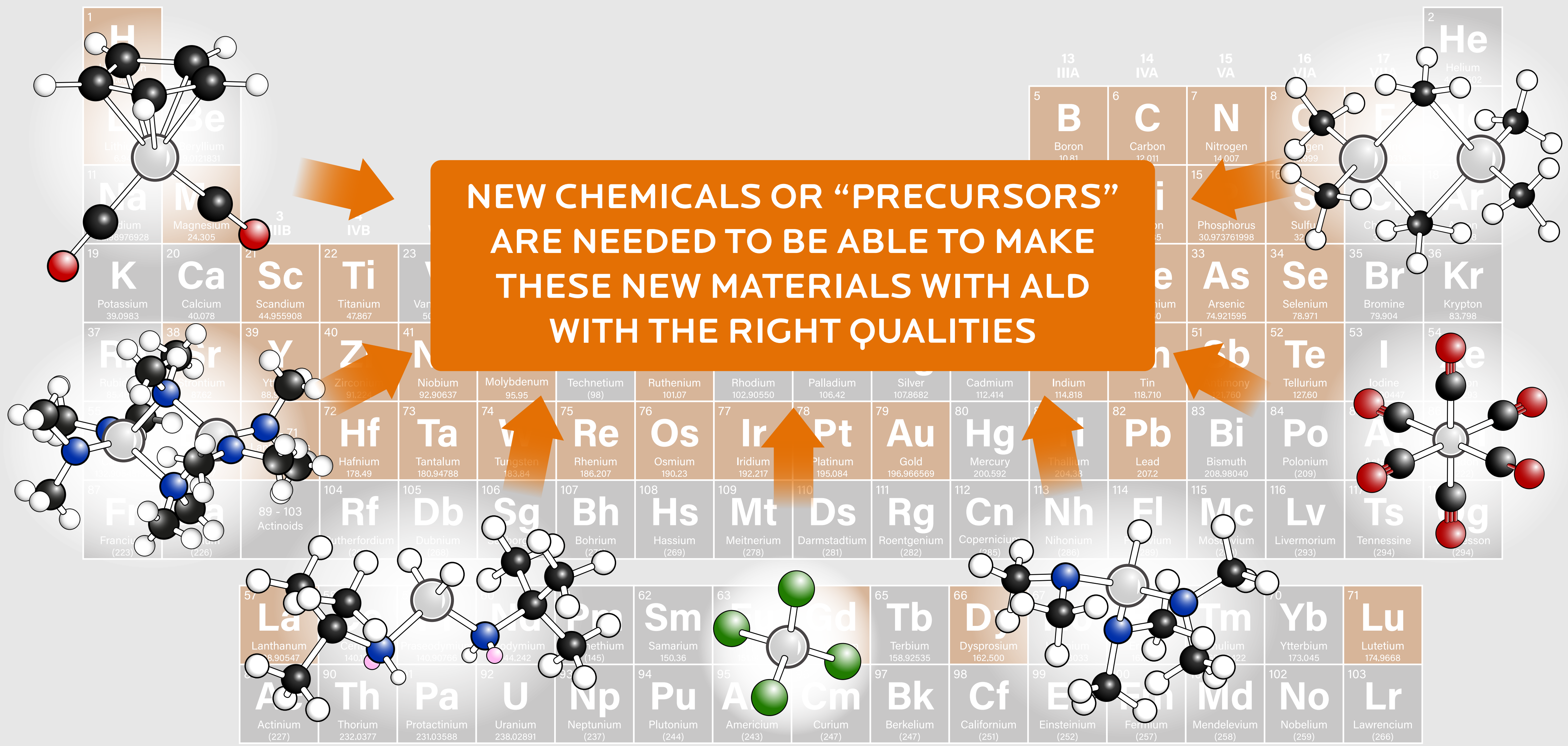
CORE STRENGTH: MATERIALS AND PRECURSOR CHEMISTRY



1 H Hydrogen 1.008	2 IIA																2 He Helium 4.002602
3 Li Lithium 6.94	4 Be Beryllium 9.0121831											5 B Boron 10.81	6 C Carbon 12.011	7 N Nitrogen 14.007	8 O Oxygen 15.999	9 F Fluorine 18.998403163	10 Ne Neon 20.1797
11 Na Sodium 22.98976928	12 Mg Magnesium 24.305	3 IIIB	4 IVB	5 VB	6 VIB	7 VIIB	8 VIIIB	9 VIIIB	10 VIIIB	11 IB	12 IIB	13 Al Aluminium 26.9815385	14 Si Silicon 28.085	15 P Phosphorus 30.973761998	16 S Sulfur 32.06	17 Cl Chlorine 35.45	18 Ar Argon 39.948
19 K Potassium 39.0983	20 Ca Calcium 40.078	21 Sc Scandium 44.955908	22 Ti Titanium 47.867	23 V Vanadium 50.9415	24 Cr Chromium 51.9961	25 Mn Manganese 54.938044	26 Fe Iron 55.845	27 Co Cobalt 58.933194	28 Ni Nickel 58.6934	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.630	33 As Arsenic 74.921595	34 Se Selenium 78.971	35 Br Bromine 79.904	36 Kr Krypton 83.798
37 Rb Rubidium 85.4678	38 Sr Strontium 87.62	39 Y Yttrium 88.90584	40 Zr Zirconium 91.224	41 Nb Niobium 92.90637	42 Mo Molybdenum 95.95	43 Tc Technetium (98)	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.90550	46 Pd Palladium 106.42	47 Ag Silver 107.8682	48 Cd Cadmium 112.414	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.760	52 Te Tellurium 127.60	53 I Iodine 126.90447	54 Xe Xenon 131.293
55 Cs Caesium 132.90545196	56 Ba Barium 137.327	57 - 71 Lanthanoids	72 Hf Hafnium 178.49	73 Ta Tantalum 180.94788	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.217	78 Pt Platinum 195.084	79 Au Gold 196.966569	80 Hg Mercury 200.592	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98040	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)
87 Fr Francium (223)	88 Ra Radium (226)	89 - 103 Actinoids	104 Rf Rutherfordium (267)	105 Db Dubnium (268)	106 Sg Seaborgium (269)	107 Bh Bohrium (270)	108 Hs Hassium (269)	109 Mt Meitnerium (278)	110 Ds Darmstadtium (281)	111 Rg Roentgenium (282)	112 Cn Copernicium (285)	113 Nh Nihonium (286)	114 Fl Flerovium (289)	115 Mc Moscovium (289)	116 Lv Livermorium (293)	117 Ts Tennessine (294)	118 Og Oganesson (294)

57 La Lanthanum 138.90547	58 Ce Cerium 140.116	59 Pr Praseodymium 140.90766	60 Nd Neodymium 144.242	61 Pm Promethium (145)	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.92535	66 Dy Dysprosium 162.500	67 Ho Holmium 164.93033	68 Er Erbium 167.259	69 Tm Thulium 168.93422	70 Yb Ytterbium 173.045	71 Lu Lutetium 174.9668
89 Ac Actinium (227)	90 Th Thorium 232.0377	91 Pa Protactinium 231.03588	92 U Uranium 238.02891	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (266)

CORE STRENGTH: MATERIALS AND PRECURSOR CHEMISTRY



NEW CHEMICALS OR "PRECURSORS" ARE NEEDED TO BE ABLE TO MAKE THESE NEW MATERIALS WITH ALD WITH THE RIGHT QUALITIES

The image features a periodic table of elements with several molecular models overlaid. Orange arrows point from these models towards a central orange text box. The models include: a complex cluster of black and white spheres (top left); a linear chain of black and white spheres (top right); a complex cluster of black, white, and blue spheres (middle left); a linear chain of black, white, and blue spheres (middle right); a complex cluster of black, white, and blue spheres (bottom left); a linear chain of black, white, and blue spheres (bottom right); and a cluster of green and white spheres (bottom center).

INFLECTIONS CREATING DEPOSITION OPPORTUNITIES



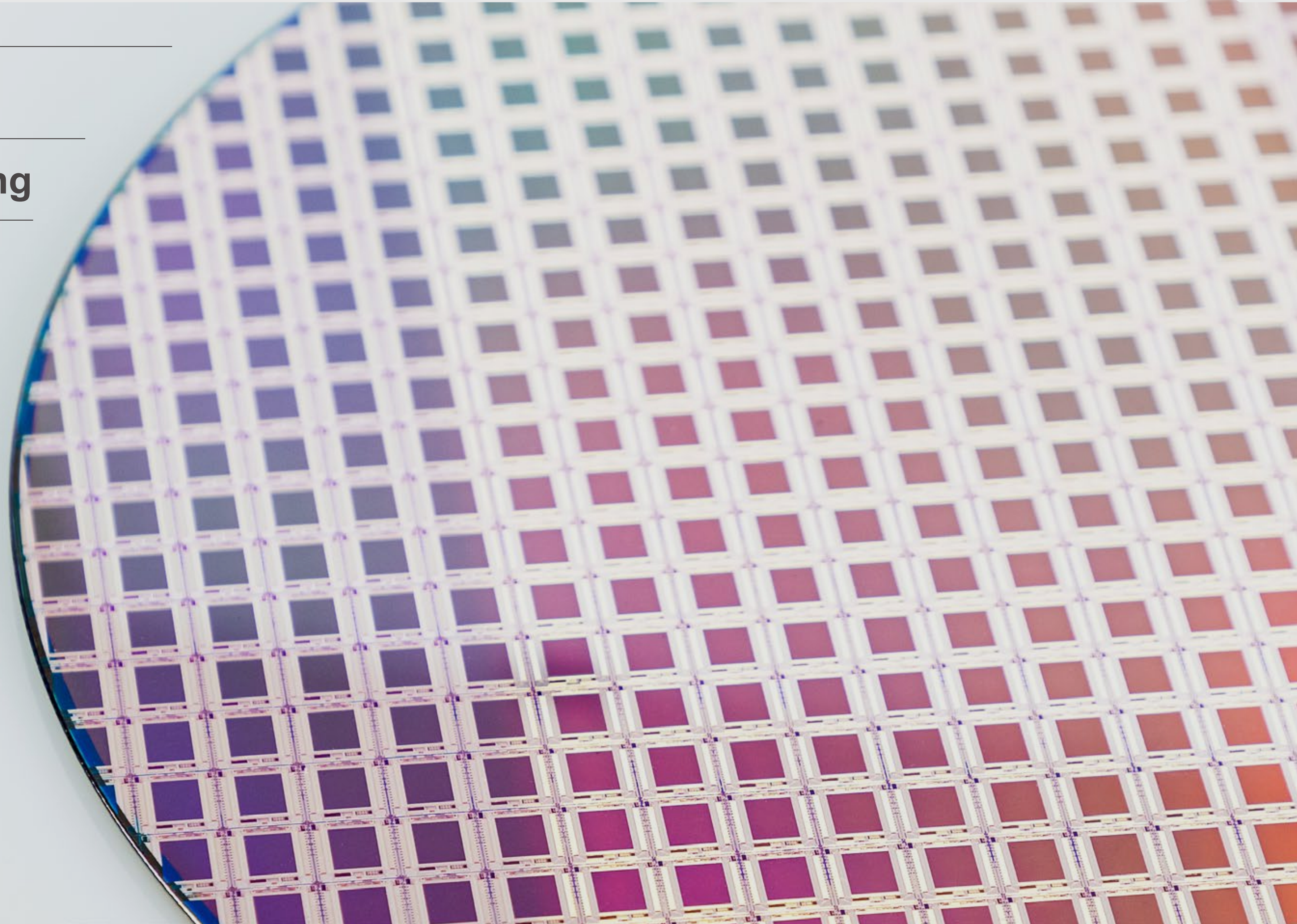
EXAMPLE INFLECTIONS IN THIS PRESENTATION

Gate-all-around

DRAM and VNAND Scaling

3D-DRAM

Selective ALD



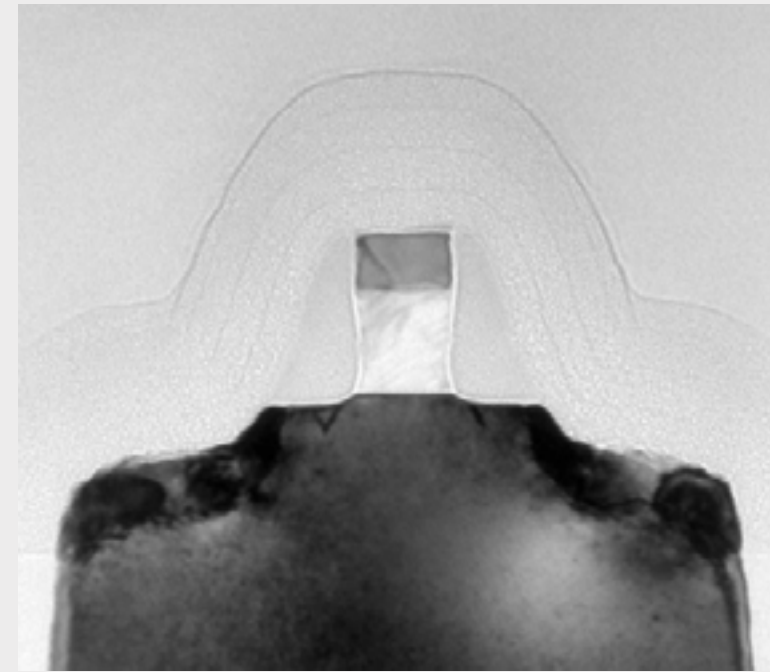
FINFET TO GATE-ALL-AROUND INFLECTION

65nm

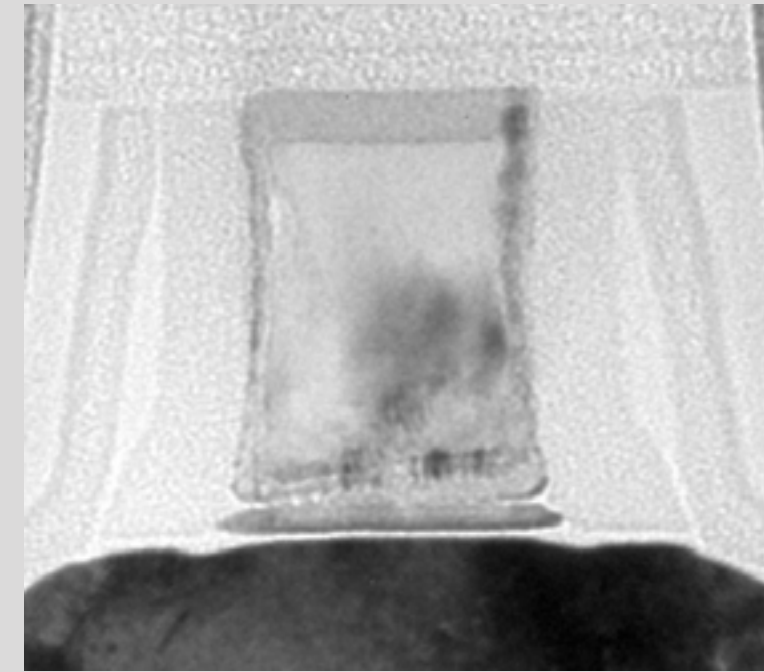
45 - 32nm

22 - 3nm

$\leq \sim 3\text{nm}$



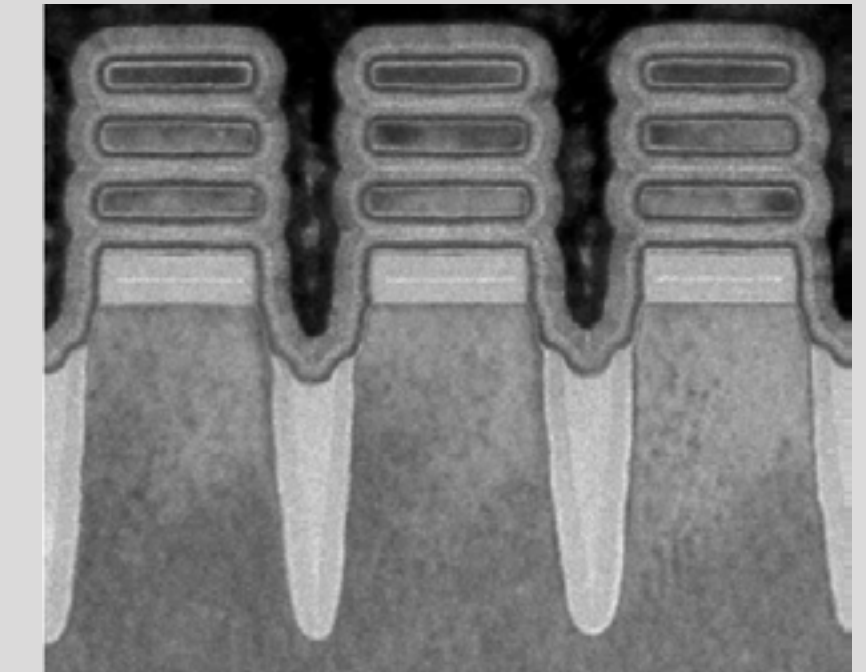
Last planar generation prior to HK/MG



First planar generation with HK/MG



Upto 6 generations of FinFET



First generation GAA

Thermal / LPCVD Epi

ALD / PVD / Epi

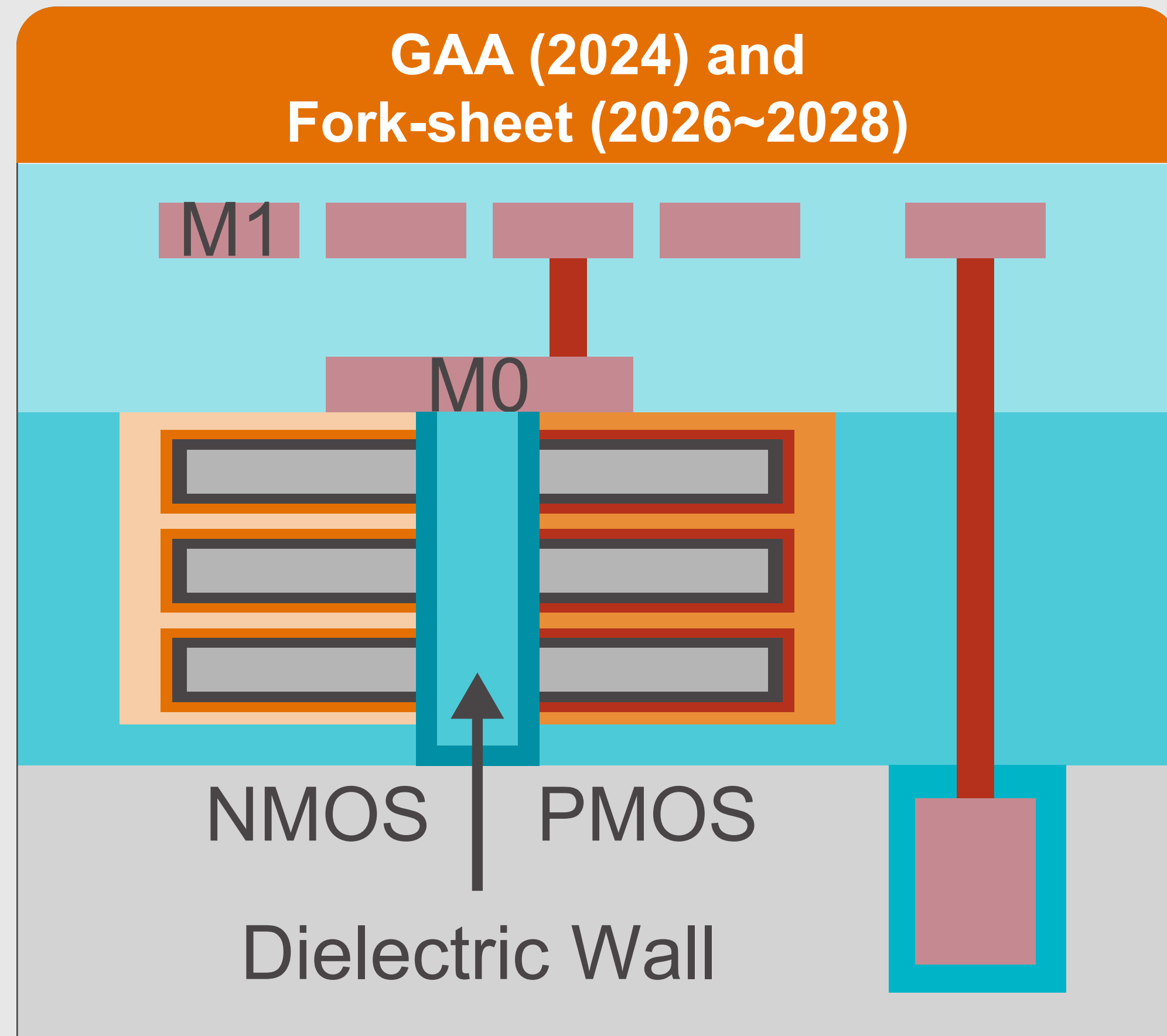
More ALD
More Epi

More ALD
More Epi

Pictures 1-3 (from left): TechInsights 2005 - 2012. Picture 4: Reprint Courtesy of IBM Corporation[®]

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GATE-ALL-AROUND CREATES ALD/EPI OPPORTUNITIES



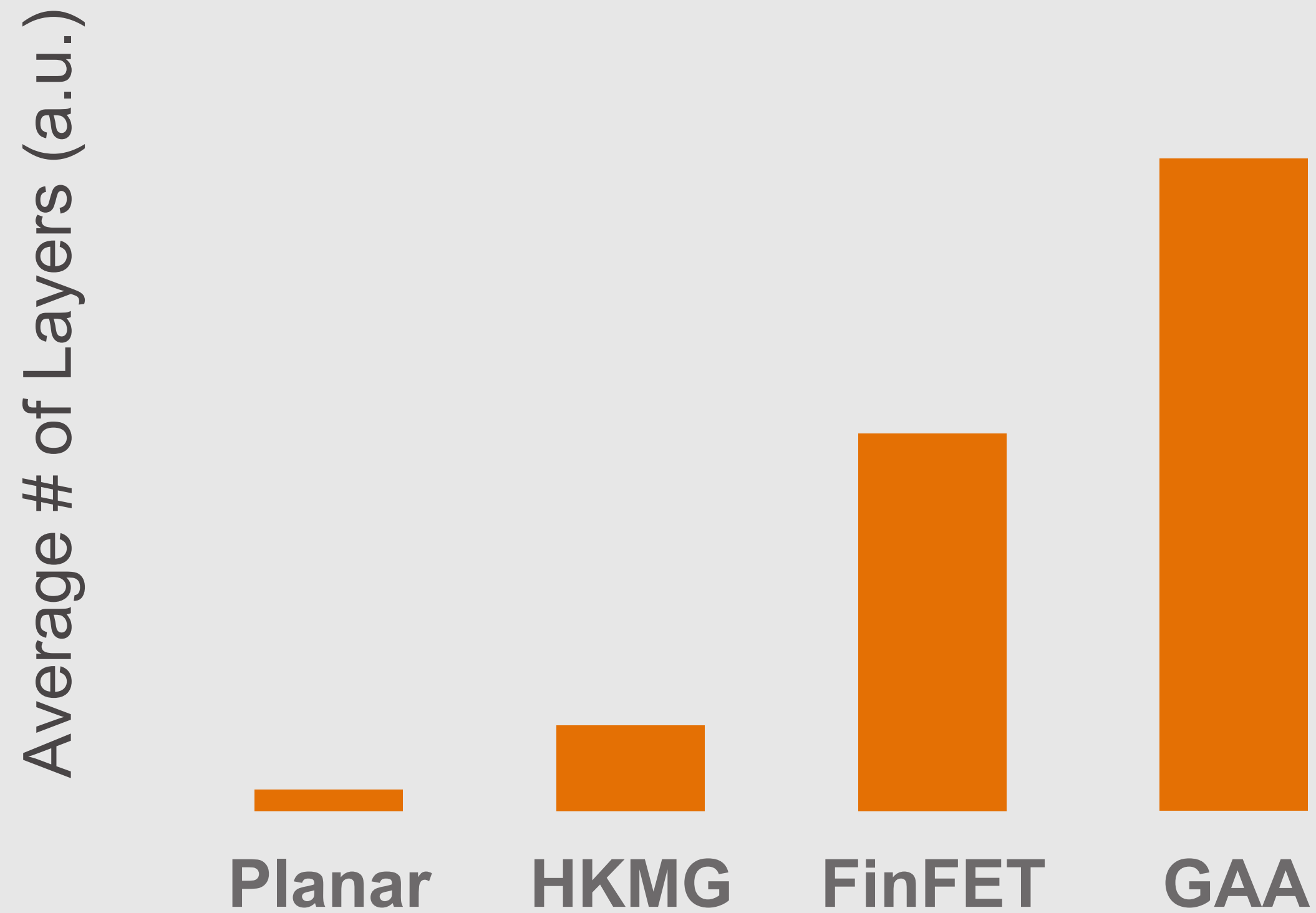
- Bulk Si Epi
- Buried Power Rail
- SiGe/Si Channel (>3x!) Epi
- Dielectric Liner and Wall
- Spacer Main and Inner
- STI Fill - Bottom Isolation
- Source/Drain Epi (slower!)
- SAC Spacer / Dielectric Fill
- High-k, Dipole Layers
- Metal Gates N/P, Multi Vt
- Metal Gate Fill
- Dielectric Gate Cap
- Metal 0
- Deep Contact

● Epi/ALD in current FinFET

● Additional passes for GAA → New SAM

Note: for simplicity, not all individual layers are shown or listed. Each layer may consist of a few individual ones.

Logic/foundry ALD and Epi



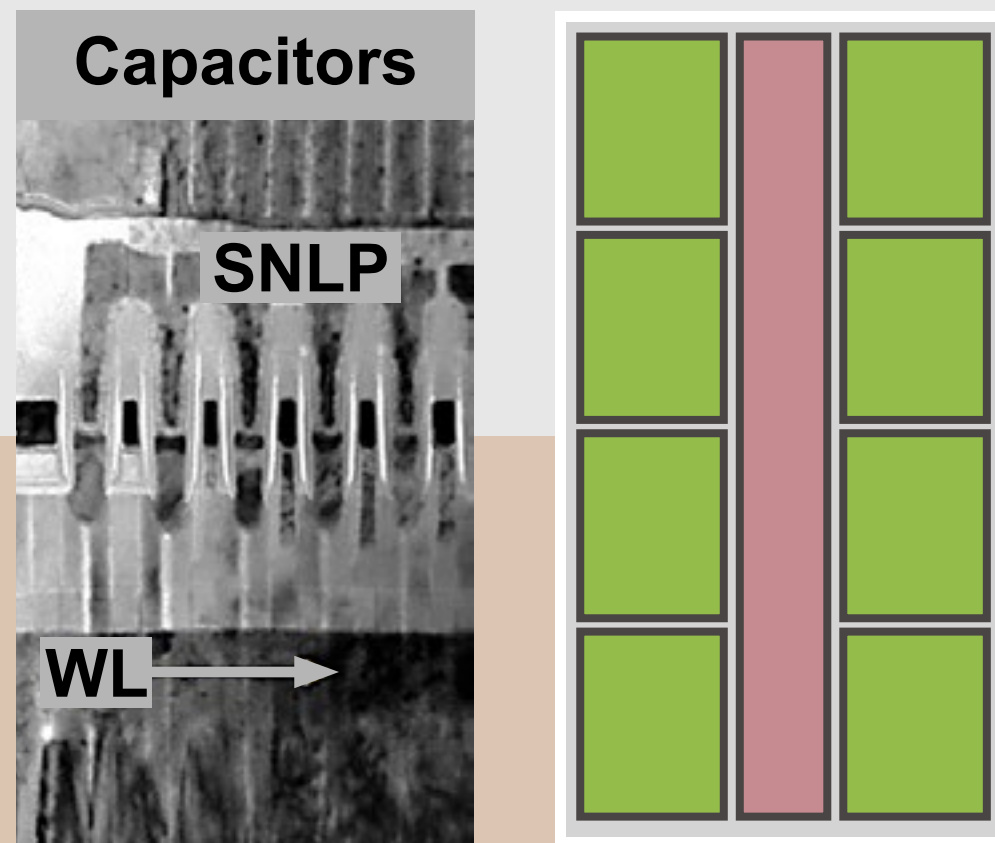
Advanced **Epi and ALD** technologies enable gate-all-around architecture inflections

Epi from one single channel to three or more channels

New materials needed to maintain electrical performance: many multi-VT metals and dipole layers, better conductors, low-k spacers and gap-fills

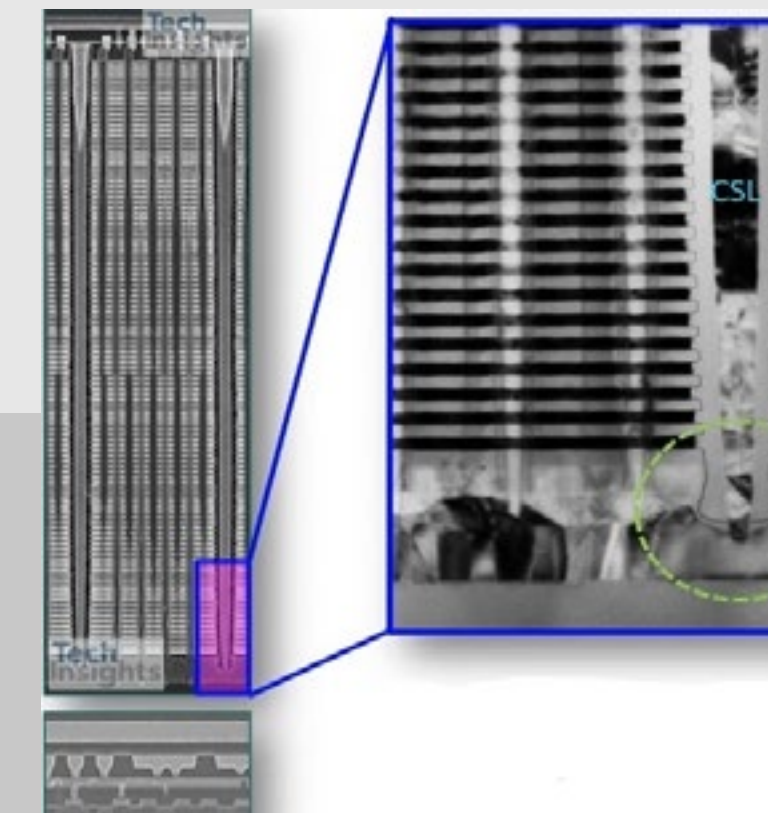
Transition to gate-all-around will drive significant SAM expansion in Epi and ALD

DRAM



Capacitor does not scale anymore

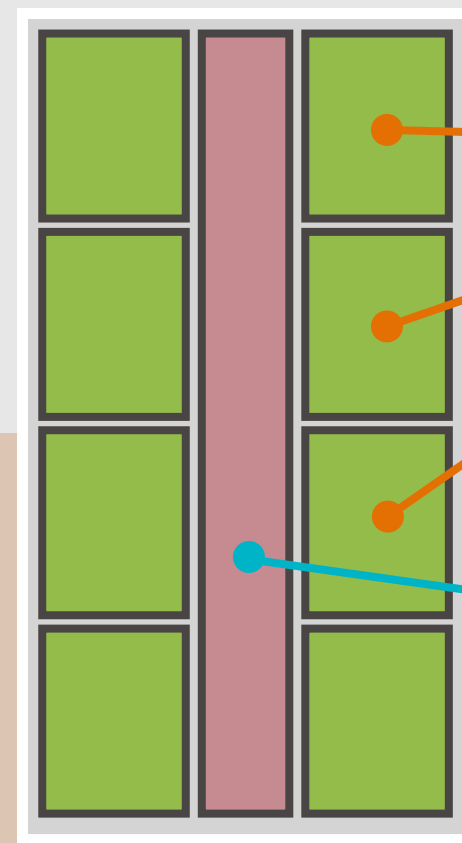
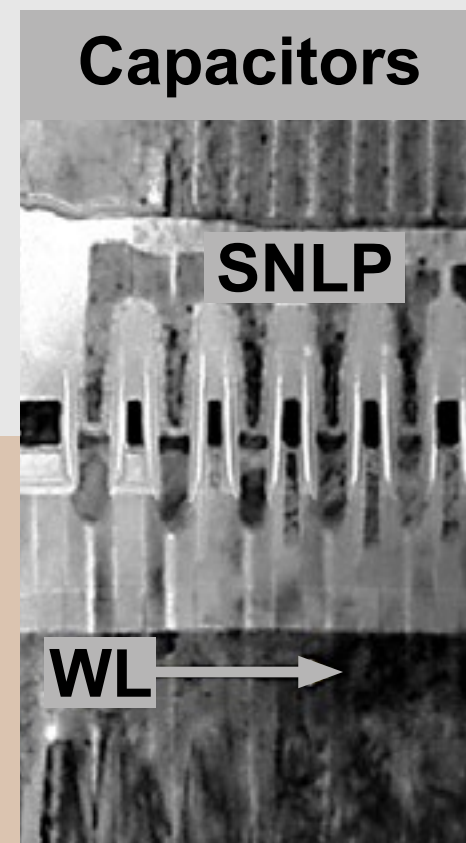
3D-NAND



Most effective way to scale is up

Common:
Higher aspect ratios
Increased parasitics

DRAM



Cells

Periphery

Common:
Higher aspect ratios
Increased parasitics

Capacitor does not scale anymore

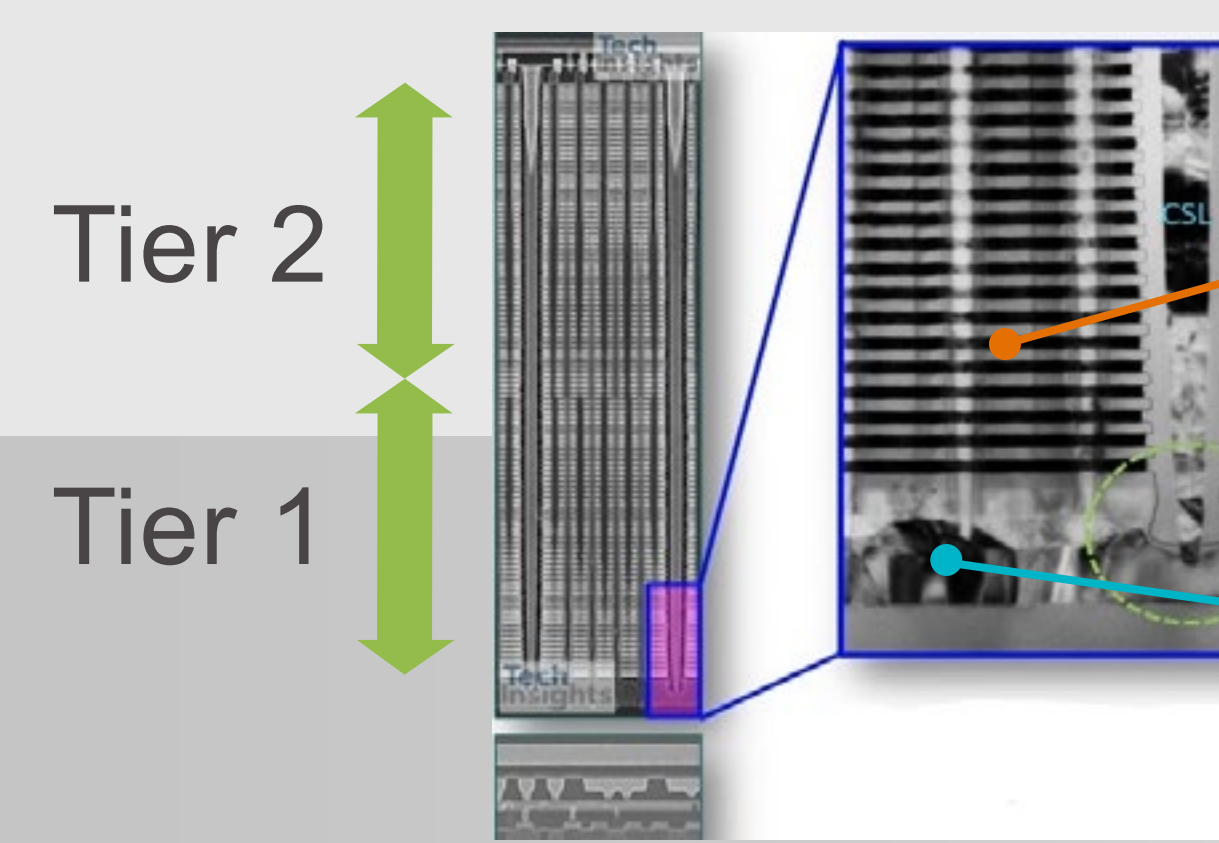
Large area consumed by **Periphery**

- High-k / Metal Gate, Epi channel to scale Periphery

New ALD materials improve electrical performance

- Better conductors for word and bit line
- Better insulators, airgaps and low-k

3D-NAND



Cells

Periphery

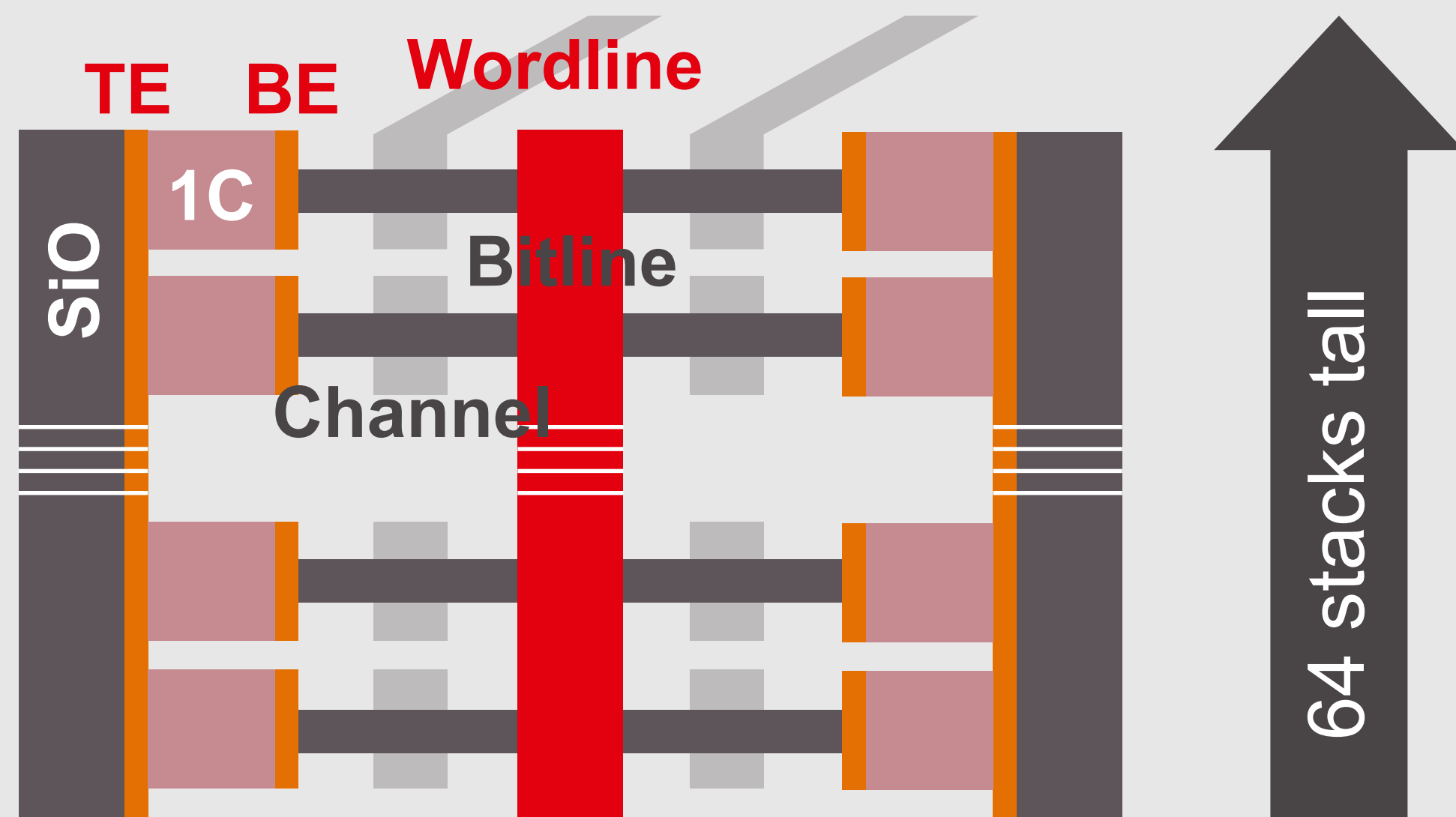
Most effective way to scale is up

- **Multi-tiers** beyond 128 stacks
- **Periphery** under cell

New ALD materials improve electrical performance

- Better vertical channel material
- Better conductors for word line
- Better gap-fills

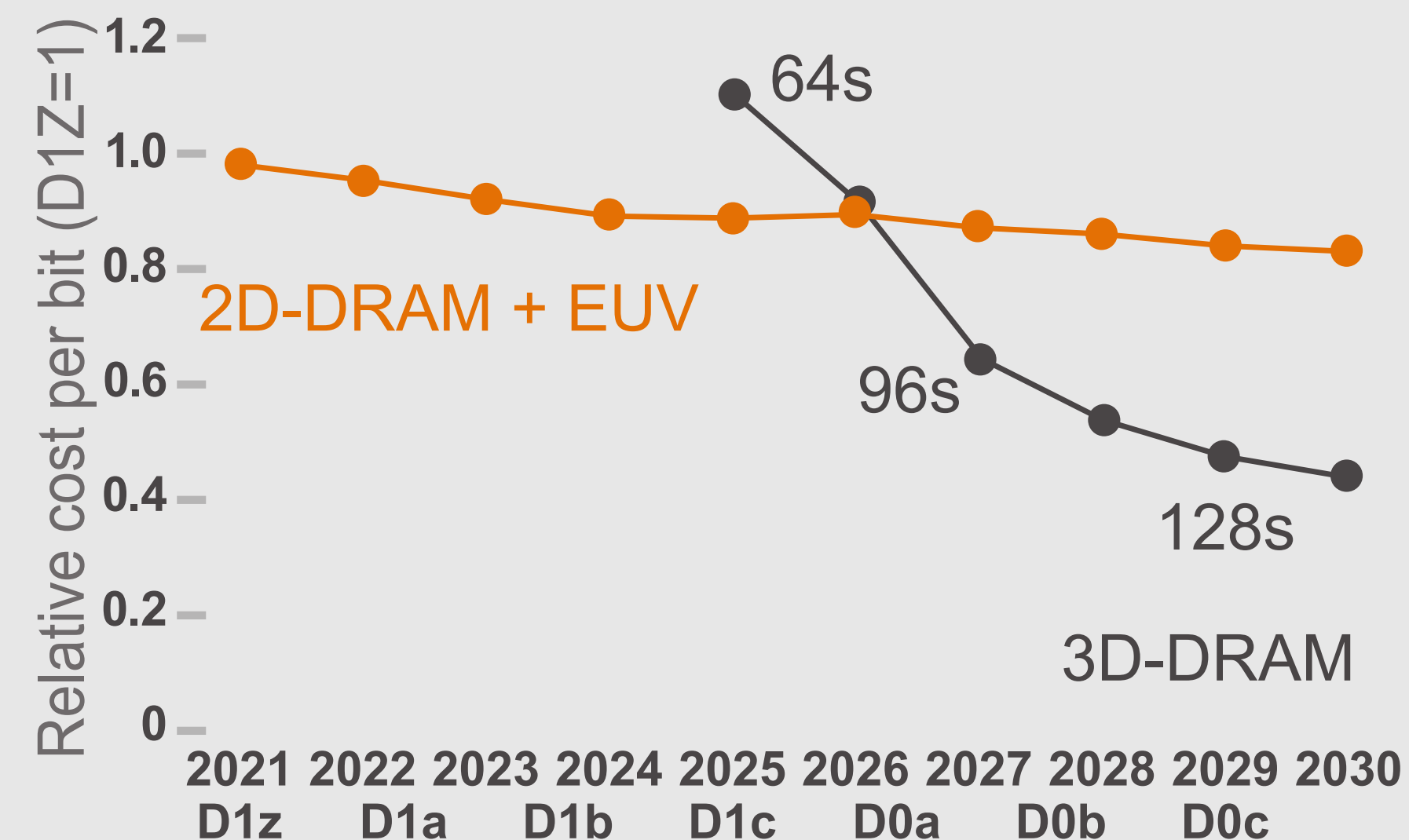
3D-DRAM



Monolithic 3D-DRAM is likely to happen around 2026

- Scale beyond 64Gb/chip limit for DIMM package
- Eliminate expensive EUV steps

Cost per bit scaling

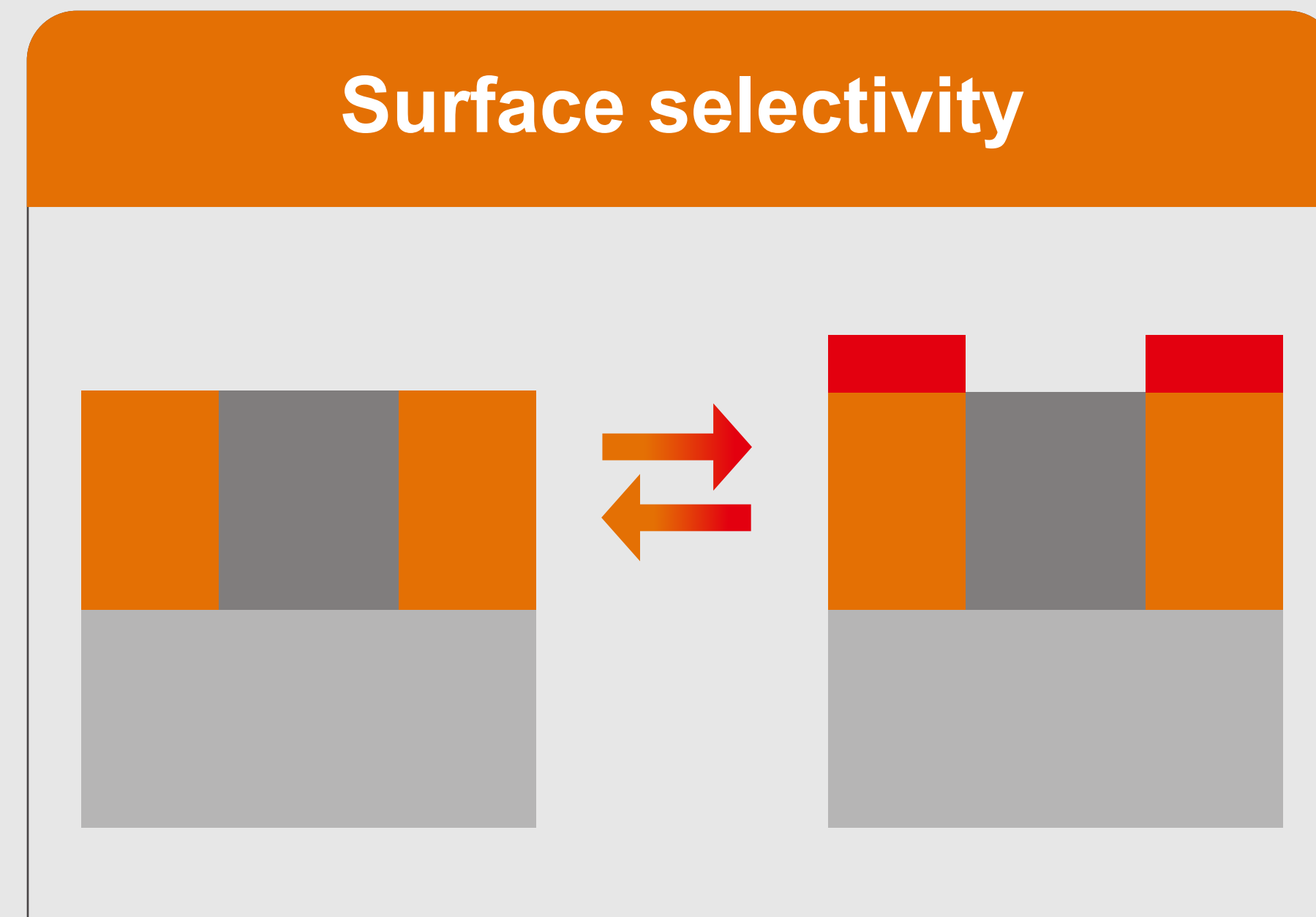
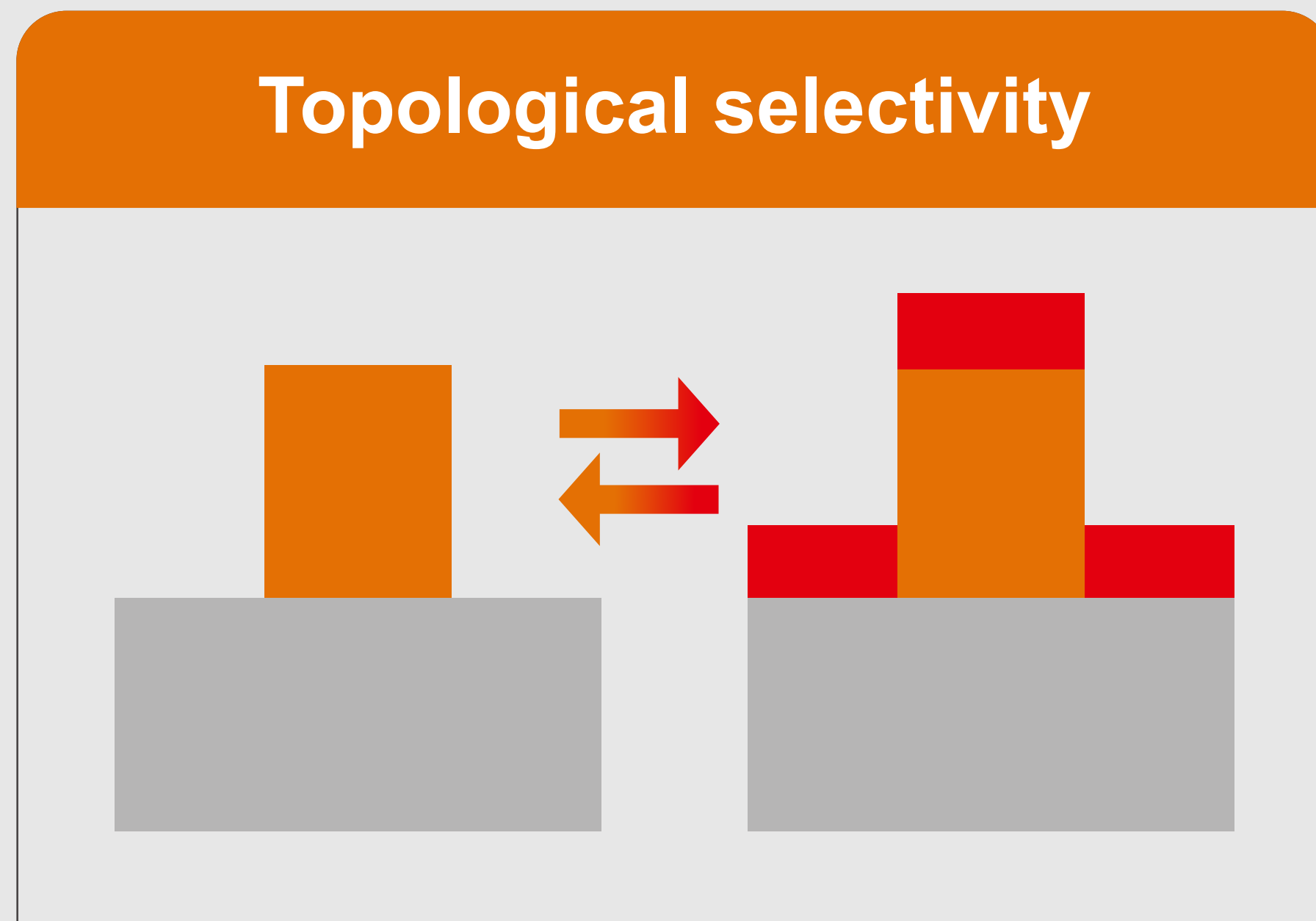


Key opportunities

- Channel: Si from Si/SiGe 64 (initially) Epi multi-layer stack
- Second generation 3D-DRAM: capacitor scaling with ALD Ultra High-k MIM cap

SELECTIVE ALD ENABLES ADVANCED TECHNOLOGIES

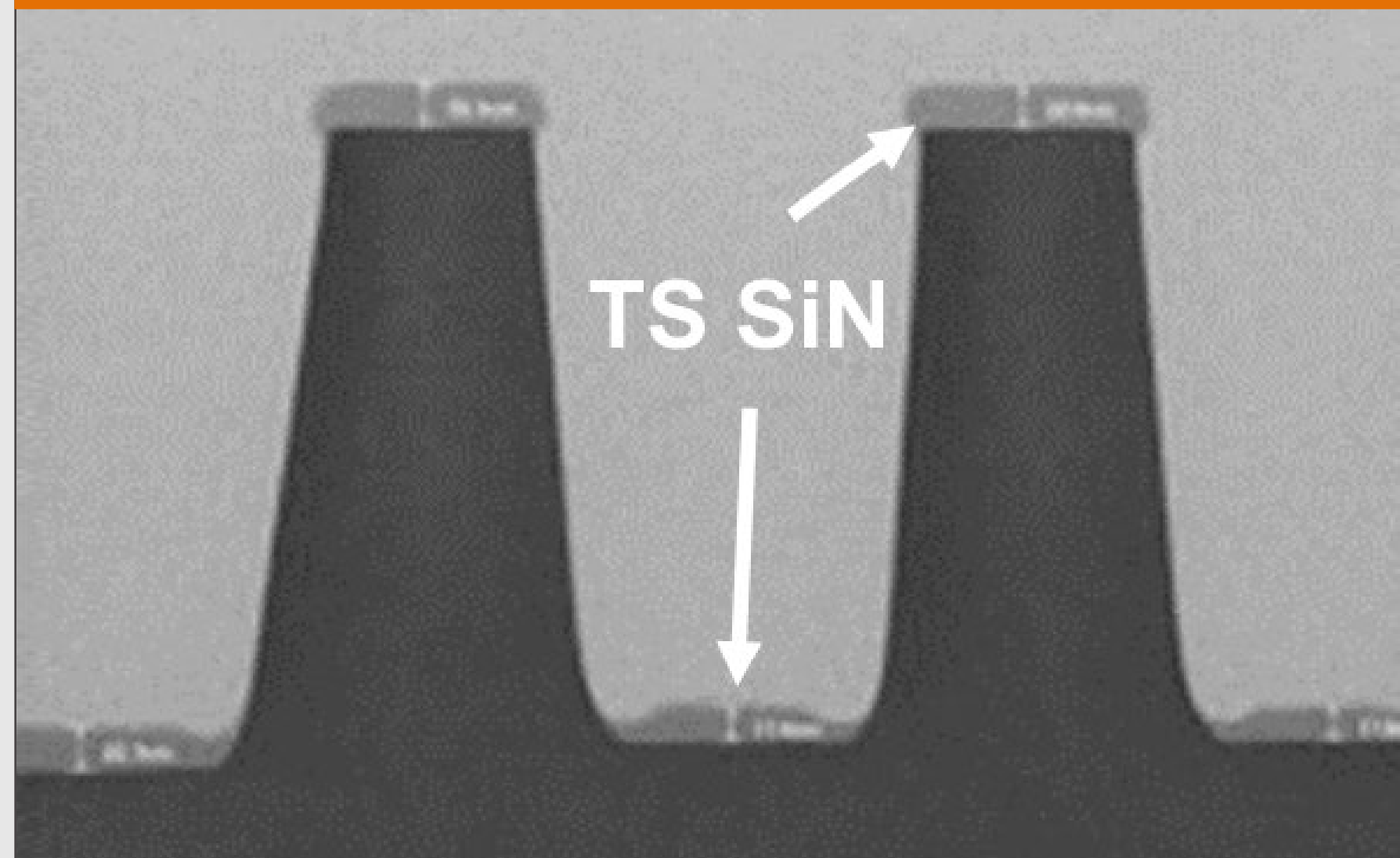
- Top-Down (litho-etch) supplemented with Bottom-Up (selective, self assembly) technologies
- Delivers expanded toolbox for smart process integration strategies
- Expected customer benefits
 - Reduced cost: potentially eliminating litho-etch steps
 - Improved die performance and yield: eliminating effects of edge placement errors



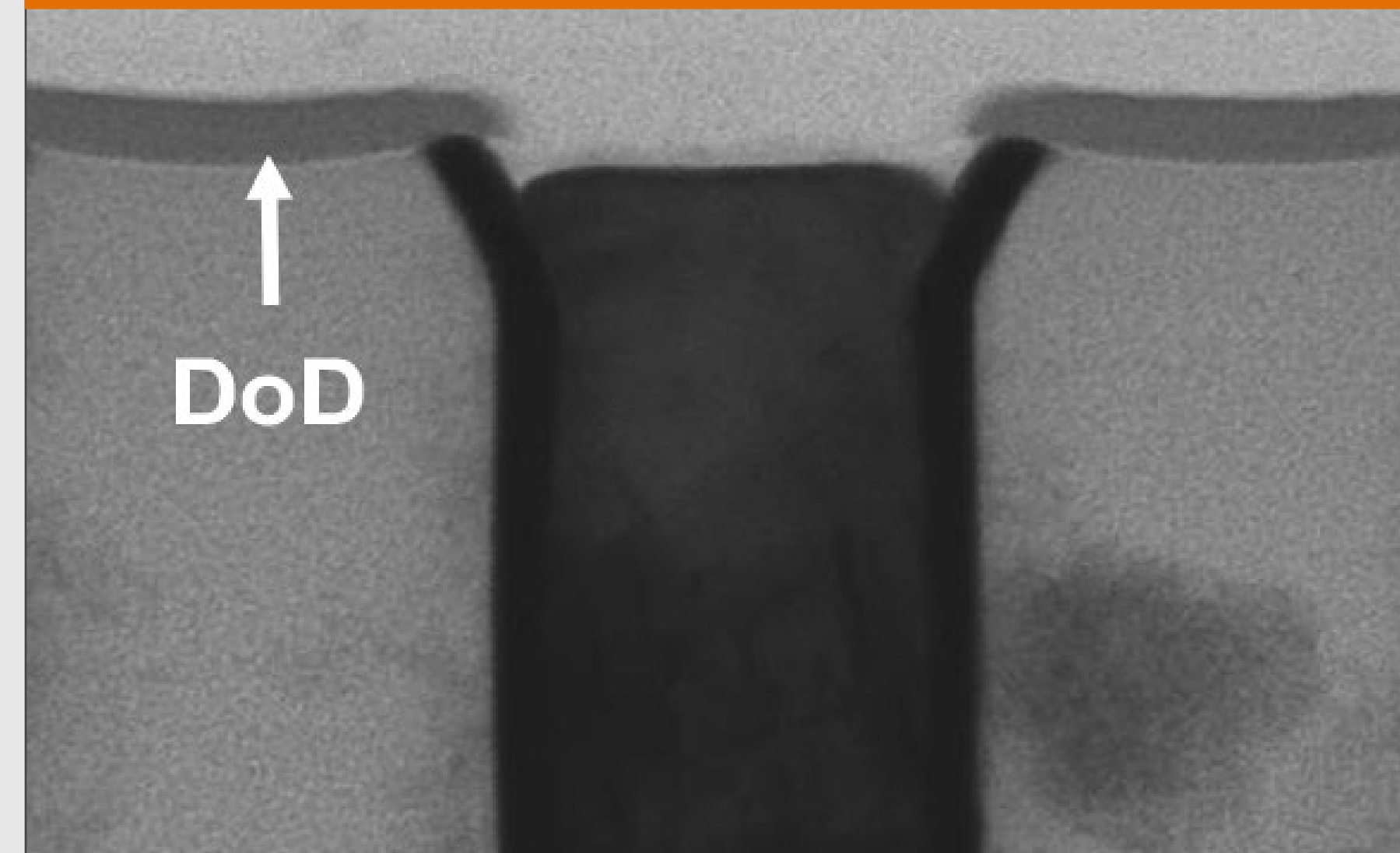
SELECTIVE ALD ENABLES ADVANCED TECHNOLOGIES

- ASMI leading in customer adoption of Selective ALD technologies
- Combinations of integrated ALD with ALE (Atomic Layer Etch) developed
- “There is plenty of room at the bottom”: Selective ALD presents a potentially large SAM expansion

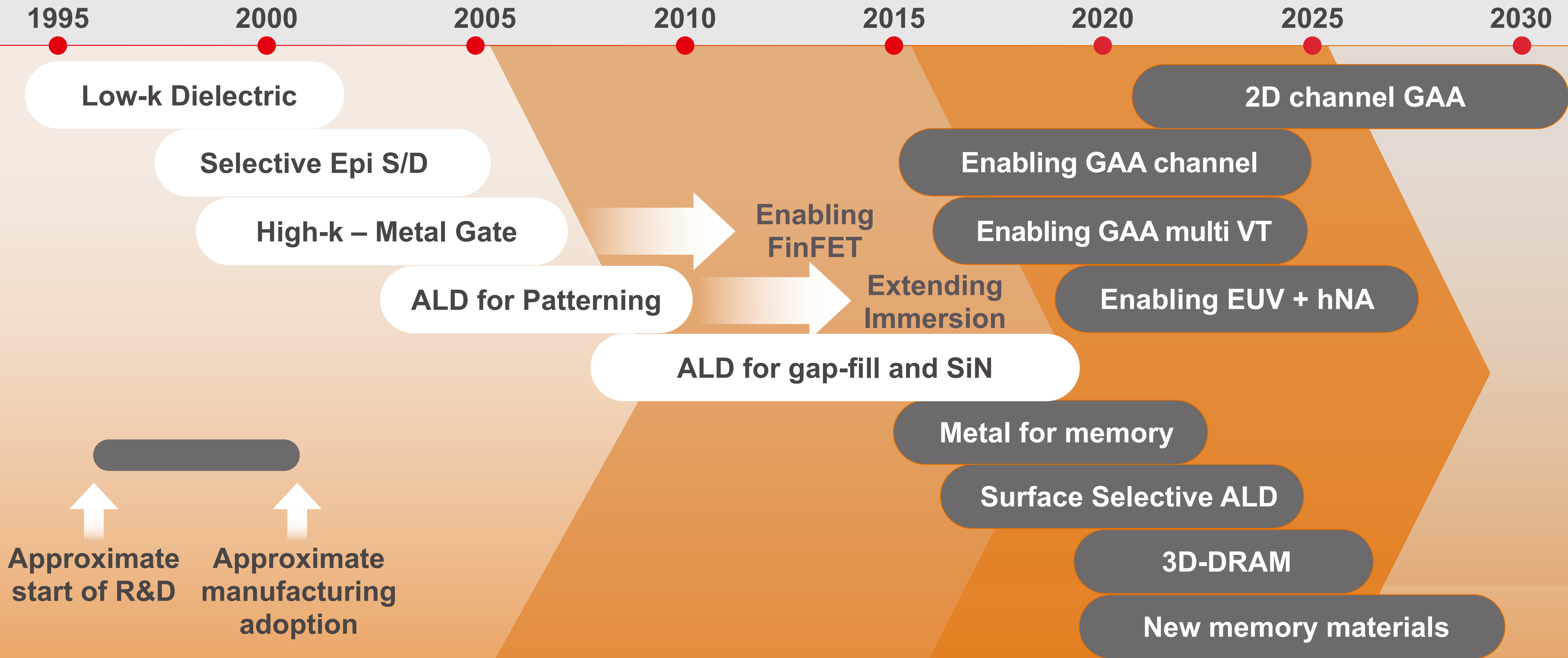
**Toposelective SiN (“TS SiN”):
in production for 3D-NAND**



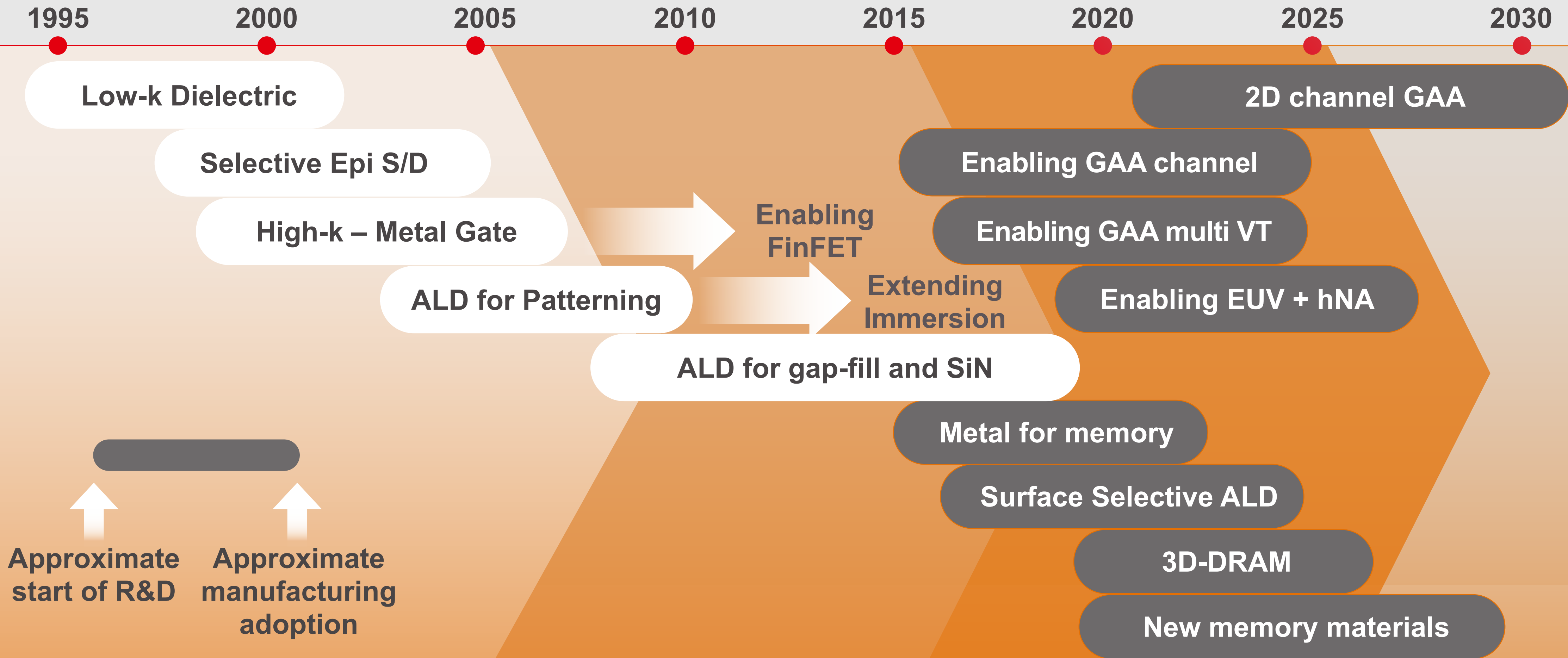
**Dielectric on Dielectric (“DoD”):
JDP for 2nm foundry/logic**



Inflections where ASMI can lead the industry



DRIVING INNOVATION FROM R&D TO MANUFACTURING



Today's R&D portfolio targeting a cumulative multi billion € ALD and Epi SAM expansion

KEY TAKEAWAYS

#1

Global R&D network enables early R&D collaboration with partners and customers globally

#2

R&D organization driving innovation, accumulating over two decades of ALD experience

#3

Current R&D portfolio is well aligned with customer roadmaps to further extend Moore's Law

#4

Inflections creating new deposition opportunities



ASMI
INVESTOR
DAY 2021

ASMI INVESTOR DAY 2021

MARKET OUTLOOK
& OPPORTUNITIES

Han Westendorp
Corporate VP Global Marketing

September 28, 2021

FORWARD-LOOKING STATEMENTS

Cautionary Note Regarding Forward-Looking Statements:

This presentation contains “forward-looking statements”. All statements in ASMI’s Investor Day 2021 presentations, other than statements of historical fact, are forward-looking statements. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. These risks and uncertainties include, but are not limited to, economic conditions and trends in the semiconductor industry generally and the timing of the industry cycles specifically, product demand and semiconductor equipment industry capacity, worldwide demand and manufacturing capacity utilization for semiconductors, currency fluctuations, corporate transactions, financing and liquidity matters, the success of restructurings, the timing of significant orders, market acceptance of new products, competitive factors, litigation involving intellectual property, shareholders or other issues, commercial and economic slowdown or disruption including due to natural disasters (including pandemics), terrorist activity, armed conflict or political instability, changes in laws including import/export regulations, changes in tax and exchange rates, epidemics and other risks indicated in the Company’s reports and financial statements. Investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this presentation. The Company assumes no obligation nor intends to update or revise any forward-looking statements to reflect future developments or circumstances. Forward-looking statements are not guarantees of future performance, and actual results, developments and business decisions may differ materially from those envisaged by forward-looking statements.

#1

Strong digitalization trends driving significant growth in the semiconductor and WFE market

#2

We grew faster than the deposition and WFE market over the 2016-2020 timeframe

#3

The single-wafer ALD market is expected to grow from ~US\$1.5 billion in 2020 to approximately US\$3.1 - US\$3.7 billion in 2025, outgrowing the WFE market

#4

The Epi market is expected to grow from ~US\$0.8 billion in 2020 to approximately ~US\$1.5 - US\$1.8 billion in 2025, outgrowing the WFE market

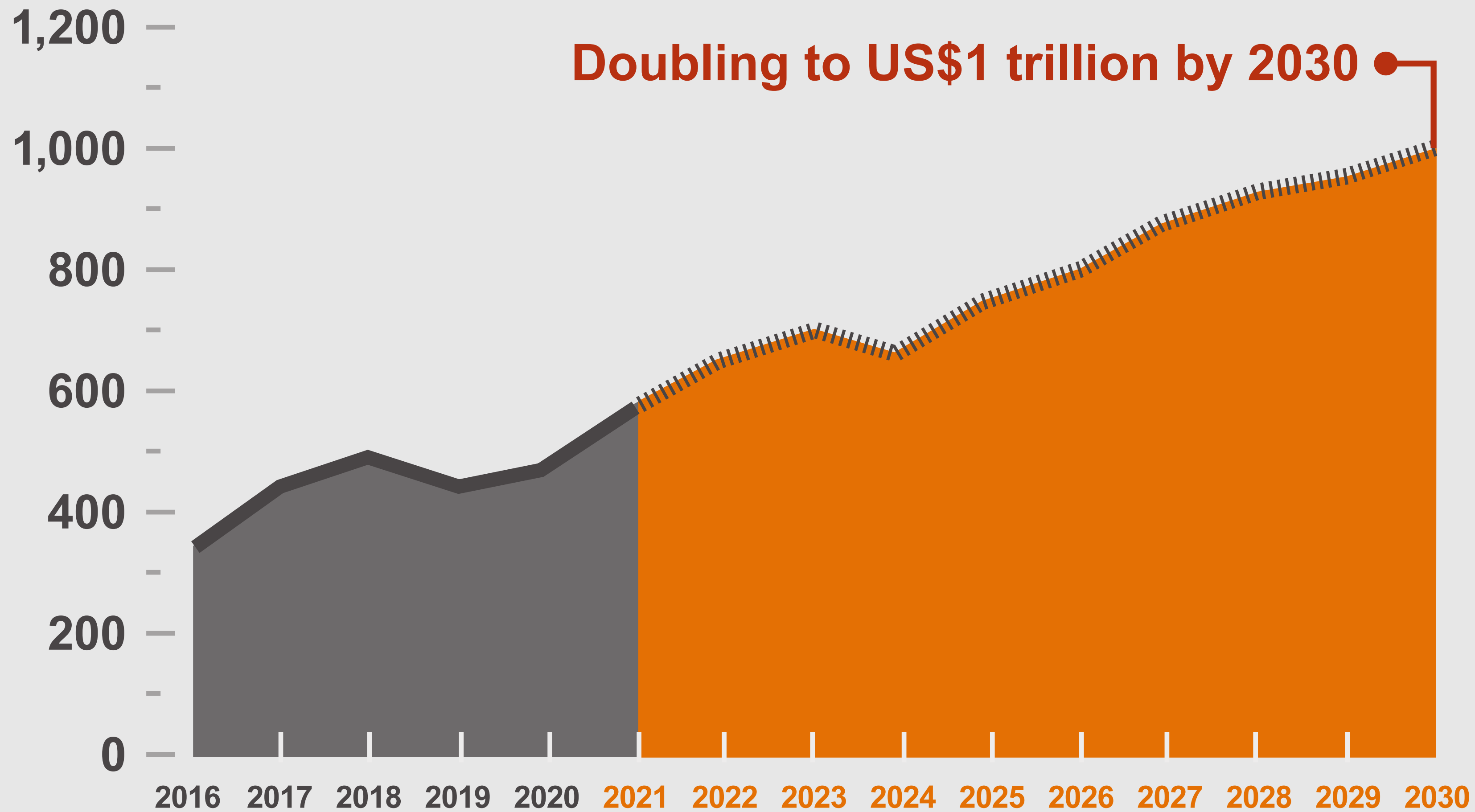
#5

The transition from FinFET to gate-all-around (GAA) is expected to represent a market growth of ~US\$1.2 billion for single-wafer ALD and Epi combined by 2025

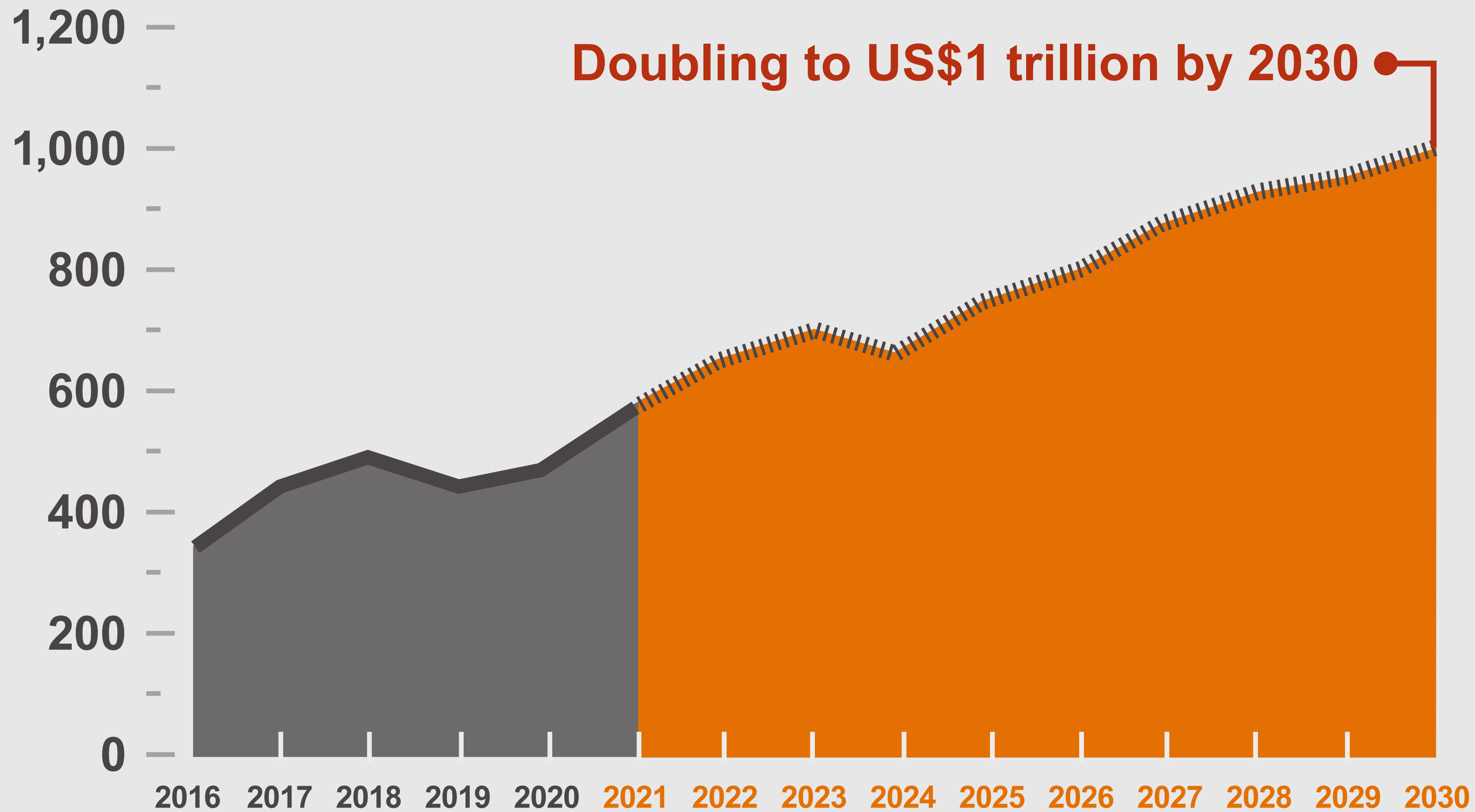
MARKET OUTLOOK



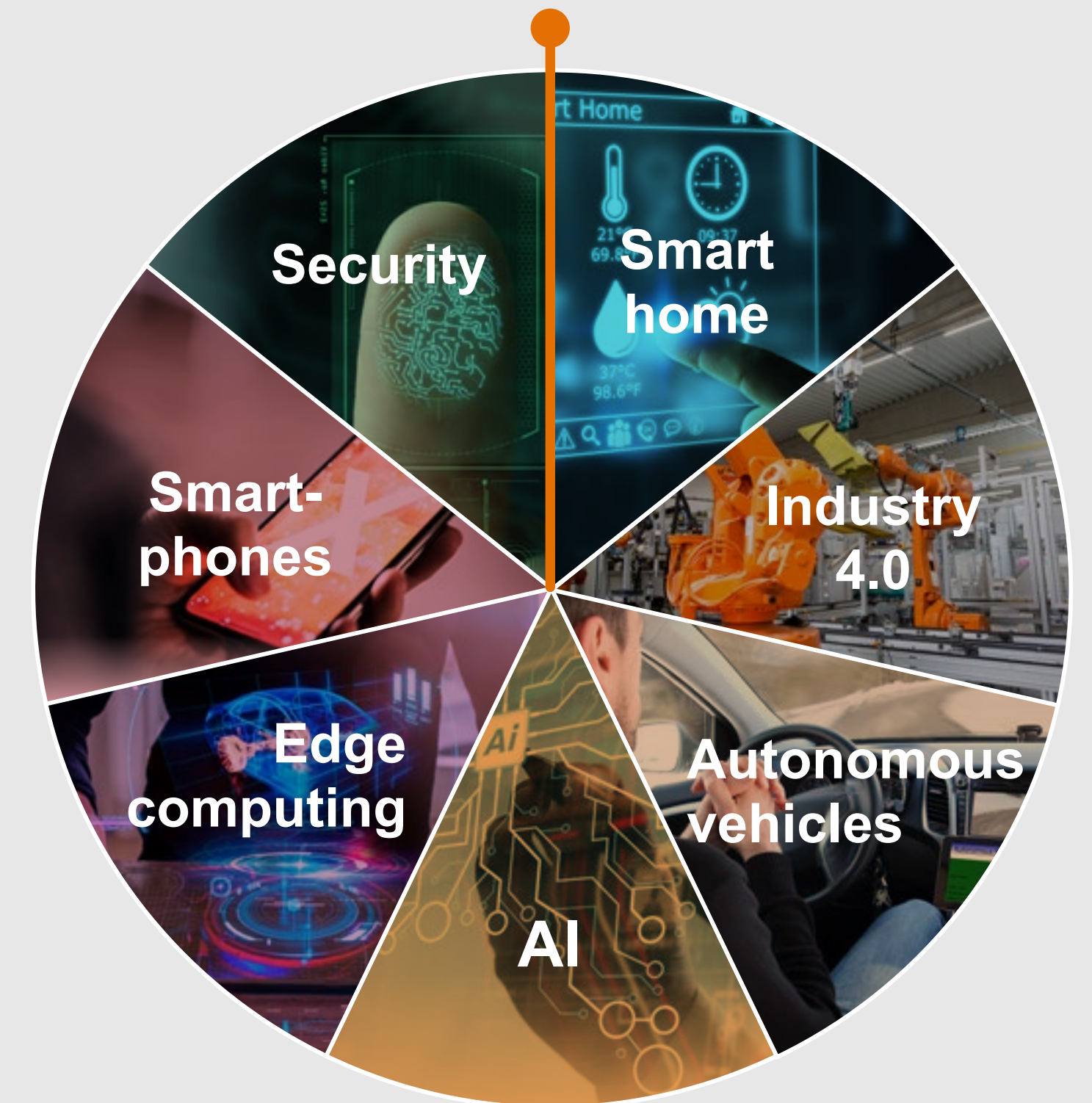
Global semiconductor revenue (US\$ billion)



Global semiconductor revenue (US\$ billion)

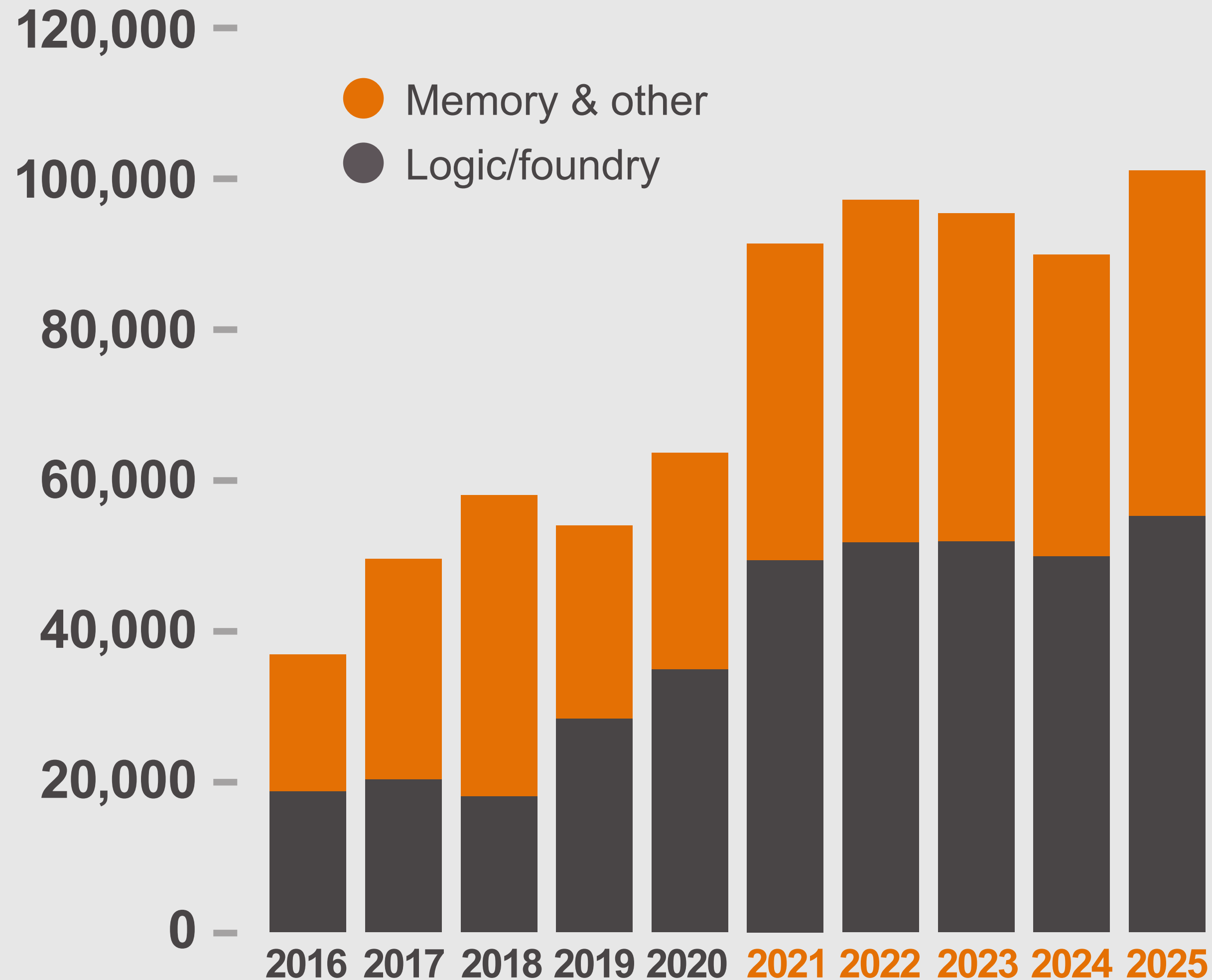


Megatrends driving the semiconductor market



WFE SPENDING EXPECTED TO INCREASE STRONGLY

WFE Market forecast (US\$ million)



WFE growth driven by secular trends of AI, 5G, EV, edge computing etc

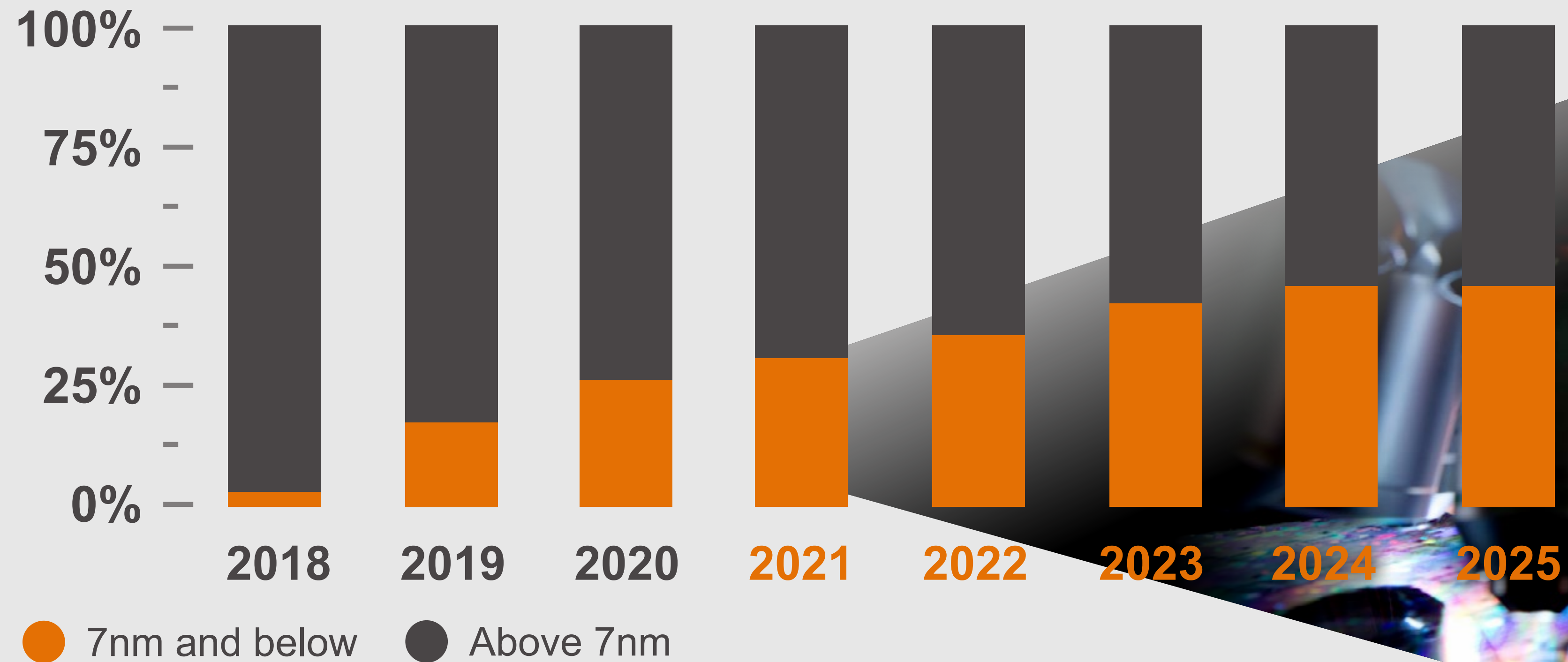
Multi-year investments announced across all market segments

Further scaling, 3D transitions and GAA driving investments in advanced CMOS

Government sovereign efforts could add further investments

WITH INCREASING MIX OF MOST ADVANCED NODES

WFE market by technology node

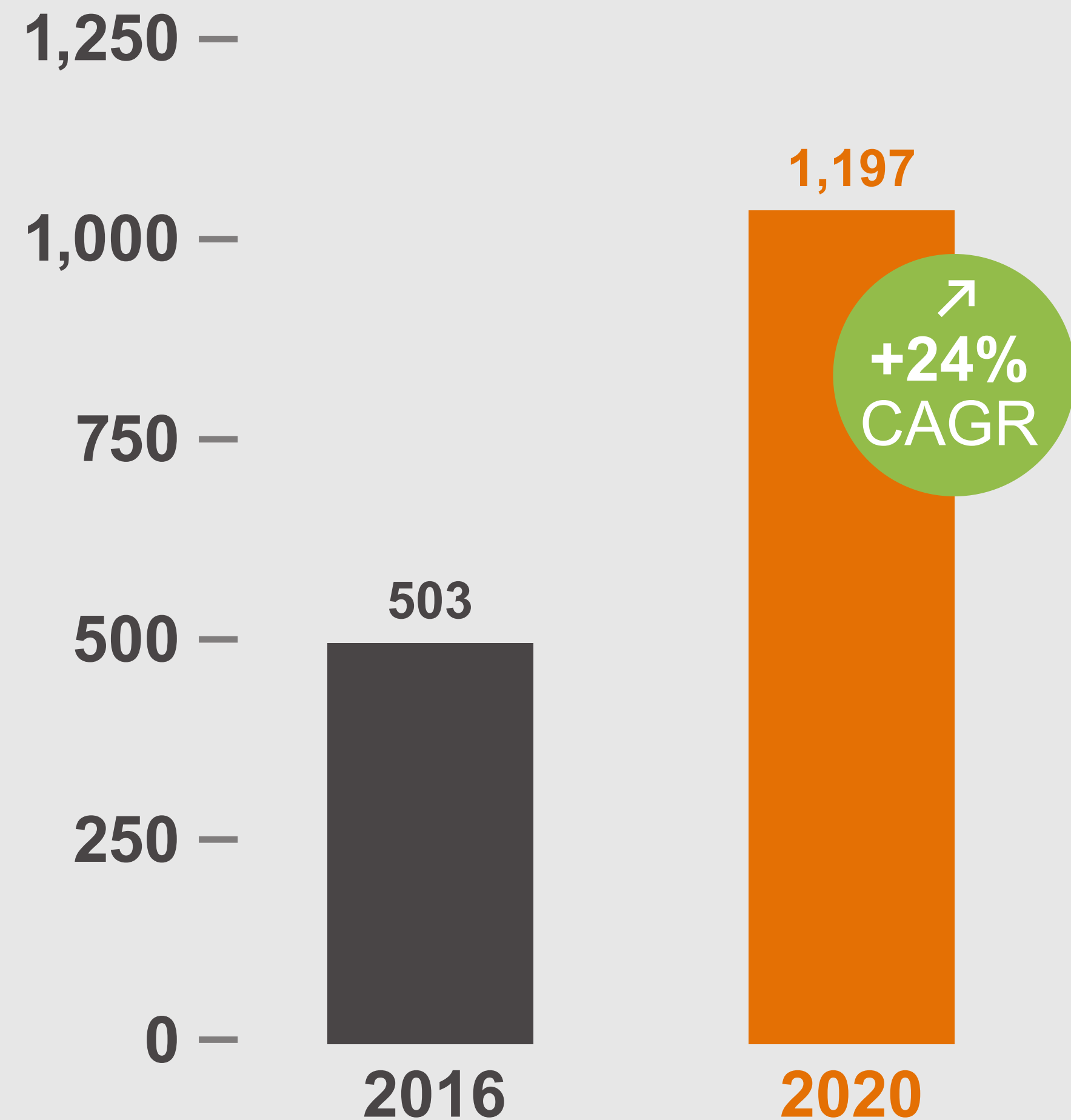


Most advanced nodes (7nm and below) are structurally the fastest growing parts of the WFE market – ASMI strength

FY 2016-2020 PERFORMANCE

WE HAVE OUTPERFORMED THE WFE MARKET

ASMI Equipment revenue (US\$ million)



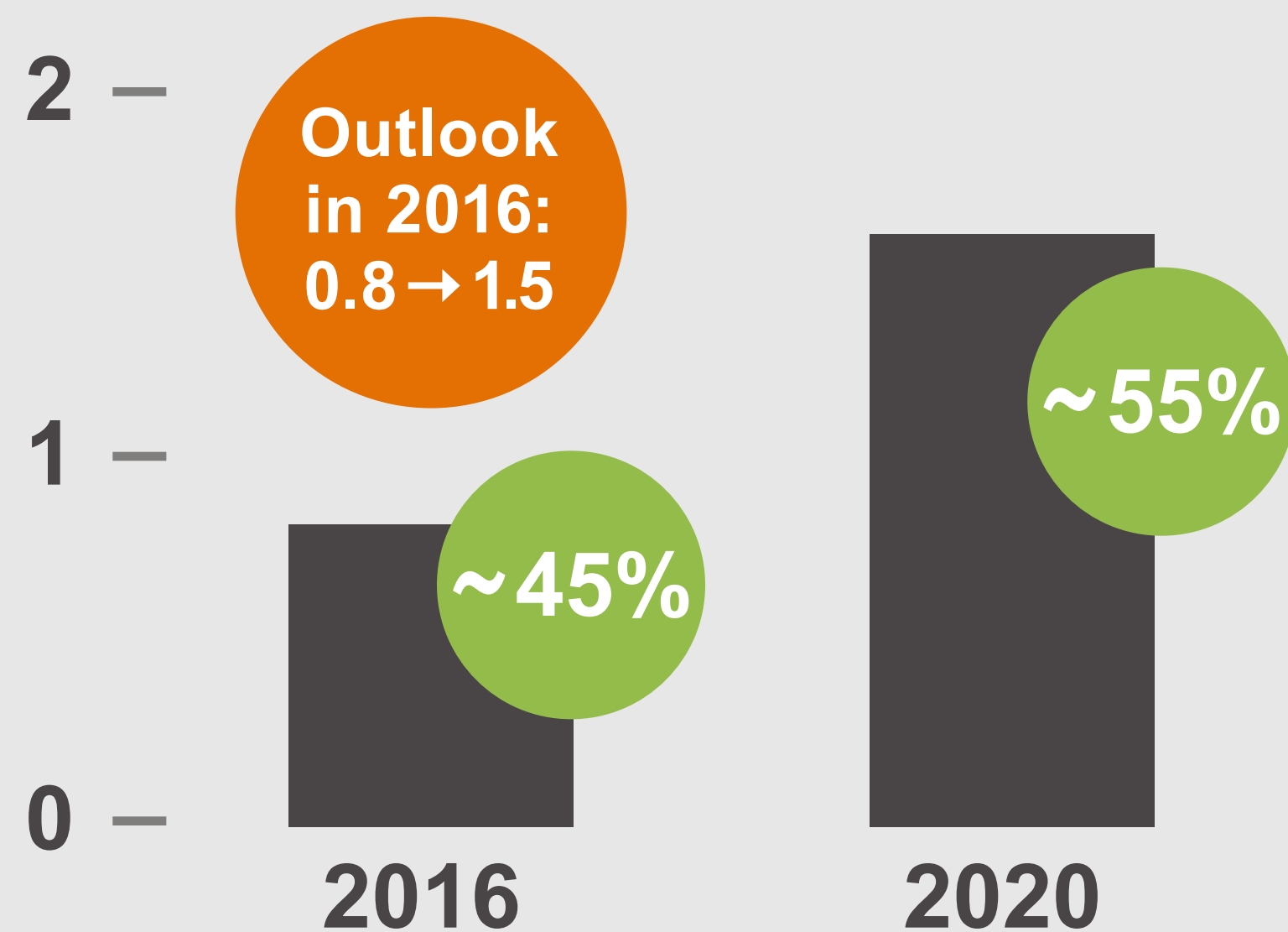
ASMI US\$ equipment revenue grew with **24% CAGR** over 2016-2020,

vs 15% CAGR for the Deposition and WFE markets

ASMI growing **1.5x faster** than the Deposition and WFE markets

WE HAVE OUTPERFORMED THE WFE MARKET

ALD single-wafer market (US\$ billion)

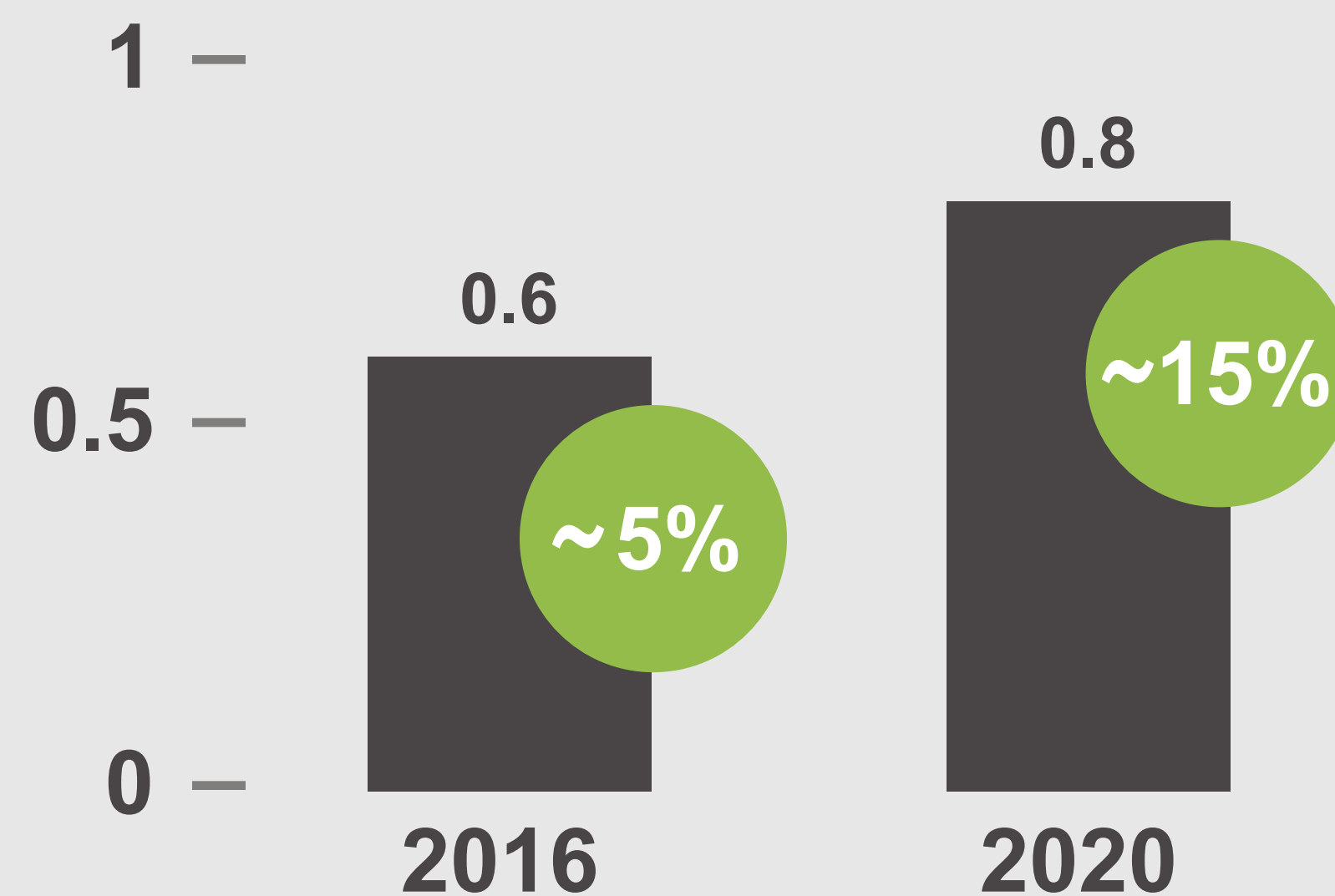


● ASMI market share

- Single-wafer ALD market CAGR of 18% ahead of WFE 15%
- ASMI increased its market share driven by continued strong position in logic/foundry and inroads in memory ALD

Historical market data: ASMI

Epi market (US\$ billion)



● ASMI market share

- Epi market CAGR of 8% below WFE of 15%
- Largely explained by lower Epi market in 2020, impacted by a sharp drop in power/analog market
- ASMI more than doubled its market share in 2016-2020, driven by inroads in the advanced CMOS segment

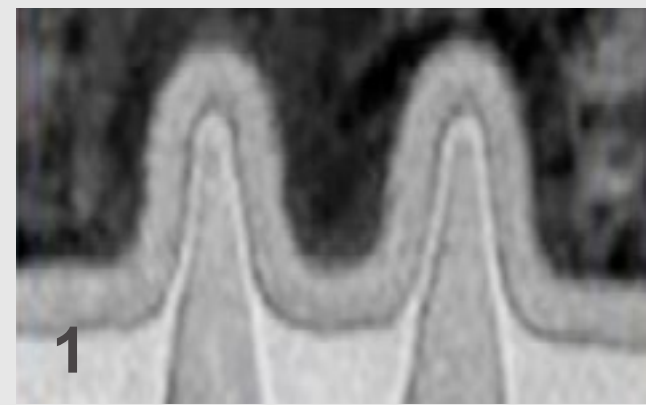
Historical market data: VLSI Research

GROWTH OPPORTUNITIES

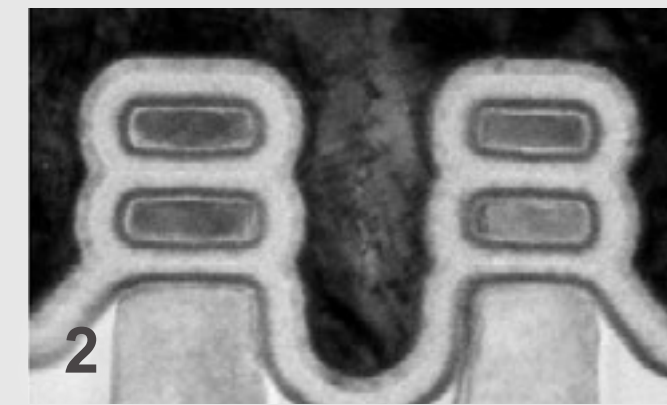


EXAMPLE APPLICATIONS EXPECTED TO DRIVE ASMI GROWTH

ALD HIGH-K GATE AND VT TUNING



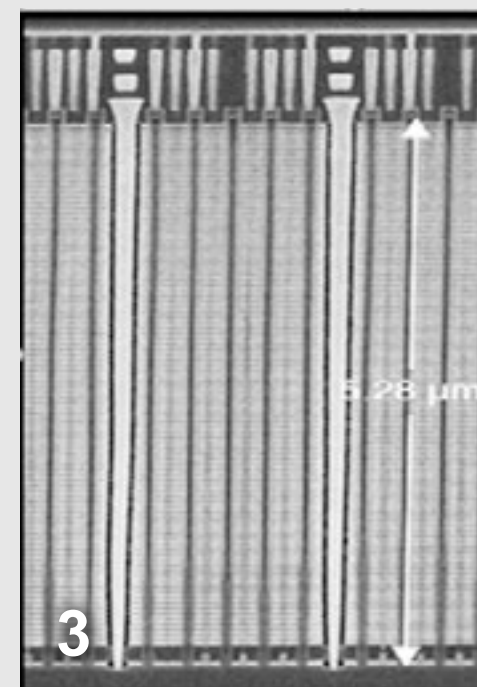
1 **FinFET**



2 **GAA**

High-k, dipole layers for multi-VT

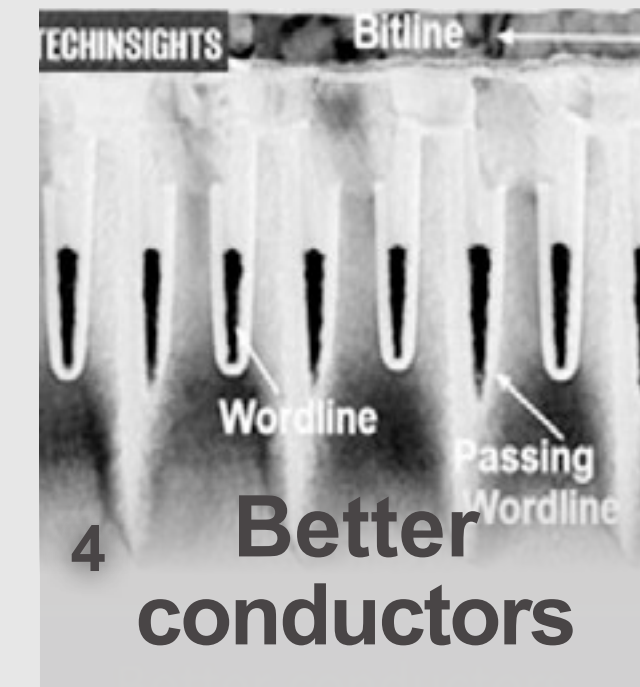
ALD DIELECTRIC GAP-FILL



3

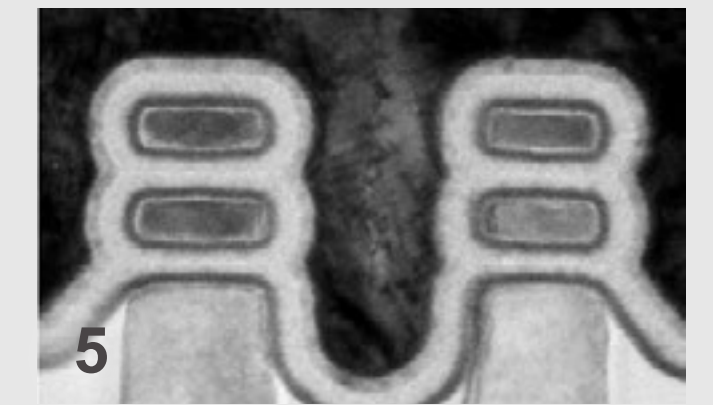
Seam free gap-fill
in high aspect ratio
features

ALD METAL



4

Better
conductors



5

Multiple work
function metals

ALD PATTERNING SPACERS & EUV LAYERS



6

Continued pitch scaling
new EUV patterning materials

CMOS EPI



7

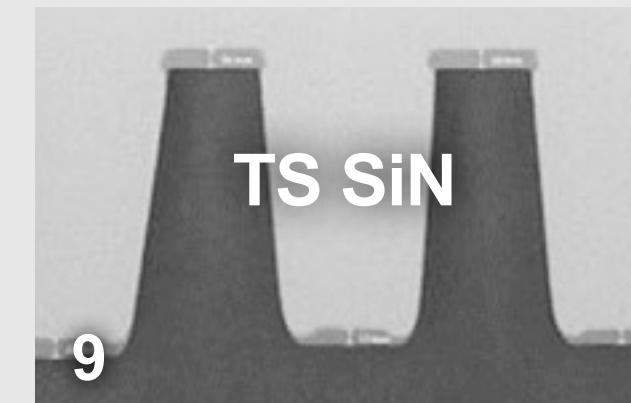
Epi nanosheets for GAA



8

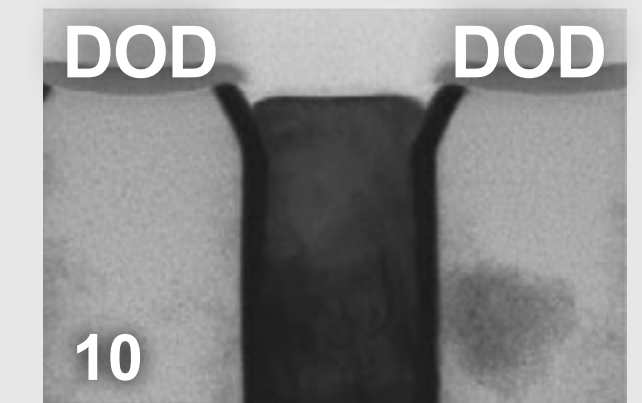
Channel Epi for Fin

SELECTIVE ALD



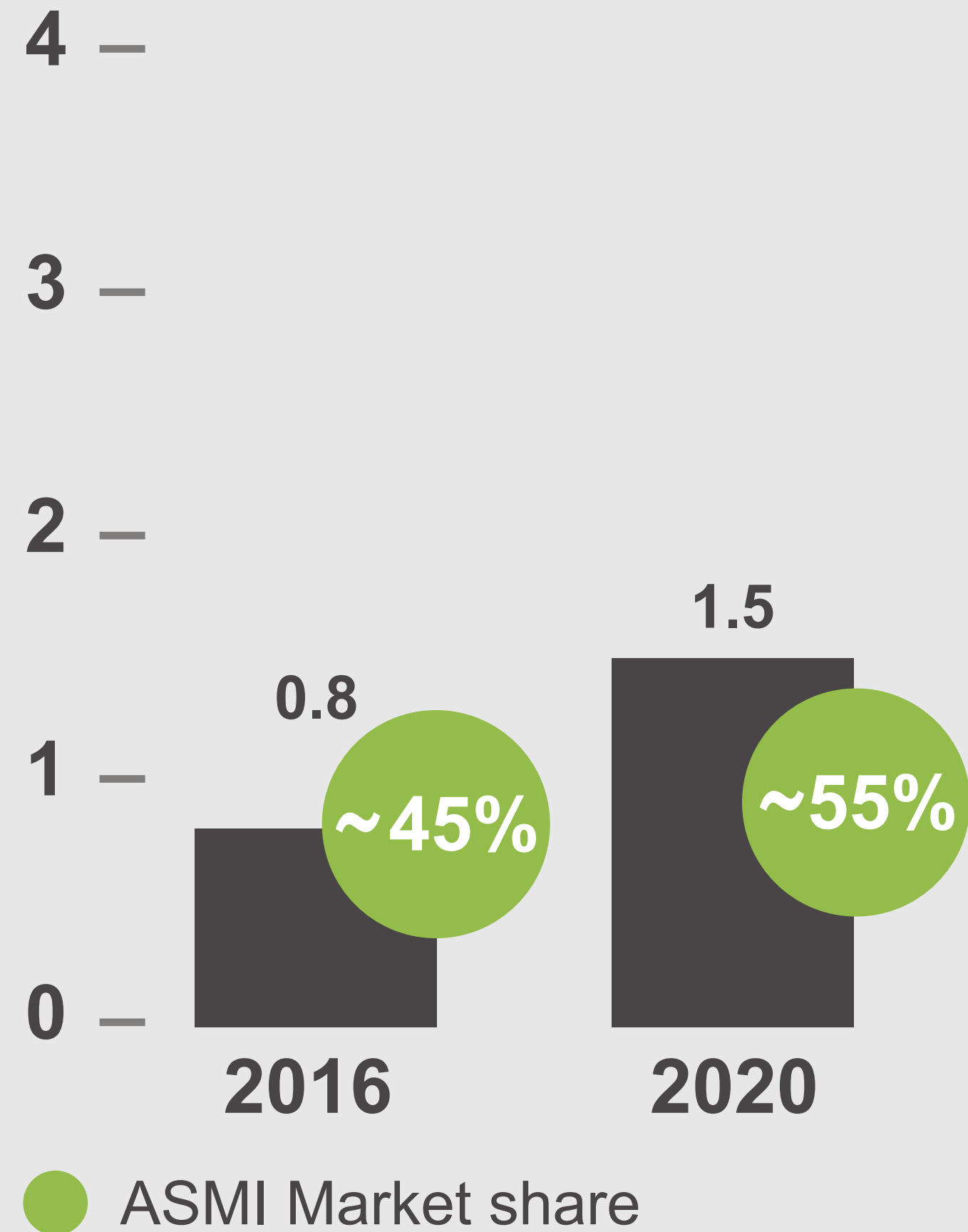
9

Performance, cost and yield
self-aligned deposition

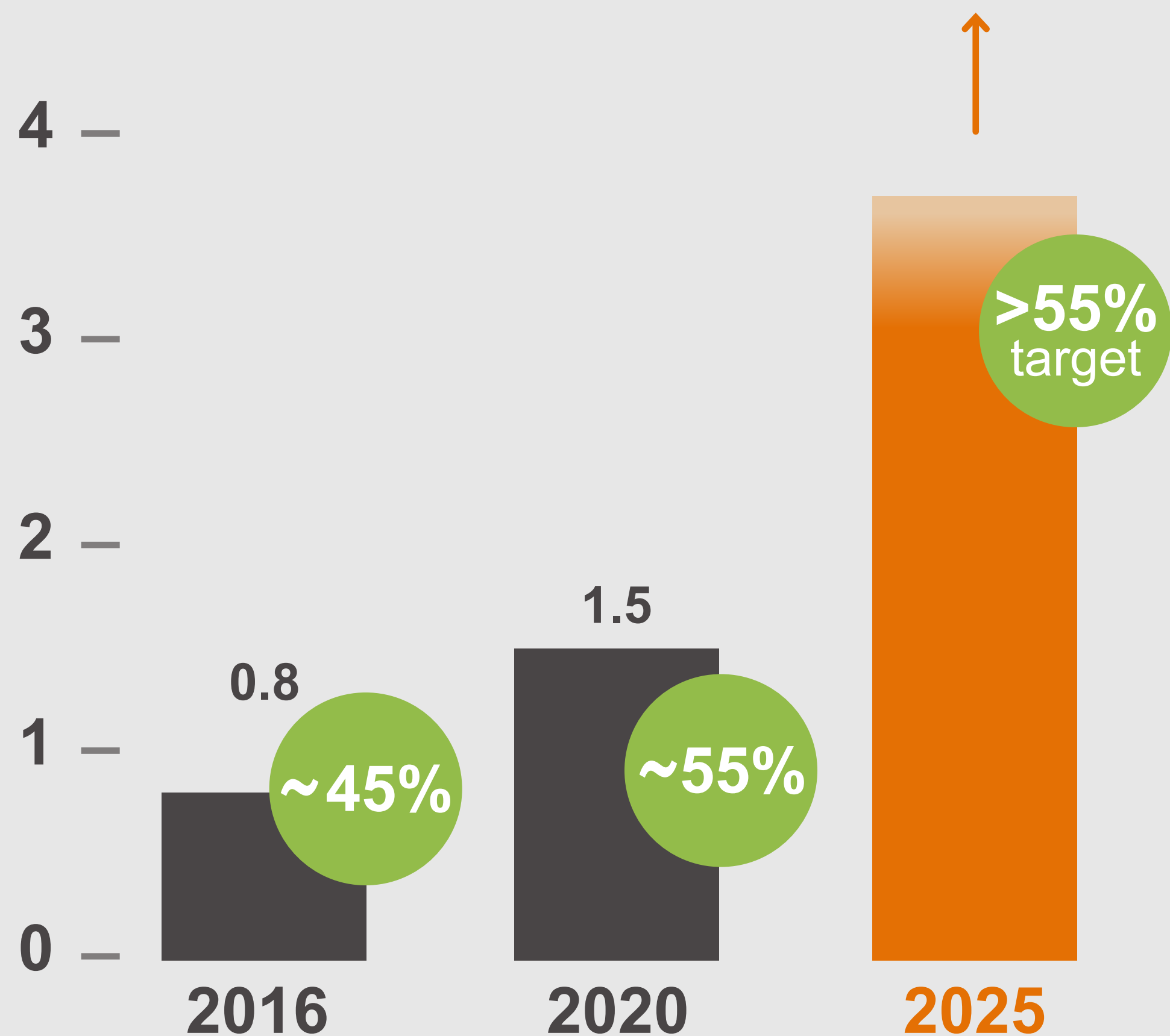


10

Market outlook (US\$ billion)



Outlook in 2021: Growth to US\$3.1 - US\$3.7 billion by 2025¹



● ASMI Market share

Logic/foundry (~US\$1.2 billion growth²)

- High-k gate & Vt tuning
- Metals
- Patterning spacers & EUV layers
- High aspect ratio gap-fill

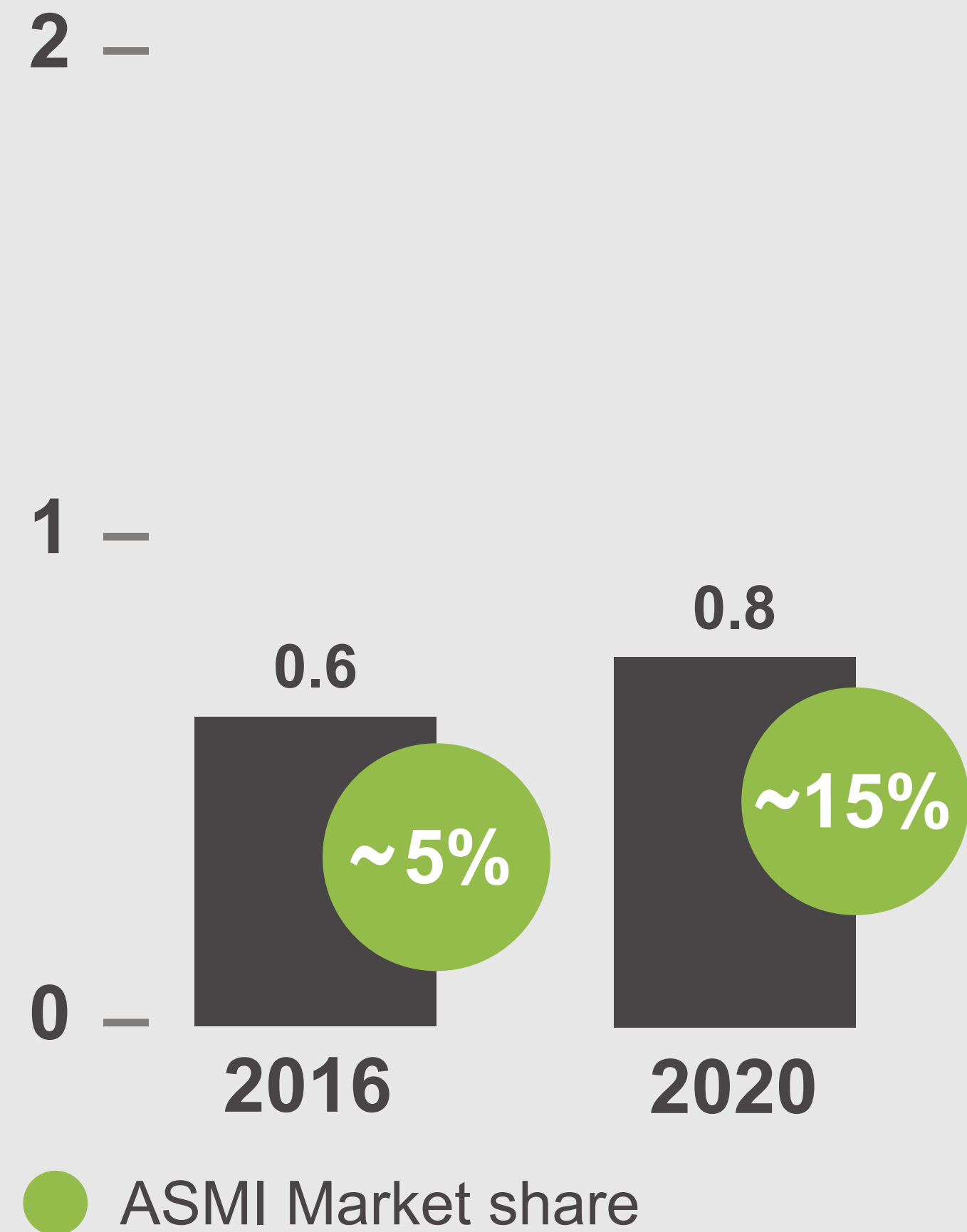
Memory (~US\$0.7 billion growth²)

- High-k gate & Vt tuning
- Metals
- Patterning spacers & EUV layers
- High aspect ratio gap-fill
- Selective ALD

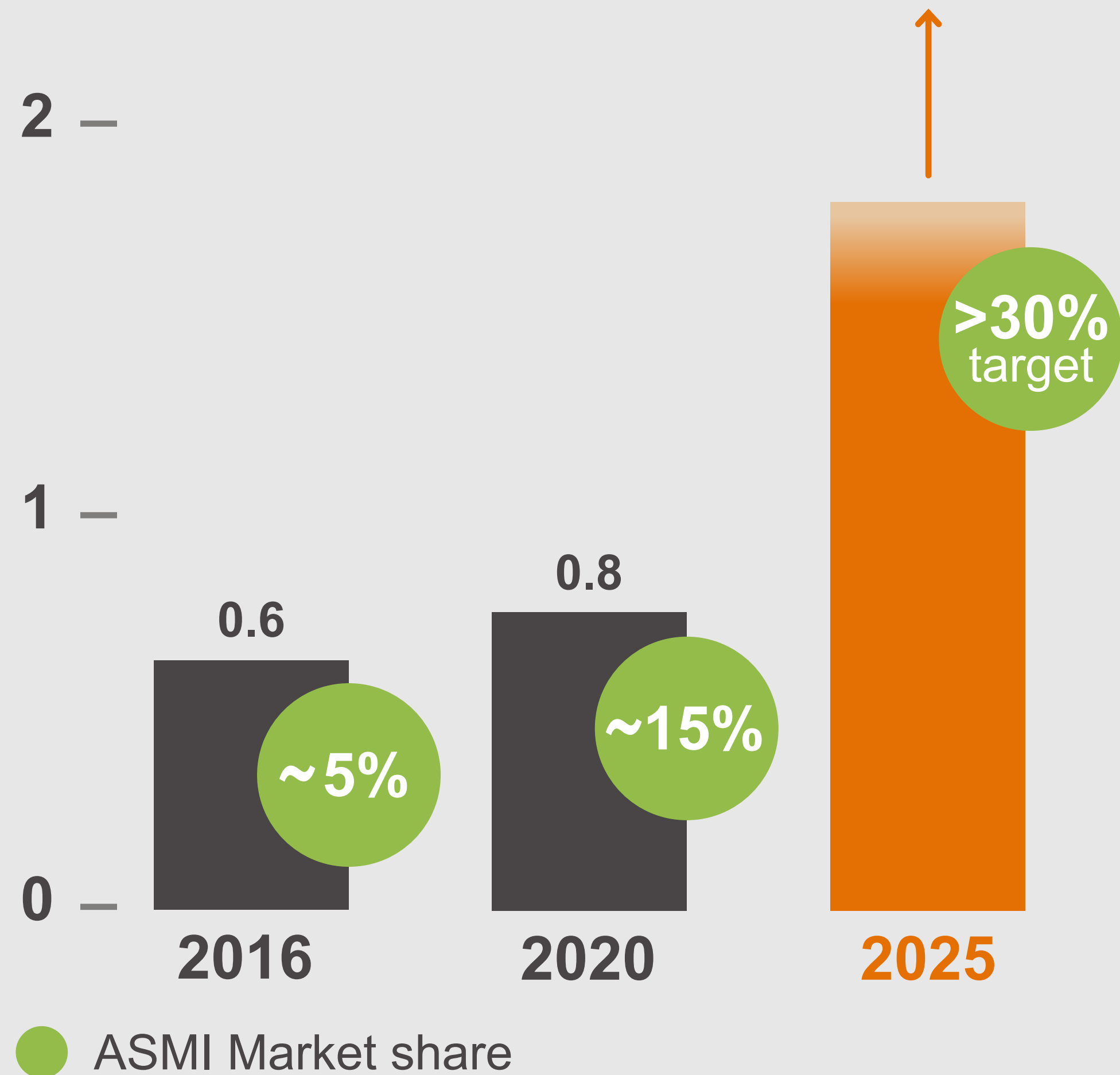
¹ Range based on \$90-110 billion WFE
Center is ~US\$3.4 billion at US\$100 billion WFE

² Compared to 2020

Market outlook (US\$ billion)



Outlook in 2021: Growth to US\$1.5 - US\$1.8 billion by 2025¹



Logic/foundry

- Channel
- Source/drain contact

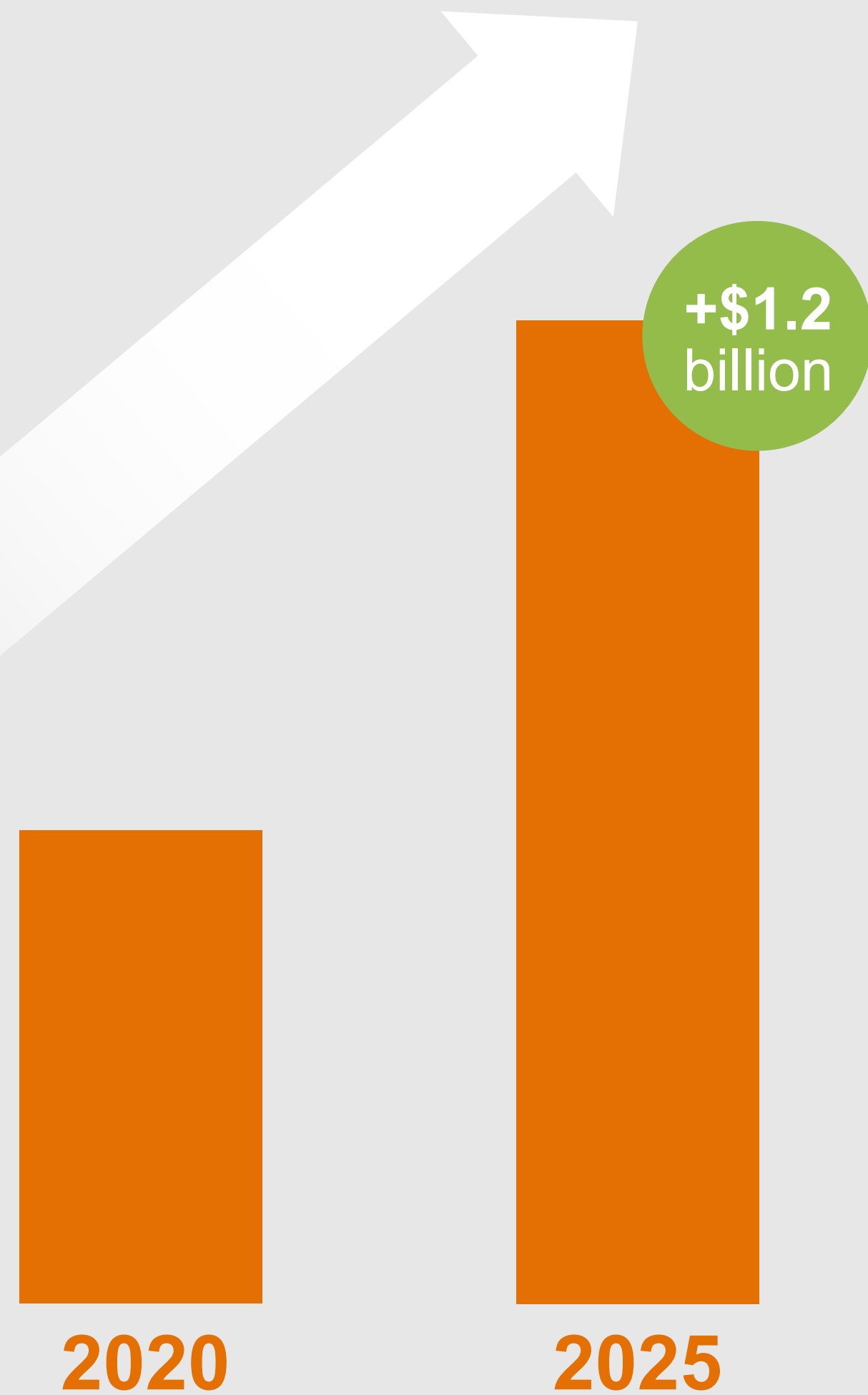
Memory

- High Performance DRAM

Power, Analog, Wafer

¹ Range based on \$90-110 billion WFE
Center is ~ \$1.7 billion at \$100 billion WFE

Growth largely driven by node progression and move to gate-all-around



ALD High-k gate & Vt tuning

ALD Metal

ALD patterning spacers & EUV layers

CMOS Epi

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The transition from FinFET to gate-all-around (GAA) is expected to represent a market growth of ~US\$1.2 billion for single-wafer ALD and Epi combined by 2025



ASMI
INVESTOR
DAY 2021



ASMI INVESTOR DAY 2021

ASMI PRODUCTS & APPLICATIONS

Hichem M'Saad
Executive Vice President,
Global Products

September 28, 2021

FORWARD-LOOKING STATEMENTS

Cautionary Note Regarding Forward-Looking Statements:

This presentation contains “forward-looking statements”. All statements in ASMI’s Investor Day 2021 presentations, other than statements of historical fact, are forward-looking statements. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. These risks and uncertainties include, but are not limited to, economic conditions and trends in the semiconductor industry generally and the timing of the industry cycles specifically, product demand and semiconductor equipment industry capacity, worldwide demand and manufacturing capacity utilization for semiconductors, currency fluctuations, corporate transactions, financing and liquidity matters, the success of restructurings, the timing of significant orders, market acceptance of new products, competitive factors, litigation involving intellectual property, shareholders or other issues, commercial and economic slowdown or disruption including due to natural disasters (including pandemics), terrorist activity, armed conflict or political instability, changes in laws including import/export regulations, changes in tax and exchange rates, epidemics and other risks indicated in the Company’s reports and financial statements. Investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this presentation. The Company assumes no obligation nor intends to update or revise any forward-looking statements to reflect future developments or circumstances. Forward-looking statements are not guarantees of future performance, and actual results, developments and business decisions may differ materially from those envisaged by forward-looking statements.

#1

Leader in ALD with the largest portfolio of products, applications, and materials in an ever expanding market

#2

Growing market share in Epi with new innovations and well engaged in forthcoming gate-all-around (GAA) transition

#3

Selectively growing our offering in Vertical Furnace and PECVD

#4

New innovations increasingly focused on sustainable solutions with energy usage reduction

#5

Transitioning from transactional to outcome-based business model in service to provide the best value to our customers

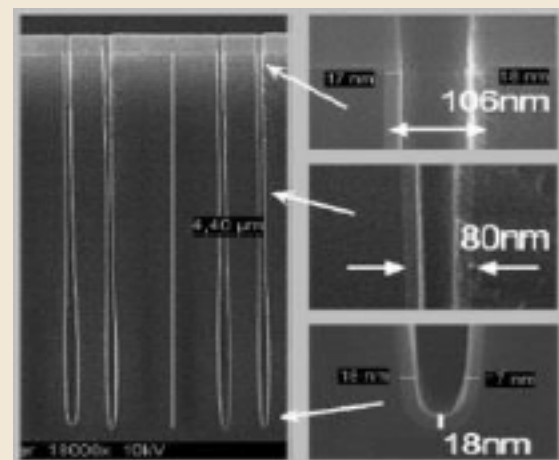
LEADER IN ALD



GROWTH OF ALD IN THE SEMI INDUSTRY: ALD IS THE NEW CVD

2003

3 to 4 layers
Al₂O₃, ZrO₂

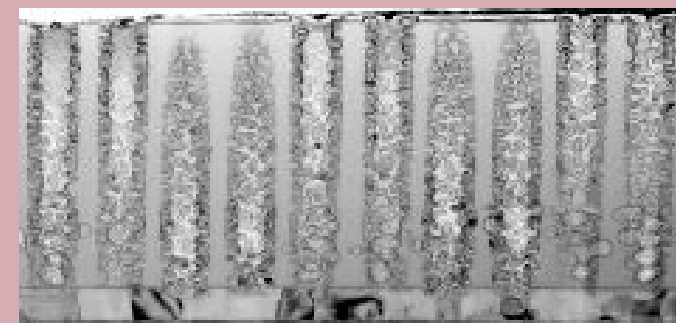


Infineon NOLA DRAM
www.future-fab.com

DRAM MIM capacitor

2008

10+ layers
HfO₂, ZrO₂
TiN, TaN

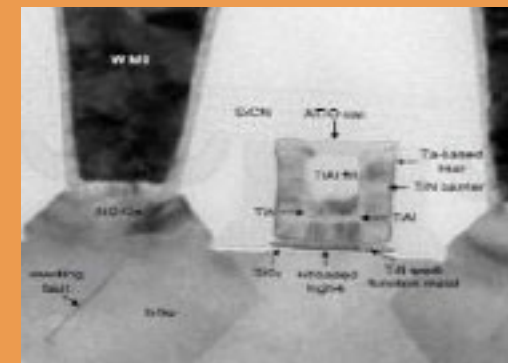


DRAM HSG structures ASMI

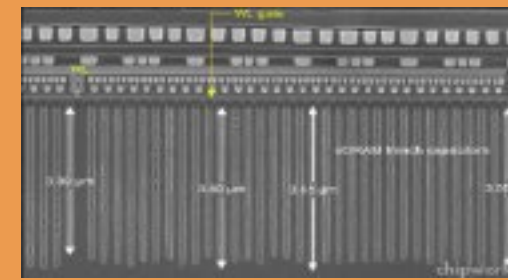
+ Logic HKMG
+ FEOL eDRAM MIM

2013

20+ layers
HfO₂, ZrO₂, ZAZ, SiO₂,
SiN, PSG, BSG...
TiC, TiN, TaN,



Intel 45nm transistor Chipworks

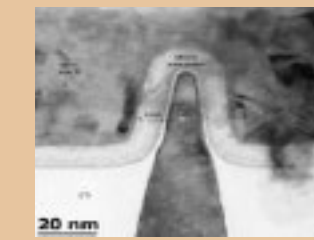


IBM FEOL eDRAM Chipworks

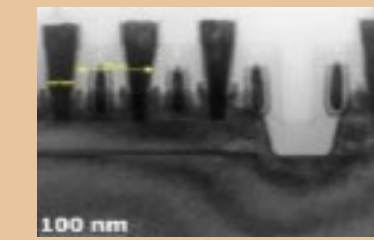
+ Patterning materials

2018

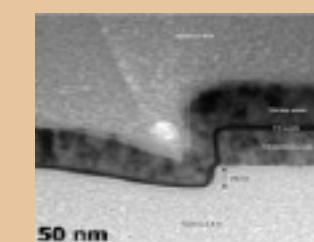
50+ layers
Co, FFW, HfAlO,
ZrAlO...



Intel 22nm FinFET transistor Chipworks



Intel 22nm BEOL capacitors Chipworks
PEALD SDDP on Resist ASMI

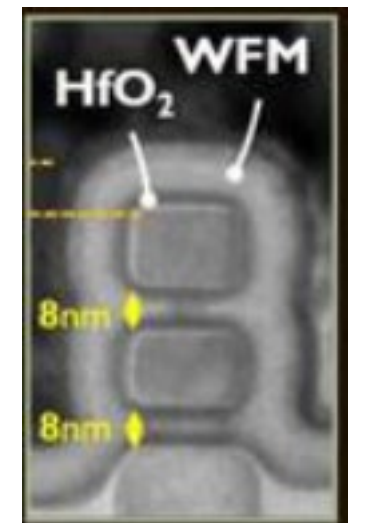


Samsung 30nm SDRAM Chipworks

+ Ternary metal oxides

2021

70+ layers
IGZO, Mo, WN...



IMEC GAA 2020



IGZO via CRD/IMEC 2020



+ Metal
+ Quaternary metal oxides

Product Architecture

Material





Applications

XP4 Platform

<p>Pulsar™</p> 	<p>EmerALD™</p> 
<p>High quality Oxides</p>	<p>Carbides and Nitrides</p>
<p>High-k Dipole</p>	<p>Work function</p>

XP8 Platform

Synergis™

 <p>Synergis MX</p>	 <p>Synergis NT</p>	 <p>Synergis ML</p>	 <p>Surface Clean</p>
<p>Metal Oxides</p>	<p>Metal Nitrides</p>	<p>Metals</p>	<p>Clean / Treatment</p>
<p>Patterning high-k</p>	<p>Work function, conducting nitrides</p>	<p>Metallization</p>	<p>Interfacial engineering / clustered films</p>

BROADEST ALD PORTFOLIO (CONTINUED)

← XP8 Platform →

Product architecture

DCM



Material

Silicon Oxides / Metal Oxides / Metal Nitrides

Applications

- Patterning Spacer SiO
- HT SiO for liner
- Cut Mask gap-fill SiO
- EUV underlayer
- HQ SiO

QCM



HT Silicon Oxides / Doped Oxides

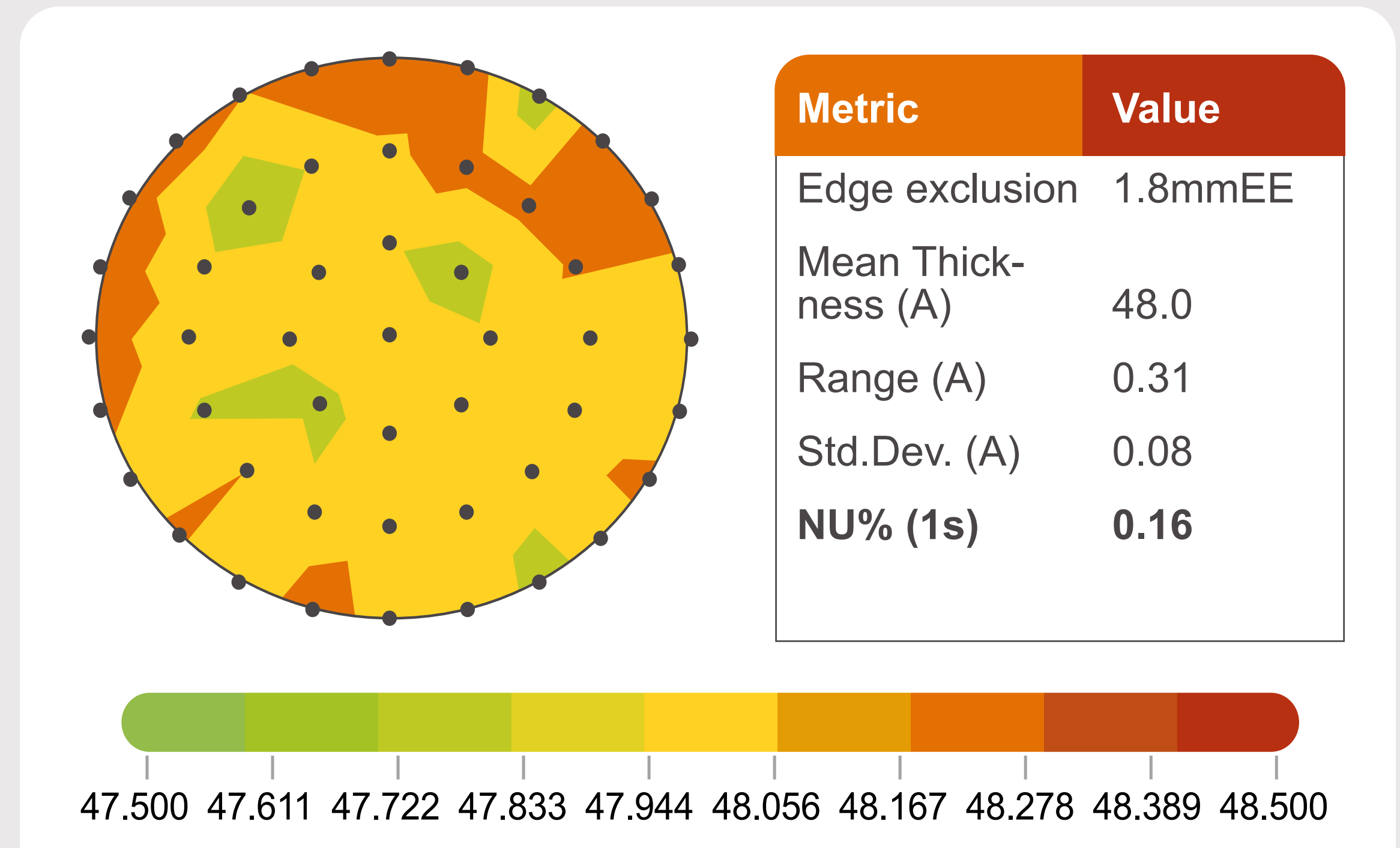
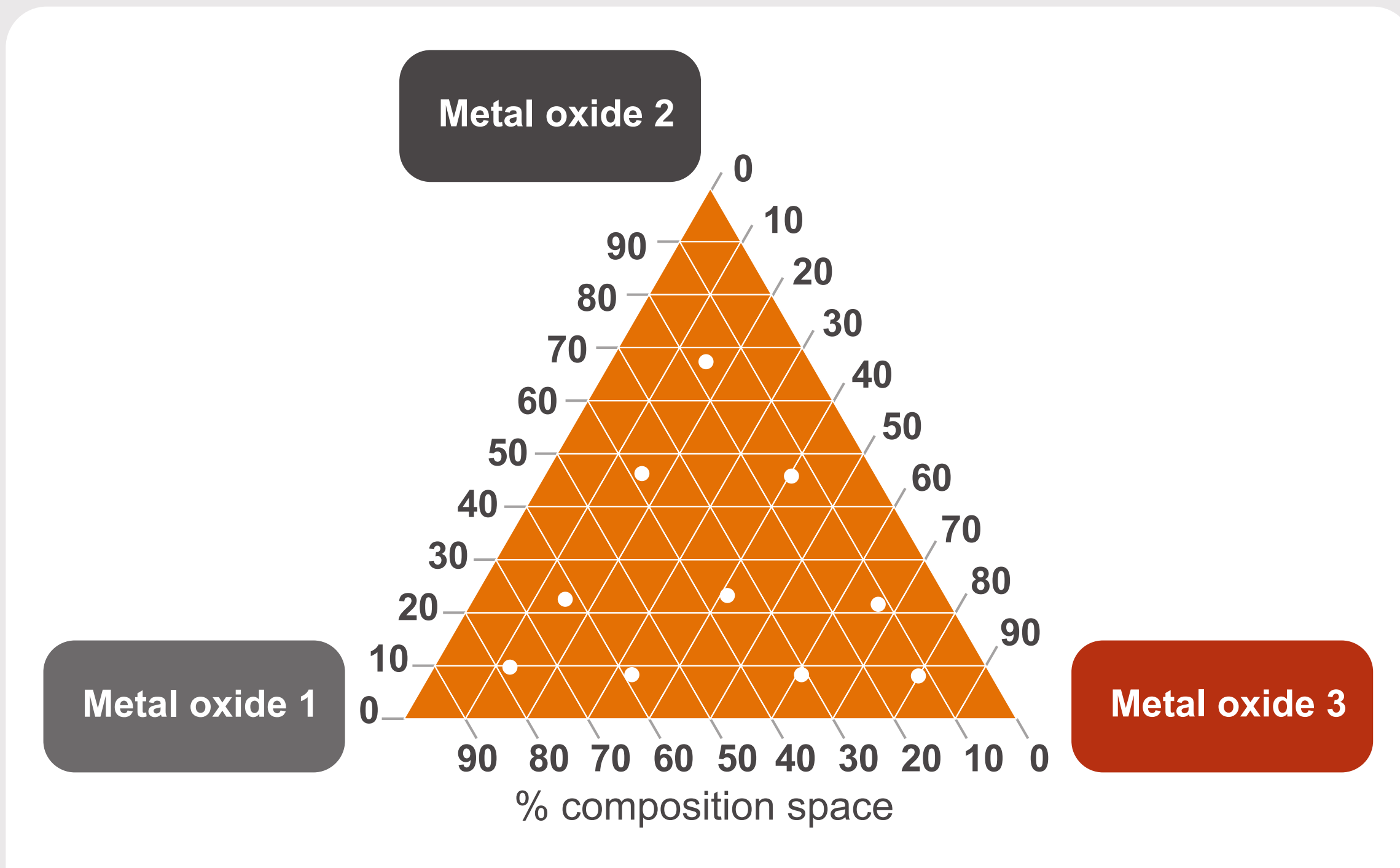
- HAR gap-fill SiO for Slit / Dummy and Staircase Fill
- HQ SiO for TSV Liner
- Seam free gap-fill
- Low-k Liner

QCM



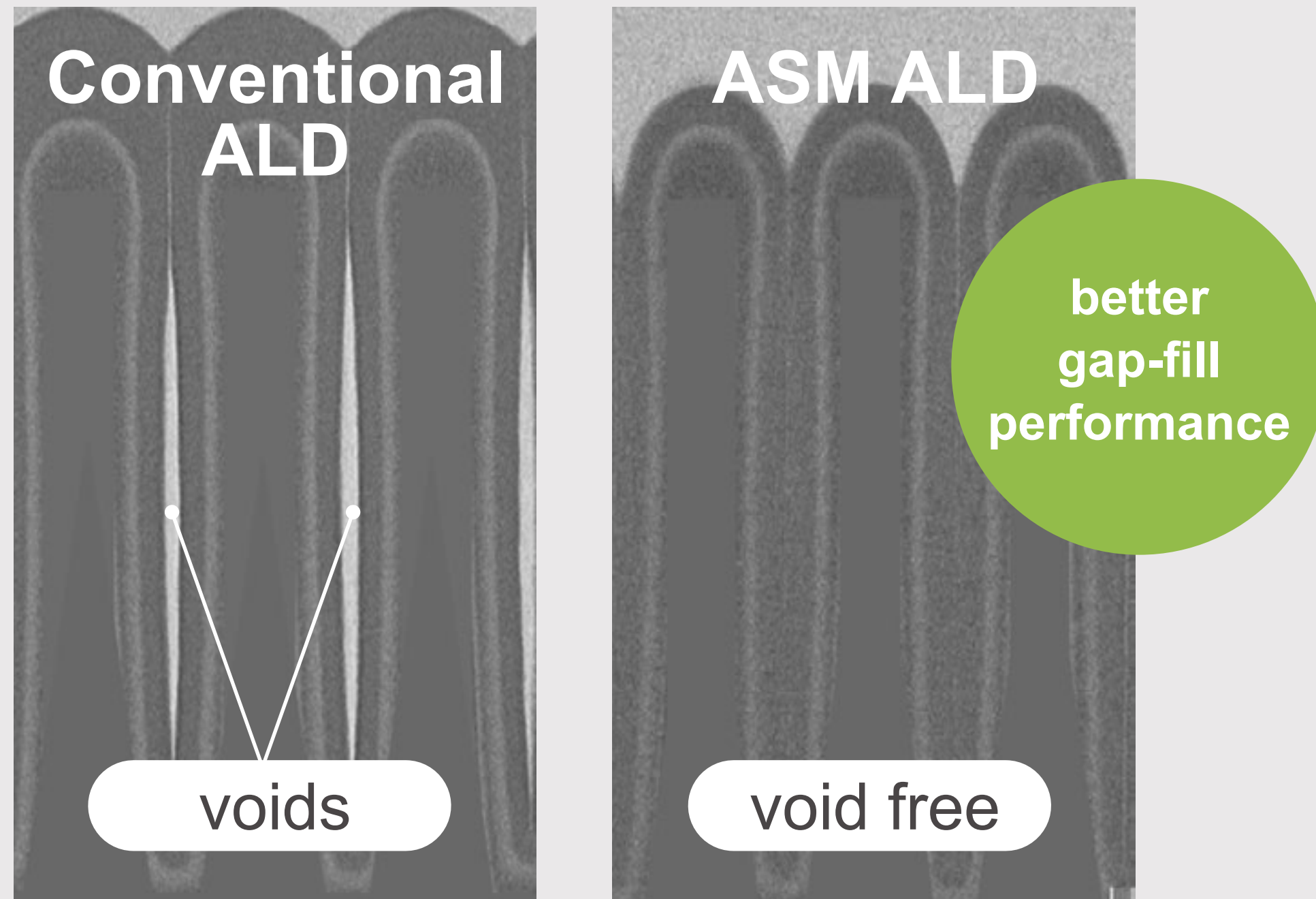
Silicon Nitrides

- Gap-fill SiN
- LT SiN Liner
- HQ SiN Liner
- Patterning Spacer SiN
- Seam free gap-fill SiN
- Topological Selective (TS) SiN
- Air Gap SiN



- **Extremely fast and efficient** precursor cycle times with minimized reactor volume
- **Consistent delivery** of solid chemistry with close-to-wafer pulsing valves
- **Chamber design for excellent** within wafer uniformity and consistent reactor to reactor matching
- Flexible architecture enables **up to quinary (5 element) films**

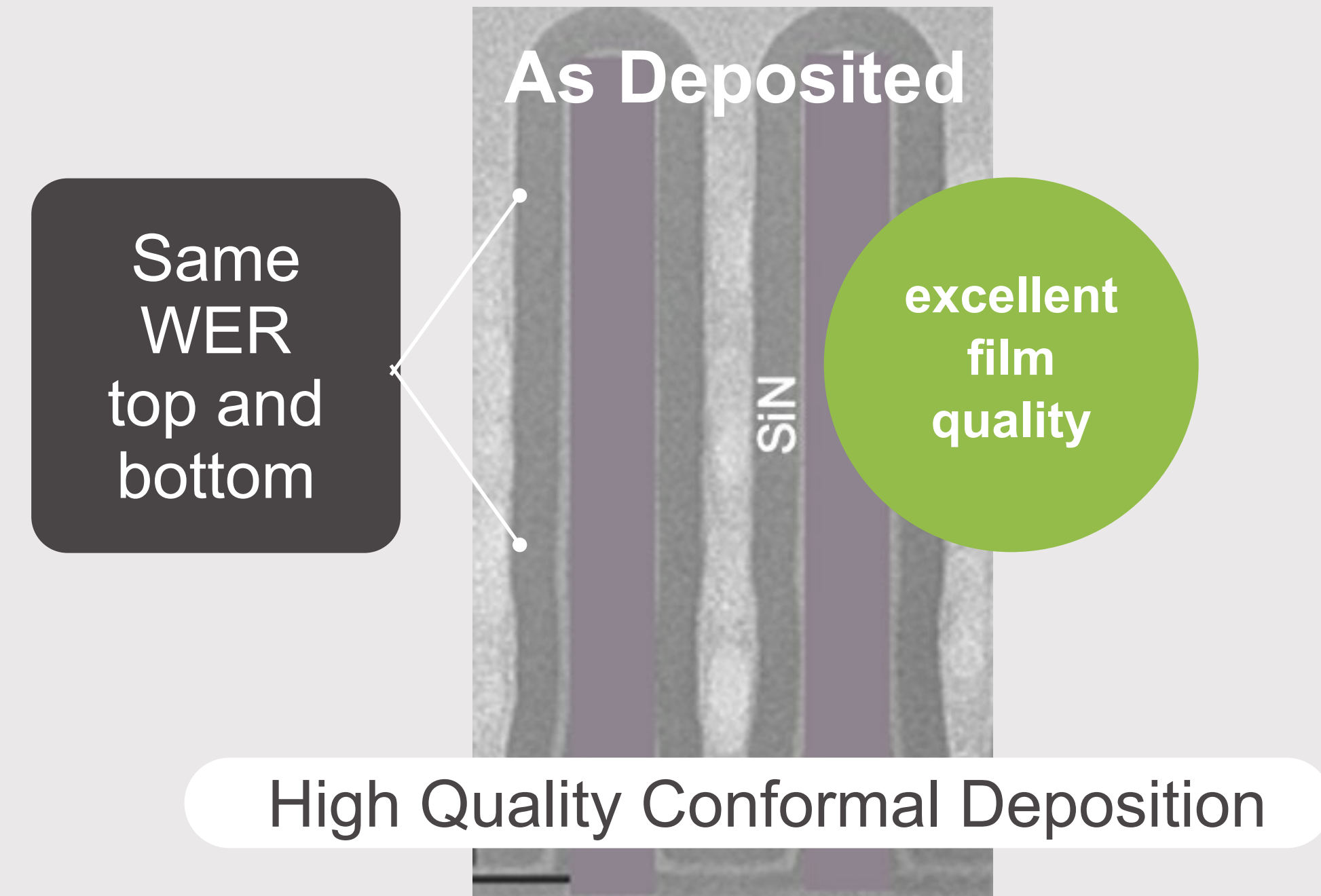
Gap-fill SiO / SiN



ASMI ALD gap-fill Technology

- High Film Quality (Low Wet Etch Rate)
- Void Free Fill > Seam free Fill
- Extreme Aspect Ratio Fill (50:1 - 100:1)

Liner SiO /SiN



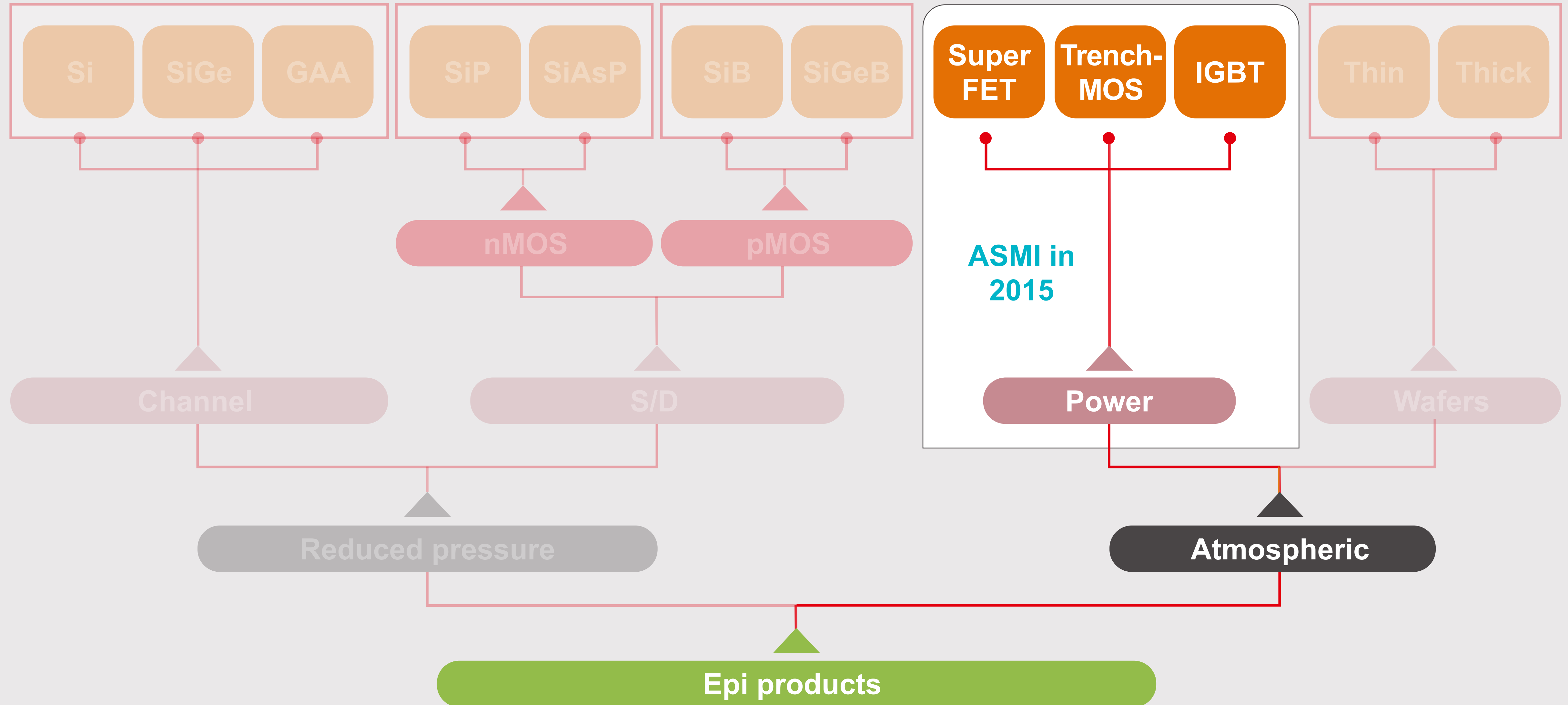
ASMI ALD Liner Technology

- Tunable Conformality
- High Film Quality – Conformal Wet Etch Rate
- Extreme Aspect Ratio (50:1 - 100:1)

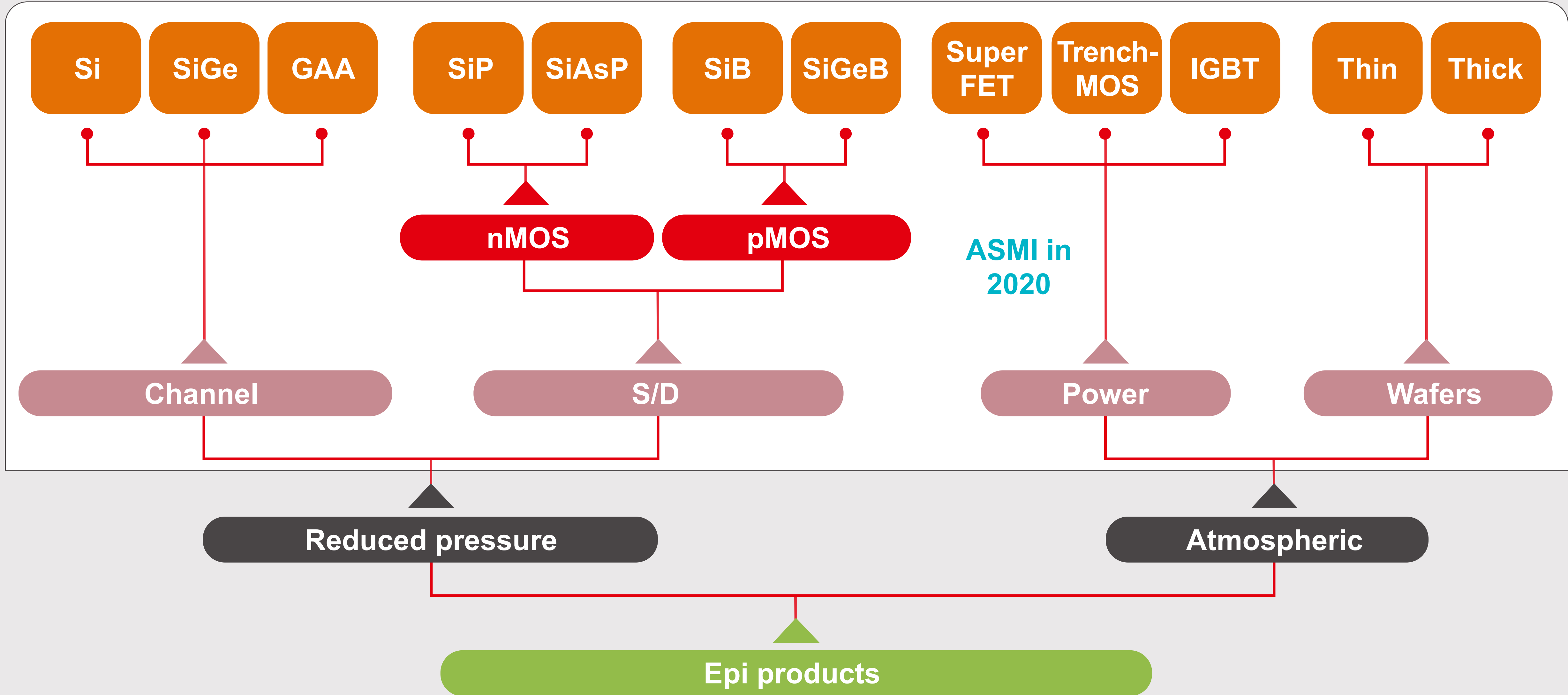
GROWING WITH EPI



EPI APPLICATIONS PRODUCTS STRUCTURE TREE



EXPANSION OF EPI SAM

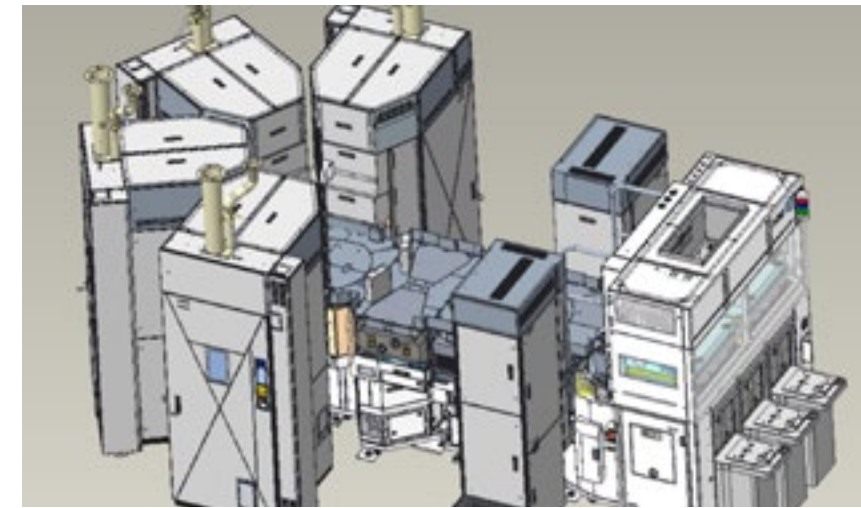


Platform
(Flexibility & high throughput density)

XP4 4+0, 3+1

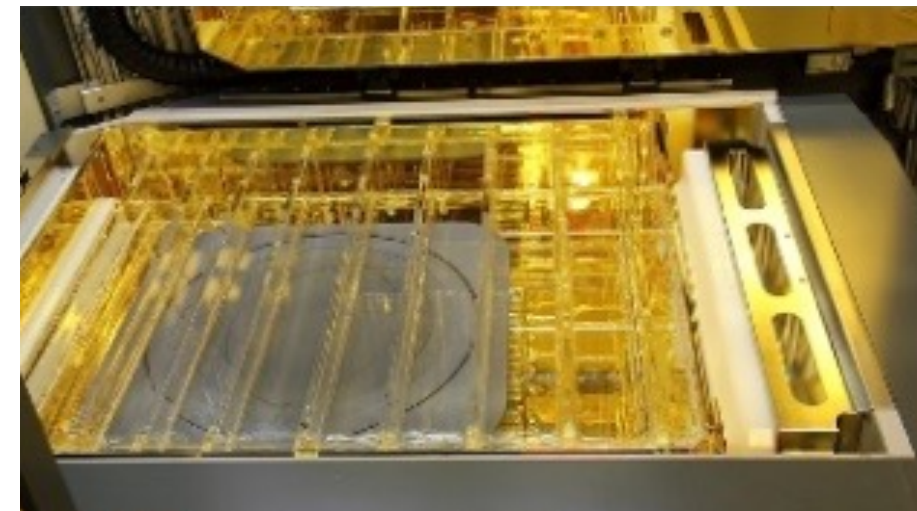


XPE 4+2

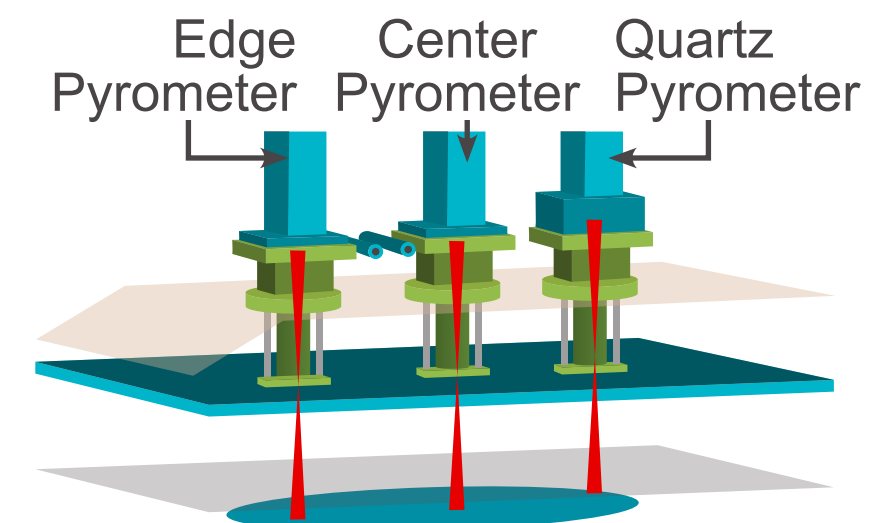


Reactor innovation
(Intrepid ES & ESA)

ISOTHERMAL



VERACE-CL



AEGIS



Full range of ALE surface cleans
(Previum)

V3



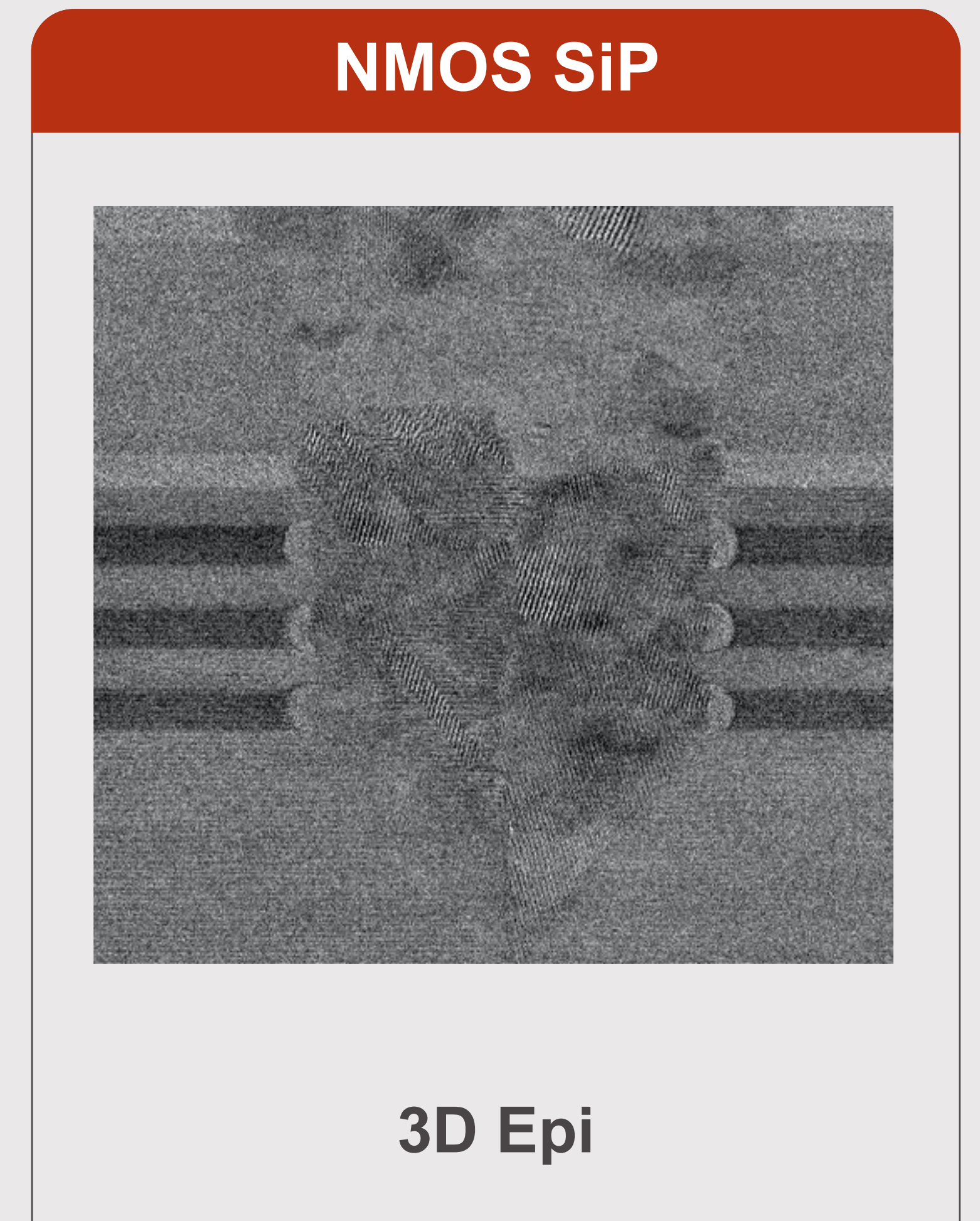
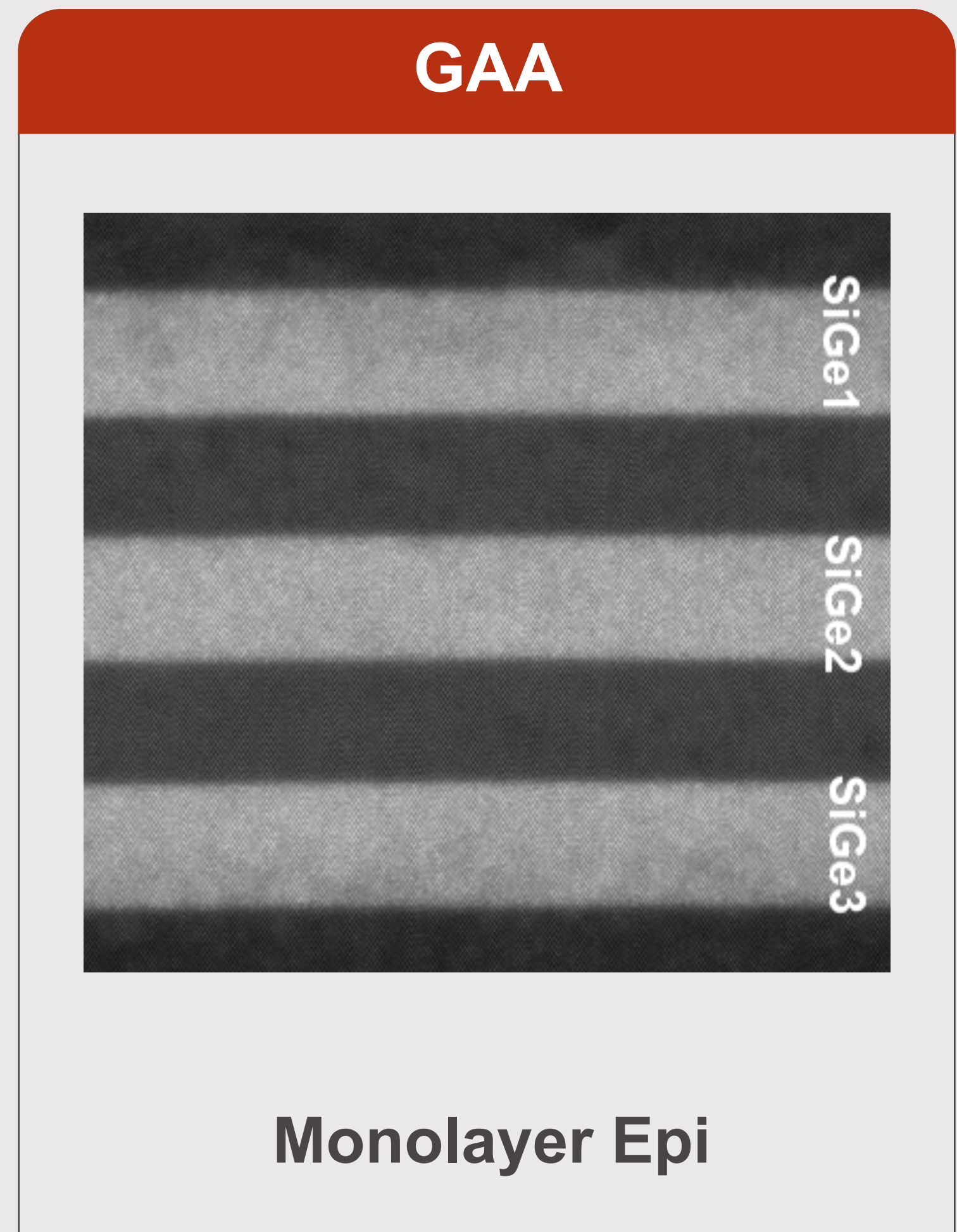
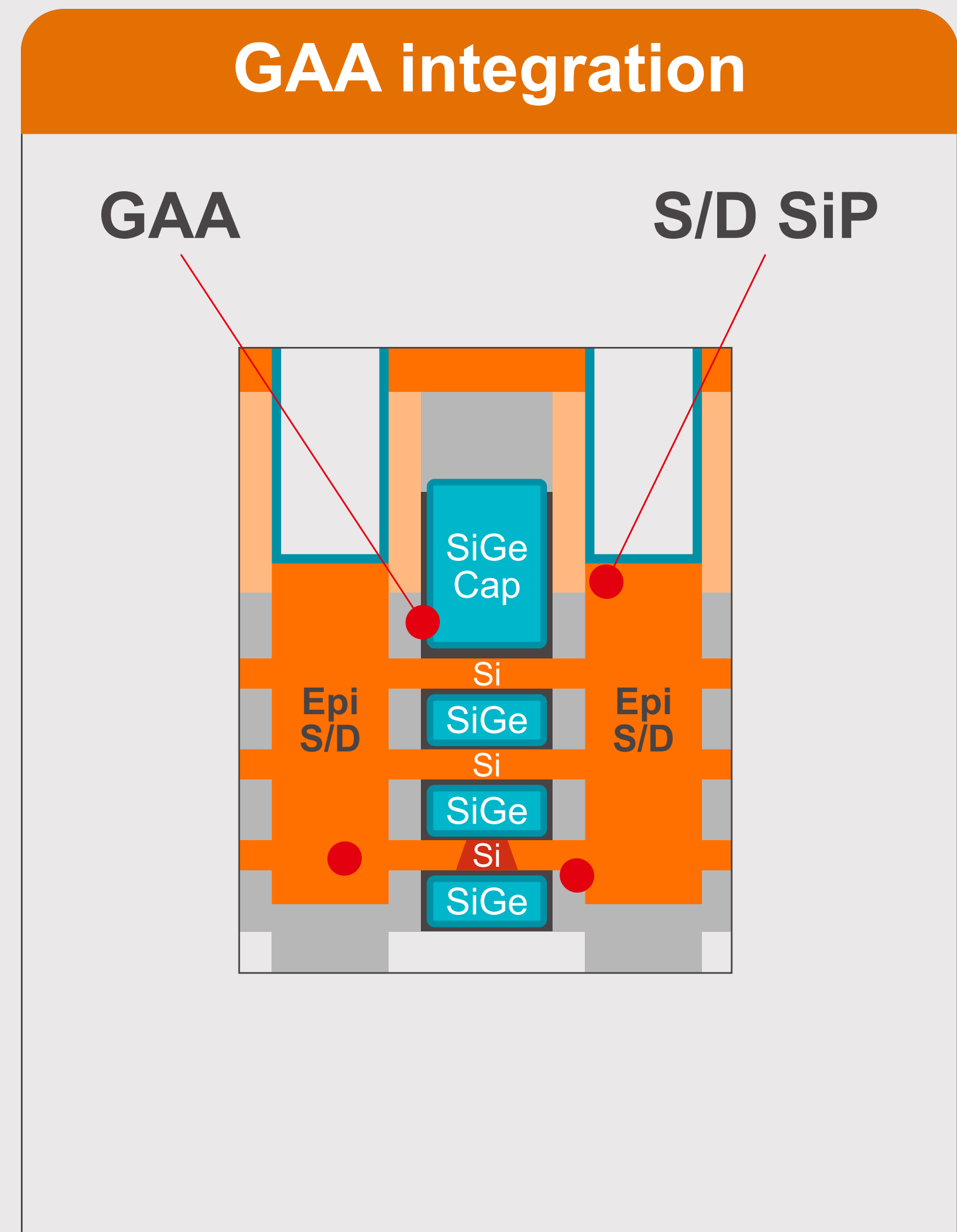
NEXT



VP

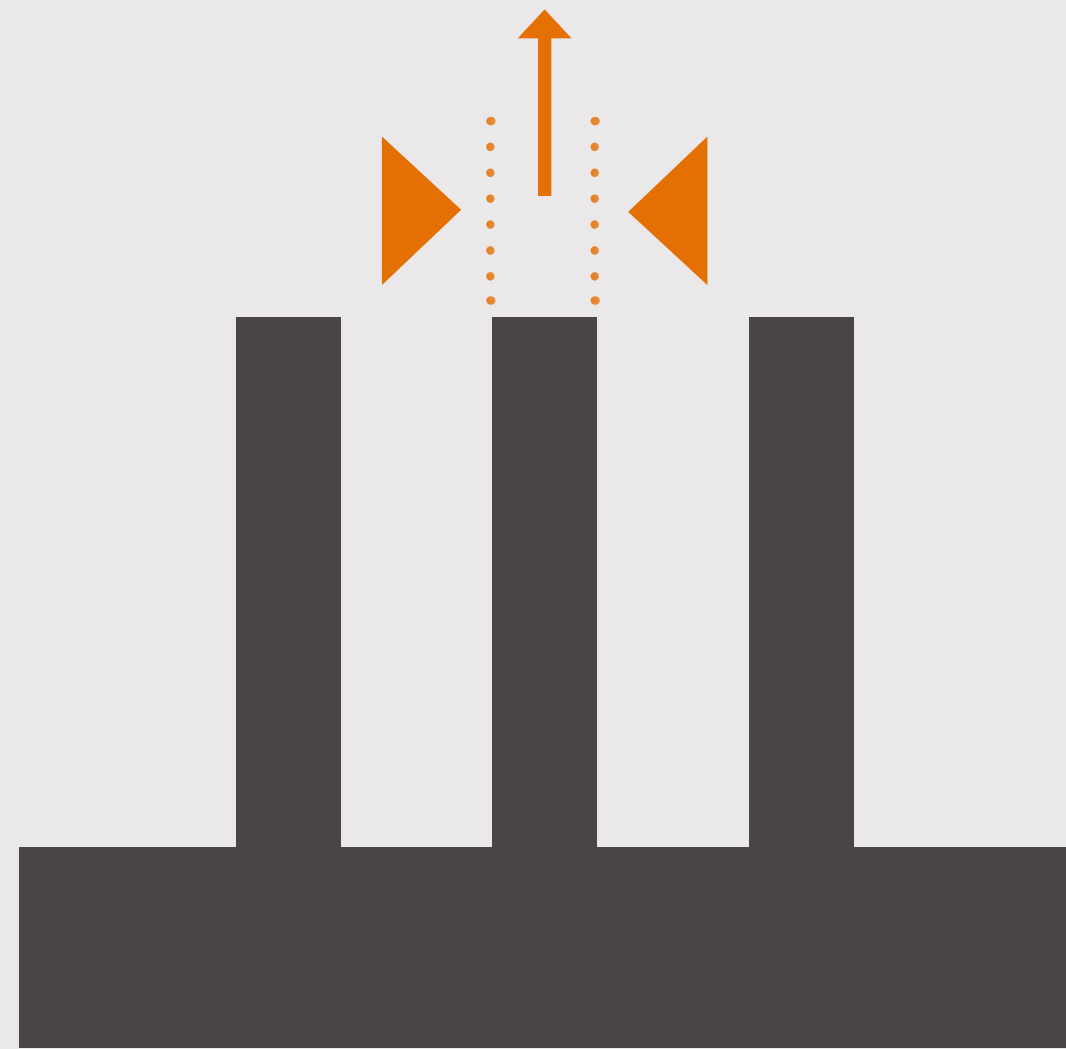


TECHNOLOGY INFLECTIONS ARE DRIVING EPI INNOVATION



FinFET

Channel thickness



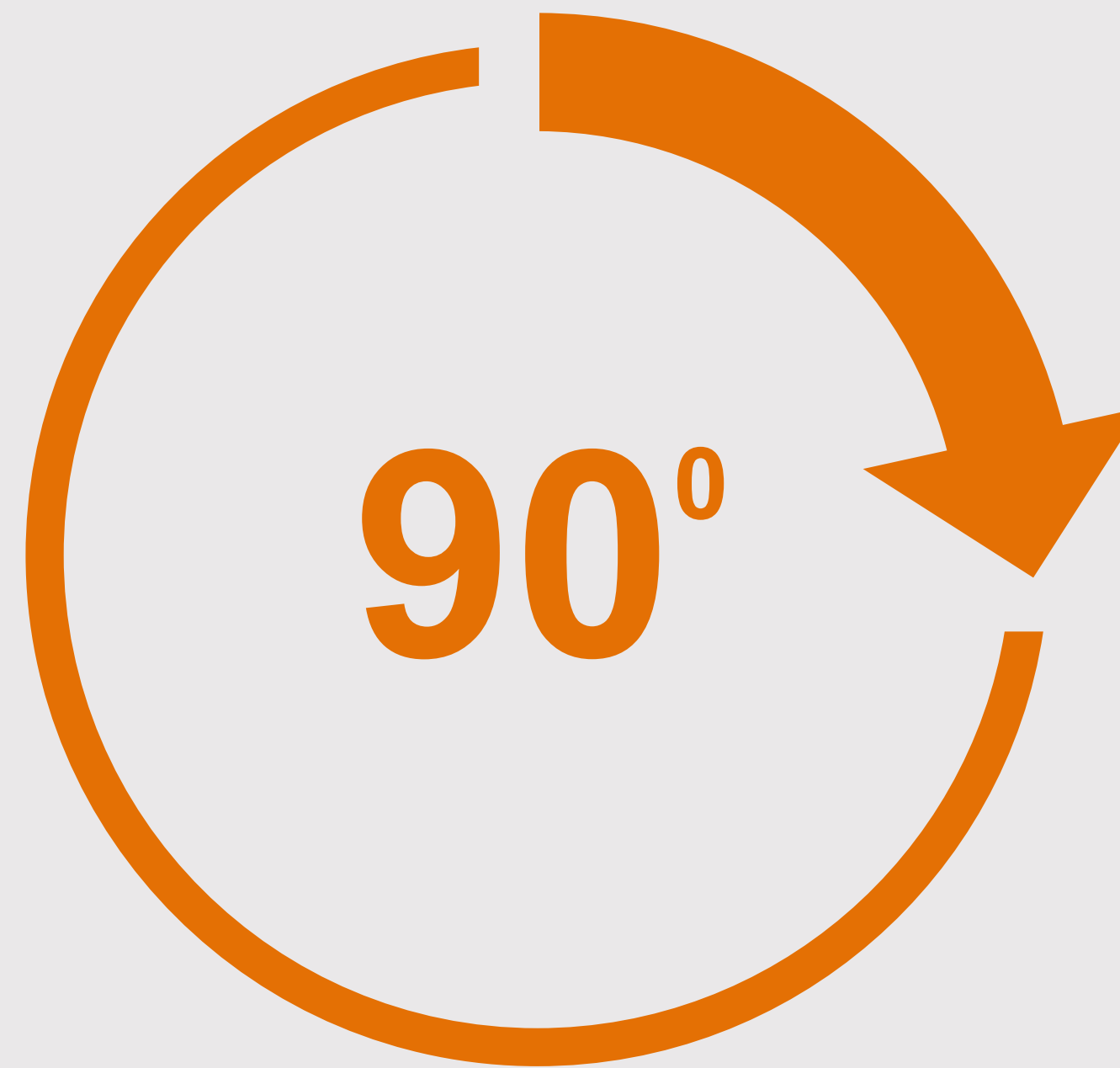
**Litho/Etch
defined**

GAA

Channel thickness



**Epi
defined**

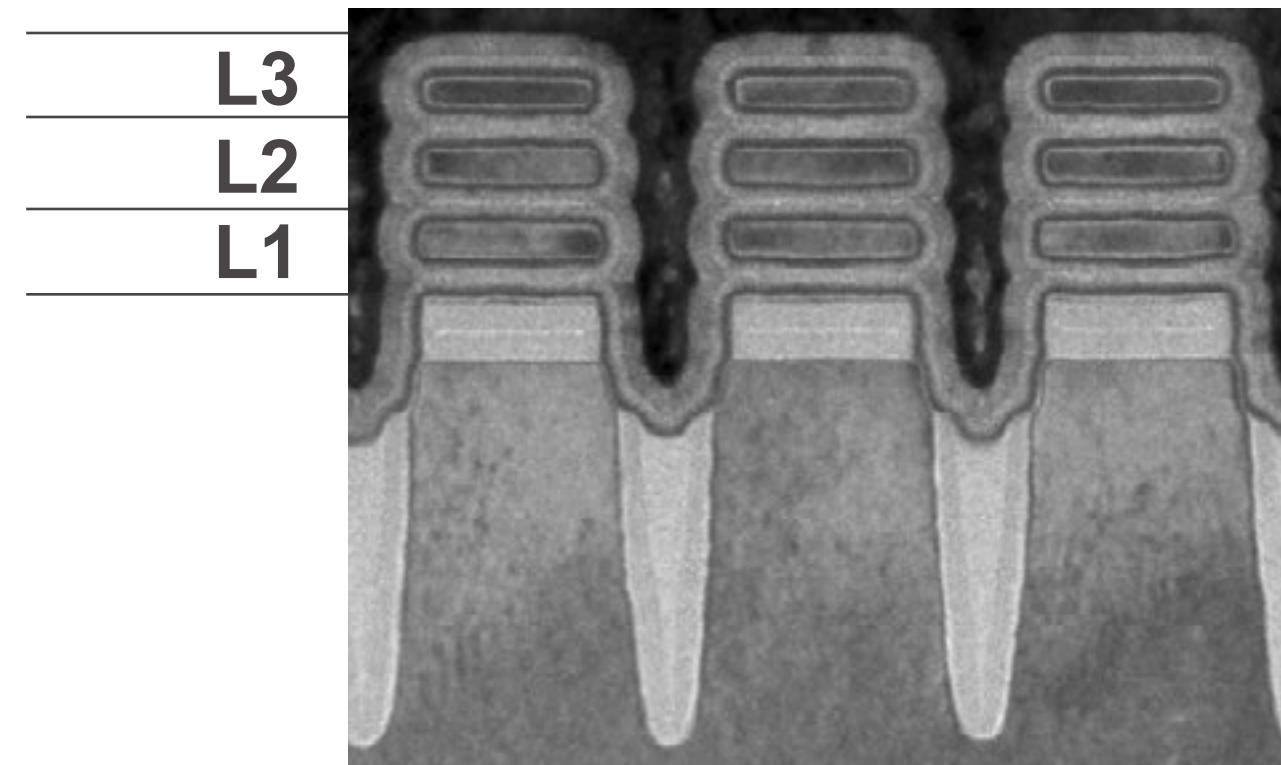


CONVENTIONAL EPI: LARGE VARIATION AT EDGE

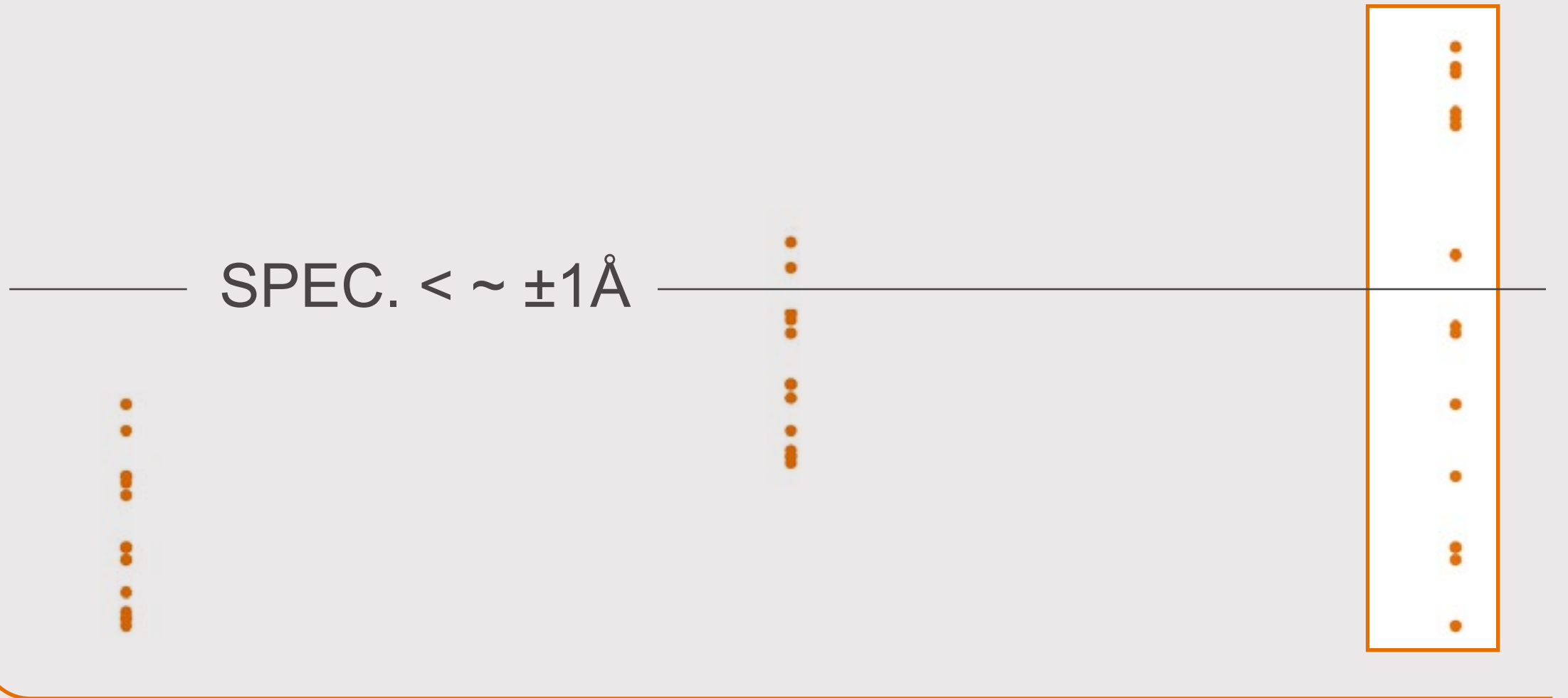
Wafer



LtL
uniformity



LtL range



Center

Middle

Edge

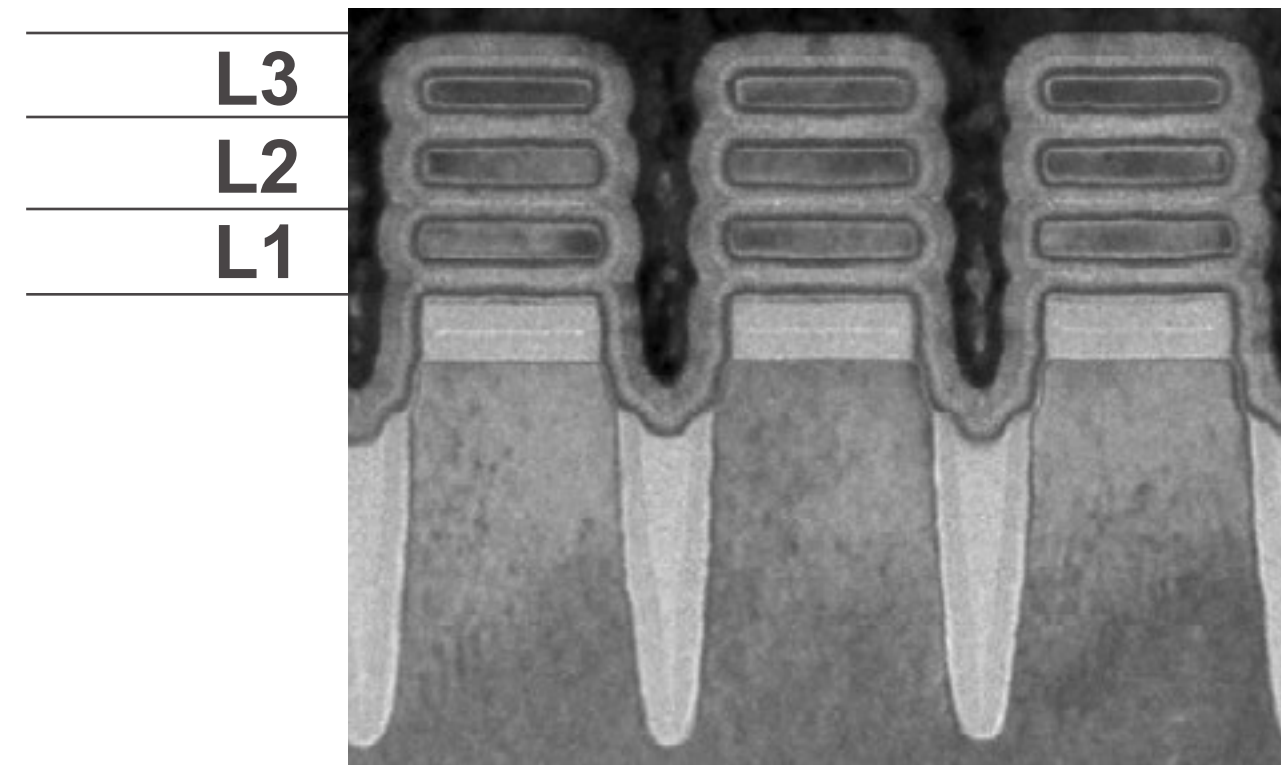
Conventional temperature control can't meet the stringent layer to layer (LtL) uniformity requirements

VERACE-CL: TIGHT CONTROL ON LTL UNIFORMITY

Wafer



LtL
uniformity



LtL range

SPEC. < $\sim \pm 1\text{\AA}$

Center

Middle

Edge

Verace-CL enables outstanding WiW and LtL uniformity of $\sim 1\text{\AA}$ (Mono Layer Control)
Key to enabling gate-all-around nanosheet stack structure

EPI YIELD ENHANCEMENT FOR FOR HIGH POWER DEVICES

Single pass: excellent electrical performance, better yield (less defects), and lower cost

Conventional

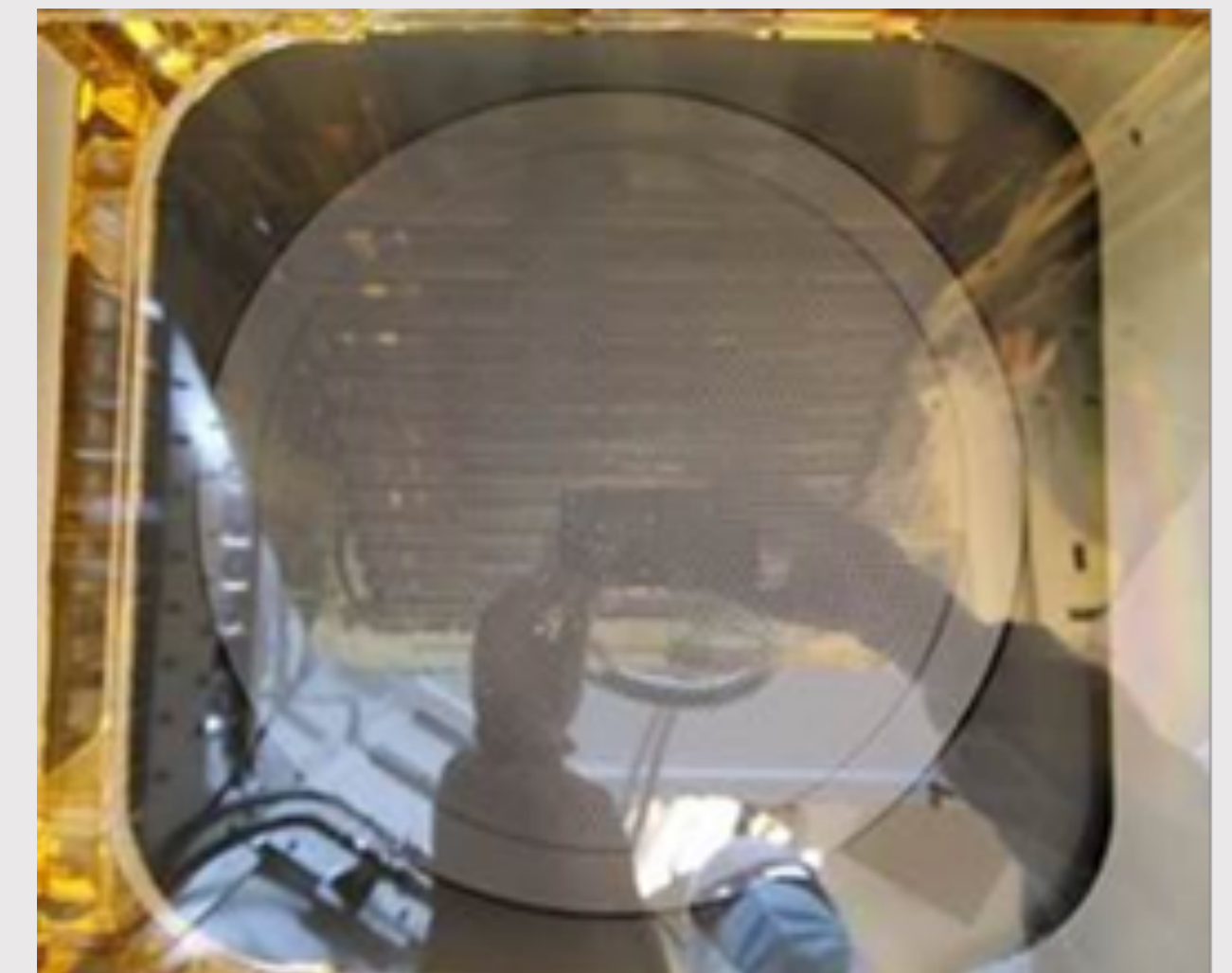
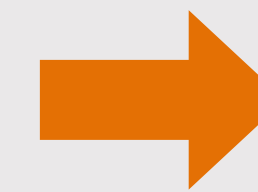


Needs 5 passes

Intrepid ESA



Single pass with no interfacial defects



Clean reactor after 100µm deposition

Reactor architecture advantage allows one pass thick Epi deposition

SELECTIVE EXPANSION IN VERTICAL FURNACE AND PECVD





A400XT & A400C



A400 DUO

New Vertical Furnace platforms:
A400 DUO and New 300mm platform

Significant wins in China



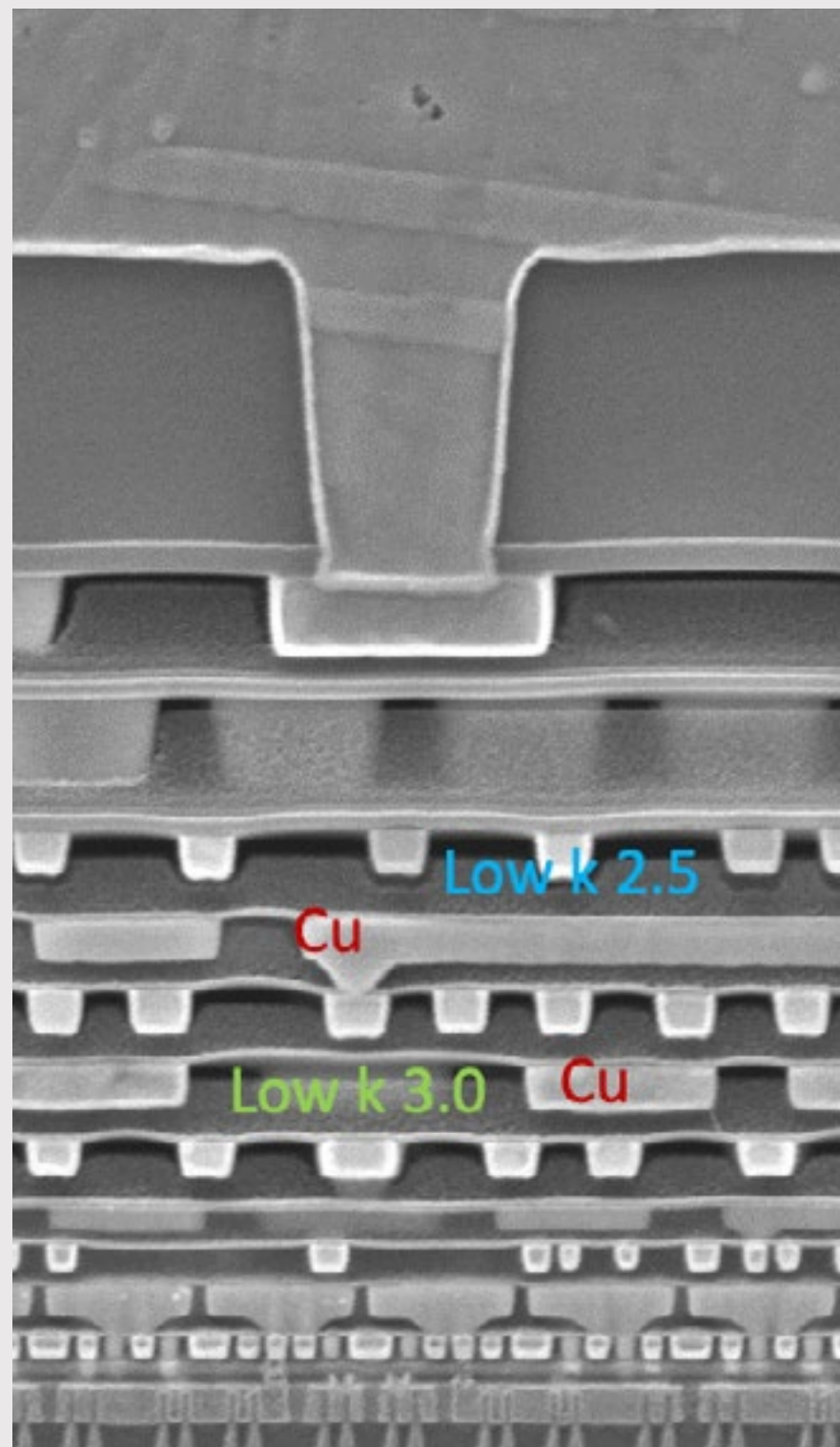
A412



New 300mm platform

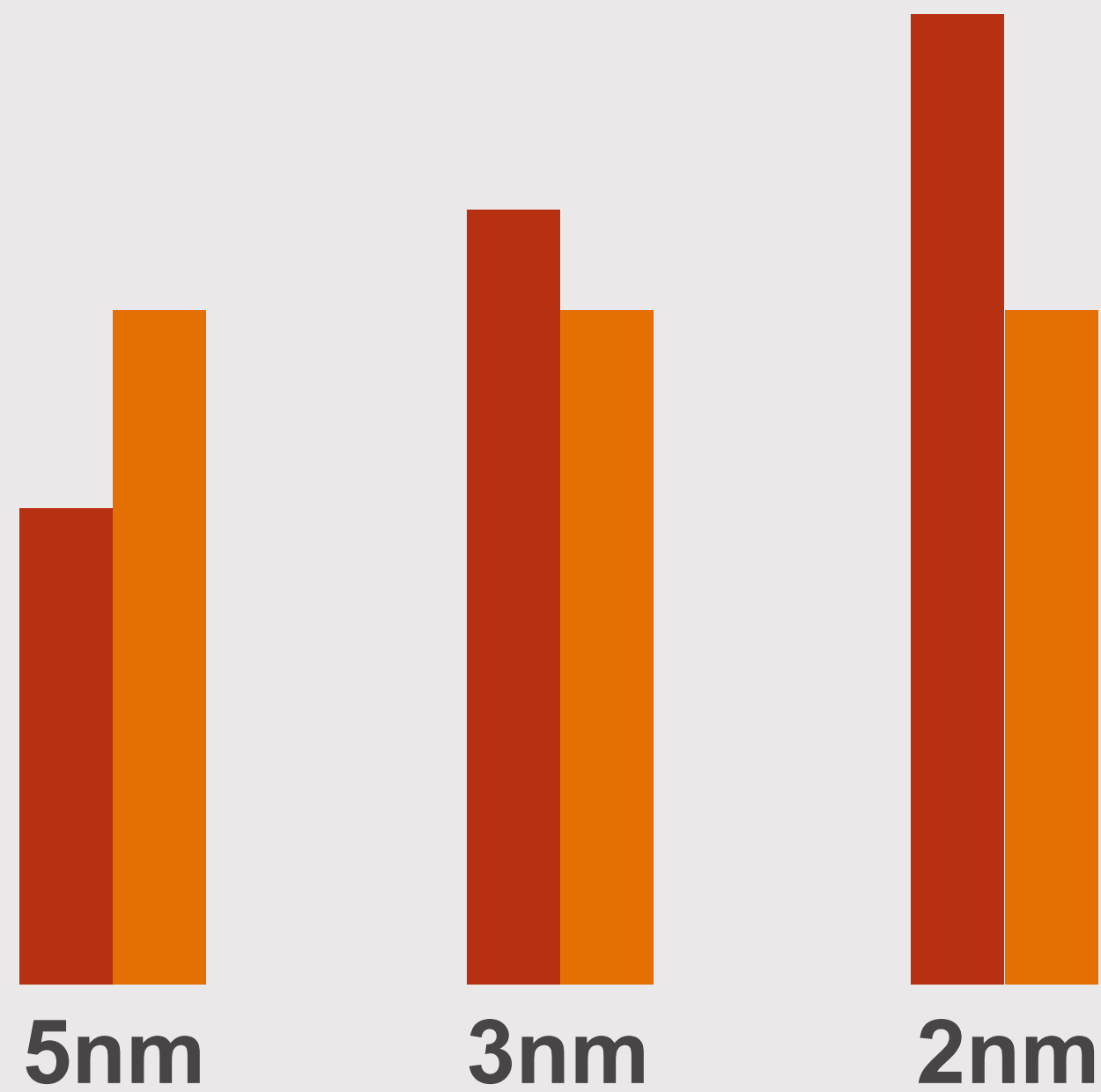
Multitude of applications:
LPCVD, Cure, Oxidation

Expanding Aurora k 3.0 low-k technology to more layers



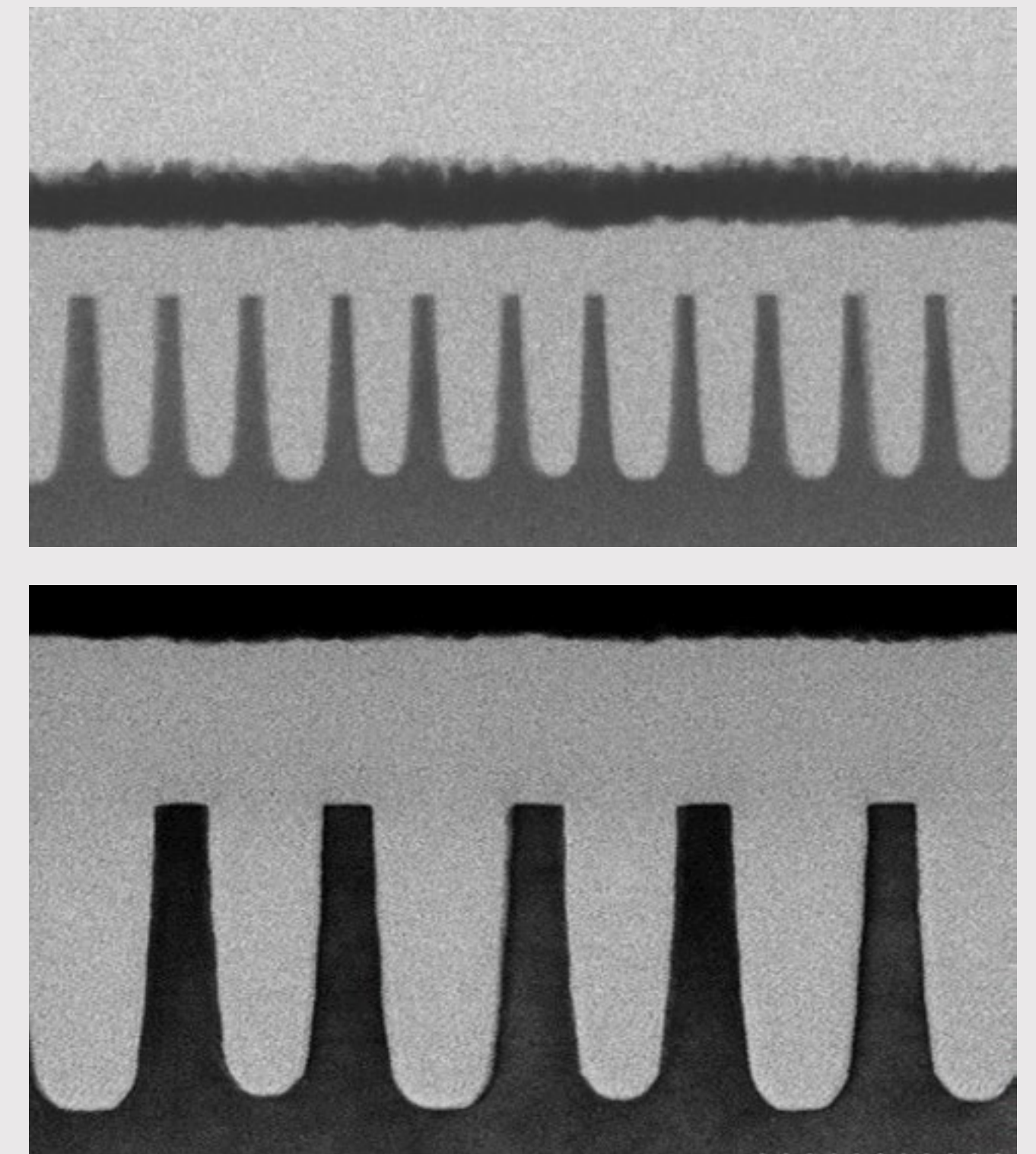
Source: Chipworks

Technology node vs. average number of layers



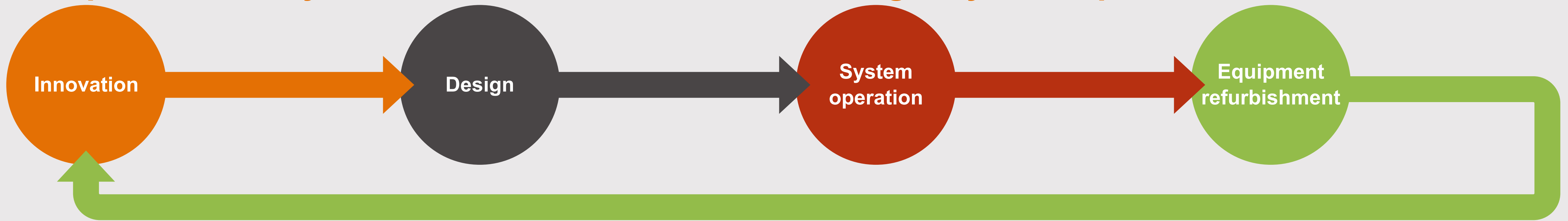
● k 3.0
● k 2.5

Developing innovation gap-fill capability with carbon-based films



COMMITMENT TO SUSTAINABILITY

As a leading supplier of WFE equipment, ASMI has embarked on integrating sustainability in our product life cycle in the areas of innovation, design, system operation, and refurbishment



In innovation

- **Engineering innovation** such as Green Chiller, smart Power Distribution Unit (4.2% saving)
- **Process innovation** – more efficient reactor cleans or precursor usage (>16% saving)

In design

- **New insulation techniques / materials** to reduce heat losses
- **Optimized Power Supply / RF generators** to reduce electrical usage

System operation

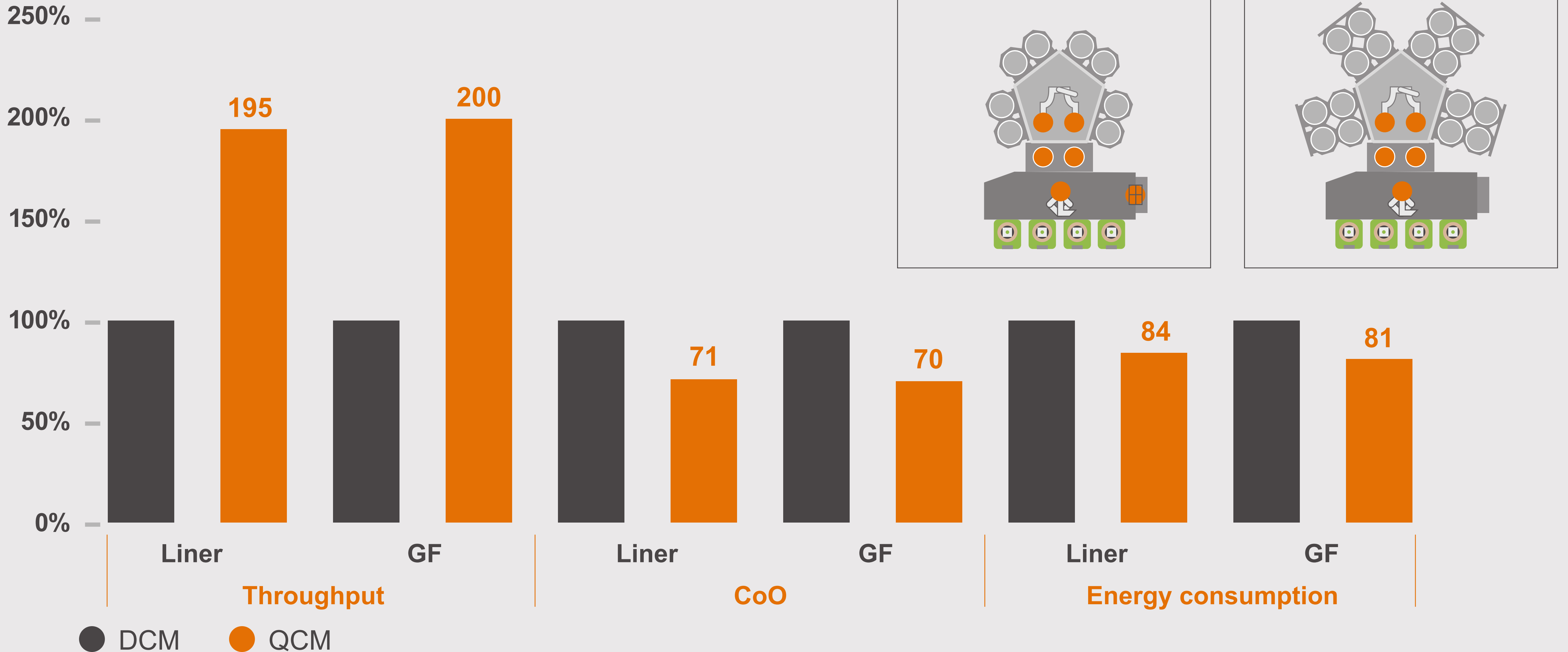
- **Partnering with abatement companies** to reduce effluents while optimizing fuel consumption
- **Developing smart system idling** (15% energy savings)

In refurbishment

- **Active program to recycle and re-use** of older generation equipment
- **Extend the life of components / eliminate consumable parts** through optimized parts cleaning

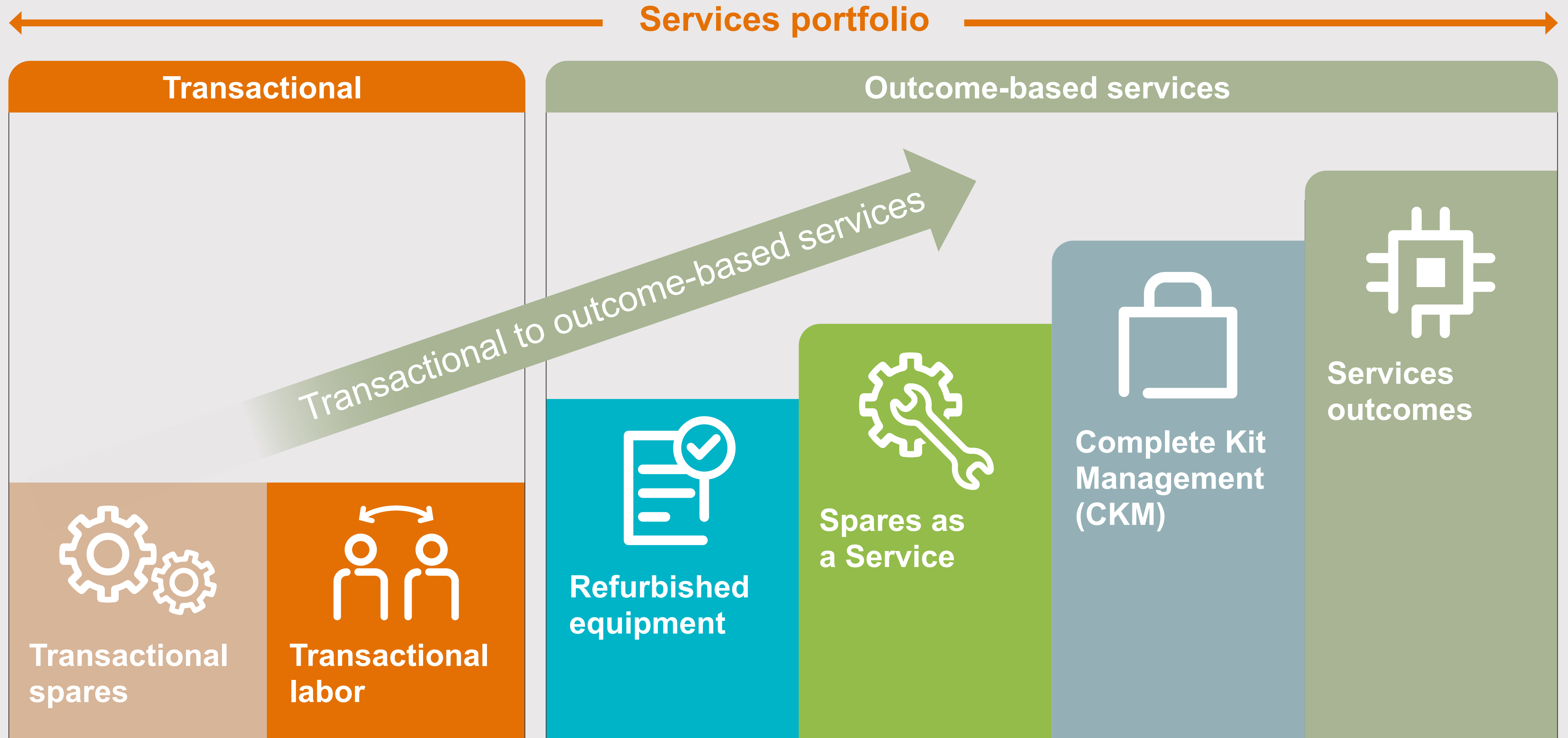
ENERGY REDUCTION THROUGH DESIGN INNOVATION

QCM advantage for cost and energy



FROM TRANSACTIONAL TO OUTCOME-BASED SERVICES

FROM A TRANSACTIONAL TO OUTCOME-BASED MODEL



#1

Leader in ALD with the largest portfolio of products, applications, and materials in an ever expanding market

#2

Growing market share in Epi with new innovations and well engaged in forthcoming gate-all-around (GAA) transition

#3

Selectively growing our offering in Vertical Furnace and PECVD

#4

New innovations increasingly focused on sustainable solutions with energy usage reduction

#5

Transitioning from transactional to outcome-based business model in service to provide the best value to our customers



ASMI
INVESTOR
DAY 2021

ASMI INVESTOR DAY 2021

FINANCIAL UPDATE:
GROWTH THROUGH INNOVATION

Paul Verhagen
CFO

September 28, 2021

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#1

ASMI has grown to be a leader in ALD, creating significant value for all stakeholders

#2

Revenue target of €2.8-€3.4 billion by 2025, representing a CAGR of 16-21%, outgrowing WFE market

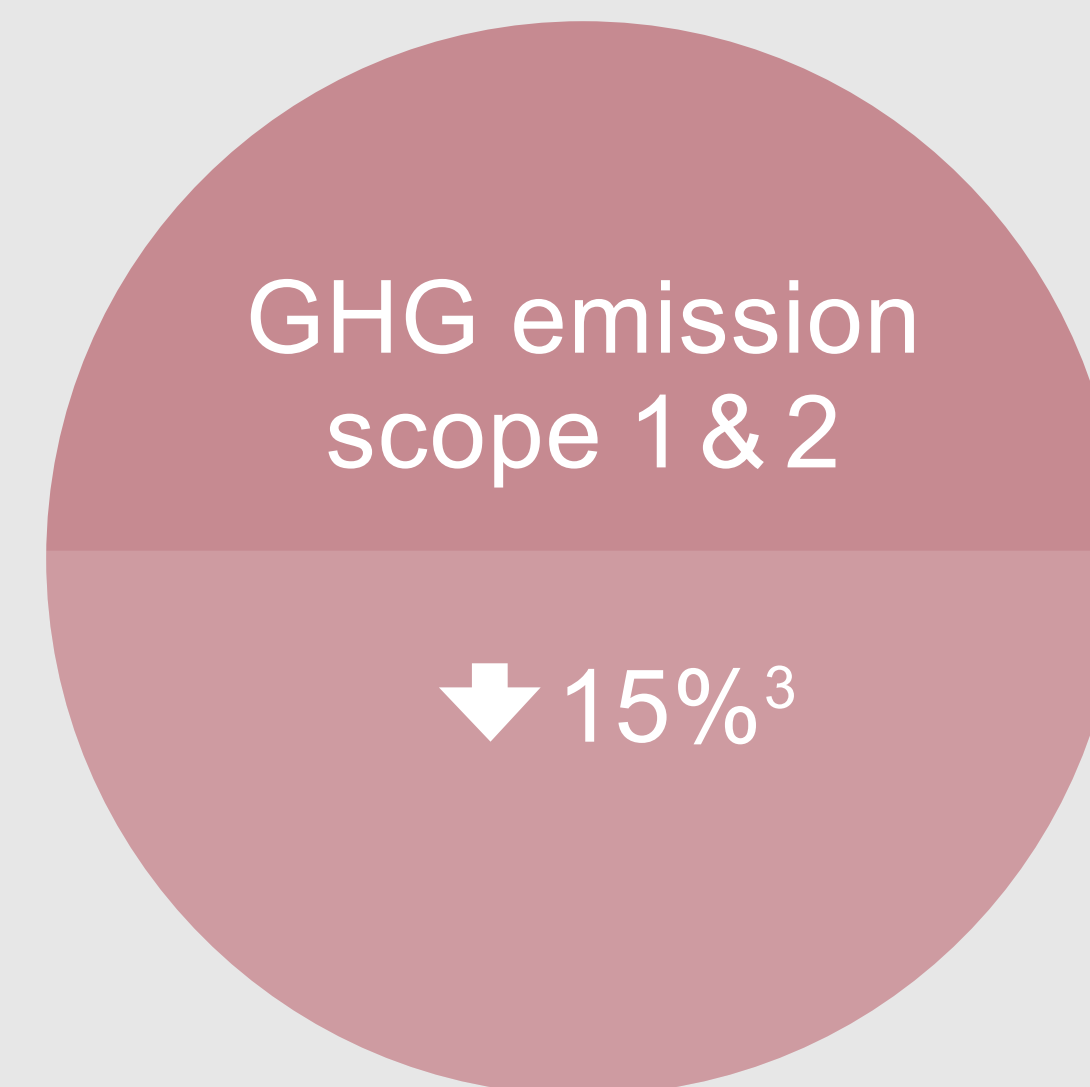
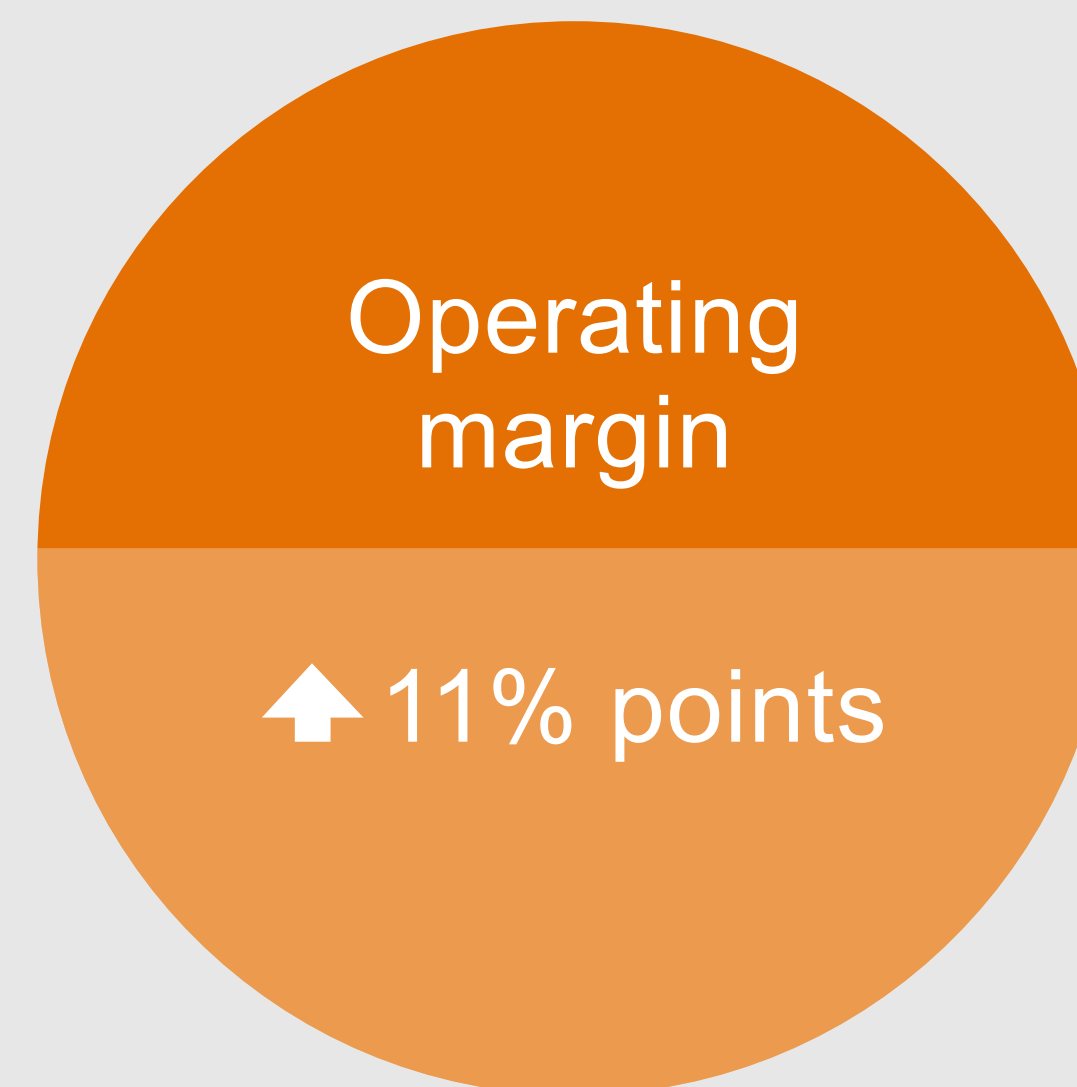
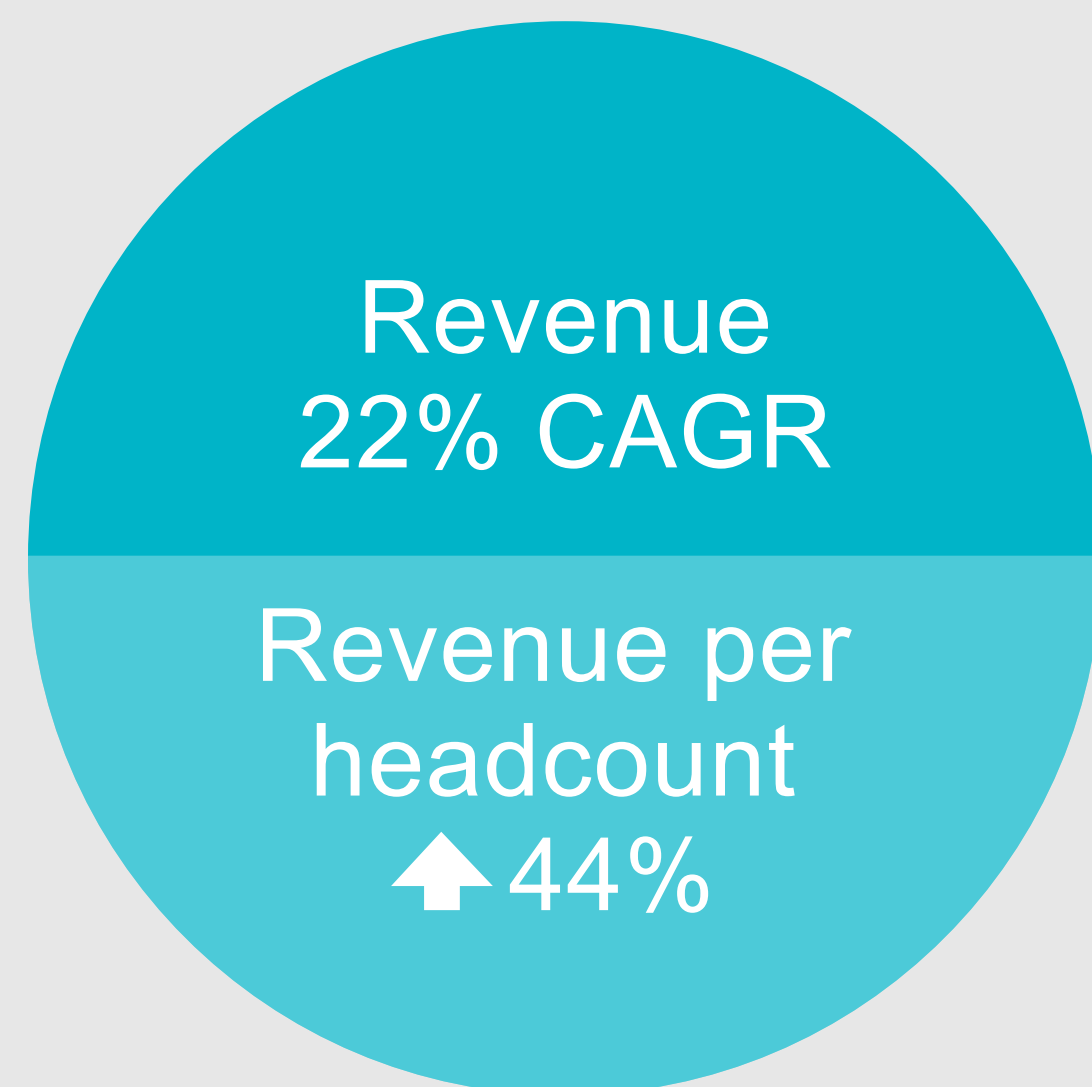
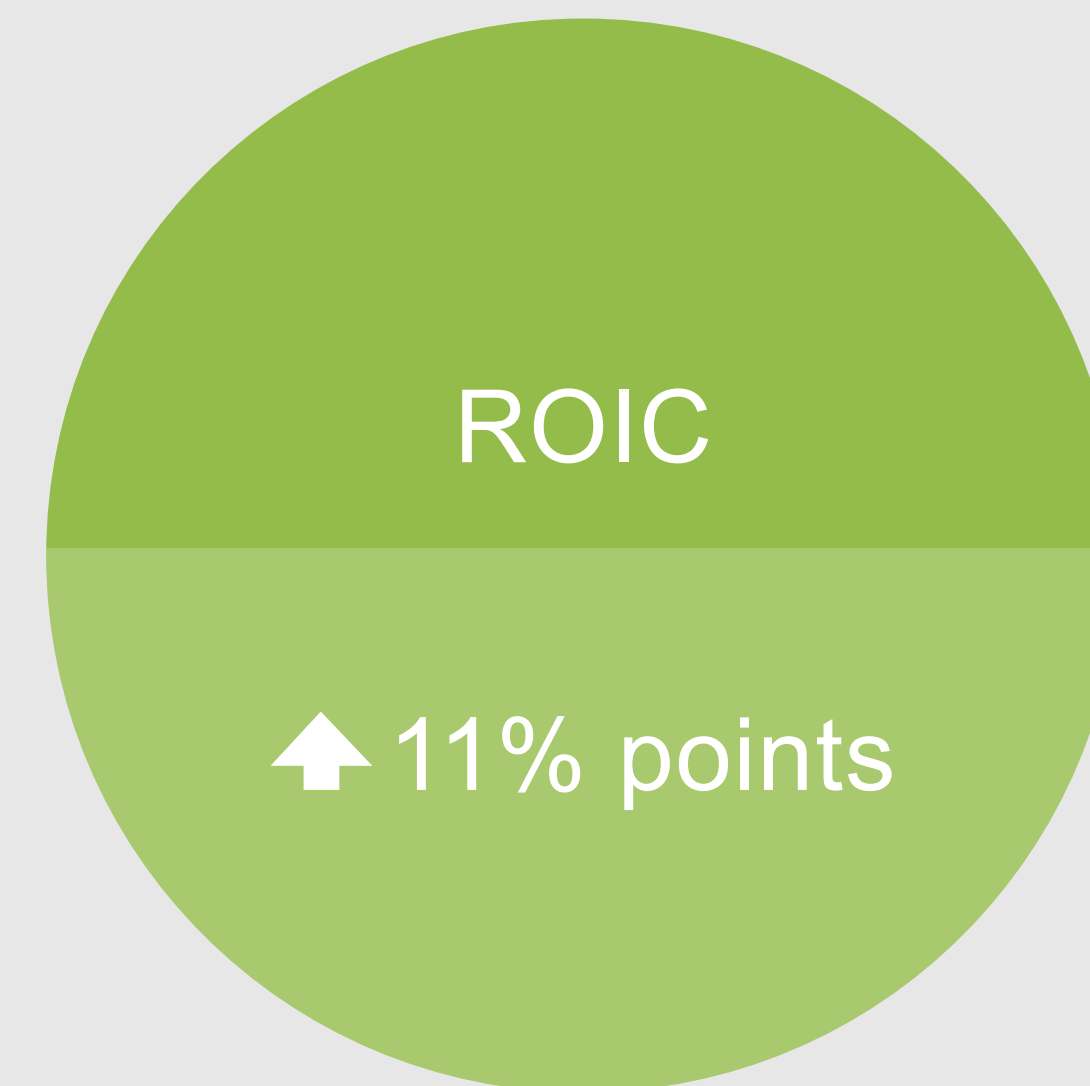
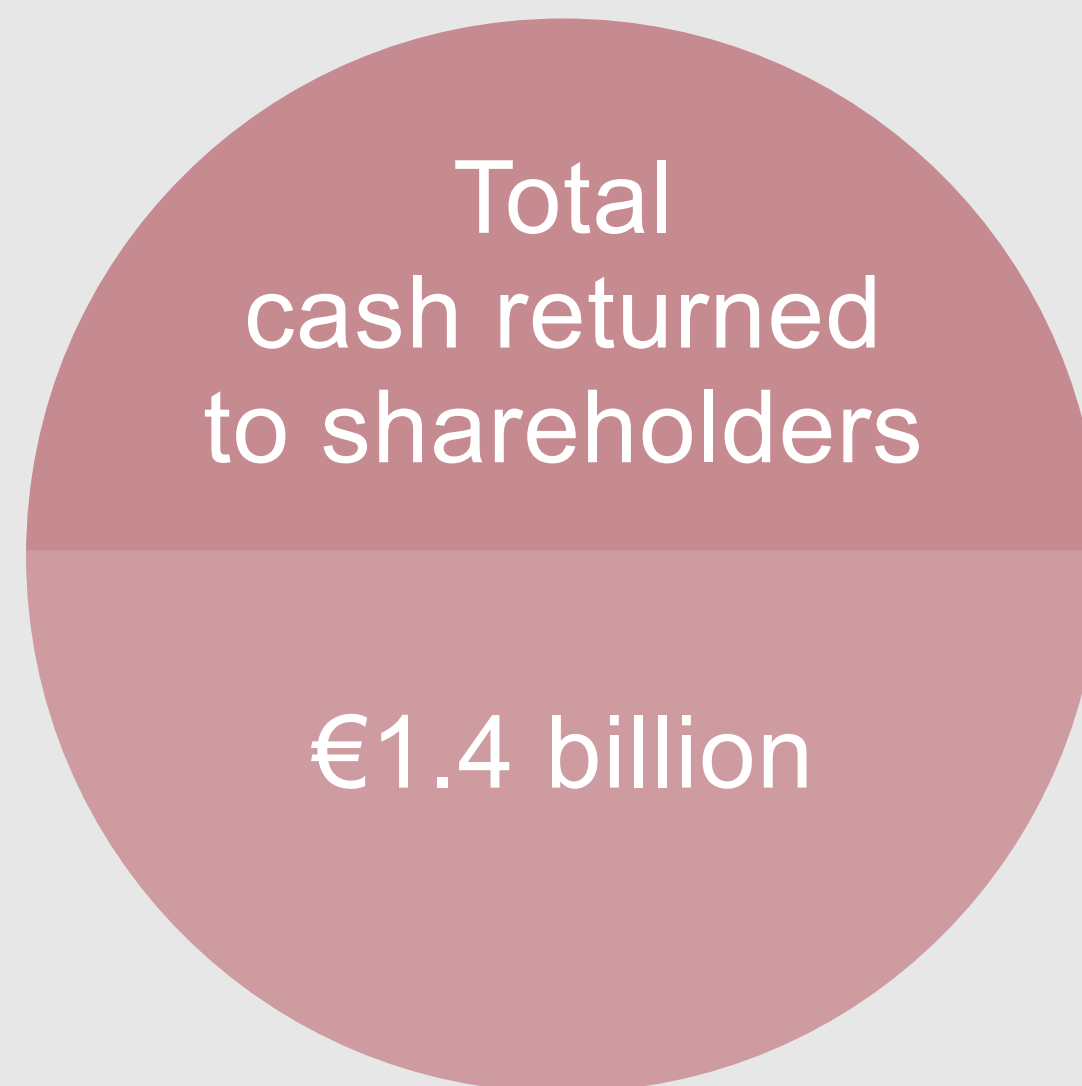
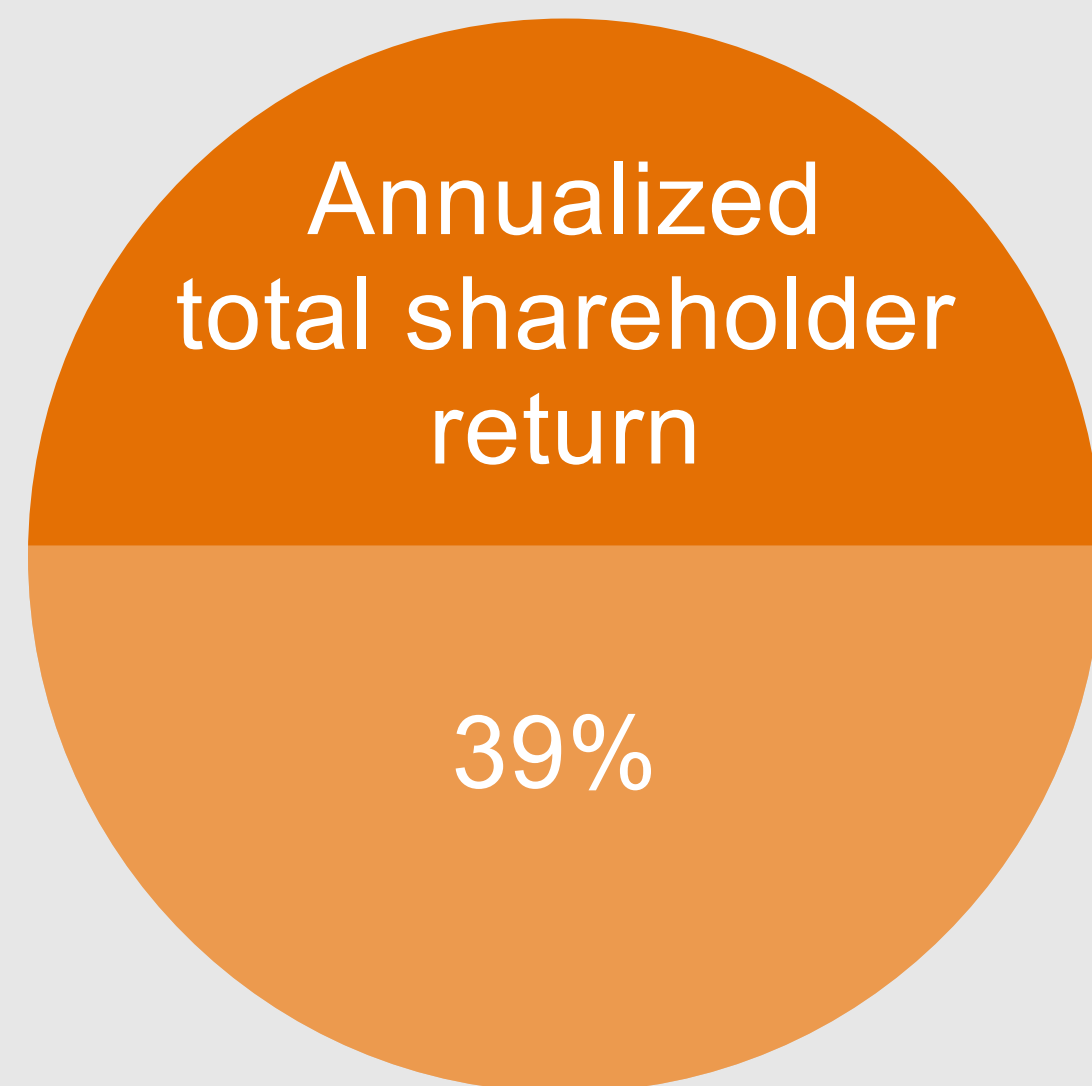
#3

Operating margin target ranging from 26% to 31% in 2021 - 2025 generating strong free cash flow

#4

Capital allocation policy unchanged. Investment in growth remains the key priority with excess cash returned to shareholders

KEY HIGHLIGHTS AT A GLANCE FY16-FY20



¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

² Excluding ASMPT dividends

³ Intensity per mtCO₂e/million € R&D investment

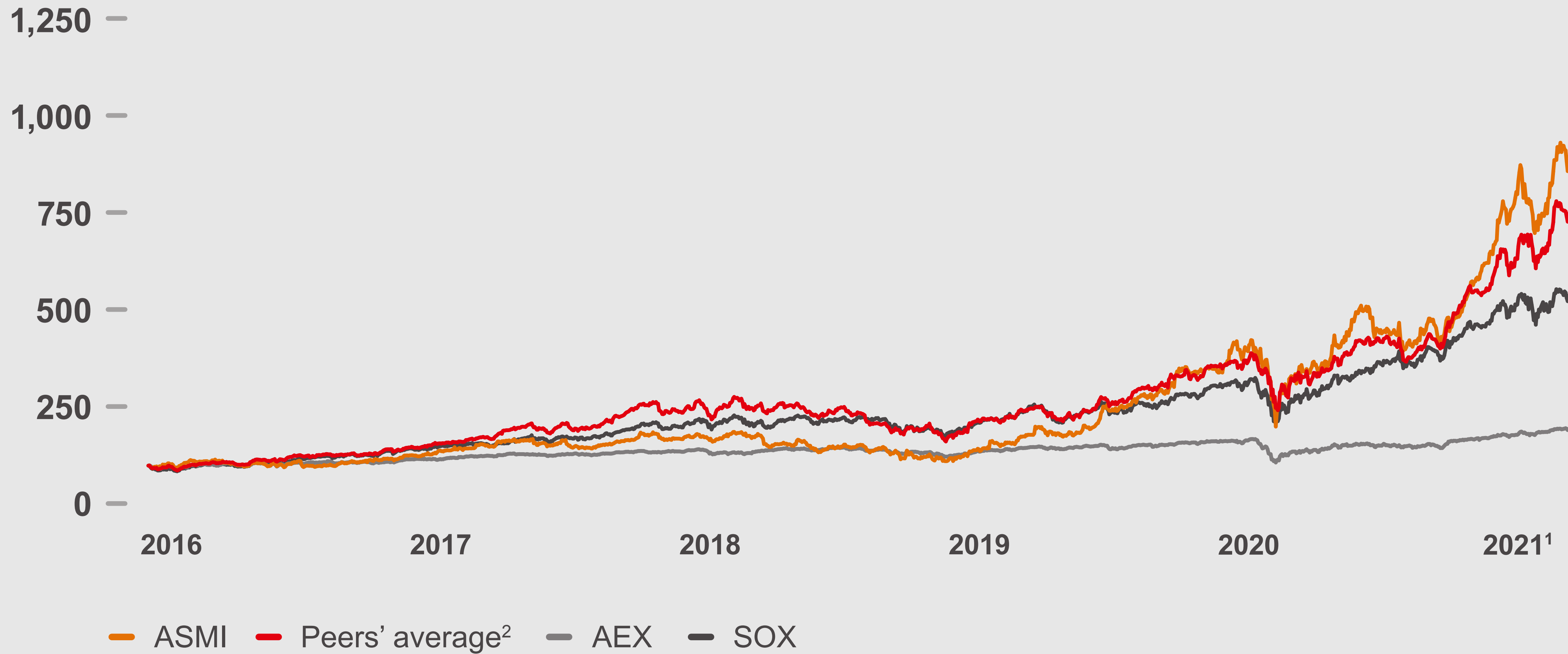
HISTORICAL KEY FINANCIAL PERFORMANCE FY16-FY20



STRONG TOTAL SHAREHOLDER RETURN



Total cumulative shareholder return in %

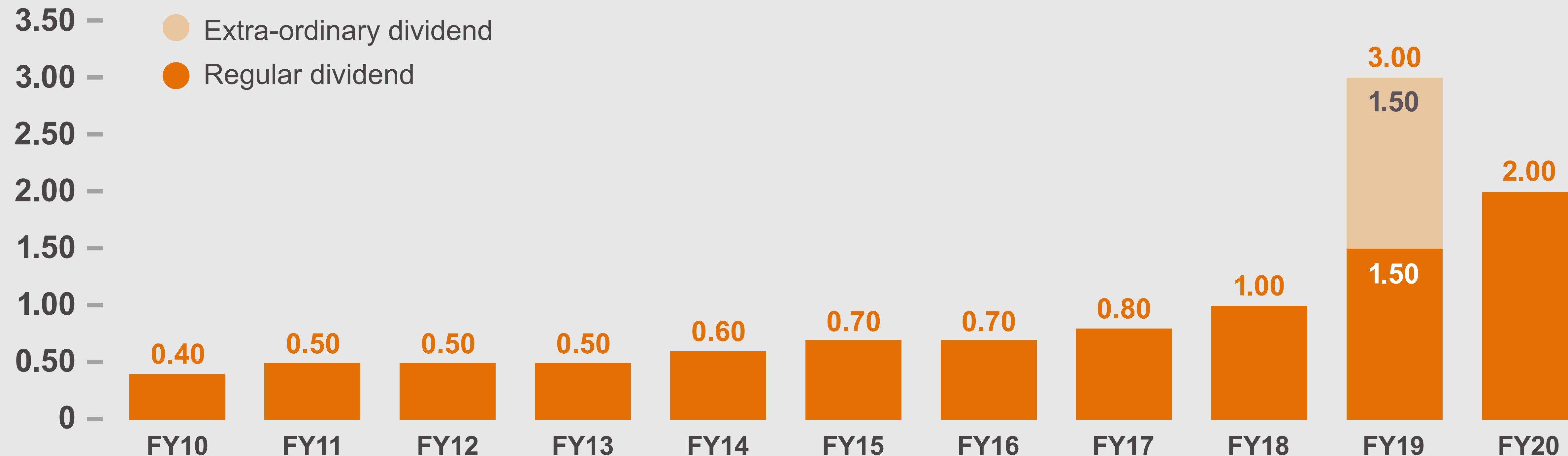


¹ Up to September 22, 2021

² Peers' average consists of Applied Materials, ASML, KLA, Lam Research, and Tokyo Electron

STRONG GROWTH IN DIVIDENDS

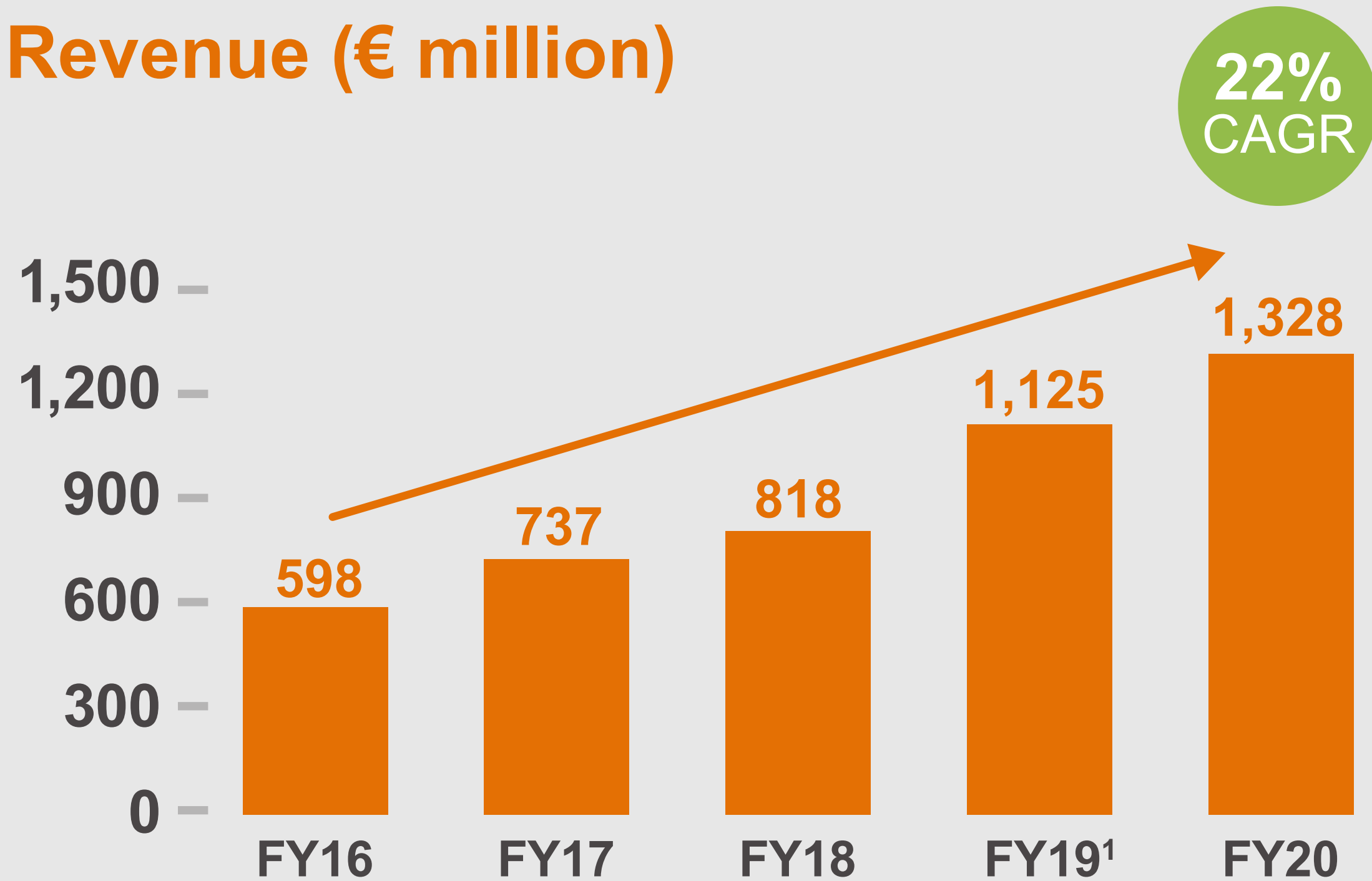
Dividend per share (in € paid over)



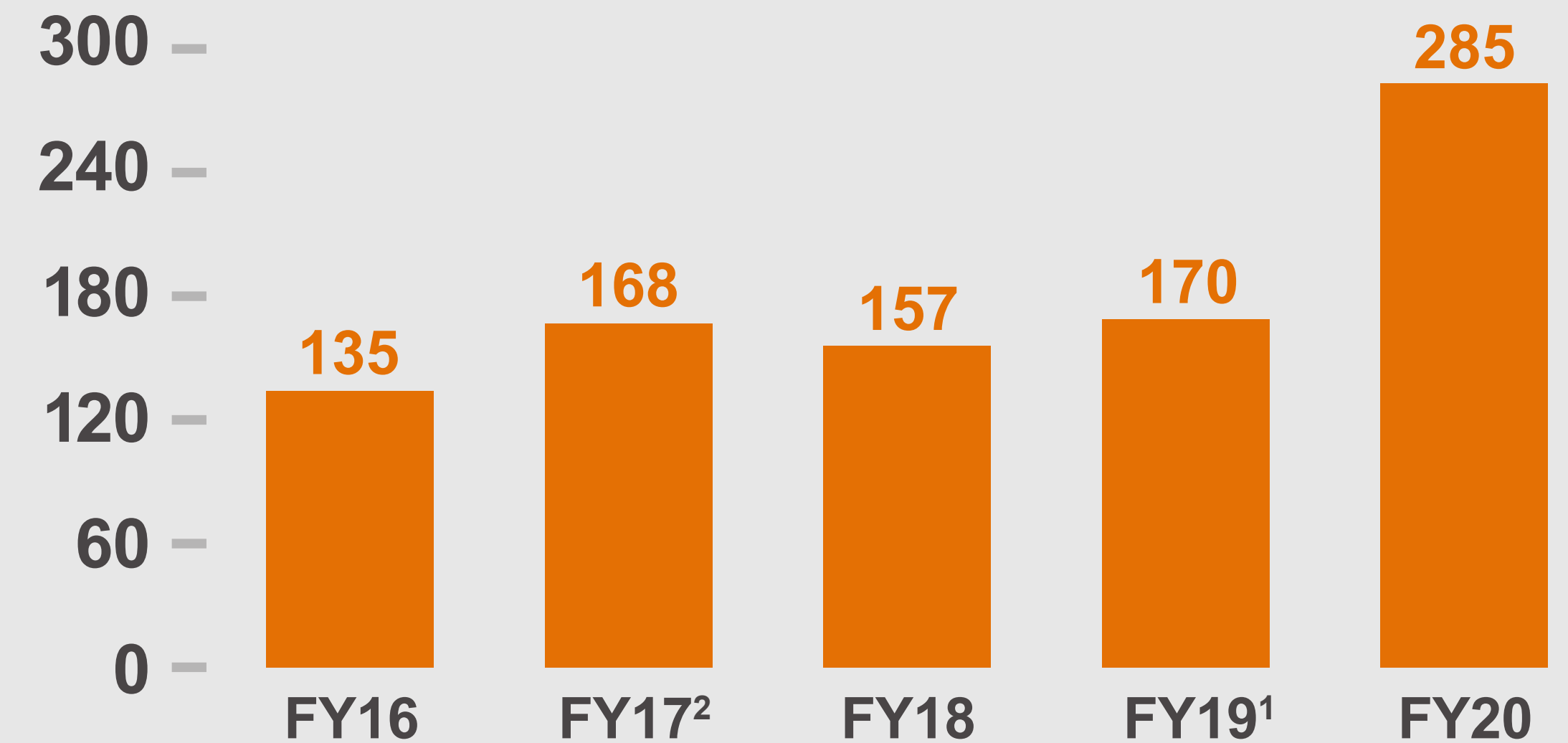
Dividends gradually increased from €0.40 per ordinary share in FY10 to €2.00 in FY20

STRONG PROFITABLE GROWTH

Revenue (€ million)



Net earnings (€ million)



Revenue growth key drivers:

- Growth in end markets and WFE market
- Increased market share in ALD and epitaxy
- Growth in spares and services

Net earnings:

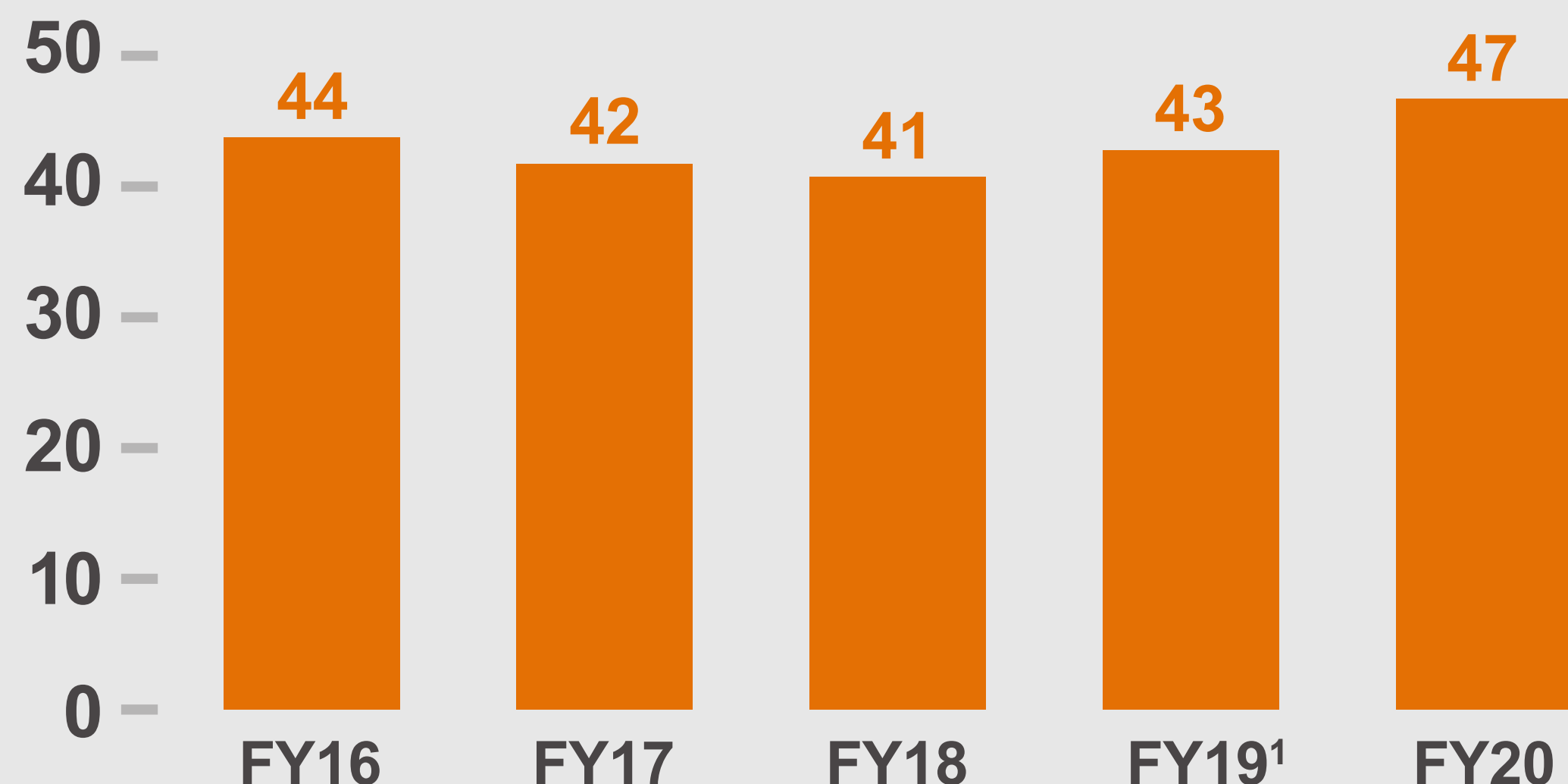
- Net earnings development is not fully consistent with revenue growth mainly due to annual fluctuations in currency results, tax and income from ASMPT

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

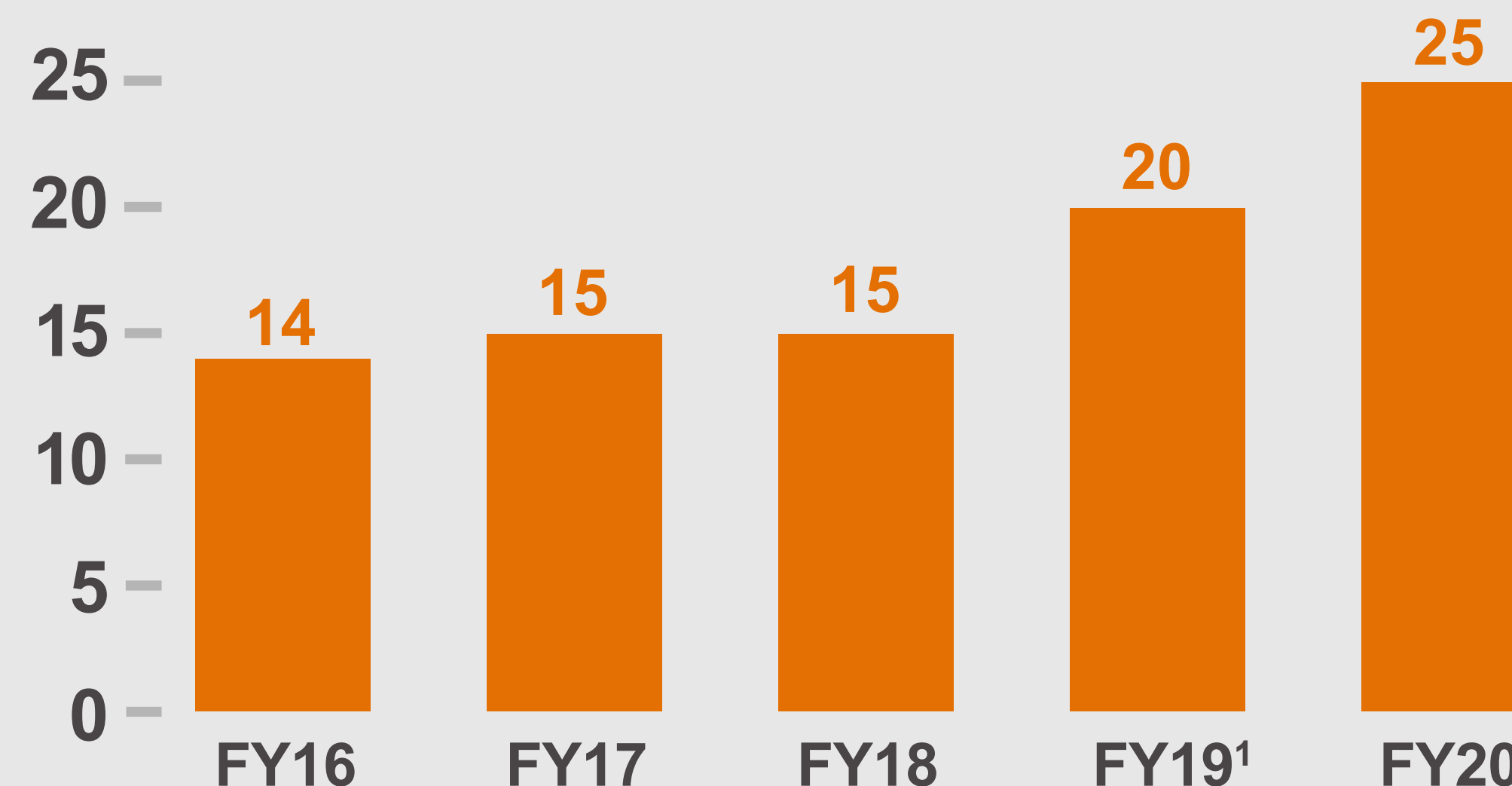
² FY17: Excludes €285 million gain on sale of ASMPT stake

MARGIN EXPANSION AND EARNINGS GROWTH

Gross margin (in %)



Operating margin (in %)



Gross margin expansion key drivers:

- Application mix
- Operating leverage and productivity improvements
- Supply chain improvements
- Reduced margins in FY17/18 due to investments in new product introductions

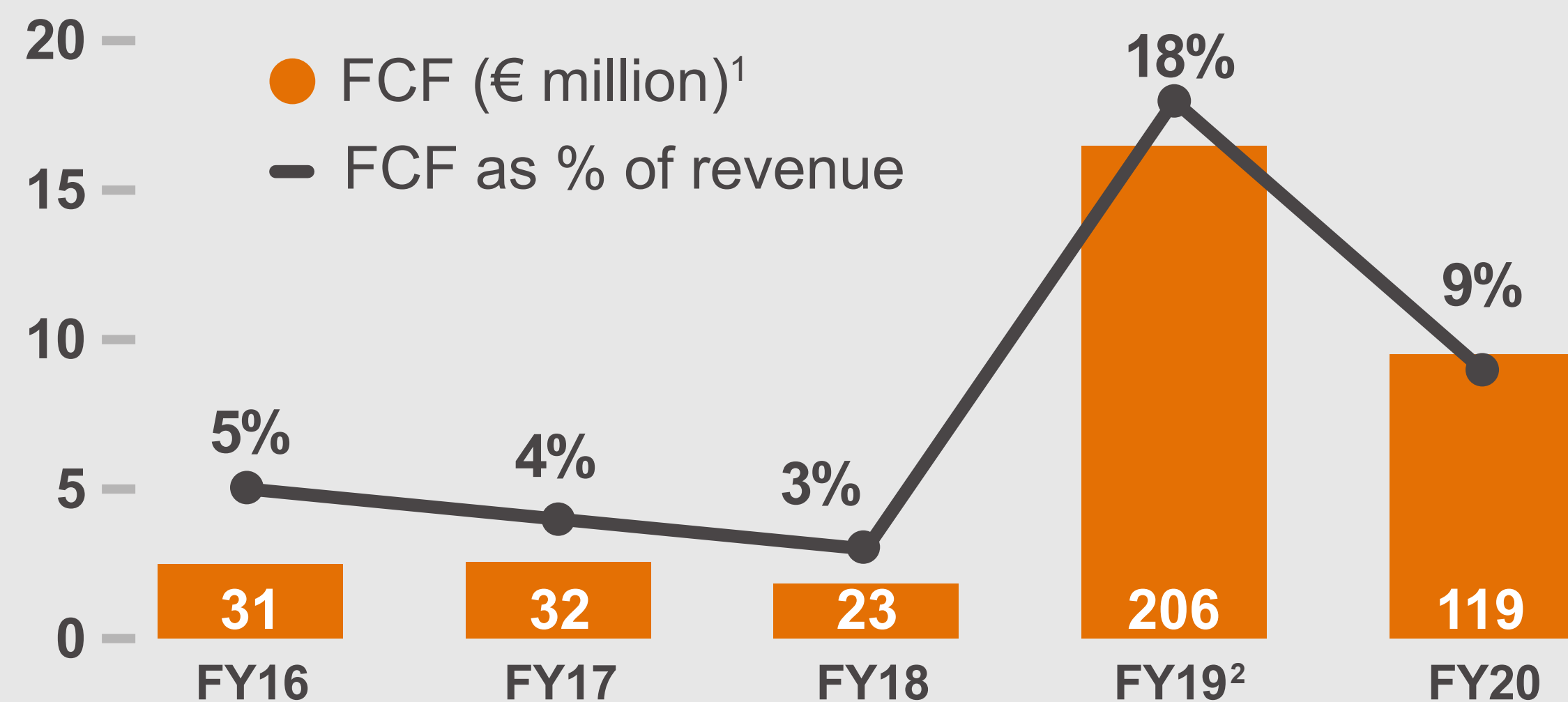
Improved operating margin key drivers:

- Development gross margin
- Operating leverage and productivity improvements in SG&A and R&D

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

EXCESS CASH RETURNED TO SHAREHOLDERS

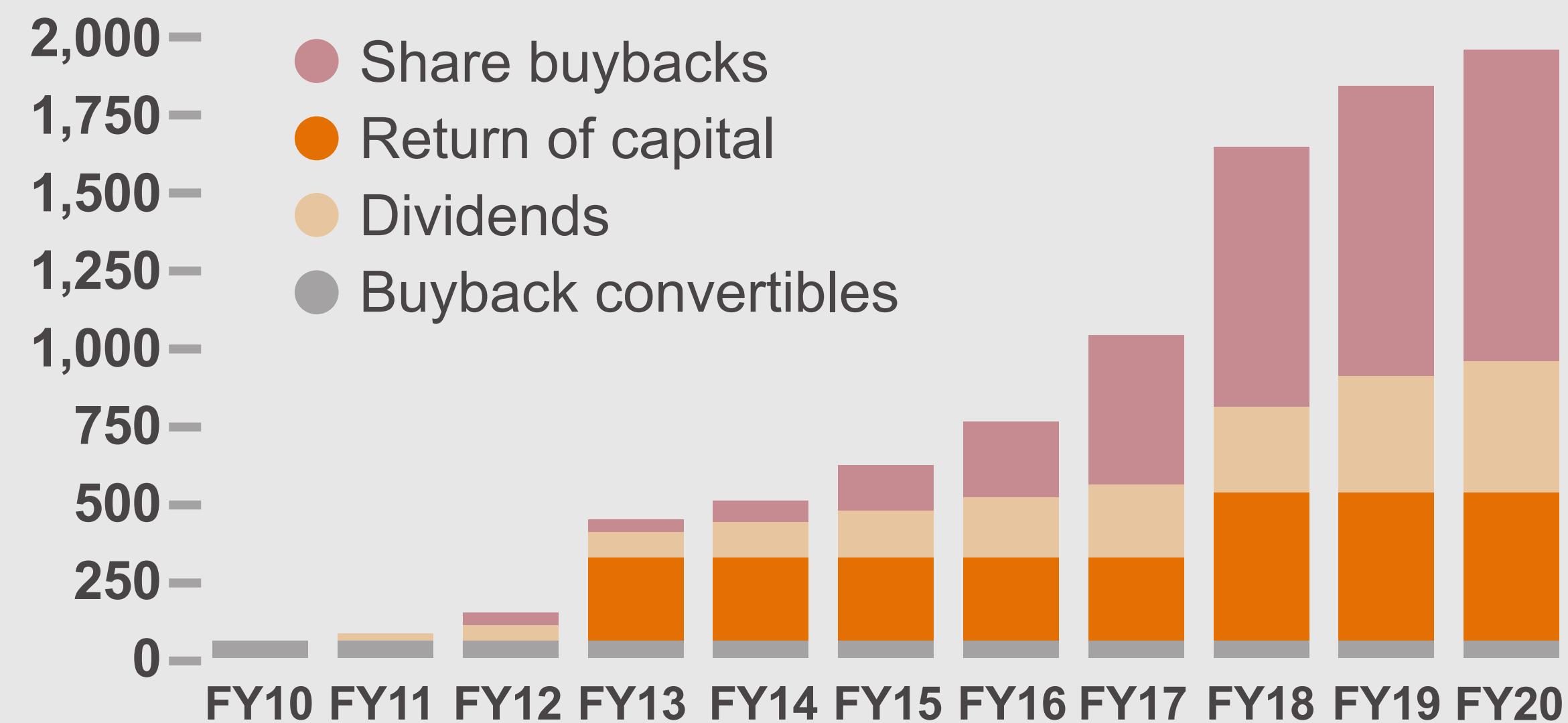
Free cash flow (FCF)



Free cash flow (FCF)

- Strong improvement FCF in FY19/FY20 driven by improved profitability
- Reduction in FY20 FCF is due to some delayed customer payments just after year end

Cumulative cash returned to market (€ million)



Cash returned to shareholders

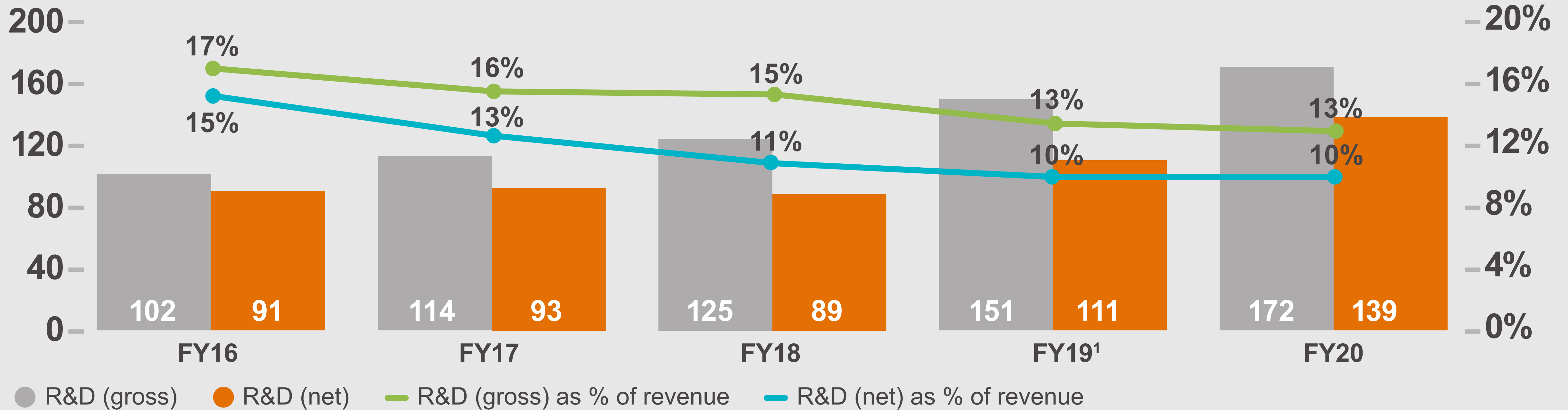
- Almost €2 billion cash returned since FY10 of which:
 - Approximately €1 billion in share buyback, €0.5 billion in dividends and €0.5 billion in return of capital

¹ Excluding ASMPT dividends ² Excluding proceeds from patent litigation and arbitration settlement in FY19

INCREASED R&D INVESTMENTS TO SUPPORT VALUE CREATING GROWTH



R&D expenses (€ million)

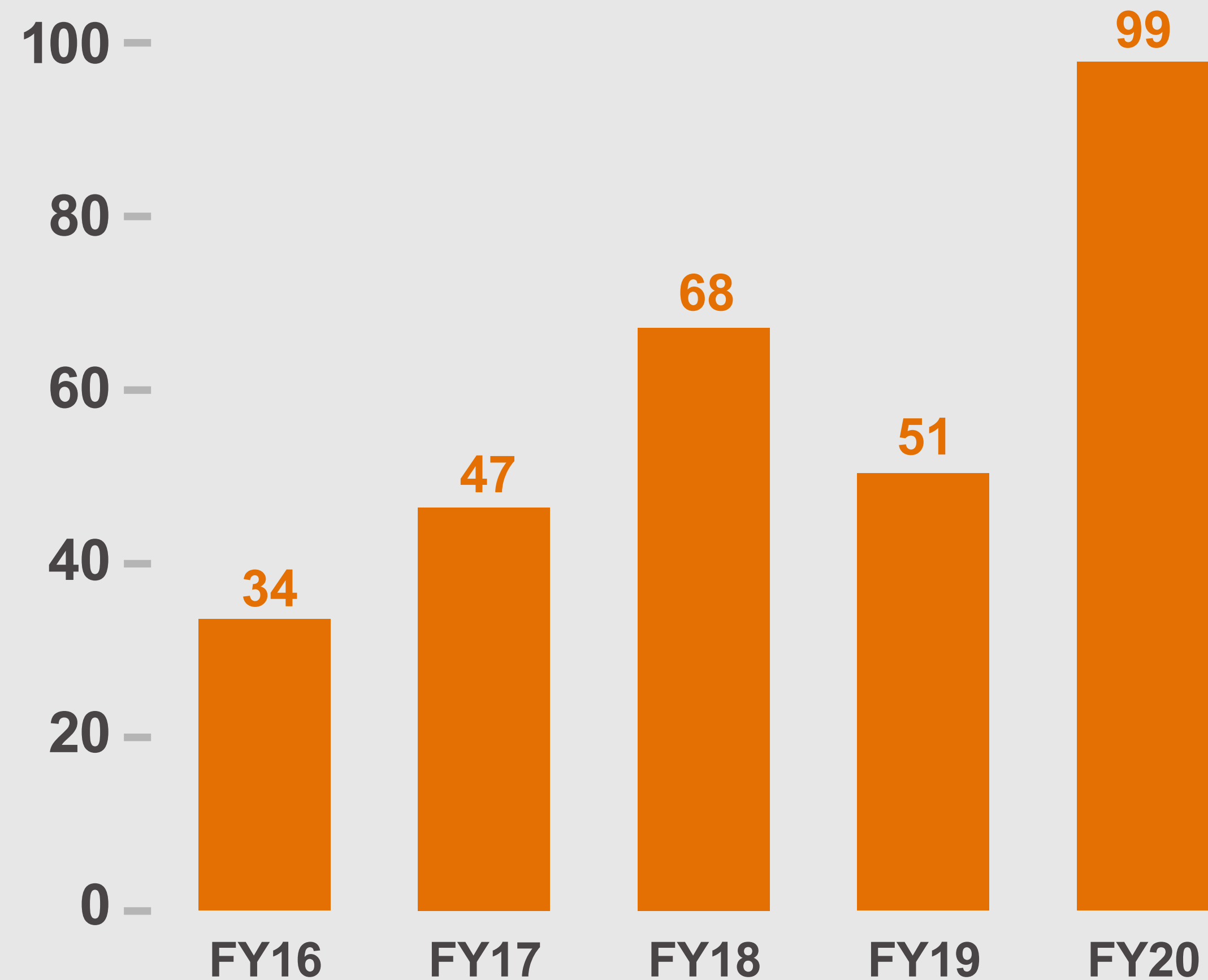


Increased gross R&D investments² from €102 million to €172 million, resulting in 13% gross and 10% net R&D as a % of revenue

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

² Gross R&D expenses excludes capitalization, amortization and impairment

Capital expenditures, gross (€ million)



FY18



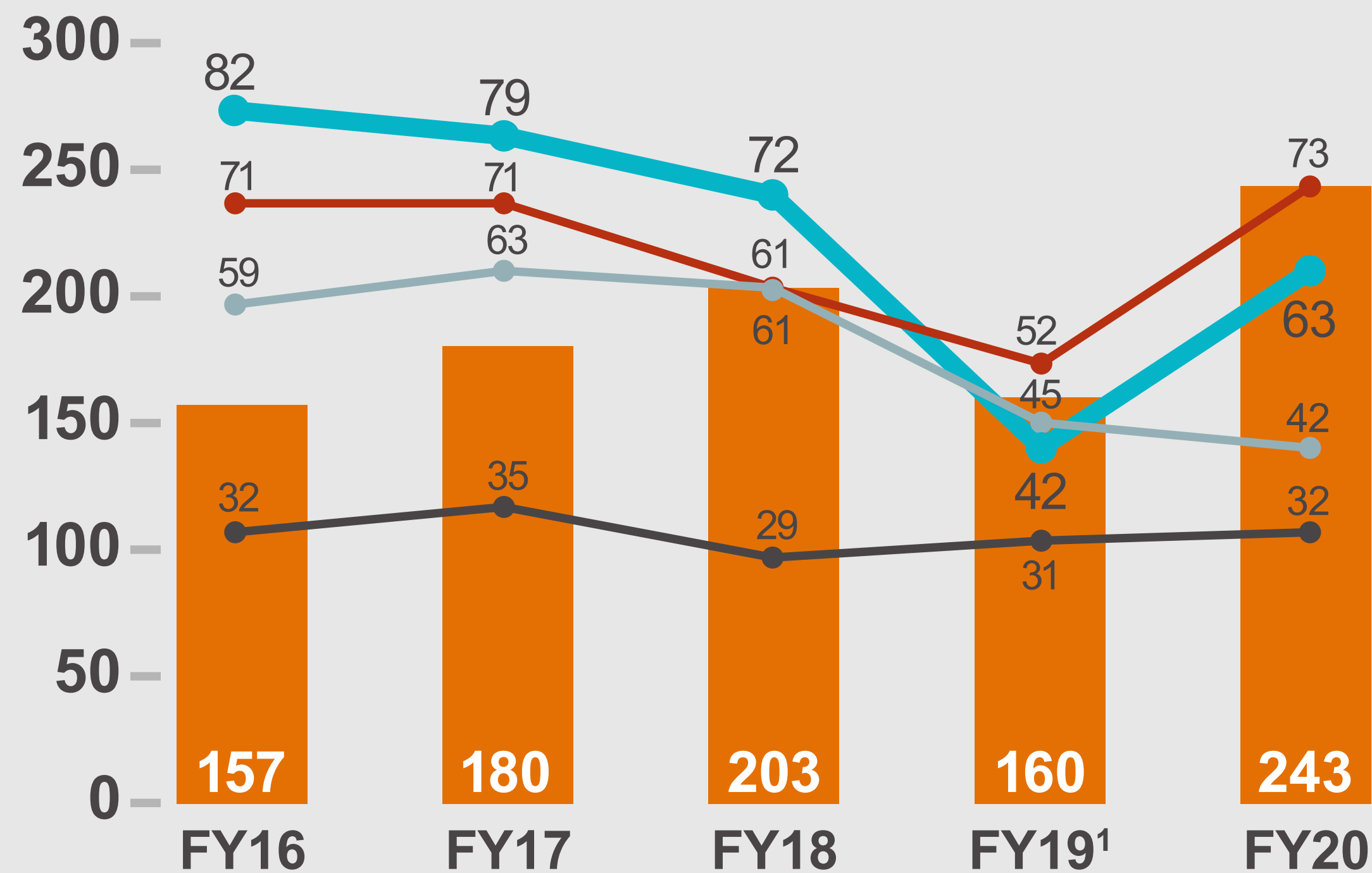
Completed our new facility in South Korea to strengthen our position in this key market

FY20



Completed our new facility in Singapore, substantially expanding our manufacturing capacity

Working capital amount (€ million) and days



- Total working capital amount
- Total working capital days
- Accounts payables days
- DIO
- DSO

Working capital days in the range of 42 to 82 days

- Changes in working capital days mainly caused by DSO ranging from 50 to 75 days
- DIO improved from 59 to 42 days
- Payables remained stable around 30 to 35 days
- Other working capital remained stable around 17 to 24 days

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

TARGETS FY21-FY25



FINANCIAL TARGETS TOWARDS FY25

	FY16	FY20	FY25
Revenue	€598 million	€1.3 billion	€2.8 to €3.4 billion ¹
Revenue growth	13% CAGR (FY12-FY16)	22% CAGR (FY16-FY20)	16-21% CAGR (FY20-FY25)
Gross margin %	44%	47%	46-50% (FY21-FY25)
SG&A % revenue	15%	12%	High single digit (FY25)
R&D (net) % revenue	15%	10%	High single digit to low teens (FY25)
Operating margin %	14%	25%	26-31% (FY21-FY25)

¹ In constant currencies

Category	Targets
GHG emissions	Net zero by 2035, including scope 1, 2 and 3 emissions
Renewable electricity	100% renewable electricity by 2024
Safety	Recordable overall injury rate less than 0.1 cases per 100 employees by 2025



REVENUE TARGET OF €2.8 - €3.4 BILLION, OUTGROWING WFE MARKET

WFE market forecast (US\$ billion)

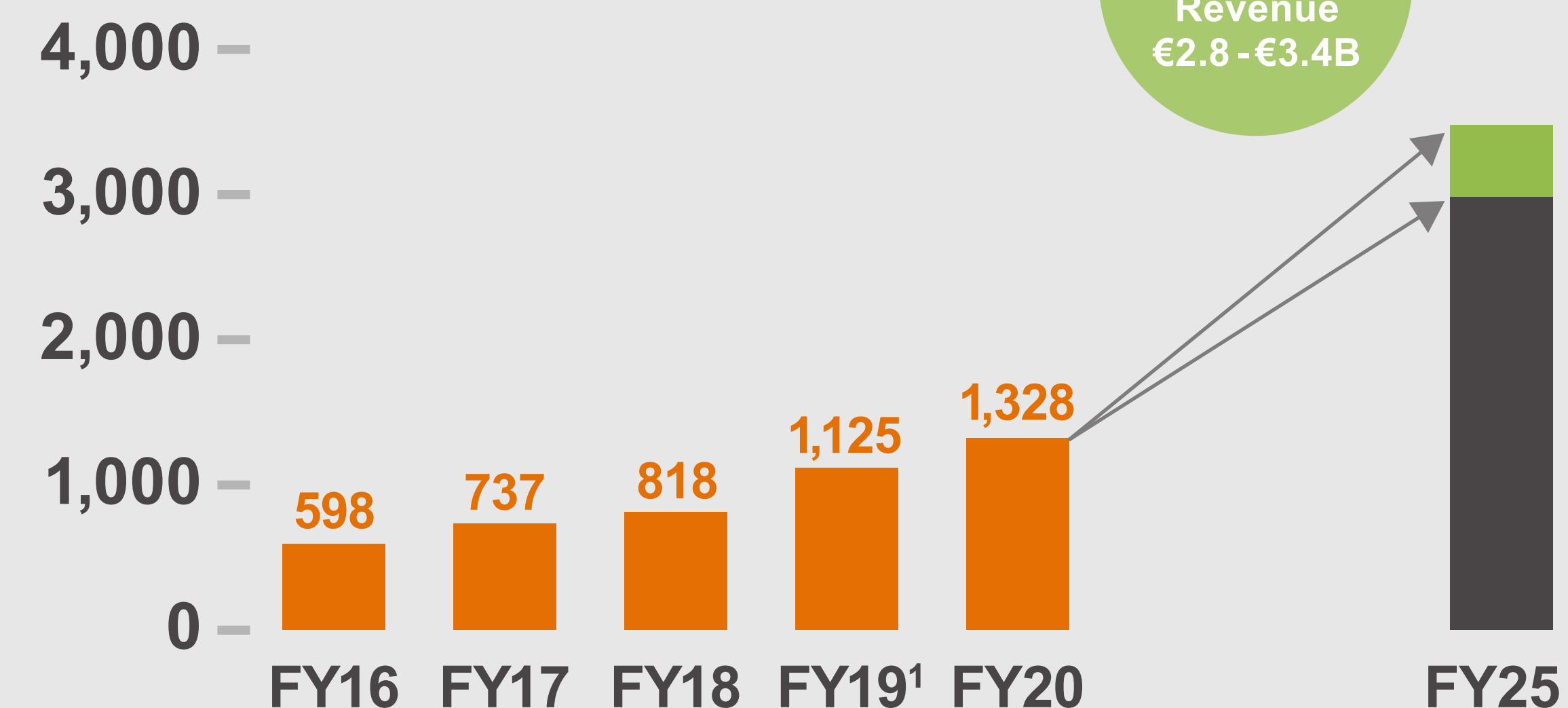


Source: VLSI Research September 2021

ASMI expects to outgrow the WFE market over the next five years

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

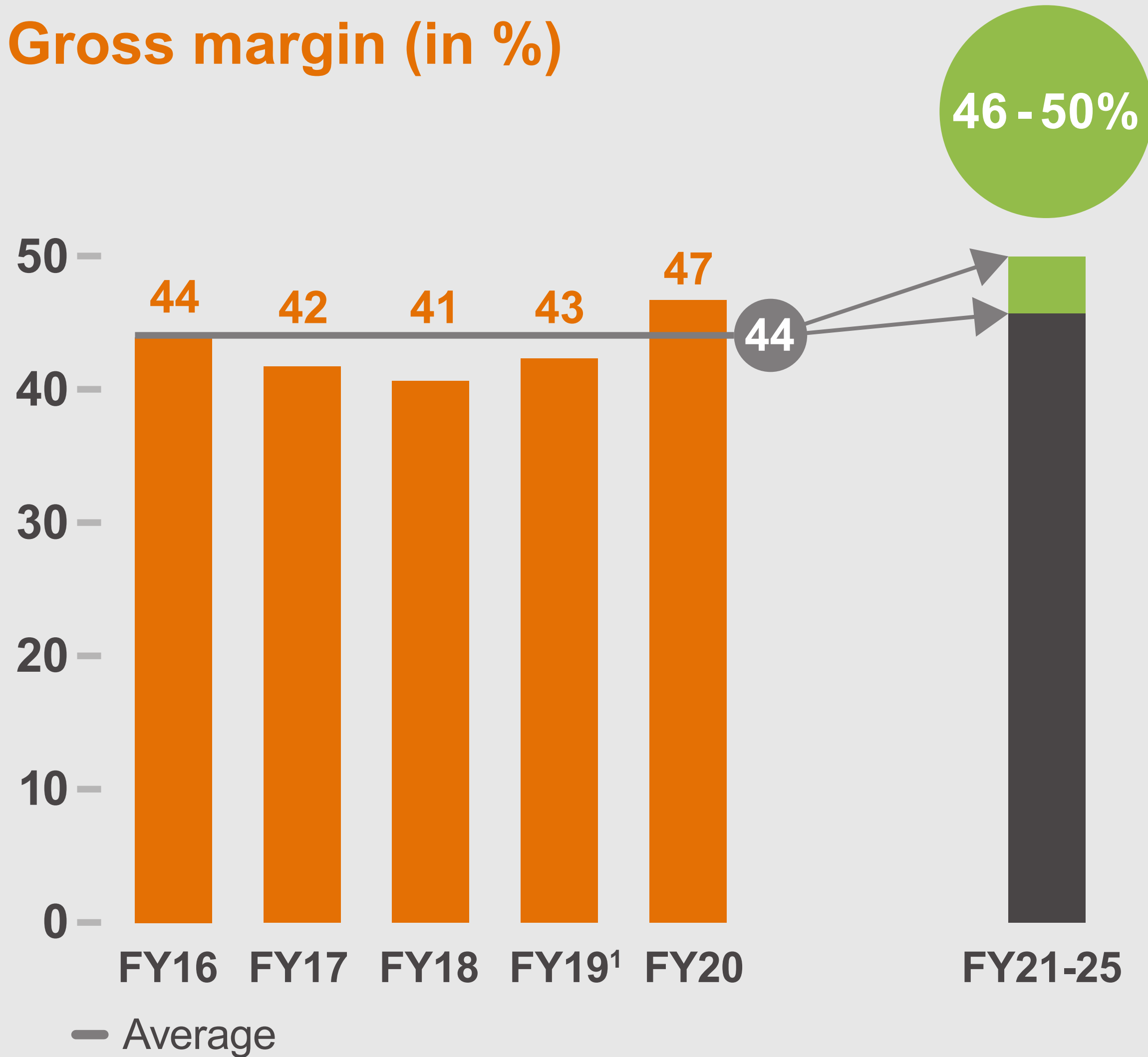
Revenue (€ million)



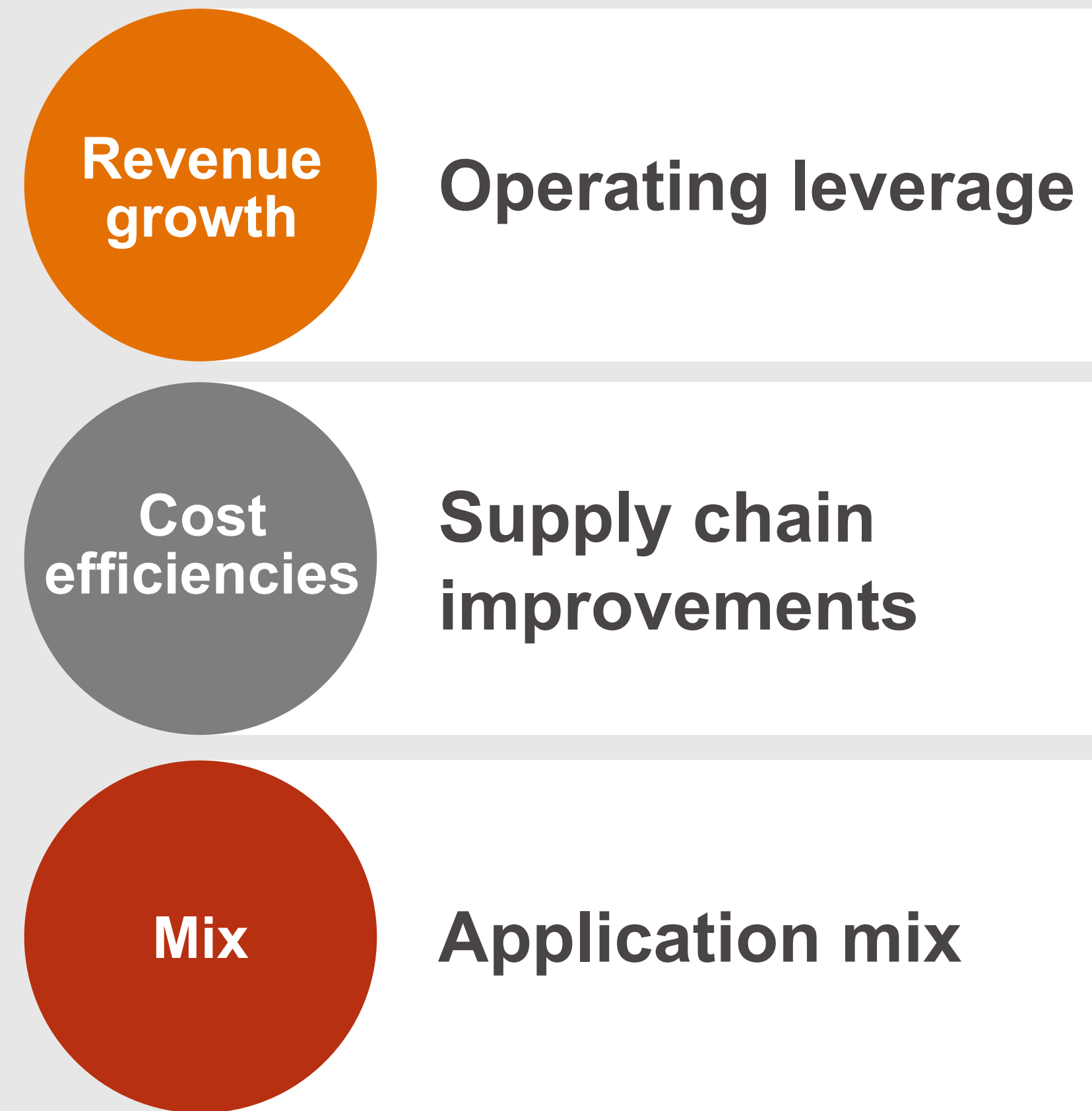
- ALD leadership > Maintain market leadership in logic/foundry and grow memory
- Epi > Gain market share
- Spares and services > Grow outcome-based services
- PECVD and Vertical Furnaces > Selected growth

SUSTAINABLY HIGHER GROSS MARGIN

Gross margin (in %)



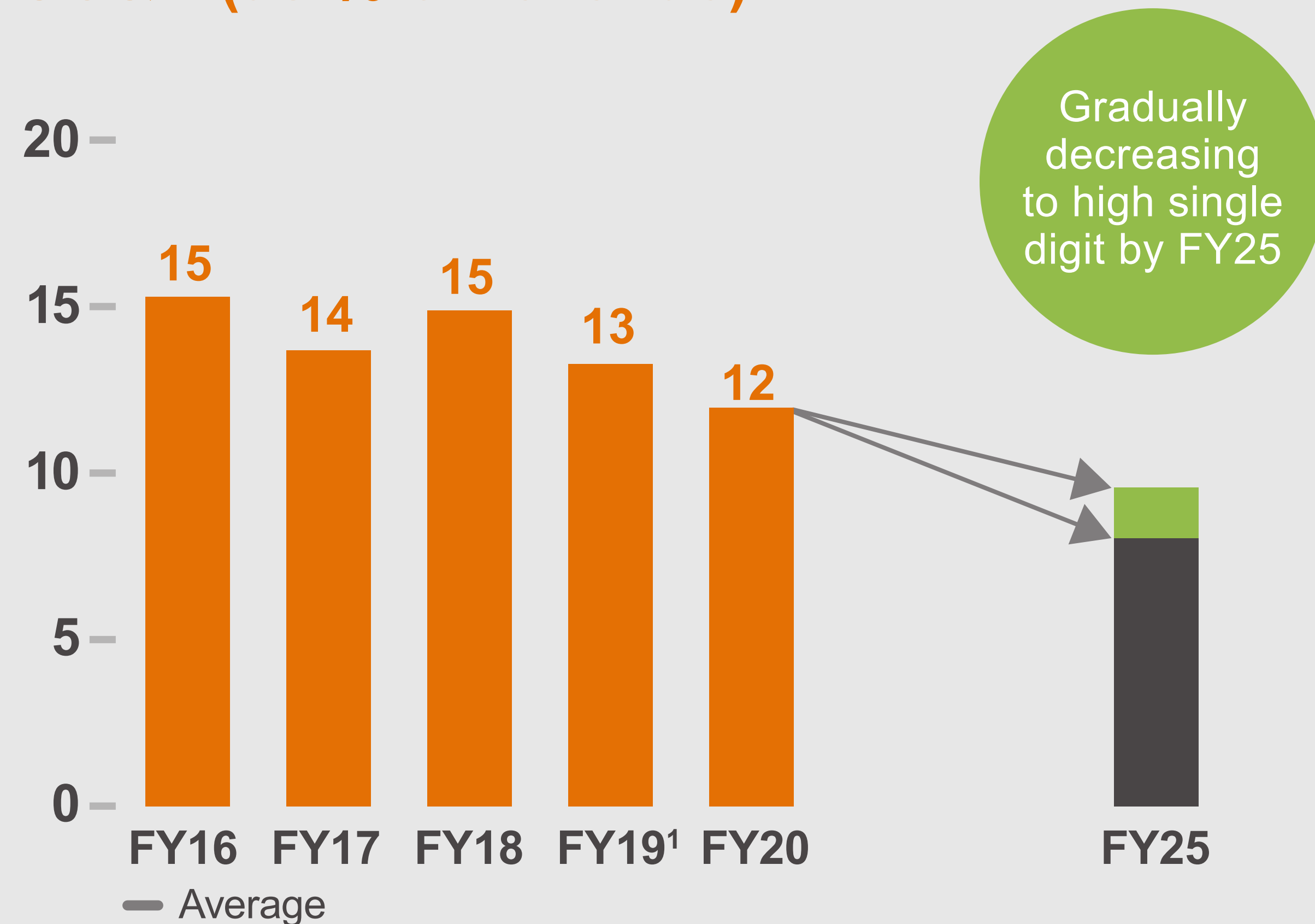
Sustainably higher gross margin:



¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

SG&A GRADUALLY DECREASE AS % OF REVENUE

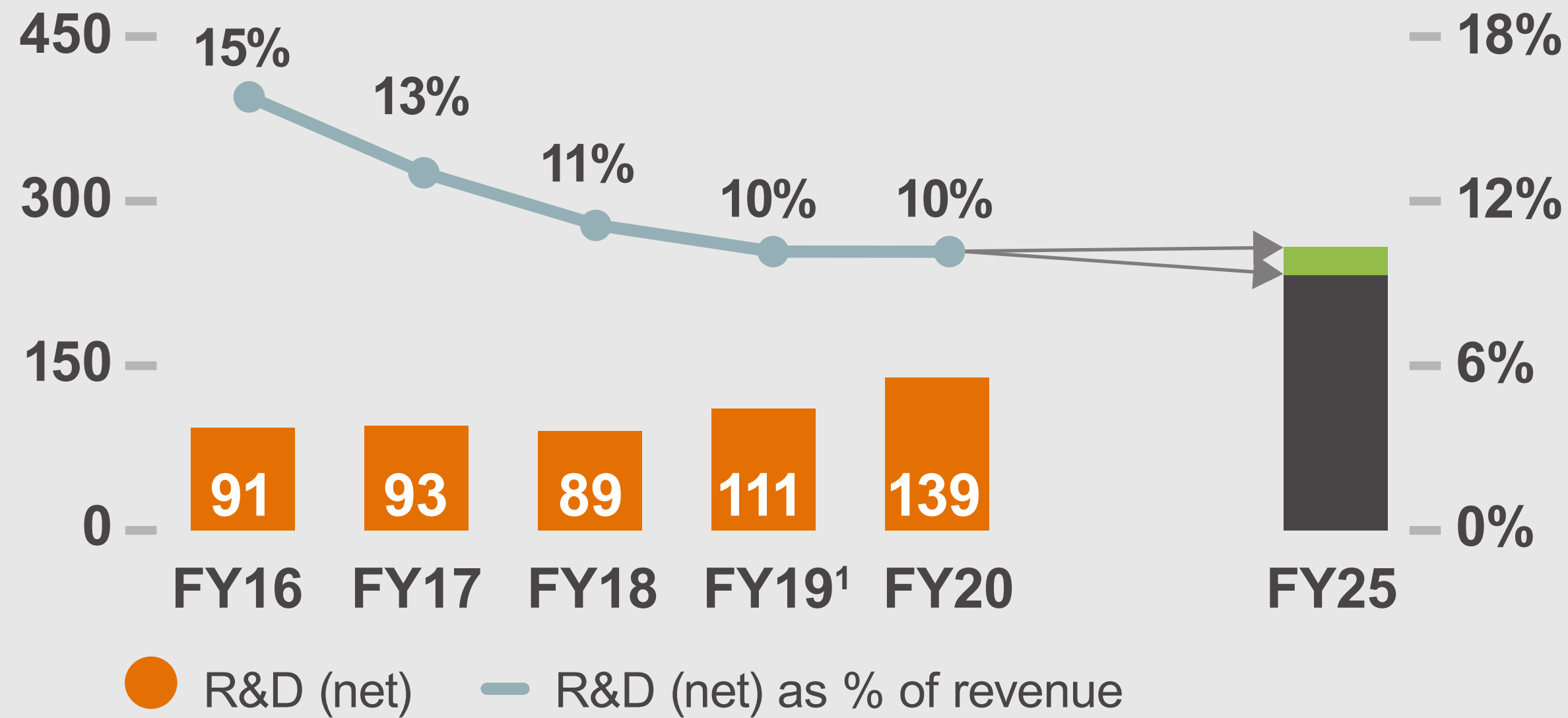
SG&A (as % of revenue)



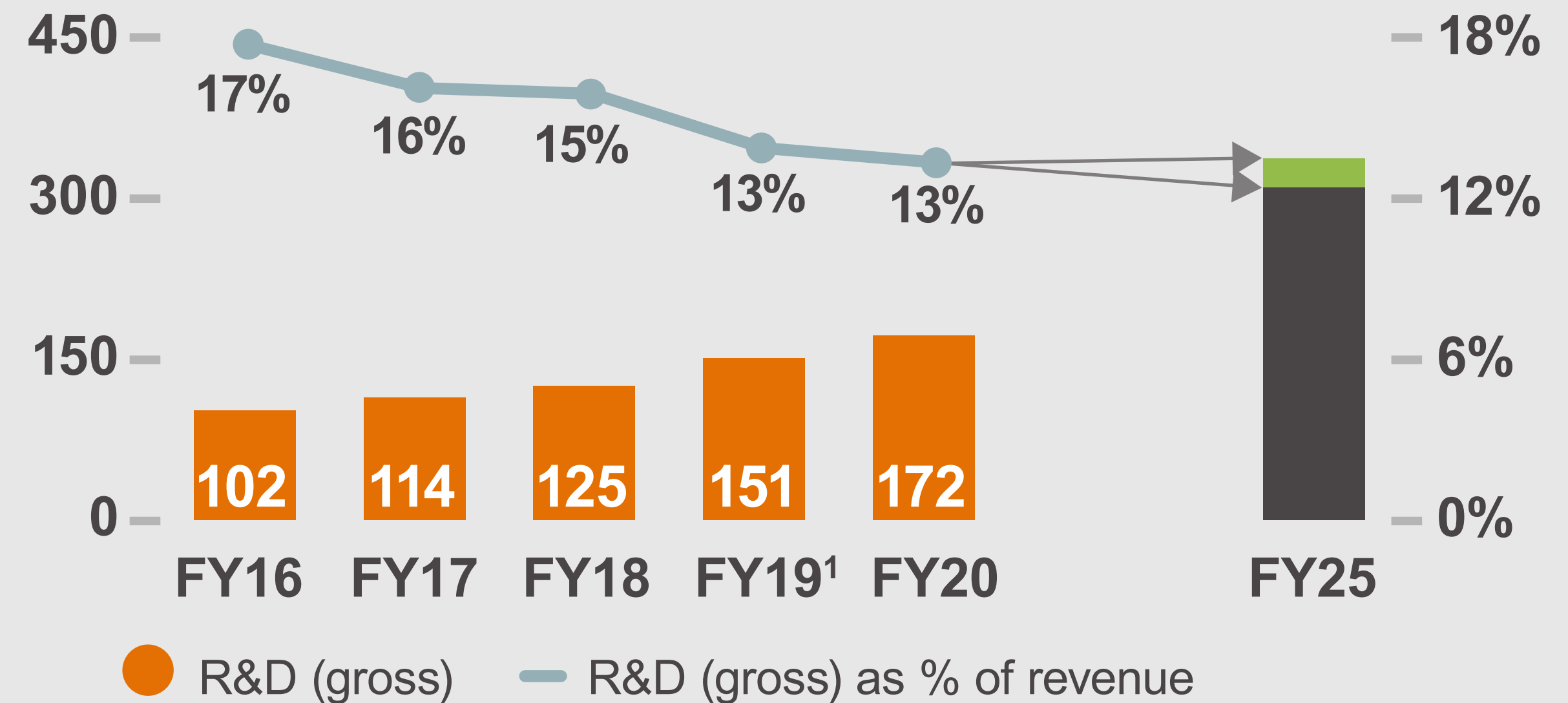
SG&A as % of revenue will decrease benefiting from operating leverage due to revenue growth and targeted productivity improvements

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

R&D (net) investments (€ million)



R&D (gross) investments (€ million)



R&D Investments

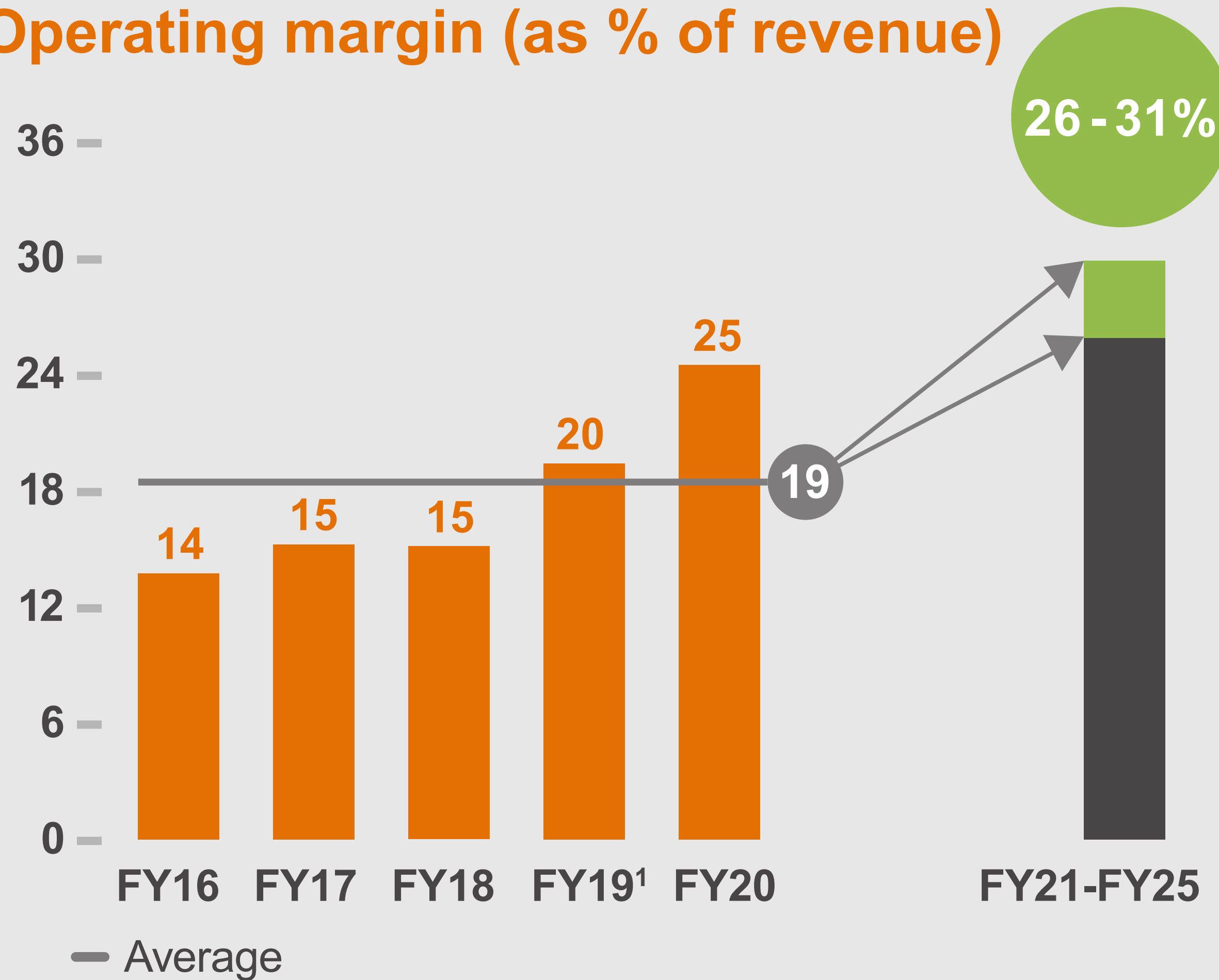
- Advanced R&D for coming inflections in logic/foundry and memory segments
- Lab expansions & equipment upgrades

- Maintain leadership in ALD and grow Epi through continuous improvement and development of new applications

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

IMPROVED OPERATING MARGIN TARGET RANGE

Operating margin (as % of revenue)



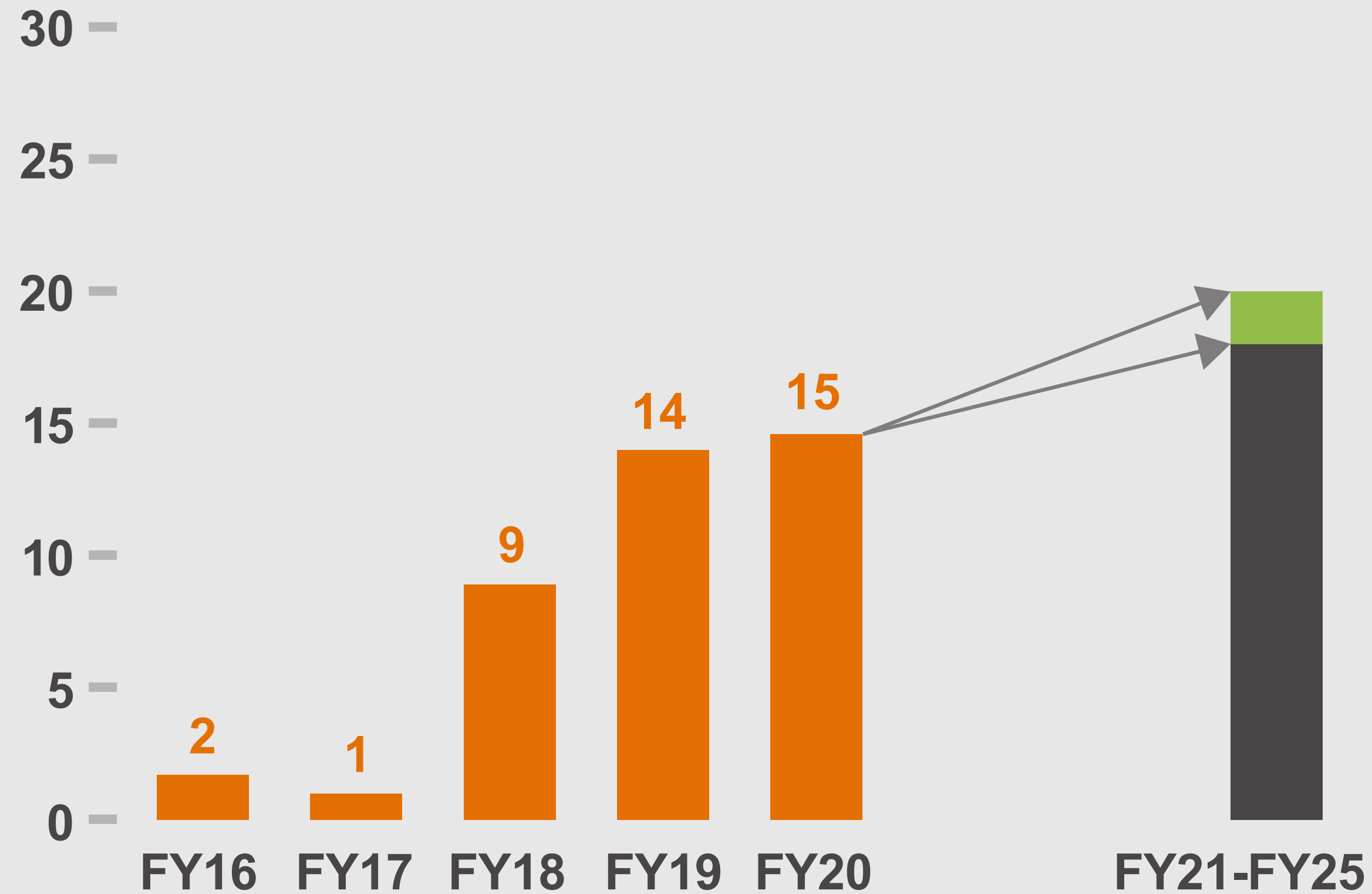
Key drivers for improved operating margin:

- Higher gross margin
- Productivity improvement in SG&A and to a lesser extent in R&D

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

TAX RATE TO GRADUALLY INCREASE OVER TIME

Effective Tax Rate (ETR) (in %)

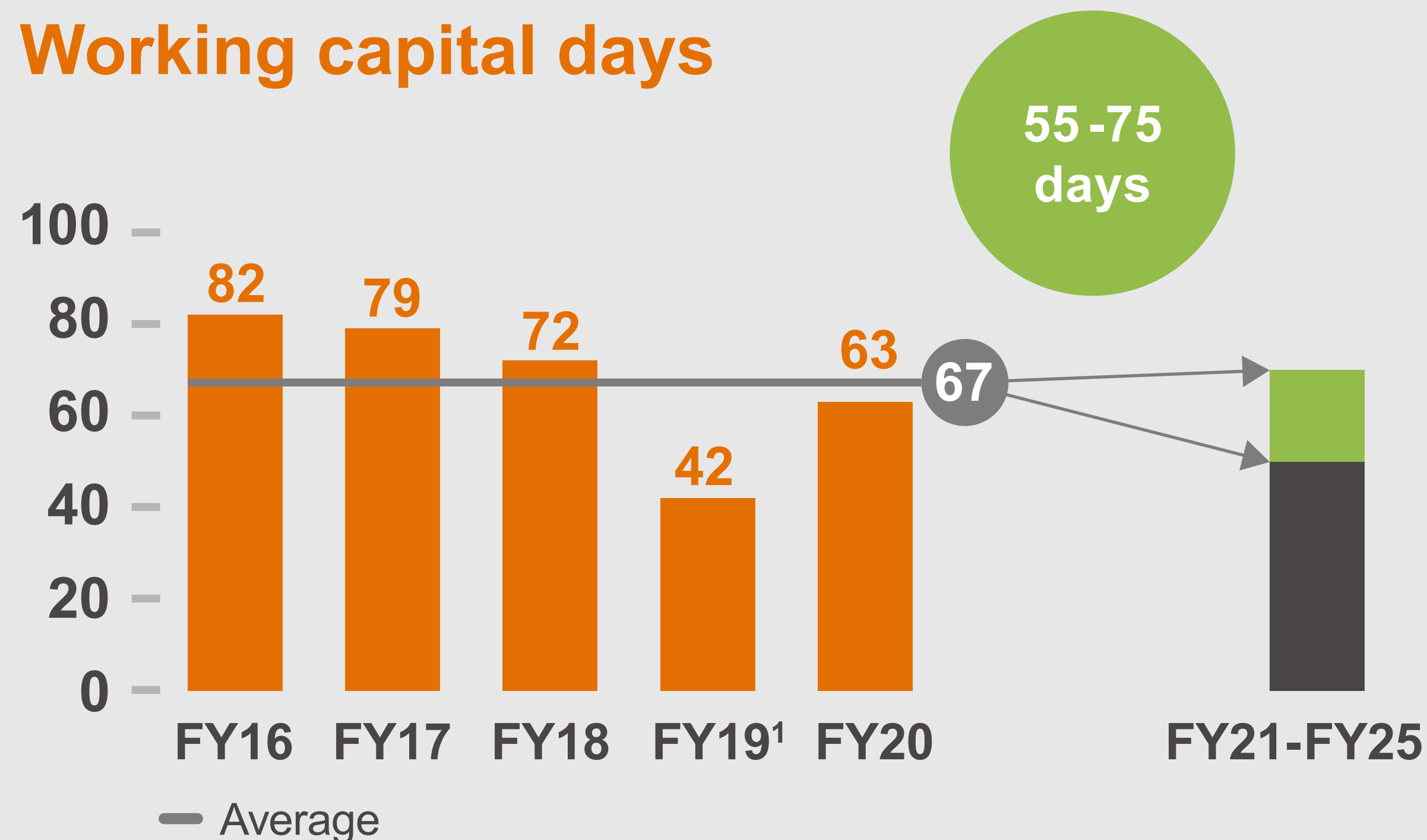


ETR gradually increasing to low twenties:

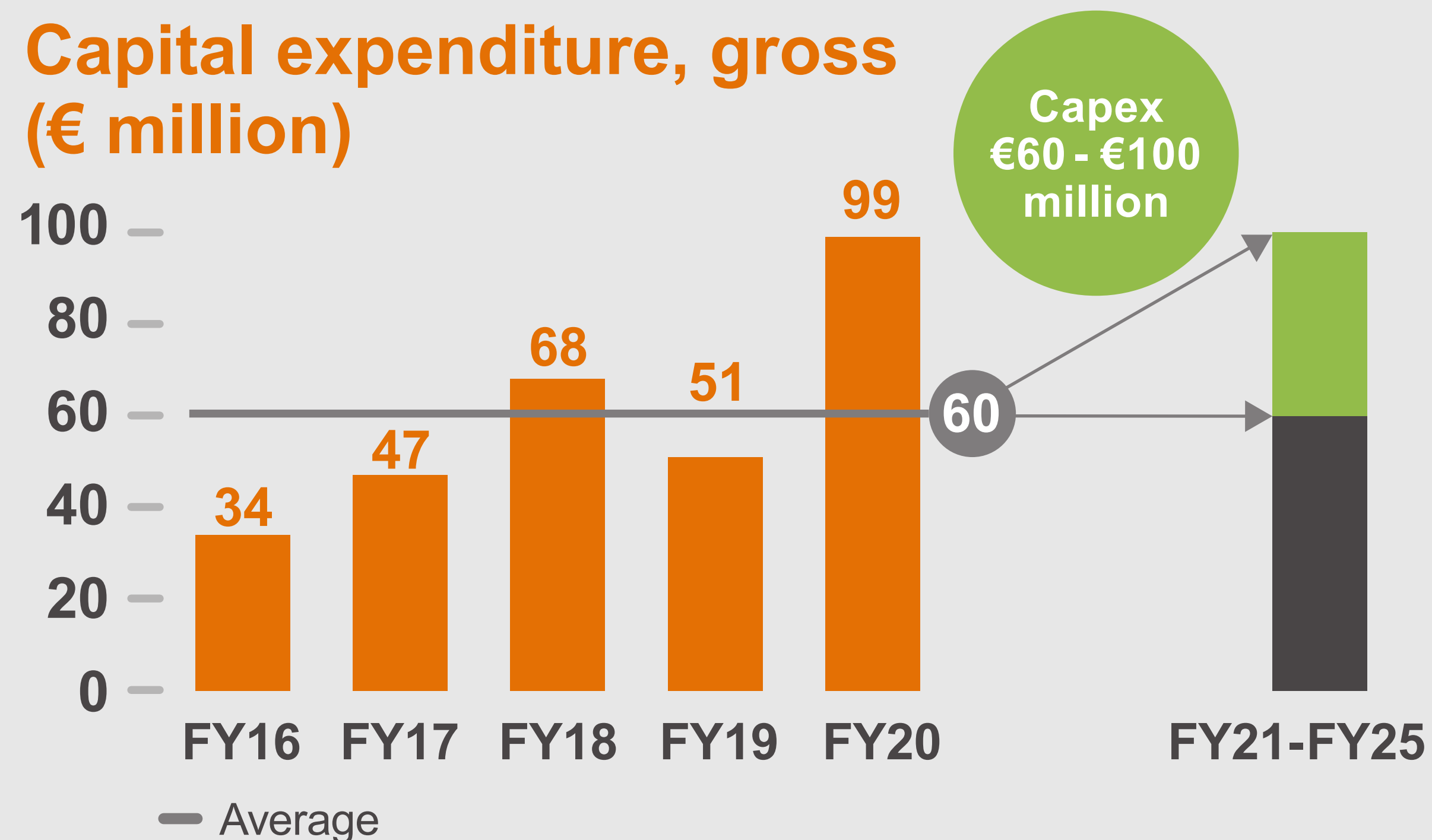
- Full utilization of historic NOLs (Net Operating Losses)
- Expiring tax incentives in coming years
- FY21 ETR expected to be high teens

DISCIPLINED MANAGEMENT OF WORKING CAPITAL AND CAPEX

Working capital days



Capital expenditure, gross (€ million)



- We expect working capital days to range from 55-75 days

- Higher capital expenditures in FY18 and FY20 for capacity expansion
- Future capital expenditure spend ranging from €60 - €100 million annually

¹ Excluding proceeds from patent litigation and arbitration settlement in FY19

Priority 1
Invest to support
future growth

- R&D
- Capex
- M&A

Priority 2
Maintain a strong
balance sheet

- Increase targeted
minimum cash
position towards
€600 million
in coming years

Priority 3
Sustainable dividend
payments

Priority 4
Return of excess
cash to shareholders
through share
buybacks



#1

ASMI has grown to be a leader in ALD, creating significant value for all stakeholders

#2

Revenue target of €2.8-€3.4 billion by 2025, representing a CAGR of 16-21%, outgrowing WFE market

#3

Operating margin target ranging from 26% to 31% in 2021 - 2025 generating strong free cash flow

#4

Capital allocation policy unchanged. Investment in growth remains the key priority with excess cash returned to shareholders



ASMI
INVESTOR
DAY 2021

WRAP UP





GROWTH THROUGH INNOVATION: KEY TAKEAWAYS

#1

Strong digitalization trends driving significant growth in the semiconductor and WFE market

#2

ASMI is the leader in ALD and expanding in Epi, technologies that are expected to outgrow the WFE market driven by key inflections such as gate-all-around (GAA)

#3

Strengths in innovation, early customer engagements and product differentiation enables advanced cost effective solutions for customers

#4

Strategic objectives are maintaining leadership in logic/foundry, expansion in memory, share gains in the Epi market, growing spares and services and increasing focus on sustainability

#5

We target to grow revenue to €2.8 -€3.4 billion by 2025 representing a CAGR of 16-21% with an operating margin of 26-31%

**THANK
YOU**


ASMI

