

**Market drivers,
company strategy
and creating
sustainable value**

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President and
Chief Executive Officer

Public

ASML

ASML
**Small
Talk
2021**

**Investor Day
Virtual**



Market drivers, strategy and sustainable value

Key messages

Industry megatrends are fueling market growth into the future

- Global megatrends in the electronics industry, supported by a highly profitable and fiercely innovative ecosystem, are expected to continue to fuel growth across the semiconductor market
- Countries push for technological sovereignty will drive increased capital intensity
- Translating to increased wafer demand at both advanced and mature nodes.

Enabling ASML's strong growth opportunity into the next decade

- Investments in wafer capacity, with increasing lithography intensity, fuel the strong growth of our business as we transition to an increased mix of EUV
- ASML and our supply chain partners are actively adding capacity to meet future customer demand

Our strategy aims to deliver long-term growth and stakeholder value

- With strong demand for our products and execution of our strategic priorities, we have increased confidence in our long-term growth opportunities while continuing to deliver value to our stakeholders
- Our ESG Sustainability Strategy builds on achieved performance improvements and details how we contribute to a digital and sustainable future, in close collaboration with our partners

- **End-market demand**

Lithography market

Strategy

Sustainability

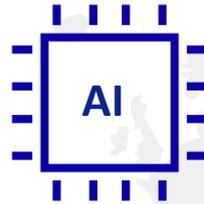
Global megatrends shaping the connected world



Cloud



**5G &
infrastructure**



**Artificial
intelligence**

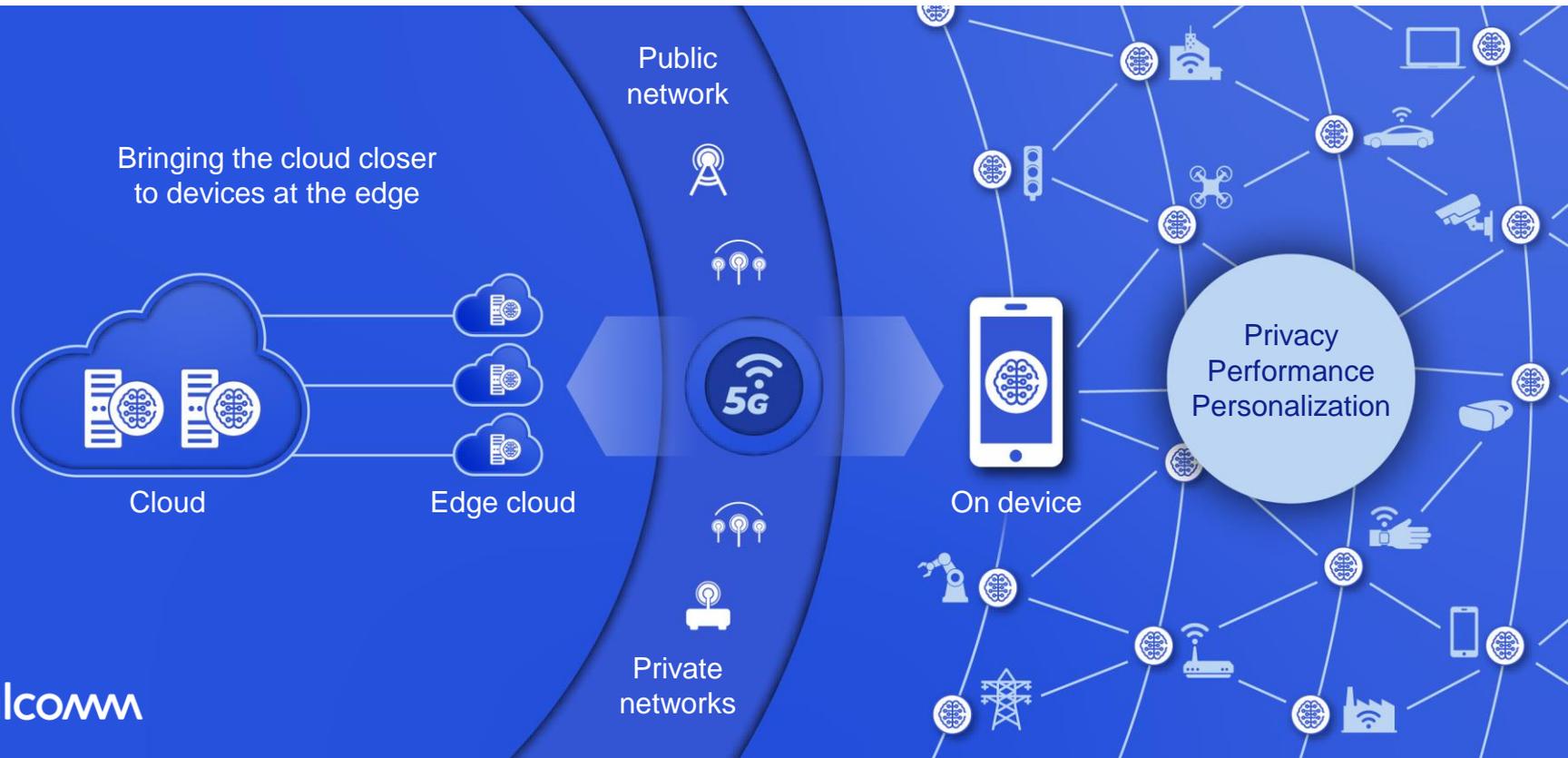


**Intelligent
edge**



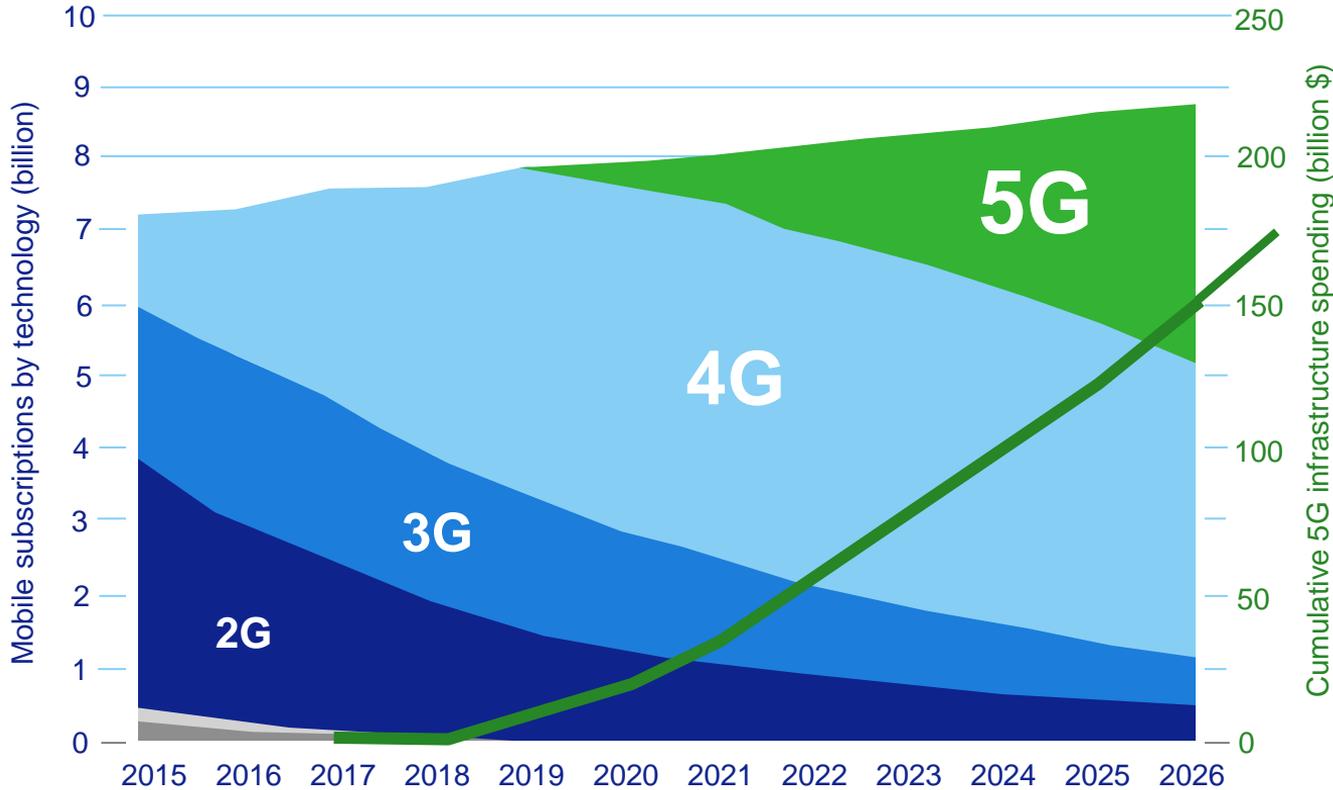
**Gaming, simulation
& visualization**

The future will be all about distributed computing



The world's transition to 5G is just starting

Lower latency, higher bandwidth will enable a connected world (human-to-machine and machine-to-machine)



By 2026, global 5G subscriptions are estimated to top 3.5 billion with infrastructure investment of \$150B

By 2030, that investment is expected to grow to \$250B

This transformation has only just begun

Sources: Ericsson Mobility Report, June 2021; Nokia CMD2021

The electronics industry just keeps going

There are an estimated **40 billion connected devices** in use today



Roughly **5 for every person** on the planet (7.8 billion people)



In ten years, this number is **expected to grow** to

350 billion

That's **41 per person** (assuming population growth to 8.5 billion)

...generating **huge amounts of data:**

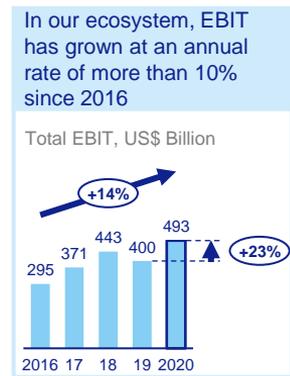
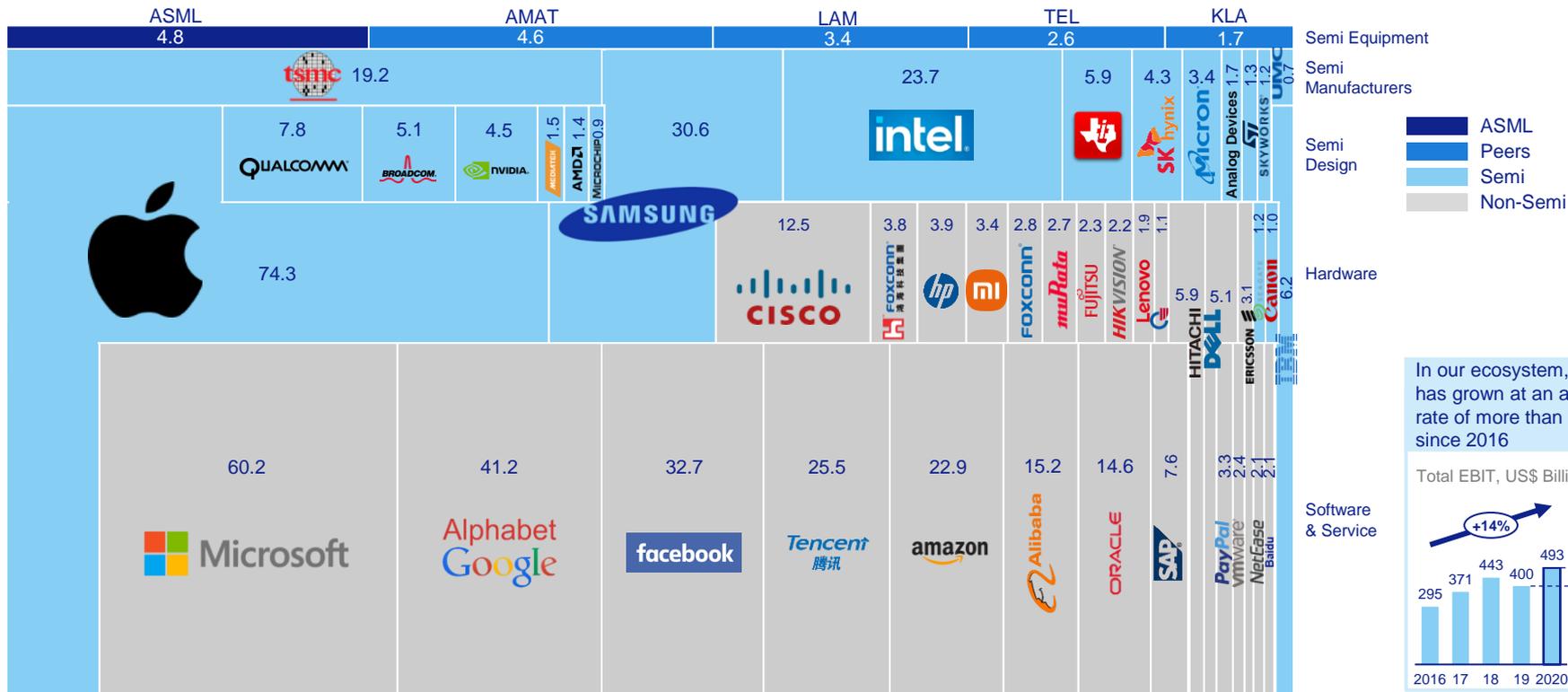


175 zettabytes

(that's 175,000,000,000,000,000,000 bytes) **by 2025**

ASML operates in an industry value chain that has considerable means, with strong incentives to compete and drive innovation

50 top technology companies in our ecosystem generated \$493 billion of EBIT in 2020



Source: Bloomberg (GICS 45 classification); companies' annual reports, and ASML analysis

Countries push for “technological sovereignty”

Biden doubles down on a \$50 billion plan to invest in chips

Fortune (April 2021)

EU aims to be independent chip power with 20% global share

Nikkei (March 2021)

South Korea joins global chipmaking race with \$450 billion spending plan

Fortune (May 2021)

Japan lays out National Project for chips after lost decades

Bloomberg (June 2021)

China wants to boost disruptive semiconductor technologies

Shanghai Daily (May 2021)

Government funding may boost investments

Beyond industry CapEx of \$150B per year, which may lead to cyclicality



\$52B

US chipmaking and R&D

Incentives for semiconductor manufacturing
National Semiconductor Technology Center
Goal: regain global leadership position on advanced chip manufacturing



\$15B

EU Industrial Alliance on Microelectronics

Combined public and private investment \$24-\$35B.
Goal: rebuild Europe's capacity to produce high-quality microelectronics.



\$80B

China National IC Industry Investment Fund II (\$35B)

Provincial Funds (\$45B)
Goal: China makes 70% of the chips it uses by 2025

- The industry continues to underestimate end market demand and therefore we would like to have additional capacity
- The additional infrastructure created from this spending will be managed rationally by a few very large manufacturers

Japan Ministry of Economy, Trade & Industry (METI)

\$1.8B government fund for advanced semiconductors and \$0.4B funding for advanced chipmaking technology.



\$2.2B

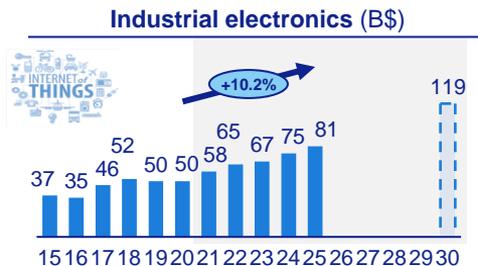
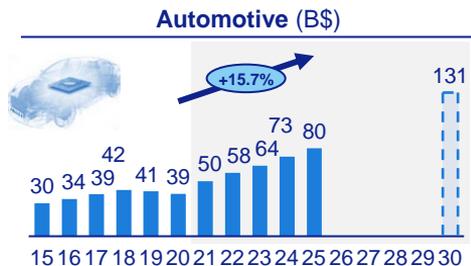
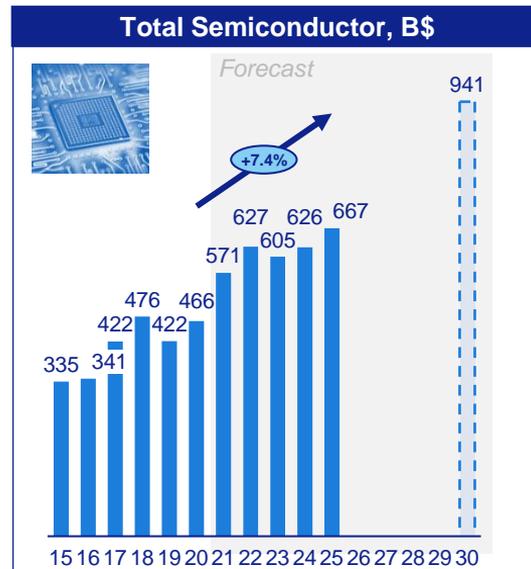
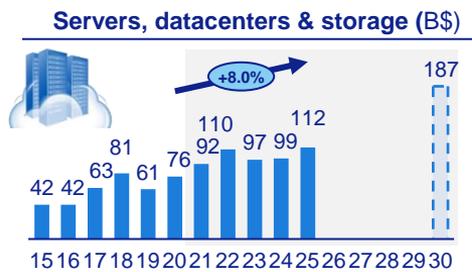
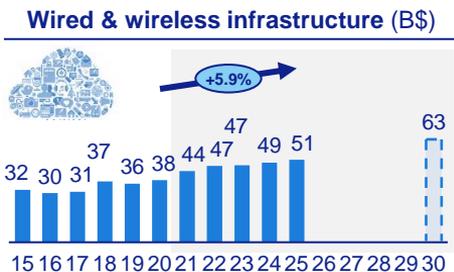
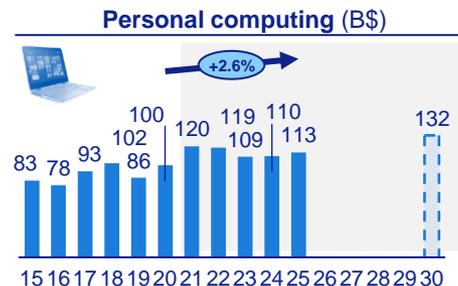
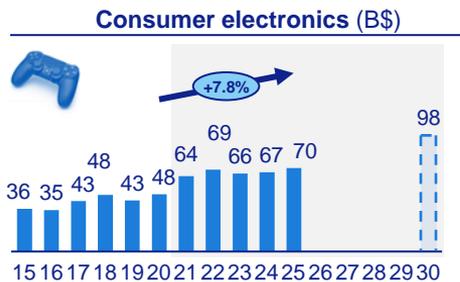
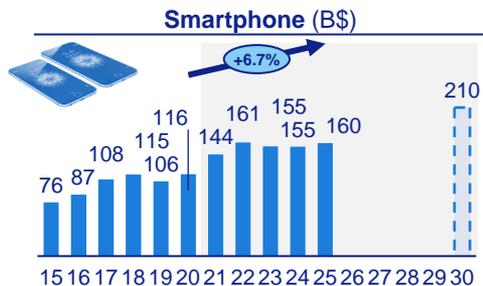
'Korean Semiconductor Belt'

Loans for increasing 8-inch foundry capacity and investments in materials, components, equipment and packaging.



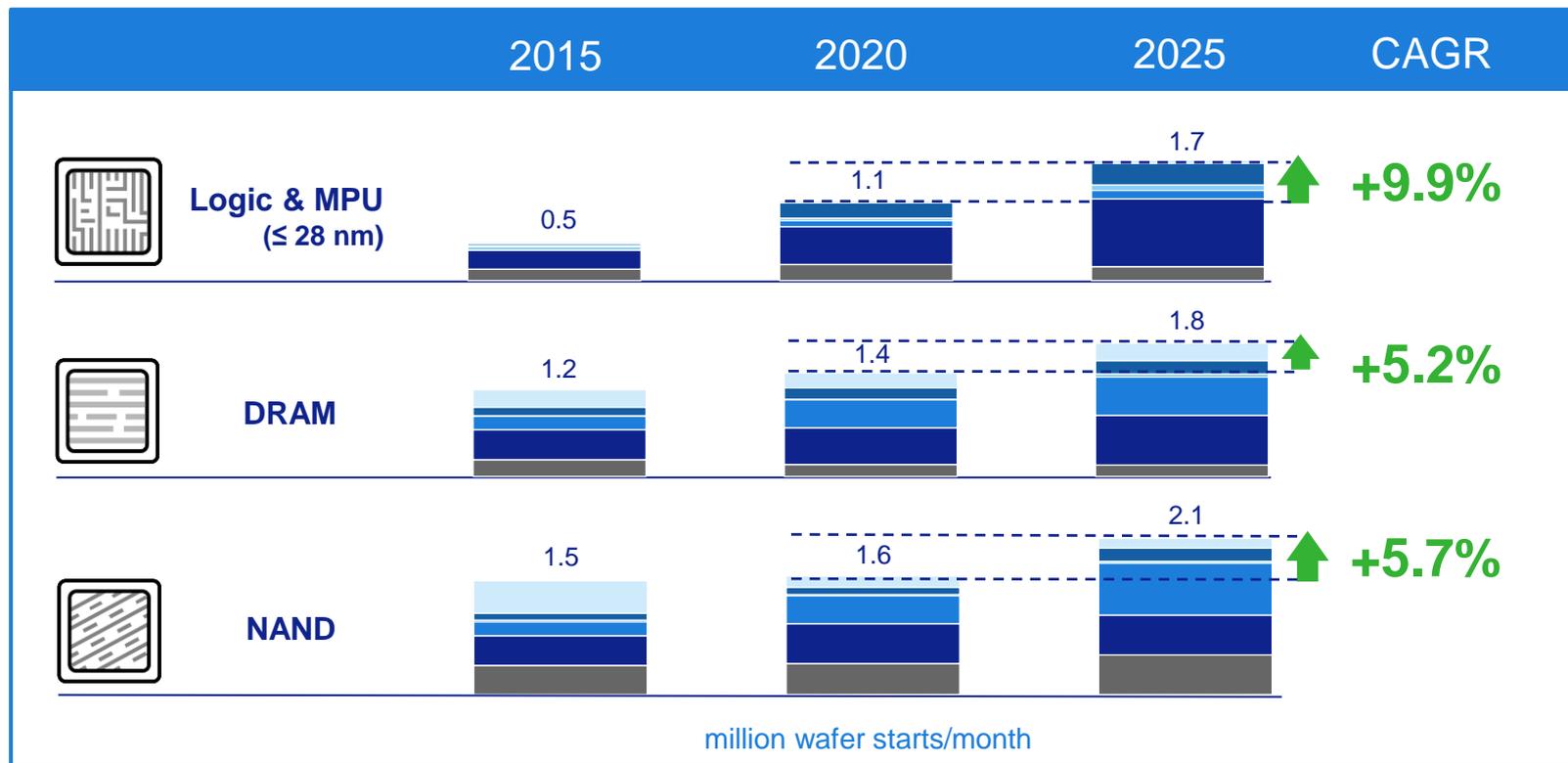
\$0.8B

Semi end markets expected to grow 7% longer-term



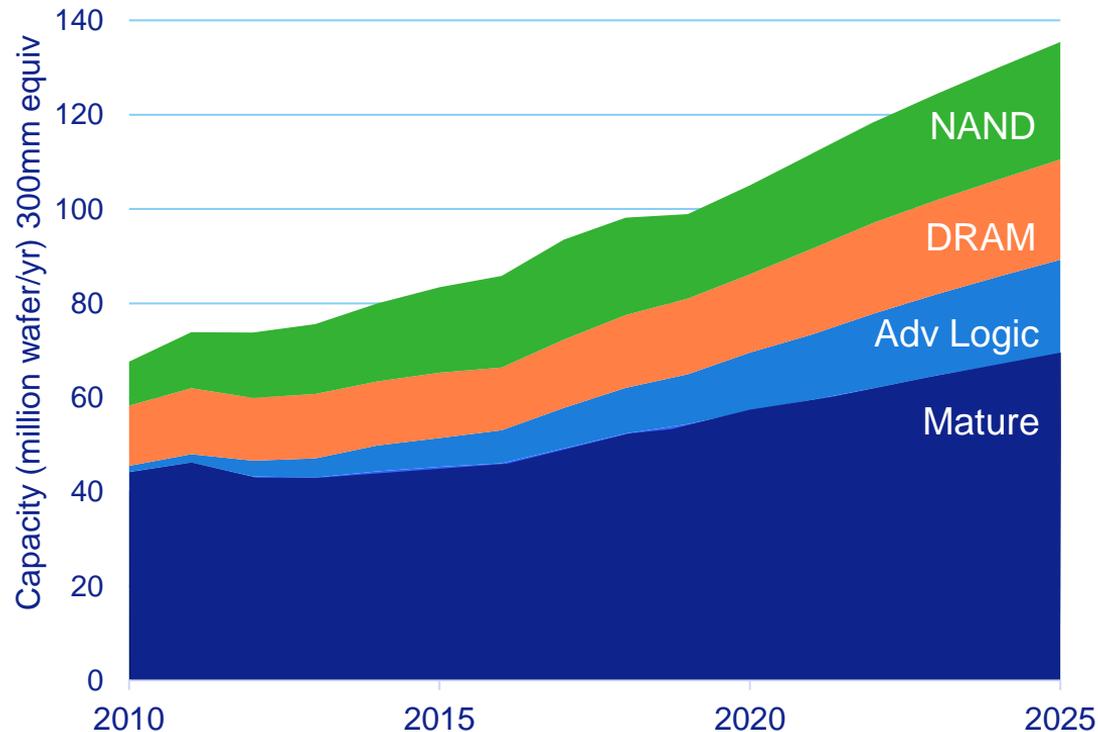
CAGR
2020-2025

Translating to growth of wafer demand in all segments



PCs and laptops
 Smartphones and tablets
 Servers
 Automotive
 Consumer incl. wearables
 Other

Advanced and mature nodes drive investments in wafer capacity: ~500k wafers/month per year 2020 - 2025, CAGR >5%



- Growing wafer capacity across all market segments drives increased litho demand
- Mature nodes ($\geq 40\text{nm}$) continue to grow in both 200mm and 300mm

Market	Growth '20-'25	CAGR '20-'25
NAND	+100 kwspm/y	5.7%
DRAM	+80 kwspm/y	5.2%
Adv Logic	+125 kwspm/y	9.9%
Mature	+200 kwspm/y	3.9%
Total	+505 kwspm/y	5.2%

kwspm/y = x1000 wafer starts per month per year

End-market demand

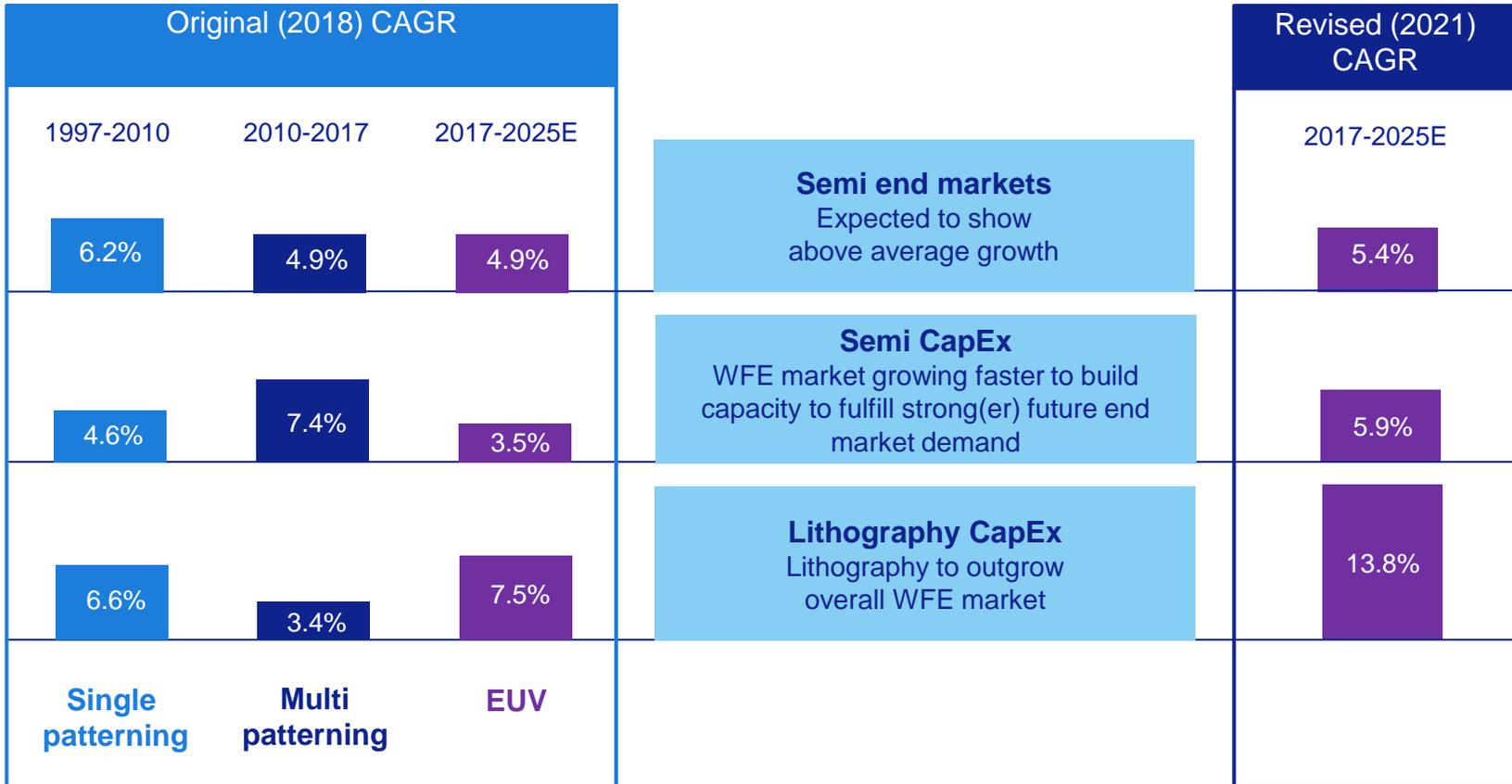
- **Lithography market**

Strategy

Sustainability

Litho market expected to see continued strong growth

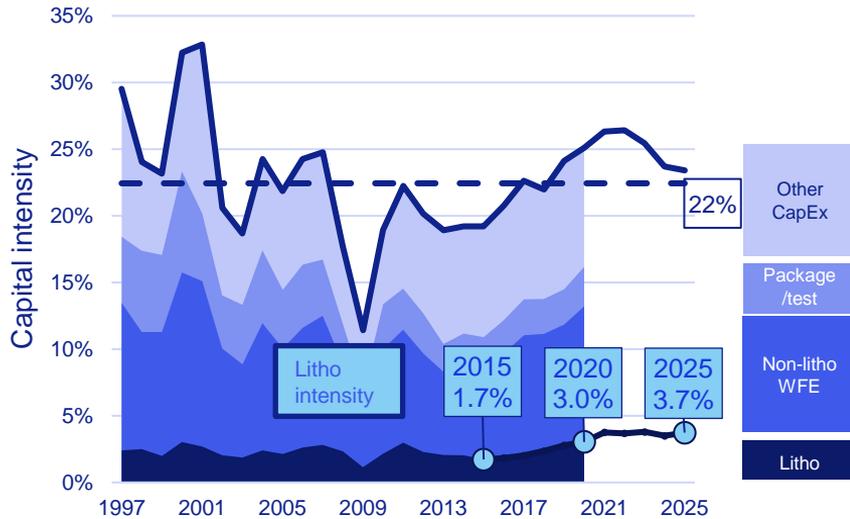
Market size value worldwide revised upwards



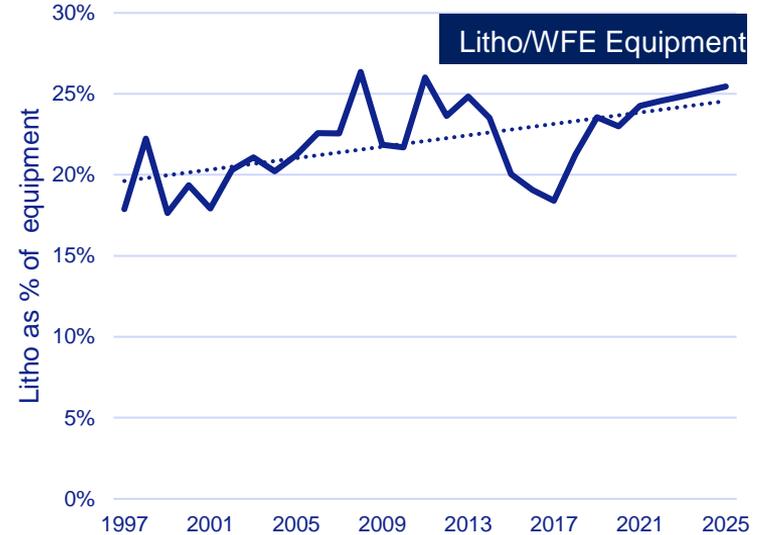
Source: 2018 Analyst Day; Semi-WSTS.org/Gartner, CapEx-Gartner, Litho: SEMI.org/VLSI

Capital intensity* outlook supports strong semi growth and lithography intensity increasing over time

CapEx to support period of strong semi growth

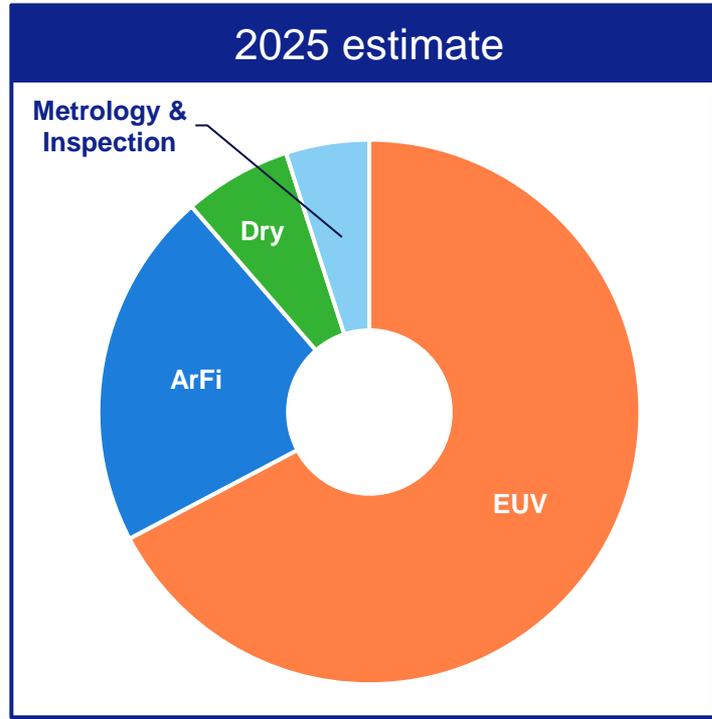
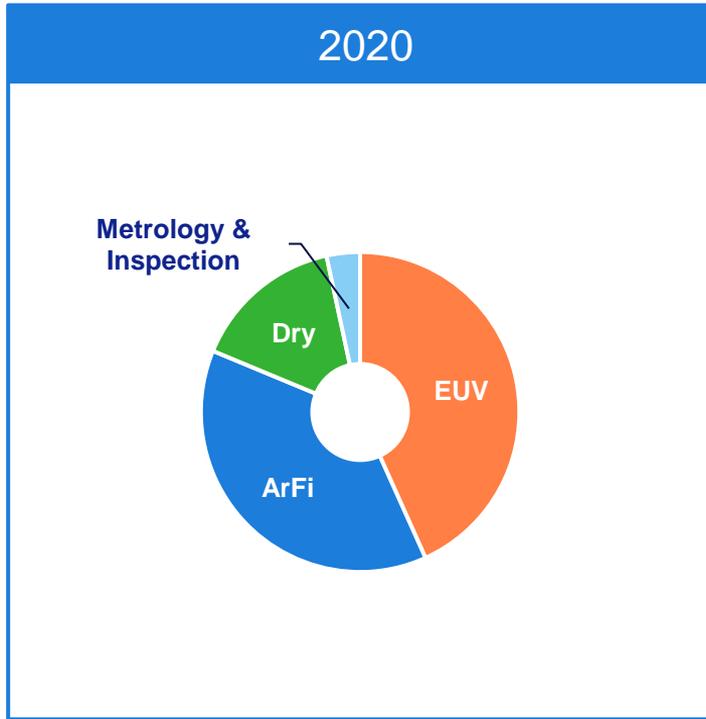


Litho growth faster than total WFE



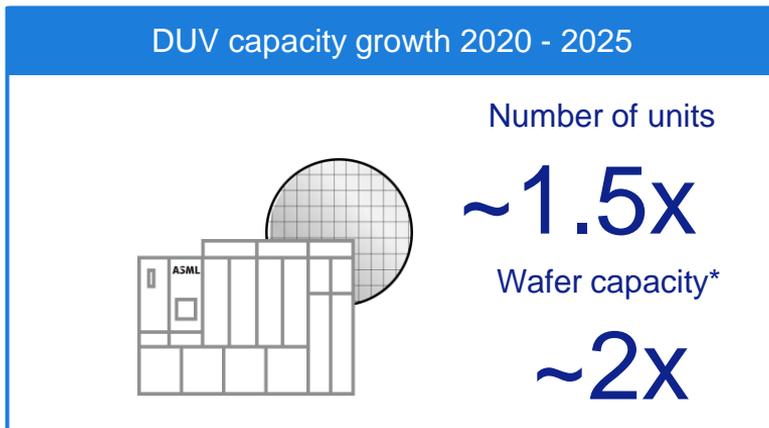
*Capital intensity = CapEx/Semi Revenue. | Sources: Gartner, WSTS.org, SEMI.org VLSI

EUV increasing contribution of net system sales

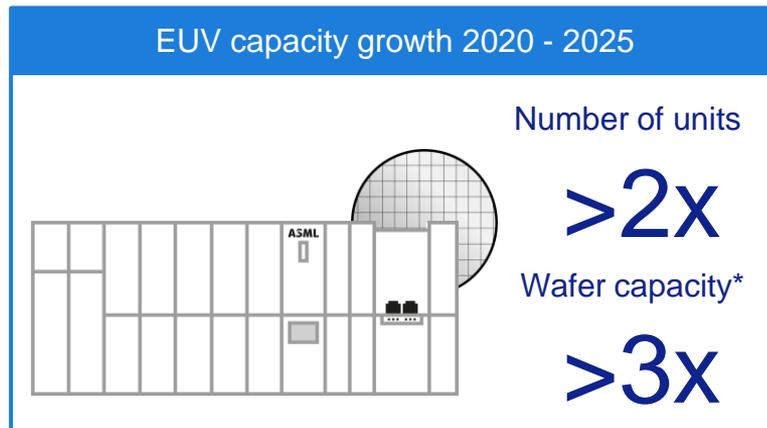


Pie size reflects expected revenue growth

2025 growth scenarios supported by expansion of capacity and productivity increase of our systems



Note: excluding refurbished systems & field upgrades



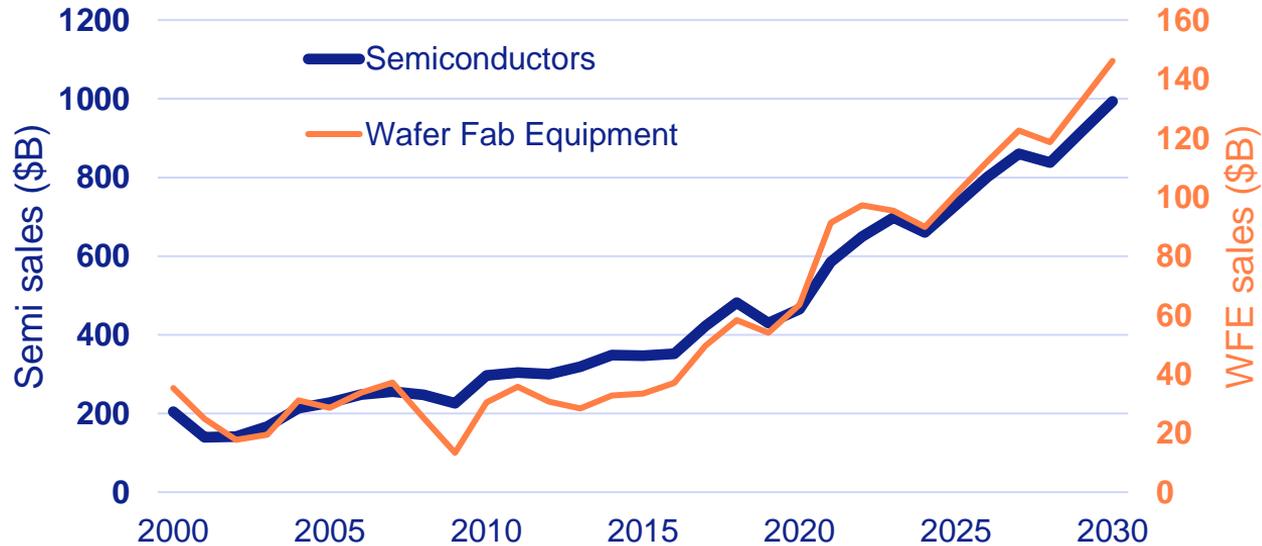
Note: excluding capacity for 0.55 EUV

Driver	Goal
Build faster	Drive cycle time reduction >35% (EUV); >10% (DUV)
More people/tooling	20% growth in people to support 2025 operations
Increase production space	Increase production space 25% (EUV / DUV)
Increase productivity of machines	Productivity improvements 25%-60%

*Wafer capacity=units x productivity

Semiconductor and equipment demand provide growth opportunity into the next decade

Semiconductors versus wafer fab equipment



End-market demand

Lithography market

- **Strategy**

Sustainability

Execution on our strategic priorities since 2018

Original ASML strategy (2018)

Progress

Holistic Litho extension

- Strengthen Litho+ leadership with **in-device metrology** enabling correction of process induced overlay
- Build a leading position in **Pattern Fidelity Control** leveraging e-beam metrology and inspection combined with superior litho and fast stages

- Delivered YieldStar 1375 and 1385 in-device metrology and eP5 e-beam metrology solutions to extend overlay and EPE control
- Delivered eScan1000, the first multi-beam e-beam inspection system

DUV performance

- Drive **DUV performance**
 - Continue to lead in innovation
 - Drive operational cost down and improve uptime
 - Expand installed base business

- NXT:2000 and 2050i in volume manufacturing
- Dry to NXT Platform (ArF)

EUV industrialization

- Deliver on **high volume manufacturing, service and financial performance**
- Enhance EUV value for future nodes by **extending NA 0.33 product portfolio down to the 3nm Logic node**

- Accelerated EUV roadmap, NXE:3400C and NXE:3600D insertion in Logic and DRAM HVM
- Service model in place and generating revenue

High-NA

- Enable **High-NA EUV** at 3nm Logic node, followed by Memory nodes at comparable density

- High-NA facilities in place and modules underway

ASML's strategic priorities moving forward

Refreshed ASML Strategy (2021)

Plans

Strengthen customer trust

- Enhance execution capabilities to meet customers' needs while delivering on our commitment to sustainability

- Deliver cost, performance and robustness to meet customer needs
- Expand our ESG strategy around nine themes to further drive sustainability

Holistic Litho and applications

- Build a leading position in Edge Placement Error

- Combine YieldStar and eP5 e-beam metrology with solutions to extend overlay and EPE monitor and control
- Extend multibeam e-beam productivity for HVM

DUV performance

- Drive DUV performance and market share

- Extend immersion capability
- Dry to NXT platform (KrF)

EUV industrialization

- EUV high volume production performance, ramp and support

- Execute EUV roadmap (3600D, 3800E, 4000F)
- Drive good wafers out: productivity increase and availability improvements

High-NA

- Enable litho simplification for future nodes

- Drive commonality across EUV platforms
- High-NA (0.55 EUV) ready for HVM in 2025

End-market demand

Lithography market

Strategy

- **Sustainability**

How we contribute to a digital, sustainable future

Our Purpose

Unlocking the potential of people and society by pushing technology to the new limits.

Our Vision

We enable groundbreaking technology to solve some of humanity's toughest challenges.

Our Mission

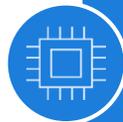
Together with our partners, we provide leading patterning solutions that drive the advancement of microchips.

Our Values

We Challenge, Collaborate and Care.



Digital technology helps society book social progress and can help cut global emissions by 15% in 2030



We develop lithography technology to continue to produce microchips that are three times more energy-efficient every two years



We help our customers minimize materials and energy required to produce advanced microchips



We drive a roadmap towards zero waste by 2030, net zero value chain emissions by 2040, with a diverse and engaged group of world-class talents and partners

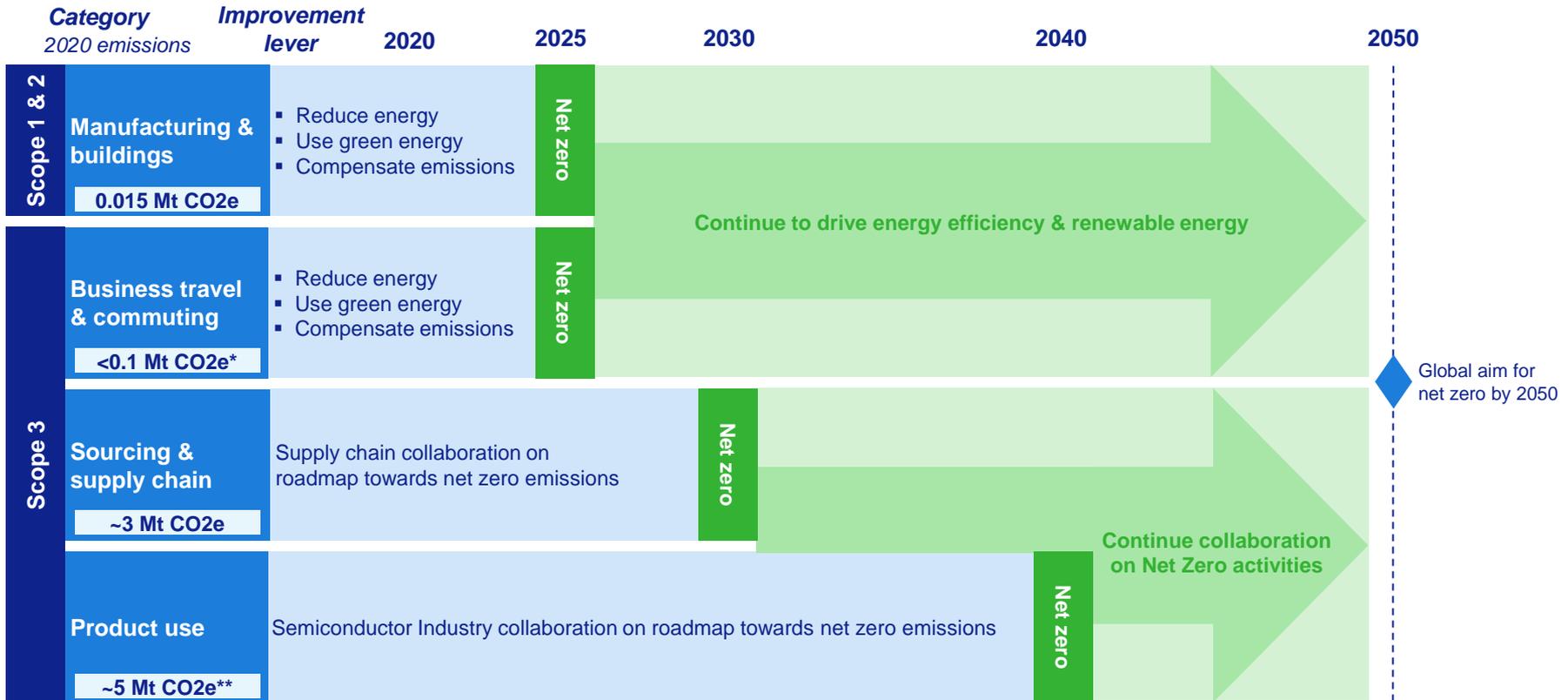
Our ESG Sustainability strategy focuses on 9 themes

For long-term stakeholder value creation and contribution to UN SDGs*



* United Nations Sustainable Development Goals

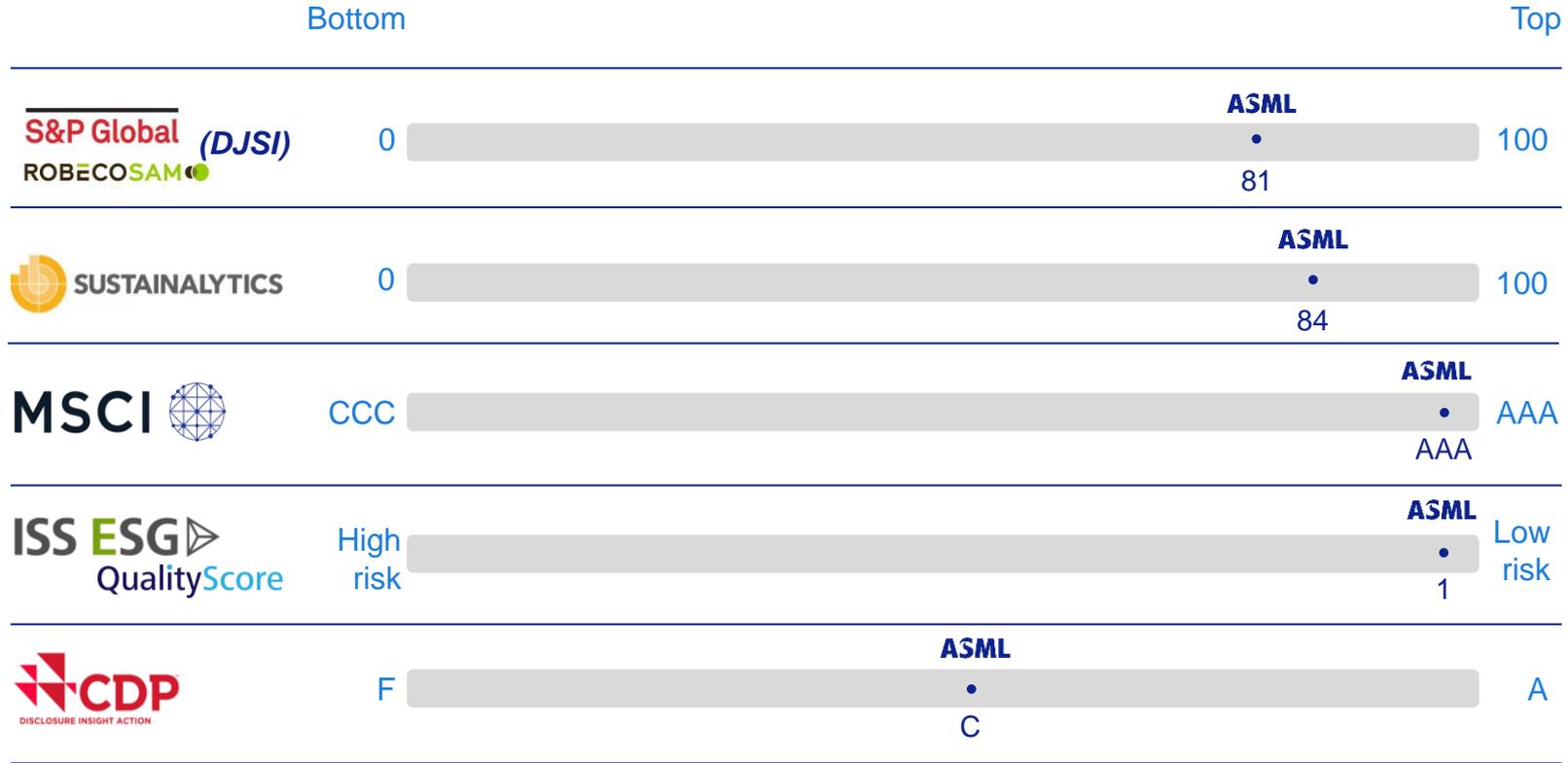
ASML commits to achieve net zero emissions by 2040 in close collaboration with our suppliers and customers



*Business Travel & Commuting exceptionally low in 2020 due to COVID-19. 2019 emissions: 0.21 Mt CO2 equivalent

**Product use emissions is based on lifetime emissions (20 years) for systems sold in 2020 – in line with GHG protocol

Rating agencies value ASML's ESG performance



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Forward Looking Statements

This presentation contains statements that are forward-looking, including statements with respect to expected industry and business environment trends including expected growth, outlook and expected financial results, including expected net sales, gross margin, R&D costs, SG&A costs and effective tax rate, annual revenue opportunity for 2025, financial model for 2025 and assumptions and expected growth rates and drivers, expected growth including growth rates 2020-2025 and 2020-2030, total addressable market, growth opportunities beyond 2025 and expected annual growth rate in lithography and metrology and inspection systems and expected annual growth rate in installed base management, expected trends in addressable market up to 2030, expected trends in Logic and Memory revenue opportunities, long term growth opportunities and outlook, expected trends in demand and demand drivers, expected benefits and performance of systems and applications, semiconductor end market trends, expected growth in the semiconductor industry including expected demand growth and capital spend in coming years, expected wafer demand growth and investments in wafer capacity, expected lithography market demand and growth and spend, growth opportunities and drivers, expected trends in EUV and DUV demand, sales, outlook, roadmaps, opportunities and capacity growth and expected EUV adoption, profitability, availability, productivity and output and estimated wafer demand and improvement in value, expected trends in the applications business, expected trends in installed base management including expected revenues and target margins, expected trends and growth opportunity in the applications business, expectations with respect to high-NA, the expectation of increased output capacity, plans, strategies and strategic priorities and direction, expectation to increase capacity, output and production to meet demand, the expectation that Moore's law will continue and Moore's law evolution, product, technology and customer roadmaps, and statements and intentions with respect to capital allocation policy, dividends and share buybacks, including the intention to continue to return significant amounts of cash to shareholders through a combination of share buybacks and growing annualized dividends and statements with respect to ESG commitment, sustainability strategy, targets, initiatives and milestones. You can generally identify these statements by the use of words like "may", "will", "could", "should", "project", "believe", "anticipate", "expect", "plan", "estimate", "forecast", "potential", "intend", "continue", "target", "future", "progress", "goal" and variations of these words or comparable words. These statements are not historical facts, but rather are based on current expectations, estimates, assumptions and projections about our business and our future financial results and readers should not place undue reliance on them. Forward-looking statements do not guarantee future performance and involve a number of substantial known and unknown risks and uncertainties. These risks and uncertainties include, without limitation, economic conditions; product demand and semiconductor equipment industry capacity, worldwide demand and manufacturing capacity utilization for semiconductors, semiconductor end-market trends, the impact of general economic conditions on consumer confidence and demand for our customers' products, performance of our systems, the impact of the COVID-19 outbreak and measures taken to contain it on the global economy and financial markets, as well as on ASML and its customers and suppliers, and other factors that may impact ASML's sales and gross margin, including customer demand and ASML's ability to obtain supplies for its products, the success of R&D programs and technology advances and the pace of new product development and customer acceptance of and demand for new products, production capacity and our ability to increase capacity to meet demand, the number and timing of systems ordered, shipped and recognized in revenue, and the risk of order cancellation or push out, production capacity for our systems including the risk of delays in system production and supply chain capacity, constraints, shortages and disruptions, trends in the semi-conductor industry, our ability to enforce patents and protect intellectual property rights and the outcome of intellectual property disputes and litigation, availability of raw materials, critical manufacturing equipment and qualified employees and trends in labor markets, geopolitical factors, trade environment; import/export and national security regulations and orders and their impact on us, ability to meet sustainability targets, changes in exchange and tax rates, available liquidity and liquidity requirements, our ability to refinance our indebtedness, available cash and distributable reserves for, and other factors impacting, dividend payments and share repurchases, results of the share repurchase programs and other risks indicated in the risk factors included in ASML's Annual Report on Form 20-F for the year ended December 31, 2020 and other filings with and submissions to the US Securities and Exchange Commission. These forward-looking statements are made only as of the date of this document. We undertake no obligation to update any forward-looking statements after the date of this report or to conform such statements to actual results or revised expectations, except as required by law.

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