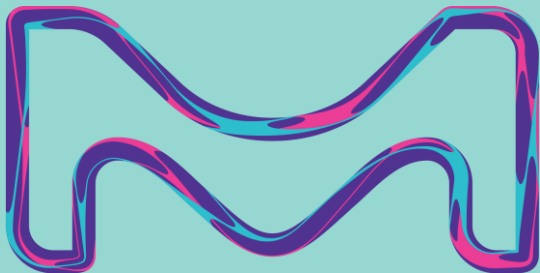


Merck KGaA, Darmstadt, Germany

# oddo BHF GERMAN INVESTMENT SEMINAR

Marcus Kuhnert, CFO

January 2022



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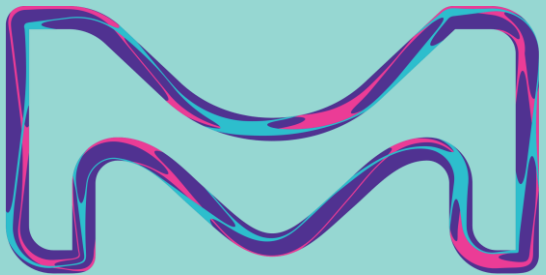


# Agenda

- 01** Business overview
- 02** Transforming the company
- 03** Healthcare – Executing on the earnings phase
- 04** Life Science – Focusing on profitable growth
- 05** Electronics – Leveraging portfolio shift
- 06** Sustainability
- 07** Guidance & executive summary



# BUSINESS OVERVIEW



# Group

## Leading positions in fastest growing science & technology markets



# Group

## Accelerated science & tech leadership driving growth

New Strategic Framework		
<b>Direction</b>	<b>Mobilize for growth in the BIG3</b>	Focus on profitable top line growth in BIG3
<b>Frame</b>	<b>Accelerating science &amp; technology leadership</b>	Innovation as key driver for sustainable growth
<b>Foundation</b>	<b>Focused &amp; disciplined capital allocation</b>	No "coffee for all" disciplined and focused investment in Enterprise Planning Units
<b>Values</b>	<b>Continued long-term orientation &amp; sustainability</b>	Continued long-term focus as part of the DNA further reinforced by significant sustainability effort
<b>Drivers</b>	<b>Agility, Diversity, Cost discipline</b>	Strong, diverse, fast, agile & unbureaucratic; cost discipline in non-focus & support areas

Core pillars

Supporting pillars

group innovation center darmstadt



Group

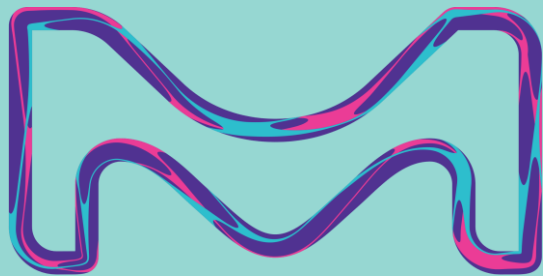
## 2021 and beyond – poised for growth in a challenging environment



Acronym: VBP = volume based procurement



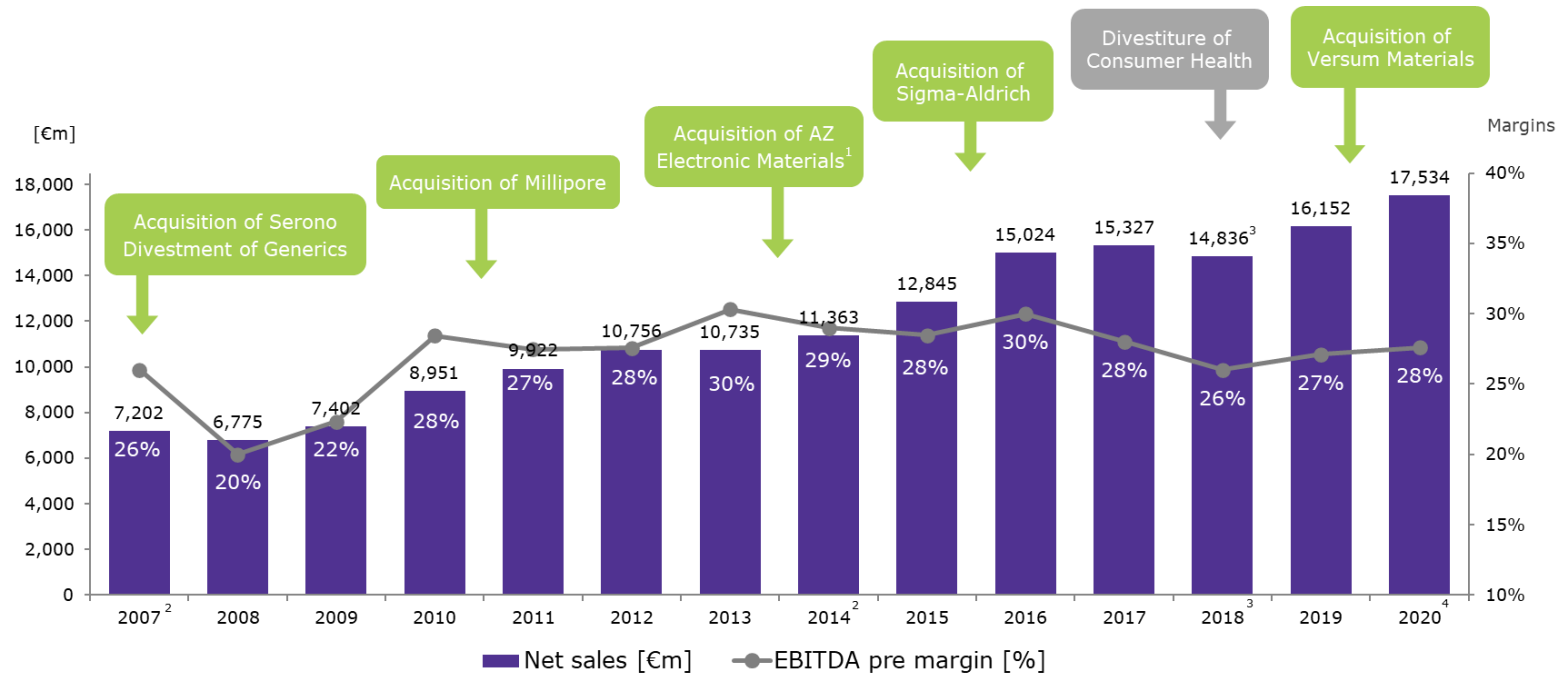
# TRANSFORMING the company



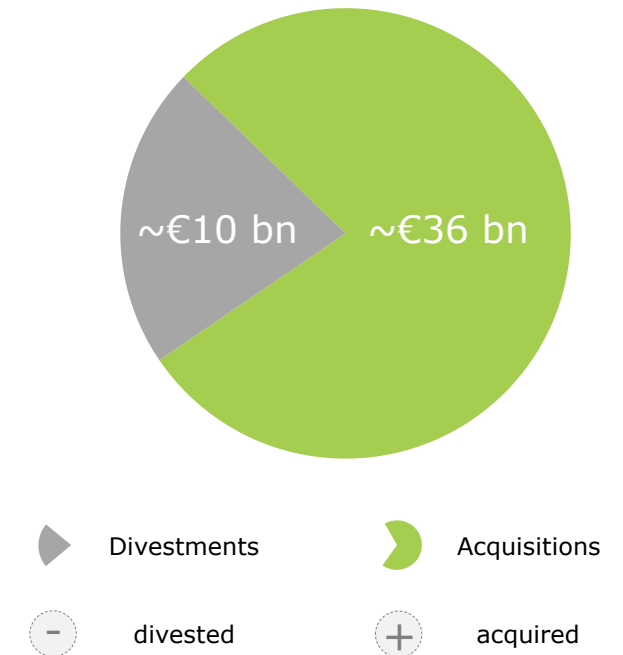
# Group

## Added scale and strengthened attractiveness of portfolio

### Growth trajectory



### Transformation volume<sup>5</sup>



<sup>1</sup>Included since 2 May 2014; <sup>2</sup>2007 and 2014 EBITDA pre margin adjusted for comparability; <sup>3</sup>2018 net sales reflect Consumer Health divesture (reduction of ~€1 bn net sales p.a.)   
<sup>4</sup>2020 margin restated for €365 m patent litigation provision release; <sup>5</sup> 2007 - 2020



# Group

## Well positioned to win in high-growth focus areas

Global economy<sup>1</sup>



Global GDP  
~3% to 4%

End markets<sup>1</sup>



Global pharma industry  
~4% to 5%



Global life science industry  
~5% to 7%



Global electronics industry  
~4% to 5%

Focus market areas<sup>1</sup>

Oncology ~9% to 12%  
Neurology ~3% to 6%

Biologics >10%  
Services >10%

Semi materials  
~5% to 7%

BIG3

New HC Products

Process Solutions

Semi Solutions

$\Sigma$  ~4% to 6%

$\Sigma$  6% +

More details in today's afternoon Sector sessions

**Uniquely positioned to address** inevitable market trends  
Diligent execution of **focused & disciplined investments** plan to **fuel BIG3 growth**

<sup>1</sup> Company estimates of mid-term growth outlook based on industry forecasts and reports from public research institutes (e.g. IMF, IQVIA, EvaluatePharma, Prismark, etc.)

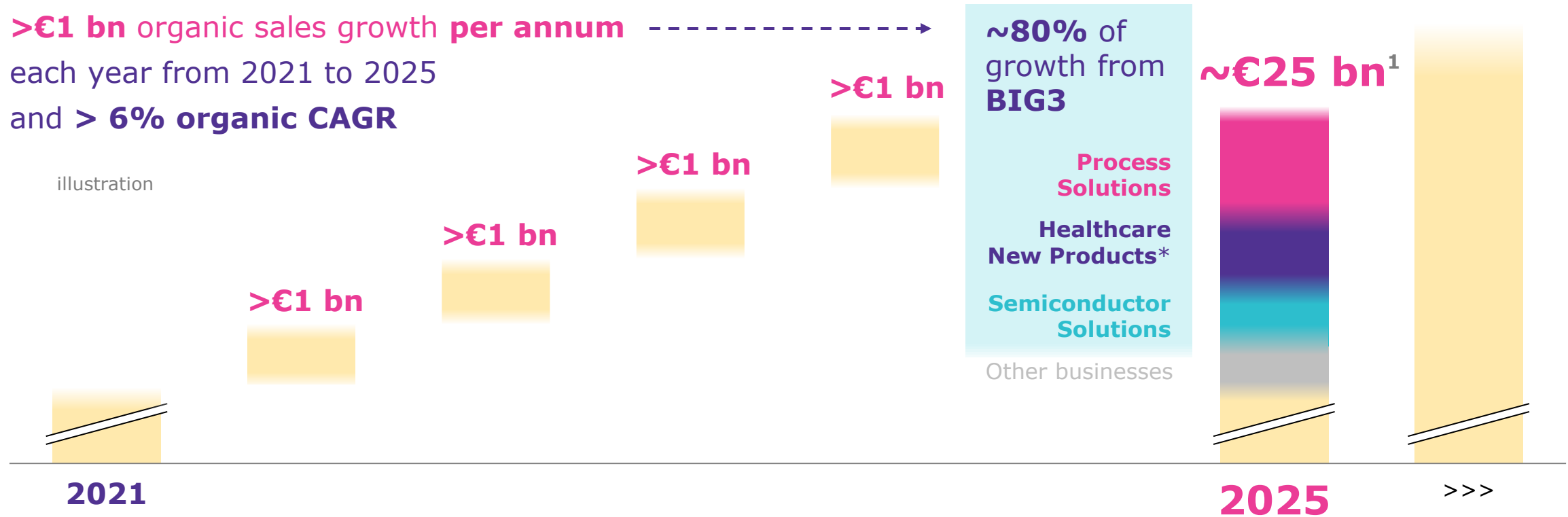


# Group

## #25by25: delivering €5 bn+ organic additional sales by 2025

>€1 bn organic sales growth per annum  
each year from 2021 to 2025  
and > 6% organic CAGR

illustration



▶ **Clear commitment to efficient growth**

1) including potential bolt-on M&A

\*Updated scope: New Products consist of recent launches (Bavencio®, Mavenclad®, Tepmetko® MET-exon 14) and risk-adjusted launches to come until 2025

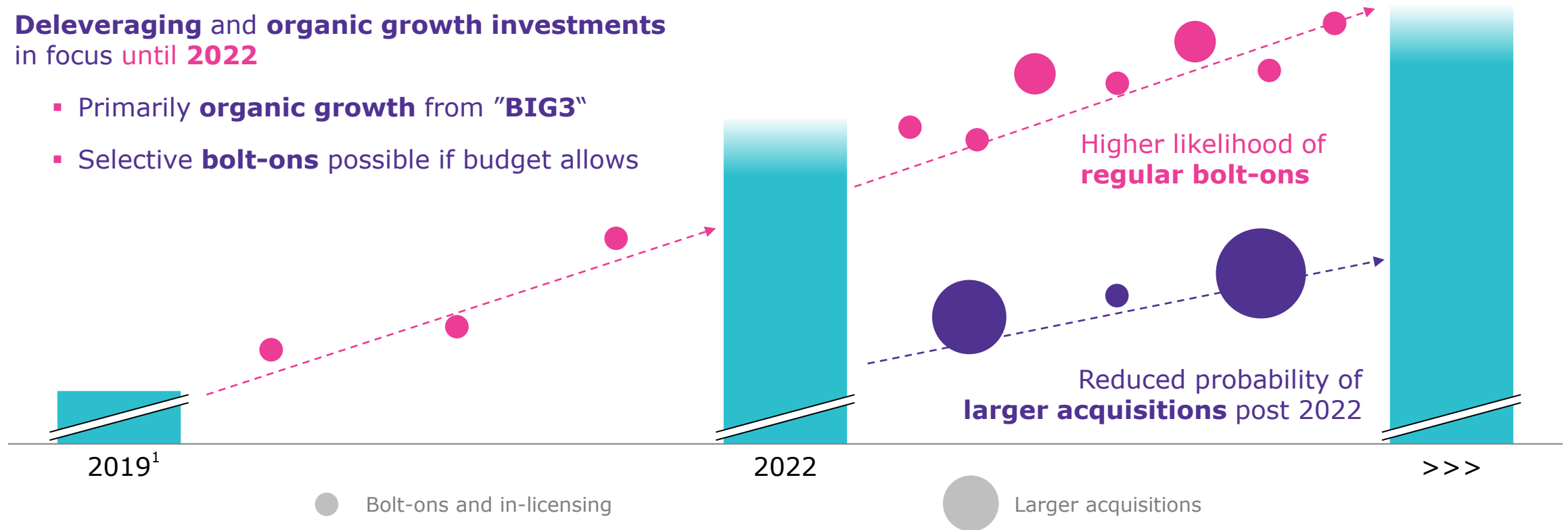


# Group

## Portfolio strategy – from transformation to evolution

**Deleveraging** and **organic growth investments** in focus until **2022**

- Primarily **organic growth** from “**BIG3**”
- Selective **bolt-ons** possible if budget allows



**> €1 bn organic sales growth per annum each year from 2021 to 2025**

<sup>1</sup> 2019 Group sales of €16.2 bn

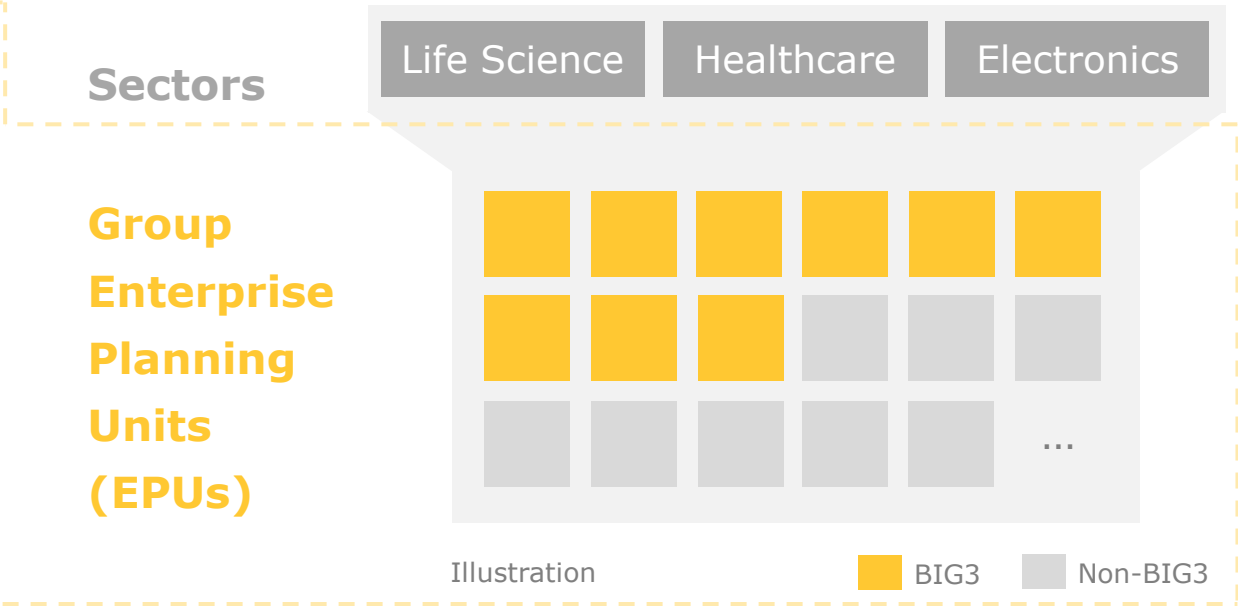
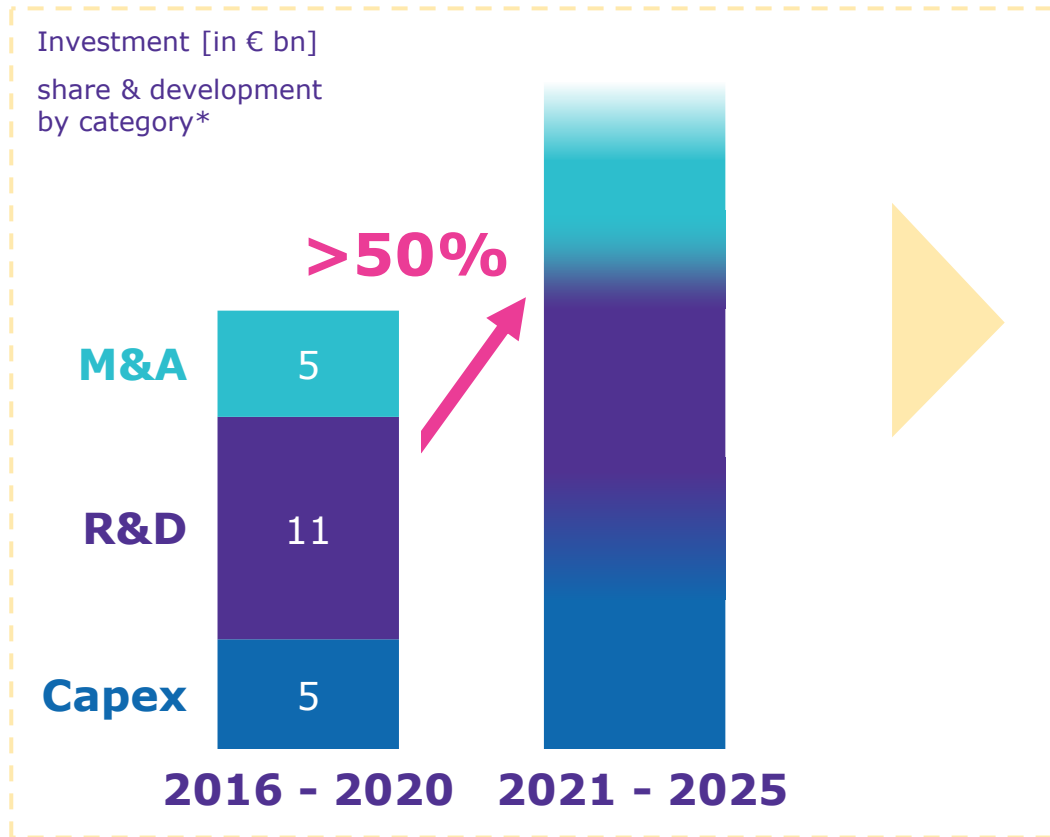


# Group

## Committing to record investments - targeted @BIG3 growth engines

Leading positions in **growth markets** fuel significant **boost in investment capacity**

**Targeted, disciplined & focused** capital allocation across **>20 enterprise planning units**



**BIG3** consist of **~10 planning units** with a **capital allocation target of >70%** between 2021 and 2025

\* >50% statement primarily valid for R&D and CAPEX plan, future M&A purely illustrative as it is deal-dependent

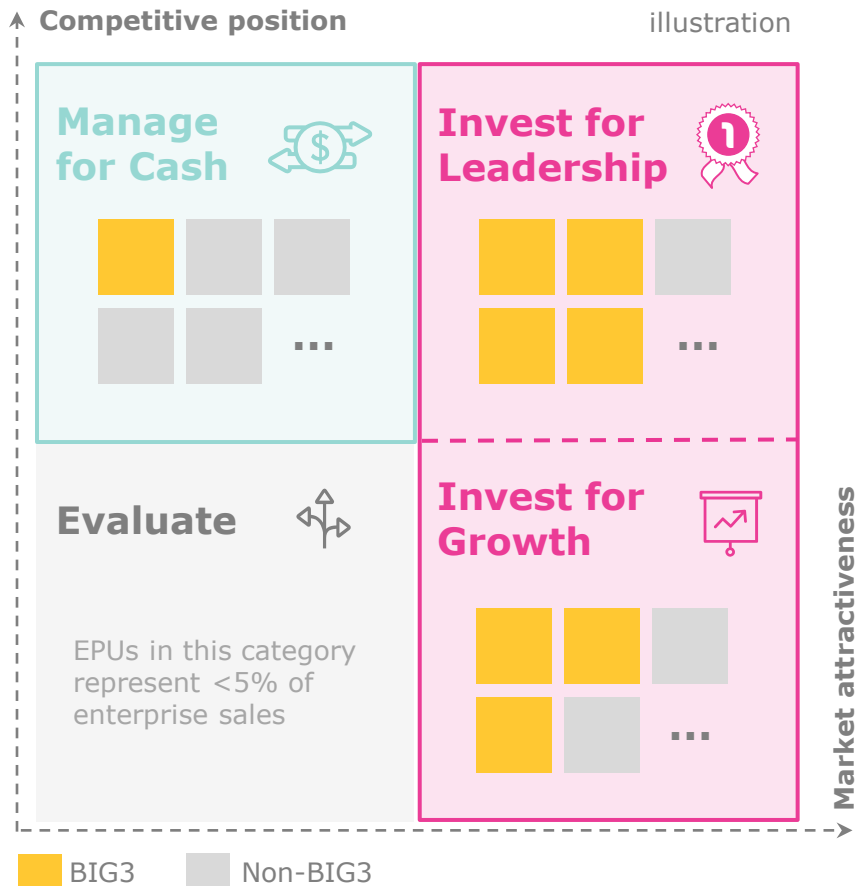


# Group

## Optimized capital allocation through distinct portfolio roles

Roles determined by **thorough analysis** of **markets** and **competitive positions**

**Investment focus** on businesses with **greatest strengths** and **attractive opportunities**



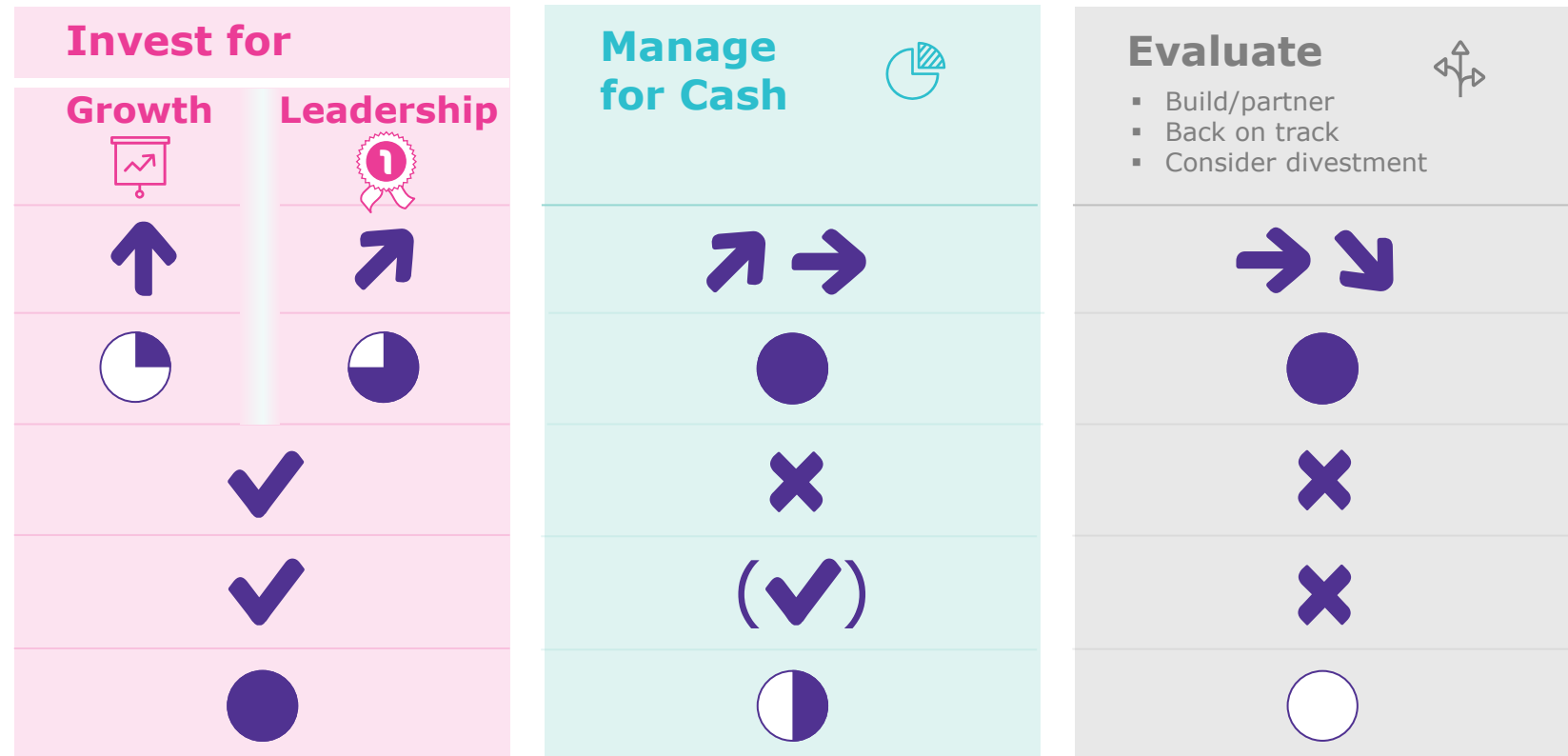
- Segmentation in planning units allows **right level of granularity** in market & competitive analysis (vs. sector level or product level)
- **Enterprise Portfolio Units (EPUs) with different roles** drive balance between **strong cash generation & targeted capital allocation**

- ✓ **Strong, well-positioned portfolio**
- ✓ Enterprise setup allows **boosted investment capacity and optionality** that would be unattainable to 3 standalone businesses
- ✓ **No need for further diversification** (within or across sectors) or target sector ratios

# Group

## Portfolio roles provide clear guidance to resource allocation

Simplified portfolio unit life cycle



● High importance ○ Low importance



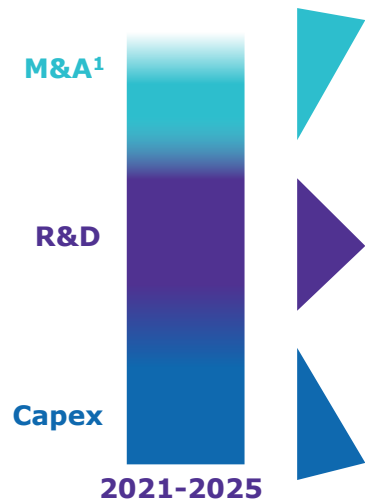
# Group

## Financial flexibility fueling investment capacity

**Accelerated deleveraging** to <2x net debt to EBITDA pre ratio enables **unprecedented financial flexibility**

**>50% higher investment\***  
**with BIG3 capital allocation target of >70%**

Investment € bn share illustration



\* >50% statement primarily valid for R&D and CAPEX plan, future M&A purely illustrative as it is deal-dependent

<sup>1</sup> M&A: Mergers and Acquisitions

Abundant growth opportunities make **strategic capital allocation** more important than ever

M&A

- **Strong operating cash flow & increased debt capacity**
- **High single-digit C bn financial flexibility by end of 2022**
- Continued higher likelihood of **bolt-on** vs. large transformational deals

R&D

Clear focus on **innovation** & further development of **pipeline productivity**

- **Life Science:** accelerating targeted R&D scale-up to capture trends & strengthen portfolio
- **Electronics:** continuous alignment with customer technology roadmaps incl. new R&D labs
- **Healthcare:** driving "R&D productivity" to benchmark levels with focused leadership

CAPEX

More **complex & multifaceted** CAPEX decisions requiring **discipline**

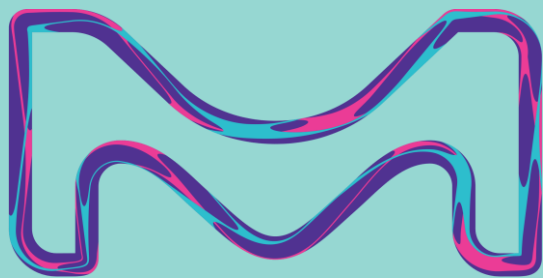
**Rich growth opportunities** driven by demand step changes, e.g.

- Process Solutions **capacity & network expansion**, targeted scaling of **high value CDMO/CTO services** across traditional & novel modalities
- Semi capacity expansion in line with customer demand & smart localization

▶ **Annual capex guidance: from ~€1.5 bn in 2021 to ~€2 bn by 2023**

# Life science

Focusing on profitable growth

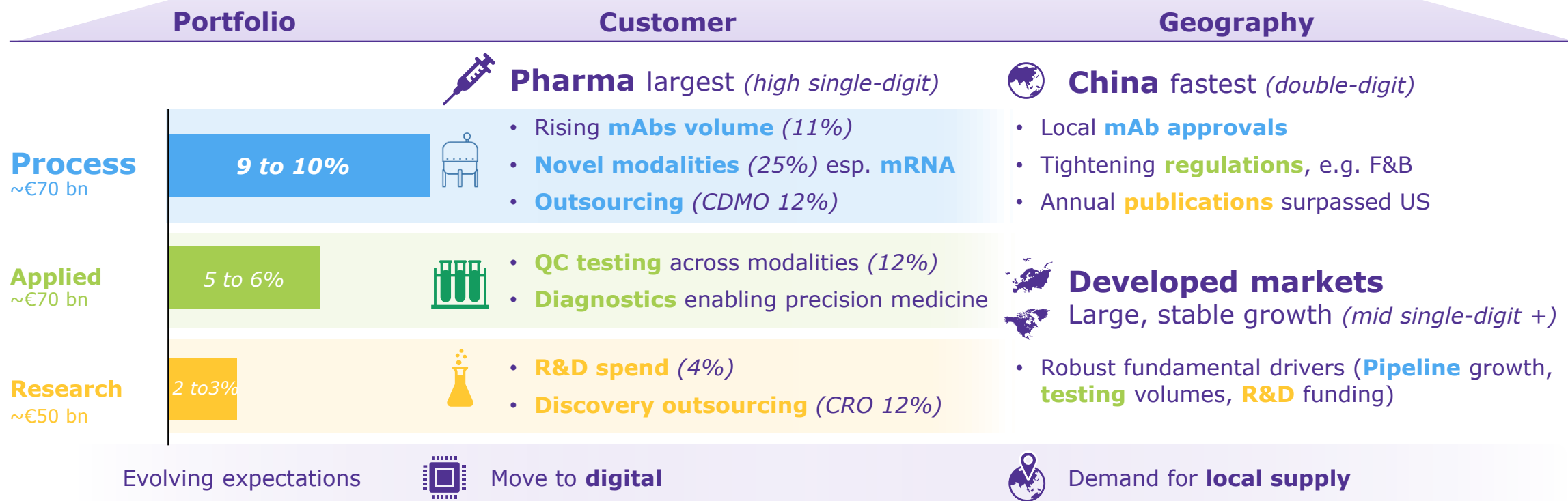


# Life Science Market

## Attractive secular drivers across segments create opportunities

### Life Science market<sup>1</sup>

2021: ~€190 bn ex COVID, growing 5 to 7%



 We continuously pursue key growth trends as a **leading diversified life science player**

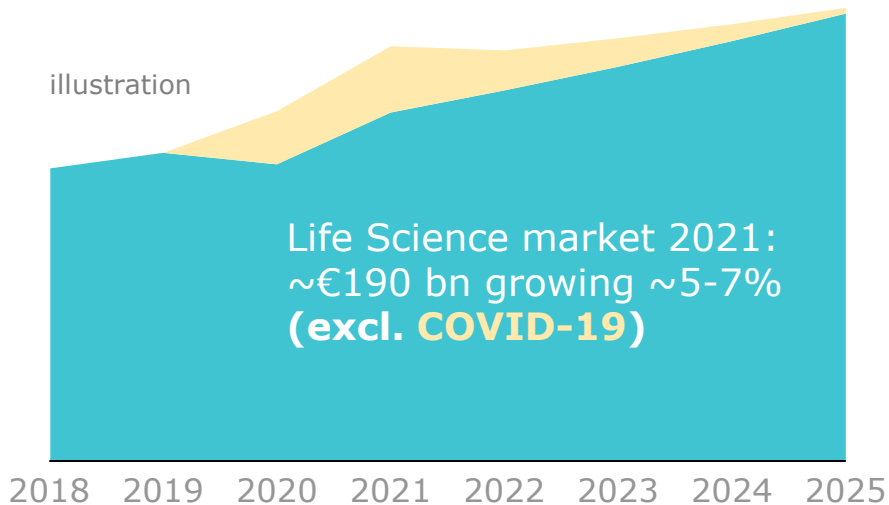
<sup>1</sup> Company estimate based on industry forecast over 5-year horizon for the markets we operate in with all *growth rates* indicating 2021-25 CAGRs; Acronyms: mAbs = Monoclonal Antibodies; mRNA = Messenger Ribonucleic Acid; CRO = Contract Research Organization; CDMO = Contract Development Manufacturing Organization; F&B = Food & Beverage



# Life Science

## Driving growth and expanding leadership in Process Solutions

**Robust market** with diverse growth pockets, **elevated during pandemic**



- Attractive **base market**, on slightly higher growth trajectory post 2021
- Significant **demand from COVID-19**, expected to decline as pandemic recedes

**Life Science** will be fully equipped to capture growth opportunities with a **focus on Process Solutions**

- Major **capacity and network expansion** to fuel growth of key product portfolios, **especially bioprocessing**
- Targeted scaling of **high value CDMO/CTO services** across traditional and novel modalities
- **Relevant and diversified** portfolio in **Research and Applied**, not only for cash and resilience, more importantly for **innovation and trend scouting**
- Programmatic **bolt-on M&A** plus rising focus on **China/APAC, innovation, and digital**

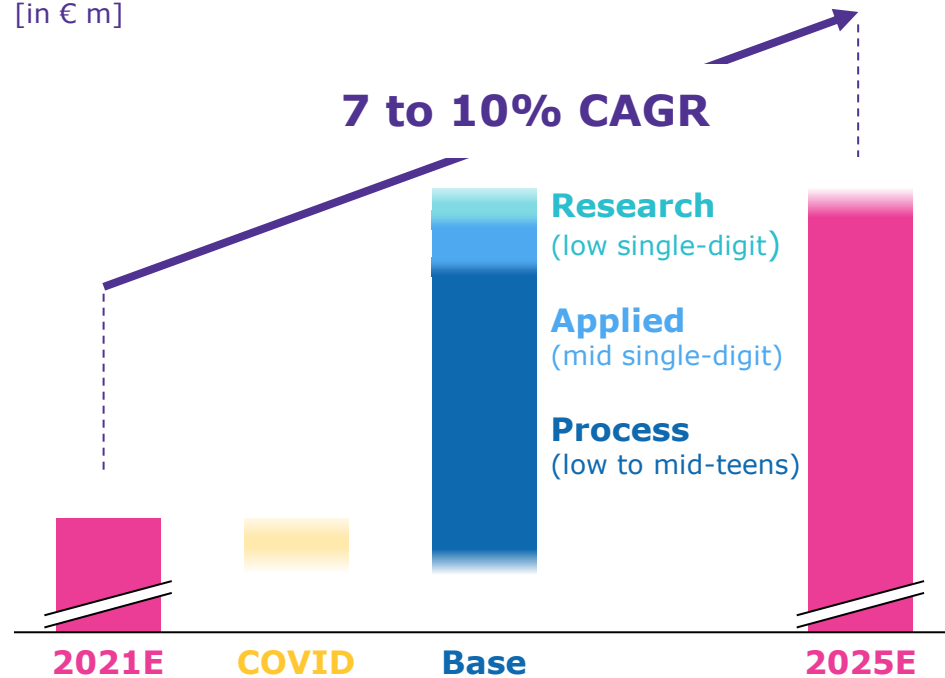
➤ **Upgrading** mid-term financial ambition to **7-10% org. sales CAGR** (incl. fading COVID business)

# Life Science

## Strong growth and improved mid-term outlook

### Life Science mid-term sales outlook

[in € m]



### Drivers of strong mid-term outlook

- **LS-wide: Above-market performance** with continued positive YoY growth rates **despite expected fading COVID-19 demand**<sup>1</sup>
- **Process: Driving ~80% growth** based on three main pillars
  - Capitalizing on strong demand for **products for traditional modalities** via network / capacity expansion and innovation (e.g. BioPharma 4.0)
  - Building scale in **services for all modalities** with a focus on mAbs, hp-APIs, ADCs, viral vectors and mRNA
  - Templating **products for novel modalities**
- **Applied and Research:** Building on strong positions with continued **robust growth** in line with historical trends



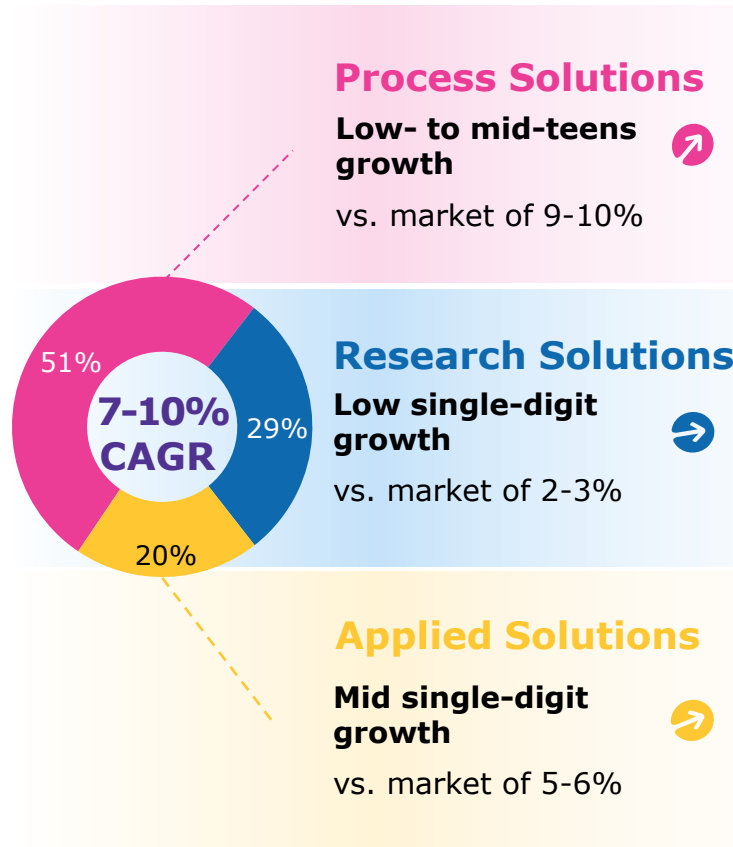
**Confident to deliver above-market growth despite expected fading COVID-19 business**

<sup>1</sup>Mid-term organic sales outlook of 7 to 10% CAGR assumes fading COVID-19 related business between two scenarios: A) zero COVID-19 related business in 2025 [implied CAGR of 6 to 9%] and B) COVID-19 related business in 2025 on 2021 level [implied CAGR of 8 to 11%]

# Life Science

## All business units contributing to strong mid-term outlook

### Sales split<sup>1</sup>



### Mid-term outlook<sup>2</sup>

#### Process Solutions

**Low- to mid-teens growth** ↗  
vs. market of 9-10%

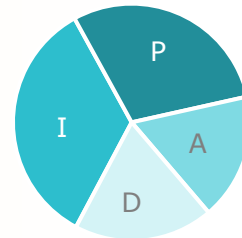
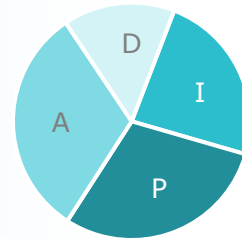
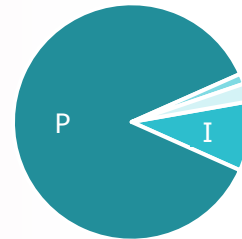
#### Research Solutions

**Low single-digit growth** →  
vs. market of 2-3%

#### Applied Solutions

**Mid single-digit growth** ↘  
vs. market of 5-6%

### Customer Split<sup>3</sup>



### Fundamental growth drivers

- **Biologics:** rising mAbs volume (11% CAGR<sup>4</sup>), growing adoption of single use, and shift to next-gen bioprocessing (intensified, digitized)
- **Novel modalities:** cell & gene therapies, ADCs, and mRNA inflection driving strong growth (25% CAGR<sup>4</sup>) and need for templated processes
- **Outsourcing:** increased role of emerging biotechs contributing to outsourcing in development & manufacturing (CDMO with 12% CAGR<sup>4</sup>)
- **Research activity:** >9,000 pre-clinical projects in research pipelines<sup>5</sup>; rising number of experiments backs healthy growth in biotechs/CROs
- **Public and private funding:** availability, access and predictability drive demand from academia and emerging biotechs
- **Emerging technologies:** high growth technologies for drug discovery and development, e.g. advanced cell culture and AI drug discovery
- **Regulation:** rise in quality standards and increasing demand for testing across customer segments
- **Population and economic growth:** demand for access to more sophisticated products and services rises, e.g. in emerging markets
- **Speed:** need for fast testing results raises requirements for Applied customers, esp. in clinical testing and food & beverage testing

**Customer Segments:** P Pharma and Biotech I Industrial and Testing A Academia D Diagnostics

<sup>1</sup> Based on H1 2021, CAGR is organic mid-term ambition including anticipated fading of COVID contribution; <sup>2</sup> market growth rates are excluding COVID effects; <sup>3</sup> indicative only; <sup>4</sup> Source: company estimate of market growth based on industry forecast over 5-year horizon; <sup>5</sup> Source: statista; Acronyms: mAbs = Monoclonal Antibodies; ADCs = Antibody Drug Conjugates; mRNA = Messenger Ribonucleic Acid, CDMO = Contract Development Manufacturing Organization; CRO = Contract Research Organization; AI = Artificial Intelligence

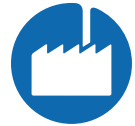


# Life Science Strategy

## Focus on strengthening the core and expanding in high-growth areas



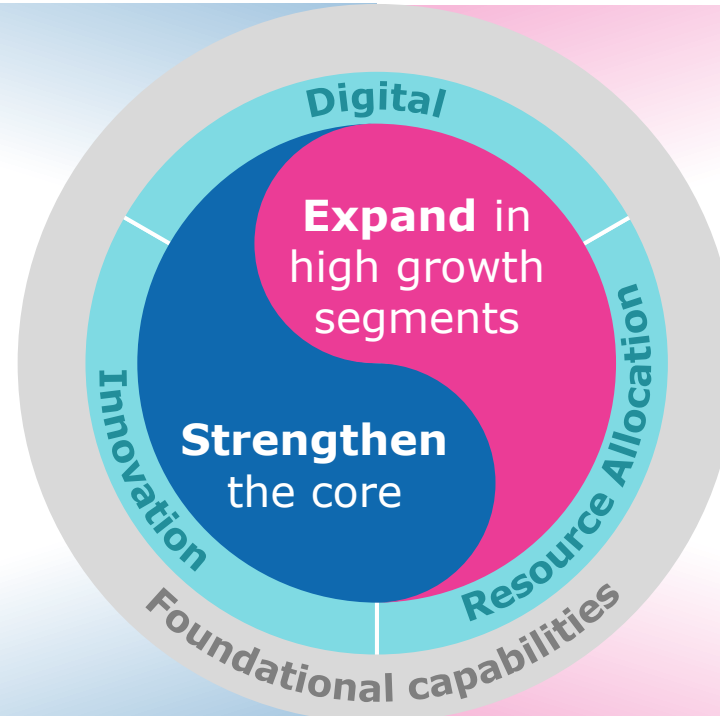
**Productivity Gains**



**Network & Capacity Expansion**



**Go-To-Market Optimization**



**New Business Models**



**Holistic Offering**



**Emerging Regions**



eCommerce • Digital Solutions • Data • R&D • Partnerships • Bolt-on M&A • CAPEX

Regulatory & Quality • Supply Network • People • Culture & Diversity • Sustainability • One Group



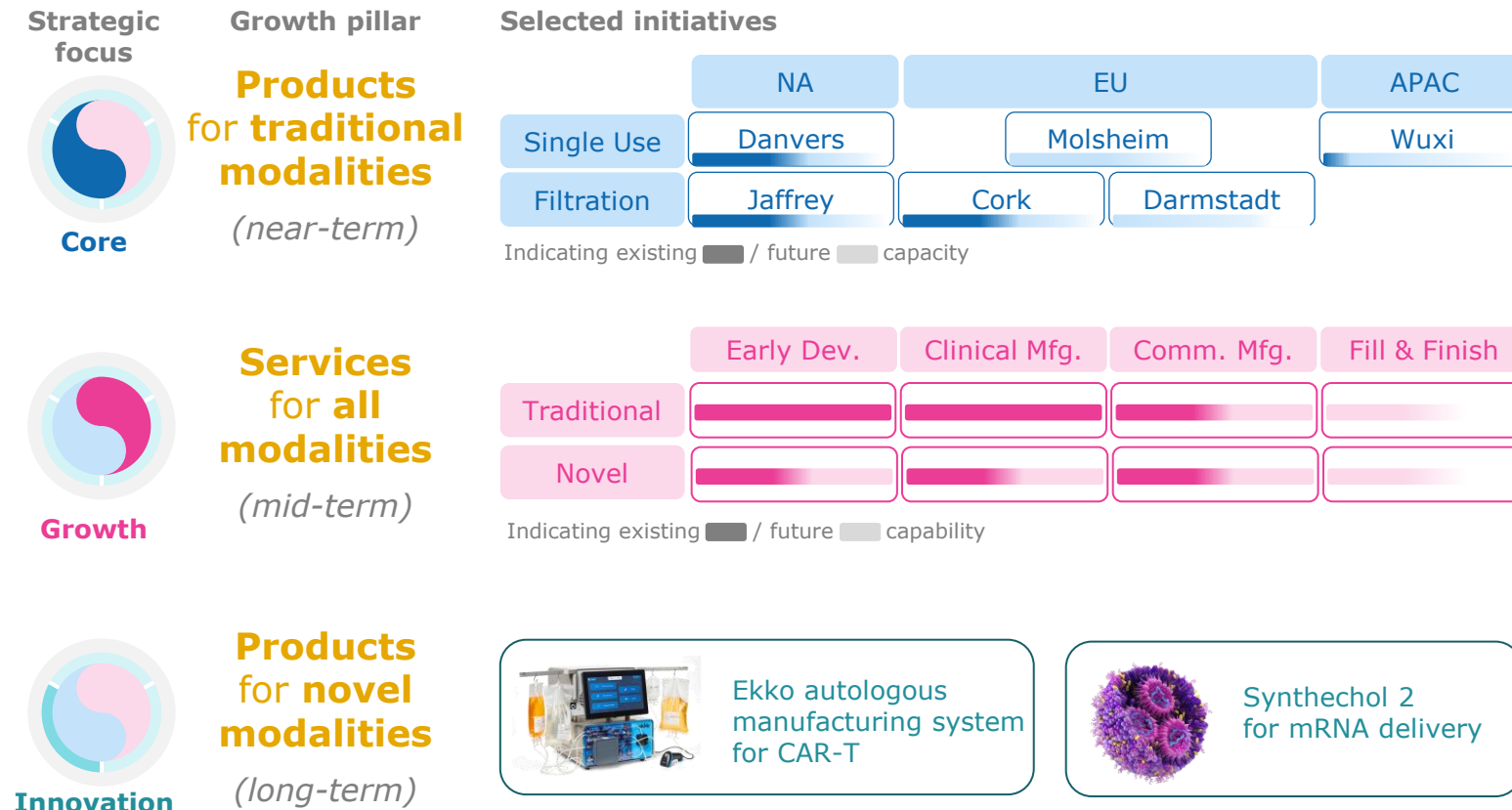
**Stringent execution of strategic priorities driving sustained profitable growth; upgrading mid-term outlook to 7 to 10% org. sales CAGR (incl. fading COVID business<sup>1</sup>)**

<sup>1</sup>Mid-term organic sales outlook of 7-10% CAGR assumes fading of COVID-19 related business between two scenarios: A) zero COVID-19 related business in 2025 [implied CAGR of 6 to 9%] and B) COVID-19 related business in 2025 on 2021 level [implied CAGR of 8 to 11%]



# Process Solutions – the largest of the BIG3

## Fueling the growth engine to accelerate further in a dynamic market



- Proactive **capacity expansions**
- Regionalization**
- Driving **next gen bioprocessing** (BioContinuum™)
- Multimodality scale up:** mAbs (single use), viral vectors, ADCs, HP-APIs
- Venturing** into mRNA (AmpTec)
- Developing** robust tools for cell, viral and gene therapy
- Enhancing** lipids portfolio for nonviral delivery

**Robust supply enabling attractive base growth, services and innovation as accelerators**

Acronyms: mAbs = Monoclonal Antibodies; HP-APIs = High Potency Active Pharmaceutical Ingredients; ADCs = Antibody Drug Conjugates; mRNA = Messenger Ribonucleic Acid

# Leveraging strong positions for durable growth in robust markets

## Selected initiatives **Research Solutions**



- ✓ Building on strengths in **research chemistry**
- ✓ Capitalizing on evolving **CRO market**

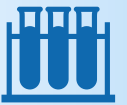
## Strategic focus



Core

## Selected initiatives **Applied Solutions**

- ✓ **Lab Water** instrument platform innovation
- ✓ Expanding **Pharma QC testing** (biologics & novels)



- ✓ Innovating to accelerate **research biology**
- ✓ Expanding further in **China/APAC**



Growth

- ✓ Enhancing **custom services for diagnostics**
- ✓ Expanding further in **China/APAC**



- ✓ Leveraging **upgraded eCommerce platform**



Digital

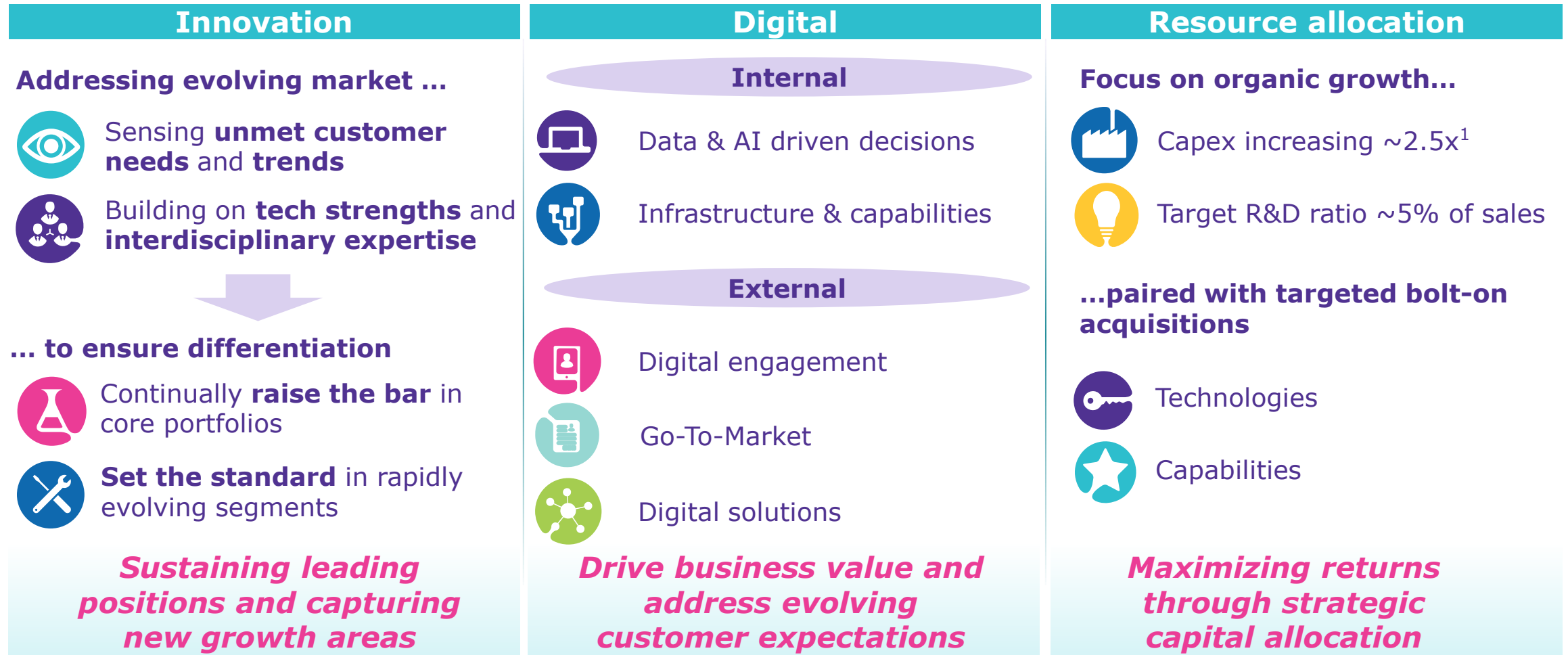
- ✓ Driving **digital solutions**



Strategic focus on **sustaining core positions** and capturing **higher growth segments**

# Innovation, digital and portfolio

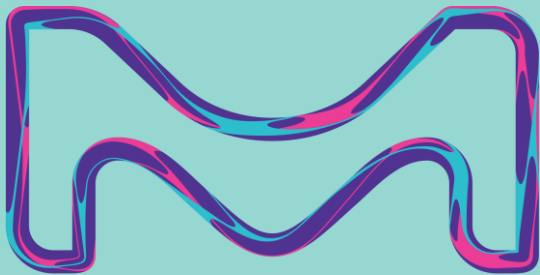
## Key supporting pillars of strategy for value creation



<sup>1</sup>Comparing average capex spend p.a. over the period 2016-20 with the period 2021-25

# Healthcare

Executing on the earnings phase








# Healthcare

## Well positioned in a dynamic environment, focused leadership in R&D




### Existing market trends unchanged...

- High growth in largest TA Oncology
- Precision medicines to further increase share
- Cost pressure and pricing volatility growing

### ... well positioned to grow further

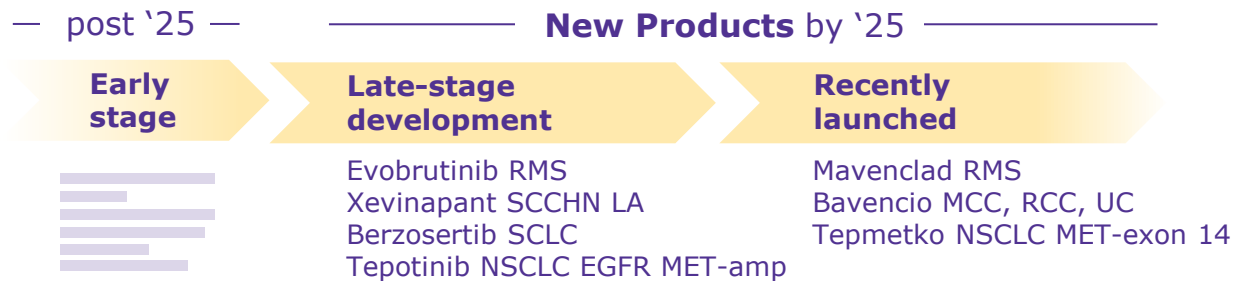
-  Long-term Oncology strategy with diversified clinical portfolio
-  Innovative models of treatment personalization, e.g. in Fertility
-  Diversified geographical sales footprint, lower exposure to potential U.S. pricing reforms
-  Global while local - 18 manufacturing sites and 4 R&D hubs across the globe
-  Broad spectrum of payer types due to TA and geographical variety

### Focused leadership in R&D driven by recent launches & pipeline

-  SCCHN
-  Bladder cancer
-  MET driven tumors
-  ...

✓ From correlated to distinct uncorrelated risks

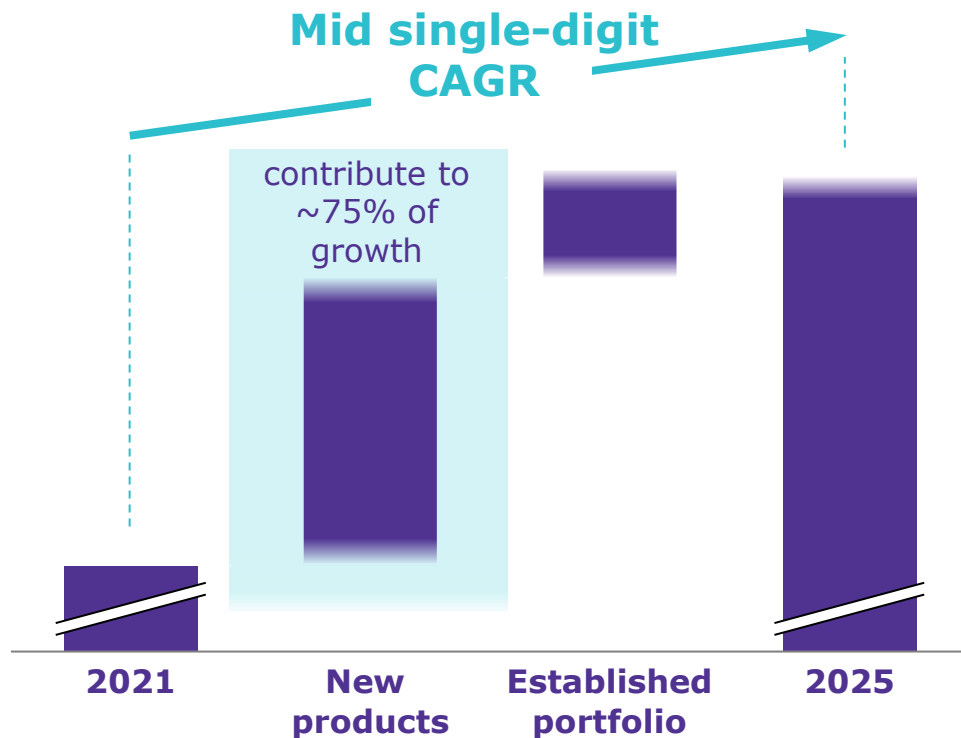
✓ Variety of pathways supported by new modalities e.g. ADCs, Oral ATRi, TIGIT...



**Introducing mid-term financial ambition of mid single-digit org. sales CAGR**

# Healthcare

## Growth driven primarily by innovation, augmenting a solid established portfolio foundation



Risk-adjusted illustration

### Positioned to accelerate science & technology leadership



**Profitable sales growth above global pharmaceutical market** (4.6% across TAs until 2025)<sup>1</sup>



#### New products

- Evobrutinib (BTKi) to strengthen our leadership position in Multiple Sclerosis
- Multiple assets within our targeted Oncology TA focus
- Committed to drive our recent launches Bavencio, Mavenclad<sup>®</sup> and Tepmetko<sup>®</sup>



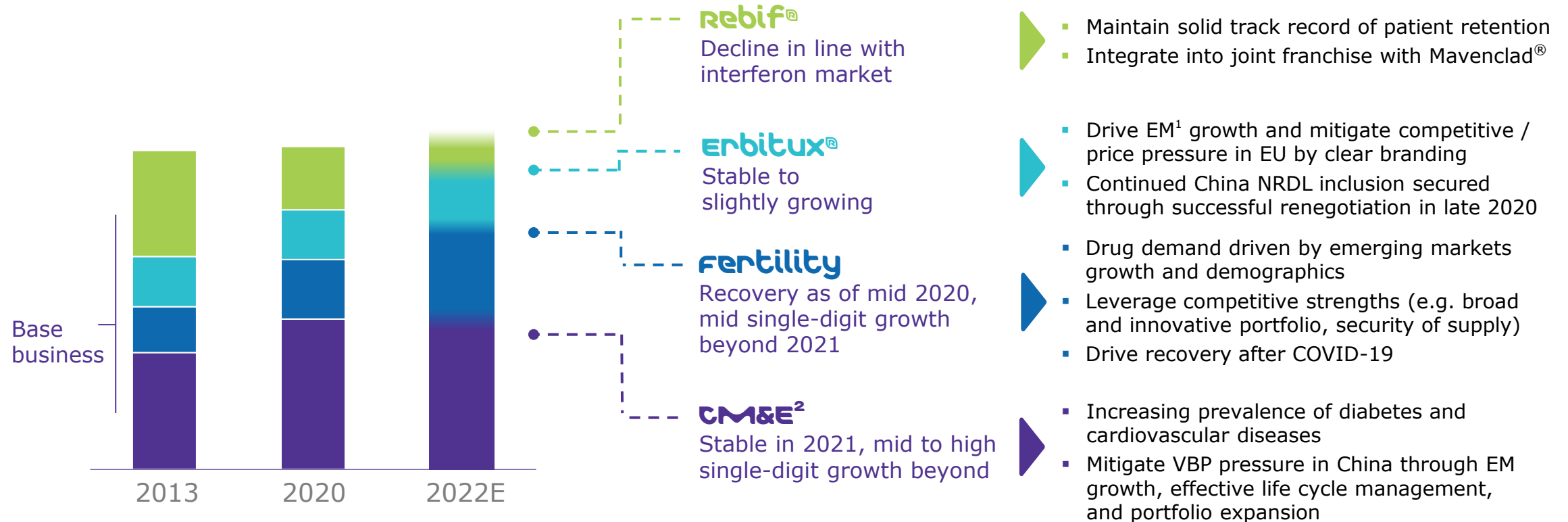
**Sustainable long-term growth** for Healthcare beyond 2025

<sup>1</sup> Company estimates of mid-term growth outlook based on industry forecasts and reports from public research institutes (e.g. IQVIA Global Medicine Trend Report from April '21)

# Healthcare: Base Business

## Ambition to keep base business ~stable throughout 2021 and 2022

### Healthcare base business net sales until 2022



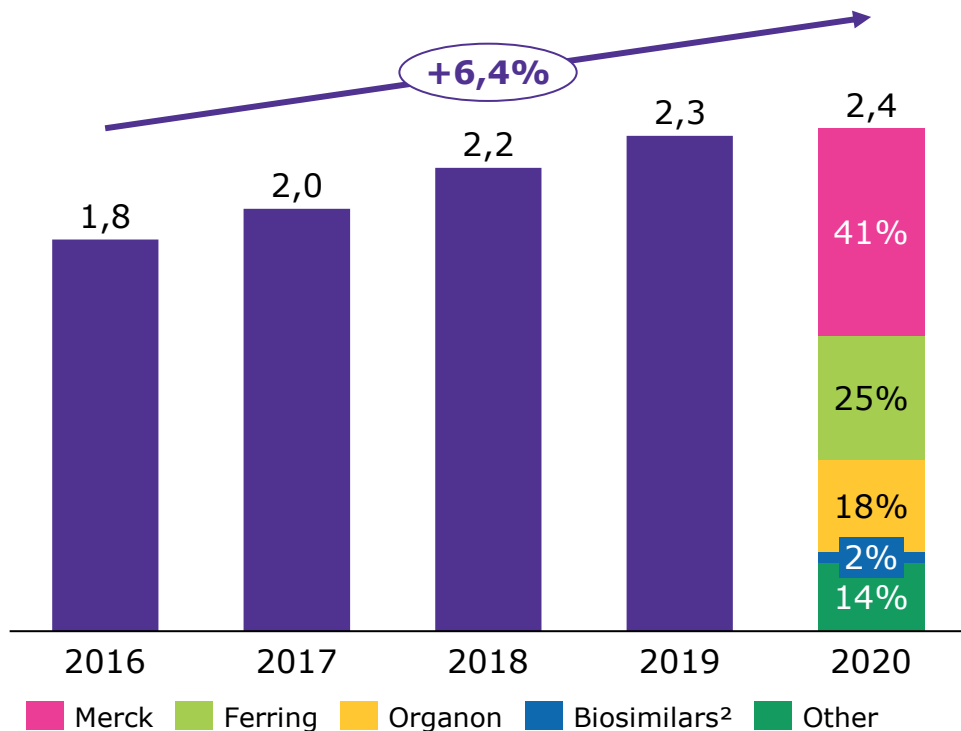
<sup>1</sup> EM: emerging markets; <sup>2</sup> Cardiovascular, Metabolism and Endocrinology (new Franchise name as of Q1 2021)



# Healthcare

## Strengthening our leadership in Fertility

### Global Gonadotropin market in € bn<sup>1</sup>



### Strategies to expand our leadership position

#### **GONAL-f** The world's most prescribed r-hFSH treatment<sup>3</sup>

- Growing prevalence of infertility driven by delayed parenthood and lifestyle habits
- Increasing awareness and access to treatment

#### **Pergoveris:** Only recombinant FSH + LH product in the market

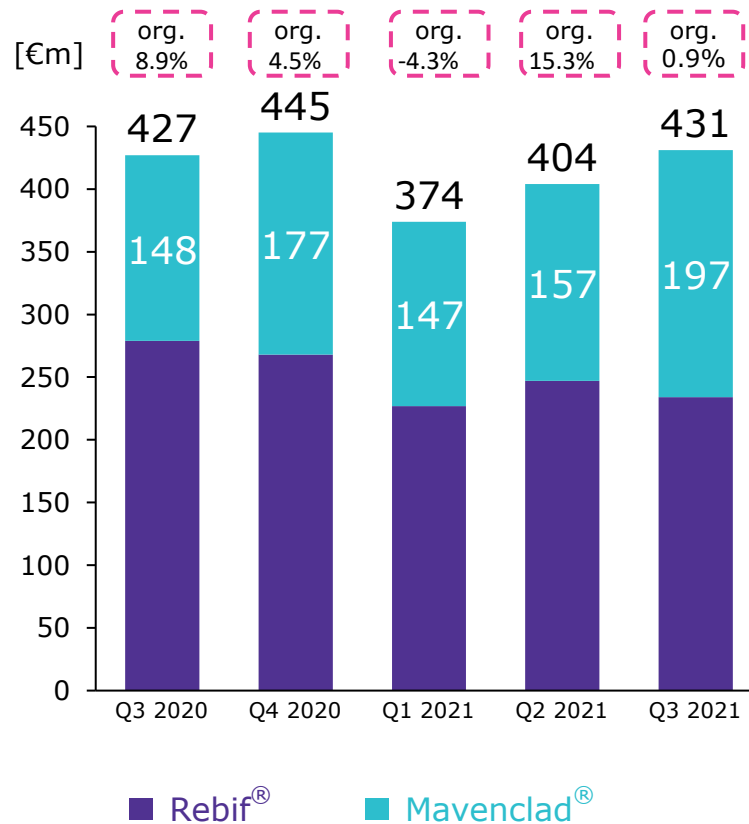
- Doubling sales and market share since 2017
- Strong growth potential by geographical expansion

#### **Innovations & digital solutions** (e.g. Philips partnership)

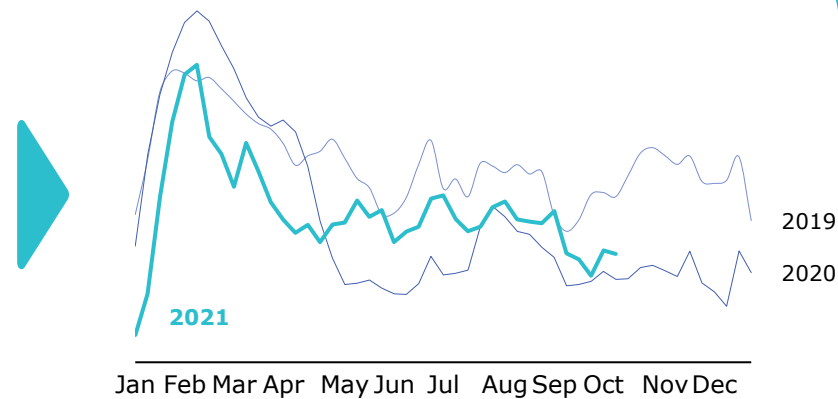
- Better treatment insights & improved convenience
- Contributing to higher live birth rates

# Neurology & Immunology: Mavenclad<sup>®</sup> hits record quarter with sales up 33% (org.) YoY and equal growth contribution by U.S. and ex U.S.

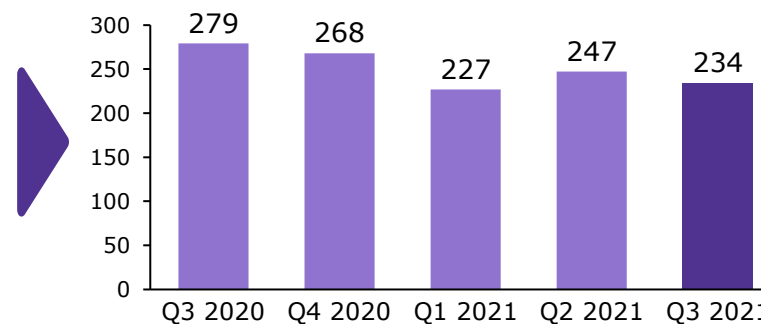
## Sales development N&I, [€m]



## Dynamic market volume [R3W]<sup>1</sup>



## Rebif<sup>®</sup> net sales, [€m]



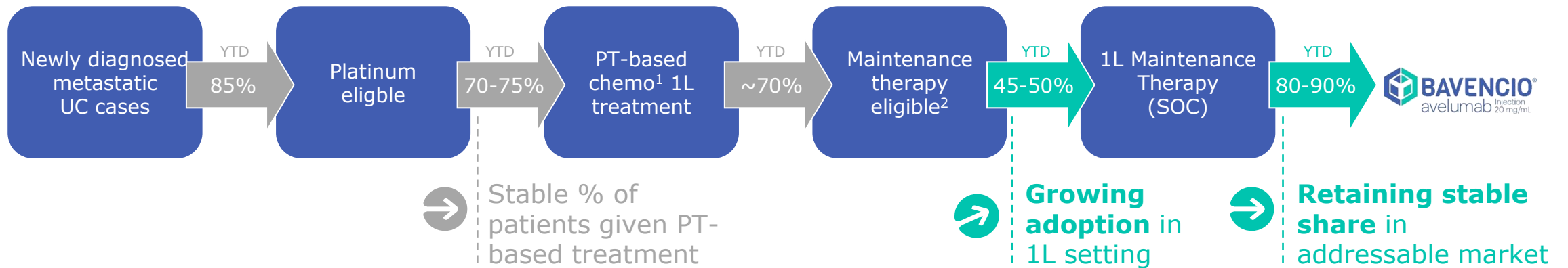
- Recovery of US dynamic market dampened by COVID 19 delta wave
- Underlying ~20% Mavenclad sales growth QoQ, boosted by add. <5% one time US impact
- QoQ growth driven by improved new patient acquisition and higher volume of return patients

- Rebif<sup>®</sup> decline in line with U.S. interferon market trend
- N&I franchise growing QoQ as Mavenclad<sup>®</sup> growth outweighs Rebif<sup>®</sup> decline



# Bavencio® UC 1L launch: Growing adoption of 1L maintenance therapy treatment and establishing stable market shares across key geographies

## U.S. - Approved in June 2020:



## EU and Japan - Approved in January and February 2021 respectively:

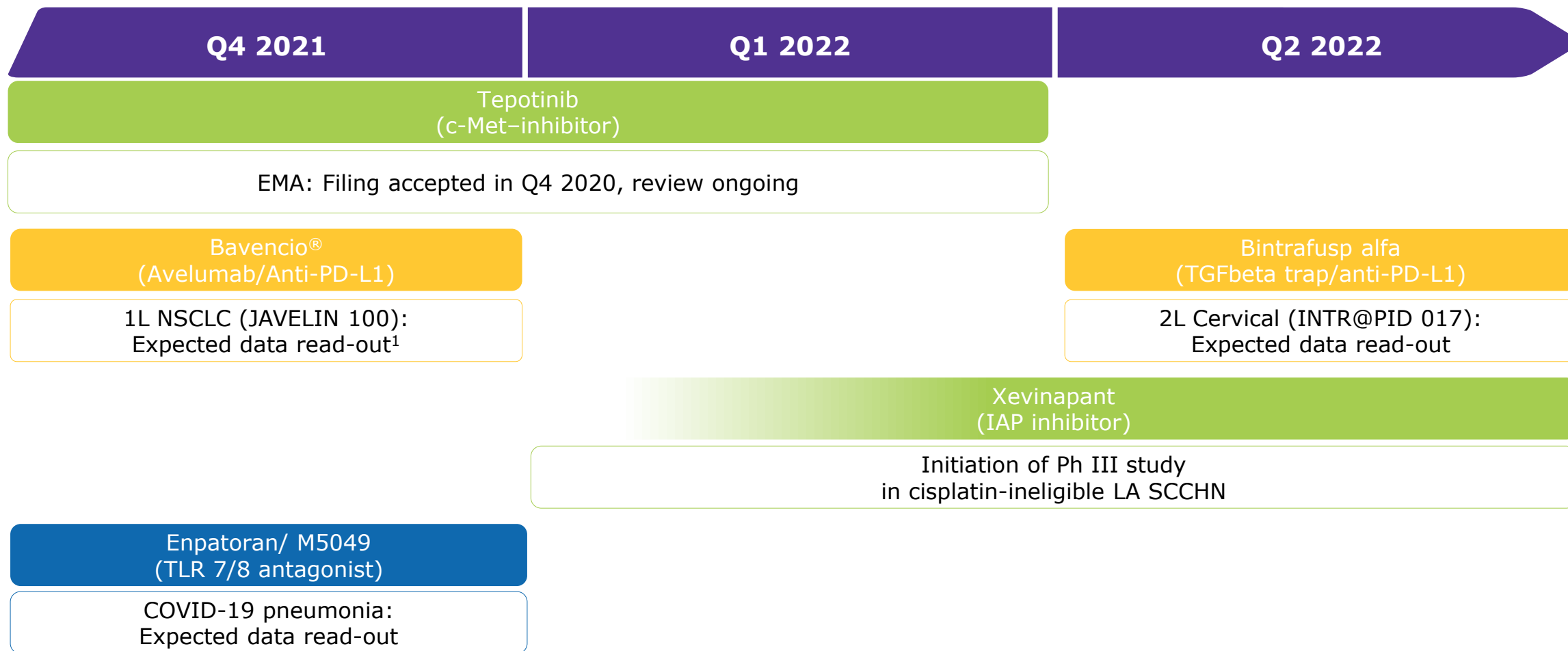
- Now approved in **50 markets** and **reimbursed in ~1/3**
- Strong 1L adoption in key launch markets** (e.g. Japan, France, Germany) supported by **treatment guideline recommendations** and **KOL support**, on track to become **SOC**

1: Carboplatin or Cisplatin, 2: Complete / partial response or stable disease based on clinical trial data; Acronyms: PT = Platinum, SOC = Standard of care, UC = Urothelial carcinoma



# Healthcare catalysts

■ Oncology  
■ Immuno-Oncology ■ Immunology



Acronyms: EMA = European Medicines Agency, LA = locally advanced, SCCHN = Squamous cell carcinoma of the head and neck, NSCLC = Non-small cell lung cancer, TLR = Toll-like receptor, 1: Clinical timelines are event-driven and may be subject to change



# Pipeline with uncorrelated risk and significant potential to drive topline growth from 2025

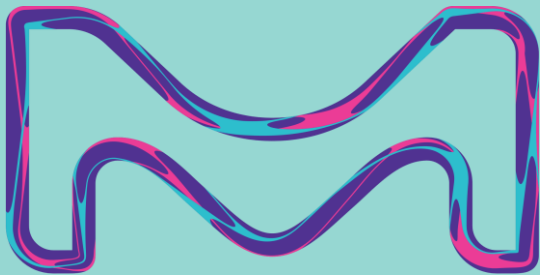
	PROMISE	INDICATION	EARLIEST SUBMISSION	
<b>Tepotinib (MET inhibitor)</b>	Overcoming resistance of Osimertinib (third gen. EGFR inhibitor)	2L EGFR+ NSCLC post Tagrisso	<b>2023</b>	Timeline visibility
<b>Evobrutinib (BTK inhibitor)</b>	Addressing chronic inflammation and progression between relapses, in addition to reducing acute inflammation with BIC ARR	RMS	<b>2024</b>	
<b>Xevinapant (IAP inhibitor)</b>	Transformative benefit – Maximizing chances for Cure for patients with locally advanced SCCHN	Cis-fit LA SCCHN Cis-unfit LA SCCHN	<b>2025</b> <b>≥ 2027<sup>1</sup></b>	
<b>Berzosertib (ATR inhibitor)</b>	Blocking ATR “aster regulator” of DNA repair to enhance efficacy of TOP I inhibitors for patients with few treatment options	rSCLC	<b>2024</b>	
<b>M1231 MUC1/EGFR bi-specific ADC</b>	Next generation “Triple Innovation” ADC for patients with solid tumors, aiming for effective delivery of potent chemotherapy payload with reduced in & off target toxicity	NSCLC ESCC	<b>2025</b> <b>2025</b>	
<b>Enpatoran TLR7/8 inhibitor</b>	Small molecule for targeted inhibition of important lupus mediator TLR7/8, aiming for improved efficacy with low infection risk	CLE SLE	<b>2026</b> <b>2027</b>	

<sup>1</sup> depending on trial design



# electronics

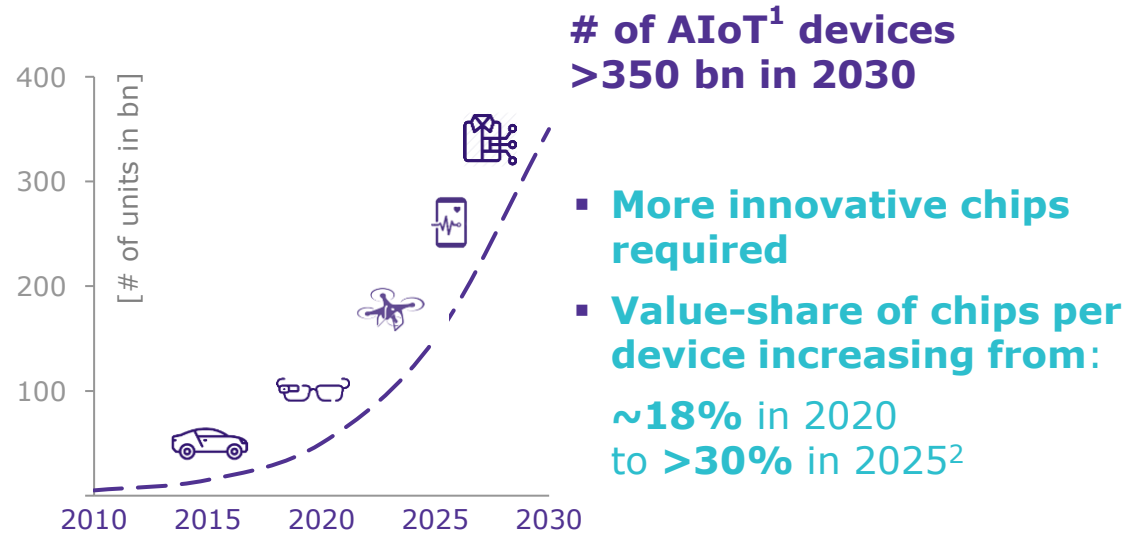
Shifting gears to growth execution



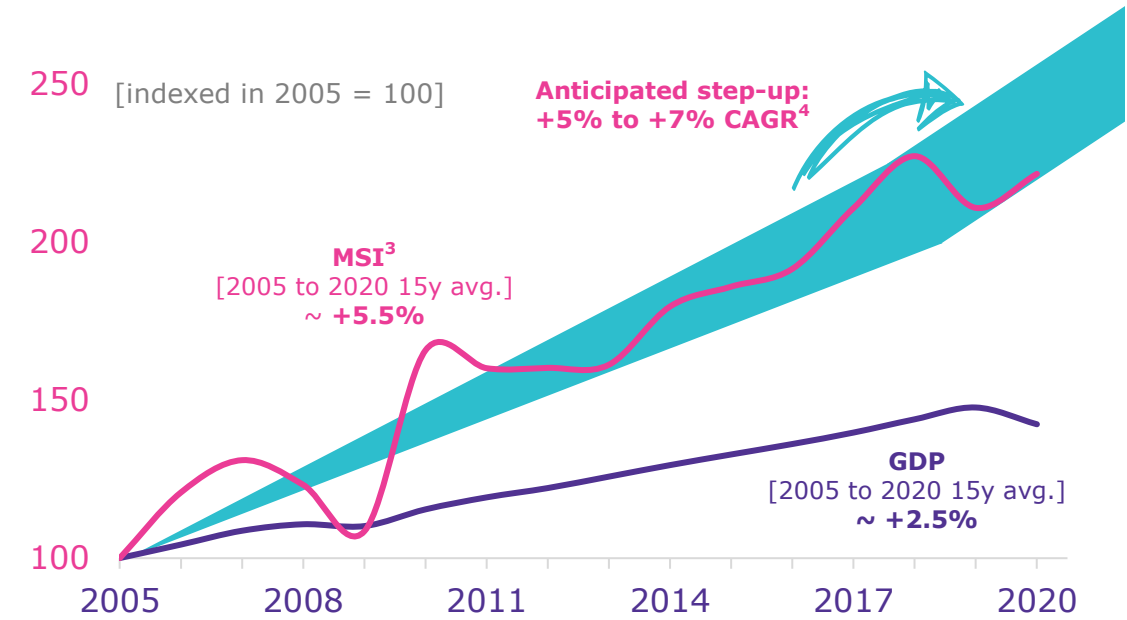
# Electronics industry has clear roadmaps with vast market potential and substantial need for materials innovation

## More applications than ever before to fuel Semiconductor growth

- 12% Automotive
- 7% Server / Storage / Communication infrastructure (5G)
- 6% Consumer (wearables/IoT)
- 5% Industrial/Medical/Military/Aviation
- 4% PC/Computing
- 4% Mobile phones / tablets



## Growth expected to accelerate... ...with reduced upward cyclicality



- Diverse end applications & higher capital discipline expected to reduce future cyclicality
- Semiconductor **Materials** show **lower cyclicality than Semiconductor market**

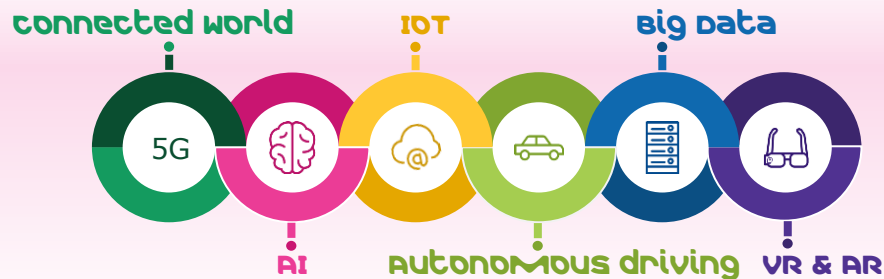
1) AIoT = Artificial Intelligence + Internet of Things; 2) McClean, Prismark Semiconductor and packaging report Q4 2020; 3) Million Square Inch of silicon wafers; 4) Group estimate based on industry forecasts



# Electronics

## Building on leading positions in semiconductor materials

### External trends drive strong demand



**Tech trends inevitably drive exponential data growth** requiring semiconductors and displays in virtually all data applications

- Customers & governments significantly **accelerating semi capacity expansions**
- **Semiconductor materials market** expected to **accelerate growth** based on **broader demand**

### Electronics well positioned to capture it

- ✓ **One of the strongest portfolios** – providing solutions necessary to **enable industry growth**
- ✓ **Enabling breakthrough technologies**, in **high value areas** of wafer processing & display innovation
- ✓ **Pioneering in high-throughput experimentation** and **Big Data & AI projects** with key customers
- ✓ **Shift to executing growth** accelerating **investment and innovation in sync** with customer plans

**Further upgrading** mid-term financial ambition **to 3 to 6% org. sales CAGR**

Abbreviations: AI = Artificial Intelligence; IoT= Internet of Things; VR = Virtual Reality ; AR = Augmented Reality

# Electronics

## Shifting gears from transformation to growth execution

### From building a platform...

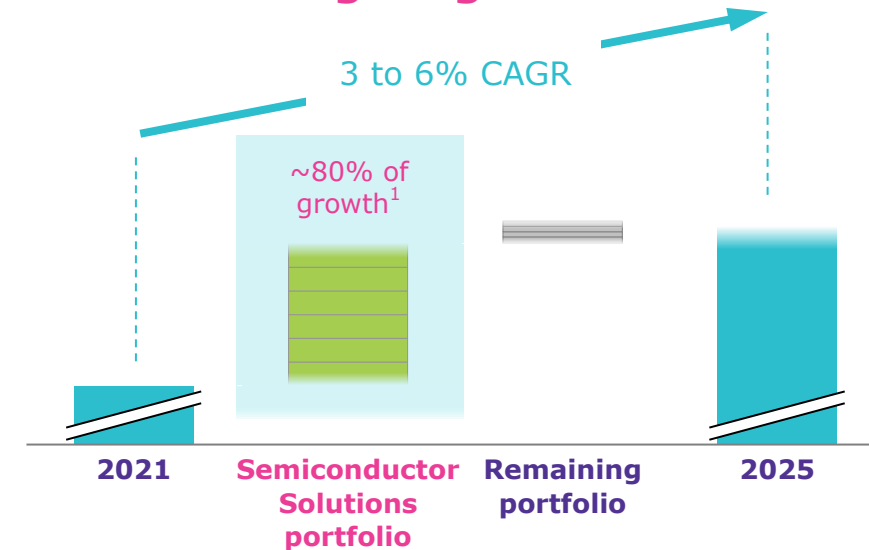
#### Successful "Bright Future" transformation

- **Superior business composition**
  - ~10 equally sized, differentiated tech platforms
  - Wider customer base than ever before
  - Balanced presence in all major customer hubs
- Clear **focus on Semi & innovation**

#### Significantly higher Versum synergies

- **Accelerated capex** investment plan
  - Smart localization
  - Global presence & local proximity
- **Display & Surface well managed** according to Enterprise Planning Unit role

### ...to executing on growth



- **Semiconductor Solutions:** to grow **200 to 300bps<sup>2</sup>** above faster underlying market of 5% to 7%
- **Display Solutions:** low-single digit decline in the coming years expected to return to growth until 2025
- **Surface Solution:** low single-digit growth post COVID-19 turnaround

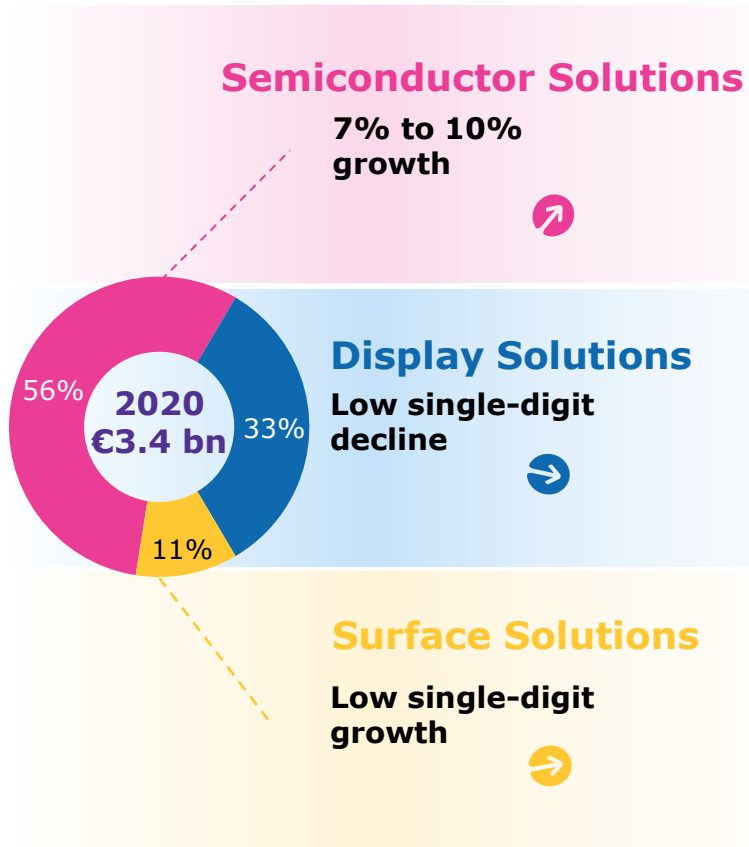
1) illustrative split by semiconductor solutions technology platform

2) „Basis points”

# Electronics

## Portfolio refocus drives mid-term guidance upgrade to 3 to 6% CAGR

### Sales split<sup>1</sup>



### Mid-term outlook<sup>2</sup>

#### Semiconductor Solutions

7% to 10% growth



#### Display Solutions

Low single-digit decline

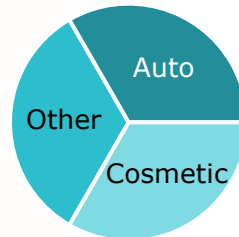
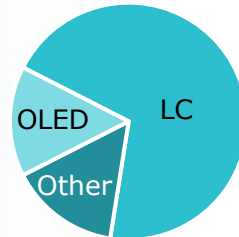
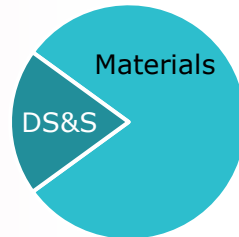


#### Surface Solutions

Low single-digit growth



### Business Split<sup>3</sup>



### Fundamental growth drivers

- Continued market growth due to technological advances (Artificial intelligence, 5G, Big Data and cloud, Internet of Things) serving customers in **Logic, Memory, Packaging and others**
- 5 to 7% market growth<sup>4</sup>
- 200 to 300bps above-market growth from share gains & better portfolio (incl. 100 to 150bps additional growth from integration top-line synergies)
- Driven by trend to **bigger TV size, higher resolutions, more mobile devices**
- 3 to 4% growth of total LCD m<sup>2</sup> area<sup>5</sup>, while price pressure continues
- 18 to 22% growth of total OLED m<sup>2</sup> area<sup>5</sup> with slight to moderate market share gains
- OLED material market to exceed LC material market by 2021<sup>6</sup>
- Well balanced exposure to **automotive** and **cosmetics** end market
- Drivers: rising living standards, higher disposable income in growing markets & higher demand for high value products at reasonable prices
- Light vehicle production and relevant cosmetics end markets returning to growth in 2021 and reaching 2019 levels by 2022 and beyond<sup>7</sup>

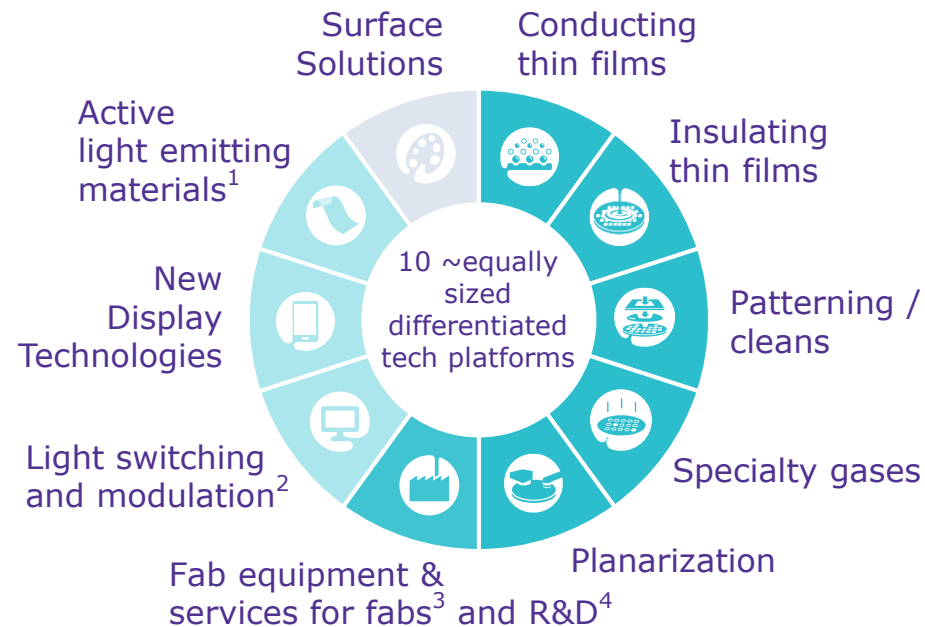
<sup>1</sup> Based on FY 2020, CAGR is organic mid-term ambition; <sup>2</sup> growth rates are organic CAGRs; <sup>3</sup> indicative only

<sup>4</sup> Source: Company estimate based on industry forecasts; <sup>5</sup> Source: Omdia Display Market Outlook, Q1 2020; <sup>6</sup> Internal Business Intelligence; <sup>7</sup> Sources: LMC Automotive Light Vehicles Forecast, Aug 2020 & Euromonitor BPC (Beauty & Personal Care) Aug 2020



# Electronics: Successful transformation, ready for accelerated growth

An integrated electronics innovation leader with one of strongest industry portfolios



INDICATIVE chart of mid-term future portfolio composition

■ Semiconductor Solutions
 ■ Display Solutions
 ■ Surface Solutions

1) Incl. materials for OLED displays 2) Incl. liquid crystal displays  
3) Delivery Systems & Services 4) Intermolecular

40

## Delivering on promises and above

- ✓ **Bright Future program**  
key deliverables & savings
- ✓ **€3.3 bn sales with ~90% of sales focused on electronics**
- ✓ Successful **integration of Versum**
- ✓ **Attractive, stable EBITDA pre margins**
- ✓ **Display & Surface well managed**  
according to Enterprise Planning Unit role
- ✓ Upgraded mid-term guidance of **3% to 6% sales CAGR**

**Everything in place to gain further speed as vital growth engine for Group**



# “Level Up” - Shifting gears from transformation to growth execution

## Level up **scale**

- **Capacity investments** synchronized to **customers’ expansion plans**
- Ability to **tackle industry challenges** & supply reliability
- Continue **localizing footprint** close to customers in **Korea, Taiwan, China, and U.S.**

## Level up **portfolio**

- Commitment to **relevant portfolio breadth** in **high growth areas**
- Diligent **bolt-on** acquisitions
- Targeted expansion of **portfolio**

**Enabling ambition  
of 3 to 6% org. CAGR  
2021 to 2025+**



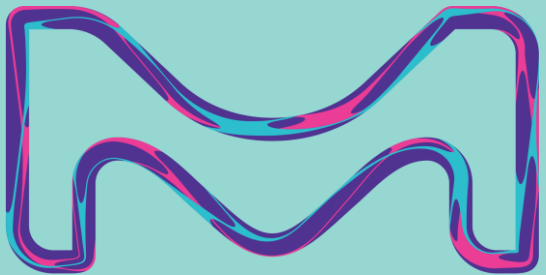
## Level up **tech**

- Further sharpen **focus on profitable innovation**, addressing key inflection points
- Address **sustainable innovation**
- **Expand R&D** and keep one of the highest **R&D rates in the industry**

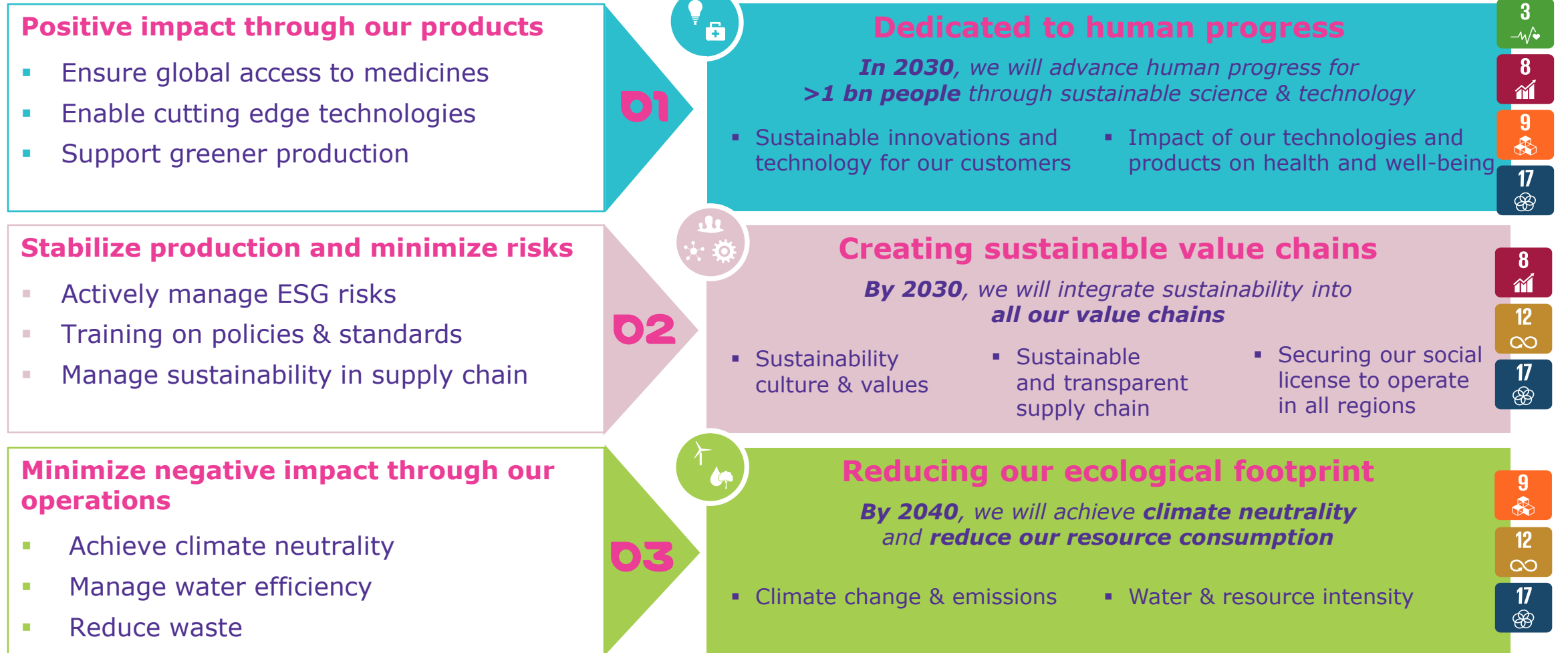
## Level up **people & capabilities**

- **Attractive** employer for **NextGen talents**
- Drive **safety, quality & sustainability**
- Drive **data analytics & digital transformation**

sustainability





# Boundaries of human progress today will become reality tomorrow: Our sustainability goals



# Group

## Expanding KPIs to monitor and steer sustainability comprehensively

Goal	Exemplary KPIs to be implemented in 2021
 <b>01</b> <i>Human Progress</i>	# of people positively impacted by Group technologies/products % of new patent families with positive sustainability impact
 <b>02</b> <i>Sustainable Value Chain</i>	Environment, Health and Safety: Incident Rate % of employees trained on sustainability % of relevant suppliers that are covered by a sustainability assessment/audit
 <b>03</b> <i>Ecological Footprint</i>	Greenhouse Gas Emissions Scope 1+2 Greenhouse Gas Emissions Scope 3 Waste Score & Water Intensity Score

**Our sustainability ambition is integrated in the Executive Board remuneration system**

**From 2021 onwards:**  
Explicit reflection of the new targets on **qualitative level** in the criteria **for the profit sharing modifier** (0.8-1.2)

**In addition, from 2022 onwards:**  
**Quantitative sustainability factor** (0.8-1.2) applicable in the **long-term incentive plan** for the executive board

Set of sustainability KPIs will build the underlying basis for the development of the sustainability factor

The KPIs and goals are complementary to KPIs and goals reported in our sustainability report, annual report and SASB reporting, e.g. on compliance, safety, employees, diversity



# Reduce our environmental footprint: Emissions, Water and Waste



## Climate neutrality by 2040

- Aiming for **climate neutrality** (scope 1-3 emissions) **by 2040**
- **Lower scope 1 and 2 GHG<sup>1</sup> emissions by 50%** and to source 80% of purchased electricity from renewable sources until 2030 vs. 2020 baseline (2020: ~2,100 kt)
- **Absolute reduction of 1,500 kt<sup>2</sup> scope 3 CO<sub>2</sub> equivalents** by 2030



## Enhance water efficiency, reduce harmful emissions

- Enhancing water efficiency and **improve the new Group water intensity score by 10% by 2025** vs. 2019 baseline
- Minimize negative environmental impacts, **harmful emission residues should be lowered** below a scientifically defined threshold by 2030



## Reduce waste impact

- Based on the Company Waste Score, we have set ourselves the goal of **reducing the environmental impact of our waste by 5%** by 2025 compared to 2016
- By end of 2020, we achieved a reduction of 4.6%

# Group

## Diverse human capital: Thinking, talking, and leading differently

Focus areas	Status quo 2020	Aspirations
Gender	<b>35%</b> women in leadership globally	<b>Gender parity*</b> until 2030
Culture & Ethnicity	<b>20%</b> of underrepresented ethnic colleagues in US leadership	Increase to <b>30%</b> until 2030
	<b>16%</b> of nationals from Asia, Latin America, Middle East & Africa in leadership	Increase to <b>30%</b> until 2030
Inclusion	Rollout of Inclusive Leadership Programs and participation of leaders across all business	Participation of <b>all</b> leaders by 2026

\* The gender concept considers room for non-binary people

The **uniqueness** of our people brings our **curiosity** to life. It contributes to our success in **science & technology**.



# Group

## Clear set of tasks to enable our 2030 ESG goals

### Tasks

Development      In place

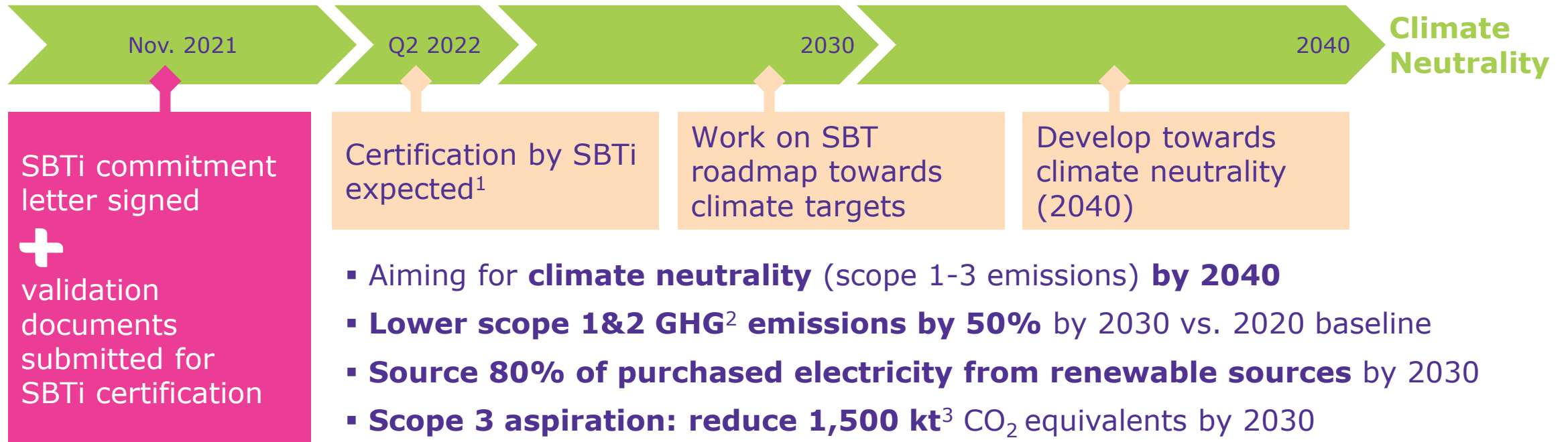
### Results and next steps

Tasks	Development	In place	Results and next steps
<b>Analysis of requirements:</b> Strategy, business, regulation, stakeholders			<b>Ongoing</b> due to developing field of ESG stakeholder expectations and regulation
Build effective <b>data platform</b> for <b>internal steering</b>			Feed in internal data, external data, industry benchmarks and <b>modelling projects in 2021</b>
Develop ESG <b>KPIs</b> for <b>reporting</b>			Developing & evaluating <b>ESG KPIs</b> for steering, milestones, decide on reporting <b>in 2021</b>
Develop <b>SBV tool</b> <sup>1</sup> to measure <b>product sustainability value</b>			SBV tool <b>developed and tested</b> in up to 10 cases <b>by 2021</b>
Link ESG <sup>2</sup> to <b>board compensation</b> with 20% sustainability factor from 2022			<b>Approved</b> by AGM, qualitatively included, <b>quantitative factor to be developed in 2021</b>
<b>Further incorporate</b> ESG <sup>2</sup> in R&D, Controlling, M&A and Supply Chain			<b>ESG-Framework M&amp;A/Capex in 2021</b> , progress in supply chain, controlling, R&D
Decide on <b>dedicated investments</b> and <b>initiatives</b> to achieve targets			Business strategies and priorities under development, <b>budgeting &amp; decisions in 2021</b>

<sup>1</sup>Sustainable Business Value: Dive in deeper and read the research article on the [SBV method](#); <sup>2</sup>ESG: Environmental, Social, Governance



# Outlook: On the path towards climate neutrality 2040



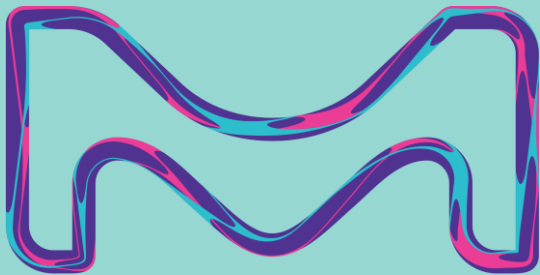
## Science-Based Target initiative (SBTi):

Science-based targets provide a clearly defined pathway for companies to reduce GHG emissions, helping prevent the worst impacts of climate change and future-proof business growth.

Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement, pursuing efforts to limit global warming to 1.5°C.



# Guidance and Executive Summary



# Full-year 2021 guidance

## Net sales:

Organic: +13% to +15% YoY  
FX: -1% to -2% YoY  
**~€19.30 bn to €19.85 bn**

## EBITDA pre:

Organic: +26% to +29% YoY *(excl Biogen<sup>1</sup>)*  
FX: -1% to -2% YoY  
**~€6.00 bn to €6.30 bn**

## EPS pre:

**~ €8.50 to €9.00**

<sup>1</sup> Q3 20 reversal of the provision for the patent dispute over Rebif in the amount of ~€365 m; Guidance including Biogen – organic: +17% to +20%



# Executive Summary

4 key priorities to deliver on  
our science & tech ambitions



**Mobilizing for  
Efficient growth**



**Leveraging  
Innovation  
in the BIG3**



**Driving  
Culture & Leadership**



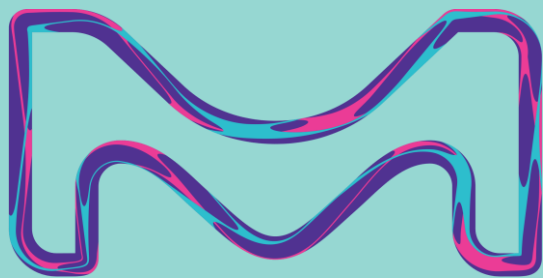
**Focusing on  
Sustainability**



# Appendix



GROUP



# 2021 business sector guidance<sup>1</sup>

## Life Science



### Net sales

- Organic: +20% to +22%
- Process Solutions as main growth driver, including ~€1 bn COVID-19 sales

### EBITDA pre

- Organic: +36% to +39% YoY
- FX: -1% to -2% YoY
- ~€3,200 – 3,350 m

## Healthcare



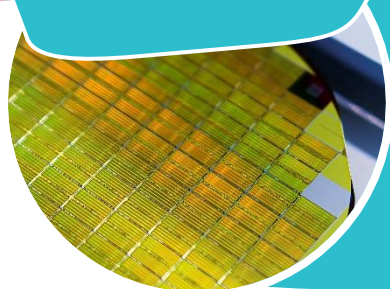
### Net sales

- Organic: +8% to +9%
- Mainly driven by Mavenclo<sup>®</sup> and Bavencio<sup>®</sup>
- Established portfolio growing organically

### EBITDA pre

- Organic: +17% to +20% YoY (excl Biogen<sup>2</sup>)
- FX: -5% to -6% YoY
- ~€2,110 – 2,200 m

## Electronics



### Net sales

- Organic: +7% to +8%
- Strong Semiconductor Solutions contribution
- OLED with high growth

### EBITDA pre

- Organic: +9% to +12% YoY
- FX: 0% to -2% YoY
- ~€1,080 – 1,140 m

# Additional financial guidance 2021

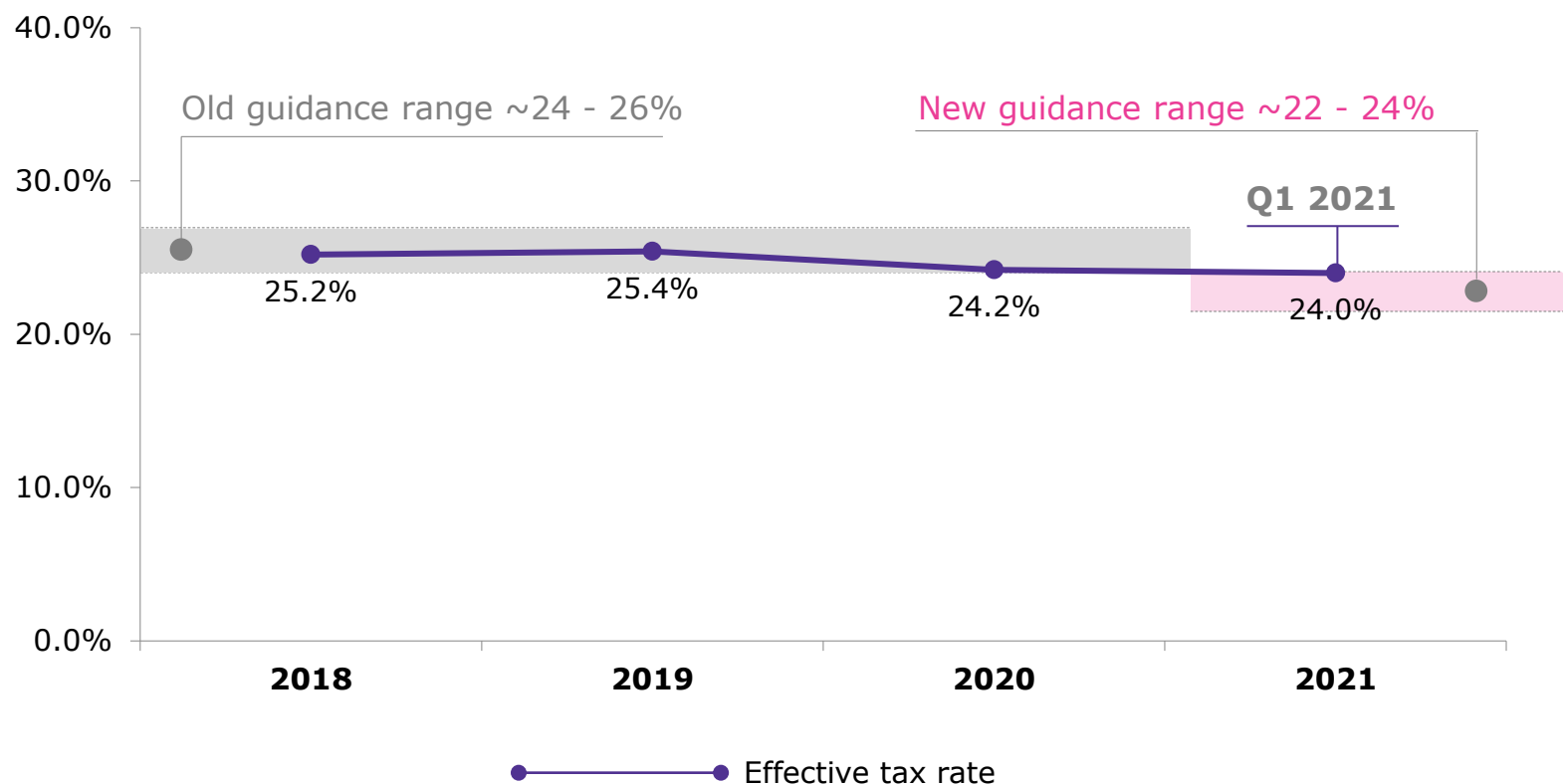
## Further financial details

Corporate & Other EBITDA pre	~ €-440 to -470 m
Interest result	~ €-190 to -220 m
Effective tax rate	~22% to 24%
Capex on PPE	~€1.4 bn
Hedging/USD assumption	<b>FY 2021 hedge ratio ~70% at EUR/USD ~1.17</b>
2021 Ø EUR/USD assumption	~1.17 to 1.19



# Effective tax rate guidance lowered to new range of 22% to 24%

## Tax rate development 2018-2020 and from 2021 onwards



### Rationale for update

Strong profit growth in Life Science results in different profit contributions worldwide, leading to a lower overall tax rate

New **resulting underlying tax** rate used for EPS pre calculation is now 23%

# Group

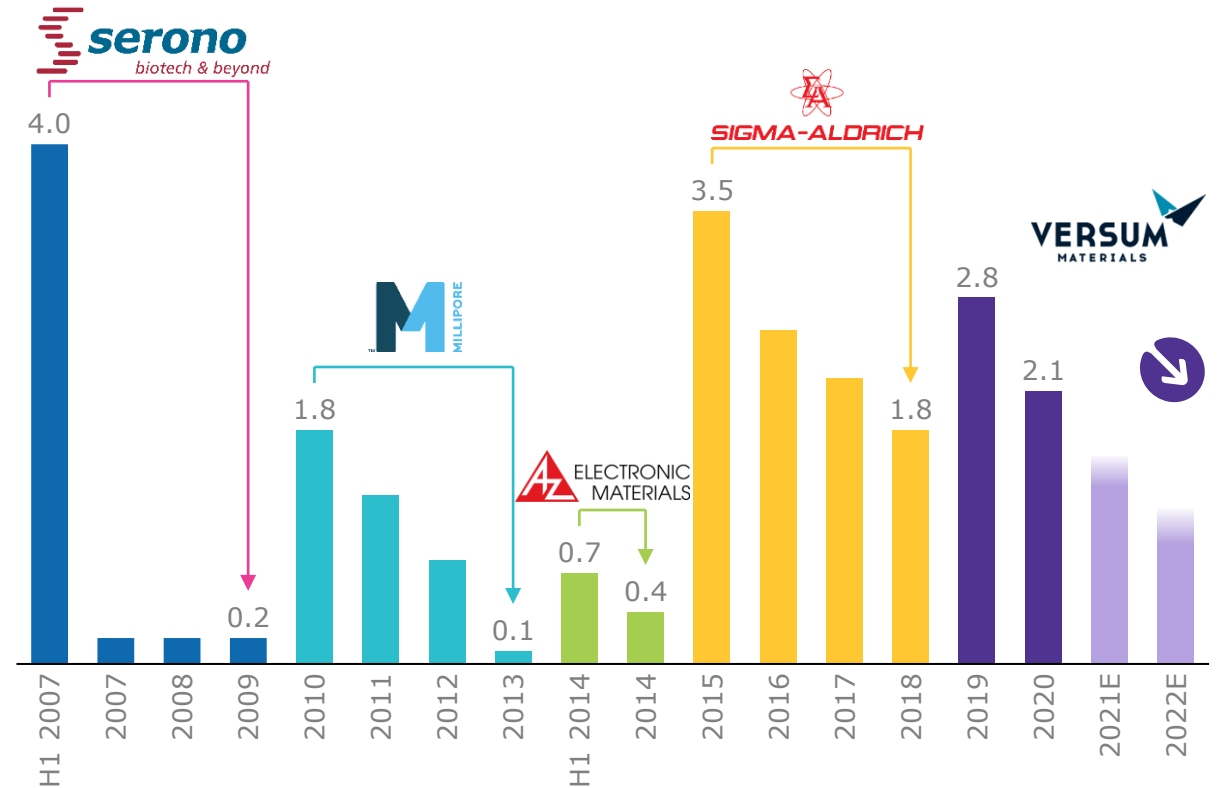
## Focus on organic growth and further deleveraging

### Proven swift deleveraging after major acquisitions

**UPDATE**

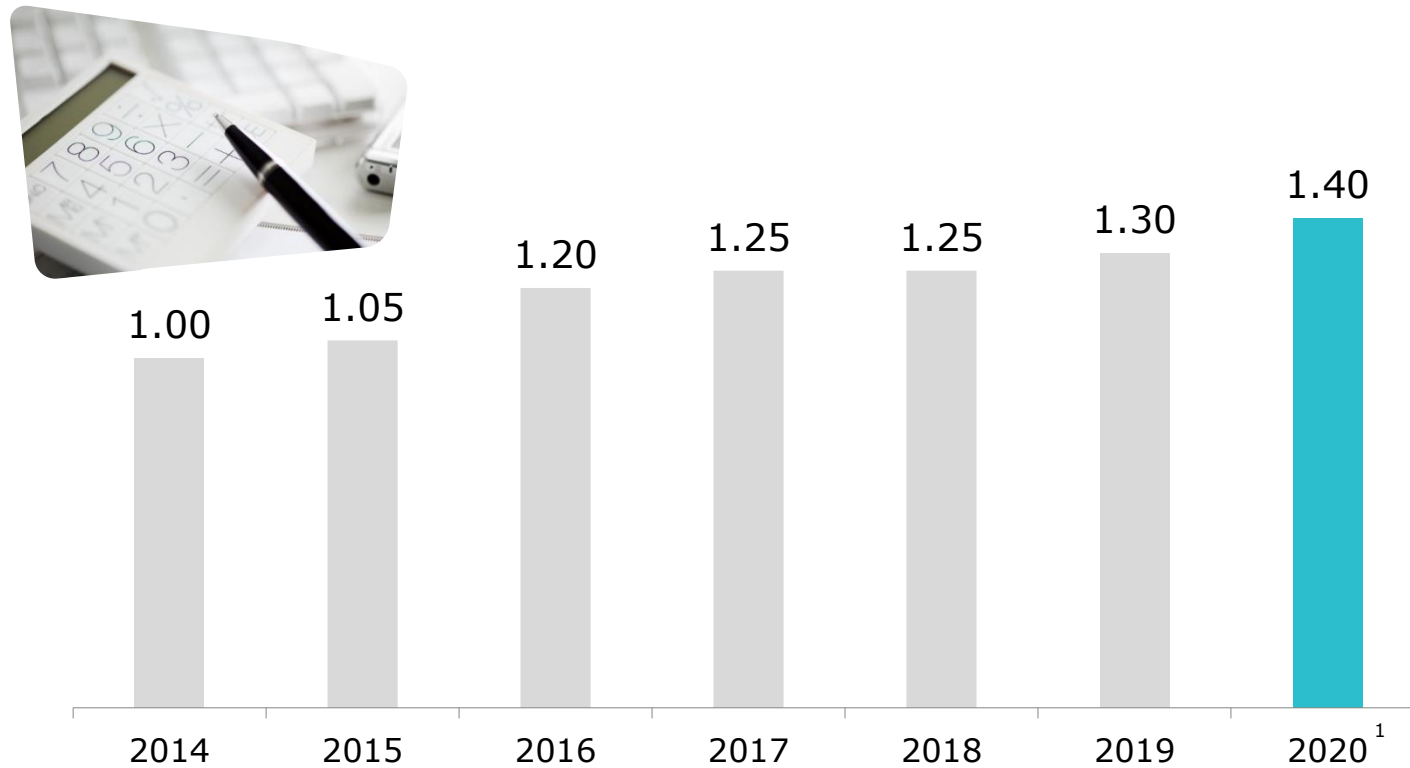
- **Deleveraged to ~2x** net debt/EBITDA pre already in 2020
- **M&A on hold until 2022**; only smaller deals to be realized if budget available
- Annual capex guidance: from ~€1.4 bn in 2021 to ~€2 bn by 2023 and **increased focus on organic investment**
- Dividend policy mirrors **sustainable earnings trend**

### Net debt / EBITDA pre track record & outlook



# Sustainable dividend growth

## Dividend development 2014 - 2020



## 2020 dividend

- Dividend of €1.40 (+8% YoY) per share approved<sup>1</sup> by Annual General Meeting
- Payout ratio of 23.1% of EPS pre<sup>2</sup> in 2020; aiming for 20-25% of EPS pre
- Dividend yield<sup>3</sup> of 1.0%

<sup>1</sup>April 28, 2021: Pay Date

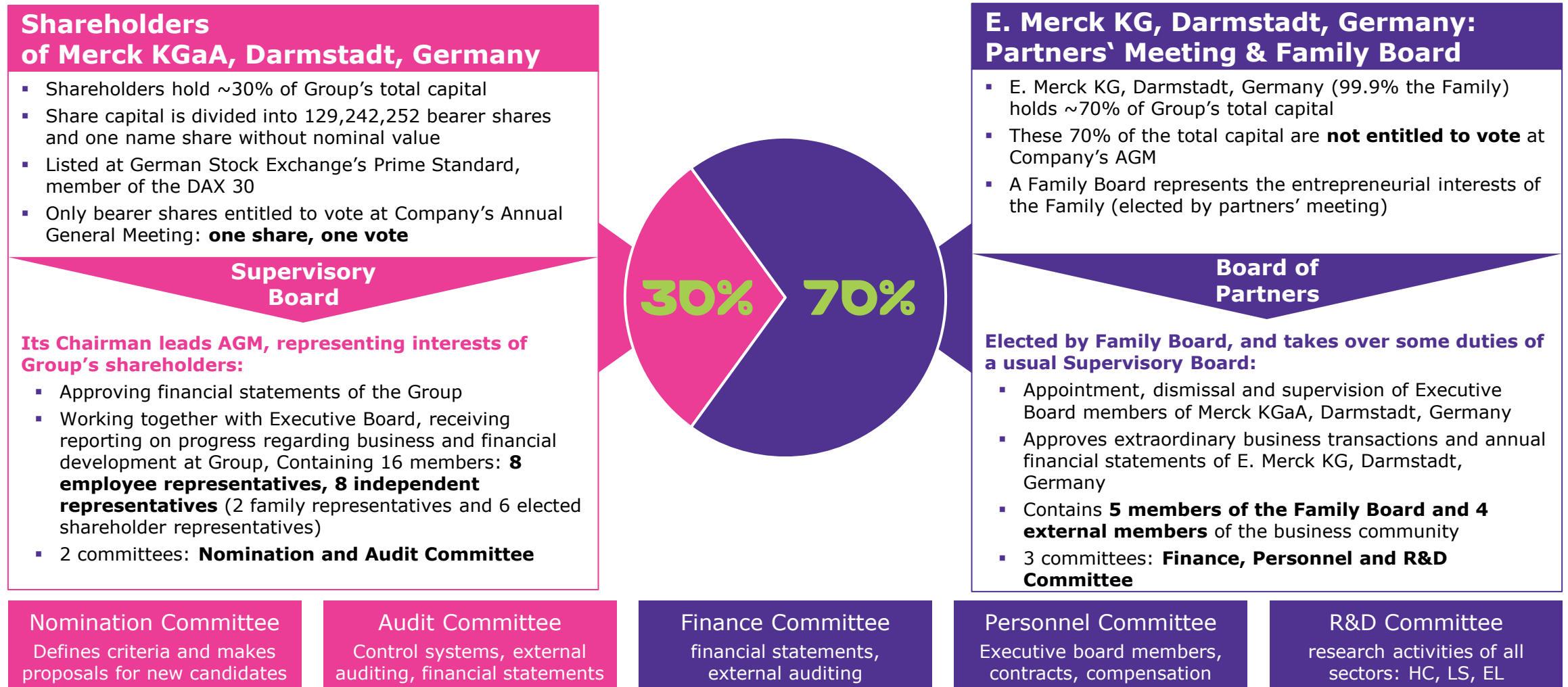
<sup>2</sup>Excluding Biogen provision release, including the provision release the ratio is 20.9%

<sup>3</sup>Calculated with 2020 year-end share price of €140.35 per share.



# Group

## Merck's KGaA, Darmstadt, Germany ownership structure



# Group: Executive board compensation

## Pay for performance reflecting the company's long-term strategy

Variable	40-50%	<h3>Long-Term Incentive Plan</h3> <ul style="list-style-type: none"> <li>Reflecting the long-term strategy for Company's <b>growth and (from 2022) sustainability ambition</b></li> <li><b>4 years performance cycle:</b> 3 years target achievement + 1 year holding period</li> <li>Based on virtual Group Share Units (Grant € divided through start share price, multiplied with the end share price)</li> <li><b>Financial targets:</b> 50% Group Share Price vs. DAX + 25% EBITDA pre margin + 25% Organic sales growth</li> <li><b>From 2022</b> multiplied with <b>sustainability factor (0.8-1.2)</b> reflecting KPIs from each of the sustainability goals</li> <li>Corridors for each target and achieved targets <b>published transparently</b> ex-post in the compensation report</li> <li><b>Maximum cap:</b> Maximum pay out 250%, maximum € cap for LTIP for each board member published</li> <li><b>Claw-back</b> allows to retain amounts allocated from the Long-Term Incentive Plan</li> </ul>	<ul style="list-style-type: none"> <li>+ Performance of Group share price vs. the DAX <b>50%</b></li> <li>+ EBITDA pre margin in relation to target value <b>25%</b></li> <li>+ Organic sales growth in relation to target value <b>25%</b></li> <li>✗ <b>0.8-1.2</b> Sustainability factor</li> <li>= <b>0-180%</b> of allocated units</li> </ul>
	25-35%	<h3>Profit Sharing</h3> <ul style="list-style-type: none"> <li><b>Three-years average profit after tax</b> of the E. Merck KG, Darmstadt, Germany, multiplied with individual permille rate</li> <li><b>From 2021 reduced individual performance factor of 0.8-1.2</b> can increase (bonus) or decrease (malus) the amount based on a set of criteria, incl. the 3 sustainability goals, disclosure of catalogue and reasons for if performance factor ≠ 1.0</li> <li><b>Individual permille rate</b> for each board member and maximum € cap for each board member published</li> <li><b>Staggered incentivization</b> and <b>minimum threshold value</b> and maximum limit for profit after tax (€0.75/2.0 bn)</li> <li>Mandatory <b>personal investment in Group Shares</b> amounting to one third of the net payment of the profit sharing (4 year holding period)</li> </ul>	
Basic	6-9%	<b>Pension Entitlements</b> Defined contribution	
	0-3%	<b>Additional Benefits</b> Mainly contributions to insurance policies, personal security expenses, company car...	
	15-20%	<h3>Basic Compensation</h3> <ul style="list-style-type: none"> <li><b>Fixed and non-performance related compensation</b></li> <li>Paid in 12 equal monthly installments</li> <li>€1.4 million for the chairman / up to €1.1 million for the members of the executive board</li> </ul>	
<b>Maximum total compensation: reduced to €11.5 m Chairman, €9.5 m other executive board members</b>			

# Group

## Strategic focus areas in sustainability

### Sustainability innovation and technology for our customers

- Sustainability as integral part of **product design**
- Enable **customers** to reduce sustainability footprint
- SBV as a tool to assess net sustainability **impact**

### Health and wellbeing impact of our technologies and products

- Health (Healthcare, Life Science) & wellbeing (Life Science, Electronics)-related impact of:
  - Group **products**
  - Group's **activities**

### Climate change and emissions

- **Greenhouse gas emissions** Scope 1, 2, 3
- **Renewable energy**
- **Energy efficiency** in operations



### Sustainability culture & values

- **Diversity & inclusion** activities
- Sustainability **mindset**: Communication, trainings, incentive schemes
- **Employee engagement**

### Sustainable and transparent supply chain

- Supply chain management activities:
  - Sustainability **assessments**
  - Supplier **data management**

### Secured social license to operate across regions

- **Safe & ethical** research, **ethical & compliant** business conduct
- **Plant & process** safety, **patient & product** safety
- **Stakeholder** engagement & communication

### Water and resource intensity

- **Waste & water** management and **recycling**
- **Circular** activities

# Group

## External stakeholders assess our engagement



As of 2021, Group received an MSCI **ESG\* Rating of AAA.**

\*Environment, Social, Governance



In September 2021, we improved our **ESG Risk Rating** to 18,3 and were assessed by Sustainalytics to be at **low risk** of experiencing material financial impacts from ESG factors.



Since 2008, Group is part of **FTSE4Good Index**, measuring the performance of companies with strong ESG practices (top 15).



In 2020, Group has once more achieved **prime status** by **ISS Oekom.**



In 2019, the Group share was again **included in STOXX Global ESG Leaders Index**, a sustainability index based on key environmental, social and governance criteria.



Group has been **reconfirmed** as a constituent of the **Ethibel Sustainability Index (ESI) Excellence Europe** since May 2020, based on VigeoEiris.



Group for the second time received platinum status in 2021, among the **top 1% of companies.** **EcoVadis** annually examines ~75,000 suppliers from 160 countries.



**CDP Climate:** In 2020, we scored "B" (2019: C). **CDP Water:** In 2020, we received a "B" (2019: B).



In the 2021 **Access to Medicine Index** Group ranked **eighth place.** We were recognized for our performance in R&D, where we ranked fifth.

# Group

## Regular portfolio review remains key to success

### strong track record

- Acquisitions and divestments are part of Group's history
- Licensing and partnerships remain on our agenda
- All prior transactions earned their cost of capital



### defining portfolio guard rails

- Three strong pillars with no business marginalized
- Leading market position in attractive markets
- Focus on innovation and sustainability through science and technology



### clear financial M&A criteria

- Supporting profitable growth strategy
- $IRR > WACC$
- EPS pre accretive
- Maintain investment grade rating



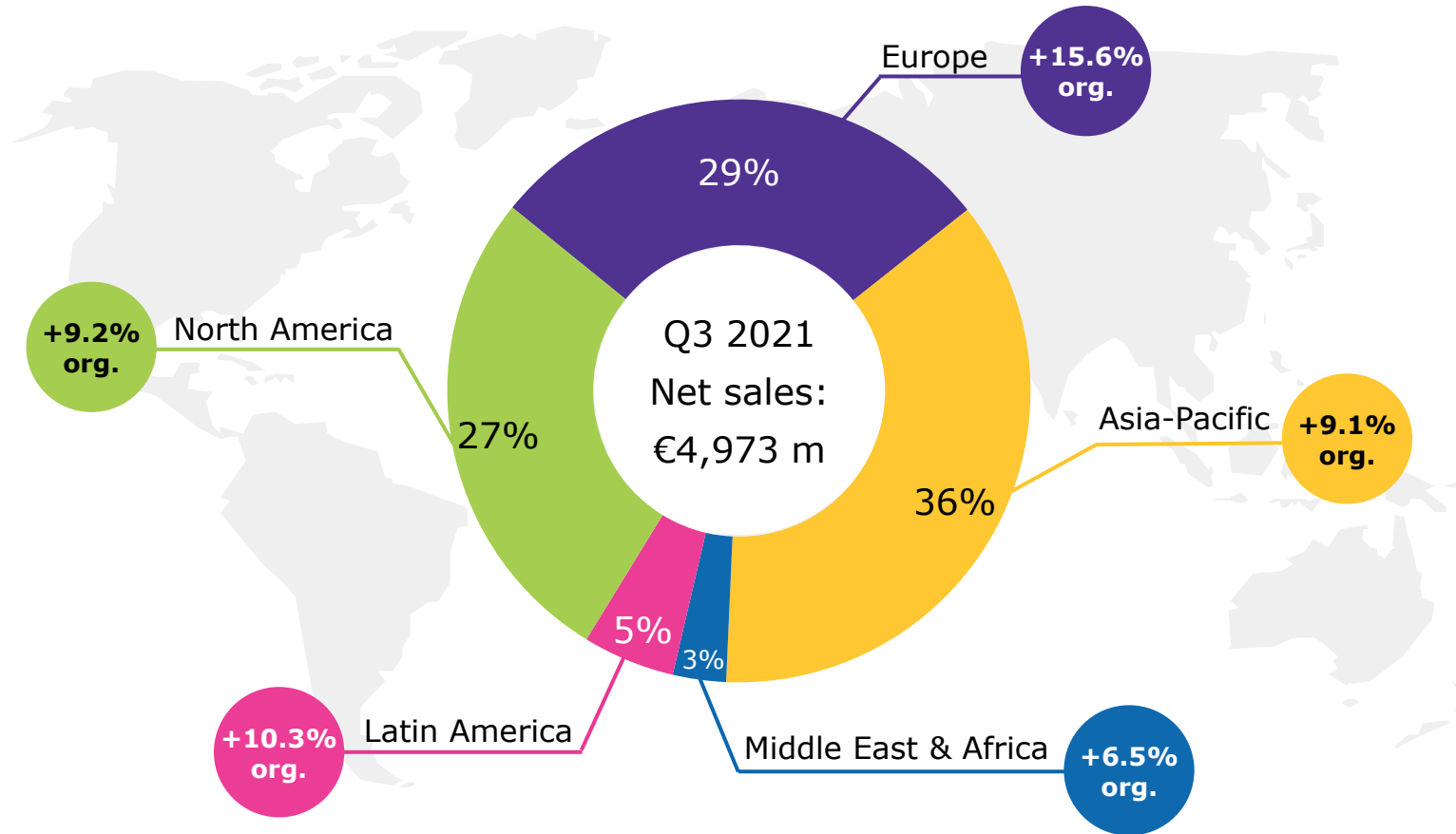
**Current set-up is strong and organic investment opportunities are attractive**

**Expect to regain financial flexibility by 2022 to pursue external growth opportunities**

**Targeted and more regular bolt-on approach more likely than large transformative deals**

# Continued strong Life Science demand primary driver of growth across all regions

## Regional breakdown of net sales [€m]



## Regional organic development

- APAC: Life Science and Electronics largest contributors to growth particularly in Process Solutions, and Semiconductor Solutions
- Europe: Strong demand in Process Solutions primary growth driver, Bavencio® ramp-up also contributing
- North America: Process Solutions, Research Solutions and Bavencio® top three drivers of growth, further supported by Semiconductor Solutions
- LATAM growth driven foremost by CM&E, Applied Solutions and Fertility
- Fertility continues driving ME&A growth



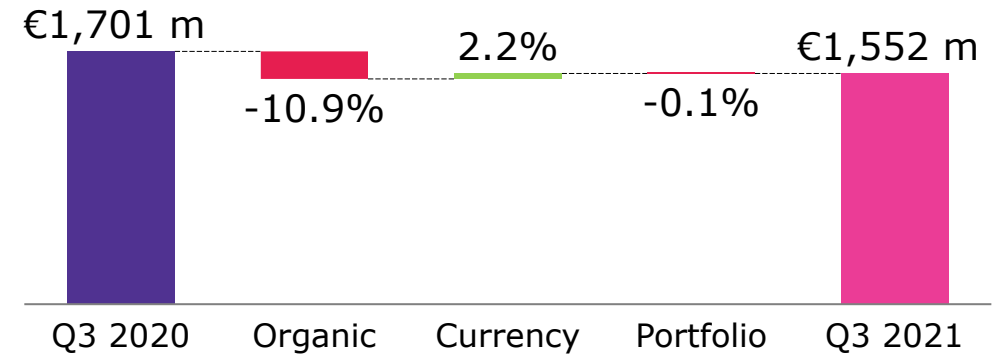
# 11% organic sales growth driven by all three business sectors; EBITDA pre growing 13% organically (excluding Biogen)

## Q3 YoY Net Sales

	Organic	Currency	Portfolio	Total
Life Science	17.1%	0.6%	0.0%	17.7%
Healthcare	4.1%	1.0%	-0.1%	5.1%
Electronics	10.3%	1.7%	0.0%	12.1%
<b>Group</b>	<b>10.9%</b>	<b>1.0%</b>	<b>0.0%</b>	<b>11.8%</b>

- Process Solutions continues to drive Life Science growth; sequential evolution takes sales to new record level of €1.2 bn in the quarter; Research Solutions growth at higher levels but normalizing
- Mavenclad<sup>®</sup> and Bavencio<sup>®</sup> contributions and ongoing strong growth in Fertility more than offset continued Rebif<sup>®</sup> decline and China VBP impact on CM&E, driving 4.1% organic growth in Healthcare overall
- Electronics again growing 10% organically, driven by strong performance of Semiconductor Solutions (+21% org.) and soft comps in Surface Solutions

## Q3 YoY EBITDA pre



- Underlying organic EBITDA pre growth of 13% against Q3 2020 (elevated by €365 m Biogen)
- Profitable growth primarily in Life Science paired with continued cost discipline in all sectors main driver of underlying EBITDA pre
- FX effect now turning positive at +2% driven by various currencies, with largest positive impact from CNY as it moves below previous years' rates



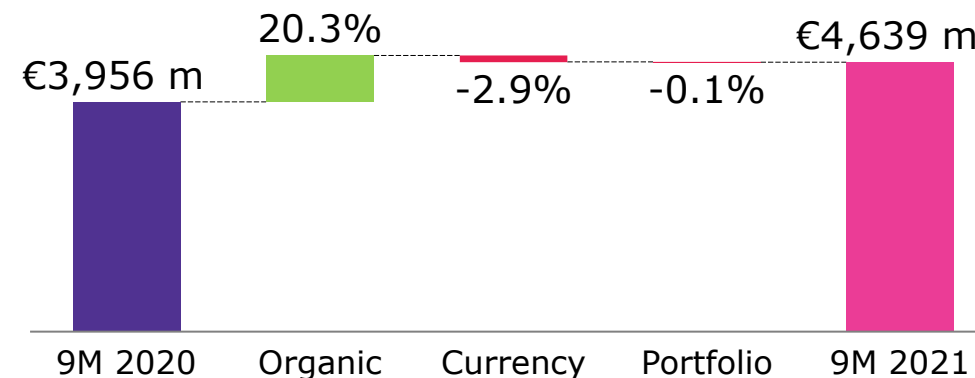
## Strong 9M performance across all three business sectors; Life Science growing 24% organically in the first 9 months of 2021

### 9M YoY Net Sales

	Organic	Currency	Portfolio	Total
Life Science	23.9%	-3.5%	0.0%	20.4%
Healthcare	9.9%	-3.0%	-0.5%	6.4%
Electronics	6.7%	-2.6%	0.0%	4.1%
<b>Group</b>	<b>15.2%</b>	<b>-3.1%</b>	<b>-0.2%</b>	<b>11.9%</b>

- Record 9M sales in all three Life Science business units, supported by COVID-19 demand (Process & Research), drive unprecedented +24% 9M org. sales growth in Life Science
- Healthcare growing +10% organically YTD September, driven by Oncology, Mavenclad<sup>®</sup> and Fertility recovery against soft comps
- +12% organic growth in Semiconductor Solutions and +16% in Surface Solutions against soft comps drive 7% 9M organic growth in Electronics

### 9M YoY EBITDA pre

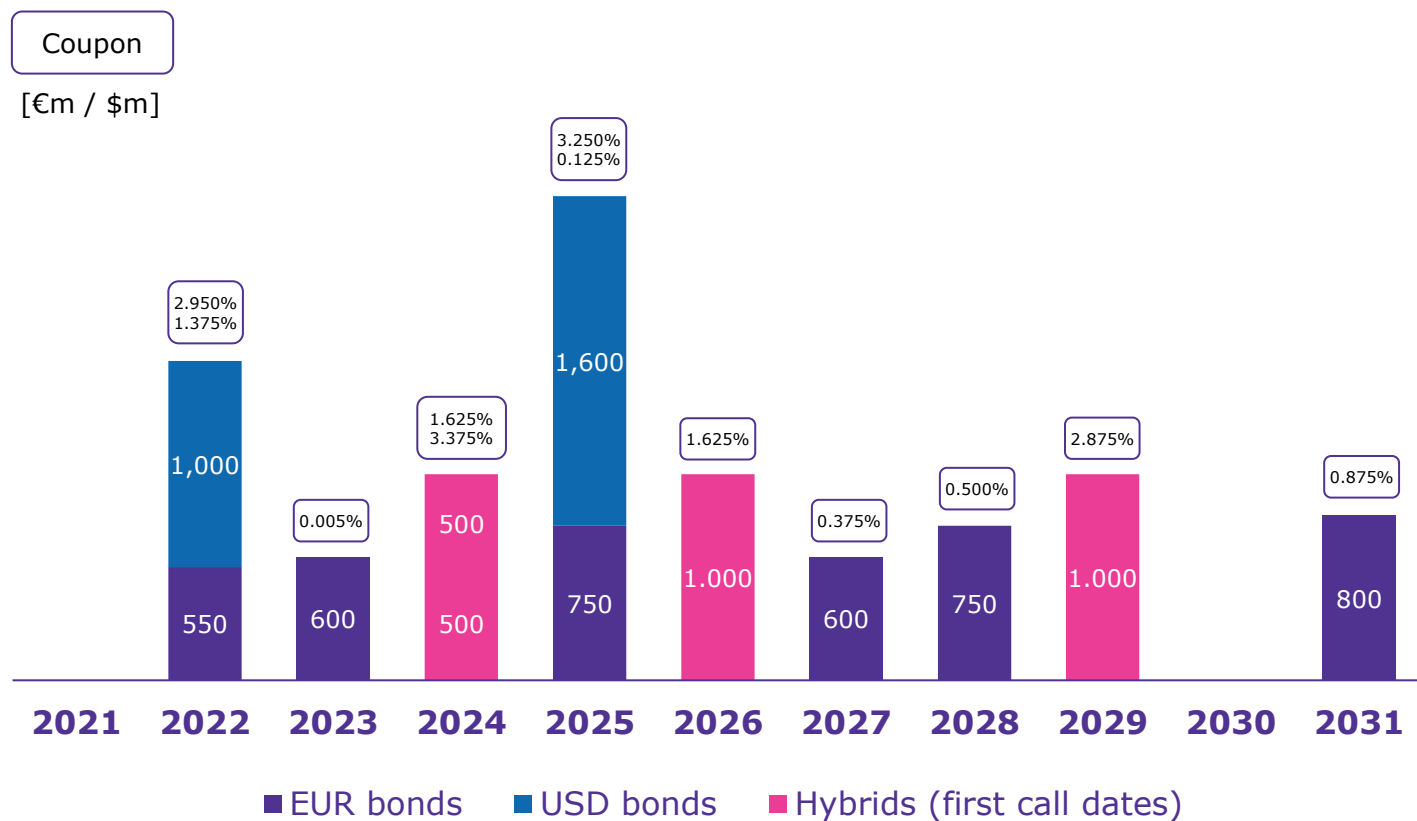


- Underlying EBITDA pre growing 32.5% organically (excluding Biogen provision reversal in Q3 2020) at more than twice the rate of sales growth
- Efficient growth primarily in Life Science drives EBITDA pre and margin expansion
- FX headwinds softening as Q3 FX effect turned positive resulting in a drag of -2.9% YTD



# Credit details

## Maturity profile as of Sep 30, 2021



## Credit rating information

	LT Rating	Since	Outlook	ST Rating
MOODY'S	Baa1 <sup>1</sup>	12.12.14	Stable	P-2
S&P Global	A	29.05.13	Stable	A-1
SCOPE	A-	19.10.16	Stable <sup>2</sup>	S-1

<sup>1</sup> Moody's upgrade to A3 as of 21 Oct 2021

<sup>2</sup> Scope outlook change to "positive" as of 11 Oct 2021



# Q3 2021: Overview

## Key figures

[€m]	Q3 2020	Q3 2021	Δ	(Excl. Biogen provision reversal)	
				Q3 2020	Δ
Net sales	4,447	<b>4,973</b>	11.8%		
EBITDA pre	1,701	<b>1,552</b>	-8.7%	1,336	16.2%
Margin (in % of net sales)	38.2%	<b>31.2%</b>	-7.0pp	30.0%	1.2 pp
EPS pre	2.34	<b>2.24</b>	-4.3%	1.71	30.9%
Operating cash flow	1,170	<b>1,467</b>	25.3%		
[€m]	Dec. 31, 2020	Sept. 30, 2021	Δ		
Net financial debt	-10,758	<b>-9,320</b>	-13.4%		
Working capital	3,938	<b>4,481</b>	13.8%		
Employees	58,096	<b>58,483</b>	0.7%		

## Comments

- Growth across all sectors, particularly Life Science, further supported by +1% FX tailwind results in +12% sales growth
- 120 bps uplift in underlying EBITDA pre margin (excl. Biogen provision reversal)
- Underlying EPS pre growth of 31% driven by EBITDA pre growth, improved financial result and lower income tax rate
- Operating cash flow up 25% supporting YTD net debt reduction of €1.4 bn
- Life Science sales growth main driver of higher working capital



# 9M 2021: Overview

## Key figures

[€m]	9M 2020	9M 2021	Δ	(Excl. Biogen provision reversal)	
				9M 2020	Δ
Net sales	12,936	<b>14,474</b>	11.9%		
EBITDA pre	3,956	4,639	17.3%	<b>3,591</b>	29.2%
Margin (in % of net sales)	30.6%	32.0%	1.5pp	<b>27.8%</b>	4.2 pp
EPS pre	5.14	<b>6.66</b>	29.6%	<b>4.51</b>	47.7%
Operating cash flow	2,189	<b>3,571</b>	63.1%		

[€m]	Dec. 31, 2020	Sept. 30, 2021	Δ
Net financial debt	-10,758	<b>-9,320</b>	-13.4%
Working capital	3,938	<b>4,481</b>	13.8%
Employees	58,096	<b>58,483</b>	0.7%

## Comments

- Strong YTD performance across all three Sectors. Particularly Life Science drives 12% growth in the first 9 months
- Underlying EBITDA pre growing at nearly 3x the rate of sales, driven primarily by operating leverage in Life Science, Bavencio<sup>®</sup> and soft comps in Fertility
- Improved financial result and lower tax rate further support EPS pre growth
- Operating cash flow up 63% supporting YTD net debt reduction of €1.4 bn
- Life Science sales growth main driver of higher working capital



# Q3 2021: Reported figures – comps impacted by Biogen provision

## Reported results

[€m]	Q3 2020	Q3 2021	Δ
EBIT	1,167	<b>1,047</b>	-10.2%
Financial result	-102	<b>-54</b>	-46.7%
Profit before tax	1,065	<b>993</b>	-6.7%
Income tax	-258	<b>-229</b>	-11.2%
<i>Effective tax rate (%)</i>	24.3%	<b>23.1%</b>	-1.2pp
Net income	805	<b>761</b>	-5.6%
EPS (€)	1.85	<b>1.75</b>	-5.4%

## Comments

- Underlying EBIT growing 31% while reported EBIT growth impacted by Q3 2020 €365 m provision reversal
- Improved financial result primarily driven by improved interest result from ongoing deleveraging
- Effective tax rate benefitting from favorable country mix in fastest growing business sector, Life Science



## 9M 2021: Reported figures – impacted by Q3 2020 Biogen provision

### Reported results

[€m]	9M 2020	9M 2021	Δ
EBIT	2,374	<b>3,140</b>	32.3%
Financial result	-302	<b>-208</b>	-31.2%
Profit before tax	2,071	<b>2,932</b>	41.5%
Income tax	-518	<b>-673</b>	30.0%
<i>Effective tax rate (%)</i>	25.0%	<b>23.0%</b>	-2.0pp
Net income	1,551	<b>2,253</b>	45.2%
EPS (€)	3.57	<b>5.18</b>	45.1%

### Comments

- EBIT growing 32%, despite Biogen, driven primarily by operating leverage in Life Science, Bavencio® and soft comps in Fertility
- Improved financial result driven primarily by ongoing deleveraging
- Effective tax rate within guidance range of ~24-22%
- Higher net income and EPS reflect higher EBIT, improved financial result and lower tax rate



# Cash flow statement

## Q3 2021 – Cash flow statement

[€m]	Q3 2020	Q3 2021	Δ
Profit after tax	806	<b>764</b>	-43
D&A	451	<b>443</b>	-8
Changes in provisions	-256	<b>191</b>	448
Changes in other assets/liabilities	114	<b>128</b>	14
Other operating activities	24	<b>22</b>	-2
Changes in working capital	31	<b>-82</b>	-113
<b>Operating cash flow</b>	1,170	<b>1,467</b>	296
Investing cash flow	-738	<b>-638</b>	100
thereof Capex on PPE	-237	<b>-295</b>	-58
Financing cash flow	-380	<b>-1,131</b>	-751

## Cash flow drivers

- Operating cash flow up €296 m driven primarily by higher underlying profit after tax, particularly in Life Science
- Negative delta in profit after tax impacted by €365 m Biogen provision reversal (Q3 2020) and €71 m Bintrafusp study termination provision (Q3 2021)
- Outflow from working capital primarily driven by Life Science sales growth
- Q3 2020 investing cash flow elevated by temporary investment of excess cash in non-financial assets
- Higher CAPEX on PPE reflects ongoing capacity expansion
- Net repayment of liabilities & commercial papers drives financing cash flow



# Cash flow statement

## 9M 2021 – cash flow statement

[€m]	9M 2020	9M 2021	Δ
Profit after tax	1,554	<b>2,258</b>	705
D&A	1,442	<b>1,287</b>	-156
Changes in provisions	-294	<b>246</b>	540
Changes in other assets/liabilities	-75	<b>72</b>	147
Other operating activities	0	<b>46</b>	46
Changes in working capital	-437	<b>-338</b>	99
<b>Operating cash flow</b>	2,189	<b>3,571</b>	1,382
Investing cash flow	-1,242	<b>-1,226</b>	16
thereof Capex on PPE	-769	<b>-860</b>	-91
Financing cash flow	-141	<b>-2,184</b>	-2,044

## Cash flow drivers

- Operating cash flow growing €1.4 bn or +63% vs. 9M 2020
- Profit after tax primary driver, with +€705 m (muted by 2020 €365 m Biogen provision reversal)
- Delta in changes in provisions driven primarily by €365 m Biogen provision reversal (Q3 2020)
- Favorable delta in working capital driven by higher inventories increase in 2020 to secure supply amid COVID 19
- Financing cash flow explained by net repayment of bonds, bank liabilities and commercial papers



# Adjustments in Q3 2021

## Adjustments in EBIT

[€m]	Q3 2020		Q3 2021	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	4	0	<b>9</b>	0
Life Science	18	0	<b>18</b>	0
Electronics	28	1	<b>38</b>	18
Corporate & Other	31	0	<b>11</b>	1
Total	82	1	<b>76</b>	19



# Adjustments in 9M 2021

## Adjustments in EBIT

[€m]	9M 2020		9M 2021	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	-8	2	<b>30</b>	3
Life Science	15	0	<b>26</b>	0
Electronics	194	112	<b>65</b>	25
Corporate & Other	56	0	<b>114</b>	1
Total	256	114	<b>235</b>	30



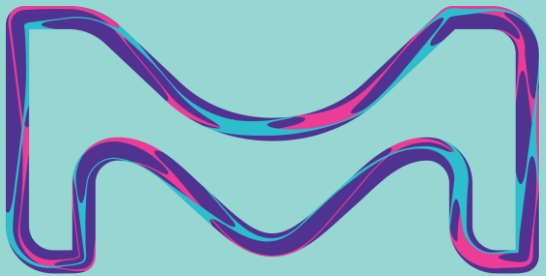


## Financial Calendar

Date	Event
March 3, 2022	Q4 2021 Earnings release
April 22, 2022	<i>Annual General Meeting</i>
May 12, 2022	Q1 2022 Earnings release
August 4, 2022	Q2 2022 Earnings release
November 10, 2022	Q3 2022 Earnings release




Life science




# Process Solutions: Therapies are evolving from treatments to cures

## Advancing traditional is critical as novel modalities develop

### TRADITIONAL

 Uses small molecules, peptides, proteins

 Chronic, manages or treats

 Templated manufacturing

### MODALITIES



FORMULATED FOR THE MASSES

### NOVEL

 Uses DNA, RNA, Cells

 Potentially curative

 Non-templated manufacturing

### MODALITIES







FORMULATED FOR an individual

Acronyms: HP-API = highly potent active pharmaceutical ingredient; mAbs = monoclonal antibodies; DNA = deoxyribonucleic acid; (m)RNA = (messenger) ribonucleic acid; ADC = antibody drug conjugate

# Process Solutions

## Moving from today's technology to BioPharma 4.0

unit operations				
Cell culture media	●	●	●	●
Biopharm materials	●	●	●	●
Chromatography	●	●	●	●
Hardware	●	●	●	●
Single use	●	●	●	●
Sterile	●	●	●	●
Virus	●	●	●	●
Clarification	●	●	●	●
Tangential flow filtration	●	●	●	●

● = A leading player   ● = Significant presence   ● = No offering

Sources: press releases, company reports, and internal assessments

### Intensified, integrated, digitally-enabled

mAbs templated 30 years ago → Next generation bioprocessing

### Intensified Processing

*Value for customers*

Perfusion BioRx   Matrix chrom   In-Line Dilution   Single Pass TFF

### Process Analytics

*Insight for customers*

control Application Control Engine   connect Orchestrator   collaborate Customer Portal   collect ProcessPad ProCellics

Progress   Launched

### Real-time Release




*Assurance at speed*

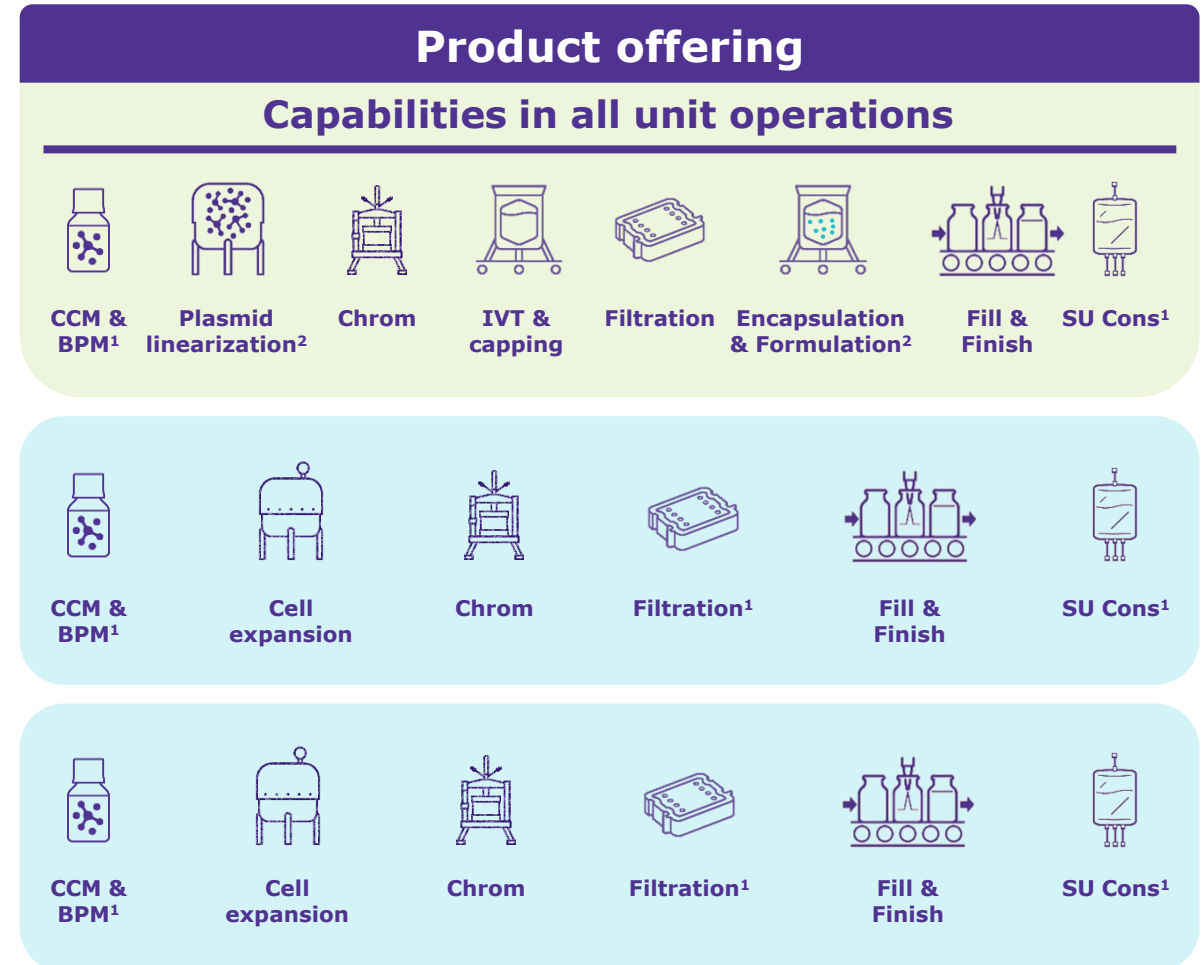
Core technologies: Microbial cont./ Bioburden   Biosafety   CQA   In-process



# Process Solutions

## COVID demands align with existing strengths

COVID-19 Outlook	
Type & Global Doses	Implications
 <p><b>Nucleic Acid Vaccines</b>  <b>4.8 Billion</b> Gov. contracted  <b>4.3 Billion</b> 2021 manuf.</p>	<ul style="list-style-type: none"> <li>Leveraging <b>human factory</b></li> <li>Emerging manuf. process</li> <li>Lipids are critical</li> </ul>
 <p><b>Viral &amp; Protein Vaccines</b>  <b>6.8 Billion</b> Gov. contracted  <b>8.7 Billion</b> 2021 manuf.</p>	<ul style="list-style-type: none"> <li>Protective <b>immune response</b></li> <li>Multiple templates</li> <li>Leveraging Single Use</li> </ul>
 <p><b>mAb Therapeutics</b>  <b>2.5 Million</b> Gov. contracted  <b>13.5 Million</b> 2021 manuf.</p>	<ul style="list-style-type: none"> <li><b>Bind &amp; block</b> virus entry</li> <li>Universal templates</li> <li>Leading position for 8/9 unit ops</li> </ul>



1) Used across manufacturing unit operations; 2) Lacking GMP enzymes and nucleotides products; Source: press releases, company reports, internal assessments; Acronyms: CCM = cell culture medium, BPM = biopharma materials, IVT = in vitro transcription, SU Cons = single use consumables



# Process Solutions: Strategic direction

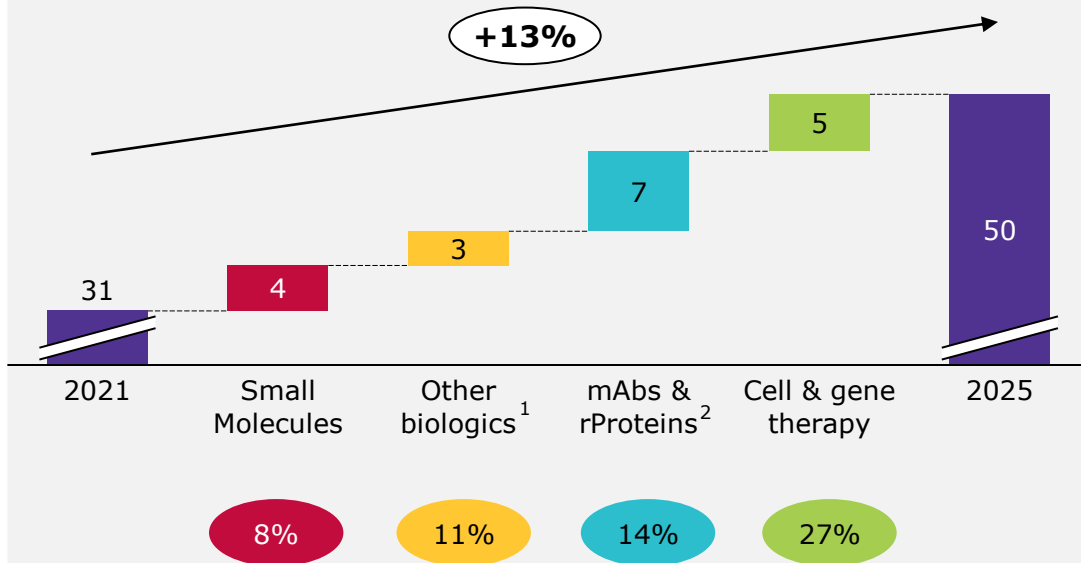
## Innovate and invest today to continue above market growth in the future



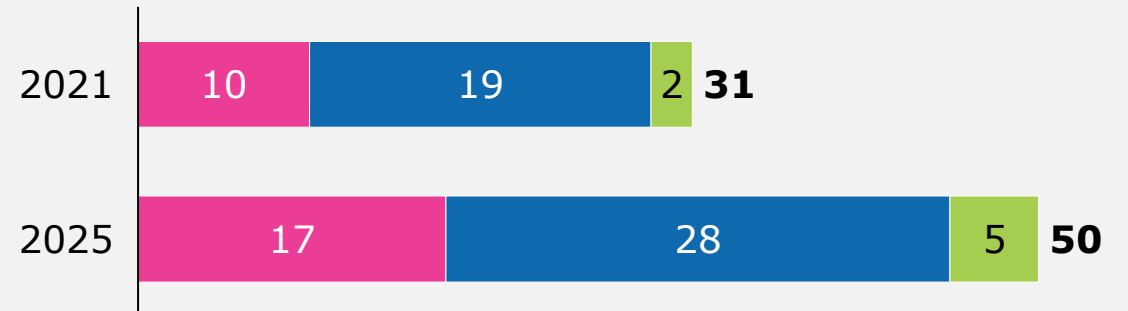
## Opportunities in services to accelerate double-digit growth

### Accessible Market (€ bn)

#### mAbs dominate; Novels fastest



#### Importance of services and novel modalities increases



#### 21-25 CAGR

- 16% Services: all modalities
- 10% Products: Traditional modalities
- 21% Products: Novel modalities

Sources: Evaluate Pharma, internal market models, CSR sales data; <sup>1</sup> Other biologics include plasma, vaccines, insulin, microbial and non-mAb biosimilars; <sup>2</sup> mAbs include ADCs here  
 Acronyms: mAbs = monoclonal antibodies, rProteins = recombinant proteins, ADCs = antibody drug conjugates



# Process Solutions

## Next-generation bioprocessing on the cards

Today's process & portfolio

**CHOZN**  
Cell Line

**Ex-Cell® Advanced™**  
media

**Mobius®**  
bioreactor

**Clarisolve®**  
Depth Filters

**Eshmuno®**  
Chrom. resin

**Viresolve®**  
Pro Solution

**ProSep®**  
Ultra Plus Resin

**Opticap®**  
Filters

**Pellicon®**  
Ultrafiltration Cassettes  
*Launched 2018*

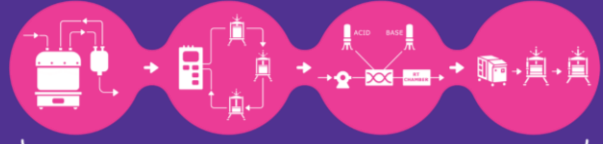
**Durapore®**  
Filtration

**Millipak®**  
Final Fill Filter  
*Launched 2018*

**BioReliance®**    **cGMP SOLUTIONS & SERVICES**    **EMPROVE®**

Tomorrow's process

### MAb process intensification 2017 - 2020+



### continuous processing >2025



### Continuous bioprocessing will ...

- be an evolution in mAb bioprocessing
- take time to establish
- leverage the present
- lead to hybrid solutions

# Process Solutions

## Our single-use technologies drive flexibility in modern bioprocessing



### Traditional Multi-use facility

CAPEX* required	~\$500 m to \$1 bn
Time to construct	5 to 10 years
Change over time	4 weeks
Footprint	~>70,000 m <sup>2</sup>

### Innovative single-use facility

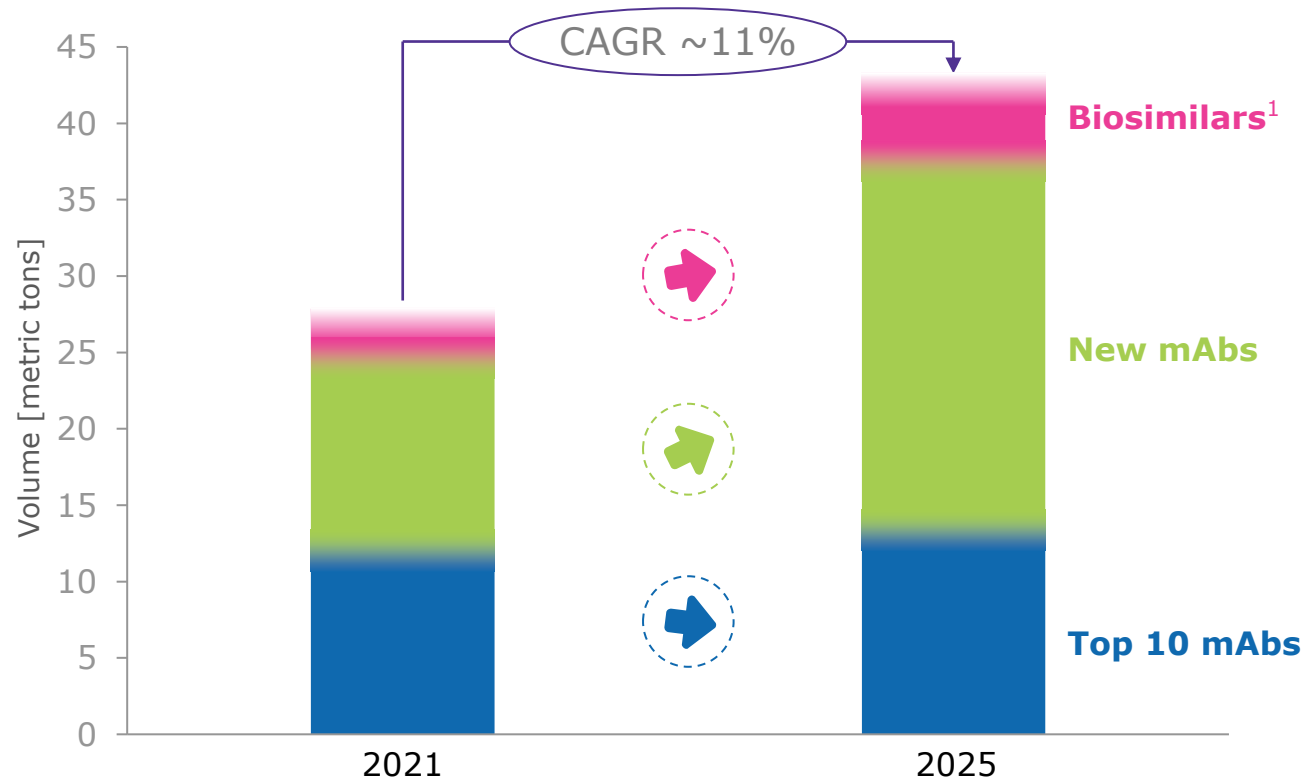
CAPEX required	\$20 m to \$100 m
Time to construct	1.5 years
Change over time	0.5 days
Footprint	~11,000 m <sup>2</sup>

**Strong demand for single-use technologies and Process Solutions' broad offering was and will remain a key source of growth for Life Science**



## mAbs market democratization will drive diversification, change & variability

### mAb volume projections 2021 to 2025



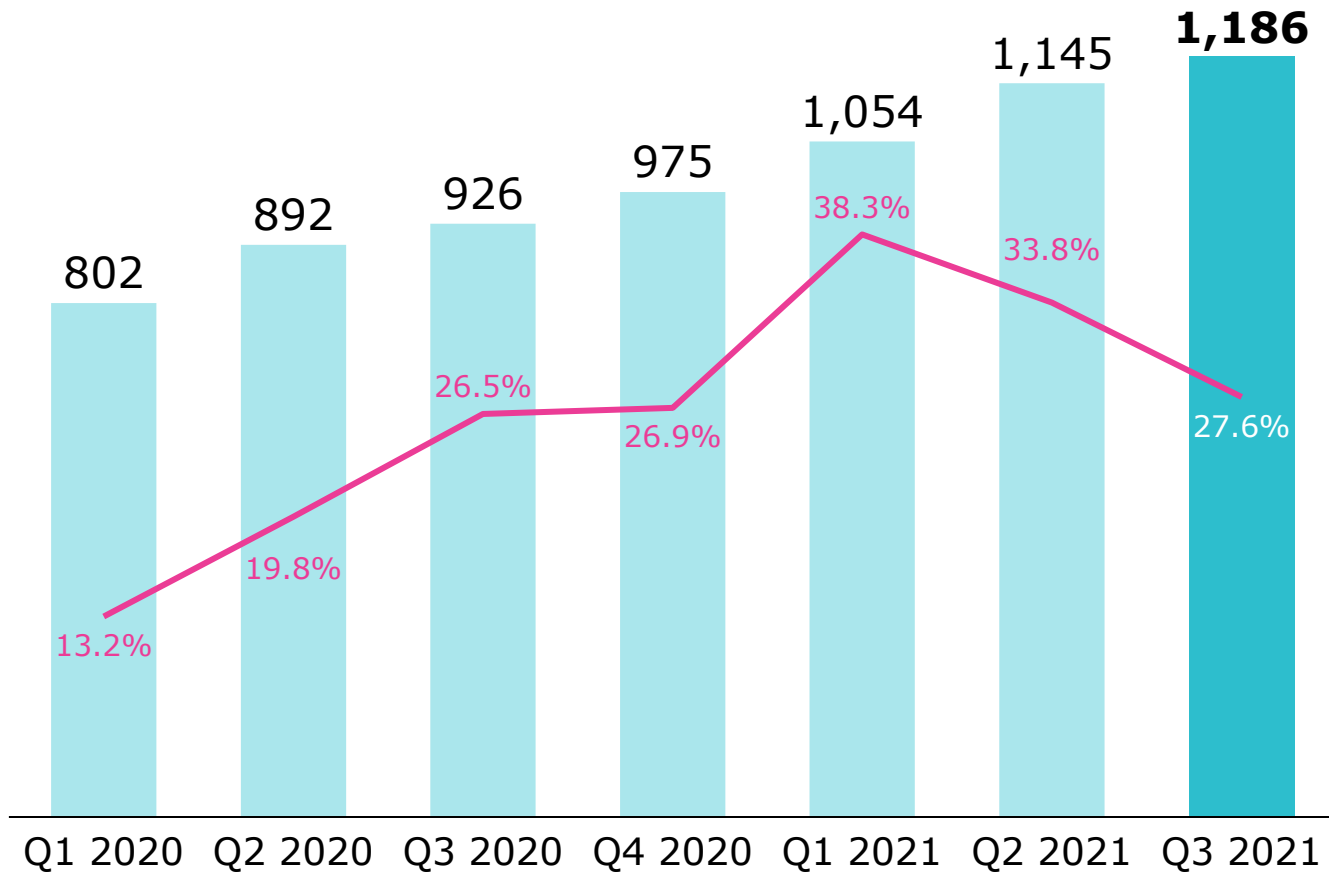
### Market development

- mAbs market will grow ~11% CAGR
- Top 10 originator mAbs represent ~45% (11mT) of volume today; volume grows but share declines to ~35% (14mT) in 2025
- Biosimilars continue to gain share

<sup>1</sup>Biosimilars scaling factor = 2.8 based off internal estimates and McKinsey analysis; Source: company estimate based on industry forecasts, EvaluatePharma; Acronyms: mAbs = Monoclonal antibodies

# BIG 3 - Process Solutions: record Q3 2021 in absolute terms, declining growth rate against tough comps

Sales development [€m] - org. growth [%]

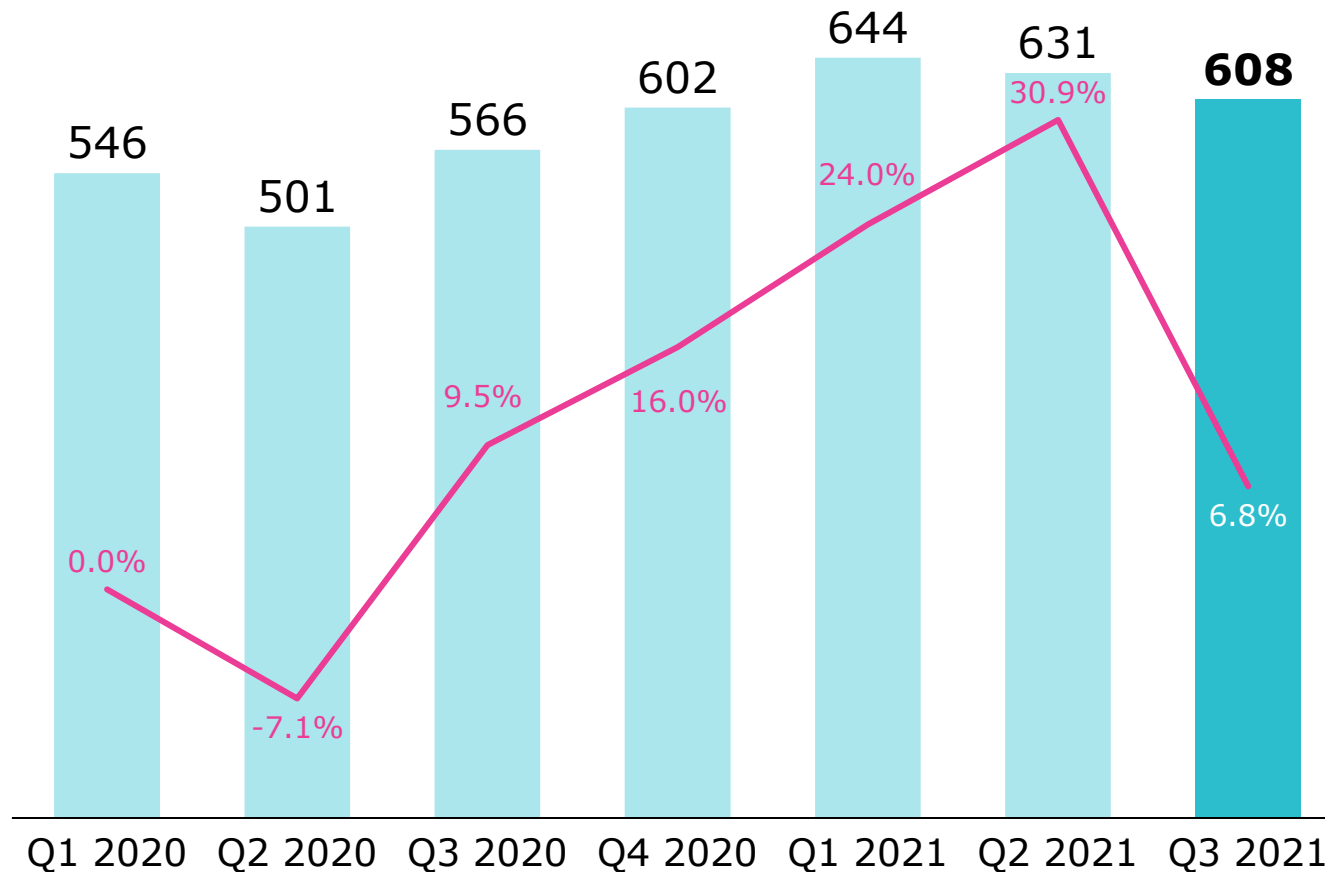


- Continued **strong growth in the core business** paired with still increasing **COVID-19 contributions** (mainly vaccine related) which face increasingly tougher comps
- **BioP remains main growth driver**, followed by formulations (e.g. lipids for mRNA)
- **Growth starting to moderate** as expected amid rising comps (Q3 2020 with increasing COVID-19 contributions)
- Sequentially higher sales as output increases on the back of **ongoing productivity gains and successful capacity ramp-up**
- **Order intake growth** in Q3 2021 remains above sales growth (>30%)



# Research Solutions: Normalizing org. growth against tougher comps

Sales development [€m] - org. growth [%]

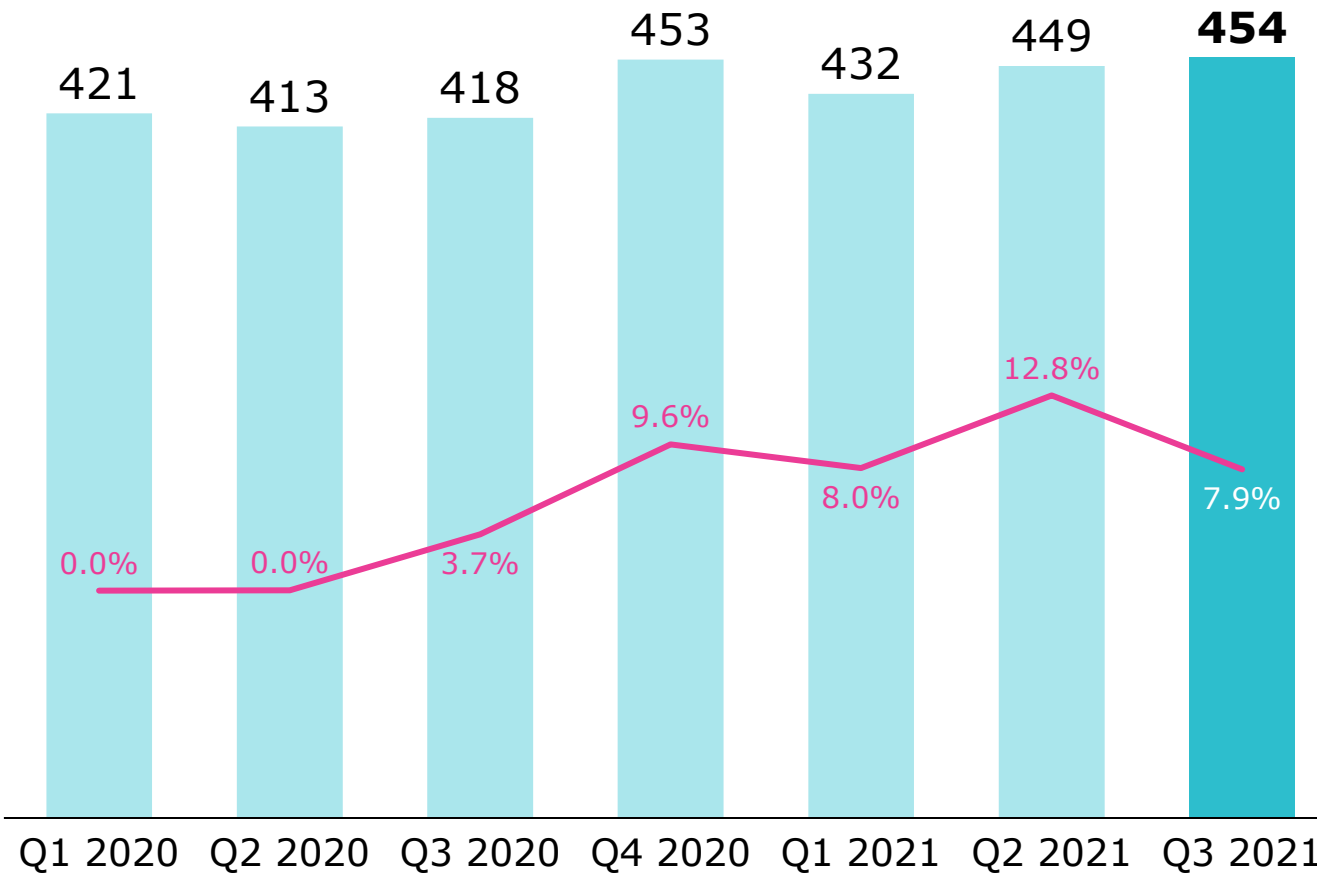


- **Organic growth now moderating to 7%** as Q3 2020 comparables include strong post Q2 lockdown catch-up and recovery as well as additional COVID-19 demand
- Absolute sales on high Q4 2020 level, but sequentially below Q1 and Q2 as **COVID-19 sales** (diagnostic raw mats) **start to fade**
- Ongoing **core business recovery** and catch-up amid **rising lab activity**
- **North America continues to be fastest growing region** in Q3, followed by emerging markets
- **Pharma & Biotech** and Industrial & Testing fastest growing customer segments, followed by Diagnostics & Academia



# Applied Solutions: record absolute sales, normalizing growth rate

Sales development [€m] - org. growth [%]



- **Growth remains on elevated level** due to ongoing post-lockdown recovery
- **Core business remains main driver** with broad-based performance across business lines
- **COVID-19-related sales are negligible**
- **APAC and Europe** main growth drivers in Q3, followed by North America region
- **Industrial & Testing** fastest growing amid ongoing market recovery, followed by Pharma & Biotech, Diagnostics and Academia



# Life Science Q3: Strong core business and COVID-19 demand drive another quarter of record sales

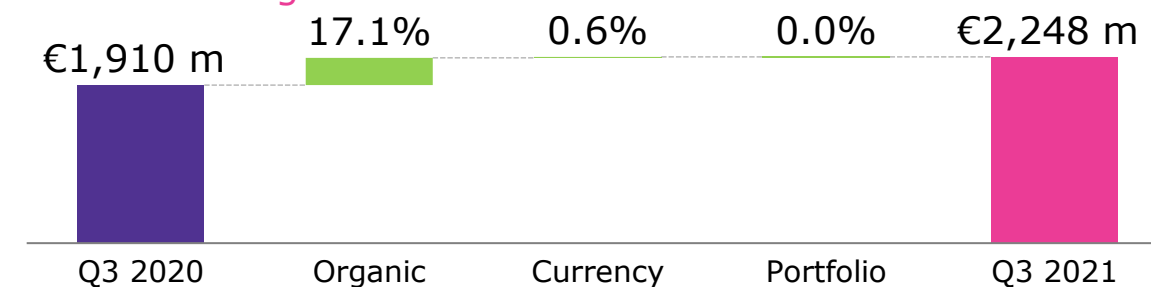
## Life Science P&L

[€m]	IFRS		Pre	
	Q3 2020	Q3 2021	Q3 2020	Q3 2021
Net sales	1,910	2,248	1,910	<b>2,248</b>
M&S*	-478	-529	-477	<b>-527</b>
Admin	-88	-93	-80	<b>-84</b>
R&D	-75	-88	-75	<b>-88</b>
EBIT	417	614	435	<b>632</b>
EBITDA	612	806	-	-
EBITDA pre	630	<b>824</b>	630	<b>824</b>
(in % of net sales)	33.0%	<b>36.6%</b>	33.0%	<b>36.6%</b>

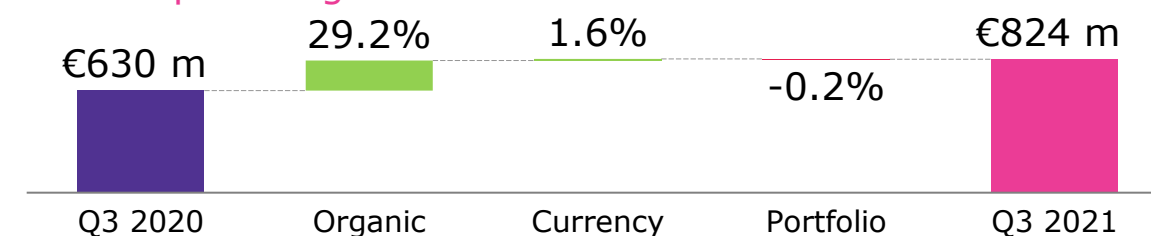
## Comments

- Process Solutions: +28% organic growth, ~2/3 driven by COVID-19 demand, primarily in bioprocessing on top of solid base business performance; comps now include significant COVID-19 business
- Research Solutions: grows +7% organically against already stronger post-lockdown recovery in Q3 2020, driven primarily by strong base business and small COVID-19 contributions
- Applied Solutions: grows +8% organically against rising comps

## Net sales bridge



## EBITDA pre bridge



- M&S in % of sales declining from 25% to 23% due to strong top line leverage, higher in absolute terms with logistics being the largest driver
- Higher R&D in absolute terms with continued focused investments in high growth & emerging segments
- Business performance, favorable mix & operating leverage continue to drive strong EBITDA pre and margin expansion



# Acquisition of Exelead – a leading LNP player with strong manufacturing expertise and longstanding track record

## Transaction overview

<b>Rationale</b>	<ul style="list-style-type: none"> <li>• <b>Targeted bolt-on acquisition</b> to accelerate innovation in Process Solutions (“BIG3”)</li> <li>• Strengthening CDMO offering in <b>rapidly emerging mRNA</b> market</li> </ul>
<b>Terms</b>	<ul style="list-style-type: none"> <li>• USD ~780 m in cash</li> </ul>
<b>Timing</b>	<ul style="list-style-type: none"> <li>• Expected closing in Q1 2022</li> </ul>

## Company overview

<b>Location</b>	<ul style="list-style-type: none"> <li>• 1 site in Indianapolis, USA</li> </ul>
<b>Employees</b>	<ul style="list-style-type: none"> <li>• ~200+</li> </ul>
<b>Business description</b>	<ul style="list-style-type: none"> <li>• <b>&gt;10 years experience</b> as CDMO for LNP and PEGylated formulations</li> <li>• <b>Full service CDMO</b> covering all development phases (pre-clinical / clinical / commercial)</li> <li>• GMP and ISO certified manufacturing processes</li> </ul>

## Key products

	<ul style="list-style-type: none"> <li>• mRNA Covid-19 vaccine</li> </ul>
	<ul style="list-style-type: none"> <li>• Fungal infections in patients with compromised immune systems</li> </ul>
	<ul style="list-style-type: none"> <li>• Acute lymphoblastic leukemia and hypersensitivity to native forms of L-asparaginase</li> </ul>

## Key customers



**Global reach:** manufacturing of drugs tested or approved for market in over 20 countries worldwide

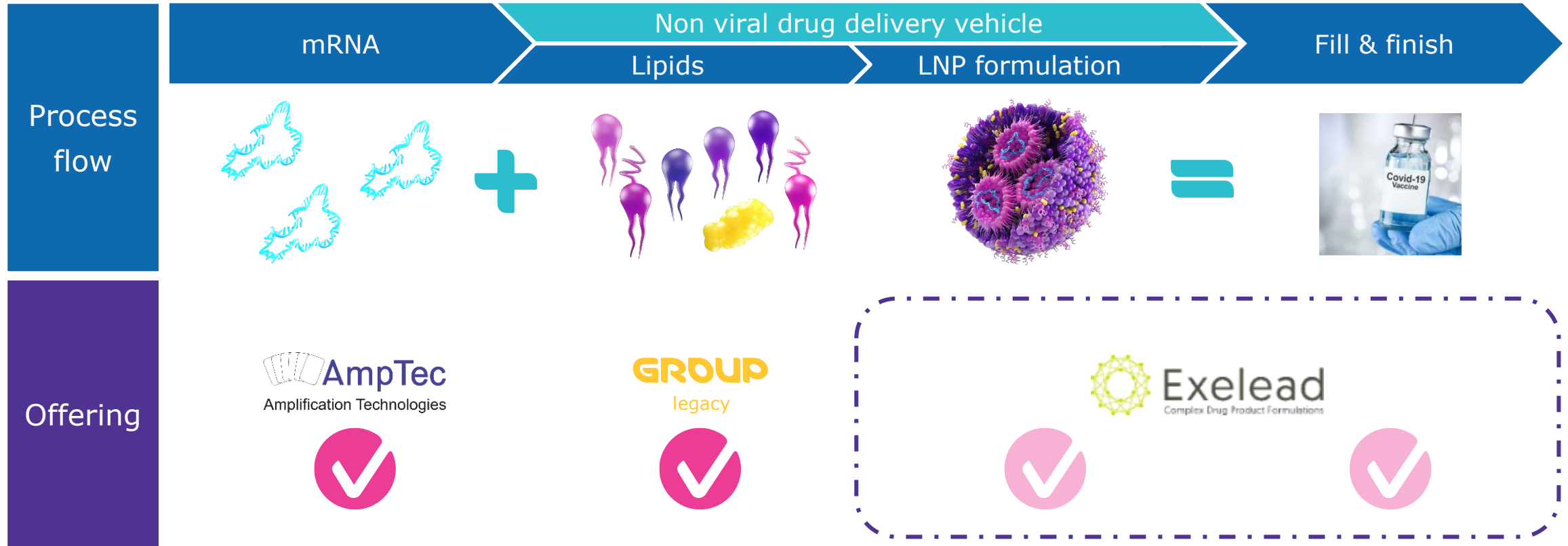
**Underlines ambition to become a leading integrated multi-modality CDMO**

<sup>1</sup>Agreement with Pfizer for COVID vaccine since May-21; Acronyms: LNP = liquid nanoparticle, CDMO = contract development and manufacturing organization, mRNA = messenger ribonucleic acid; PEG = polyethylene glycol; GMP = good manufacturing practice; ISO = International Organization for Standardization



# Life Science

## The addition of Exelead's capabilities advances our integrated offering from mRNA-API manufacturing to final drug product

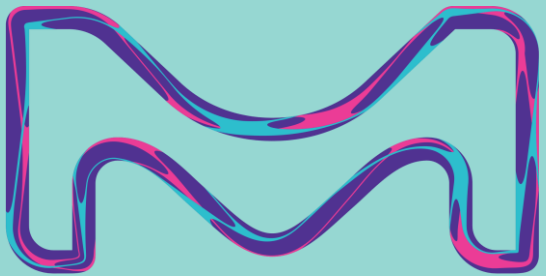


**Establishing uniquely integrated CDMO offering in rapidly emerging mRNA market**

Additional acronyms: API = active pharmaceutical ingredient



healthcare



# Healthcare

## Pioneering patient benefit in MS for > 30 years

**Rebif**<sup>®</sup>  
(interferon beta-1a)

- Blockbuster **platform therapy**
- Well-established clinical profile
- >1.8m patient-year experiences<sup>1</sup>
- Continued upgrading (pregnancy label, injection devices)



EMA 1998 | FDA 2002  
>100 countries

**MAVENCLAD**<sup>®</sup>  
cladribine tablets

- Oral **high-efficacy therapy** with unique posology & mode of action<sup>2,3</sup>
- Only product to demonstrate full antibody response to COVID-19 vaccines<sup>4</sup>
- Growing in HE dynamic market
- >30,000 patients<sup>1</sup>



EMA 2017 | FDA 2019  
84 countries

**EVobrutinib**  
BTKi

- Designed for **best-in-class efficacy**<sup>5</sup>
- Full covalent binding and dosing regimen expected to enable constant, near complete BTK occupancy<sup>6</sup>
- Dual mode of action targeting both B-cells and immune cells in the CNS and periphery<sup>6,7</sup>



Phase 3 Clinical Development

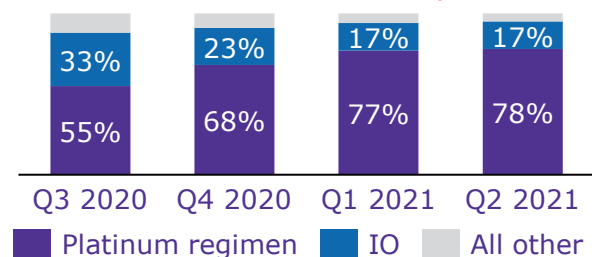
# Healthcare

## Building focused leadership positions in Oncology

### Building leadership in mUC<sup>1</sup>

- **Bavencio** redefined SoC in mUC with unique 1L maintenance Tx. Since launch, platinum-based regimen has grown substantially

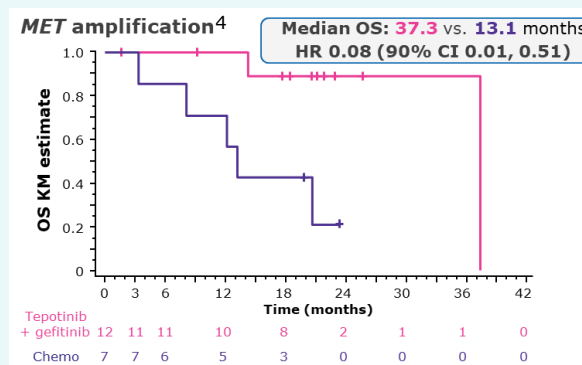
US treatment share of 1L mUC pts<sup>2</sup>



- Significant opportunity to drive further growth by increasing adoption of 1L maintenance Tx
- Opportunity to further strengthen Bavencio as SoC with novel combinations (e.g. anti-TIGIT)

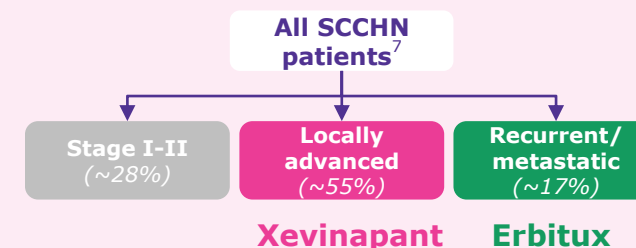
### Defining leadership in MET-driven tumors

- **Tepmetko** - discovered and developed inhouse, highly potent and selective c-MET inhibitor
- Has shown consistent efficacy in METexon14 mutation across treatment lines<sup>3</sup> and strong tolerability profile
- Foundation for expansion with MET-amplified tumors indications

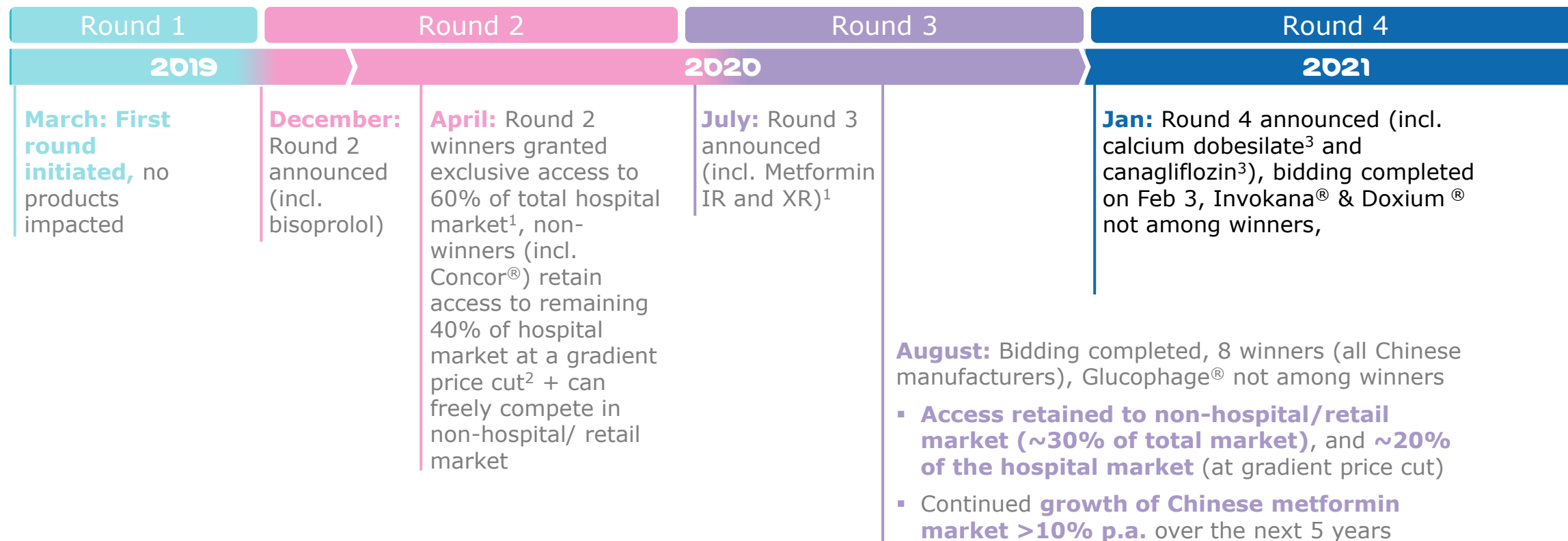


### Expanding leadership in SCCHN

- **Xevinapant<sup>5</sup>** focuses on a novel mechanism with curative intent in a large segment with high unmet need, complimentary to Erbitux
- Strong clinical POC, doubling OS in Phase II study<sup>6</sup>
- Untreated and unresectable LA SCCHN patient candidates for chemoradiotherapy ~40K US & EU5



# China's VBP: Round 4 implemented, confidence in approx. stable base business through 2021 and 2022 sustained













China Glucophage sales represent **only ~8% of the total base business** (2020 net sales)  
 Sustained confidence in **approx. stable base business (org.) through 2021 and 2022**

1: hospital market for bisoprolol and metformin makes up ~70% of total market, this includes urban hospitals, rural hospitals, and community health centers; 2: Concor<sup>®</sup> price cut in the high single digit %; 3: alliance products; Acronyms: VBP = Volume-Based Procurement




























# Pipeline with uncorrelated risk and significant potential

## Five focus assets with FIC potential

	FIC POTENTIAL	COMPETITION	PROMISE
<b>Evobrutinib (BTK inhibitor)</b>			Tackling unmet need for patients in RMS: Addressing chronic inflammation and progression between relapses, in addition to reducing acute inflammation with BIC ARR Comprehensive PhII data supports BIC profile
<b>Xevinapant (IAP inhibitor)</b>			Transformative patient benefit – Maximizing chances for cure for patients with locally advanced SCCHN
<b>Berzosertib (ATR inhibitor)</b>			Blocking ATR “master regulator” of DNA repair to enhance efficacy of TOP I inhibitors for patients with few treatment options
<b>M1231 MUC1/EGFR bi-specific ADC</b>			Next generation “Triple Innovation” ADC for patients with solid tumors aiming for effective delivery of potent chemotherapy payload with reduced on & off target toxicity
<b>Enpatoran TLR7/8 inhibitor</b>			Small molecule for targeted inhibition of important lupus mediator TLR7/8, aiming for improved efficacy with low infection risk

# Focused Leadership

## Leveraging and extending deep expertise

	EVOCRUTINIB	XEVINAPANT	BERZOSERTIB	M1231	ENPATORAN
Disease insights/ Wealth of data	MS leadership  	SCCHN leadership  		NCSLC Lung Cancer (Likely indication) 	Depth & breadth of clinical trial experience and data 
Biologic expertise	Immune receptor & immune complex signaling  	Apoptosis 	DNA damage response (DDR)  	Oncogenic signaling/ EGFR receptor  	Innate and adaptive immunity  
Platform capabilities	FIC small molecule  	<i>In-licensed</i>	<i>In-licensed</i>	Next generation ADCs/ bi-specific antibody  	FIC small molecule  
World-Class Collaborations		Existing collaboration on IO combo 	NCI Tempus 	Sutro 	Academic collaborators (for TLR8 structure & disease modelling) 

# Potential FIC BTK inhibitor, designed for BIC efficacy

## FIC BTK INHIBITOR EVOBRUTINIB

- **Pioneering program**, developing breakthrough mechanism of action with potential to change SoC in RMS
- Aiming to **address chronic inflammation and progression between relapse** in addition to **reducing acute inflammation, delivering BIC ARR**
- **Strong clinical data** supporting our confidence in Evobrutinib BIC profile
- **PhIII studies** (Evolution MS 1&2) **fully recruited**, (PR October 4, 2021)

	EVOBRUTINIB	TOLEBRUTINIB	FENEBRUTINIB	REMIBRUTINIB/ ORELABRUTINIB
<b>ARR at 48 weeks (PhII)</b>	0.11 <sup>1</sup>	0.17 <sup>7</sup>	No PhII conducted	No PhII conducted
<b>PhIII dose supported by robust data?</b>	✓ <sup>2,3</sup>	⊖ Primary EP of PhII study didn't demonstrate dose response	⊖ No dose finding study in MS	⊖ No dose finding in MS
<b>95% occupancy at trough in patients</b>	✓ <sup>3,4</sup>	Not shown	Not available	Not available
<b>Disease-relevant CNS concentration?</b>	✓ <sup>5,4</sup>	⊖ Only single dose effect in HV (120mg dose)	⊖ Not studied	⊖ Not studied
<b>Biomarker effect on progression at 48 weeks?</b>	✓ Dose-dependent SEL volume reduction shown at 48 weeks	⊖ Not seen	⊖ Not studied	⊖ Not studied
<b>Safety/Tolerability?<sup>11</sup></b>	✓ <sup>1,4</sup>	✓ <sup>8,4</sup>	✓ <sup>10</sup>	Not available

<sup>1</sup> Montalban X, et al. N Engl J Med 2019;380:2406–17; <sup>2</sup> Papasouliotis O, et al. PAGE 2021;29:Abstr 9801; <sup>3</sup> Papasouliotis O, et al. Eur J Neurol 2021;28(Suppl. 1):120 [OPR-084]; <sup>4</sup> Montalban X, et al. Mult Scler 2020;26 (Suppl. 3):213 [Abstract P0197]; <sup>5</sup> Piasecka-Stryczynska K, et al. Mult Scler Relat Disord 2021;51:103001 [Abstract P013]; <sup>6</sup> Arnold D, et al.ECTRIMS 2021 [OP115]; <sup>7</sup> Oh J, et al. ECTRIMS 2021 [P667]; <sup>8</sup> Reich D, et al. Lancet Neurol 2021;20(9):729-38; <sup>9</sup> Owens T, et al. Clin Transl Sci. 2021; doi: 10.1111/cts.13162; <sup>10</sup> Oh J, et al. Neurology 2021;96(Suppl. 15):Abstr 4564; <sup>11</sup> Evobrutinib, Tolebrutinib and Fenebrutinib have shown asymptomatic & reversible ALT elevations that have been reversible on treatment withdrawal

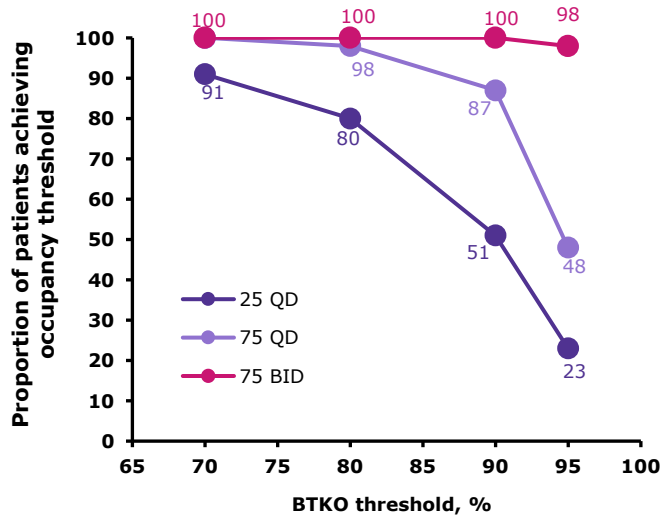
# Protein turnover of BTK requires BID dosing to achieve optimal BTK occupancy for best efficacy

98% of patients receiving 75mg BID achieved >95% trough BTKO<sup>1</sup>

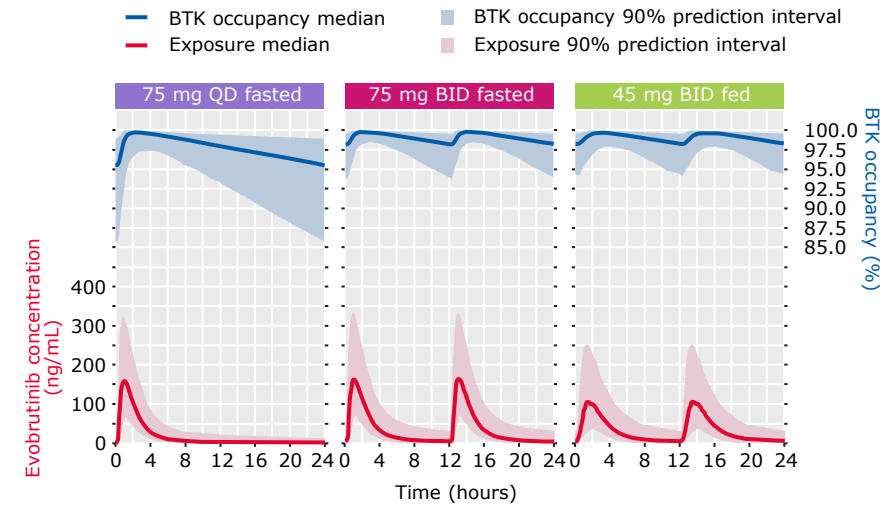
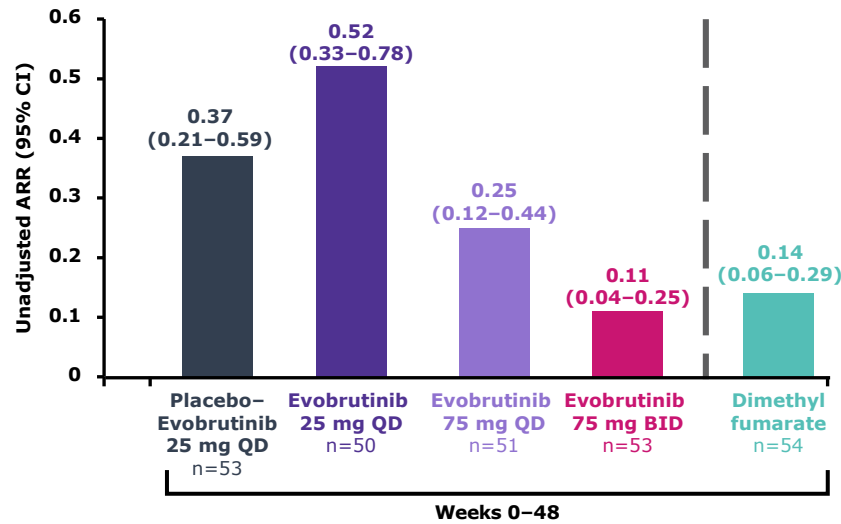
Patients achieving >95% BTKO experienced greatest ARR reduction<sup>2</sup>

Food effect enables a lower dose in PhIII<sup>1</sup>

**PATIENTS ACHIEVING BTKO THRESHOLD, %**



**PhII SECONDARY ENDPOINT**



Due to continuous BTK protein turnover QD dosing of a covalent inhibitor with short half-life results in suboptimal BTKO

ARR reduction in the Evobrutinib 75mg BID group was sustained over 108 weeks<sup>1,2</sup>

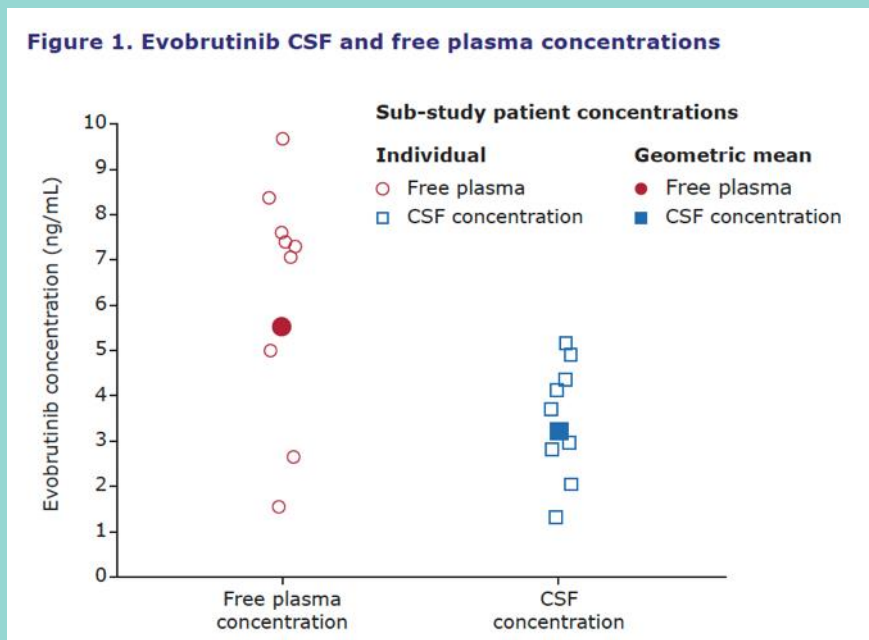
PhIII dose (45mg BID fed) reaches comparable Evobrutinib exposure and BTK occupancy to PhII dose (75mg BID fasted) despite modestly lower plasma peak concentration

<sup>1</sup> Papasouliotis O. et al. Eur J Neurol 2021;28(Suppl. 1):120 [OPR-084]

<sup>2</sup> Montalban X. et al. N Engl J Med. 2019 Jun 20;380(25):2406-2417. doi: 10.1056/NEJMoa1901981. Epub 2019 May 10.



# Effective BTK inhibition in the CNS is achieved when CSF and free plasma concentrations are comparable



The CSF concentrations overlap the free plasma concentrations

- Effective inhibition of microglia requires therapeutically relevant BTK occupancy
- Concentrations in CSF and free plasma concentrations are comparable and within the range predicted by the population PK model
- Administration of the Evobrutinib PhIII dose will result in >95% trough BTK occupancy in peripheral B-cells and macrophages and lead to biologically relevant concentrations in the CSF
- Evobrutinib concentrations in plasma and CSF of PhII substudy participants were within the range expected for all RMS patients

Source: Piasecka-Stryczynska K. et al, *Concentration of Evobrutinib, a BTK inhibitor, in cerebrospinal fluid during treatment of patients with relapsing multiple sclerosis in a phase 2 study* triMS.online 2021, May 27, online, *Multiple Sclerosis and Related Disorders* 2021;51:103001

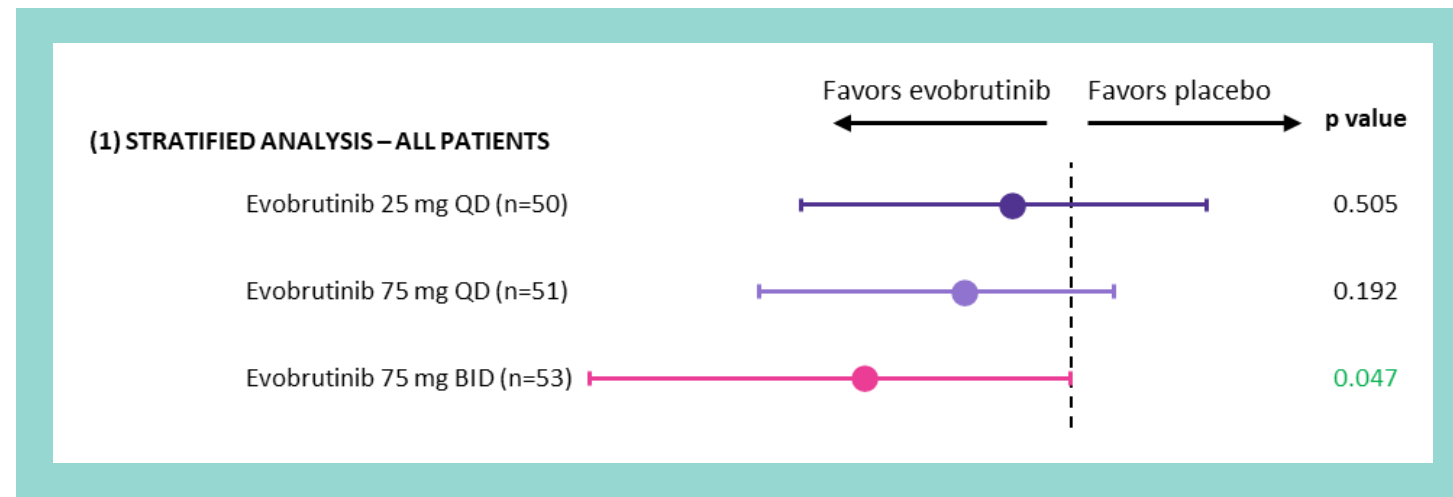
# First clinical evidence of impact on brain lesions associated with chronic inflammation

## SELs – A BIOMARKER FOR CHRONIC TISSUE LOSS IN THE ABSENCE OF ACUTE INFLAMMATION

- Slowly expanding lesions (SELs) (also known as “smouldering lesions”) are chronically active, demyelinated MS lesions, thought to be driven by sustained microglial activity, resulting in the progressive accumulation of irreversible neural tissue damage and axonal loss<sup>1</sup>
- SELs are visible on conventional MRI/T2 images MRI and show gradual, radial expansion over time
- SEL activity and ongoing tissue damage within SELs predict long-term disability<sup>2</sup>
- Approved MS therapies have shown little impact on SELs<sup>3</sup>, - consistent with their main treatment effect on acute inflammation

ECTRIMS 2021  
oral presentation

## EVOBRUTINIB REDUCED SEL VOLUME IN A DOSE-DEPENDENT MANNER AT 48 WEEKS<sup>4</sup>



<sup>1</sup> Elliott C, et al. *Mult Scler* 2019;25:1915-25; <sup>2</sup> Elliott C, et al. *Brain* 2019;142:2787-99; <sup>3</sup> Preziosa P, et al. *Mult Scler* 2021;27(10):1520-32;

<sup>4</sup> Arnold D, et al. ECTRIMS 2021 [OP115]

# Summary

## Potential FIC BTK inhibitor designed for BIC efficacy

- **Pioneering development** of breakthrough MoA with potential to rewrite SoC in RMS
- Aiming to **address chronic inflammation and progression between relapse** in addition to **reducing acute inflammation, delivering BIC ARR**
- **Confidence in BIC profile supported by compelling clinical data from our comprehensive PhII program**

- ✓ Best ARR was achieved at BTKO of 95%; ARR of 0.11 at 48 weeks is supportive of BIC efficacy
- ✓ Importantly: Achieving 95% BTKO requires BID dosing of a covalent BTK inhibitor with short half-life due to continuous turnover of BTK protein
- ✓ Evobrutinib concentrations achieved in CSF of RMS patients support an effect on microglia
- ✓ Dose dependant reduction of SEL, a biomarker for disease progression is first evidence of Evobrutinib effect on chronic inflammation and progression
- ✓ De-risked profile based on safety analysis in >1000 patients

- **PhIII studies** (Evolution MS 1&2) **fully recruited** (Sept 2021), expected read out in Q4 2023

# Targeted inhibition of important lupus mediator aiming for improved efficacy with low infection risk

- **For lupus patients, precise intervention for improved efficacy at low infection risk remains an unmet need in lupus**
- Enpatoran is an oral small molecule inhibitor of TLR7/8
- There is **evolving genetic evidence for TLR7 as a critical driver of lupus pathologies**

**Inhibition of TLR7/8, a important lupus mediator** is expected to result in

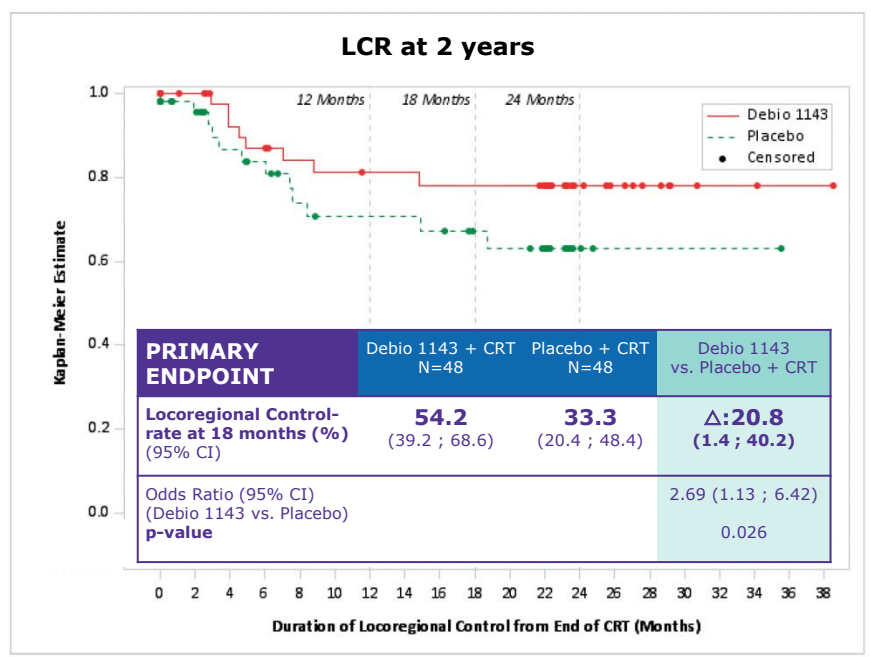
- broad inhibition of lupus-relevant effectors
  - with potential for improved efficacy compared to strategies targeting single effectors (pDC, IFN, B-cells)
  - at low risk of infection
- 
- **Compelling MoA, functional and safety data from PhI HV and COVID PhII study**
  - **Innovative PhII in CLE and SLE planned to initiate in H1 2022, aiming to generate PoC in H1 2023**

# Maximizing chances for cure in LA SCCHN

## PhII: Consistent benefit across primary & secondary endpoints

### PRIMARY ENDPOINT LCR

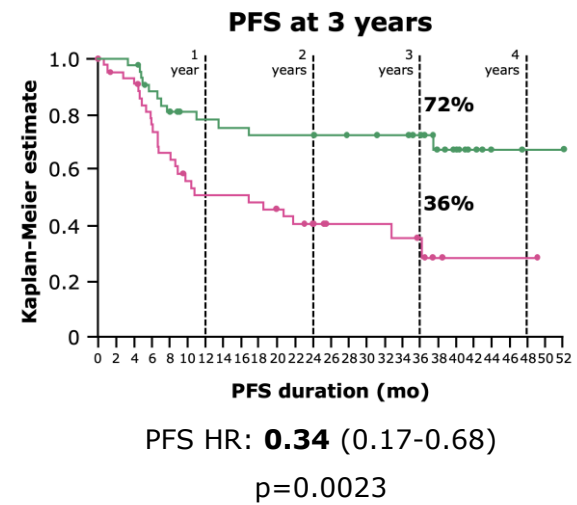
first presented at ESMO 2019



Lancet Oncology, August 2020, doi:10.1016/S1470-2045(20)30327-2

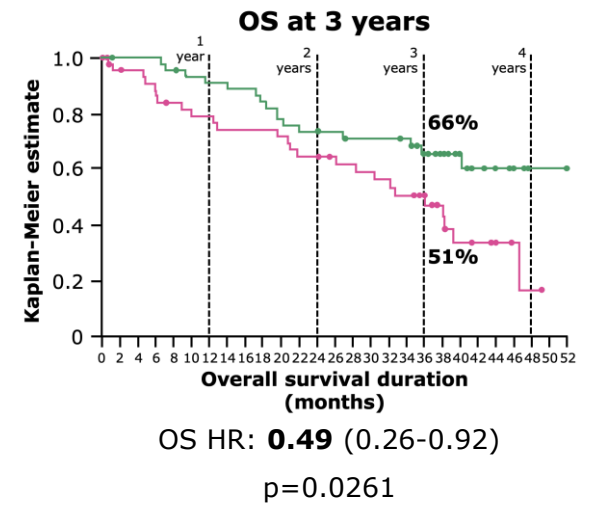
### SUBSTANTIAL IMPROVEMENT OF PFS AND OS

3-year update, presented at ESMO 2020



CR at 6 months (post CRT completion)  
52% vs 38% for placebo

ESMO 2020; Bourhis J, et al. Abstract No. LBA39



Xevinapant  
Placebo

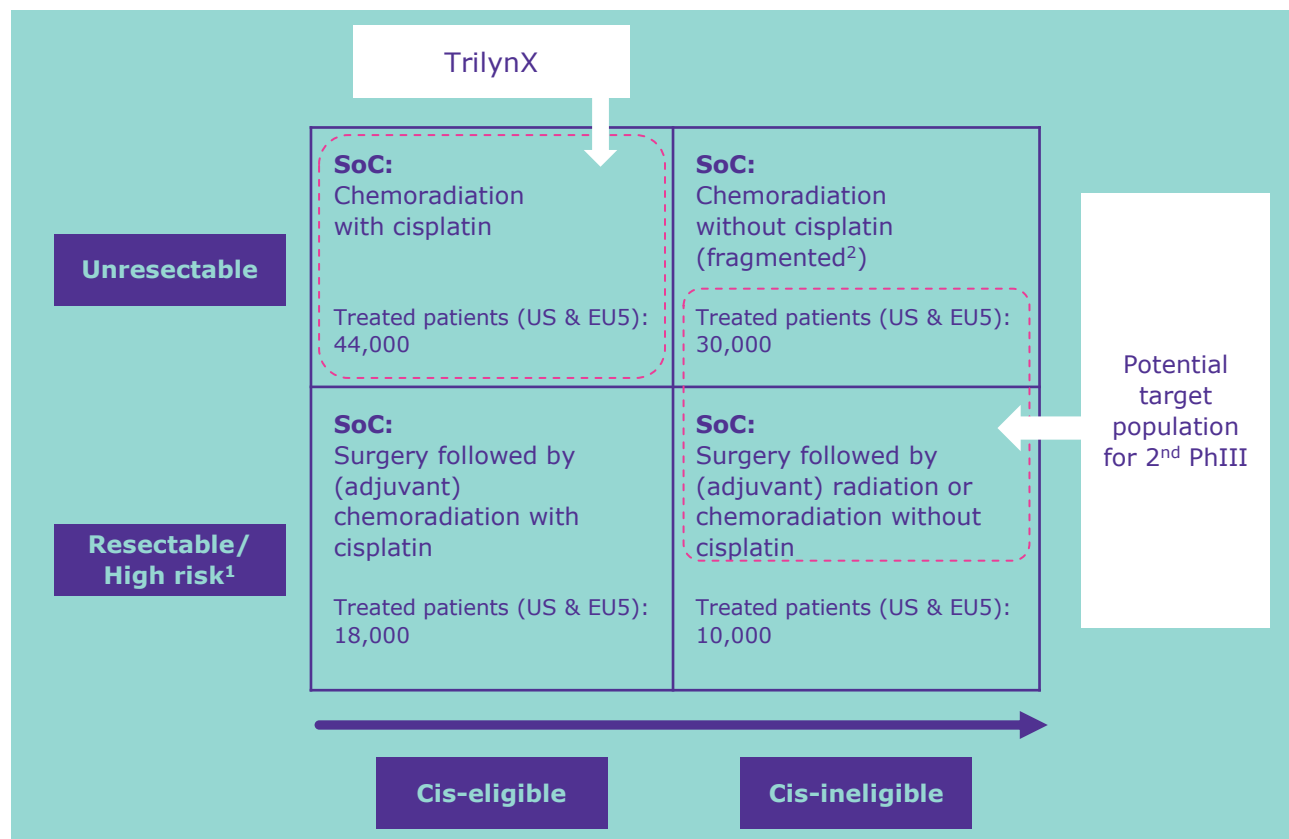
### Up Next: 5-year Update of OS at ESMO 2022

LA SCCHN = Locally advanced squamous cell carcinoma of the head and neck  
R&D Update Call 2021



# Leveraging market-leading expertise in SCCHN

## LA SCCHN SIMPLIFIED TREATMENT PARADIGM AND EPIDEMIOLOGY



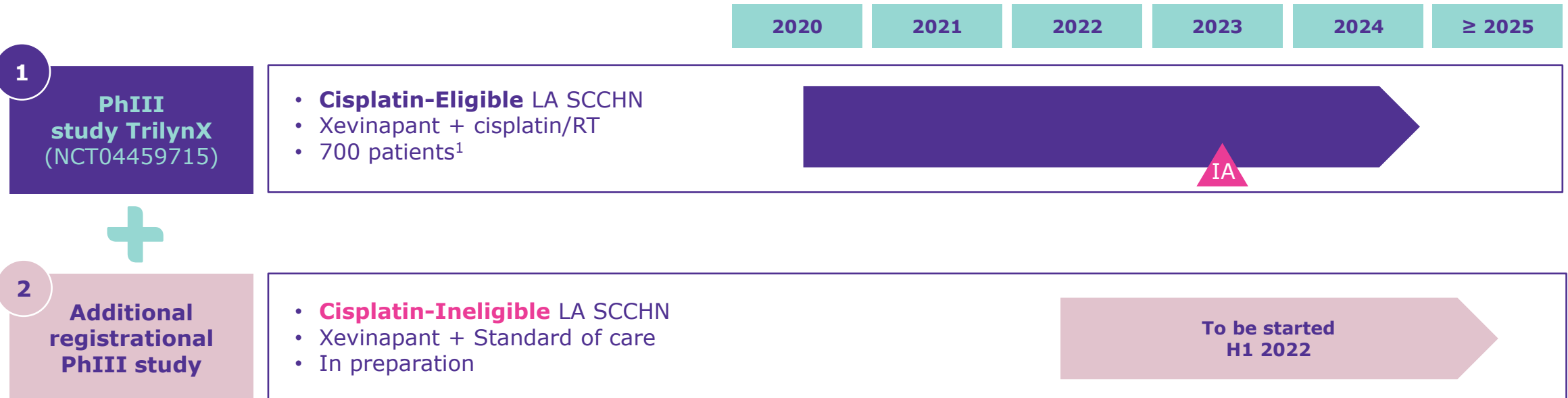
### Leveraging our Erbitux heritage

- LA SCCHN is a **curative setting** that requires a multi-disciplinary approach
- Surgery and/or (chemo-)radiation therapy is the standard of care, though almost 50% of patients progress
- **Limited progress in ~20 years**
  - IO has not been successful due to challenges of concurrent radiation
- **Building focused leadership in LA SCCHN**
  - Our goal is to transform LA SCCHN in combination with (C)RT with a focused PhIII program

### Xevinapant – Maximizing chances for cure

<sup>1</sup> Low/ intermediate risk patients: SOC is Surgery followed by (adjuvant) radiation, Incidence (US + EU5): 41,000; <sup>2</sup> The combination of cetuximab/RT is the only approved regimen for patients ineligible to receive high-dose cisplatin. Multiple non-approved regimens are used in practice, however, with differences across geographies and depending on patient status and physician preference.

# First launch expected in 2025



Additional studies evaluating Xevinapant potential across LA SCCHN and beyond under discussion

<sup>1</sup> multinational study, enrolling significant proportion of patients from China and Japan

# Maximizing the potential of Berzosertib

## CURRENT DEVELOPMENT FOCUS

### Establish Berzosertib as new SoC in 2L SCLC

1. Topotecan combination (Pt-sensitive & Pt-refractory patients)
2. Combinations with other TOP-1 inhibitors (Irinotecan, Sacituzumab govitecan)
3. Further combinations (Lurbinectidin)

## BERZOSERTIB POTENTIAL BEYOND SCLC

### Ovarian cancer:

Biomarker studies to identify best target population for upcoming PhII study of Bersozertib/Gemcitabine<sup>1</sup>

### Refractory GI tumors:

Berzosertib/Irinotecan combination

### SCLC – Earlier treatment line:

1L Maintenance setting with IO

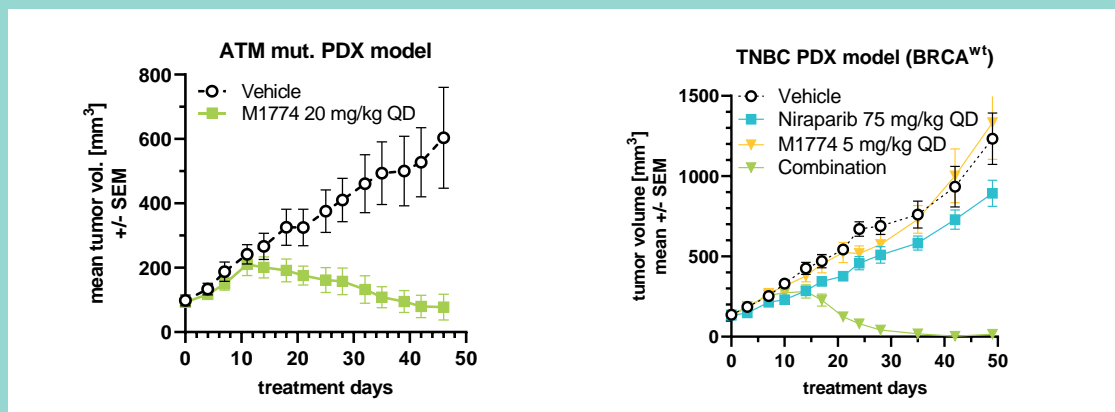
<sup>1</sup> Encouraging evidence of clinical efficacy; Lancet Oncology, Volume 21, Issue 7, July 2020, Pages 957-968

# What's next: Oral ATRi for monotherapy and PARP inhibitor combinations

## ATR CORE DEVELOPMENT HYPOTHESES

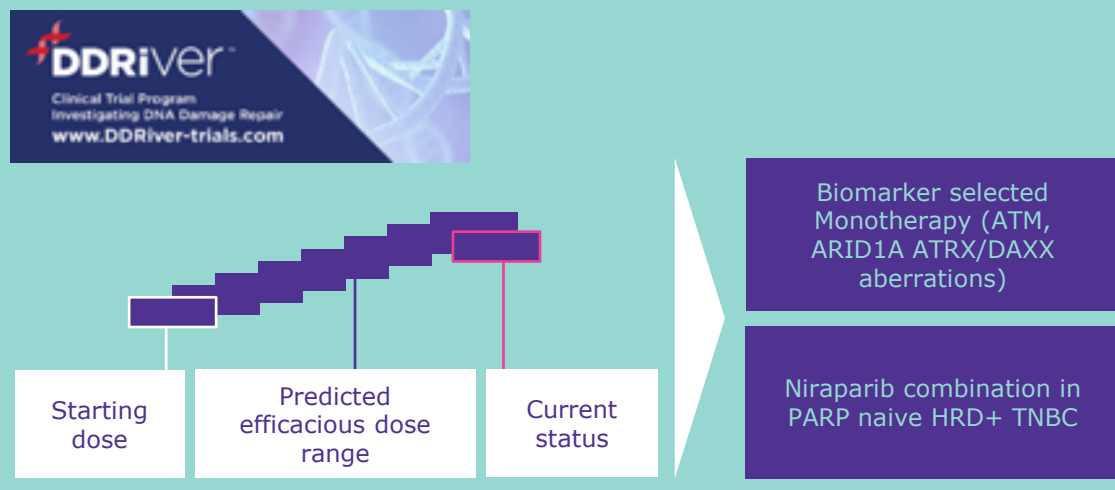
- 1 + chemotherapy – iv ATRi Berzosertib
- 2 + IO – iv or oral ATRi
- 3 Synthetic Lethality (Mono or PARP Combination) – oral ATRi

## SYNTHETIC LETHALITY MODEL DATA



## M1774 DEVELOPMENT STATUS

- Dose escalation in DDRiver 301 FiH study (NCT04170153) close to completion**
- ✓ Active dose-range achieved, with manageable, MoA related safety profile
  - ✓ First clinical data to be reported at upcoming clinical conference in 1H 2022
  - ✓ Dose finding with PARP inhibitor has commenced



# Berzosertib is lead program in our DDR pipeline

- **ATR inhibition has significant therapeutic potential with 3 distinct applications:**
  - Enhancing chemotherapy efficacy
  - Achieving synthetic lethality (monotherapy in patients with HRD alterations or combination with PARP inhibitors)
  - Combination with immunotherapy
- **Development focus for potential FIC ATR inhibitor Berzosertib is combination with chemotherapy/topoisomerase I inhibitors**
- **SCLC** is the most aggressive form of lung cancer, with poor treatment outcomes; **most patients experience rapid progression even after achieving responses**

- ✓ **Remarkable early data in rSCLC demonstrated with Berzosertib/Topotecan combination** when compared to historic control SoC Topotecan monotherapy
- ✓ 30% ORR in Pt-resistant patients (Topotecan monotherapy historic control is <10%)
- ✓ Durable responses with 67% of patients achieving >6months PFS, (Topotecan monotherapy historic control shows Pt-resistant patients relapse within a few weeks)

- **Two ongoing PhII studies:** Randomized NCI study and DDRiver SCLC 250
- **Up next: oral ATRi M1774 with development focus synthetic lethality** (monotherapy and PARPi combination); dose escalation ongoing, PhII PoC studies to initiate in 2022

# Tepotinib (MET kinase inhibitor)

## First-in-class launch in MET Exon14 sets foundation for EGFRm/ METamp opportunity and exploration in other tumor types



### Lay the foundation in NSCLC – MET Exon14

(VISION study, NCT02864992  
3-5% of total NSCLC population)

- **Highly competitive data** set presented at ASCO 2020 and published in New England Journal of Medicine in May 2020 (99 patients with a follow up  $\geq 9$  mths)
- **First-in-class launch**<sup>1</sup> in Japan<sup>2</sup> in March 2020, Sakigake designation<sup>3</sup> granted in 2018
- **Approval by US FDA**<sup>1</sup> received on February 3, 2021



### Tap into a growing opportunity in NSCLC – EGFRmut/ METamp

(INSIGHT 2 study, NCT03940703  
2-5% of total NSCLC population)

- **Increased EGFRm detection** with testing and treatment moving into earlier lines of therapy (ADAURA trial demonstrates a 79% reduction in the risk of death with Osimertinib in the adjuvant setting (ASCO 2020), suggesting an even greater uptake of Osimertinib)
- **METamp as the primary driver of resistance** - Some publications suggest that METamp resistance post-Osimertinib could be  $\sim 25\%$ <sup>4</sup>



### Explore EGFR resistance in CRC – Tepotinib + Erbitux® combo (NCT04515394)

- Opportunity for **Tepotinib to address an unmet need in metastatic colorectal cancer (mCRC) together with Erbitux®**



1: approved for both treatment naïve and previously treated METex14 positive NSCLC patients; 2: second largest Oncology market globally; 3: SAKIGAKE designation promotes research and development in Japan, aiming at early practical application for innovative pharmaceutical products; 4: Piotrowska et al., "Landscape of Acquired Resistance to Osimertinib in EGFR -Mutant NSCLC and Clinical Validation of Combined EGFR and RET Inhibition with Osimertinib and BLU-667 for Acquired RET Fusion", AACR Cancer Discovery 2018; Acronyms: CRC = Colorectal cancer; EGFR = Epidermal Growth Factor Receptor; NSCLC = Non-small cell lung cancer



# Tepotinib (MET kinase inhibitor)

## Tapping into the rapidly evolving EGFRmut/METamp market – Encouraging INSIGHT 1 data



### INSIGHT 2 – Tepotinib + Osimertinib in Osimertinib Relapsed METamp NSCLC

Recruiting

- **Study design recently amended to reflect evolved and future standard of care:**
  - **Target population** – Inclusion criteria adjusted to focus solely on 1L Osimertinib failures
  - **Testing** - Streamline patient enrollment based on current gold standard method (TBx FISH)
  - **Increasing METamp prevalence** - Some publications suggest that METamp resistance post-Osimertinib could be ~25%<sup>1</sup>
- Estimated primary completion date: **November 2022**



### Tepotinib + Erbitux® (Cetuximab) - Addressing a significant medical need in 2L metastatic colorectal cancer (mCRC)

Recruiting

- Opportunity for **Tepotinib to address an unmet need in CRC** together with Erbitux®
- Estimated primary completion date: **March 2023**

### A solid foundation - Encouraging INSIGHT 1 data (18-months follow-up presented at WCLC 2019)<sup>2</sup>

Endpoint	Tepotinib + gefitinib	Chemotherapy
Primary - PFS (HR 0.13 [90% CI 0.04, 0.43])	16.6 m	4.2 m
Secondary - ORR (OR 2.67 [90% CI 0.37, 19.56])	66.7%	42.9%
Secondary - OS (HR 0.09 [CI 0.01, 0.54])	37.3 m	13.1 m



**Proof of Concept: MET amplification can be considered a suitable biomarker** for treatment with Tepotinib



**Safety:** generally **well-tolerated**, most adverse events mild to moderate

1: Piotrowska et al., "Landscape of Acquired Resistance to Osimertinib in EGFR -Mutant NSCLC and Clinical Validation of Combined EGFR and RET Inhibition with Osimertinib and BLU-667 for Acquired RET Fusion", AACR Cancer Discovery 2018; 2: Wu et al., "Long term outcomes to tepotinib plus gefitinib in patients with EGFR mutant NSCLC and MET dysregulation: 18 month follow up", presented at WCLC 2019; Acronyms: FISH = Fluorescence in situ hybridization; TBx = Tissue Biopsy



# Healthcare Q3: Strong Bavencio<sup>®</sup> performance and continued Mavenclad<sup>®</sup> ramp-up drive 4% organic growth

## Healthcare P&L

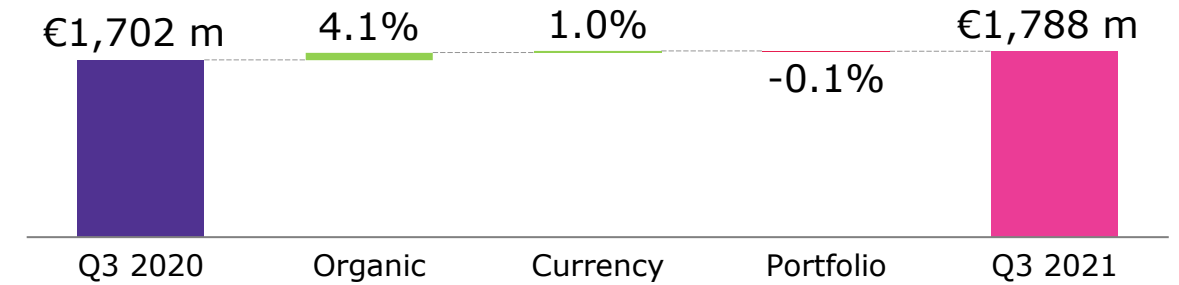
[€m]	IFRS		Pre	
	Q3 2020	Q3 2021	Q3 2020	Q3 2021
Net sales	1,702	1,788	1,702	<b>1,788</b>
M&S*	-382	-386	-379	<b>-386</b>
Admin	-75	-79	-75	<b>-77</b>
R&D	-378	-486	-378	<b>-486</b>
EBIT	807	453	812	<b>462</b>
EBITDA	892	532	-	<b>-</b>
EBITDA pre	896	<b>541</b>	896	<b>541</b>
(in % of net sales)	52.7%	<b>30.3%</b>	52.7%	<b>30.3%</b>

## Comments

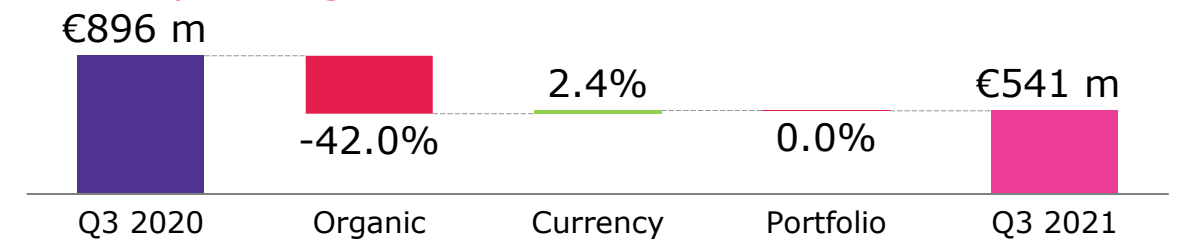
- Mavenclad<sup>®</sup> grows +33 % organically to highest quarter at €197 m, more than offsetting organic Rebif<sup>®</sup> decline of -16%
- Oncology up +26%; Bavencio<sup>®</sup> grows +147% fueled by continued UC 1L ramp-up in key markets; Erbitux<sup>®</sup> growing across all regions (+6% org.)
- VBP<sup>1</sup> impact on Glucophage<sup>®</sup> drives decline in CM&E (-3% org.) which is fully compensated by Fertility growth (+7% org.)
- Lower M&S as % of sales vs. Q3 2020 despite higher level of face-to-face activities amid progressing adaptation to pandemic situation
- Higher absolute R&D driven primarily by Bintrafusp study termination accrual (~€70 m), largely offset by accelerated recognition of Bintrafusp deferred other income (~€50 m)
- EBITDA pre and margin decline driven by Q3 2020 Biogen litigation provision reversal of €365 m, underlying EBITDA pre about stable

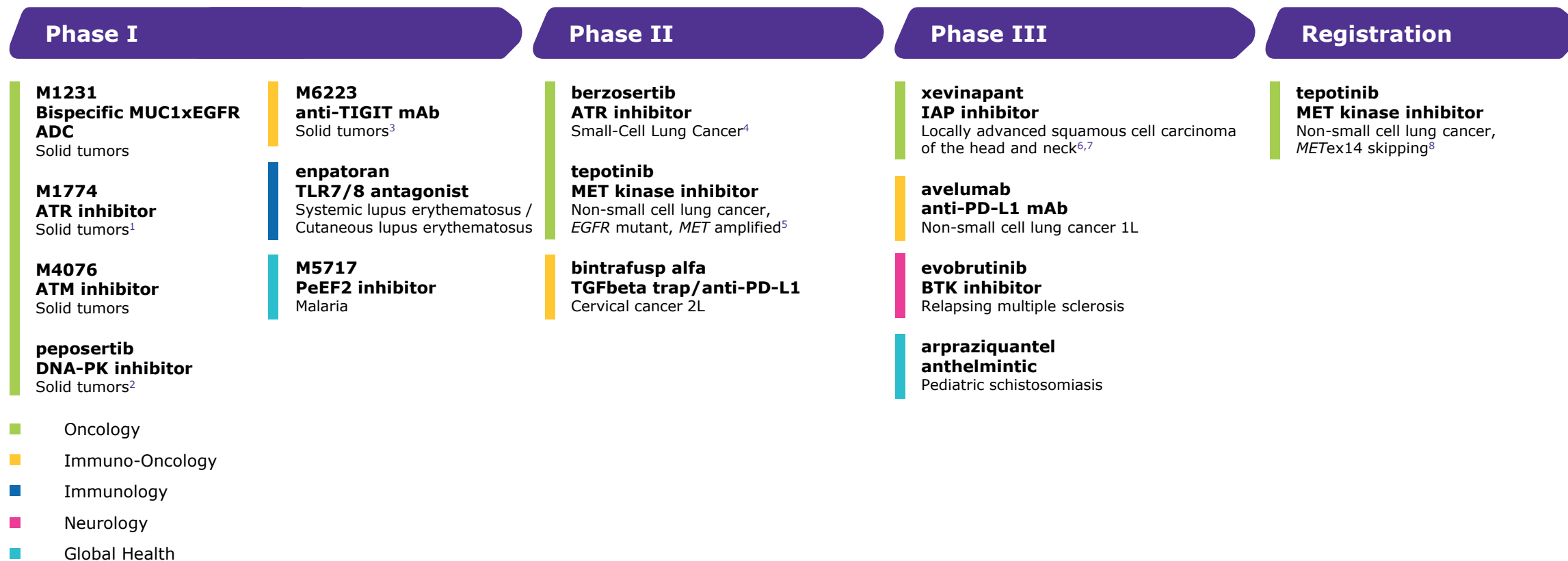
<sup>1</sup> Volume Based Procurement

## Net sales bridge



## EBITDA pre bridge





ADC: Antibody Drug Conjugate; 1L: first-line treatment; 2L: second-line treatment

<sup>1</sup> Study as monotherapy and in combination with niraparib. <sup>2</sup> Study in combination with avelumab. <sup>3</sup> Includes study in combination with bintrafusp alfa. <sup>4</sup> Includes studies (phase I/II) in collaboration with/ sponsored by external partners, e.g. US National Cancer Institute (NCI). <sup>5</sup> In combination with osimertinib. <sup>6</sup> In combination with cisplatin and radiotherapy in unresected LA SCCHN patients eligible for cisplatin. <sup>7</sup> On March 01, 2021, Merck KGaA, Darmstadt, Germany announced a worldwide in-licensing agreement with Debiopharm, Switzerland, for the development and commercialization of xevinapant (Debio 1143). <sup>8</sup> As announced on November 26, 2020, the European Medicines Agency (EMA) has validated for review the application for tepotinib for the treatment of adult patients with advanced non-small cell lung cancer.

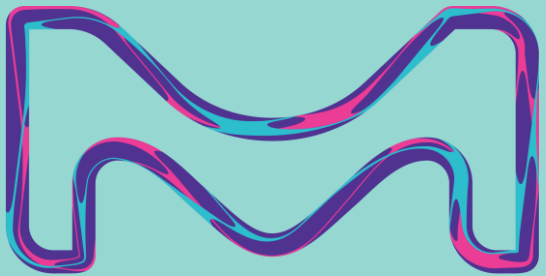
Additional information: Several combination studies (phase II) of avelumab with talazoparib, axitinib, ALK inhibitors or chemotherapy ongoing under sponsorship of Pfizer.

Unless noted otherwise, clinical programs conducted in collaboration with external partners are not shown unless Merck KGaA, Darmstadt, Germany has co-ownership of data. In such case the indication is shown in *Italics*.

Pipeline products are under clinical investigation and have not been proven to be safe and effective. There is no guarantee any product will be approved in the sought-after indication.

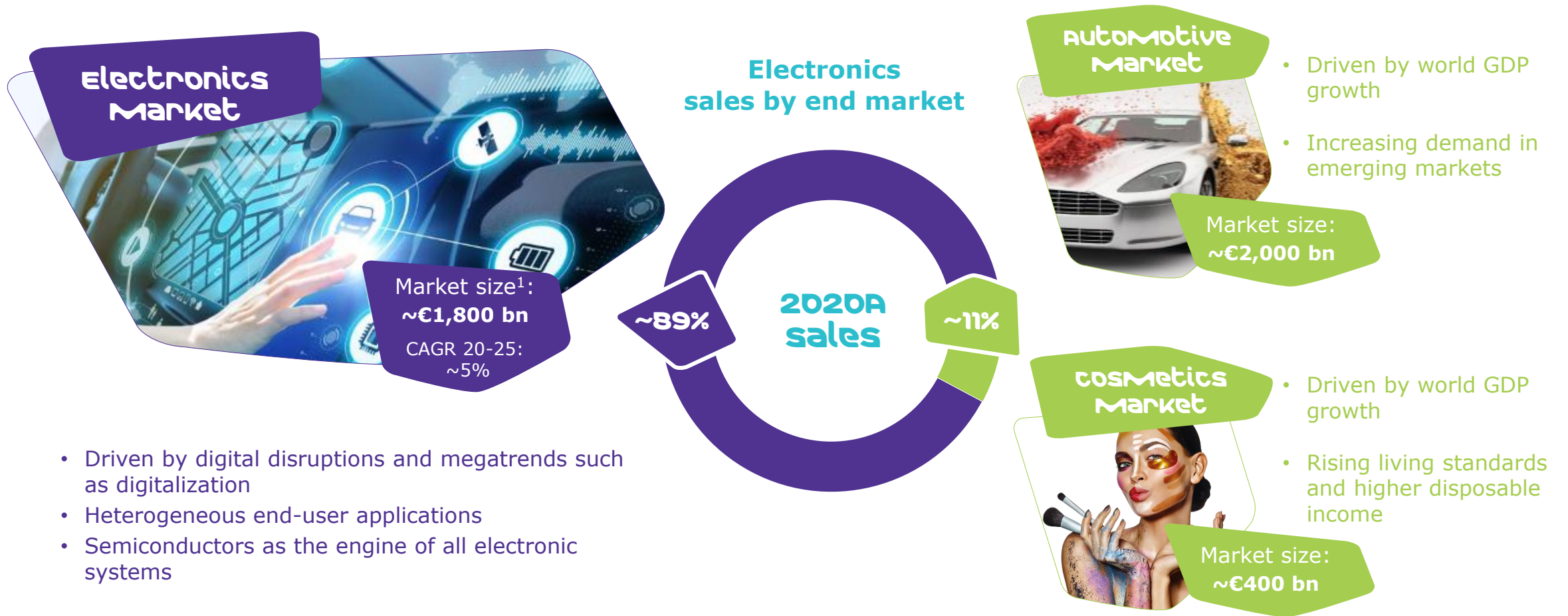


electronics



# Electronics

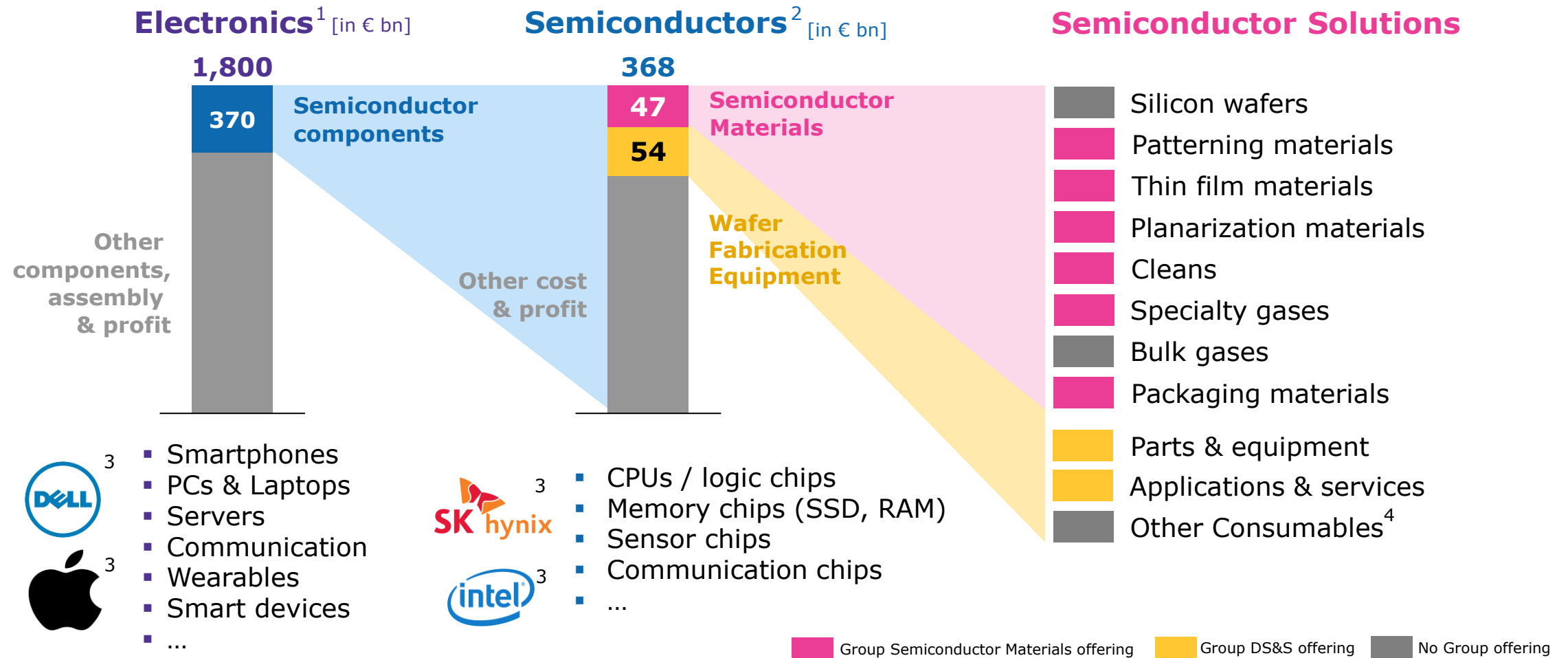
## Targets attractive markets – especially in the electronics space



- Driven by digital disruptions and megatrends such as digitalization
- Heterogeneous end-user applications
- Semiconductors as the engine of all electronic systems

<sup>1</sup>Prismark 2021

# Semiconductor Solutions – **integrated materials player, well positioned to serve the need of customers in semiconductor fabrication**



Illustrative Industry P&Ls based on Sources: <sup>1</sup>Prismark 2021, <sup>2</sup>Prismark 2021 & WSTS/SIA & SEMI Q1 2020; <sup>3</sup>Representative player in the industry, non-exclusive list, not based on any underlying criteria; <sup>4</sup>e.g. Filters, Pads, etc.; CPU = Central Processing Unit; RAM = Random Access Memory; SSD = Solid State Disk; CMOS = Complementary metal-oxide semiconductor



# Unique comprehensive products and services portfolio offers end-to-end solutions, well-placed in high growth segments



Steps of Group customers in manufacturing integrated circuits



Steps in Group's Delivery Systems & Services business

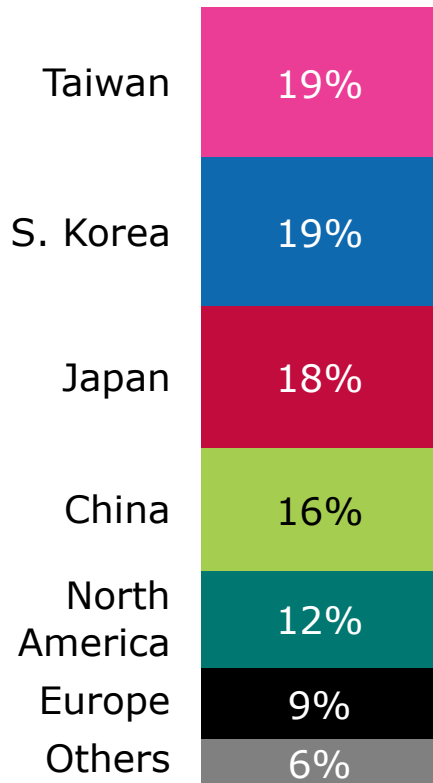


- Group Semiconductor Materials offering
- Group Delivery Systems & Services offering
- Group Intermolecular products & services



# Beyond a comprehensive portfolio Semiconductor Solutions also has an industry spanning customer base, supplying various end markets

2019 wafer capacity by region<sup>1</sup>



Selected customers per region<sup>2</sup>



Semiconductor Solutions has **OVER 100 CUSTOMERS** supplying all top 10 chip makers and virtually all of the top 100<sup>3</sup>

- Focus on logic chips
- Focus on memory chips
- Focus on other chips

<sup>1</sup>SEMI World Fab Forecast Q3 2020 - Dec 2019 capacity,

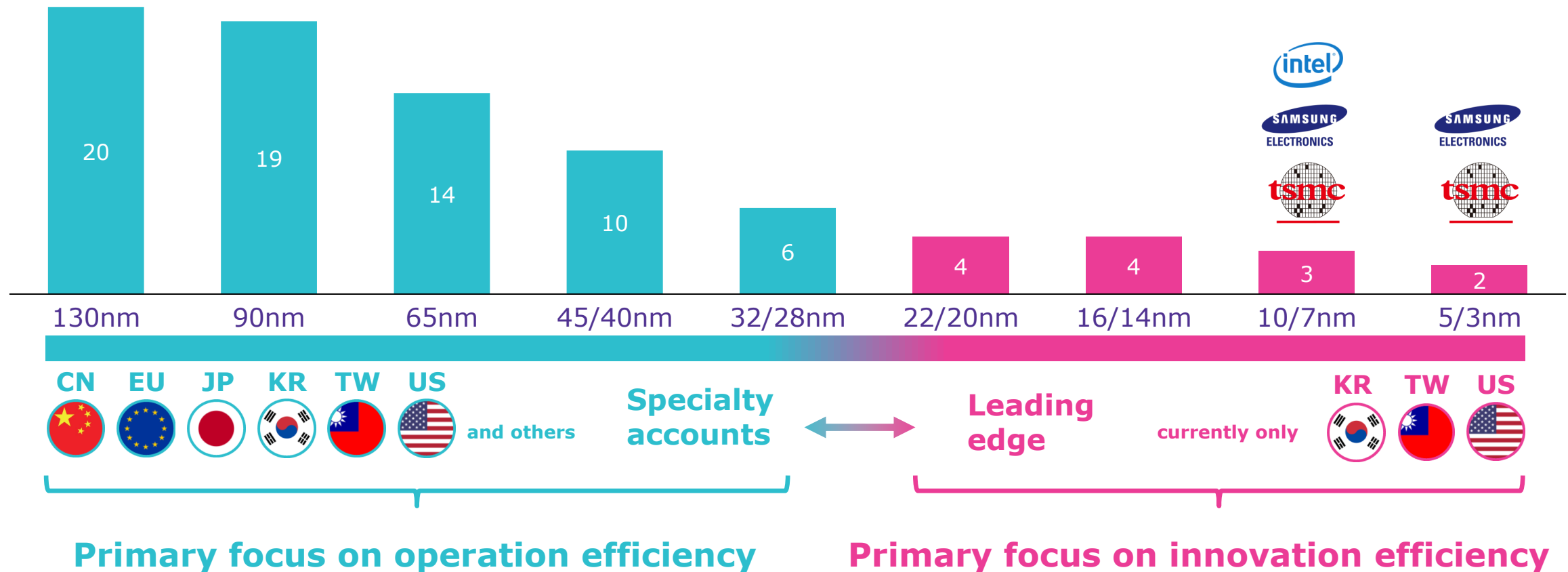
<sup>2</sup>Representative, non-exclusive list, not based on any underlying criteria

<sup>3</sup>Based on H1 2020 Sales



# Only 3 companies are currently running volume production $\leq 10\text{nm}$ These companies have the largest market shares across all nodes

Number of companies currently running volume production per logic chip node<sup>1</sup>



<sup>1</sup>Source: Wikichip.org and own data; volume production as of Sep 2020; countries are listed in alphabetical order



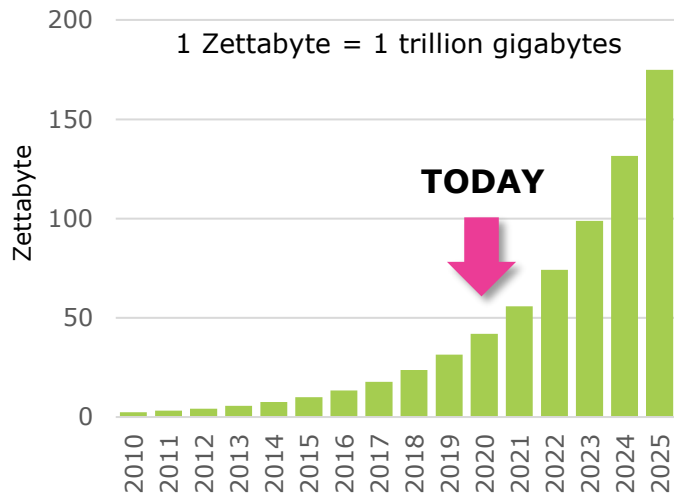
# Technology trends inevitably drive exponential data growth... ...more chips needed to generate, transfer, process & store data

**Data created worldwide**  
is growing +30% annually

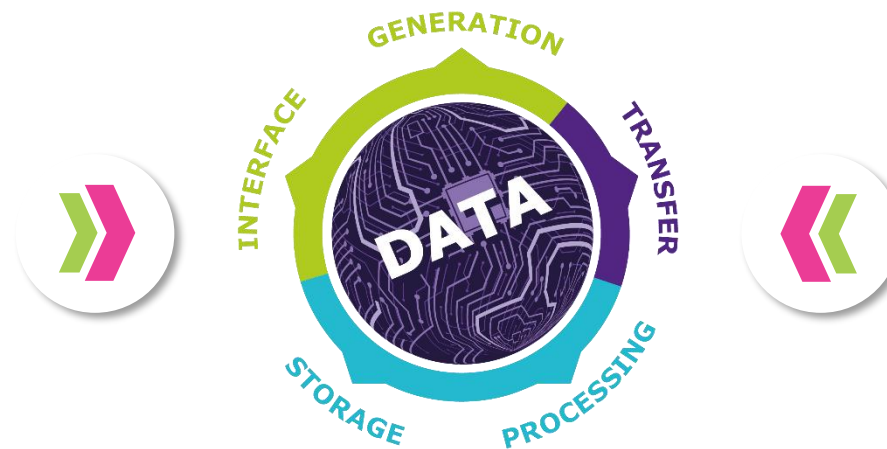
**All segments of data application**  
are affected by global data growth

**Technology trends** strongly impact  
relevance of data application segments

Size of global data sphere



Source: IDC DataAge 2025 Whitepaper



Technology market growth - examples

**5G Technology<sup>1</sup>**  
>122% CAGR

**Artificial Intelligence<sup>2</sup>**  
>33% CAGR

**IoT Sensors<sup>3</sup>**  
>24% CAGR

**Data Center Services<sup>4</sup>**  
>13% CAGR

**Autonomous Driving<sup>5</sup>**  
>18% CAGR

Semiconductor Solutions supports growth trend as part of “**the company behind the companies, advancing digital living**”

1) [alliedmarketresearch.com](http://alliedmarketresearch.com), Prismark 2020, CAGR 2021-2026; 2) [fortunebusinessinsights.com](http://fortunebusinessinsights.com), [post-gazette.com](http://post-gazette.com), CAGR 2018-2026; 3) [mordorintelligence.com](http://mordorintelligence.com), [computerweekly.com](http://computerweekly.com), CAGR 2020-2025; 4) [mordorintelligence.com](http://mordorintelligence.com), Prismark 2020; CAGR 2020-2025; 5G = 5<sup>th</sup>-generation cellular wireless; IoT = Internet of Things 5) [mordorintelligence.com](http://mordorintelligence.com), autonomous car market value CAGR 2020-2025



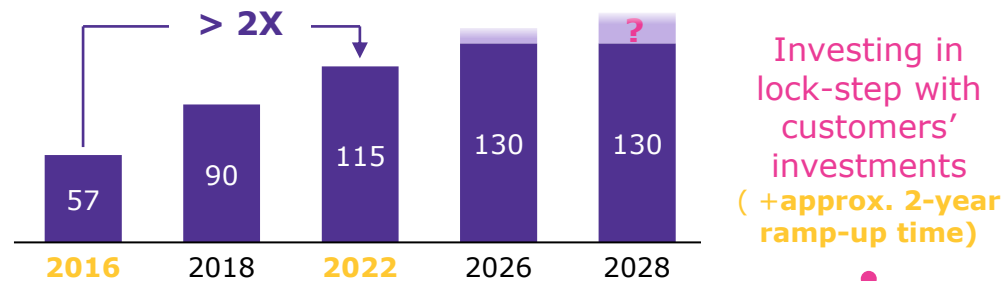
# “Level Up” Scale - Expanding in synch with customer demand

A partner of choice, in step for higher demand

Smart localization, investing close to customers

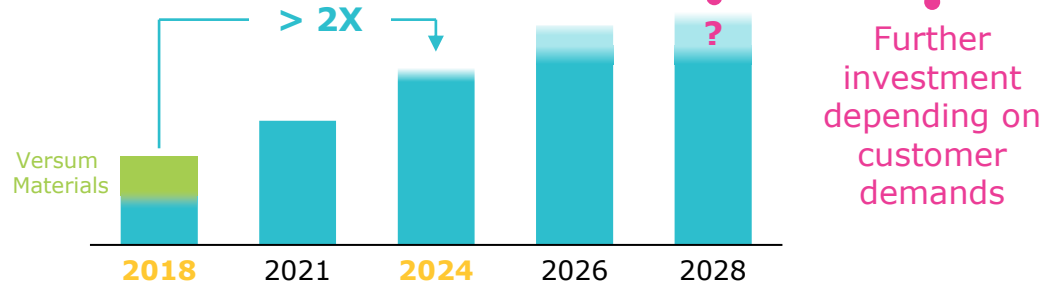
## Semiconductor industry

CAPEX p.a.<sup>1</sup> [bn€]



## Electronics

CAPEX illustrative [majority in Semi]



1) McClean March 2021, Company announcements; FX rate: 1.18 \$/€; 2) incl. IT

Share of semi material market <sup>1</sup>	Key investments
<b>Taiwan</b> ~25%	<ul style="list-style-type: none"> <li>Additional large site ensuring supply for key customers</li> <li>Further expand R&amp;D footprint</li> </ul>
<b>Korea</b> ~25%	<ul style="list-style-type: none"> <li>Expand strong footprint, even higher customer proximity</li> </ul>
<b>China</b> ~15%	<ul style="list-style-type: none"> <li>Become most localized multinational ready for growth</li> <li>Expand production and R&amp;D</li> </ul>
<b>USA</b> ~10%	<ul style="list-style-type: none"> <li>Expand capacity for global &amp; local supply</li> <li>Enable new sites of key customers</li> </ul>

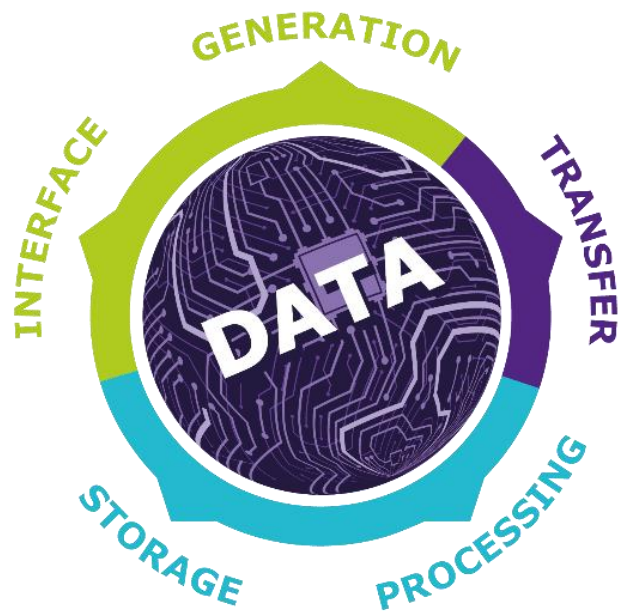
1) Source: Linx Consulting – only relevant segments, 2020; 2) Aggregated spend 2021-25, total spend: ~€2.1 bn, thereof ~11% (~€250 m) in Germany, also to fund global programs



# “Level Up” Tech – delivering today and enabling tomorrow

## Strong portfolio of silicon & optical technologies empowering today’s applications

Solutions empowering customers to make **smaller, faster, more energy efficient** & **more sustainable** devices in various applications across the entire **data sphere**



- Data Generation**  
Sensors, MEMs
- Data Transfer**  
Network chips, interconnects, antenna
- Data Processing**  
Logic chips: CPUs, GPUs
- Data Storage**  
Memory Chip: DRAM, 3D NAND
- Data Interface**  
Displays: TV and mobile (LC, OLED)

## And enabling tomorrow’s leading-edge technologies

### Selected future applications

**Next-Gen image sensors**

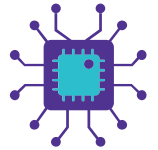
**Smart Antennas**

**Transition to nanosheets**

**3D NAND with >300 layers**

**Foldable displays**

### Our contribution



Leverage semiconductor & display knowledge for new & optimized sensors

New LC, enabling beam forming, replacing bulky mechanical antennas

Novel etchants & dopants allowing higher scaling & lower power consumption

ALD<sup>1</sup> materials that help minimize cross talk between memory cells

Broad set of materials from encapsulation to the OLED stack

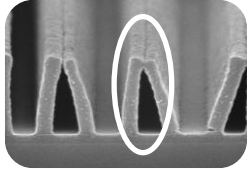
1) Atomic Layer Deposition



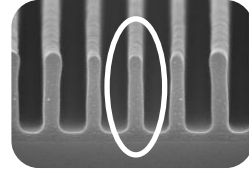
# Electronics

## Expanding the limits of how small you can go

### Pattern collapse

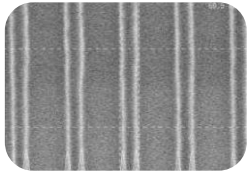


### AZ® rinse materials



As lines get narrower and closer together in advanced chip generation, lines tend to “stick” due to surface tension.

### Lithography limitation

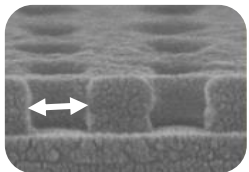


### Directed self-assembly (DSA)

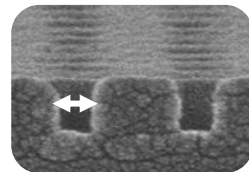


Block copolymer can generate small lines or contact holes by self-assembly. This allows miniaturization without expensive new equipment.

### Wide features



### AZ® shrink materials



Shrink materials “shrink” the gap between lines and, hence, allow the manufacture of narrower features otherwise not possible.



**Group delivers highly innovative solutions for complex customer problems**

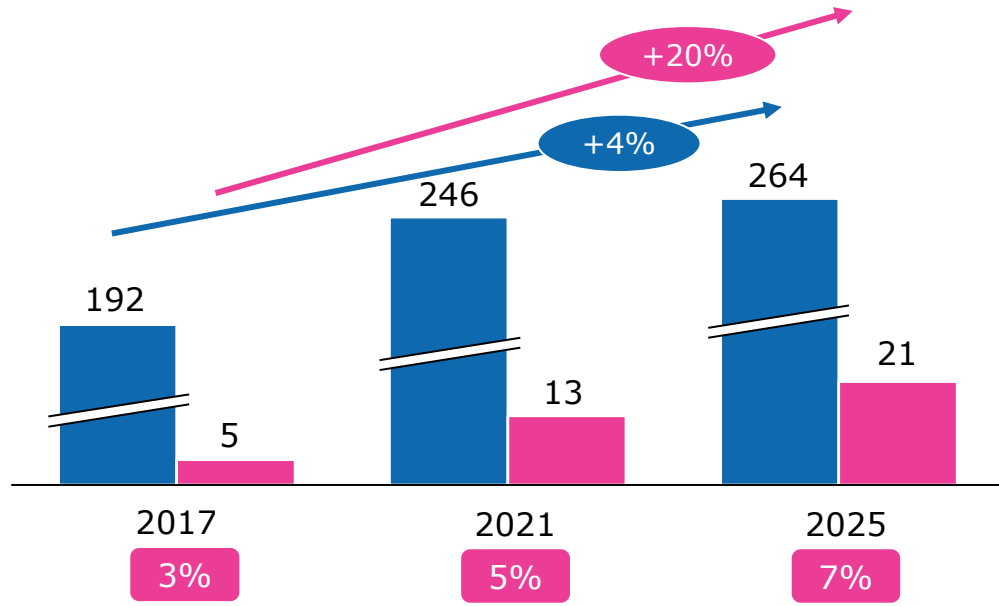


# Electronics

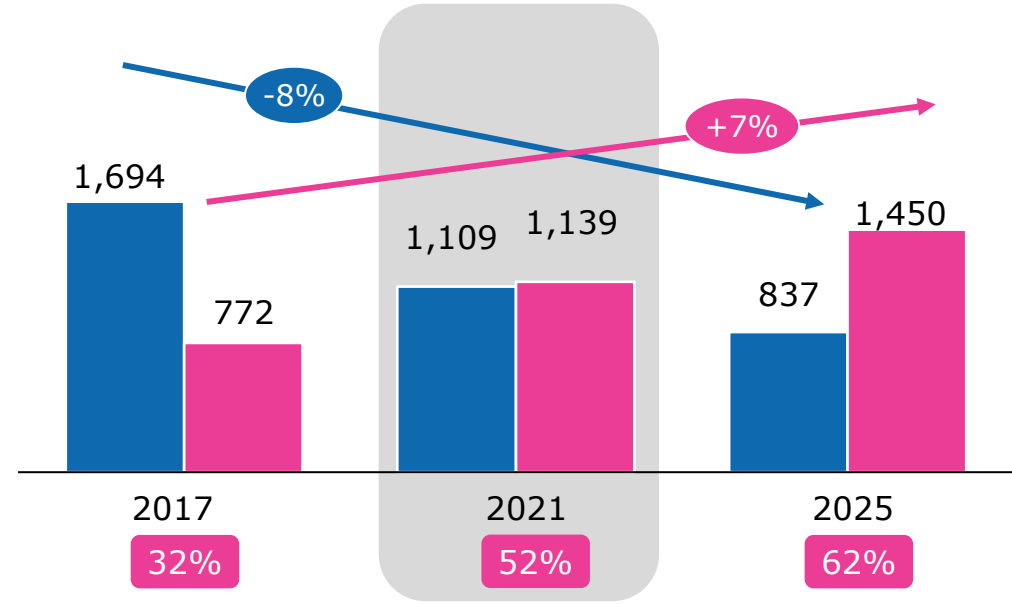
## Display Solutions - OLED material market to exceed LC material market **already in 2021**

x% OLED shipment area / addressable material market [in % of total]    ■ Liquid Crystals    ■ OLED

**Display shipment area<sup>1</sup>**  
[km<sup>2</sup>]



**Addressable material market<sup>2</sup>**  
[€m]



- **Continued growth** across all technologies
- **OLED growing faster than LCD**, but **LCD to command 90+% area share** for foreseeable future

- **Material value** per OLED display **higher** than in LCD
- **OLED material market to exceed LC material market by 2021**, but market split between **many more players**

<sup>1</sup>Omdia; <sup>2</sup>Internal Business Intelligence; Acronyms: LCD = Liquid-Crystal Display, OLED = Organic Light Emitting



# Electronics

## Strategic roadmap materializing

### Measures for a bright future



#### Darmstadt

- In Darmstadt focus on R&D and production
- Immediate bottom line contribution from 2019 onwards
- Reduce the number of FTEs by ~15% = ~400 FTEs



#### Chilworth

- Chilworth site during September 2019 successfully closed



#### Atsugi

- Shut down of Electronics activities at Atsugi site started (to be completed during 2021)
- R&D and production activities in Atsugi transferred and consolidated in other PM locations in Asia
- Consolidation of site structure in Japan



- Leading supplier of high-purity process chemicals, gases and equipment serving semiconductor manufacturers
- Track record of accelerated growth and industry leading profitability
- Creating a **leading electronic materials player** with **attractive long-term prospect**



- Leading in advanced materials innovation
- Acquisition to strengthen semiconductor technology offering
- Application specific **materials expertise** with that **perfectly complement** Group's business and technology portfolio



**Bottom-line management to support margin ambition of 30% in the long-term**



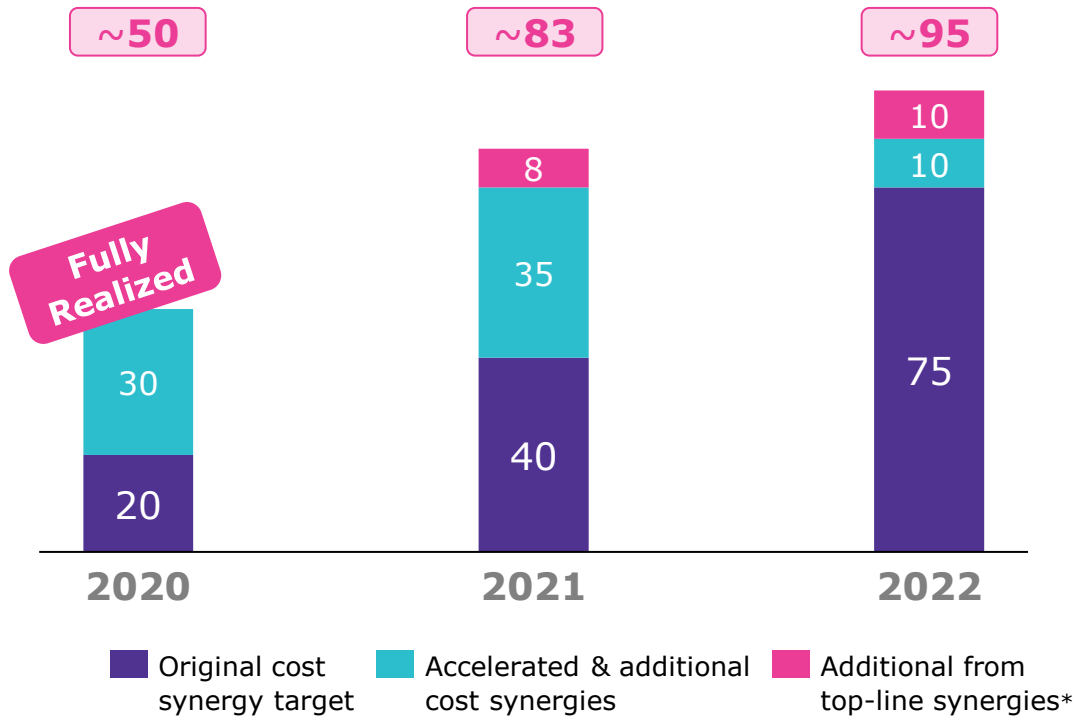
**Both transactions successfully closed**



# Electronics

## Successful integration drives substantial synergy upgrade and acceleration

EBITDA pre impact of synergy ramp-up [€ m]



**Original target for 2022 is now being addressed for 2021**

### Sources of synergies

- business optimization**
  - Transform country setup
  - Streamline duplicate structures
- procurement and supply chain**
  - Optimize production and supply chain network
  - Achieve savings through joint procurement
- corporate and administrative functions**
  - Integrate corporate & administrative functions
  - Cost savings due to U.S. company delistings

\*Top-line synergies from cross-selling, new products introductions and overarching initiatives



# Electronics Q3: 21% growth in Semi continue to drive double-digit organic sales growth

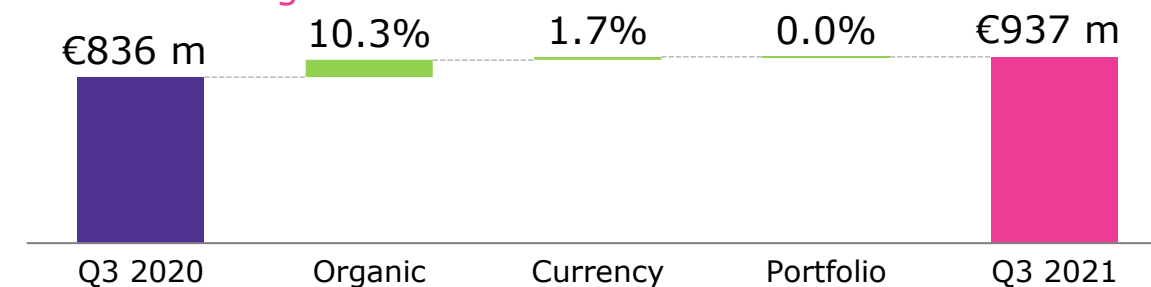
## Electronics P&L

[€m]	IFRS		Pre	
	Q3 2020	Q3 2021	Q3 2020	Q3 2021
Net sales	836	937	836	<b>937</b>
M&S*	-133	-147	-132	<b>-145</b>
Admin	-38	-39	-36	<b>-28</b>
R&D	-65	-72	-65	<b>-72</b>
EBIT	75	125	104	<b>163</b>
EBITDA	227	277	-	<b>-</b>
EBITDA pre	254	<b>297</b>	254	<b>297</b>
(in % of net sales)	30.4%	<b>31.7%</b>	30.4%	<b>31.7%</b>

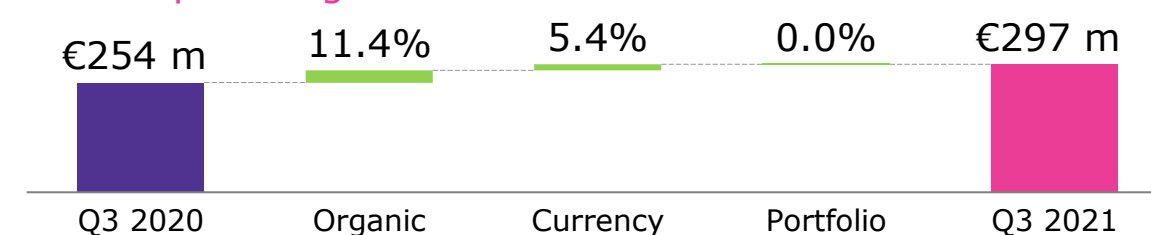
## Comments

- Semiconductor Solutions: another record quarter of absolute sales and organic growth (+21%), driven by materials and DS&S projects
- Display Solutions: down -7% organically, LC decline partly offset by high growth in OLED
- Surface Solutions: growing +10% organically vs. still pandemic-impacted Q3 2020; particularly strong cosmetics business recovery
- M&S flat as percentage of sales, despite higher logistic costs, reflecting diligent cost management amid Bright Future transformation and Versum integration synergies
- R&D flat as percentage of sales, absolute increase virtually fully driven by investments in Semiconductor Solutions
- EBITDA pre (+11% org.) again exceeding sales growth, further supported by +5% FX tailwinds

## Net sales bridge



## EBITDA pre bridge



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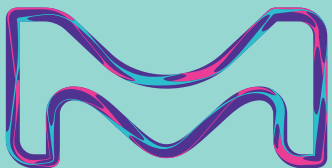


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