Merck KGaA, Darmstadt, Germany

Q4 20 Roadshow

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March 2021

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Agenda

Business overview

01

Group

Three high-tech businesses competing in attractive markets

Healthcare

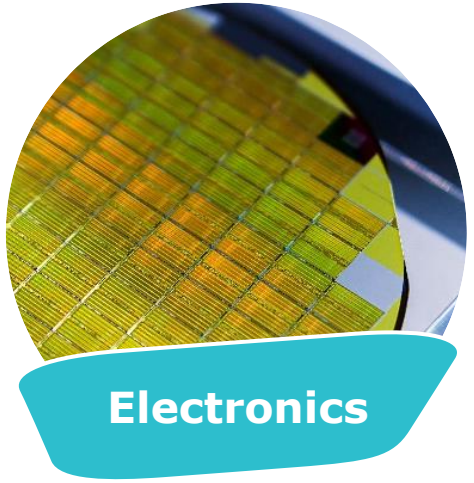
Leading in specialty pharma markets

- Biologics and small-molecule **prescription medicines** against cancer, multiple sclerosis, infertility
- **Research** focus: Oncology, Immunology & Immuno-Oncology
- **Successful portfolio management:** e.g. divestment of Consumer Health and Allergopharma

Life Science

Leading life science company

- Tools and services for **biotech research & production**
- **Tools and laboratory supply** for academic research and industrial testing



Electronics

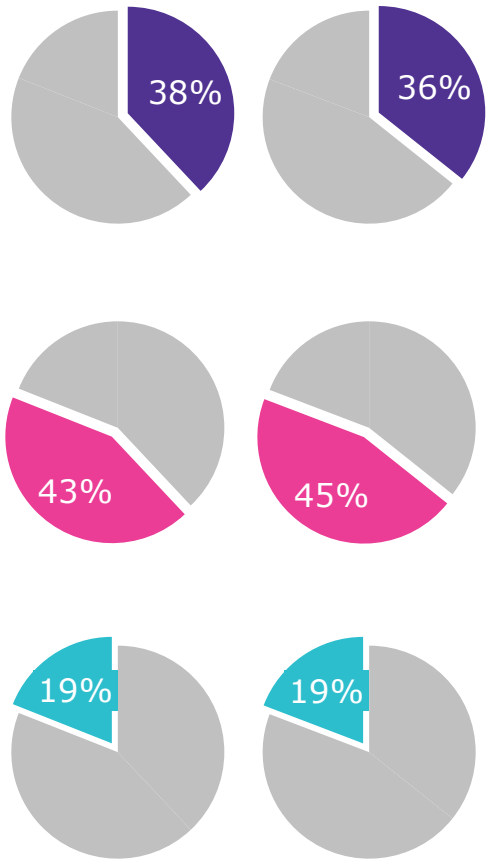
Leading company in high-tech solutions

- High-tech solutions and materials for **electronics**
- BroaMattd portfolio of **decorative and functional solutions**

Group today – three strong pillars as basis for profitable growth

FY 2020 contribution to[1]

	Sales	EBITDA pre
1. Healthcare	38%	36%
2. Life Science	43%	45%
3. Electronics	19%	19%



1. Healthcare

Global specialty innovator poised for above-industry growth

- **Resilient core business** backed by excellent life cycle management
- **Strong growth** from new products, late-stage pipeline assets with blockbuster potential
- **Rigorous cost discipline** and value-maximizing pipeline prioritization

2. Life Science

Diversified industry leader poised for above-market growth

- **Portfolio advantage** and outperformance drive above-market growth
- **Strengthen core**: products (PS), chemistry (RS), lab water (AS)
- **Establish new pillars**: PS services, gene editing and novel modalities

3. Electronics

Leading electronics player poised for accelerating growth

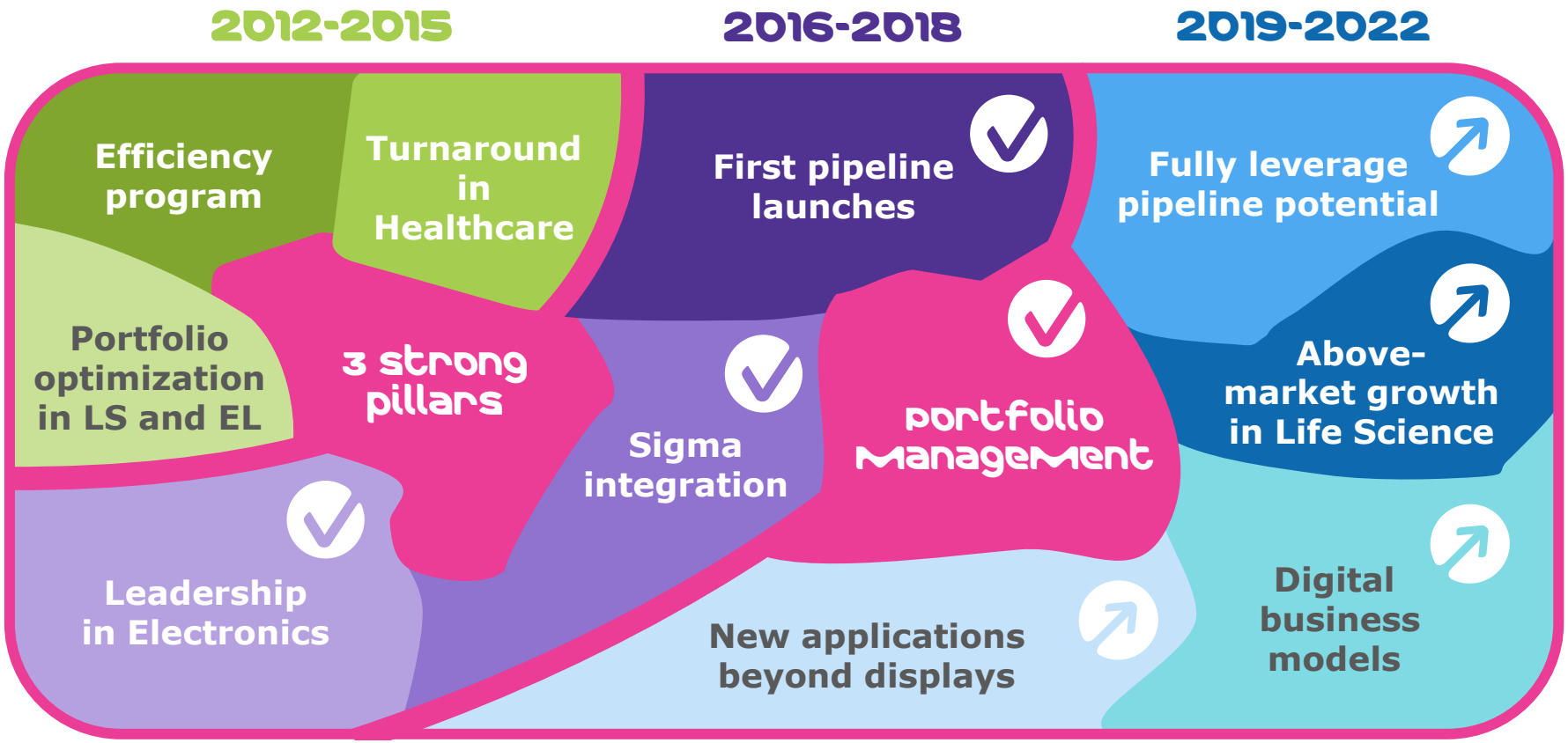
- **Growing semiconductor share** as key driver for acceleration
- **More resilient growth** through rising diversification
- **Strict cost discipline** in maturing parts of the portfolio

[1]EBITDA pre share excluding Corporate & Others; 2020 EBITDA pre restated for €365 m patent litigation provision release

Acronyms: PS = Process Solutions, RS = Research Solutions, AS = Applied Solutions

Group

The 2016 vision – a strategic agenda until 2022

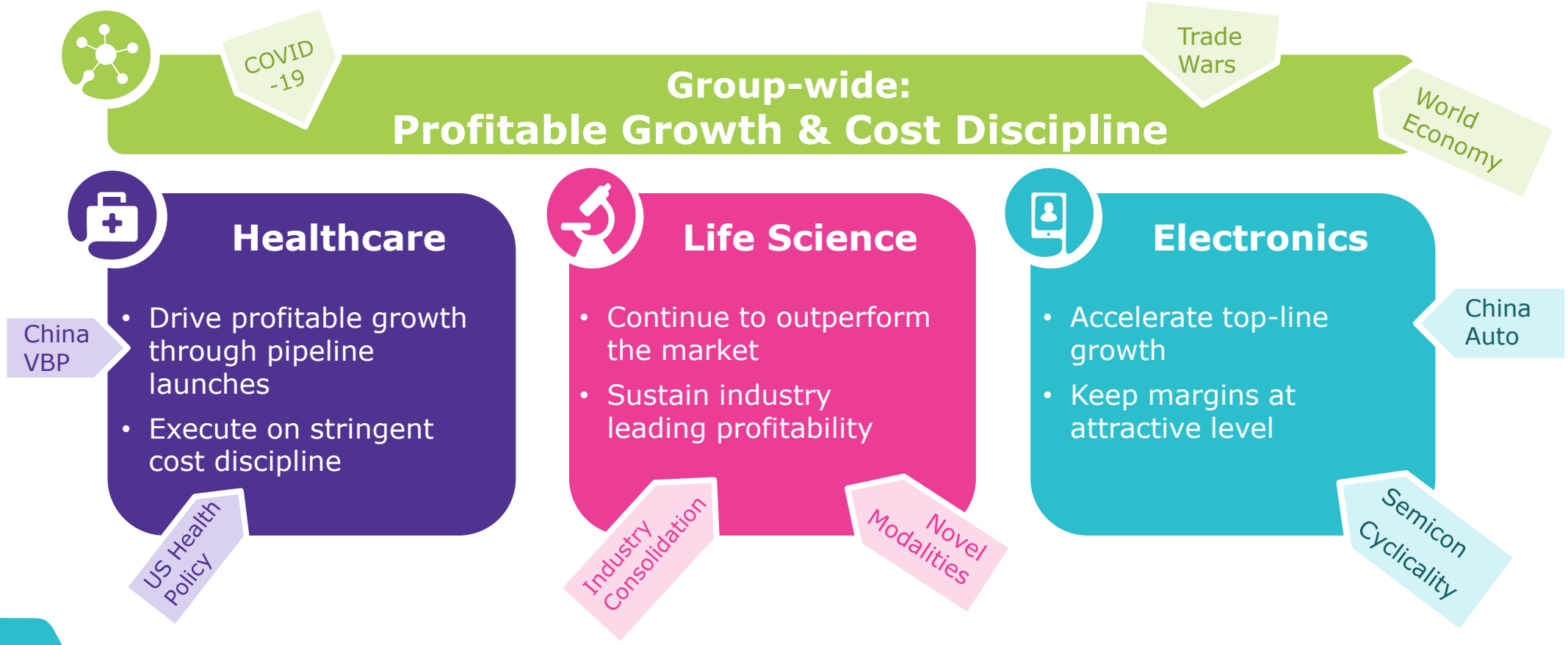


Executing on the growth and expansion phase of the 2016-22 strategic agenda

✓ = delivered; ↗ = well on track

Group

2021 and beyond – poised for growth in a challenging environment



Staying on course in a potentially volatile environment

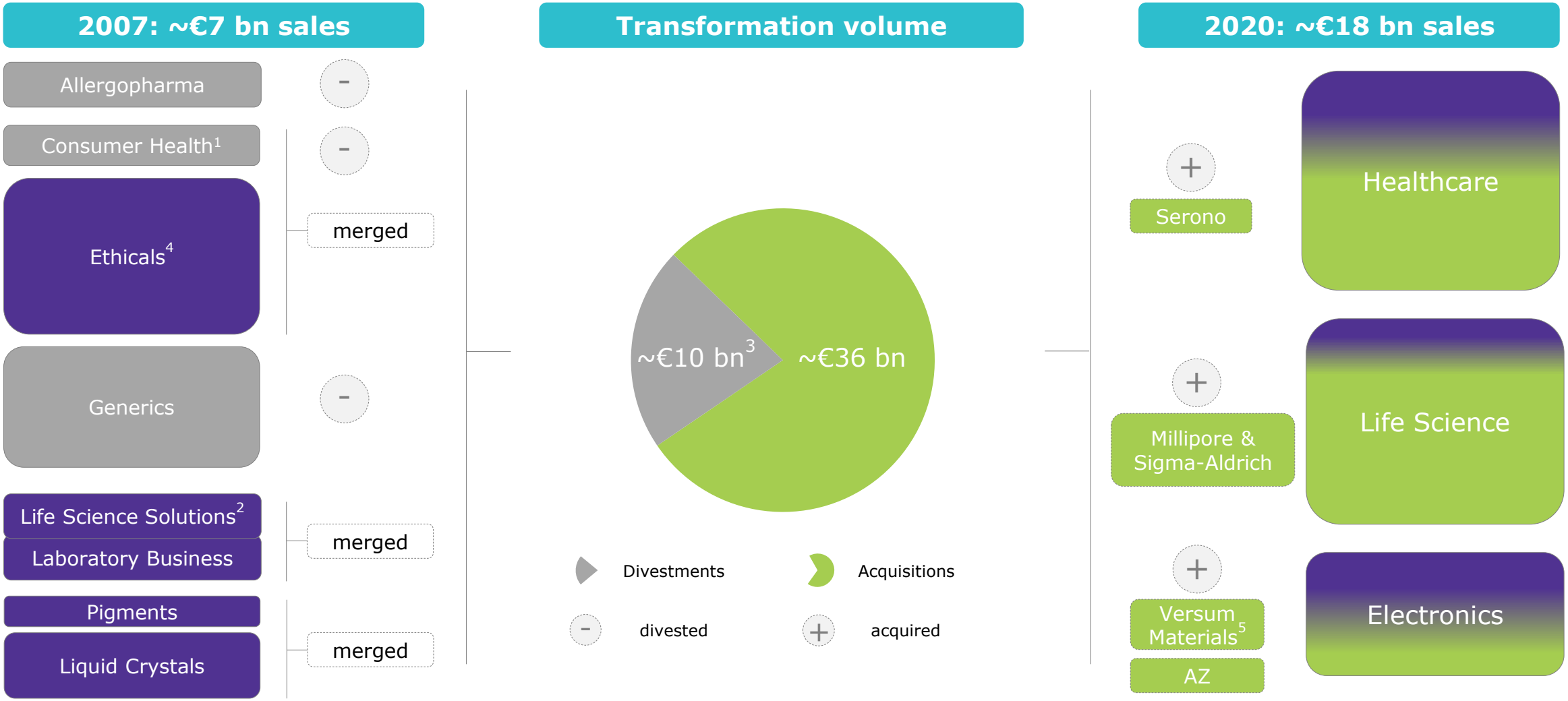
Acronym: VBP = volume based procurement

02

transforming the company

Group

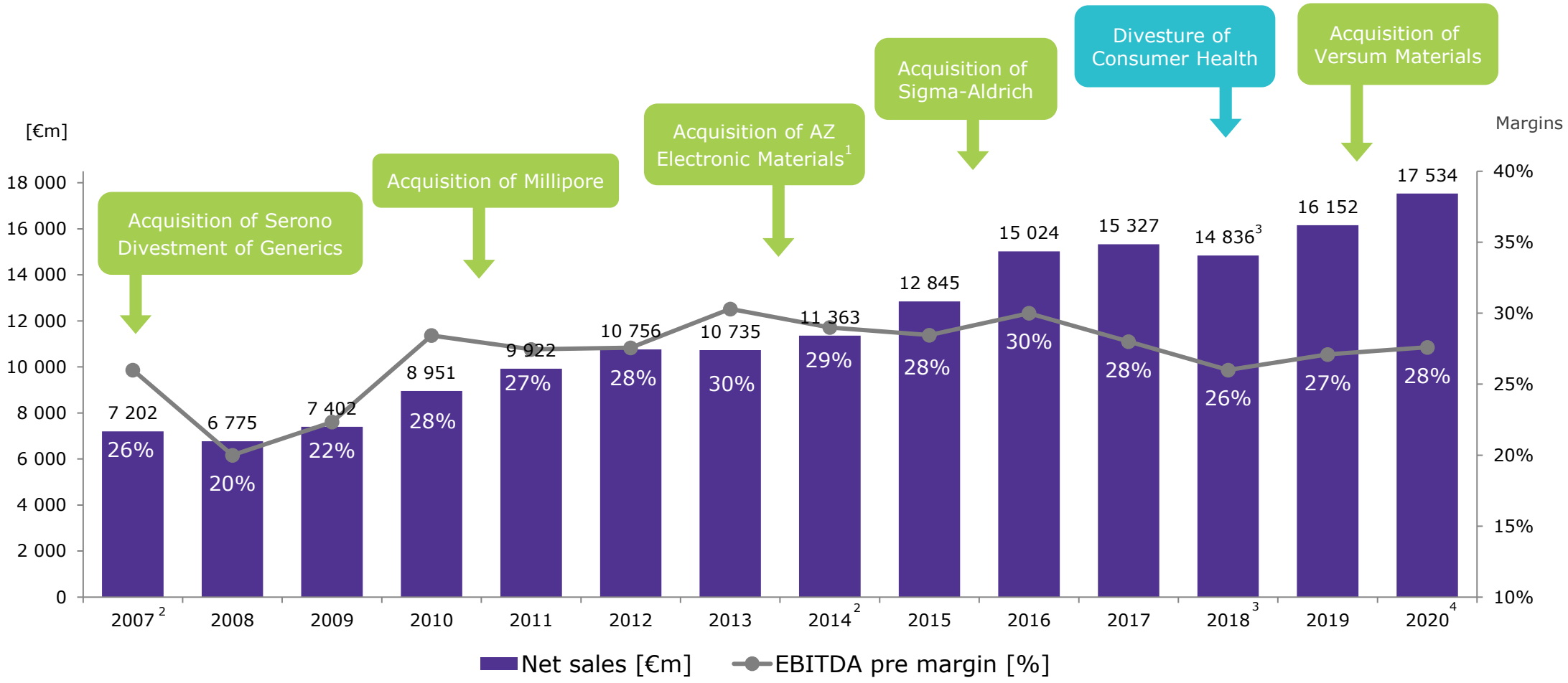
We have added scale and strengthened the attractiveness of our portfolio



[1]Closing of sale of Consumer Health at a cash purchase price of €3.4 bn completed as of December 1, 2018; [2]Excluding "Crop Bioscience", which was divested; [3]Profroma divestment volume includes cash proceeds for Consumer Health; [4]Excluding "Theramex", which was divested; [5]Closing of acquisition of Versum Materials at a purchase price of €5.8 bn completed as of October 7, 2019

Group

Continue to transform to a science and technology focused company



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

Group

All three business sectors delivering on their strategic priorities

Healthcare

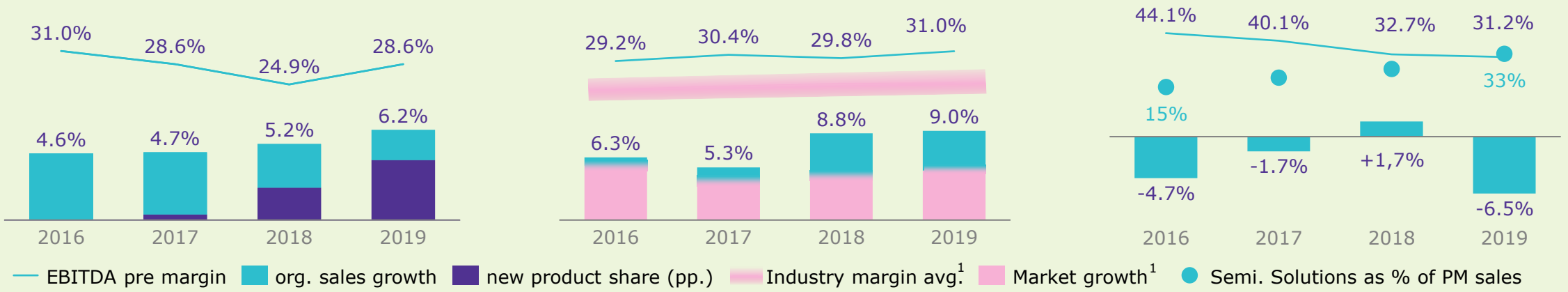
- **Accelerating organic growth** with rising contribution from launches (Mavenclad®, Bavencio®)
- **Margin trough behind, pipeline progressing** well

Life Science

- **Above-market organic growth** paired with **industry-leading margin**
- Significant **growth investments** (organic, inorganic & partnerships)

Electronics

- Significant portfolio change **towards higher growth business** (Semi, OLED)
- **Margin stabilizing** at ~30% amid sound execution of Bright Future

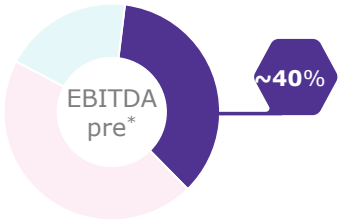


[1] Company estimate based on industry data and reporting by peers

Group

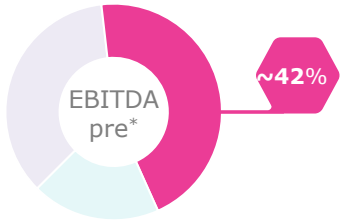
Clear set of priority goals

Healthcare



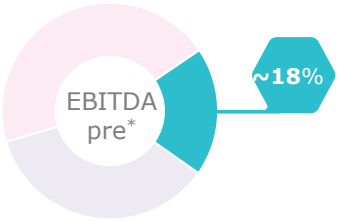
- Deliver on ambition to keep core business at least stable until 2022
- Transition from investment to earnings phase by 2019
- Foster successful Bavencio® and Mavenclad® ramp up
- Stringent pipeline execution

Life science



- Strengthen position as differentiated player in a highly attractive market
- Maintain consistent above-market growth trajectory and superior profitability

Electronics



- Deliver ambition of 3-4% CAGR
- Implement 5-year transformation program and focus on seamless integration of Versum and Intermolecular; to deliver financial ambition of around 30% margin
- Maintain strong cash generation and cash conversion

*based on FY 2020

Group

Three-pillar structure – positioned to win in high-growth markets

Global economy[1]

Global GDP

~3% to 4%

End markets[1]

Global pharma industry
~4% to 5%

Global life science industry
~5% to 6%

Global electronics industry
~4%

Σ ~4% to 5%

Focus market areas[1]

Oncology: ~10%
Immunology: ~5% to 9%

Biologics: ~10% to 12%
Services: ~7% to 8%

Semi materials: ~4% to 6%

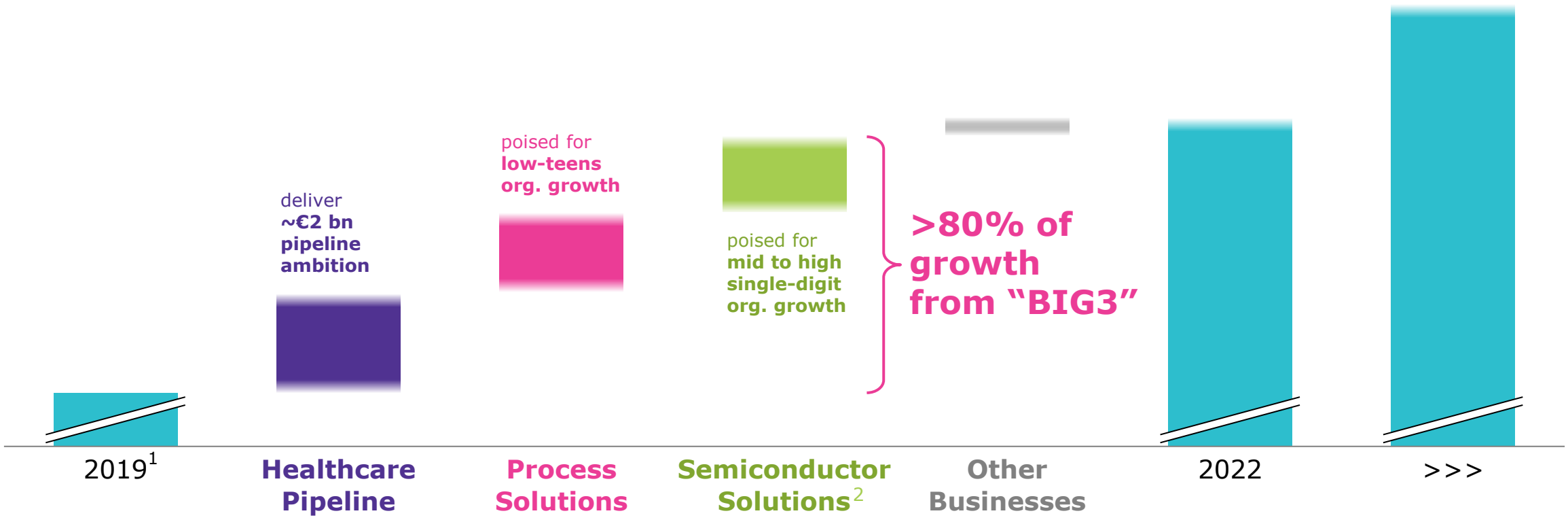
Σ 6%-plus

Purposefully positioned in attractive markets with secular growth above global GDP
…further focusing investments on attractive sub-segments

[1] 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

Three main drivers of growth to 2022 and beyond



Beyond 2022: further significant growth potential from "BIG3" and increasing contributions from other businesses

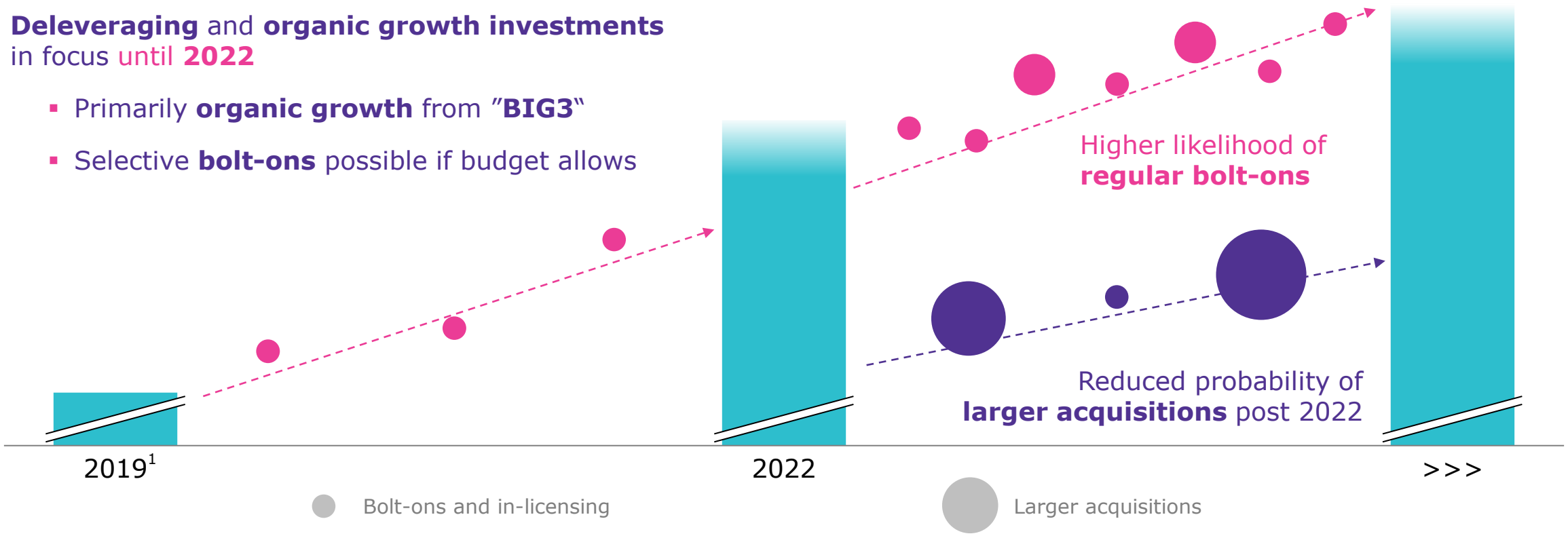
[1] 2019 Group sales of €16.2 bn; [2] Including Versum portfolio effect

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



Strong portfolio: significant organic growth potential to 2022 and beyond
…and higher likelihood of regular bolt-ons post 2022

[1] 2019 Group sales of €16.2 bn

Healthcare

Executing on the earnings phase

03

Healthcare

Creating optionality through focused pipeline approach

Pipeline and launch progress supported by strong base

Pipeline quality

- Early stage pipeline fueled by **in-house innovation**
- Potentially **transformative late-stage pipeline** assets (Evobrutinib, Bintrafusp alfa)
- **Optimized risk profile** through strategic partnerships (Pfizer and GSK), in-licensing (pivotal-stage Xevinapant) & focused externalization

Launch activity

- **Mavenclad®** approved in >80 countries including the U.S.
- **Bavencio®** launched in MCC[1], RCC[2], and UC 1L/2L[3]
- **Tepotinib** first-in-class approval of an oral MET inhibitor[4]

Strong core business due to **excellent life cycle management**

Mid-term outlook
Healthcare

~€2 bn pipeline sales & stable base business **until 2022** + significant **growth potential** beyond

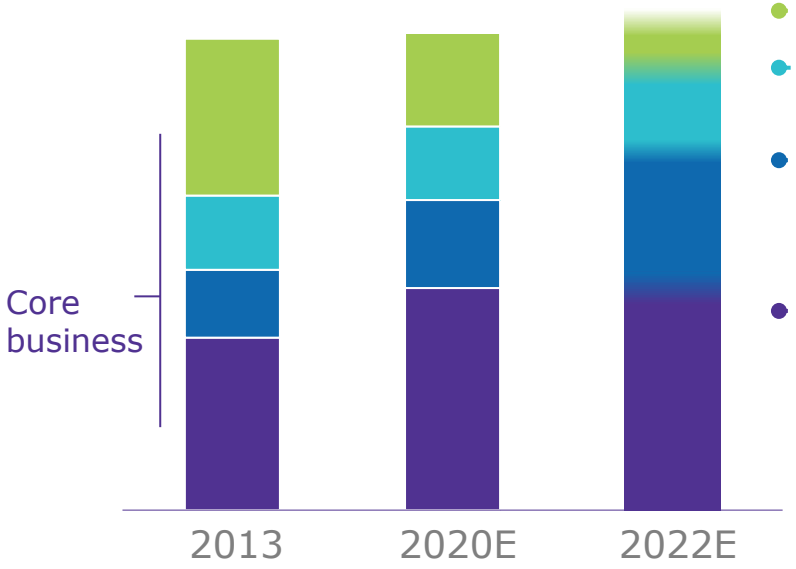
Confirming financial ambition of a **stable base business and ~€2 bn pipeline sales until 2022** with further significant **growth potential beyond**

[1] MCC = Merkel Cell Carcinoma, launched in all major jurisdictions; [2] RCC = Renal Cell Carcinoma, launched in all major jurisdictions; [3] UC = Urothelial Carcinoma, 1L = first line, 2L = second line; [4] approved in Japan and U.S.

Healthcare: Base Business

Confirming ambition to keep base business at least stable to 2022

Healthcare base business net sales until 2022



Rebif®
Decline in line with interferon market

- Maintain solid track record of patient retention
- Integrate into joint franchise with Mavenclad®
- Explore new treatment options (COVID-19)

Erbitux®
Stable to slightly growing

- Drive EM[1] growth and mitigate competitive / price pressure in EU by clear branding
- Continued China NRDL inclusion secured through successful renegotiation in late 2020

Fertility
Recovery as of mid 2020, mid single-digit growth beyond 2021

- Drug demand driven by emerging markets growth and demographics
- Leverage competitive strengths (e.g. broad and innovative portfolio, security of supply)
- Drive recovery after COVID-19

General Medicine[2]
Stable in 2021, mid to high single-digit growth beyond

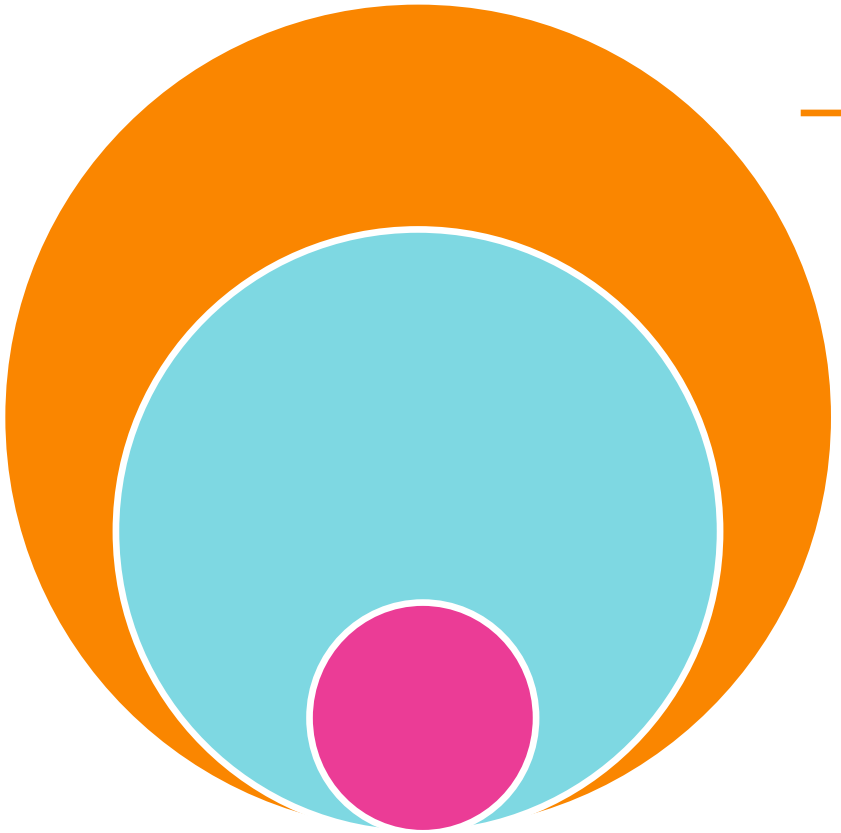
- Increasing prevalence of diabetes and cardiovascular diseases
- Mitigate VBP pressure in China through EM growth, effective life cycle management, and portfolio expansion

Core business with **36 consecutive quarters of growth** (Q2 2011 – Q1 2020)
Growth to **pick up after COVID-19 impact** in Q2 2020, further **growth potential after 2022**

[1] EM: emerging markets; [2] includes General Medicine, CardioMetabolic Care (CMC) and Endocrinology

Healthcare: Sales from Pipeline

Mavenclad and Bavencio launches on track for ~€2 bn pipeline ambition in 2022



MAVENCLAD® (cladribine) tablets 10 mg

- Global peak sales: €1.0–1.4 bn
- Approved in 81 countries, including USA, EU, Canada and Australia
- Recovery from peak COVID impact visible as of June

BAVENCIO® avelumab Injection 20 mg/mL

- Approved for aRCC (USA, EU, Japan), mMCC (50 countries incl. USA and EU), and UC 2L (USA, Canada, Israel)
- Approved for UC 1L in US on June 30, 2020, in EU on January 25, 2021 and in Japan on February 24, 2021
- Phase III read-out remaining: NSCLC 1L (est. primary completion date: April 2021)

TEPMETKO® tepotinib

Tepotinib

- Approved in Japan on March 25, 2020 (Sakigake and ODD granted in 2018 & 2019)
- Approved in US on February 3, 2021 (granted priority review under RTOR)

Bintrafusp alfa

- Multiple potentially registrational studies across various tumor types ongoing
- First data read-outs expected in early 2021

ILLUSTRATIVE - Not to scale;
Acronyms: BTD = Breakthrough Designation; ODD = Orphan Drug Designation; IA = Interim Analysis; RTOR = Real-Time Oncology Review; sBLA = Supplemental Biologics License Application

Mavenclad® launch update: Showing renewed global share momentum, in a dynamic market that remains suppressed

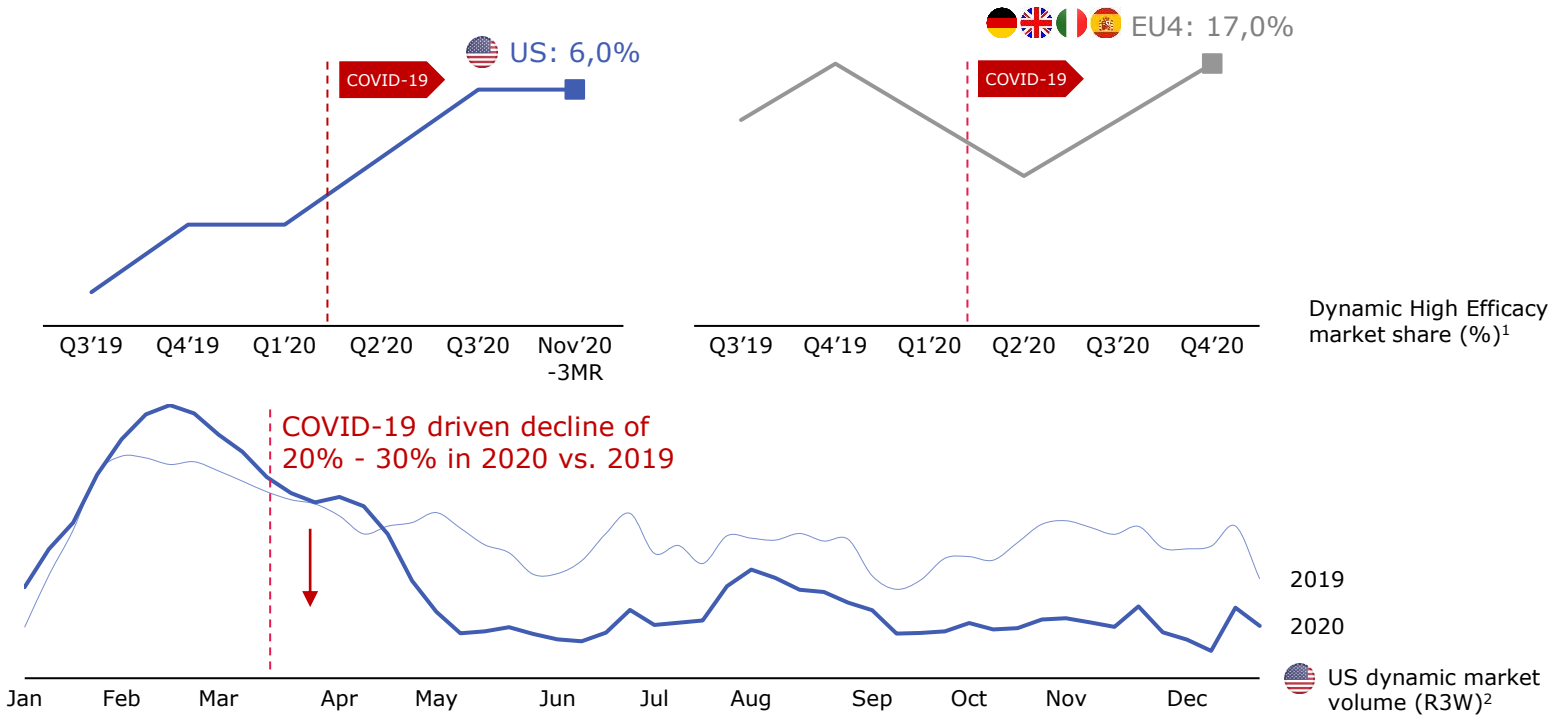
MAVENCLAD® (cladribine) tablets 10 mg

Increasing confidence in safety profile during pandemic

Market share gains both in US and ex-US

Suppressed dynamic market across globe, mirroring fluctuations in country mobility

- **Real world data presented at 2020 ACTRIMS-ECTRIMS** reaffirmed confidence in safety profile, demonstrating that Mavenclad patients with COVID-19 are not at an increased risk of severe outcomes
- **New data presented at ACTRIMS Forum 2021** show Mavenclad-treated patients mount protective antibody response to common vaccines (seasonal influenza and varicella zoster)



1 Non-weighted average used for EU4 as dynamic market sizes/volume not available for all markets, German data only available until Oct'20 and included in Q4'20 average; 2: IQVIA Projected Dynamic National Claims weekly data through 12/31/2020; Acronyms: 3MR = 3 Months Rolling, R3W = Rolling 3 Weeks

Bavencio® UC 1L launch update: Continued inflection in the U.S, recent EU and Japan approvals expected to further accelerate growth

Strong US launch performance:

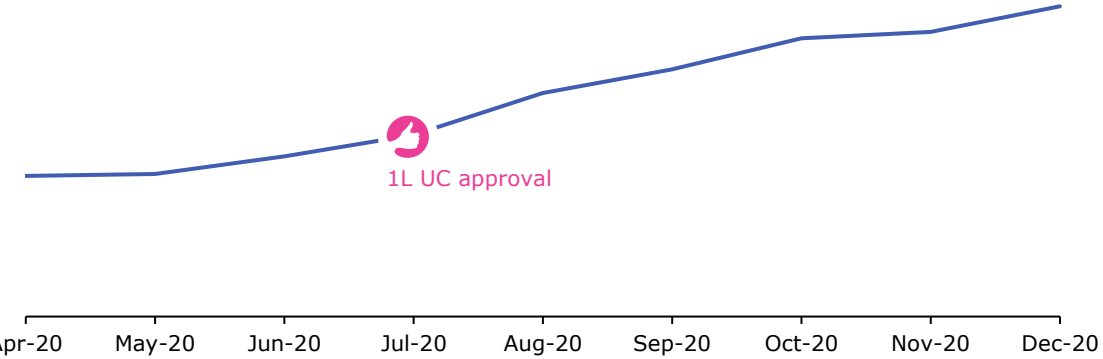
- Increasing breadth & depth of accounts/ prescriber base
- Leading share of voice amongst all IOs indicated across bladder cancer

Recent EMA and Japan approvals:

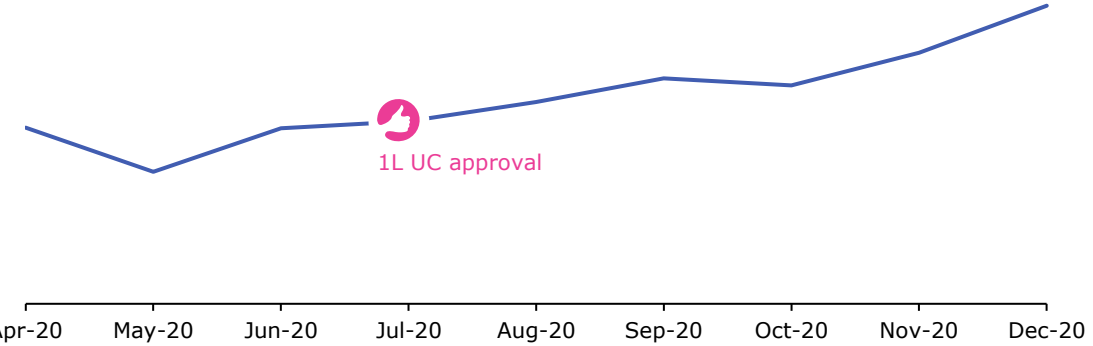
- Received on January 22, 2021 and February 24, 2021 respectively
- Strong base of platinum chemo treatment providing opportunity for Bavencio regimen

- **Significance of transformative OS advantage :**
  - Validated by positive reception in community
  - Bavencio® on track to change standard of care within the indicated segment

Increasing breadth: Number of accounts ordering Bavencio®[1]



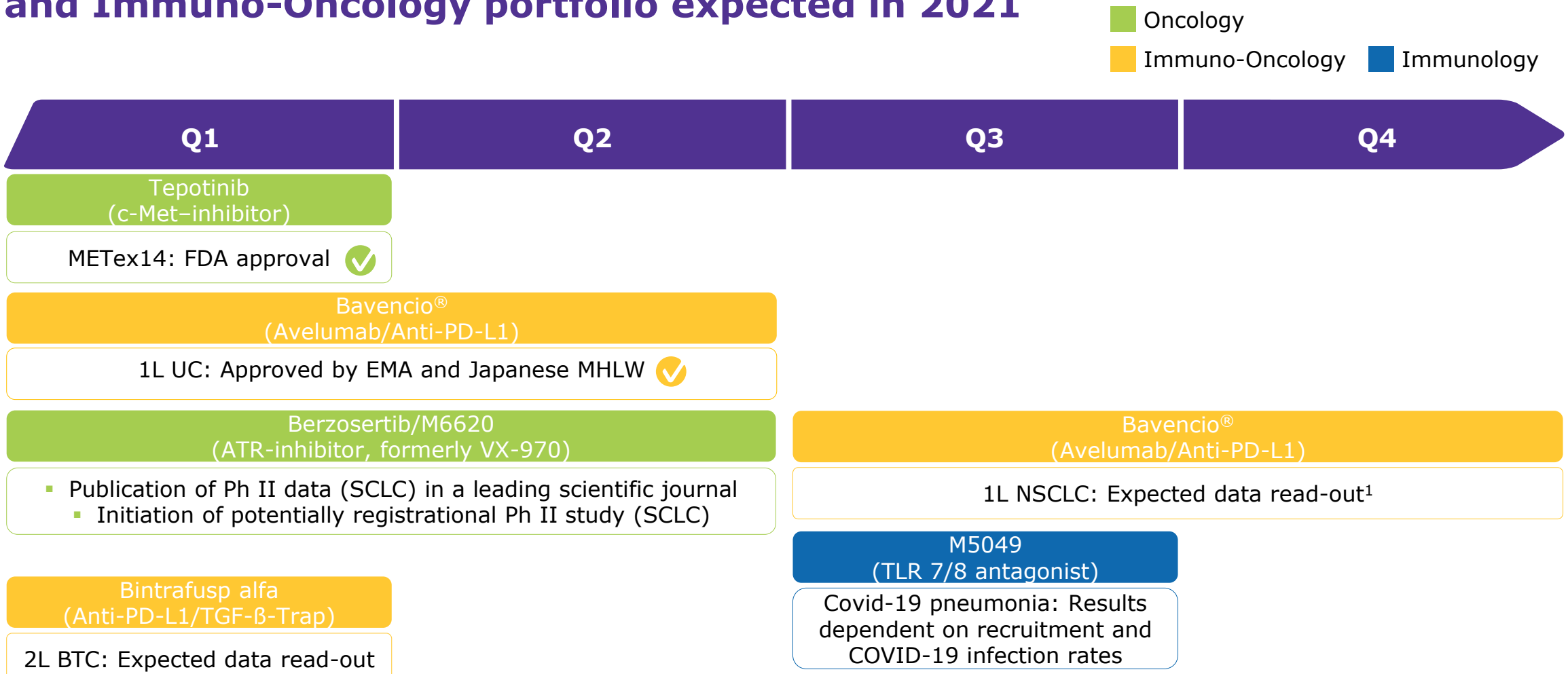
Increasing depth: Number of Bavencio® vials ordered per account[1]



1: Source: Bavencio shipment data; Acronyms: IO = immuno-oncology, UC = urothelial carcinoma

From: Q4 2020 earnings call – 2021.03.04

Healthcare catalysts – Significant developmental progress across Oncology and Immuno-Oncology portfolio expected in 2021



Acronyms: BTC = Biliary Tract Cancer, EMA = European Medicines Agency, FDA = U.S. Food and Drug Administration, MHLW = Ministry of Health, Labour and Welfare, NSCLC = Non-Small Cell Lung Cancer, SCLC = Small Cell Lung Cancer, TLR = Toll-like receptor, UC = Urothelial Cancer; [1] clinical timelines are event-driven and may be subject to change

Life science

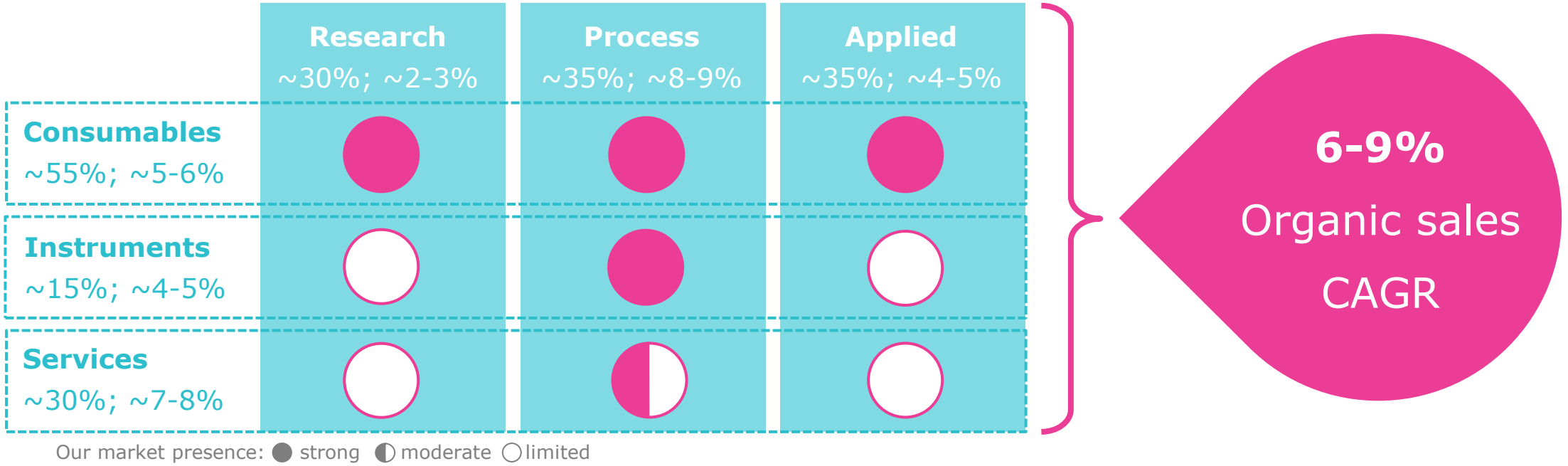
Focusing on profitable growth

04

Life Science

Building growth momentum with focus on attractive market segments

Total Life Science Market[1]
~€170-180 bn; ~5-6% CAGR



Mid-term outlook
Life Science Business Sector

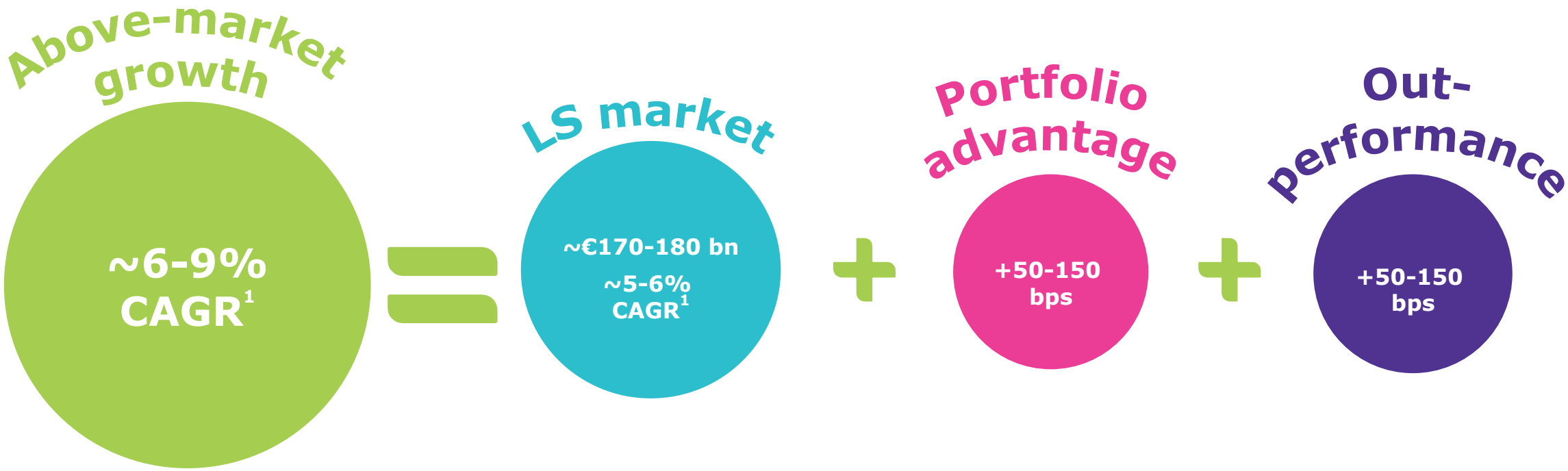
6-9%
Organic sales CAGR

Upgrading mid-term financial ambition **to 6-9% organic sales CAGR**

[1] Company estimate of the market segments, based on industry forecast over 5-year horizon; all growth rates in 3x3 Matrix indicate external market growth

Life Science

Improved mid-term outlook driven by market and portfolio focus

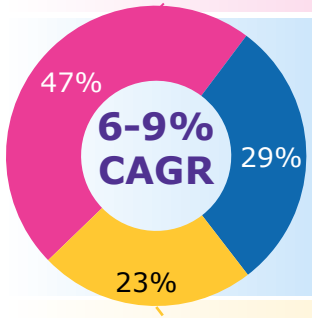


- **Market outlook improving** further, mainly due to **Process** segment
- **Above-market growth set to continue** due to **portfolio advantage** and **outperformance**

[1] Company estimate based on industry forecast over 5-year horizon

All business units contributing to above-market growth

Sales split[1]



Mid-term outlook[2]

Process Solutions

Low-teens growth

vs. market of 8-9%

Research Solutions

Low single-digit growth

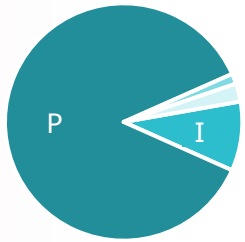
vs. market of 2-3%

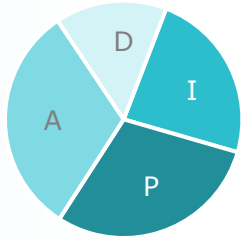
Applied Solutions

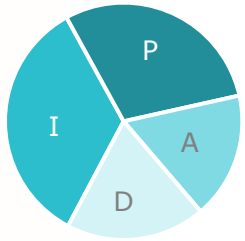
Mid single-digit growth

vs. market of 4-5%

Customer Split[3]







Fundamental growth drivers

- **Biologics:** global mAbs[4] production growing by ~11-15% p.a. for 2020-2024[5] driven by new molecules and biosimilars
- **Diversification:** contribution by top 10 molecules will decline to ~30% until 2024 from ~50% in 2020[6]
- **Novel modalities:** cell & gene therapy market with >30% CAGR 2020-2024[5], complex delivery drives demand for services and viral vectors

- **Research activity:** >9,000 pre-clinical projects in research pipelines[7]; rising number of experiments backs healthy growth in biotechs/CROs[8]
- **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

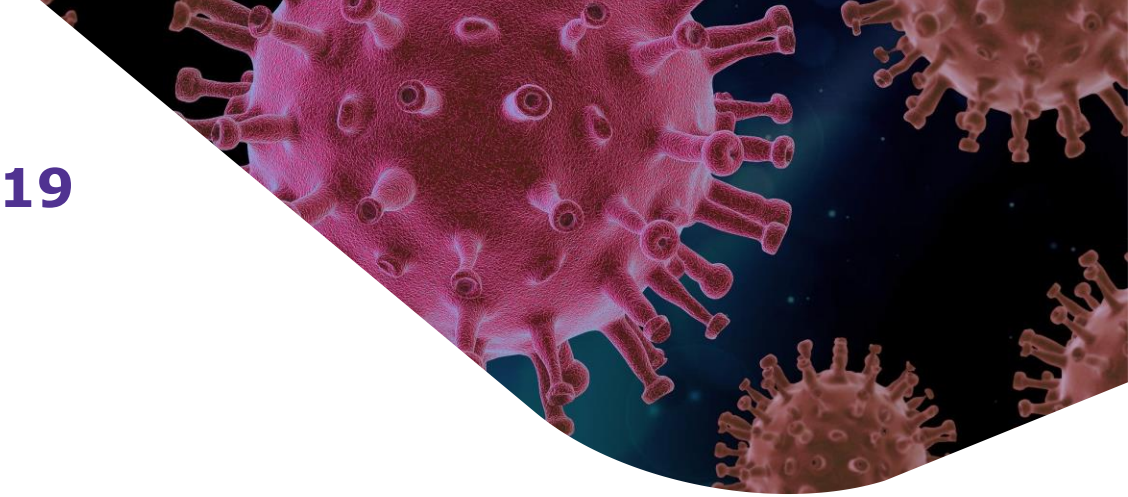
- **Regulation:** rise in quality standards and increasing demand for testing across customer segments
- **Population and economic growth:** demand for access to more sophisticated products and services rises, e.g. in emerging markets
- **Speed:** need for fast testing results raises requirements for Applied customers, esp. in clinical testing and food & beverage testing

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

[1] Based on H1 2020, CAGR is organic mid-term ambition; [2] growth rates are organic CAGRs; [3] indicative only; [4] mAbs = monoclonal antibodies; [5] Source: company estimate based on industry forecasts; [6] Source: EvaluatePharma; [7] Source: statista; [8] CRO = Contract Research Organization

Life Science

Critical offering in the fight against COVID-19



PRODUCTS feed into...

www.sigmaaldrich.com/covid-19

VIRUS DETECTION

- **Leading critical component provider for Molecular and Serological diagnostic kits**
- **PCR reagents, kits and tools for all stages of assay development**

VIRUS CHARACTERIZATION

- **Offering is among largest biologic reagents and hardware portfolios**
- **Effective vaccines and therapies start with reliable virus characterization**
- **Highest quality reagents needed for understanding of viral attachment, genomics, or proteomics**

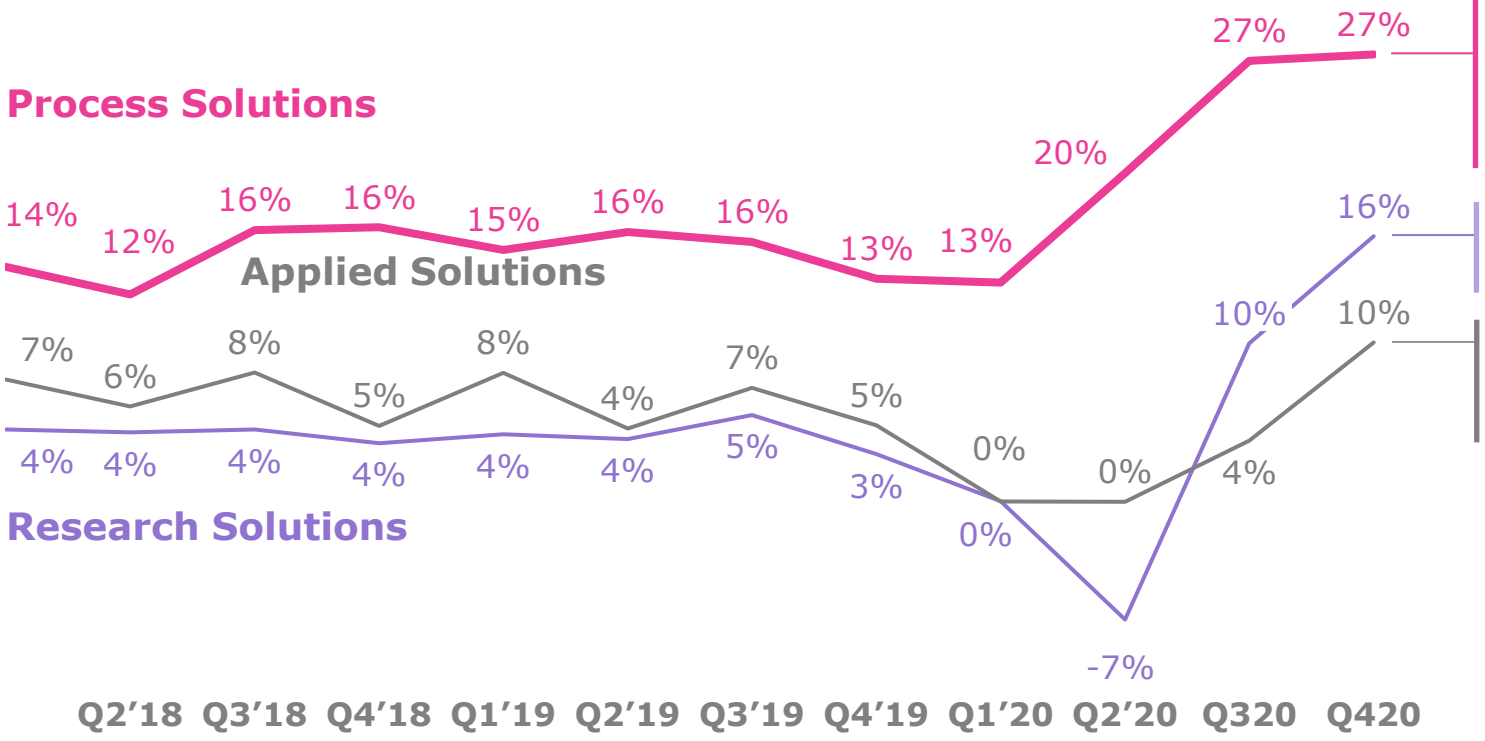
VACCINE & THERAPY PRODUCTION

- **Supporting global COVID-19 vaccine and therapy response effort:**
  - **Upstream and downstream research and scaling**
  - **End-to-End solutions**
  - **Biosafety Testing Services**

From: Q4 2020 earnings call – 2021.03.04

Life Science: Significant upside potential for Process Solutions; neutral to slightly positive picture in Research and Applied

Organic growth versus LY by Quarter



- **Strong tailwinds** in Process Solutions
- **Order intake growth** accelerating to **>60%**
- **Sustainable increase** in underlying demand
- **Capacity expansions** on track

- **Further Catch-up** effects in Q4
- **Additional COVID-19** demand in Q4

- Ongoing **recovery in Q4**
- **Minor additional COVID-19** demand

Outlook: **Life Science expected to see further upsides from additional COVID-19 demand**

Electronics

Leveraging the portfolio shift

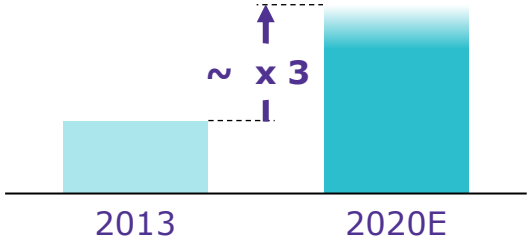
05

Electronics

Portfolio shift leads to greater resilience and accelerated growth

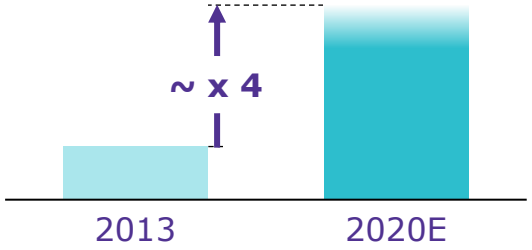
of customers

[that make up 80% of Sales]



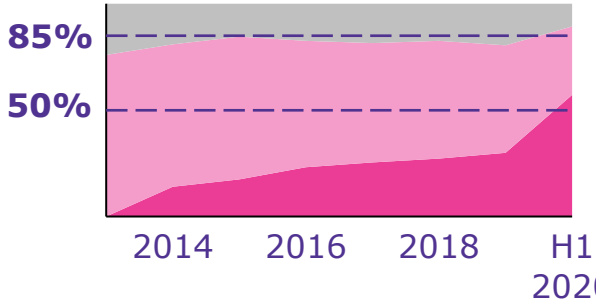
of product groups

[that make up 80% of Sales]



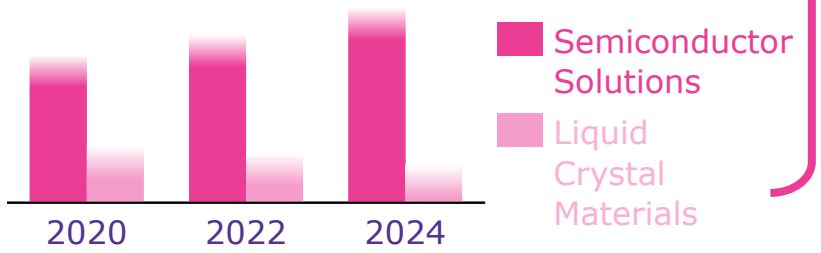
Electronics sales split

[% of total]



Semi vs. Liquid Crystals

[illustrative anticipated sales development]



Mid-term outlook

Electronics

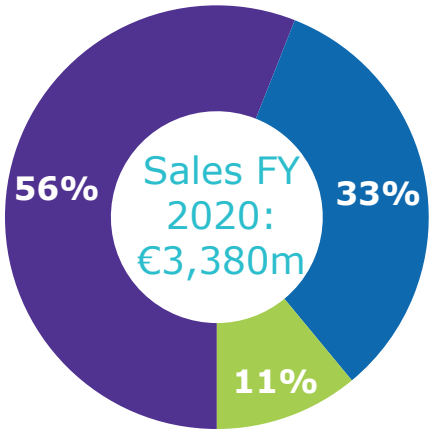
3-4%

organic sales

CAGR

Updating mid-term financial ambition **to 3-4% organic sales CAGR**

Electronics portfolio refocus drives mid-term guidance upgrade: 3 to 4% CAGR overall



Mid term outlook

semiconductor solutions

Mid- to high single-digit growth

- 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**
- 4 to 6% market growth[1]
- 200 to 300bps above-market growth from share gains & better portfolio (incl. 100 to 150bps additional growth from integration top-line synergies)

display solutions

Low single-digit decline

- Driven by trend to **bigger TV size, higher resolutions, more mobile devices**
- 3 to 4% growth of total LCD m² area[2], while price pressure continues
- 18 to 22% growth of total OLED m² area[2] with slight to moderate market share gains
- OLED material market to exceed LC material market by 2022[3]

surface solutions

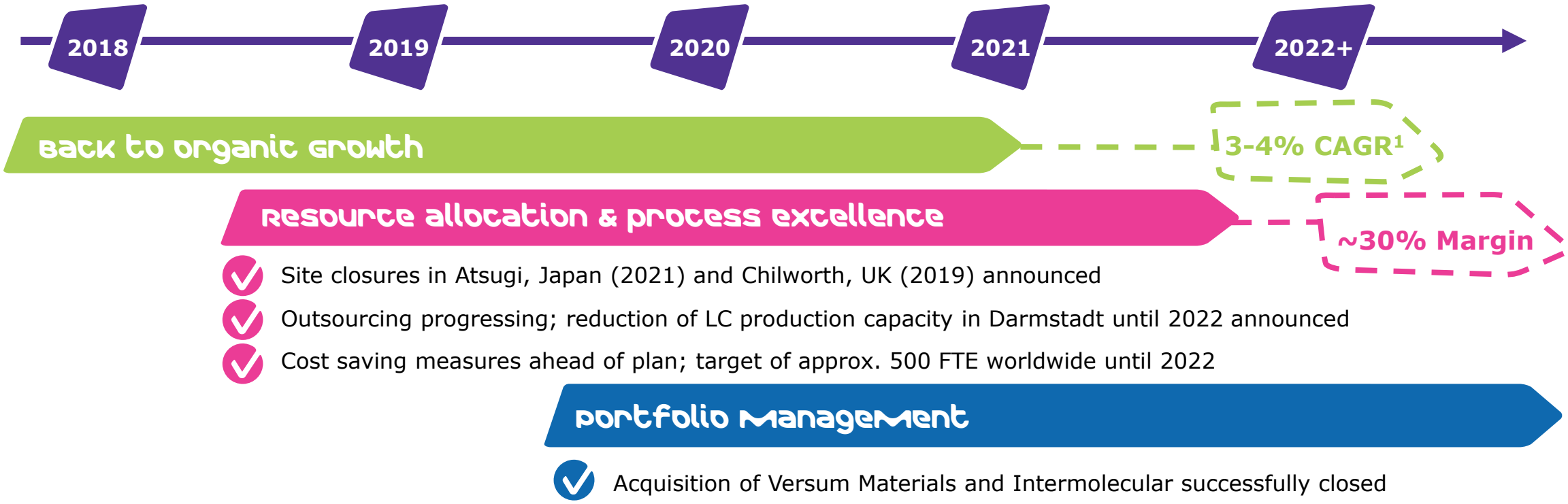
Low single-digit growth

- Well balanced exposure to **automotive** and **cosmetics** end market
- Drivers: rising living standards, higher disposable income in growing markets and increasing 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[4]

[1]Source: Jan 2020 IC Insights 2018-2024 CAGR for wafer starts in million units; [2] Source: Omdia Display Market Outlook, Q1 2020; [3]Internal Business Intelligence; [4] Sources: LMC Automotive Light Vehicles Forecast, Aug 2020 & Euromonitor BPC (Beauty & Personal Care) Aug 2020

Electronics

5-year transformation program Bright Future is well on track



[1]New mid-term CAGR guidance starting 2020

Electronics

Strategic roadmap materializing

Measures for a bright future

Darmstadt

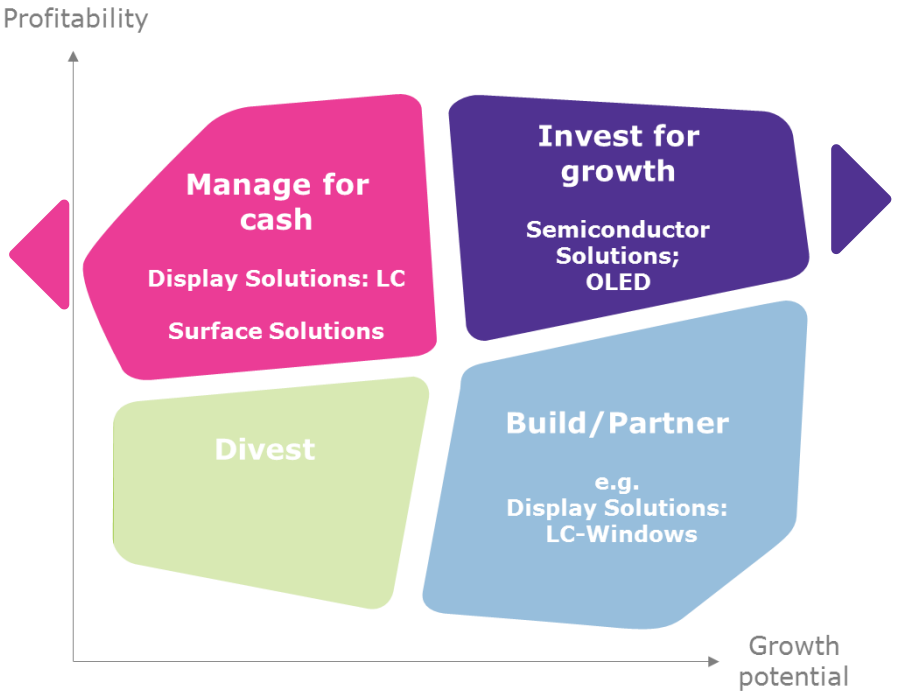
- In Darmstadt focus on R&D and production
- Immediate bottom line contribution from 2019 onwards
- Reduce the number of FTEs by ~15% = ~400 FTEs

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



VERSUM MATERIALS

- 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**

INTERMOLECULAR®

- Leading in advanced materials innovation
- Acquisition to strengthen semiconductor technology offering

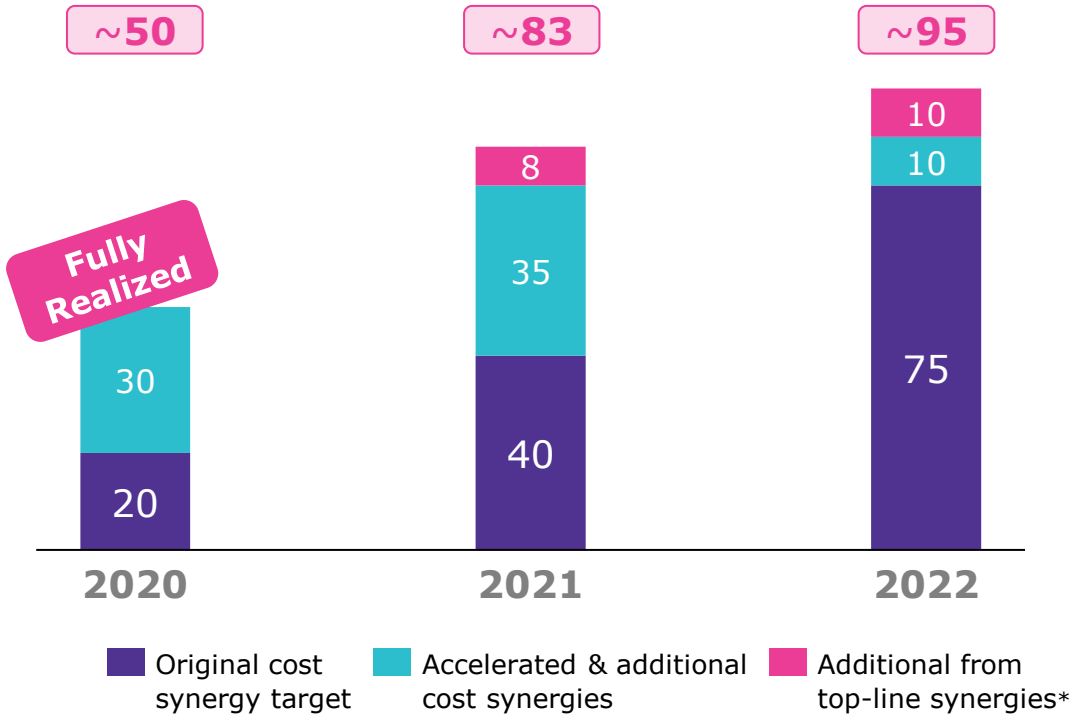
➢ Application specific **materials expertise with** that **perfectly complement** Group's business and technology portfolio

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

Both transactions successfully closed

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

sustainability

07

Sustainability strategy enhanced, leveraging strengths with clear commitment to new targets

Who we are

Innovation Power

- We are a leading science and technology company with curious minds dedicated to human progress
- Long track-record in offering innovative products in attractive markets and serving important megatrends

Pioneering Products

- Well-equipped for developing new product classes: Portfolio of life-improving products in all businesses
- Enabling customers incl. scientists and developers to design next-gen products

Responsible Governance

- Resilient operations; sustainable leadership and risk-mitigation approach
- Responsibility is in our DNA: reflected by legal form, corporate governance and long history of more than 350 years

Targets

Goal #1: **Dedicated to human progress**

In 2030, we will advance human progress for more than 1 bn people through sustainable science & technology.

- Sustainable innovations and technology for our customers
- Impact of our technologies and products on health and well-being

Goal #2: **Creating sustainable value chains**

By 2030, we will integrate sustainability into all our value chains.

- Sustainability culture & values
- Sustainable and transparent supply chain
- Securing our social license to operate in all regions

Goal #3: **Reducing our ecological footprint**

By 2040, we will achieve climate neutrality and reduce our resource consumption.

- Climate change & emissions
- Water & resource intensity

Integration

Integrated

- Part of the overall strategy
- Linked to steering and operations
- Currently built into part of Executive Board compensation system

Steered & Reviewed

- Executive Board
- Supervisory Board
- Corporate Sustainability Committee

Communicated

- Development and reporting of meaningful KPIs
- Annual Report, Sustainability Report
- Investor events

ESG: Environmental, Social, Governance

Potential to increase sustainable value for business and society

High-impact SDGs	Where we can contribute	Goal
 Good Health and Well-being	➢ We are able to contribute with dedicated products, know-how, partnerships and initiatives in pharma, science and technology.	1, 3
 Decent Work and Economic Growth	➢ Our ambition of future growth considers health and safety of employees also in the supply chain.	1, 2
 Industry, Innovation and Infrastructure	➢ Our innovation power will lead to more sustainable products and processes in various industries.	1, 2
 Responsible Consumption and Production	➢ Being a responsible supplier, we will also challenge suppliers to support in reaching company targets.	2, 3
 Partnerships for the Goals	➢ To unleash even more power, we foster collaborations with capable partners to sum up know-how for more sustainable impact.	1, 3

Business opportunities

- Develop a new range of sustainable products & services, benefiting from our innovation power
- Open up additional customer groups and expand regional reach

Risk management

- Reduce risks through higher awareness and longer-term view
- Secure supply chain resilience

Partnerships

- Contribute as supplier of choice to customers' ESG strategy
- Improve ESG impact of our suppliers
- Increase depth, meaning, and strategic focus of partnerships

Operations

- Increase attractiveness as employer
- Reduce costs of capital
- Benefit from grants and reliefs (politics, insurance, etc.)
- Incentivize through integrated compensation schemes

SDGs: Sustainable Development Goals of the United Nations ESG: Environmental, Social, Governance

Reduce our environmental footprint: Environmental targets 2020 have been achieved, new targets set

Achievements 2020

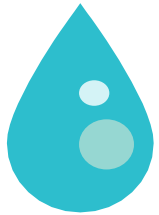
Reduce scope 1+2 emissions

2020 target[1]: -20%	2020 result[1]: -25%

Emissions target 2020 achieved!

- ✓ 25% overall reduction for Scope 1 and 2 emissions in 2020 relative to 2006 (planned: 20%)

Reduce water in stressed areas



2020 target[2]: -10%	2020 result[2]: -27%

Water target 2020 achieved!

- ✓ Water use in stressed areas reduced by 27% in 2020 vs. 2014 (planned: 10%)
- ✓ By 2020, all production sites[4] successfully implemented sustainable water management system

Reduce Group Waste Score

2025 target[3]: -5%	2020 result[3]: -4.6%

Waste target ongoing & on track!

- ✓ Based on Group Waste Score, reduced environmental impact by 4.6% vs. 2016 (planned: 5% by 2025)

[1]versus 2006 baseline, excluding Versum Materials
[2]versus 2014 baseline
[3]versus 2016 baseline
[4]Sites > 70.000 m³/a

New targets from 2021

- Aiming for **climate neutrality** (scope 1 to 3 emissions) **by 2040**
- **Lower scope 1 and 2 GHG[5] emissions by 50%** and to source 80% of purchased electricity from renewable sources until 2030 vs. 2020 baseline
- **Absolute reduction of 1,500 kt[6] scope 3** CO_2 equivalents by 2030

- 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

[5]GHG = Greenhouse Gas
[6]corresponds to ~30% of 2019 scope 3 emissions (current estimation incl. Versum Materials)

Next steps towards achieving ESG targets

AGENDA 2020-2022

- Analysis of requirements: Strategy, business, regulation, stakeholders
- Develop SBV tool[2] to measure product sustainability value
- Link ESG[1] to board compensation
- Build effective data platform for internal steering
- Develop ESG KPIs for reporting
- Further incorporate ESG in R&D, controlling, M&A and supply chain
- Decide on dedicated investments and initiatives to achieve targets

2030 targets

- goal 01 — Dedicated to human progress
- goal 02 — Creating sustainable value chains
- goal 03 — Reducing our ecological footprint

[1]ESG: Environmental, Social, Governance

[2]Sustainable Business Value: Dive in deeper and read the research article on the SBV method

From: Q4 2020 earnings call – 2021.03.04

06

guidance and executive summary

Underlying COVID-19 assumptions for 2021 guidance

Group

- **Increasing penetration of vaccination** across large populations **in all major regions** as of summer
- **Global gradual easing of lockdowns;** virus mutations **not to significantly invalidate vaccination efforts**
- **Overall improvement in the course of 2021; however, higher degree of forecast uncertainty**

Healthcare assumptions

- **Confirm ~ stable (org.) base business and pipeline sales target,** despite higher uncertainty
- Pandemic **impact on ramp-ups** (particularly in suppressed MS high efficacy market) expected to ease significantly, but **remains a watch out**
- **Fertility** expected to **continue recovery**

Life Science assumptions

- **Continued additional demand in Process Solutions**
- **Research and Applied Solutions** more volatile and differentiated across customer and product segments, but **overall neutral to positive**

Electronics assumptions

- **Neutral to positive impact on Semiconductor Solutions** end markets
- **Display and Surface Solutions** to **return to underlying trajectories**

From: Q4 2020 earnings call – 2021.03.04

Group

Qualitative full-year 2021 guidance

Net sales:

Strong organic growth
Adverse FX of -2% to -5% YoY

EBITDA pre:

Organic: high single-digit to low teens growth (excl. Biogen[1])
Adverse FX of -2% to -5% YoY

[1] Q3 20 Reversal of the provisions for the patent dispute proceedings for Rebif in the amount of ~€365m; Guidance incl. Biogen: slight to moderate organic growth

From: Q4 2020 earnings call – 2021.03.04

Executive Summary

steady earnings growth with high margins and a low risk profile

Group

Successfully driving **transformation into a leading science and technology company**

setup

Three-pillar structure strengthened further as a resilient basis; COVID-19 crisis as another proof point

Growth Engines

Healthcare pipeline, Process Solutions and Semiconductor Solutions will be key drivers of growth to 2022 and beyond

Execution

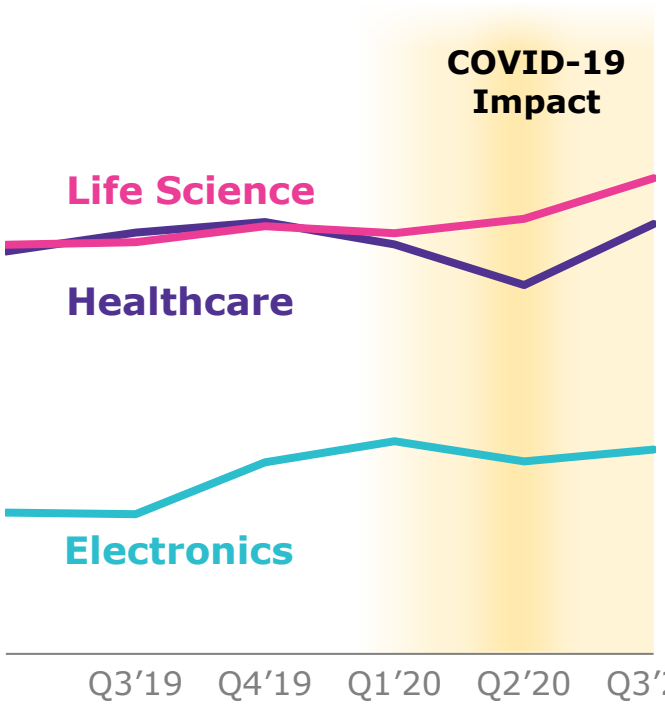
Delivery on strategic priorities ensures profitable growth; regaining financial flexibility with higher likelihood of regular bolt-ons post 2022

appendix

Group

Successful crisis management increasingly mitigates pandemic impact

Quarterly Net Sales in €m*



Underlying developments

- **Life Science well positioned** for new COVID-19 driven demand trends
- **Process business** rapidly addressing new market needs, **fueling net upside**
- Research and Applied **driving recovery in Q3**

- **Fertility: well managed return** to pre COVID-19 levels - not yet all regions
- **Strong Mavenclad® recovery** being driven since June
- **Bavencio® UC launch** progressing very well on a largely virtual launch
- **General Medicine** on track with good volume development

- Managing visible **recovery in Q3,** but not yet growing organically
- **Semiconductors Solutions' strength** within strong market
- Net downside from COVID-19 **in Display and Surface**

* At fixed 2019 FX rates

Guidance upgrade proof point of **excellent crisis management** and **strong business performance**

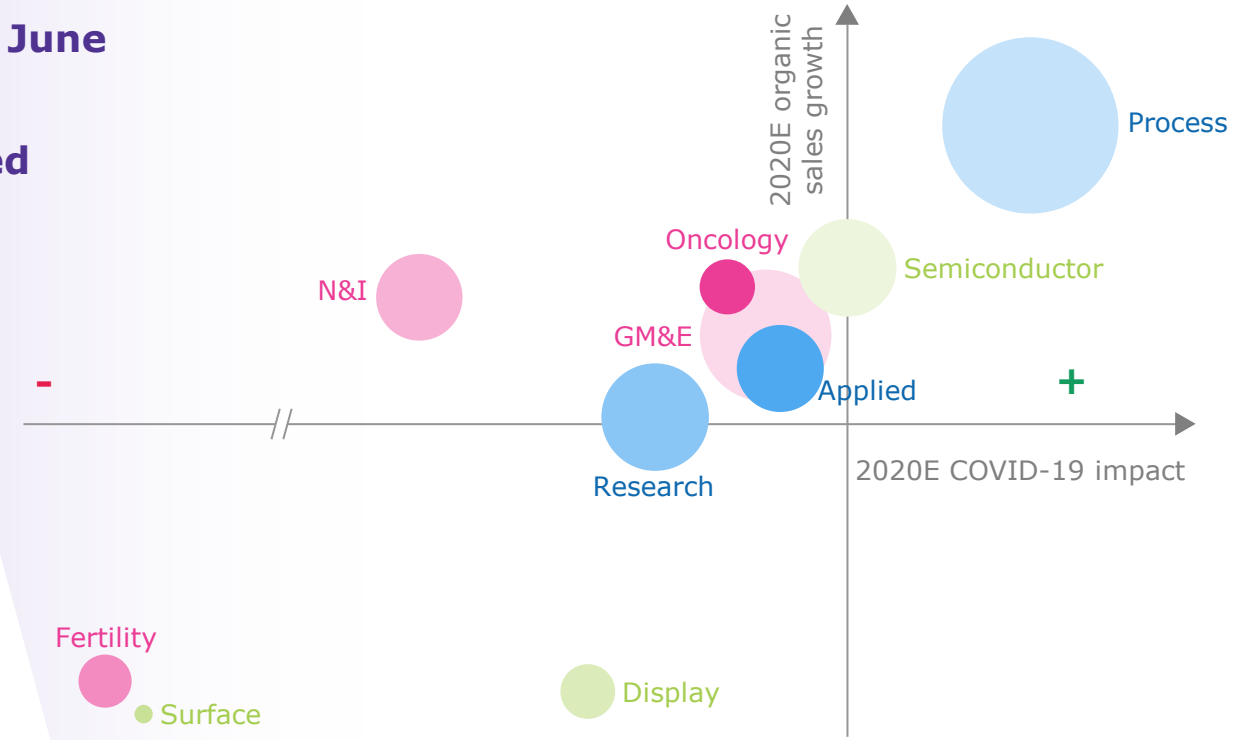
From: Q3 2020 earnings call – 2020.11.12

Group

2020 – strong resilience in times of global crisis

- **2020 guidance confirmed; recovery started in June**
- **Most businesses growing** despite COVID-19
- **Largest business** growing and **positively affected**
- Smallest businesses with biggest impact

Growth and COVID-19 impact by business[1]



Delivery on priorities during crisis

- ✓ **Health & safety of employees**
- ✓ **Business continuity**
- ✓ **Contributions to public health and society**
- ✓ **Sustainability aspects further enforced**

CMD 2019

Merck KGaA, Darmstadt, Germany - steady earnings growth with high margins and a low risk profile

[1] Indicative only and based on guidance from August 6: slight to moderate organic sales and EBITDA pre growth, COVID-19 with up to a mid single-digit impact on sales of which 50-60% hitting EBITDA pre

Group

2021 business sector guidance[1]

Healthcare

Net sales

- Strong organic growth
- Mainly driven by Mavenclad® and Bavencio®
- Base business organically around stable

EBITDA pre

- Strong organic growth (excl. Biogen[2])
- Mainly driven by Mavenclad and Bavencio sales and continued cost discipline
- Strong adverse FX

Life Science

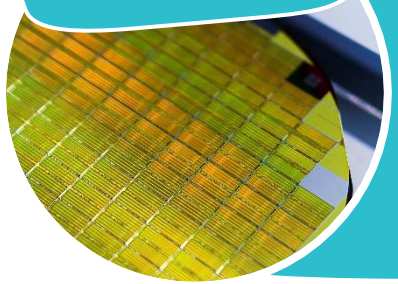
Net sales

- Organic growth in the low teens
- Process Solutions as main growth driver

EBITDA pre

- Organic growth in the low teens
- Slight adverse FX

Electronics



Net sales

- Solid organic growth
- Strong contribution from Semiconductor Solutions
- OLED with high growth

EBITDA pre

- Solid to strong organic growth
- Significant to strong adverse FX

[1]Divisional guidances are only support to the group guidance and do not have to add up; [2] Q3 20 reversal of the provisions for the patent dispute proceedings for Rebif in the amount of ~€365m; Guidance incl. Biogen: strong organic decline

From: Q4 2020 earnings call – 2021.03.04

Additional financial guidance 2021

Further financial details

Corporate & Other EBITDA pre	**~ -400 to -470 €m**
Interest result	**~ -220 to -245 €m**
Effective tax rate	**~24% to 26%**
Capex on PPE	**~1.4 to 1.5 €bn**
Hedging/USD assumption	**FY 2021 hedge ratio ~70% at EUR/USD ~1.17**
2021 Ø EUR/USD assumption	**~1.17 to 1.22**

Group

Key earnings drivers to remember for 2021

EBITDA pre - supporting factors

- Increasing Mavenclad® & Bavencio® contribution
- Ongoing strength in Life Science with robust base business and additional COVID-19 demand
- Continued strong outlook in Semiconductor Solutions with above-market organic sales growth
- High level of cost consciousness across all sectors
- Milestone payments (e.g. Bavencio®)

EBITDA pre - reducing factors

- Glucophage® impacted by VBP in China
- Continued decline of liquid crystals and Rebif®

Discipline and prioritization will be key

From: Q4 2020 earnings call – 2021.03.04

Focus on organic growth and deleveraging to 2022

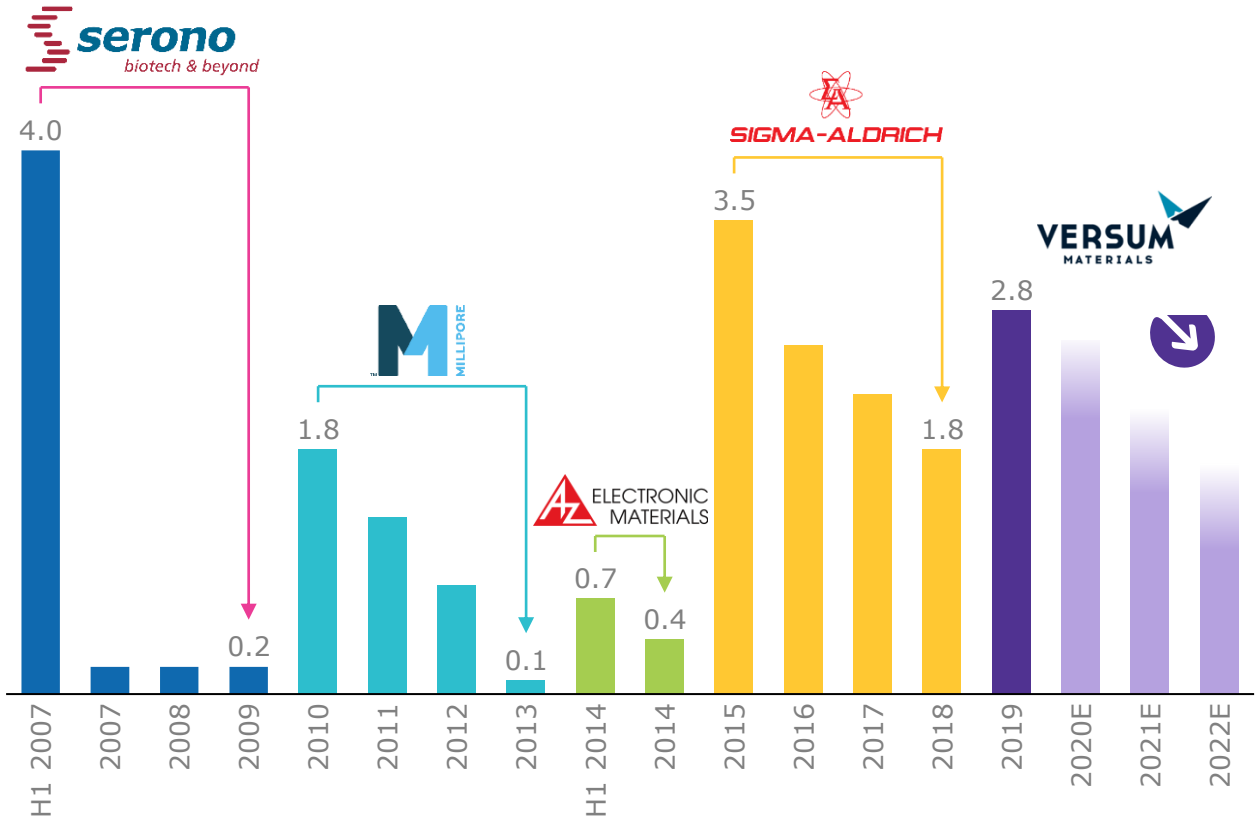
Proven swift deleveraging
after major acquisitions

UPDATE

- **Deleverage to <2x** net debt/EBITDA pre in 2022
- **M&A on hold until 2022**; only smaller deals to be realized if budget available
- New mid-term capex ceiling of ~€1.3 bn reflects **increased focus on organic investment** and Versum consolidation

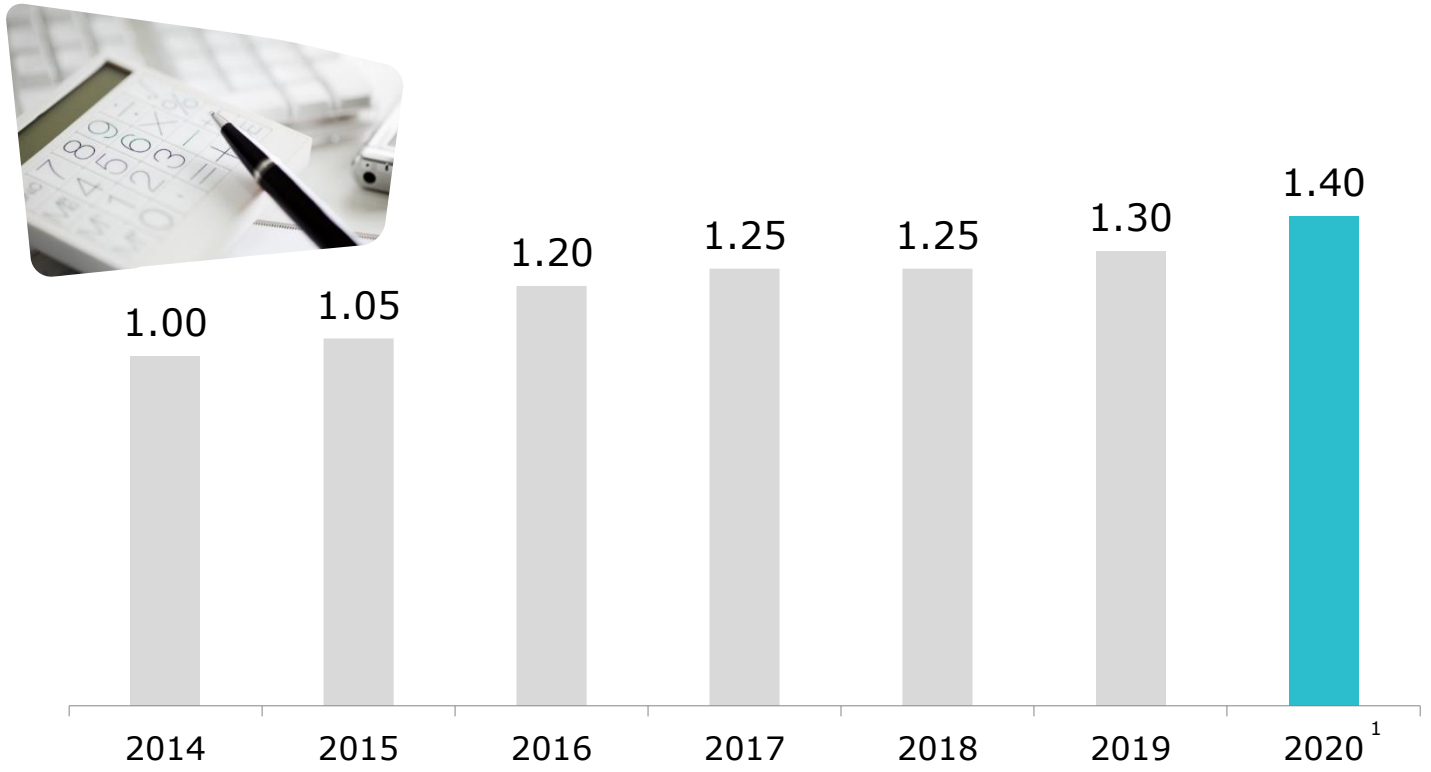
- Dividend policy mirrors **sustainable earnings trend**

Net debt / EBITDA pre track record & outlook



Sustainable dividend growth

Dividend[1] development 2014 -2020



2020 dividend

- Dividend of €1.40 (+8% YoY) per share proposed[1] for 2020
- Payout ratio of 23.1% of EPS pre[2] in 2020; aiming for 20-25% of EPS pre
- Dividend yield[3] of 1.0%

[1]Final decision is subject to Annual General Meeting approval

[2]Excluding Biogen provision release, including the provision release the ratio is 20.9%

[3]Calculated with 2020 year-end share price of € 140.35 per share.

Governance
Merck's KGaA, Darmstadt, Germany ownership structure

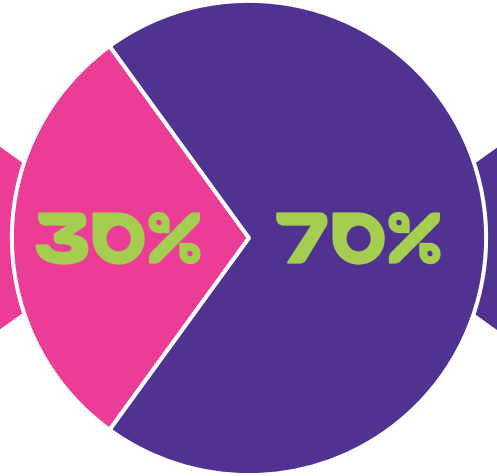
Shareholders of Merck KGaA, Darmstadt, Germany

- Shareholders hold ~30% of Company's total capital
- Share capital is divided into 129,242,252 bearer shares and one name share without nominal value
- Listed at German Stock Exchange's Prime Standard, member of the DAX 30
- Only bearer shares entitled to vote at Annual General Meeting: **one share, one vote**

Supervisory Board

Its Chairman leads AGM, representing interests of Company's shareholders:

- Approving financial statements of the Group
- Working together with Executive Board, receiving reporting on progress regarding business and financial development at the Company, Containing 16 members: **8 employee representatives, 8 independent representatives** (2 family representatives and 6 elected shareholder representatives)
- 2 committees: **Nomination and Audit Committee**



E. Merck KG, Darmstadt, Germany: Partners' Meeting & Family Board

- E. Merck KG, Darmstadt, Germany (99.9% Family) holds ~70% of Company's total capital
- These 70% of the total capital are **not entitled to vote** at Company's AGM
- A Family Board represents the entrepreneurial interests of the Family (elected by partners' meeting)

Board of Partners

Elected by Family Board, and takes over some duties of a usual Supervisory Board:

- Appointment, dismissal and supervision of Executive Board members of the Company
- Approves extraordinary business transactions and annual financial statements of E. Merck KG, Darmstadt, Germany
- Contains **5 members of the Family Board and 4 external members** of the business community
- 3 committees: **Finance, Personnel and R&D Committee**

Nomination Committee	Audit Committee	Finance Committee	Personnel Committee	R&D Committee
Defines criteria and makes proposals for new candidates	Control systems, external auditing, financial statements	financial statements, external auditing	Executive board members, contracts, compensation	research activities of all sectors: HC, LS, EL

Family Board: Familienrat; Board of Partners: Gesellschafterrat; Supervisory Board: Aufsichtsrat; Nomination Committe: Nominierungsausschuss; Audit Committee: Prüfungsausschuss: Finance Committee: Finanzausschuss; Personell Committee: Personalausschuss; R&D Committee: Forschungs- und Entwicklungsausschuss

Executive board compensation
Pay for performance reflecting the company's long-term strategy

Variable

Long-Term Incentive Plan — 40-50%

- Reflecting the long-term strategy for Company's **growth and (from 2022) sustainability ambition**
- **4 years performance cycle**: 3 years target achievement + 1 year holding period
- Based on virtual Group Share Units (Grant € divided through start share price, multiplied with the end share price)
- **Financial targets**: 50% Company Share Price vs. DAX + 25% EBITDA pre margin + 25% Organic sales growth
- **From 2022** multiplied with **sustainability factor** (0.8-1.2) reflecting KPIs from each of the sustainability goals
- Corridors for each target and achieved targets **published transparently** ex-post in the compensation report
- **Maximum cap**: Maximum pay out 250%, maximum € cap for LTIP for each board member published
- **Claw-back** allows to retain amounts allocated from the Long-Term Incentive Plan

\+ Performance of Company share price vs. the DAX **50%**
\+ EBITDA pre margin in relation to target value **25%**
\+ Organic sales growth in relation to target value **25%**
× **0.8-1.2** Sustainability factor
= **0-180%** of allocated units

Profit Sharing — 25-35%

- **Three-years average profit after tax** of the E. Merck Group, KGaA, Darmstadt, Germany multiplied with individual permille rate
- **From 2021 reduced individual performance factor of 0.8-1.2** 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
- **Individual permille rate** for each board member and maximum € cap for each board member published
- **Staggered incentivization** and **minimum threshold value** and maximum limit for profit after tax (0.75/2.0 bn €)
- Mandatory **personal investment in Company Shares** amounting to one third of the net payment of the profit sharing (4 year holding period)

Basic

6-9% **Pension Entitlements** Defined contribution

0-3% **Additional Benefits** Mainly contributions to insurance policies, personal security expenses, company car…

Basic Compensation — 15-20%

- **Fixed and non-performance related compensation**
- Paid in 12 equal monthly installments
- 1.4 million € for the chairman / up to 1.1 million € for the members of the executive board

Maximum total compensation: reduced to €11.5 m Chairman, €9.5 m other executive board members

pink = new from 2021

Group
External stakeholders valuate our engagement

MSCI rated us AAA (Leader) in 2020 according to its exposure to ESG risks and manage those risks relative to peers.

Sustainalytics put us among the **leading pharmaceutical companies**

Since 2008, we are part of **FTSE4Good Index**, measuring the performance of companies with strong ESG practices (Top 15).

In 2020, **ISS Oekom** rated us a "B-" rating which means we have once more achieved **prime status.**

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

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

We received **Platinum** status in 2021: **top 1% of companies**.

EcoVadis annually examines ~75,000 suppliers from >160 countries.

Participation in CDP (formerly Carbon Disclosure Project) since 2008.
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** we achieved **8th place.** The ranking appreciates our initiatives e.g. the commitment to open innovation.

Group

Regular portfolio review remains key to success

strong track record

- Acquisitions and divestments are part of our 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

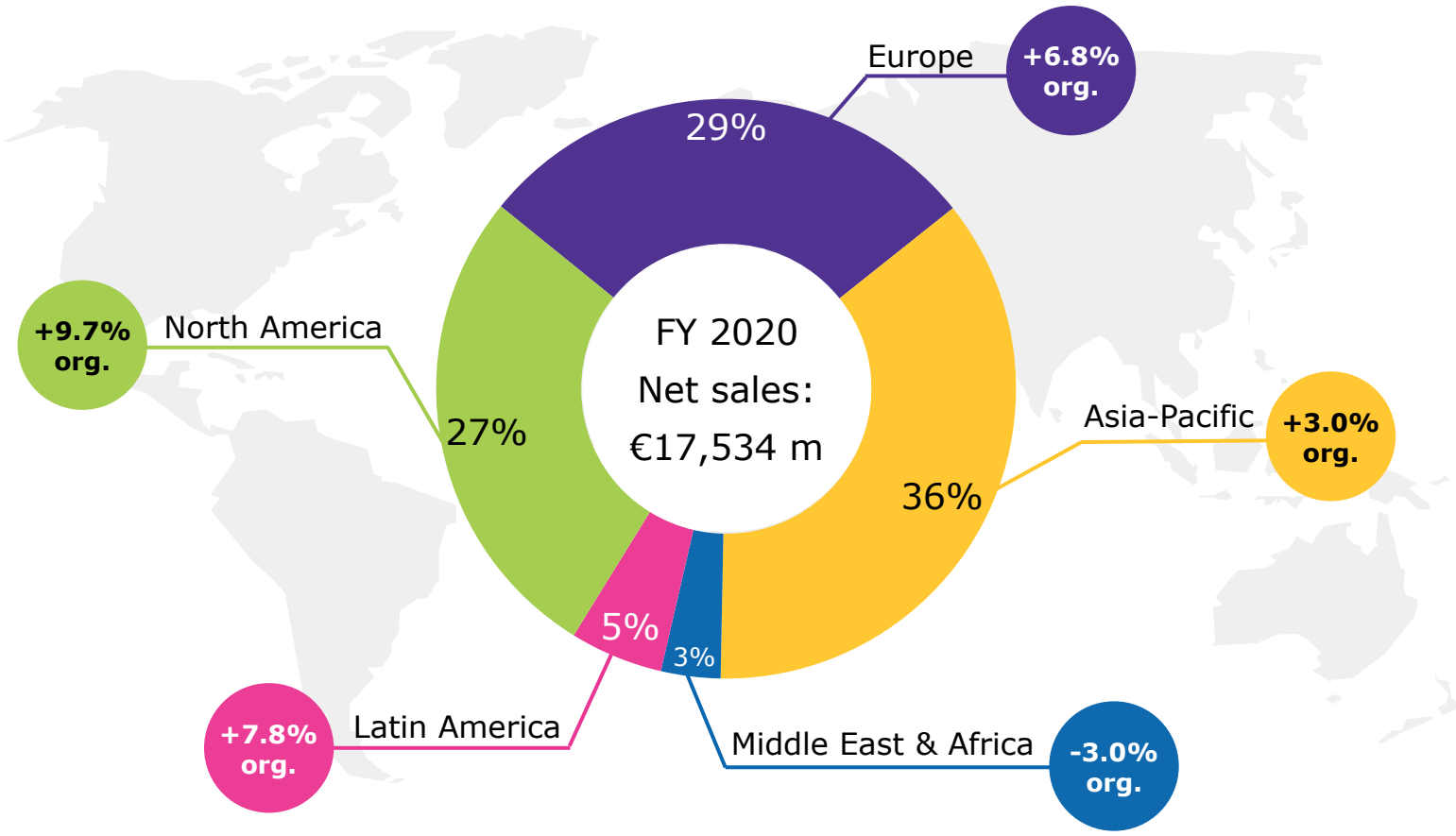
clear financial M&A criteria

- 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**

All major regions growing amid persisting pandemic impacts

Regional breakdown of net sales [€m]



Regional organic development

- APAC: Double-digit growth in Life Science and Semiconductor Solutions overcompensates declines in Display Solutions, Fertility & Surface Solutions
- Europe: Growth in Process Solutions and Mavenclad® ramp-up more than offsets negative effects of COVID-19 on Fertility and Surface Solutions
- North America: Strong Healthcare driven by Mavenclad® ramp-up; double-digit growth in Life Science
- Strong General Medicine performance driving growth in LATAM; General Medicine not fully mitigating negative COVID-19 impact in ME&A

Totals may not add up due to rounding

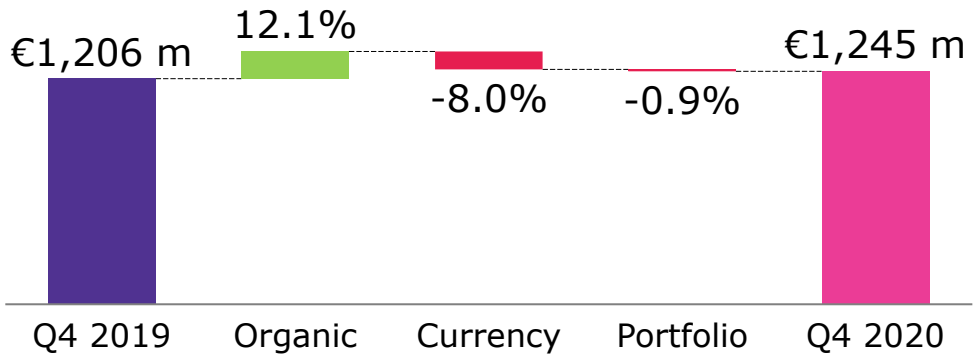
Q4: 11% organic sales growth driven by "BIG 3" (HC pipeline, Process & Semi Solutions) including strong turnaround in Electronics

Q4 YoY Net Sales

	Organic	Currency	Portfolio	Total
Healthcare	4.1%	-6.1%	-1.5%	-3.5%
Life Science	19.3%	-5.4%	0.0%	13.9%
Electronics	8.0%	-3.9%	0.0%	4.1%
Group	**11.0%**	**-5.4%**	**-0.6%**	**5.0%**

- Healthcare continuous organic growth with Mavenclad® up 48%, Bavencio® growing 90% org., General Medicine & Endocrinology slightly positive; Fertility back in organic growth territory
- Process Solutions underlying strength again amplified by COVID-19 business with 27% organic growth; Research elevated to +16%; Applied Solutions growing by exceptionally high 10%
- Semiconductor Solutions growing 20% organically, outperforming strong market (supported by DS&S order patterns); Display (-5%) and Surface Solutions (-3%) decline slowing down further

Q4 YoY EBITDA pre



- At 12% EBITDA pre growing faster than sales despite lower non-recurring income
- Cost discipline in all sectors further supported by reduced face-to-face activities amid pandemic
- FX burden of -8% across various currencies with largest impact from USD, BRL and ARS; partially mitigated by hedging

Totals may not add up due to rounding

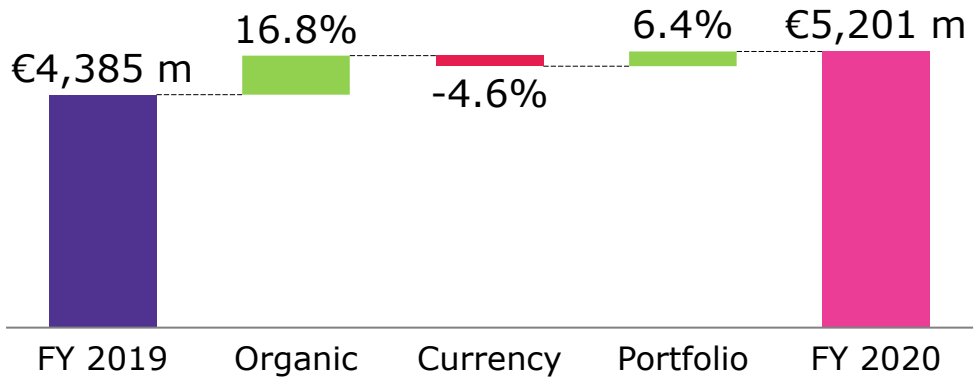
From: Q4 2020 earnings call – 2021.03.04

6% organic growth in 2020 driven by unprecedented Life Science growth, swift recovery from COVID-19 in Healthcare and strong Semi performance

FY YoY Net Sales	Organic	Currency	Portfolio	Total
Healthcare	3.4%	-3.6%	-0.9%	-1.1%
Life Science	11.8%	-2.3%	0.0%	9.5%
Electronics	-3.2%	-0.9%	35.4%	31.3%
Group	**6.0%**	**-2.6%**	**5.3%**	**8.6%**

- Mavenclad® ramp-up and Bavencio® U.S. launch in UC 1L drive 3% organic growth in Healthcare, while base business remains approximately stable despite pandemic Q2 impact on Fertility
- Life Science record 12% organic growth as Process Solutions up 22%; Research and Applied delivering 5% and 3%, supported by particularly strong Q4
- Electronics declining 3%, with turnaround materializing in Q4 (+8% org.); Semi up 14% (+20% in Q4) Display & Surface declining, but stabilizing at lower rates of decline in Q4

FY YoY EBITDA pre



- Organic EBITDA pre growth significantly faster than sales (8.4% excl. Biogen provision release)
- Margin expansion driven by strong Life Science performance & cost management across all sectors
- Margin accretive Versum visibly contributing to EBITDA pre growth (Q1-Q3 portfolio; Q4 organic)
- Increasing FX headwinds result in FY drag of 4.6%, mainly from USD, BRL and ARS

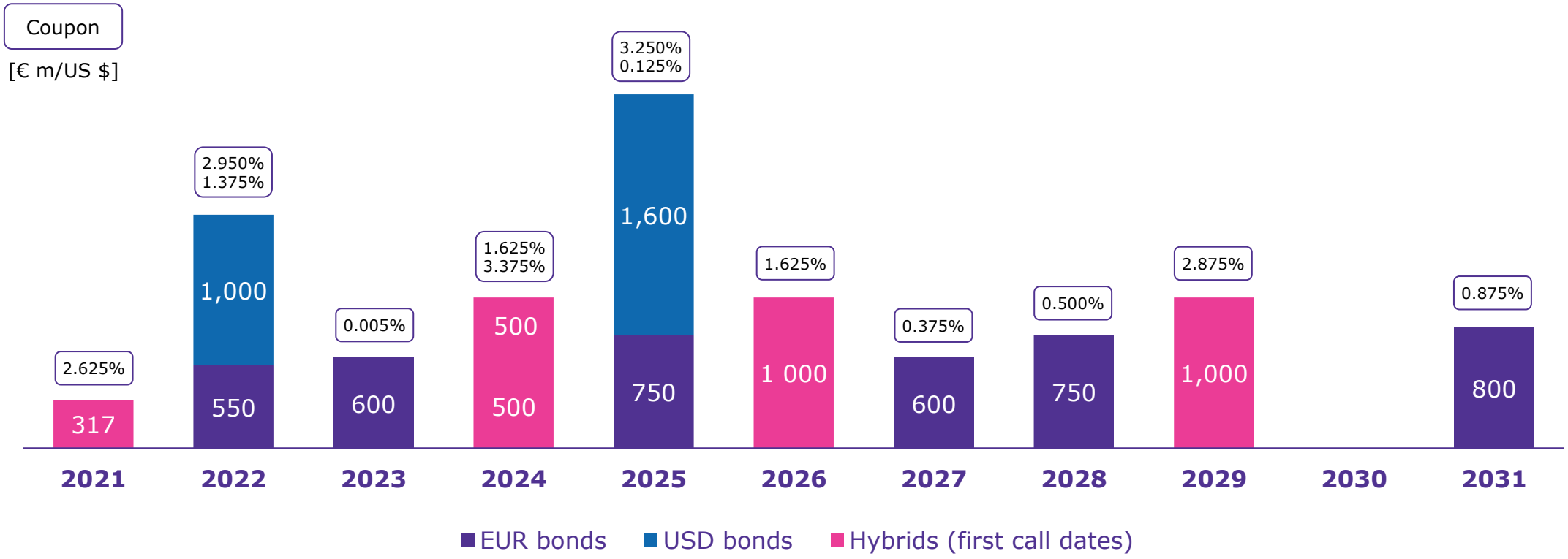
Totals may not add up due to rounding

From: Q4 2020 earnings call – 2021.03.04

Financial Update

Balanced maturity profile: Lower refinancing risks & higher flexibility

Maturity profile as of December 31, 2020



From: Q4 2020 earnings call – 2021.03.04

FY 2020: Overview

Key figures

[€m]	FY 2019	FY 2020	Δ	(Excl. Biogen provision release) FY 2020	Δ
Net sales	16,152	**17,534**	8.6%		
EBITDA pre	4,385	**5,201**	18.6%	**4,836**	10.3%
Margin (in % of net sales)	*27.1%*	***29.7%***	2.5pp	**27.6%**	0.4 pp
EPS pre	5.56	**6.70**	20.5%	**6.07**	9.2%
Operating cash flow	2,856	**3,477**	21.7%		

[€m]	Dec. 31, 2019	Dec. 31, 2020	Δ
Net financial debt	-12,363	**-10,758**	-13.0%
Working capital	3,944	**3,938**	-0.2%
Employees	57,071	**58,127**	1.9%

Comments

- Sales up 9%, driven by accelerating double-digit growth in Life Science, Versum portfolio & Healthcare pipeline
- Strong Life Science performance fuels underlying margin expansion excluding Biogen provision release
- Operating cash flow up 21.7%, supporting further net debt reduction
- EPS pre at € 6.70 (growing 9% excl. Biogen provision release)
- Working capital at prior year's level
- Headcount increase far below sales growth and largely in emerging markets

Totals may not add up due to rounding

FY 2020: Reported figures

Reported results

[€m]	FY 2019	FY 2020	Δ	FY 2020 (Excl. Biogen provision release)	Δ
EBIT	2,120	**2,985**	40.8%	**2,620**	23.6%
Financial result	-385	**-354**	-7.9%		
Profit before tax	1,735	**2,630**	51.6%	**2,265**	30.5%
Income tax	-440	**-637**	44.8%	**-545**	24.0%
Effective tax rate (%)	25.3%	**24.2%**	-1.1pp		
Net income	1,320	**1,987**	50.5%	**1,713**	29.8%
EPS (€)	3.04	**4.57**	50.3%	**3.94**	29.6%

Comments

- Top line-driven EBIT increase supported by Versum portfolio effect
- Financial result mainly driven by deleveraging
- Effective tax rate within guidance range of ~24-26%
- Net income and EPS reflect EBIT growth & better financial result, further elevated by provision release

Totals may not add up due to rounding

FY 2020: Cash flow statement

FY 2020 – cash flow statement

[€m]	FY 2019	FY 2020	Δ
Profit after tax	1.324	**1.994**	670
D&A	1.944	**1.938**	-6
Changes in provisions	153	**-110**	-263
Changes in other assets/liabilities	-391	**-123**	267
Other operating activities	-4	**-59**	-55
Changes in working capital	-169	**-162**	7
Operating cash flow	2.856	**3.477**	621
Investing cash flow	-6.153	**-1.340**	4.813
thereof Capex on PPE	-782	**-1.377**	-595
Financing cash flow	1.902	**-1.522**	-3.424

Cash flow drivers

- Higher profit after tax driven by strong operational performance particularly in Life Science
- Stable D&A as higher depreciation (primarily from Versum) balances lower amortization (Rebif®)
- Biogen provision release primary driver of delta in changes in provisions
- Stable increase in working capital in line with COVID-19 driven inventory and higher sales-driven receivables
- >20% growth in operating cash flow
- 2019 investing cash flow reflects Versum
- 2019 financing cash flow reflects Versum while 2020 reflects strong deleveraging

*Long Term Incentive Plan

Totals may not add up due to rounding

Adjustments in FY 2020

Adjustments in EBIT

[€m]	FY 2019		FY 2020	
	Adjustments	thereof D&A	Adjustments	thereof D&A
Healthcare	26	1	**85**	2
Life Science	59	0	**21**	3
Electronics	174	7	**223**	123
Corporate & Other	68	0	**79**	0
Total	328	9	**407**	128

Financial calendar

Date	Event
March 4, 2021	FY 2020 Earnings release
April 23, 2021	Annual General Meeting
May 12, 2021	Q1 2021 Earnings release
August 5, 2021	Q2 2021 Earnings release
November 11, 2021	Q3 2021 Earnings release

Healthcare

China's VBP: Round 4 bidding recently completed, sustained confidence in keeping base business approx. stable through 2021 and 2022

Round 1	Round 2	Round 3	Round 4
2019	2020	2020	2021
March: First round initiated, no Merck KGaA, Darmstadt, Germany products impacted	**December:** Round 2 announced (incl. bisoprolol)	**April:** Round 2 winners granted exclusive access to 60% of total hospital market[1], non-winners (incl. Concor®) retain access to remaining 40% of hospital market at a gradient price cut[2] + can freely compete in non-hospital/ retail market	**July:** Round 3 announced (incl. Metformin IR and XR)[1]

UPDATE

Jan: Round 4 announced (incl. calcium dobesilate[3] and canagliflozin[3]), bidding completed on Feb 3, Invokana® & Doxium ® not among winners, **Implementation expected starting April/May**

August: Bidding completed, 8 winners (all Chinese manufacturers), Glucophage® not among winners

- **Access retained to non-hospital/retail market (~30% of total market)**, and **~20% of the hospital market** (at gradient price cut)
- Continued **growth of Chinese metformin market >10% p.a.** over the next 5 years

China Glucophage sales represent **only ~6% of the total base business** (2019 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® price cut in the high single digit %; 3: alliance products;
Acronyms: VBP = Volume-Based Procurement

From: Q4 2020 earnings call – 2021.03.04

Healthcare Pipeline

December 31, 2020

Phase I

berzosertib (M6620)
ATR inhibitor
Solid tumors[1]

peposertib (M3814)
DNA-PK inhibitor
Solid tumors[2]

M1774
ATR inhibitor
Solid tumors

M3258
LMP7 inhibitor
Multiple myeloma

M4344
ATR inhibitor
Solid tumors

M8891
MetAP2 inhibitor
Solid tumors

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Solid tumors

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Cervical cancer 1L

M6223
anti-TIGIT mAb
Solid tumors[3]

M5049
TLR7/8 antagonist
Immunology

M5717
PeEF2 inhibitor
Malaria

Changes made post-December 31 cut-off

- Oncology
- Immuno-Oncology
- Immunology
- Neurology
- Global Health
- *Program under out-licensing agreement*

Phase II

peposertib (M3814)
DNA-PK inhibitor
Rectal cancer

tepotinib
MET kinase inhibitor
Non-small cell lung cancer, *MET*ex14 skipping

tepotinib
MET kinase inhibitor
Non-small cell lung cancer, *EGFR* mutant, *MET* amplified[4]

berzosertib (M6620)
ATR inhibitor
SCLC

avelumab
anti-PD-L1 mAb
Solid tumors[5]

avelumab
anti-PD-L1 mAb
Non-small cell lung cancer[5]

avelumab
anti-PD-L1 mAb
Urothelial cancer[5]

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Non-small cell lung cancer 1L/2L

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Locally advanced non-small cell lung cancer

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Biliary tract cancer 1L

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Biliary tract cancer 2L

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Cervical cancer 2L

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Triple negative breast cancer

M5049
TLR7/8 antagonist
Covid-19 pneumonia

sonelokimab (M1095)[6]
anti-IL-17 A/F nanobody
Psoriasis

atacicept[7]
anti-BlyS/APRIL fusion protein
Systemic lupus erythematosus

atacicept[7]
anti-BlyS/APRIL fusion protein
IgA nephropathy

Phase III

avelumab
anti-PD-L1 mAb
Non-small cell lung cancer 1L

bintrafusp alfa
TGFbeta trap/anti-PD-L1
Non-small cell lung cancer 1L[8]

evobrutinib
BTK inhibitor
Multiple sclerosis

Registration

tepotinib
MET kinase inhibitor
Non-small cell lung cancer, *MET*ex14 skipping[9,10]

avelumab
anti-PD-L1 mAb
Urothelial cancer 1L-M[11]

1L, first-line treatment; 1L-M, first-line maintenance treatment; 2L, second-line treatment;

[1] Includes studies (phase I/II) in collaboration with NCI. [2] Includes studies in combination with avelumab. [3] Includes study in combination with bintrafusp alfa. [4] In combination with osimertinib. [5] Avelumab combination studies with talazoparib, axitinib, ALK inhibitors, cetuximab, or chemotherapy. [6] On September 10, Merck KGaA, Darmstadt, Germany communicated the out-licensing of sonelokimab to a new partner to initiate Phase III development in 2021. [7] As announced on November 09, 2020, Merck KGaA, Darmstadt, Germany has entered into an out-licensing agreement with Vera Therapeutics. [8] On January 20, 2021, Merck KGaA, Darmstadt, Germany announced the discontinuation of the INTR@PID Lung 037 clinical trial upon review of the totality of the clinical data and recommendation by the independent Data Monitoring Committee. [9] As announced on August 25, 2020, the US Food and Drug Administration (FDA) has accepted and granted Priority Review to the new drug application in non-small cell lung cancer. [10] 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. [11] As announced on December 11, 2020, the Committee for Medicinal Products for Humans Use of the European Medicines Agency adopted a positive opinion recommending approval of avelumab as monotherapy for the first-line maintenance treatment of adult patients with locally advanced or metastatic urothelial carcinoma.

Unless noted otherwise, clinical programs conducted in collaboration with external partners are not shown unless Merck KGaA, Darmstadt, Germany is the sponsor of that respective trial.

Tepotinib (MET kinase inhibitor)
First-in-class launch in MET Exon14 sets foundation for EGFRm/ METamp opportunity and exploration in other tumor types

TEPMETKO® tepotinib

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 ≥9 mths)
- **First-in-class launch** in Japan[1] in March 2020, Sakigake designation[2] granted in 2018
- **Approved by US FDA** on February 3, 2021 for both treatment naïve and previously treated METex14 positive NSCLC patients

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 ~25%[3]

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®**

ERBITUX CETUXIMAB

1: second largest Oncology market globally; 2: SAKIGAKE designation promotes research and development in Japan, aiming at early practical application for innovative pharmaceutical products; 3: 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%[1]
- Estimated primary completion date: **November 2022**

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

NEW – Not yet 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)[2]

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

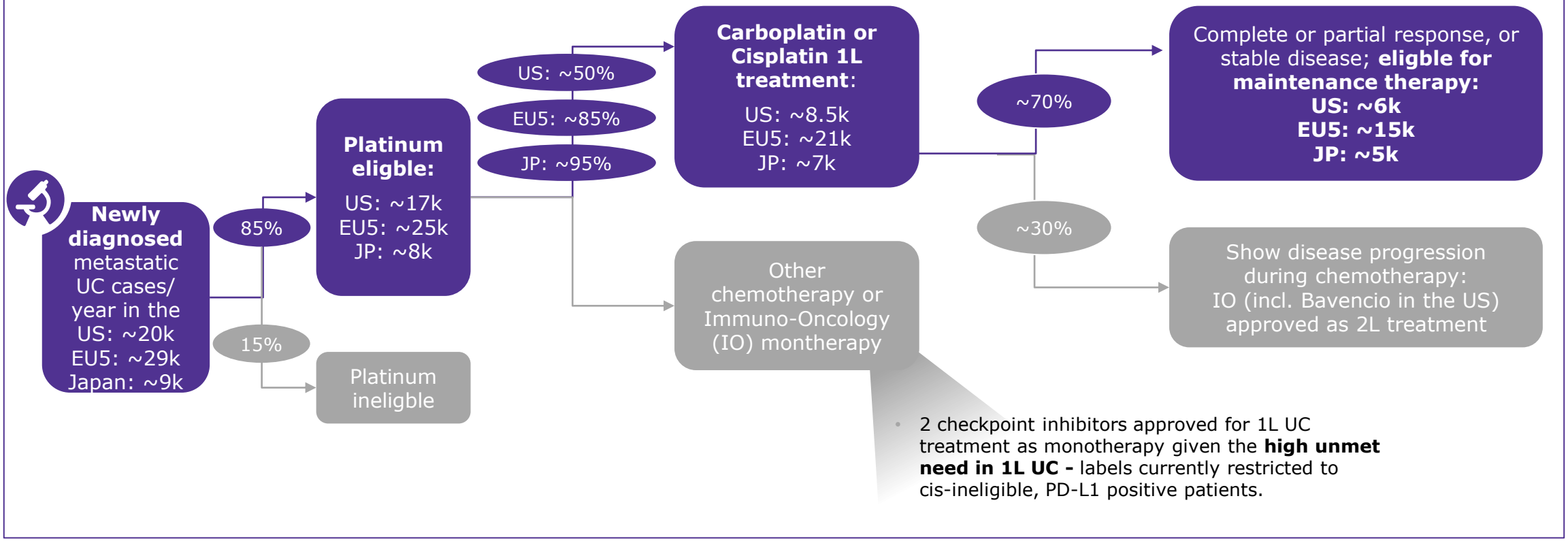
- **Proof of Concept: MET amplification can be considered a suitable biomarker** for treatment with Tepotinib
- **Safety:** generally **well-tolerated,** most adverse events mild to moderate

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

Bavencio® (Avelumab) – Urothelial Carcinoma (UC 1L)

UC 1L maintenance treatment achieving transformative OS benefit (31% reduction in risk of death, 7 months increase in median overall survival)

Durable responses to standard of care (1L chemotherapy) are rare with most patients experiencing progression within 9 months of treatment[1]



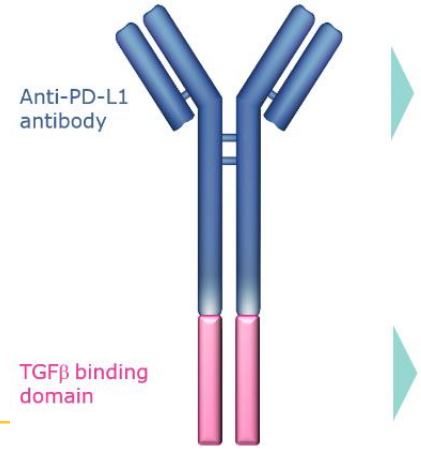
1: Kantar Health Patient Metrics & Kantar Health Treatment Architecture for epidemiological data; IMS Claims, Kantar and IPSOS for triangulation of market shares

Bintrafusp alfa[1]

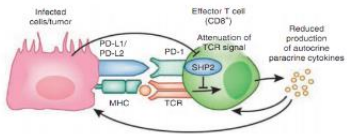
An innovative first-in-class bifunctional fusion protein discovered in-house leading the TGF-β immuno-oncology field

Mode of action

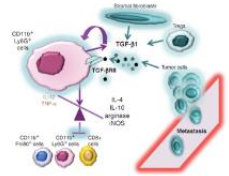
- Innovative **first-in-class bifunctional fusion protein** designed to simultaneously target two immune suppressive pathways (blocking PD-L1 and reducing TGF-β signaling)
- Demonstrated **superior anti-tumor activity in pre-clinical study** compared to anti-PD-L1 alone, and anti-PD-L1 and TGF-β given in combination as separate agents
- **Great excitement in IO community** about M7824 uniquely addressing TGF-ß biology widely accepted as key resistance factor for anti-PDx therapies



PD-1/PD-L1 immune checkpoint[1]



TGFβ immunosuppressive cytokine[2]



clinical development achievements

- Tested in **14 Phase Ib expansion cohorts** across >700 patients in more than 10 tumor types
- Shown clinical anti-tumor activity across multiple hard-to-treat cancers including **advanced NSCLC, biliary tract cancer, HPV-associated cancers, and gastric cancer**
- PhII study **M7824 monotherapy versus pembrolizumab 1L**, advanced NSCLC high PD-L1-tumor expressers started in October 2018

clinical development plans

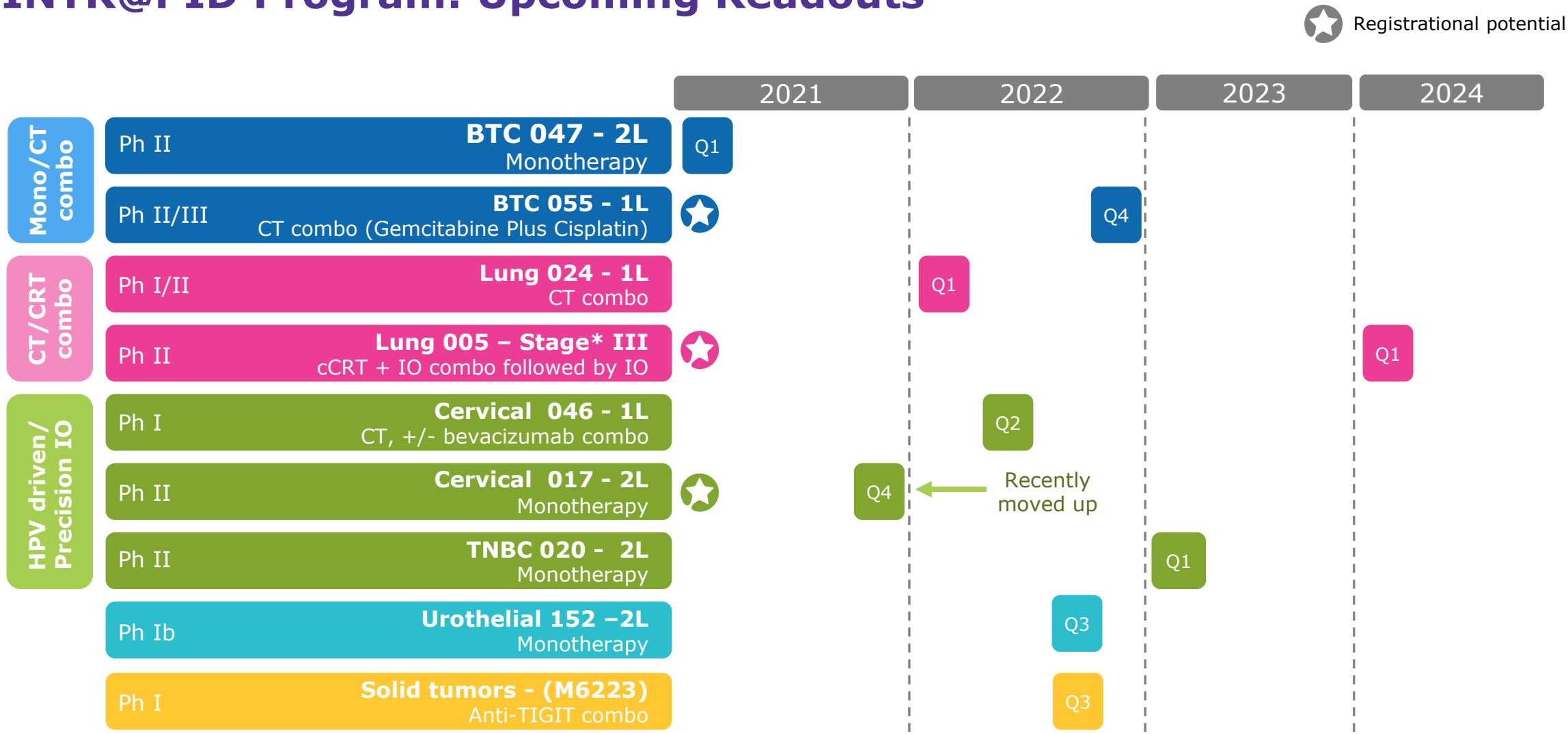
- **Multiple high priority immuno-oncology clinical development studies** ongoing or expected to commence shortly, including **studies in non-small cell lung and biliary tract cancers with registrational intent** and most recently **advanced, unresectable cervical cancer**

[1]proposed International Nonproprietary Name (INN)

Acronyms: NSCLC = Non-small Cell Lung Cancer, IO = Immuno-Oncology

Bintrafusp alfa

INTR@PID Program: Upcoming Readouts



Acronyms: BTC = Biliary Tract Cancer; CT = Chemotherapy; EMT = Epithelial-mesenchymal transition; HPV = Human papillomavirus; NSCLC = Non-small Cell Lung Cancer; RT = Radiation therapy; TNBC = Triple-Negative Breast Cancer; * unresectable; **All clinical timelines are event-driven and may be subject to change**

From: Q4 2020 earnings call – 2021.03.04

Bintrafusp alfa: Developmental Progress

2L Biliary Tract Cancer (BTC) monotherapy data read-out exp. in Q1 2021

M7824 BTC data presented at ESMO 2018

- **Need:** Few available treatment options (no 2L SOC)[1]
- **Results: Encouraging activity**[2] in 30 Asian patients with pretreated biliary tract cancer
- **ORR**[2]**:** 20% (IRC assessment). Median DoR was NR (range, 8.3–13.9 months) with confirmed responses ongoing in all patients
- **Overall Survival by IRC: mOS:** 12.7 months (6.7 – NR), comparing favorably with historical data in pretreated patients receiving second- or later line treatment (<7 months mOS in 2L[1])
- Responses observed **irrespective of PD-L1 expression levels**[2]
- **Orphan Drug Designation** granted by FDA in December 2018

Leading PDx data presented at ASCO 2019[3]

- **ORR:** 5.8% (PhII, 2L); 13.0% (PhI)
- **OS:** 7.4 months (PhII, 2L); 6.2 months (PhI)

INTR@PID BTC 047

INTR@PID CLINICAL TRIALS

BTC 047

Locally advanced or metastatic BTC 2L N = 141 → M7824 1200 mg IV, Q2W, up to 24 months

Endpoints

Primary endpoint: ORR

Secondary endpoints: DOR, DRR ,PFS, OS, Safety

Biomarker endpoints: PDL1 expression MSI status, comprehensive genomic profiles

[1]Lamarca A, et al. Ann Oncol. 2014;25(12):2328–2338; [2]Yoo et al., Poster presented at the 43rd European Society for Medical Oncology Annual Meeting, Munich, October 19–23, 2018; [3]Bang et al., "Pembrolizumab (pembro) for advanced biliary adenocarcinoma: Results from the KEYNOTE-028 (KN028) and KEYNOTE-158 (KN158) basket studies", presented at ASCO 2019; Acronyms: DoR = Duration of Response, NSCLC = Non-small Cell Lung Cancer, NR = Not Relevant, MSI = Microsatellite Instability Status , OS = Overall Survival, PFS = Progression-Free Survival

Bintrafusp alfa: Developmental Progress
NSCLC Stage III cCRT Combo trial

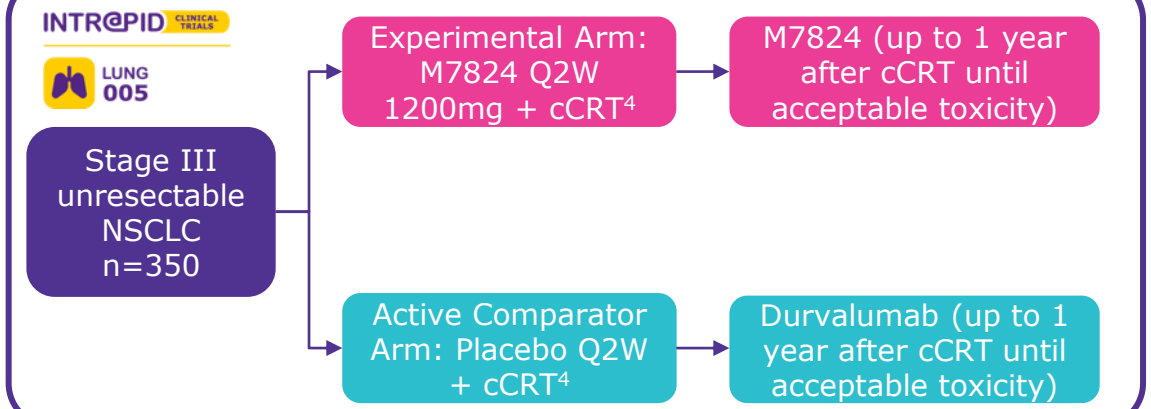
NSCLC 2L data presented at ESMO 2018

- **Need:** NSCLC accounts for 80-85% of all cases of lung cancer[1]
- **Results: Encouraging efficacy comparing favorably** to established PDx-inhibitor monotherapy (IRC)[2,3]:
  - **ORR (all-comers):** 25.0%
  - **ORR (PD-L1-positive):** 37.0%
  - **ORR (PD-L1-high):** 85.7%
- **Progression free survival by IRC** (PD-L1 ≥ 1%):
  - M7824: **mPFS = 9.5 months**, competitor: 4.0 months[2,3]
- **Overall Survival by IRC** (PD-L1 ≥ 1%):
  - M7824: **mOS not reached**, competitor: 12.7 months[2,3]

Pre-clinical data on M7824 + RT combo[5]

- M7824 and RT combination therapy **enhances antitumor activity relative to mono-therapies** in mouse models
- EMT, VEGF, and RT-induced fibrosis gene signatures are decreased with M7824 and combination therapy, and **M7824 reduces RT-induced fibrosis**
- Results **support evaluation of M7824 + RT in the clinic**

INTR@PID LUNG 005



Endpoints

Primary endpoint: PFS

Main secondary endpoints: OS, Safety, Pulmonary function, Association of PD-L1 expression at base line and efficacy

[1]Jemal A et al., Cancer statistics, 2007, CA Cancer J Clin 2007;57:43-66; [2]Paz-Ares et al., Poster presented at the 43rd European Society for Medical Oncology Annual Meeting, Munich, October 19–23, 2018, data shown for 1200mg Q2W dose; [3]Herbst et al.; Pembrolizumab versus docetaxel for previously treated, PD-L1-positive, advanced non-small-cell lung cancer (KEYNOTE-010): a randomised controlled trial (www.thelancet.com Published online December 19, 2015 http://dx.doi.org/10.1016/S0140-6736(15)01281-7); [4]Cisplatin/Etoposide or Carboplatin/Paclitaxel or Cisplatin/Pemetrexed concomitant with Intensity Modulated Radiation Therapy (IMRT); [5]Lan et al., Combination of M7824 and radiation therapy enhances antitumor activity, increases immune response, and modulates radiation-induced fibrosis in cancer models, 2018

Bintrafusp alfa: Developmental Progress
Data shown at AACR 2019 highlights opportunity in HPV-related cancers

Efficacy variable	HPV-associated cancer (n=43)	HPV+* (n=36)
Confirmed BOR, n (%)		
CR	2 (4.7%)	2 (5.6%)
PR	10 (23.3%)	9 (25%)
SD	6 (14.0%)	5 (13.9%)
PD	20 (46.5%)	17 (47.2%)
Not evaluable	5 (11.6%)	3 (8.3%)
Delayed PR†	3 (7.0%)	3 (8.3%)
ORR per RECIST v1.1, n (%) [95% CI]	12 **(27.9%)** [15.3–43.7]	11 **(30.6%)** [16.3–48.1]
Total clinical response rate†, n (%)	15 **(34.9%)**	14 **(38.9%)**
DCR, n (%)	18 (41.9%)	44.4%

Prevalence: >630,000 new cases of HPV-related cancer are reported worldwide annually[1]

Response Rates:

- Bintrasfusp alfa response rates **compared favorably to those with anti–PD-1 inhibitors** (ORRs of 13%–24%)[1-7]
- **ORR was 27.9% and 30.6% in HPV-associated and HPV+ cancers, respectively**
- Including three additional patients with delayed PRs after initial PD: **Total response rate was 34.9% and 38.9% in HPV-associated and HPV+ cancers, respectively**

Long-term Benefit:

- **Most responses durable** with 4 responses having DoR >18 months and 11/15 responses ongoing at the data cutoff
- Responses to bintrafusp alfa occurred **irrespective of tumor type** or PD-L1 expression
- **Safety profile was similar to anti–PD-(L)1 therapy[1,5]** except for SCC/KAs and low grade mucosal bleeding which are anticipated AEs with TGF-β inhibition[8,9]

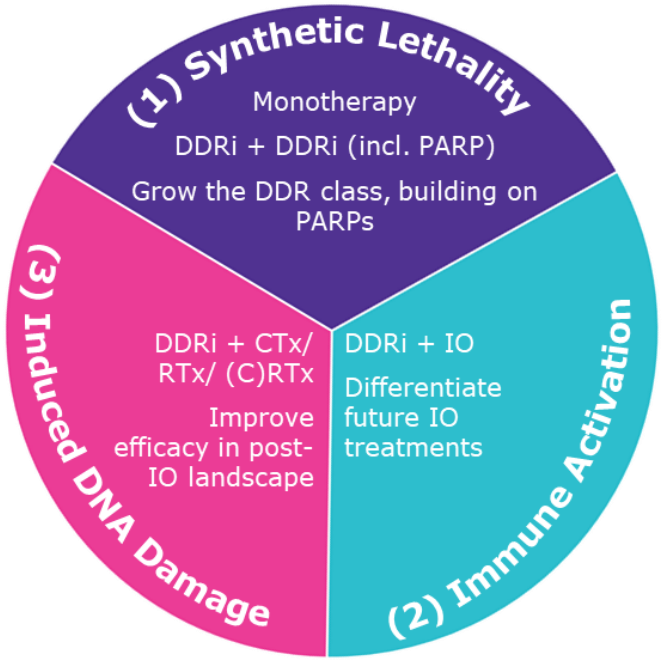
Cervical Cancer 2L study recently posted on ct.gov

†Due to confirmed PD before onset of response, these patients did not meet response criteria by RECIST v1.1; *HPV status was determined from prior documentation, or by using cobas® 4800 HPV Test (Roche) in the dose escalation phase or RNA sequencing (RNASeq) in the expansion phase.

[1]Bauml J, et al. J Clin Oncol. 2017;35:1542–49; [2]Ott PA, et al. Ann Oncol. 2017;28:1036–41; [3]Hollebecque A, et al. J Clin Oncol. 2017;35(Suppl):Abstract 5504; [4]Chung HC, et al. J Clin Oncol. 2018;36(Suppl):Abstract 5522; [5]Ferris RL, et al. N Engl J Med. 2016;375:1856–67; [6]Mehra R, et al. Br J Cancer. 2018;119:153–59; [7]Morris VK, et al. Lancet Oncol. 2017;18:446–53; [8]Lacouture ME, et al. Cancer Immunol Immunother. 2015;64:437–46; [9]Trachtman H, et al. Kidney Int. 2011;79:1236–43

DNA Damage Response (DDR)
Leading DDR portfolio with a broad clinical program

Strategy presented at R&D Update Call 2019



ATRi

Berzosertib/M6620 (formerly VX-970)
- Only ATR-inhibitor with a POC from an RCT (Ovarian cancer, Berzosertib +/- Gem)
- Multiple NCI studies in various tumor types
- Promising Phase II data (Small cell lung cancer) soon to be published in a leading scientific journal
- Phase II SCLC trial recently initiated

M4344 (formerly VX-803)
- Development recently terminated due to prioritization of M1774

M1774 (formerly VX-400)
- Phase I FiH monotherapy study ongoing. Expansions to investigate combinations under discussion.

DNA-PKi

Peposertib/ M3814
- Rectal cancer (CRT combo): Ph Ib ongoing, Ph II to enroll approx. 150 patients
- Combo with Avelumab: Study with and w/o RT ongoing (PhI, solid tumors)
- Multiple NCI studies in various tumor types

M9831 (formerly VX984)
- Exclusive license[1] granted to Vertex in 2019 for use in gene-editing applications

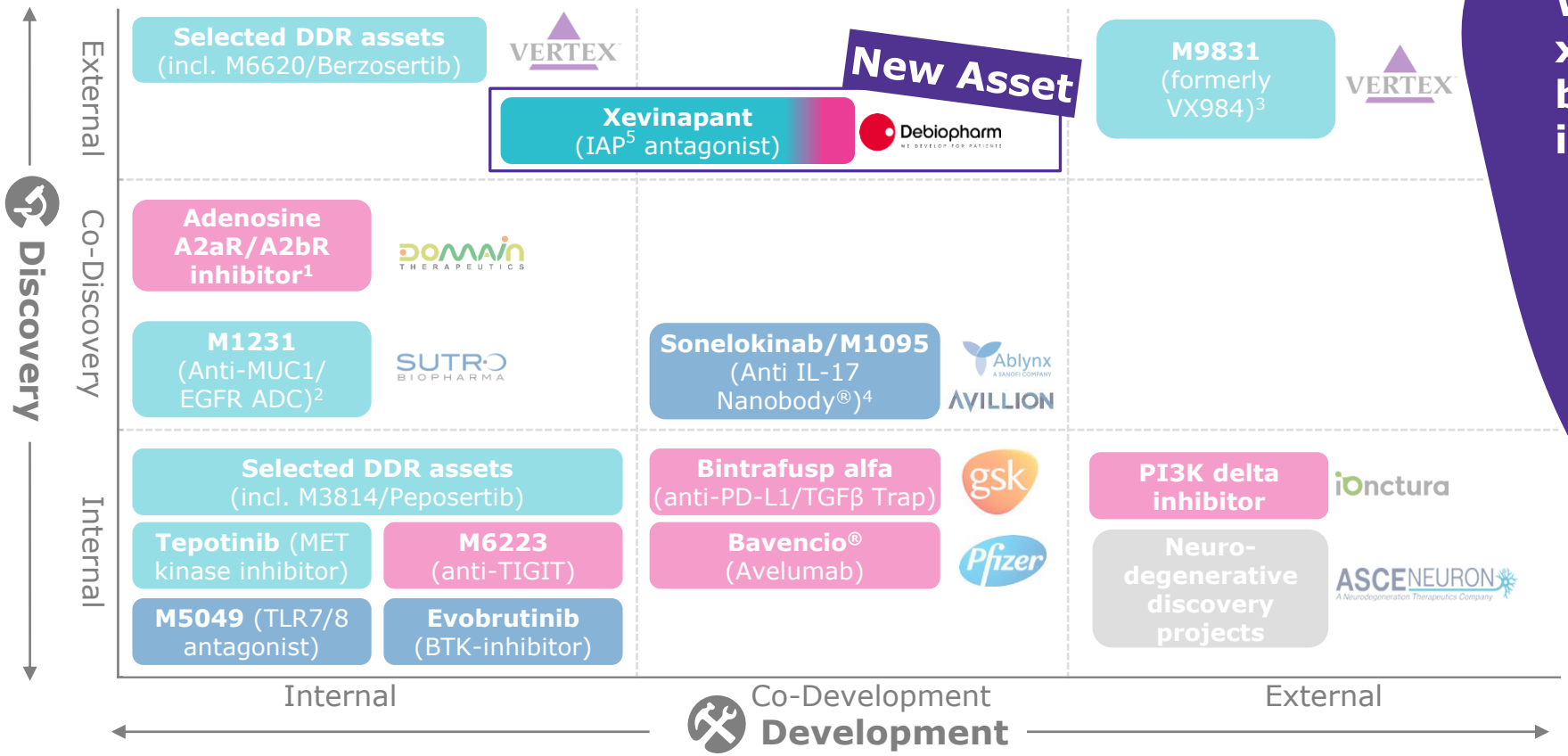
ATMi

M4076
- Clinical candidate/ready for Phase I trials, chemical structure first disclosed at AACR 2019

1: incl. upfront payment + milestone/royalties on future sales; Acronyms: ATMi = Ataxia telangiectasia-mutated; ATRi = Ataxia telangiectasia and Rad3-related inhibitors; CRT = Chemoradiotherapy; DDR = DNA Damage Response; DNA-PKi = DNA-dependent Protein Kinase Inhibitor; PARP = poly(ADP-ribose) polymerase inhibitor; POC = Proof of concept; RCT = Randomized Controlled Trial; RT = Radiation Therapy

Xevinapant
Potential to become standard of care in core area for the Group

Chart originally presented in 2020 R&D update call; selected, non-exhaustive examples



Worldwide xevinapant in-licensing builds on leadership in head and neck

1. Strategic fit
2. Exploitability
3. Clinical & commercial competencies

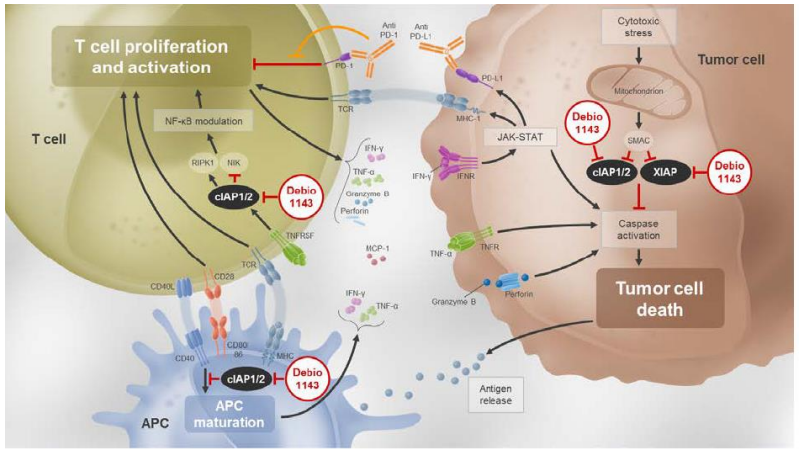
Oncology
Immuno-Oncology
Immunology

1: In 2017, Domain Therapeutics and Merck KGaA, Darmstadt, Germany entered into a collaboration and licensing agreement for the development of adenosine receptor antagonist drugs specifically designed for oncology and immuno-oncology; 2: In 2014, Sutro and Merck KGaA, Darmstadt, Germany initiated a collaboration to discover and develop ADCs utilizing Sutro's cell-free protein synthesis platform, Xpress CF+™. Merck KGaA, Darmstadt, Germany is responsible for drug product, clinical development and commercialization of any resulting products; 3: In 2019, an exclusive license was granted to Vertex for the use of M9831 in gene-editing applications; 4: Avillion conducted Ph II of M1095 in Psoriasis, Merck KGaA, Darmstadt, Germany decided to out license sonelokinab to a new partner to initiate Phase III development in 2021 5: Inhibitor of Apoptosis Proteins

From: Q4 2020 earnings call – 2021.03.04

Xevinapant
Blockbuster potential & meaningful clinical benefit in curative setting

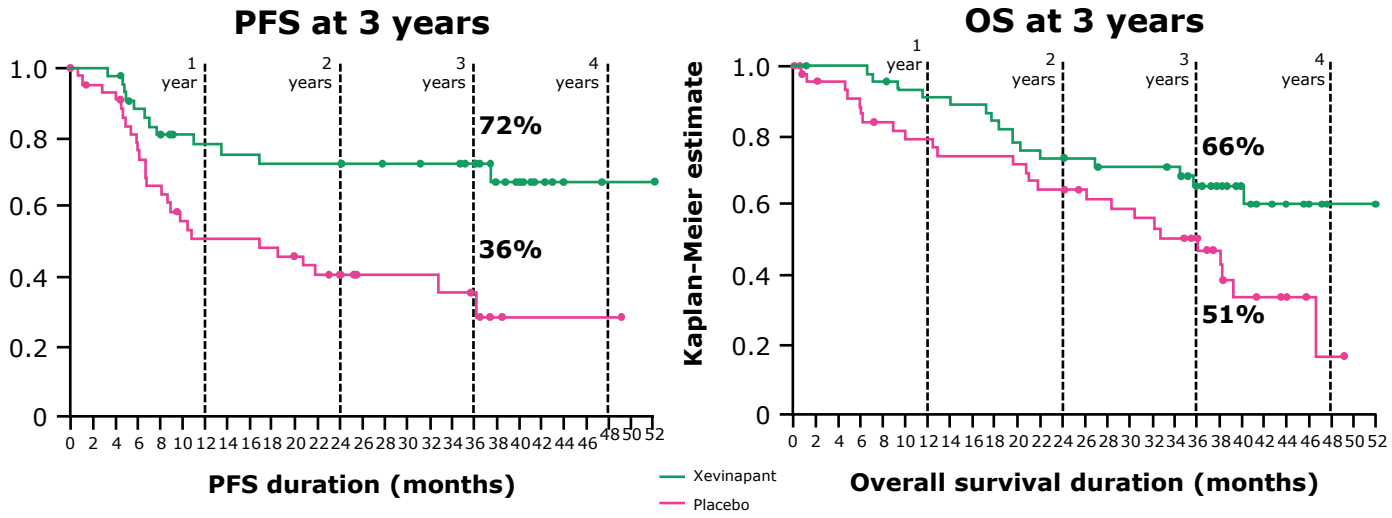
Mode of Action[1]



- Oral Inhibitor of Apoptosis Proteins (IAP) antagonist: radio- chemo-sensitizer & enhancer of anti-tumor immunity
- IAP antagonists tackling two cancer hallmarks:
  - Enhancing anti-tumor immunity
  - Lowering threshold for tumor cell death

Phase 2 Clinical Study Results[2]

- Improvement in OS **statistically significant** and **clinically meaningful**: HR 0.49 (0.26–0.92); p=0.0261
- mOS not yet reached in xevinapant arm; 5-year extended OS follow-up ongoing
- Clinically **compelling PFS improvement**: HR 0.34 (0.17–0.68); p=0.0023
- Addition of xevinapant results in good safety profile, not comprising CRT administration



[1] Source: Debiopharm

[2] Source: ESMO 2020 - Late Breaking Abstract 39 - 3-years follow-up of double-blind randomized phase II comparing concurrent high-dose cisplatin chemo-radiation plus xevinapant or placebo in high-risk patients with locally advanced squamous cell carcinoma of the head and neck

From: Q4 2020 earnings call – 2021.03.04

Xevinapant

In-licensing with a total deal-volume of up to ~ €900 m and industry-typical sales royalties

Payment type	Amount (in €)	Accounting treatment[2]
Upfront payment	~ €190 m	Largest part to be capitalized as an intangible asset
Approval milestones	Up to ~ €380 m[1]	To be paid and capitalized as an intangible asset upon approval and to be amortized once asset is ready for use
Commercial milestones	Up to ~ €330 m	To be paid and capitalized as an intangible asset, based on sales thresholds and to be amortized over remaining useful life
Sales	n/a	Merck KGaA, Darmstadt, Germany to recognize sales globally
R&D Costs	n/a	For ongoing TrilynX study ▪ Cash view: 50/50 cost sharing ▪ P&L view: fully shown in Merck KGaA, Darmstadt, Germany P&L 2nd study for cisplatin-ineligible patients: Merck KGaA, Darmstadt, Germany incurs 100% of cost
Royalties	n/a	Merck KGaA, Darmstadt, Germany to pay industry-typical sales royalty to Debiopharm

[1] thereof up to ~€ 300 m for focus H&N indications)

[2] final accounting treatment is still subject to alignment with auditors

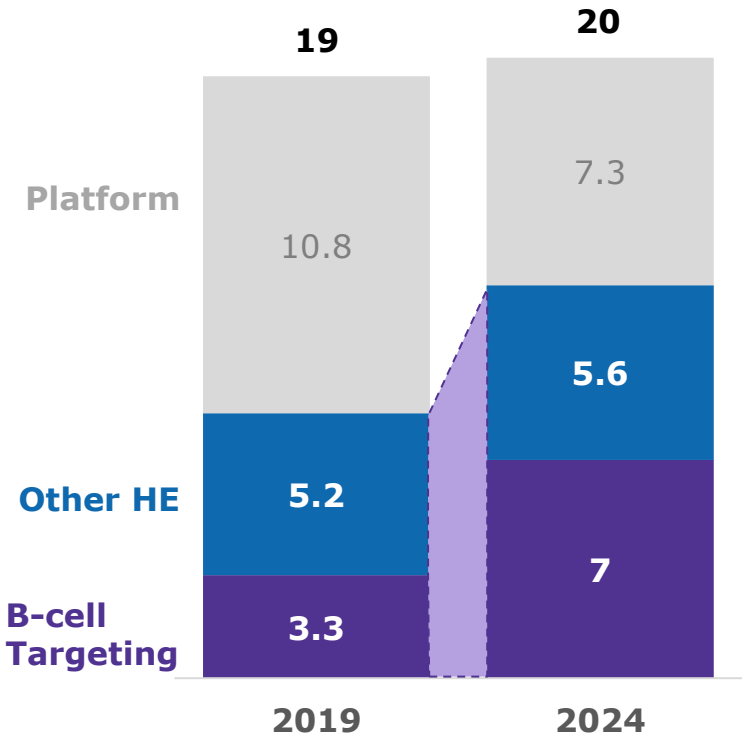
Evobrutinib (BTK-inhibitor)

We pioneered BTKi development for MS with Evobrutinib
Potential to have 3 complementary MS branded products by 2025

Unmet need in Multiple Sclerosis (MS) – Need for new mechanisms to control disease

- **~50% of patients with Relapsing MS (RMS) continue to have ongoing disease activity** over 2 years even when treated with the most effective agents
- No therapy with impact on **progression** mediated by **CNS myeloid cells**
- **Systemic side effects** of therapies limit patient acceptance and compliance
- All approved higher efficacy therapies **associated with elevated risk of infection**

Worldwide MS Market [€ bn][1]



B-Cell Targeting + High-Efficacy (HE) Orals represent >60% of MS sales

- **BTKi is a novel class** of non-depleting therapies selectively targeting both B-cells and innate immune cells including disease progression-relevant microglia
- Merck KGaA, Darmstadt, Germany was the **first to conduct a full Phase II dose-ranging study in MS with Evobrutinib**, a highly selective covalent BTKi[2]
- **Merck KGaA, Darmstadt, Germany** is a **growing MS player** and could have 3 complementary branded products by 2025 – Mavenclad®, Rebif®, Evobrutinib

Platform agents – interferons, copaxone, DMFs and Teriflunomide; Other HE (high-efficacy) - cladribine, S1Ps, alemtuzumab; B-cell Targeting – ocrelizumab, ofatumumab, ublituximab. Includes branded products, generics and biosimilars; 1: Merck KGaA, Darmstadt, Germany internal estimates; 2: Montalban et al. NEJM 2019; 380:2406-2417; Acronyms: BTKi = Bruton's tyrosine kinase inhibitor

Evobrutinib stands out amongst BTK inhibitors under development

Uniquely positioned both in terms of clinical evidence and mode of action

		Fenebrutinib##	Tolebrutinib**	Evobrutinib
Clinical Evidence	Long-term* **efficacy on relapses**	✗	✗	✓ (1)
	Long-term* **safety**	✗	✗	✓ (1)
	Convenience (oral)	✓ BID	✓ QD	✓ BID
	Exposure in CSF	✗	✓ (2, ##) **in HV**	✓ (3) **in MS**
	Biomarker of inflammation and progression in MS patients (sNfL)	✗	✗	✓ (3)
Preclinical data	**BTK occupancy in the CNS**	✗	✓ (4)	✓ (5)
	Efficacy in progressive EAE model and reduction of leptomeningeal inflammation#	✗	✗	✓ (6-8)

evolutionRMS

Phase III studies: Recruitment on track → Target data in-house in Q4 2023 and potential filing shortly after

✗: not reported

*Long term is defined as the continuous treatment of MS patients for at least 96 weeks; **Extension to Phase II clinical trial in MS ongoing; #Defined as having an evidence on all the following: Inhibition of leptomeningeal and cortical inflammation and progression in preclinical models; ## No reported data in MS patients; 1: Montalban et al., triMS.online conference 2020; 2: Smith et al., ACTRIMS 2019; 3: data on file; 4: Francesco et al., ECTRIMS 2017; 5: Boschert U et al., ECTRIMS-ACTRIMS 2017; 6: Kim et al., ECTRIMS 2020, 7: Alankus YB et al., ECTRIMS 2018; 8: Rijvers et al., ECTRIMS 2020; Acronyms: sNfL serum Neurofilament Light Chain; BID twice a day; QD once a day; HV healthy volunteers; MS multiple sclerosis

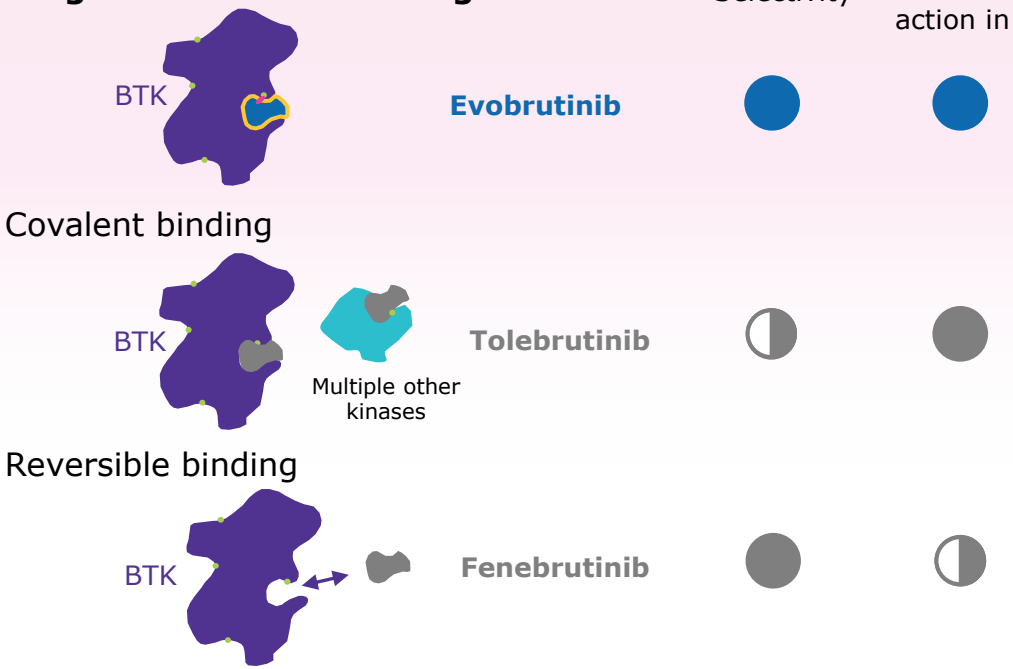
Evobrutinib is optimally dosed to offer best-in-class BTK inhibition

Optimized dose selection & targeted covalent binding results in sustained BTK inhibition that is necessary for robust efficacy

Sustained BTK inhibition in CNS-resident and CNS-migrating cells resulting from covalent binding MOA and BID dosing can be critical to achieve best-in-disease efficacy[1]

Targeted covalent binding leads to highly specific continuous target engagement[2-6]

Targeted covalent binding



BID dosing enables critical >95% BTK inhibition throughout the day in the majority of patients[7]

BTK Occupancy (SS Trough) Threshold	25 mg QD	75 mg QD	75 mg BID
	% of Population (RMS Ph2)		
95%	23	48	98

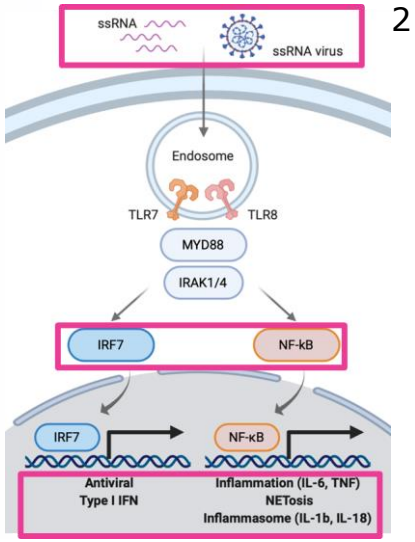
Efficacy at 48 weeks[8]	
75 mg QD Evobrutinib Fasted: **ARR = 0.25**	75 mg BID Evobrutinib Fasted: **ARR = 0.11**

1. Boschert et al., ECTRIMS 2017; 2. Bianco et al., Trends in Pharmacological Sciences 2020; 3. Bauer R.A., Drug Discovery Today 2012; 4. Swinney D.C., Curr. Top. Med. Chem. 2006; 5. Barf, T. & Kaptein, A., J. Med. Chem. 2012; 6. Caldwell et al., J. Med. Chem. 2019; 7. Montalban et al., EAN 2020., 8. Montalban et al NEJM 2018
*at disease relevant concentrations: 75 mg BID fasted equals 45 mg BID fed that is a dose used in Phase III EVOLUTION studies; ARR: annualized relapse rate

M5049 (TLR7/8 antagonist)
TLR7/8 are drivers of SLE pathology and possibly of COVID-19

Mechanism of Action[1]

- M5049 (**discovered in-house**) is a **potentially first-in class small molecule** that blocks activation of Toll-like receptors TLR7 and TLR8, two innate immune sensors that detect single-stranded (ss) RNA from viruses such as SARS-COV-2, the virus responsible for COVID-19, and inflammatory self-RNAs in the context of autoimmunity
- Activation of TLR7/8 leads to immune cell activation and inflammation, which when not properly controlled can cause severe immunopathology



2

Results from Phase I study in healthy volunteers (NCT03676322)[1]

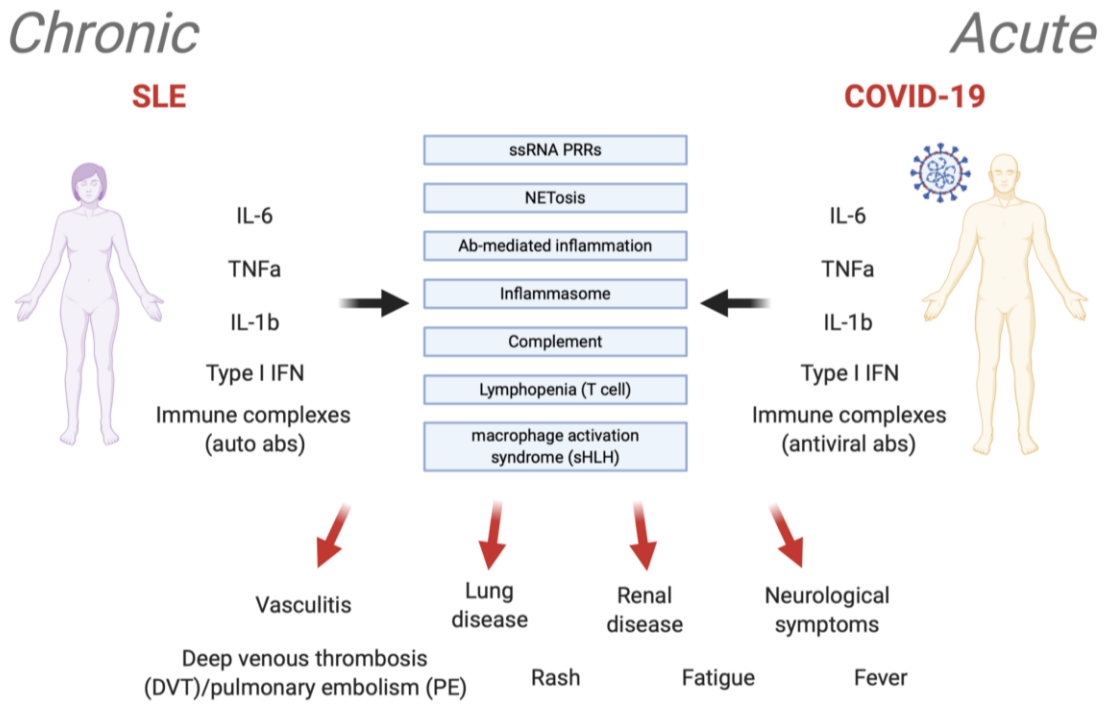
- **Well-tolerated** over the dosing interval, no significant or dose-limiting adverse event
- Pharmacokinetic parameters linear and dose-proportional from 1 to 200 mg
- Exposure-dependent inhibition of ex vivo-stimulated IL-6 secretion observed, with maximum inhibition achieved at 200 mg

Preliminary Phase I data warrant further investigation as a potential treatment for autoimmune diseases including SLE

1: Port et al., A PHASE I, FIRST-IN-HUMAN STUDY TO ASSESS THE SAFETY, PHARMACOKINETICS AND PHARMACODYNAMICS OF SINGLE AND MULTIPLE ASCENDING DOSES OF M5049, A DUAL ANTAGONIST OF TLR7/8, IN HEALTHY SUBJECTS, Lupus Science & Medicine 2020;7(Suppl 1):A1–A131, conference cancelled due to COVID-19; 2 Adapted from ImmunoHorizons July 1, 2018 Dowling, D;
Acronyms: SLE = Systemic lupus erythematosus; TLR = Toll-like receptors

M5049 (TLR7/8 antagonist)
Similarities between SLE and COVID-19

Similarities between SLE and COVID-19[1]



Phase II study started in July 2020

Rational:

- Investigate if M5049 intervention at critical point in course of COVID-19 disease may prevent or ameliorate hyper-inflammatory response in patients with COVID-19 pneumonia and **prevent progression to 'cytokine storm'**
- Successful intervention with investigational drug may reduce life-threatening complications of COVID-19, including severe respiratory symptoms often necessitating further interventions such as mechanical ventilation

Design:

- Phase II randomized, controlled clinical study
- Commenced in July 2020

Results:

Dependent on recruitment and COVID-19 infection rates
First results expected in Q3 2021

1: Illustration created in-house; Acronyms: SLE = Systemic lupus erythematosus

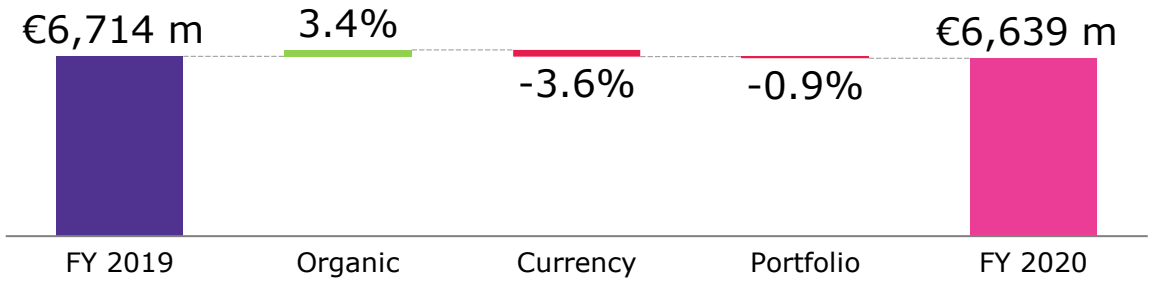
All timelines are event-driven and may be subject to change

FY Healthcare: Organic growth based on a strong Q1 and a swift recovery post Q2 dip; EBITDA pre further elevated by €365 m provision release

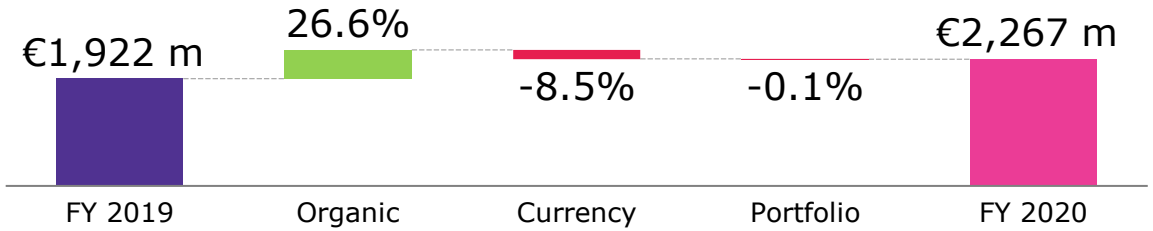
Healthcare P&L

[€m]	IFRS		Pre	
	FY 2019	FY 2020	FY 2019	**FY 2020**
Net sales	6,714	6,639	6,714	**6,639**
M&S*	-2,305	-1,664	-2,303	**-1,617**
Admin	-344	-320	-329	**-313**
R&D	-1,666	-1,640	-1,663	**-1,616**
EBIT	1,149	1,804	1,176	**1,889**
EBITDA	1,896	2,184	-	-
EBITDA pre	1,922	2,267	1,922	**2,267**
(in % of net Sales)	28.6%	34.1%	28.6%	**34.1%**

Net sales bridge



EBITDA pre bridge



Comments

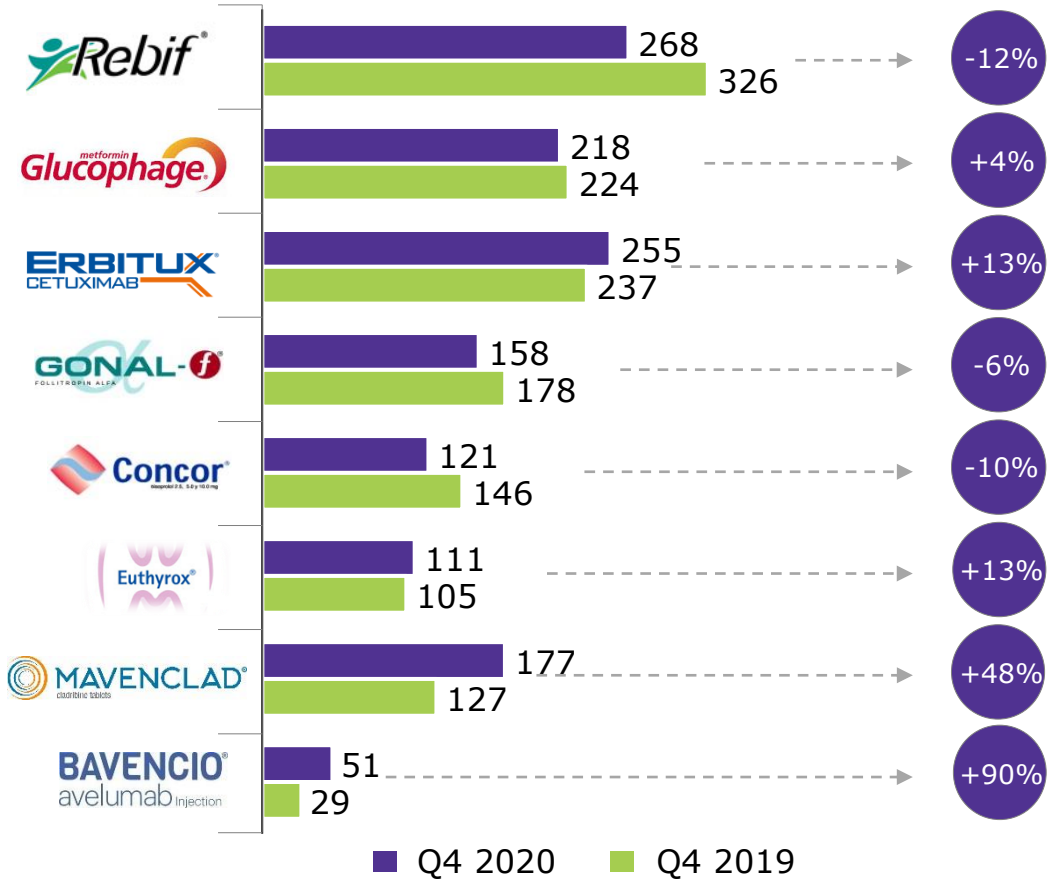
- Mavenclad® swiftly recovered from COVID-19 dip in Q2, back to expanding dynamic shares, however dynamic market remains suppressed; Rebif® above underlying trajectory towards year-end
- Fertility back to pre COVID-19 levels as of Q3 and growing again in Q4 but picture remains mixed across regions
- Erbitux® showing organic growth despite pandemic; Bavencio® ramping up, post U.S. launch in UC 1L and growing 57%
- M&S decrease through rigorous cost management, supported by reduced face-to-face activities amid COVID-19 while expanding digital activities; expired amortization of Rebif®
- Lower R&D reflects ongoing stringent cost control while maintaining focus on priority programs
- Underlying EBITDA pre margin of 28.7% further elevated by €365 m Biogen provision release to 34.1%

* Marketing and selling expenses

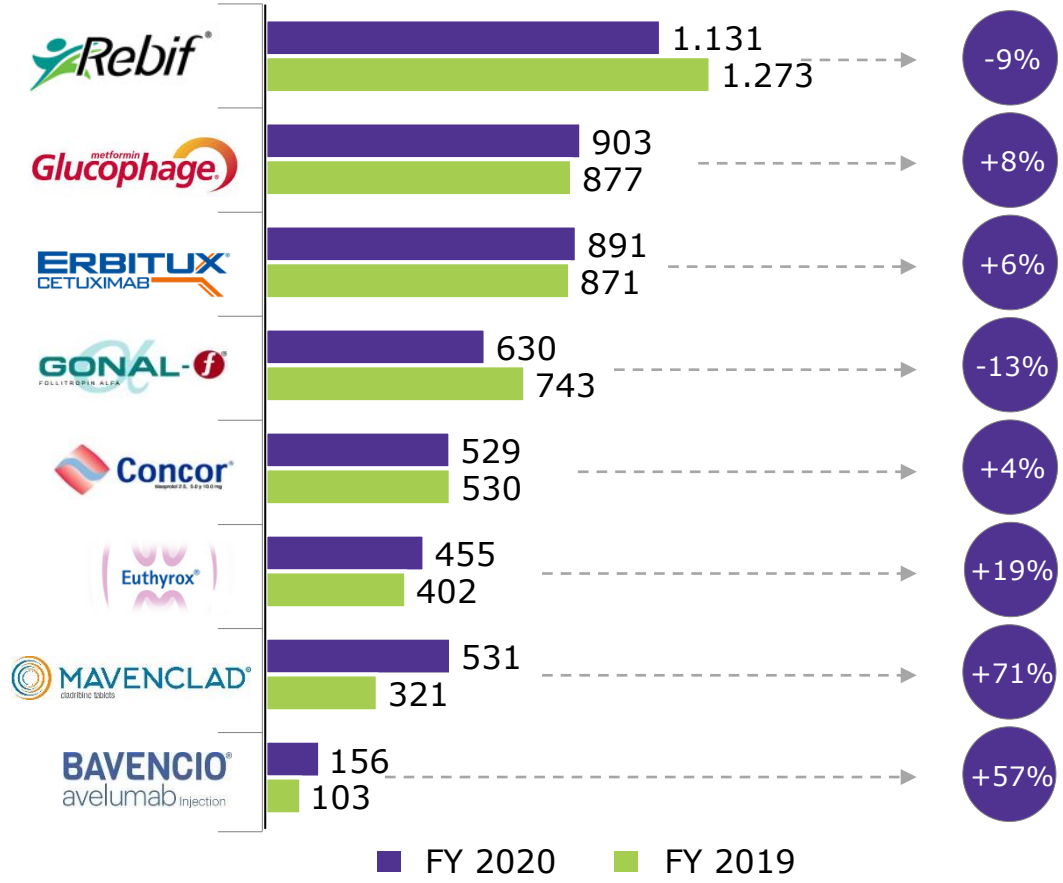
Totals may not add up due to rounding

Healthcare organic growth by franchise/product

Q4 2020 organic sales growth [%] by key product [reported €m]



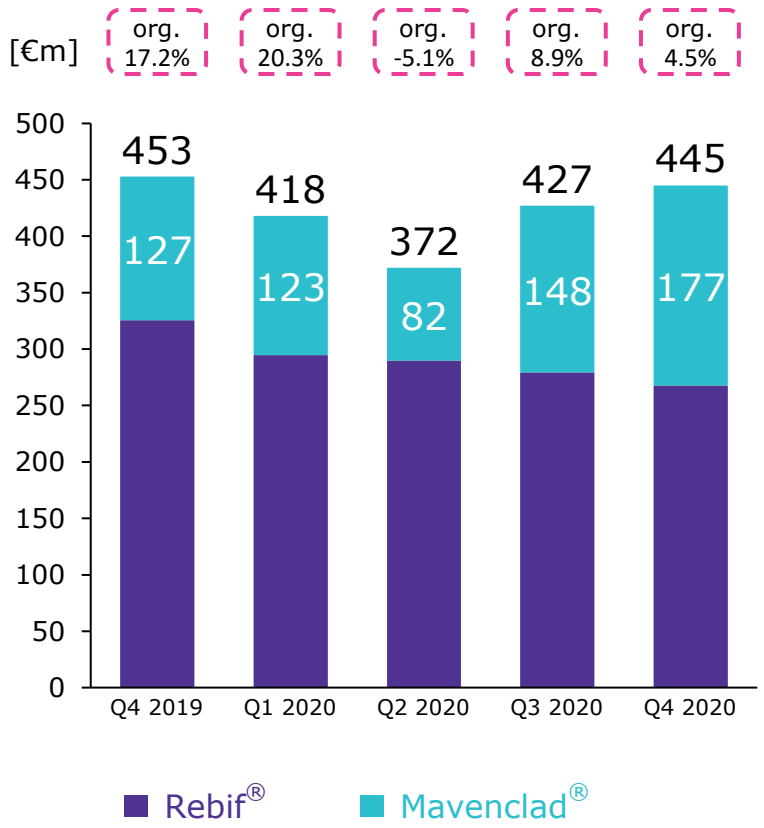
FY 2020 organic sales growth [%] by key product [reported €m]



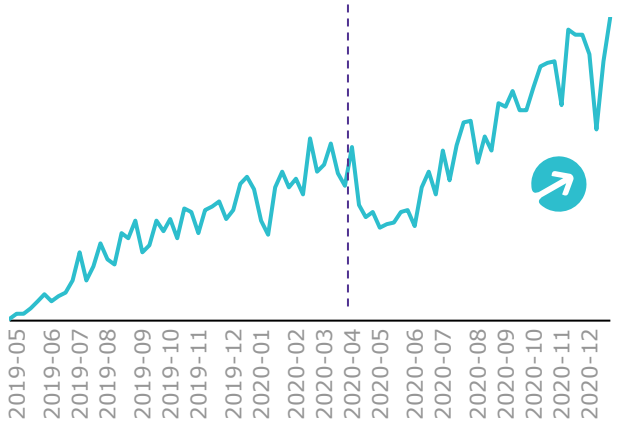
From: Q4 2020 earnings call – 2021.03.04

Neurology & Immunology: Organic sales growth of 4.5% in Q4 as Mavenclad® recovery continues

Sales development NDI, [€m]

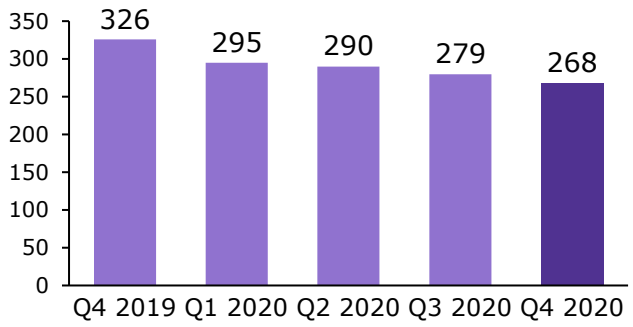


Mavenclad® TRx[1], [IQVIA, NPA, Weekly View]



- **Highest quarterly sales** since launch
- Rx data **continues to trend positively with renewed momentum**
- Dynamic **volumes still suppressed** by ongoing COVID-19 impact

Rebif® net sales, [€m]

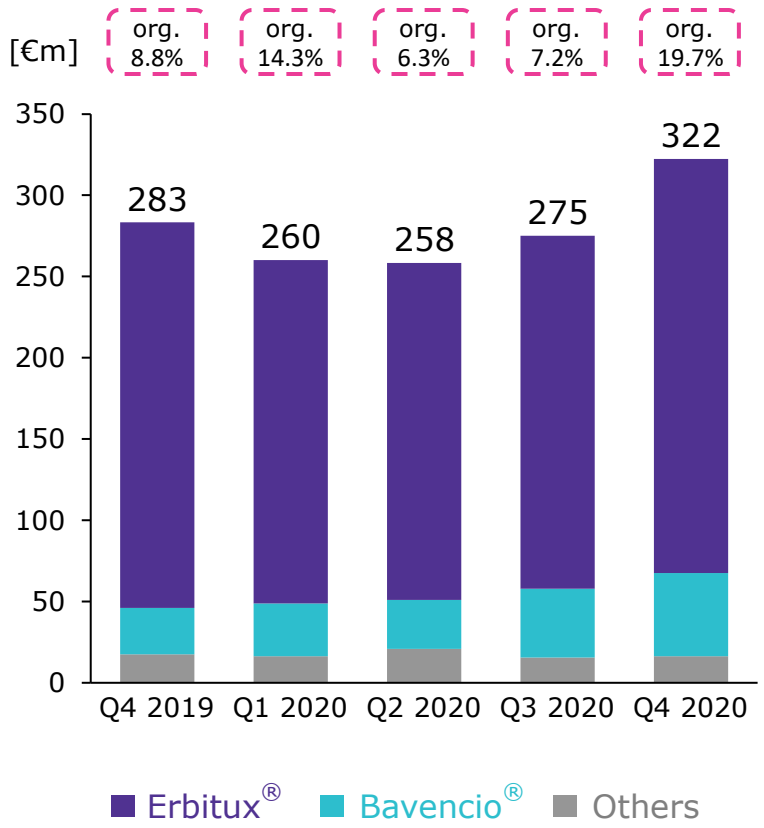


- Rebif® €268 m in Q4 returns to underlying trajectory with -12% decline
- FX burden of -5% in Q4

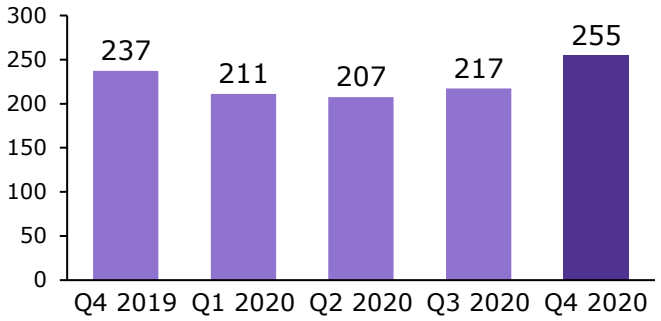
1: IQVIA

Oncology: Bavencio® showing strong YoY and sequential growth post U.S. launch in UC 1L; EU and JP approvals expected to accelerate growth further

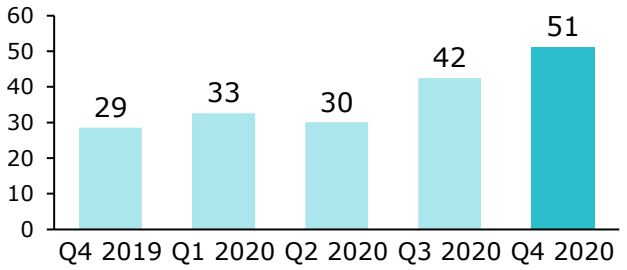
Sales development Oncology, [€m]



Erbitux® net sales, [€m]



Bavencio® net sales, [€m]



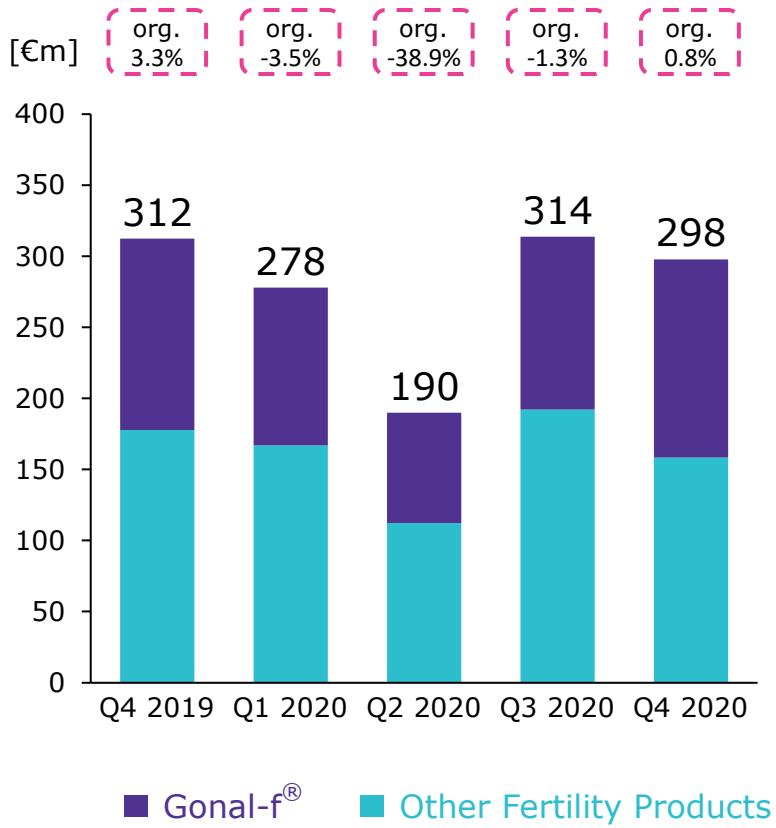
- 13% growth in Q4, supported by temporary supply agreement with Eli Lilly for U.S.
- FY growth at 6% driven by solid performance in China and emerging markets
- Overall limited negative impact from COVID-19

- Bavencio® >30% QoQ growth for last 2 Quarters driven by 1L UC launch in the U.S.
- Launches in EU/Japan to contribute further

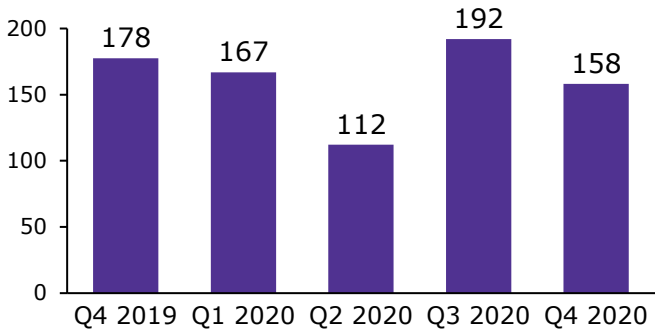
From: Q4 2020 earnings call – 2021.03.04

Fertility: Return to organic growth post Q2 dip, while picture across geographies remains mixed

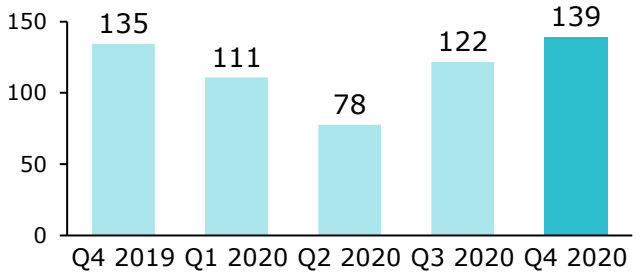
Sales development Fertility, [€m]



Gonal-f® net sales, [€m]



Other Fertility net sales, [€m]

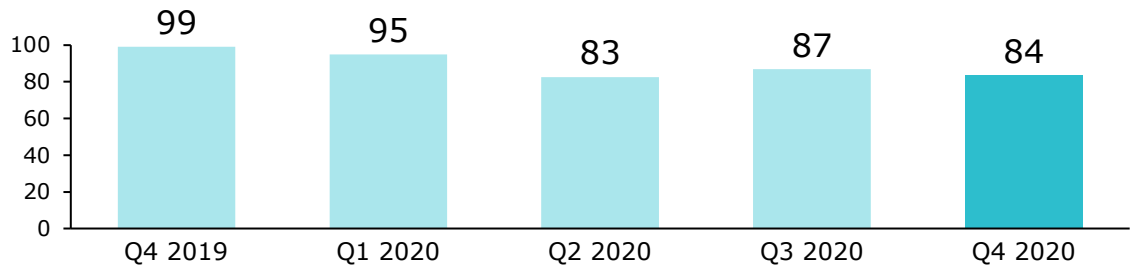


- Fertility portfolio growing again organically vs. strong Q4 2019
- FX burden of -5% mutes absolute numbers
- FY still 11% below 2019 as lost Q2 sales could not be recovered due to mixed picture across regions
- Americas and APAC growing again in Q4, majority of Europe recovered as well

General Medicine growing despite VBP impact in China; Endocrinology impacted by COVID-19 particularly in U.S.

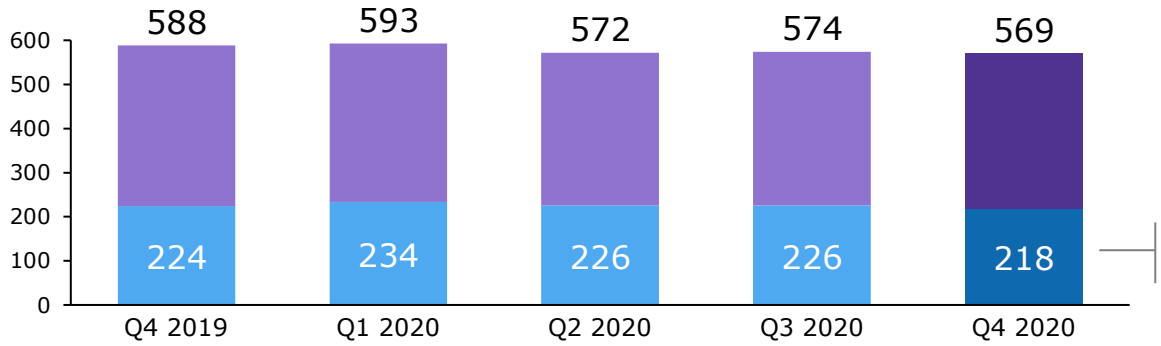
Sales evolution

[€m] Endocrinology



Organic
-8.1%

[€m] General Medicine*



Organic
+3.1%

Glucophage® sales contribution

Q4 2020 organic drivers

- COVID-19 impact in U.S. continues due to decline in HIV patient visits and treatment initiations
- Ex-U.S. growth driven by increasing diagnosis & treatment of growth hormone disorders mainly in emerging markets

- Concor® continues to see anticipated impact from VBP[1] in China, declining 10% globally
- Glucophage® not fully impacted by VBP wave 3 yet in Q4; impact anticipated from Q1 2021 onwards
- Double-digit growth of Thyroid products, strengthening leadership in this field

[1] Volume Based Procurement
*includes CardioMetabolic Care & General Medicine and Others

Life science

Life Science

Capitalizing on three key life science trends

1 COMPLEX BIOLOGICS

Single Use / End to End

Opened Wuxi site in 2018, and expanded Danvers facility

Viral Vectors

Expanded Carlsbad viral vector manufacturing site in 2016; further doubling of capacity planned for 2021

Antibody Drug Conjugates (ADC)

Launched ADC Express™ for the rapid production of ADCs

2 DIGITAL UNIVERSE

#1 eCommerce site in Life Science[1]

- **>90%** of Millipore products on eCommerce platform
- **x2** net sales growth of eCommerce vs. non-eCommerce[2]

3 ASIA

Manufacturing/Distribution

Nantong, Wuxi Single use

Commercial expansion

Tier 2 cities

eCommerce partnership

Alibaba Group 阿里巴巴集团

[1]measured by traffic, rated by external service SimilarWeb; [2]by business segment within 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

HP-API

Plasma

mAbs

Vaccines

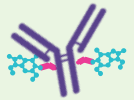
FORMULATED **FOR THE MASSES**

NOVEL

- Uses DNA, RNA, Cells
- Potentially curative
- Non-templated manufacturing

MODALITIES

Gene & Viral



ADCs

Cell therapies

mRNA

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

COVID demands align with our strengths but increase supply chain pressure

unit operations		PALL	ThermoFisher SCIENTIFIC	SARTORIUS
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

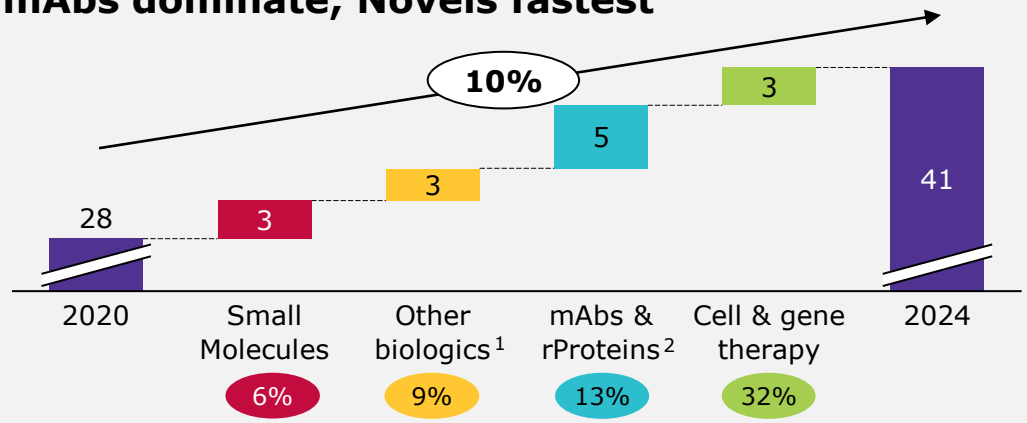
COVID-19 Outlook

Type	Implications
mAb **65** programs **Bind and block** virus from entering cells	• Universal templates • A leading position for 8 out of 9 unit ops
Vaccine **199** programs Protective **immune response**	• Multiple templates • Leveraging Single Use
Nucleic Acid **43** programs Leveraging **human factory**	• Emerging manufacturing processes • Lipids are critical

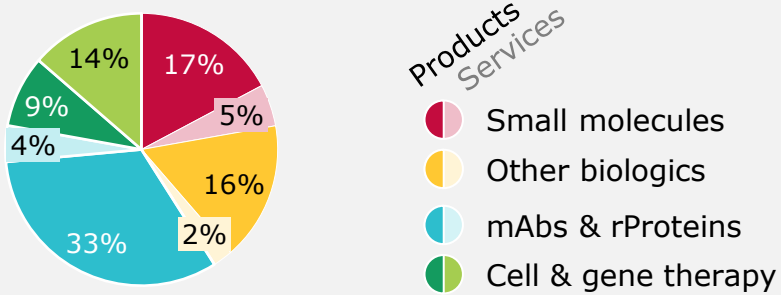
Opportunities in services to accelerate double-digit growth

Accessible Market (€ bn)

mAbs dominate; Novels fastest

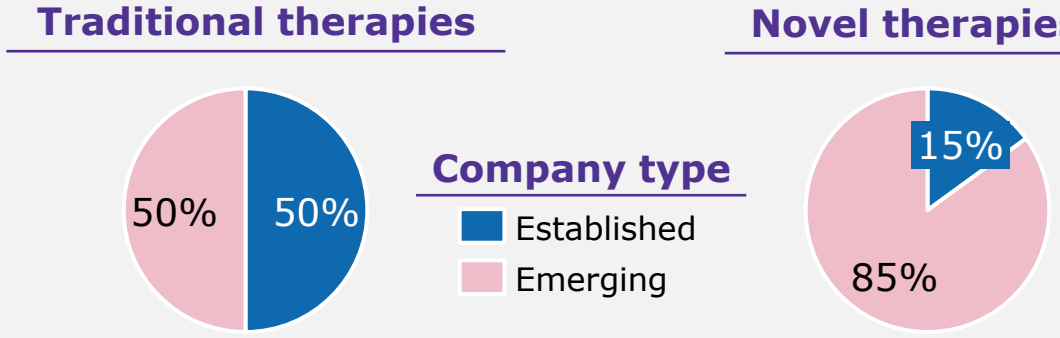


Service importance varies by modality

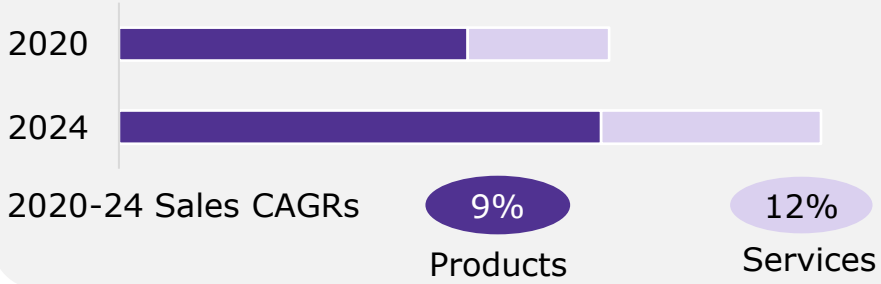


Origins of biologics pipeline

Emerging biotechs drive novels



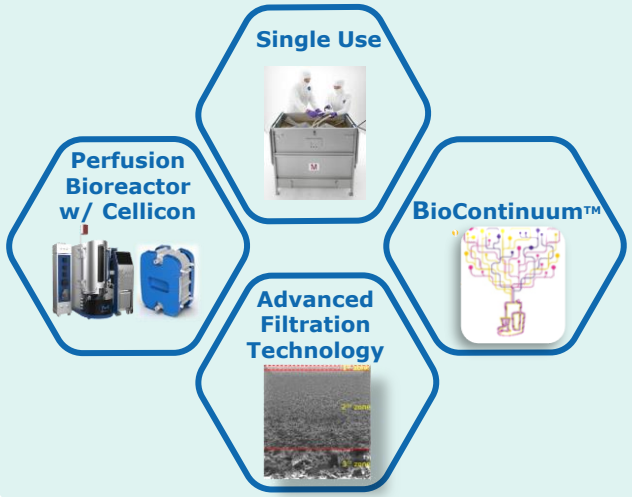
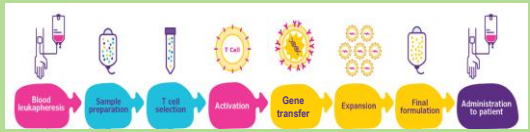
Services see faster growth in coming years



Sources: Evaluate Pharma, internal market models, CSR sales data; [1] Other biologics include plasma, vaccines, insulin, microbial and non-mAb biosimilars; [2] mAbs include ADCs here;
Additional acronym: rProteins = recombinant proteins

Process Solutions: Strategic direction

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

	TRADITIONAL	ALL	NOVEL
Modality			
Revenue driver	Near term	Mid term	Long term
Offering	Products	Services	Products
Portfolio		 ✓ Contract development & manufacturing organization ✓ Contract testing organization ✓ Product characterization	Manufacturing novel therapies  ✓ Templated viral manufacturing consumables and reagents ✓ Autologous manufacturing system

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

Launched 2018

Pellicon®
Ultrafiltration
Cassettes

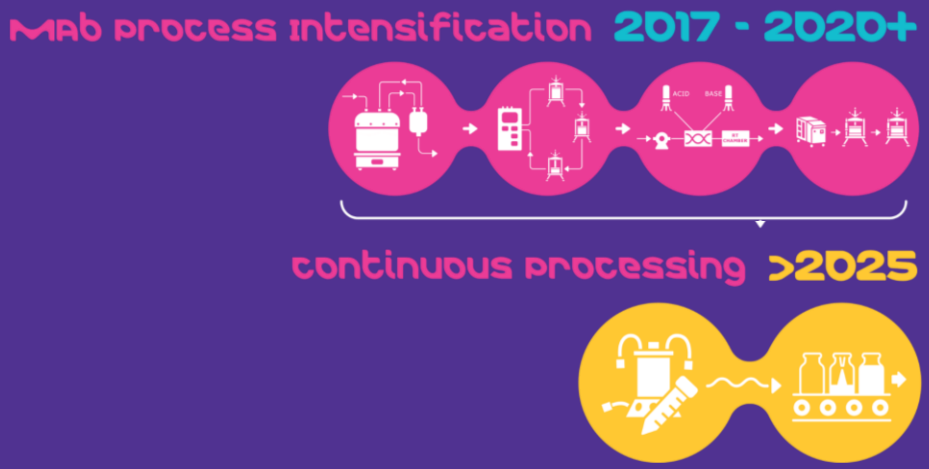
Durapore®
Filtration

Launched 2018

Millipak®
Final Fill
Filter

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

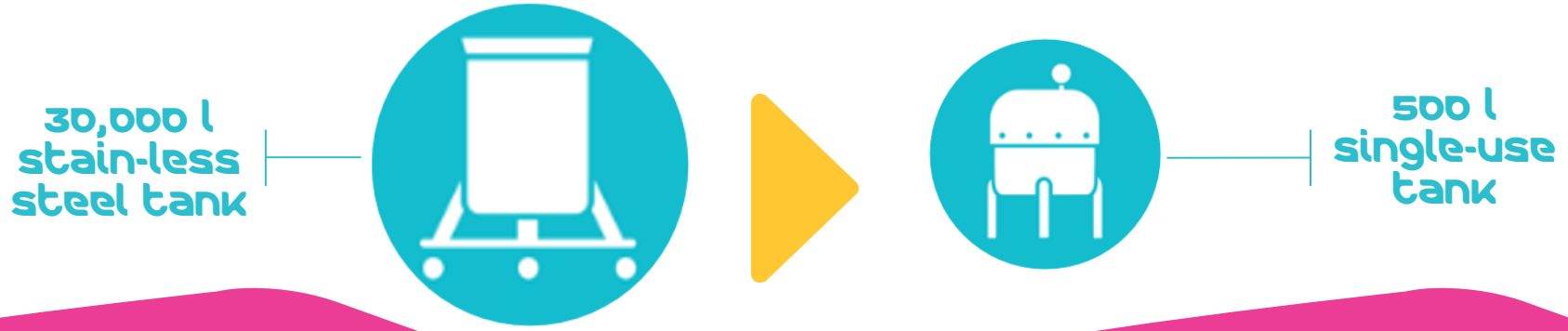
Tomorrow's process



Continuous bioprocessing will …

- be an evolution in mAb bioprocessing
- take time to establish
- leverage the present
- lead to hybrid 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 m²**

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 m²**

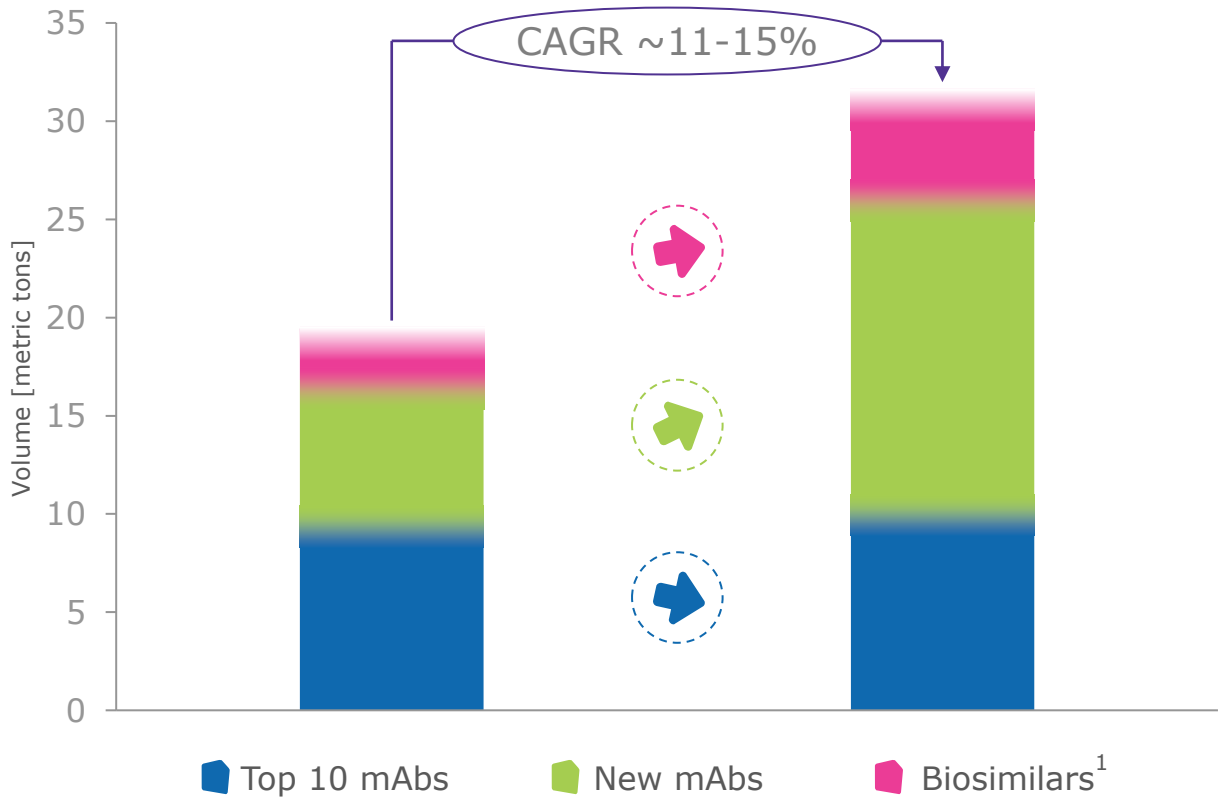
Strong demand for single-use technologies and Process Solutions' broad offering was and will remain a key source of growth for Life Science

*CAPEX = Capital Expenditure

Life Science

Democratization of mAbs market will drive diversification, change, variability

mAb volume projections 2020 to 2024



Market development

- Overall mAbs market will grow ~11-15% CAGR
- Top 10 originator mAbs represent ~ 50% of market volume today and will decline to ~30% in 2024
- Biosimilars will gain share

[1]Biosimilars scaling factor = 2.8 based off internal estimates and McKinsey analysis;
Source: company estimate based on industry forecasts, EvaluatePharma; mAbs = Monoclonal antibodies

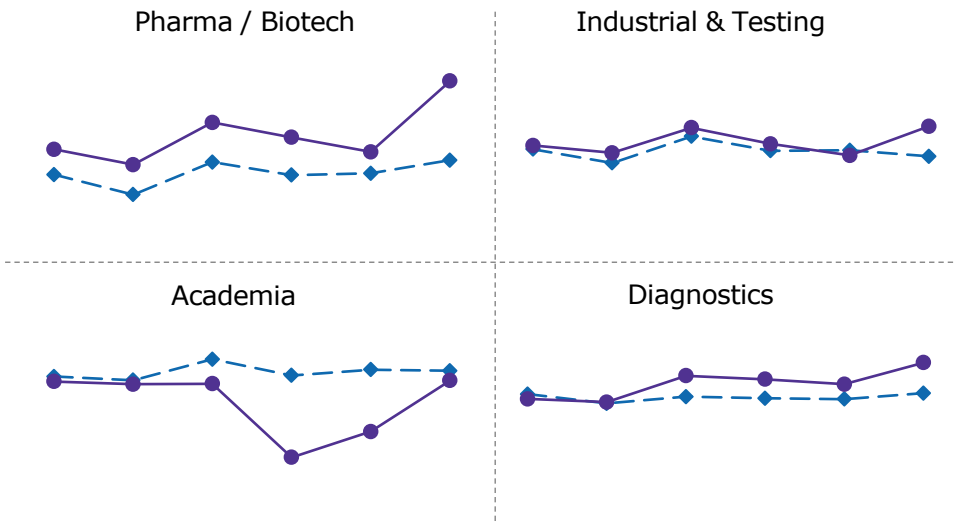
Life Science highly resilient and well positioned to participate in potential mid-term upside from COVID-19

2020 heatmap of COVID-19 impact by customer segment

	Pharma/ Biotech	Industrial & Testing	Academia	Diagnostics
Process Solutions	+++ -	COVID-19 insensitive	COVID-19 insensitive	COVID-19 insensitive
Research Solutions	+	COVID-19 insensitive	- - -	++ -
Applied Solutions	+ -	+ -	- -	+

+ upsides from COVID-19 - downsides from COVID-19

H1 2020 monthly sales* by customer segment



* Illustrative;
to scale only within each customer segment

- Mid-term: **downsides to fade**, some **upsides to stay**, recovery started in June
- Order book for Process Solutions **up by >40%,** capacity expansion underway

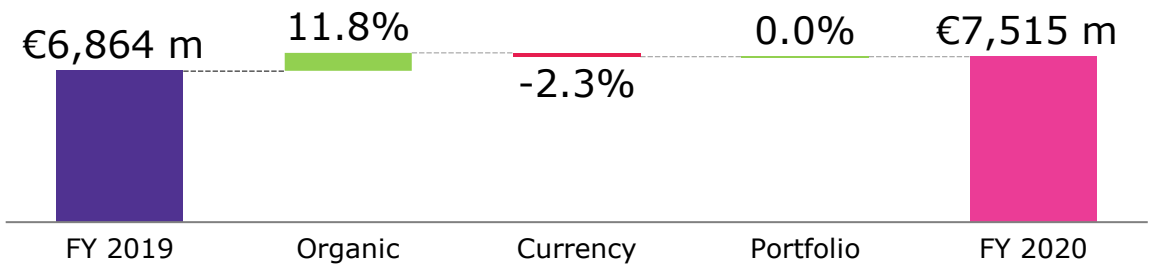
From: Q3 2020 earnings call – 2020.11.12

FY Life Science: 12% increase mainly driven by 22% growth in Process Solutions as strong underlying growth is boosted by COVID-19 demand

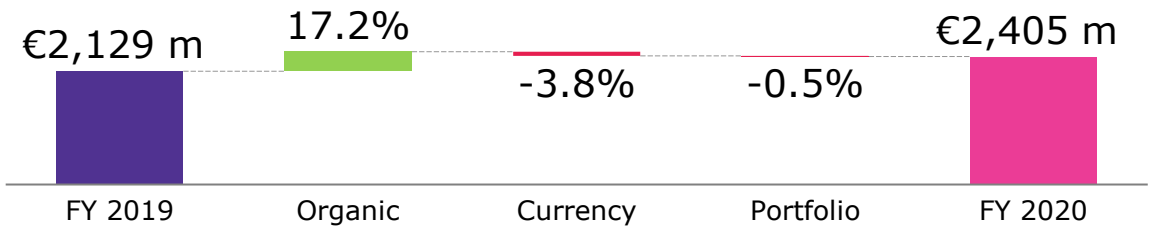
Life Science P&L

[€m]	IFRS		Pre adjustments	
	FY 2019	FY 2020	FY 2019	**FY 2020**
Net sales	6,864	7,515	6,864	**7,515**
M&S*	-1,924	-1,995	-1,922	**-1,992**
Admin	-341	-354	-307	**-322**
R&D	-276	-313	-276	**-312**
EBIT	1,280	1,599	1,340	**1,619**
EBITDA	2,070	2,387	-	-
EBITDA pre	2,129	2,405	2,129	**2,405**
(in % of net Sales)	31.0%	32.0%	31.0%	**32.0%**

Net sales bridge



EBITDA pre bridge



Comments

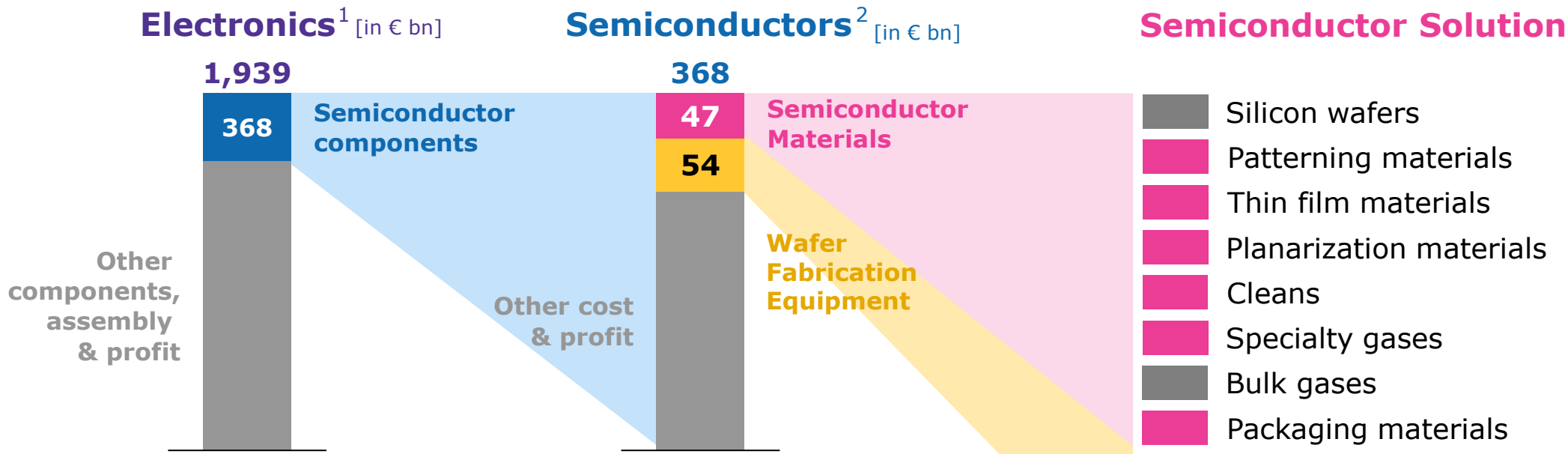
- 22% organic growth of Process Solutions mainly driven by downstream and single use, elevated by additional COVID-19 demand
- Research Solutions growing 5% as Q3 recovery is further supported by a particularly strong Q4 (diagnostics exposure & COVID-19 recovery)
- Applied Solutions growing 3% slightly below our mid-term guidance as negatives outweigh positives in the context of COVID-19
- M&S flat in absolute terms as cost-consciousness and lower travel expenses offset increased freight cost in M&S
- Admin increase driven largely by pandemic-related cost for additional safety precautions, however below sales growth
- Investments in strategic projects in R&D
- Outstanding operational leverage and favorable mix from additional COVID-19 demand boost EBITDA pre margin to 32%

* Marketing and selling expenses

Totals may not add up due to rounding

electronics

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



[3]
- Smartphones
- PCs & Laptops
- Servers
- Communication
- Wearables
- Smart devices
- …

[3]
- CPUs / logic chips
- Memory chips (SSD, RAM)
- Sensor chips
- Communication chips
- …

Merck KGaA, Darmstadt, Germany Semiconductor Materials offering

Merck KGaA, Darmstadt, Germany DS&S offering

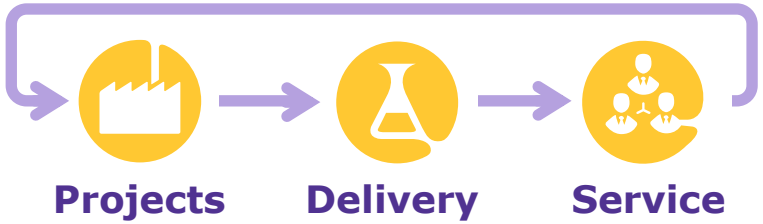
No Merck KGaA, Darmstadt, Germany offering

Illustrative Industry P&Ls based on Sources: [1]Prismark 2020, [2]WSTS/SIA & SEMI Q1 2020; [3]Representative player in the industry, non-exclusive list, not based on any underlying criteria; [4]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 Merck KGaA, Darmstadt, Germany customers in manufacturing integrated circuits

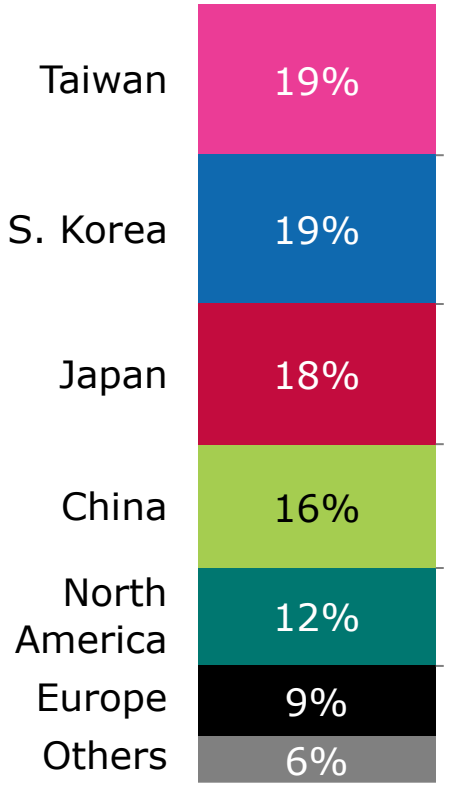
Steps in Merck's KGaA, Darmstadt, Germany Delivery Systems & Services business



- Our Semiconductor Materials offering
- Our Delivery Systems & Services offering
- Our 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[1]



Selected customers per region[2]

tsmc, UMC, SAMSUNG ELECTRONICS, SK hynix, KIOXIA, SONY, SMIC, YANGTZE MEMORY, intel, Micron, life.augmented, infineon

Semiconductor Solutions has

over 100 customers

supplying all top 10 chip makers and virtually all of the top 100[3]

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

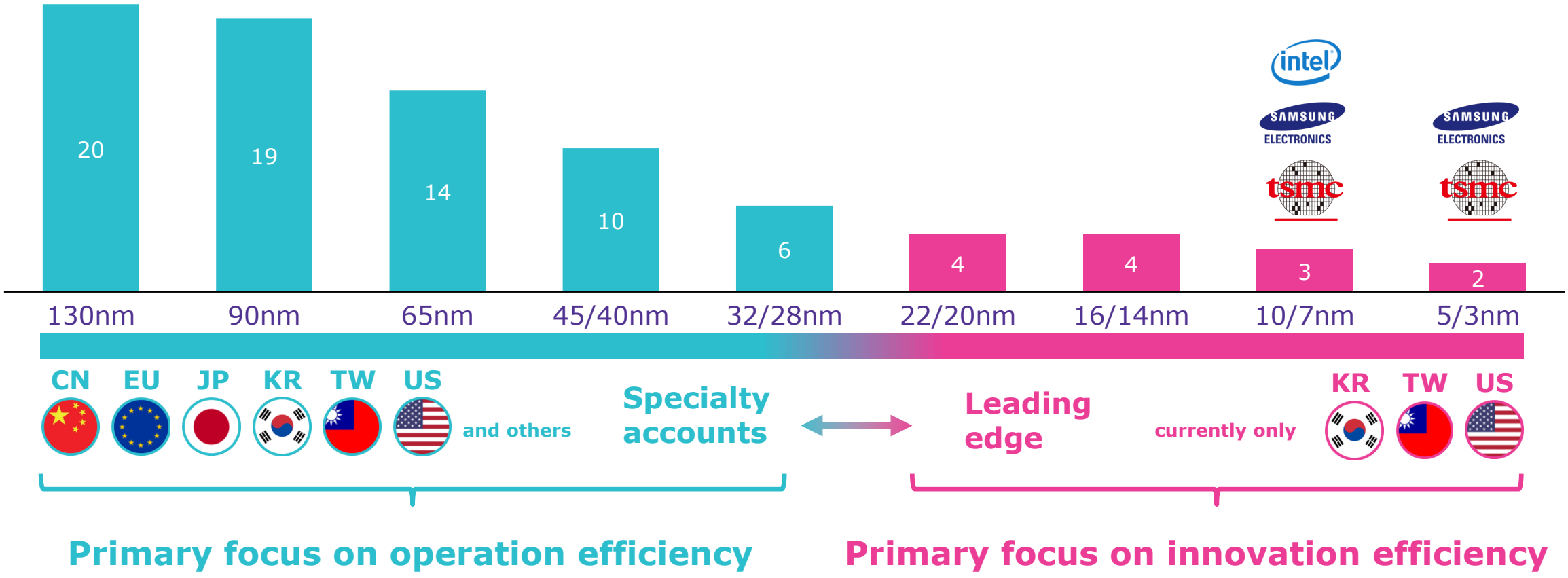
[1]SEMI World Fab Forecast Q3 2020 - Dec 2019 capacity,

[2]Representative, non-exclusive list, not based on any underlying criteria

[3]Based on H1 2020 Sales

Only 3 companies are currently running volume production ≤10nm
These companies have the largest market shares across all nodes

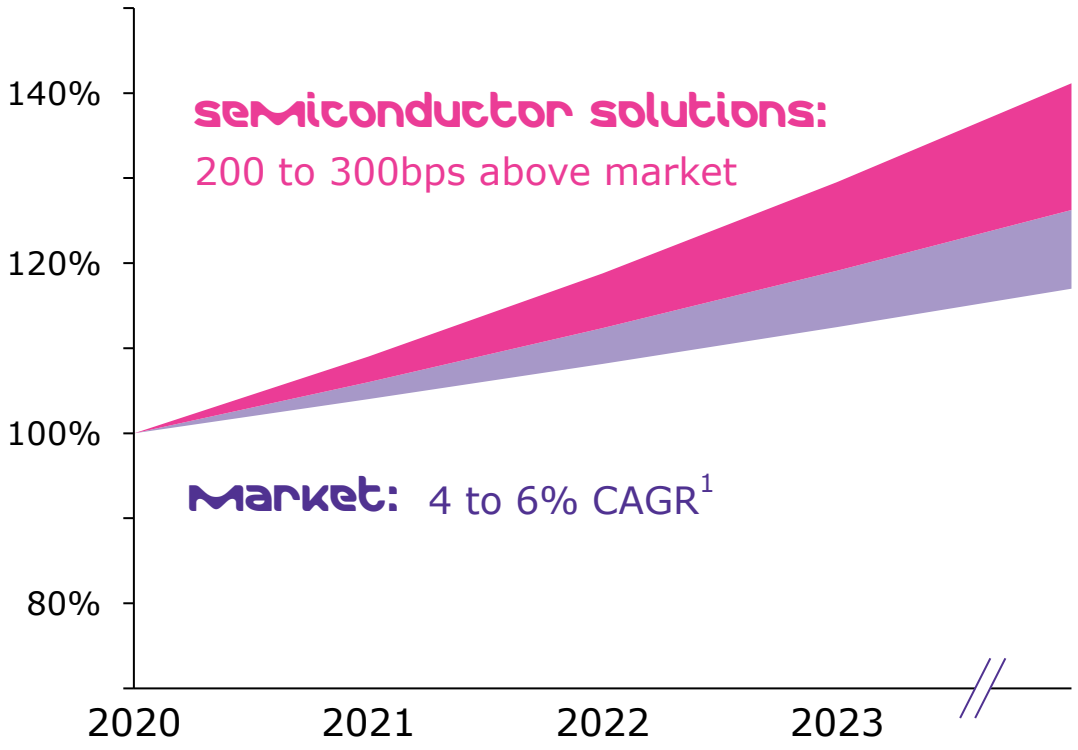
Number of companies currently running volume production per logic chip node[1]



[1]Source: Wikichip.org and own data; volume production as of Sep 2020; countries are listed in alphabetical order

Semiconductor Materials
Set to outgrow highly attractive semiconductor materials market

Semiconductor Solutions sales guidance vs. market
[Indexed 2020 = 100%]



[1]Source: Jan 2020 IC Insights 2018-2024 CAGR for wafer starts in million units

Market

- Technological trends inevitably drive **exponential data growth**
- More data requires **more chips** and **higher complexity of chips**
- **Rising materials value added** per wafer

semiconductor solutions

- **Comprehensive offering** focusing on **attractive materials categories**
- Integration **topline synergies**
- **Critical mass** and deep **customer centricity**

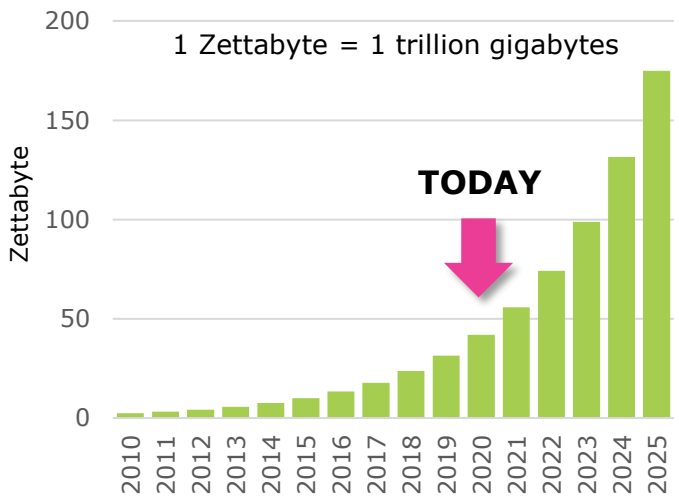
➢ Better customer understanding: know-how exchange and collaboration across **DS&S and Semiconductor Materials**

➢ Cutting-edge innovation and **R&D capabilities**

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

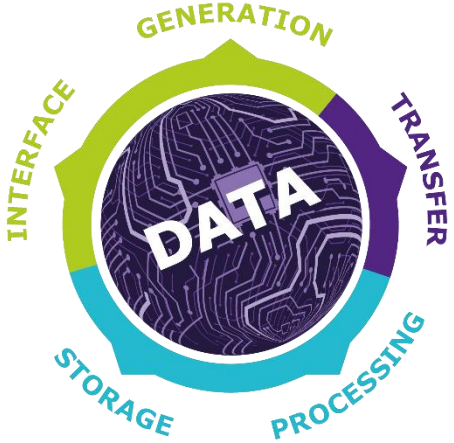
Data created worldwide is growing +30% annually

Size of global data sphere



Source: IDC DataAge 2025 Whitepaper

All segments of data application are affected by global data growth



Technology trends strongly impact relevance of data application segments

Technology market growth - examples

5G Technology[1]
>122% CAGR

Artificial Intelligence[2]
>33% CAGR

IoT Sensors[3]
>24% CAGR

Data Center Services[4]
>13% CAGR

Autonomous Driving[5]
>18% CAGR

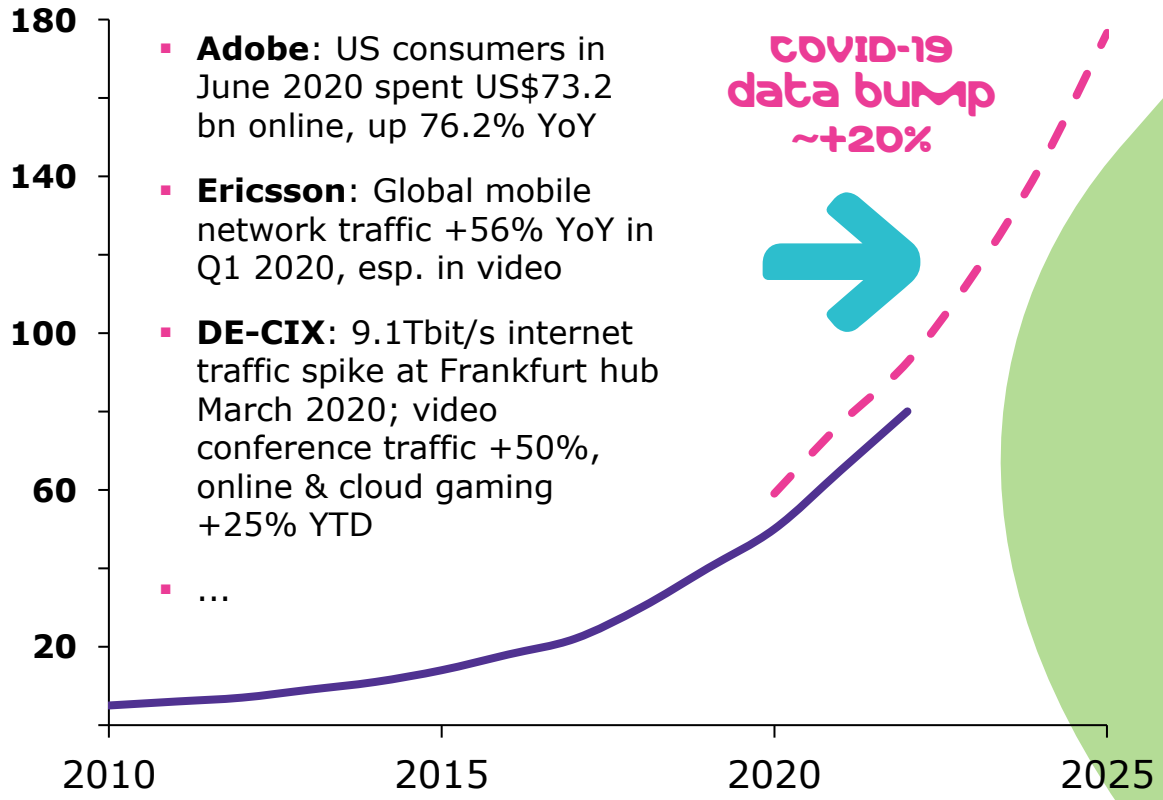
Semiconductor Solutions supports growth trend as part of "**the company behind the companies**, advancing digital living"

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

COVID-19 has vaulted the "digital transformation" by ~5 years[1]

Expected COVID-19 impact on global datasphere[2]

[zetabytes]



- **Adobe**: US consumers in June 2020 spent US$73.2 bn online, up 76.2% YoY
- **Ericsson**: Global mobile network traffic +56% YoY in Q1 2020, esp. in video
- **DE-CIX**: 9.1Tbit/s internet traffic spike at Frankfurt hub March 2020; video conference traffic +50%, online & cloud gaming +25% YTD
- ...

[1]Source: McKinsey May 2020 "The COVID-19 recovery will be digital: A plan for the first 90 days";
[2]Source: Seagate, IDC April 2020, Merck KGaA, Darmstadt, Germany

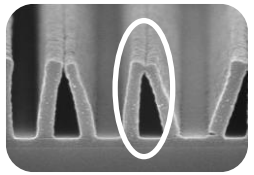
COVID-19 impact on data growth expected to be positive

1. Work-from-home/stay-at-home economy
   - Significant increase in video conferences, online shopping, online gaming, streaming
2. Change in consumers' and enterprises' digital behavior expected to be long-lasting
3. Need for more, faster & more reliable data processing, storage and bandwidth
   - Acceleration of semiconductor demand

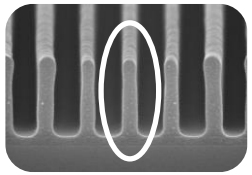
Semiconductor solutions stands ready to support increased demand

Expanding the limits of how small you can go

Pattern collapse

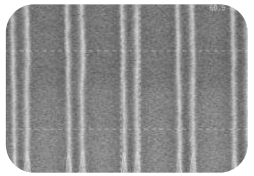


AZ® rinse materials



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

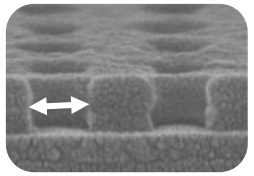
Lithography limitation



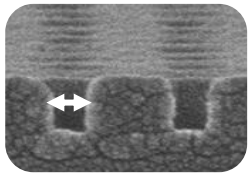
Directed self-assembly (DSA)

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

Wide features



AZ® shrink materials



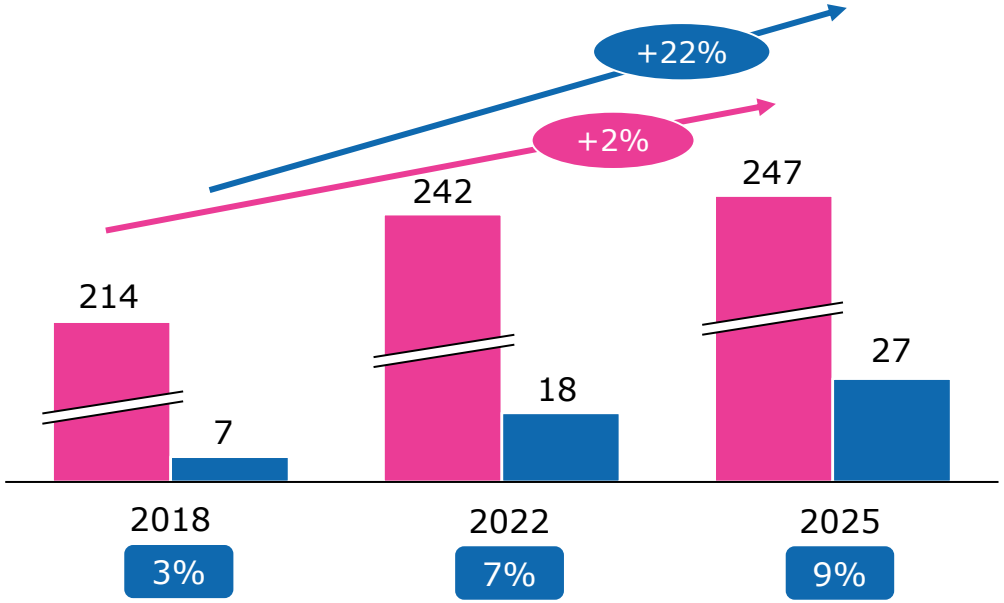
Shrink materials “shrink” the gap between lines and, hence, allow the manufacture of narrower features otherwise not possible.

Merck KGaA, Darmstadt, Germany delivers highly innovative solutions for complex customer problems

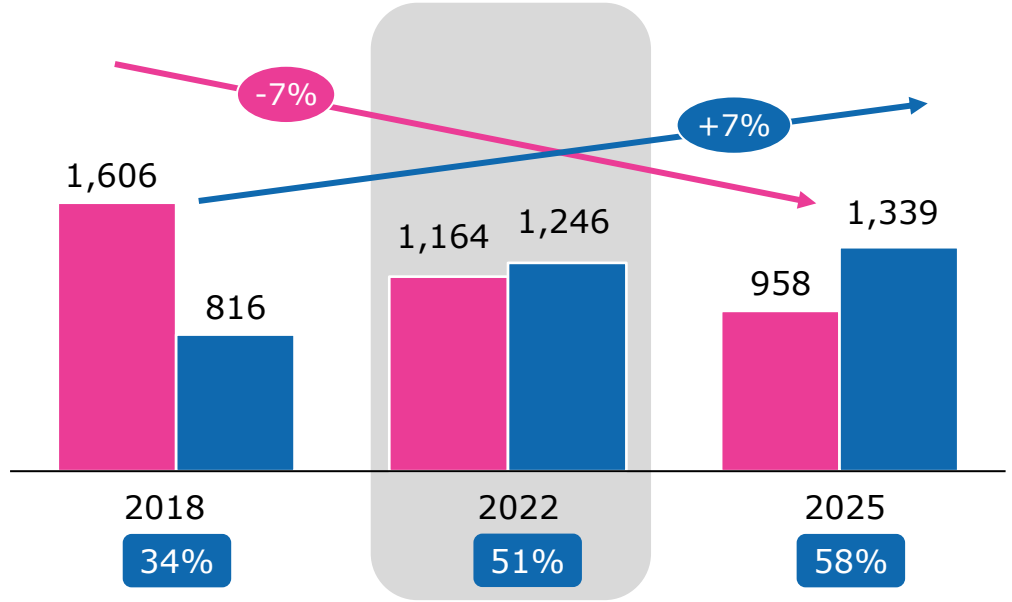
Display Solutions - OLED material market to exceed LC material market by 2022

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

Display shipment area[1] [km²]



Addressable material market[2] [€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 2022**, but market split between **many more players**

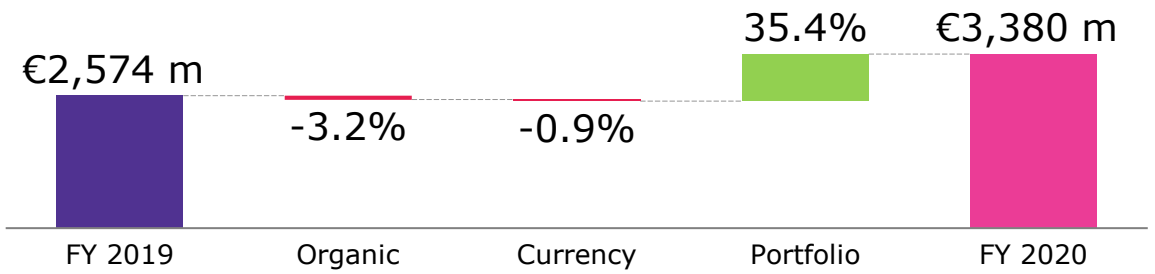
[1]OMDSIA; [2]Internal Business Intelligence; Acronyms: LCD = Liquid-Crystal Display, OLED = Organic Light Emitting

FY Electronics: Versum portfolio effect in Q1-Q3 and continuous organic Semiconductor growth far outweigh declining Display and Surface

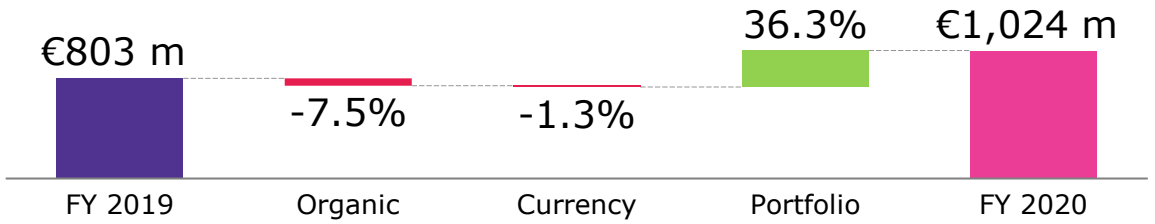
Electronics P&L

[€m]	IFRS		Pre adjustments	
	FY 2019	FY 2020	FY 2019	**FY 2020**
Net sales	2,574	3,380	2,574	**3,380**
M&S*	-329	-539	-323	**-530**
Admin	-118	-162	-107	**-144**
R&D	-267	-274	-241	**-272**
EBIT	307	240	481	**463**
EBITDA	637	925	-	-
EBITDA pre	803	1,024	803	**1,024**
(in % of net Sales)	31.2%	30.3%	31.2%	**30.3%**

Net sales bridge



EBITDA pre bridge



Comments

- Sales growth of 31% mainly due to portfolio effect from Versum overcompensates organic decline in Display and Surface
- Semiconductor Solutions: Persistent strong organic growth with a particularly strong year-end
- Display Solutions: COVID-19 impact eased further in Q4 but still weighing on LC's negative underlying trajectory particularly against still elevated comps in 2019; OLED also impacted FY
- Surface Solutions: Heavy COVID-19 impact on automotive and cosmetic end markets resulting in business decline, but easing towards Q4
- M&S and Admin reflect consolidation of Versum acquisition and diligent underlying cost management as part of the Bright Future transformation
- R&D 9M 2020 include Versum consolidation and show underlying Bright Future cost management
- EBITDA pre growth driven by additional gross profit from Versum

* Marketing and selling expenses

Totals may not add up due to rounding

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