

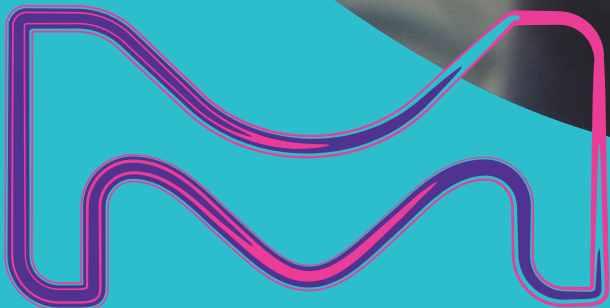


A GOOD QUARTER

Merck Q3 2018 results

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November 14, 2018



MERCK

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Agenda

01 Executive summary

02 Financial overview

03 Guidance



01 EXECUTIVE SUMMARY

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Highlights

Operations

- ▶ Healthcare – Strong organic performance, Mavenclad[®] and Bavencio[®] launches on track
- ▶ Life Science – Strong organic sales performance across all businesses amid low base LY
- ▶ Performance Materials – Strong growth of Semiconductor Solutions and OLED; LC benefited from new plant ramp up projects in China

Financials

- ▶ Org. sales growth of +8.8%; Org. EBITDA pre growth of +3.7%
- ▶ 9M org. sales growth of +5.7%; 9M org. EBITDA pre decline of -3.1%
- ▶ Organic guidance confirmed¹: org. net sales growth +4 to +6%; org. EBITDA pre decline -1 to -3%

¹Guidance excludes Consumer Health

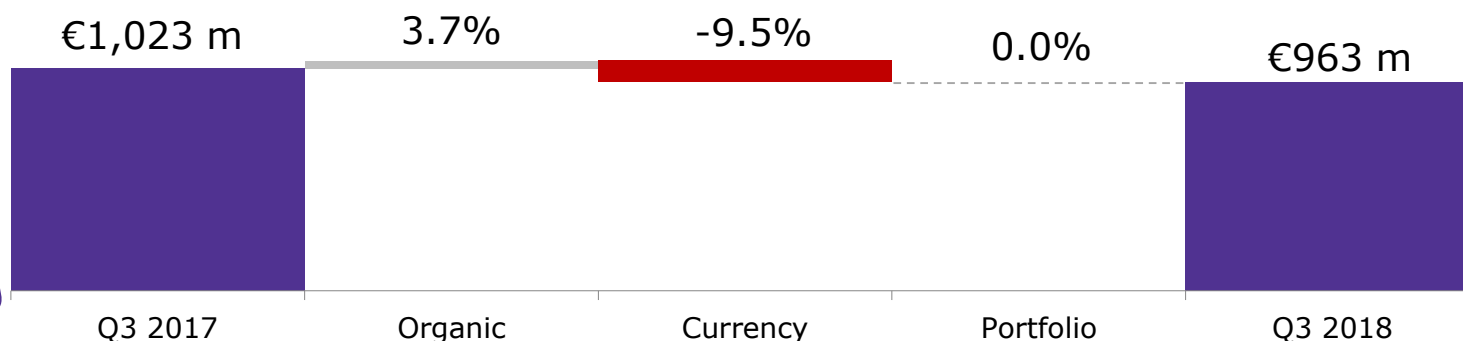
Organic growth across all business segments

Q3 2018 YoY net sales

| | Organic | Currency | Portfolio | Total |
|-----------------------|---------|----------|-----------|-------------|
| Healthcare | 9.9% | -3.3% | 0.0% | 6.6% |
| Life Science | 9.8% | -1.4% | 0.0% | 8.5% |
| Performance Materials | 3.4% | -0.9% | 0.0% | 2.4% |
| Merck Group | 8.8% | -2.1% | 0.0% | 6.6% |

- Healthcare reflects strong growth driven by solid core business and launches of Mavenclad[®] and Bavencio[®]
- Above-market growth in Life Science driven by all business segments
- Performance Materials reflects ongoing strong demand of Semiconductor & OLED; new plant ramp up projects in China supported LC

Q3 YoY EBITDA pre

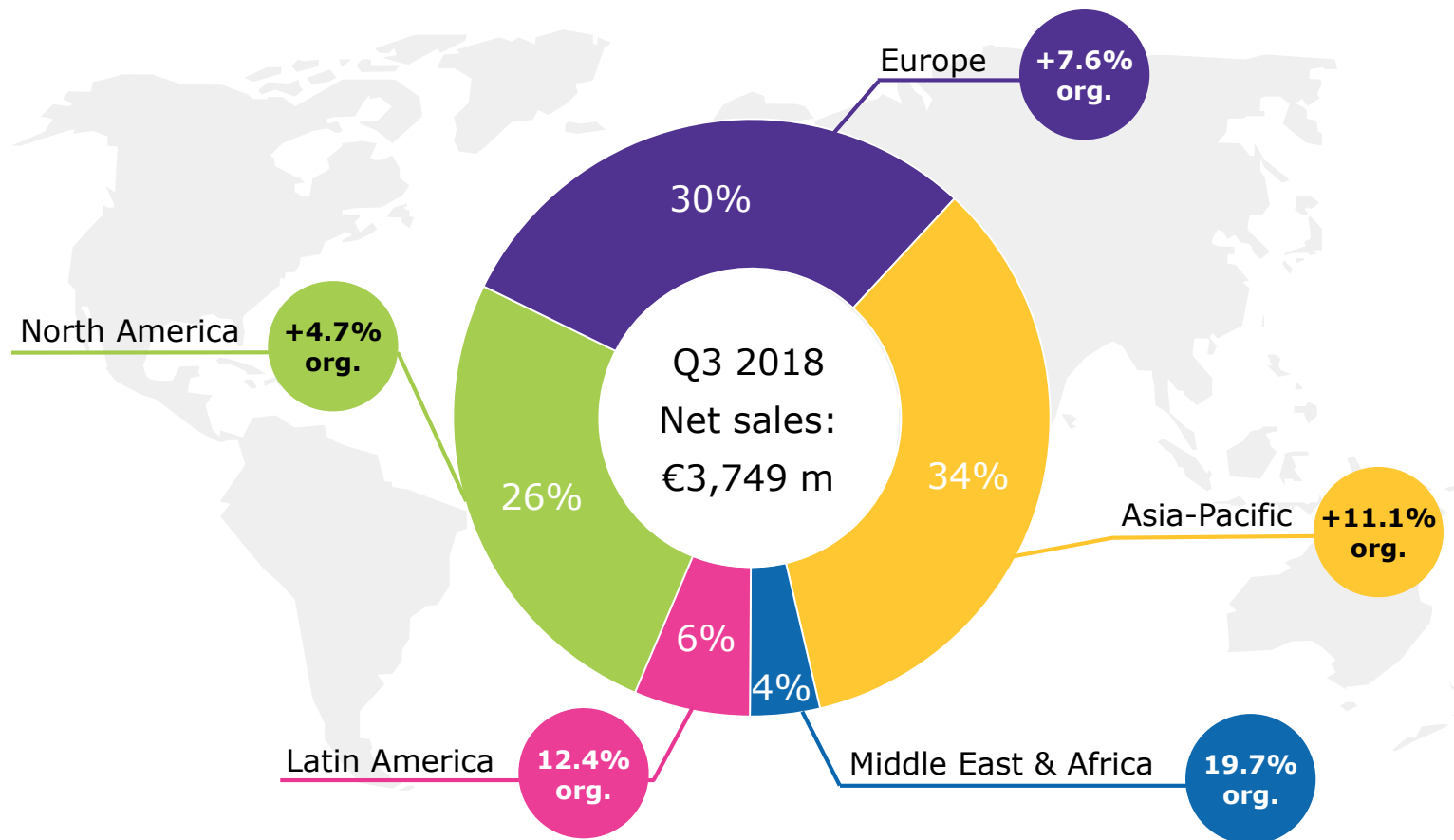


Totals may not add up due to rounding;
* BRL = Brazilian real; ARS = Argentine peso

- Organic growth reflects strong topline mitigated by LY one-time effect in Healthcare, LS strategic investments and PM business mix
- FX impact exacerbated by transactional effects from depreciating BRL* & ARS*

Organic growth in all regions

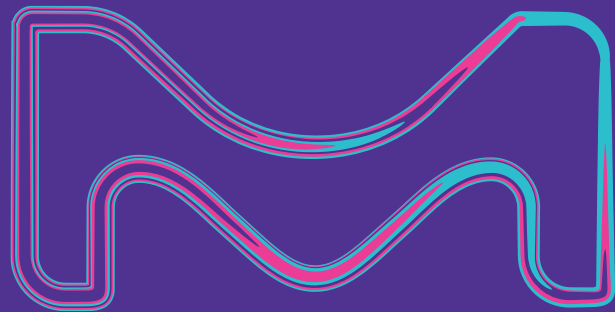
Regional breakdown of net sales [€ m]



Regional organic development

- Strong growth in Europe reflects strong demand in Life Science, Mavenclad[®] ramp up, and continued resilience of Fertility
- Solid growth in North America due to Life Science; Fertility and Bavencio[®] more than offset ongoing decline of Rebif[®]
- Solid growth in APAC across all major businesses, driven by double-digit growth in Life Science, Healthcare and PM
- Very strong performance in LATAM driven by Healthcare and Life Science
- MEA reflects strong demand of Healthcare's core business, mainly Glucophage[®] and tender phasing of Erbitux[®]

02 FINANCIAL OVERVIEW



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Q3 2018: Overview

Key figures

| [€m] | Q3 2017 | Q3 2018 | Δ |
|----------------------------|---------|--------------|-------|
| Net sales | 3,517 | 3,749 | 6.6% |
| EBITDA pre | 1,023 | 963 | -5.9% |
| Margin (in % of net sales) | 29.1% | 25.7% | |
| EPS pre | 1.43 | 1.32 | -7.7% |
| Operating cash flow | 758 | 731 | -3.5% |

| [€m] | Dec. 31, 2017 | Sept. 30, 2018 | Δ |
|--------------------|---------------|----------------|-------|
| Net financial debt | 10,144 | 10,168 | 0.2% |
| Working capital | 3,387 | 3,784 | 11.7% |
| Employees* | 52,941 | 54,756 | 3.4% |

*Thereof CH Headcount ~3.400;
Totals may not add up due to rounding

Comments

- EBITDA pre & margin reduction driven by FX effects & hedging losses, investments in LS, PM business mix and LY milestone payments in HC
- Lower EPS pre in line with EBITDA pre decline
- Net financial debt reduced by €506 m vs. June 30th 2018
- Working capital reflects strong organic sales growth
- Higher headcount related to growth initiatives in Life Science and launch activities in Healthcare

Reported figures

Reported results

| [€m] | Q3 2017 | Q3 2018 | Δ |
|-------------------------------|---------|--------------|--------|
| EBIT | 862 | 491 | -43.1% |
| Financial result | -65 | -56 | -14.5% |
| Profit before tax | 797 | 435 | -45.4% |
| Income tax | -177 | -112 | -36.9% |
| <i>Effective tax rate (%)</i> | 22.2% | 25.7% | |
| Net income [*] | 644 | 340 | -47.2% |
| EPS (€) [*] | 1.48 | 0.78 | -47.3% |

Comments

- Lower EBIT reflects LY effects of Biosimilars disposal gain (~ €321 m) and Bavencio[®] milestone payments (~ €50 m)
- Profit before tax in line with EBIT decrease
- Effective tax rate within guidance range of ~24-26%

^{*}From continuing and discontinued operations;
Totals may not add up due to rounding

Healthcare: Strong organic growth overcompensates FX headwinds; Profitability burdened by LY's favorable one-time effects

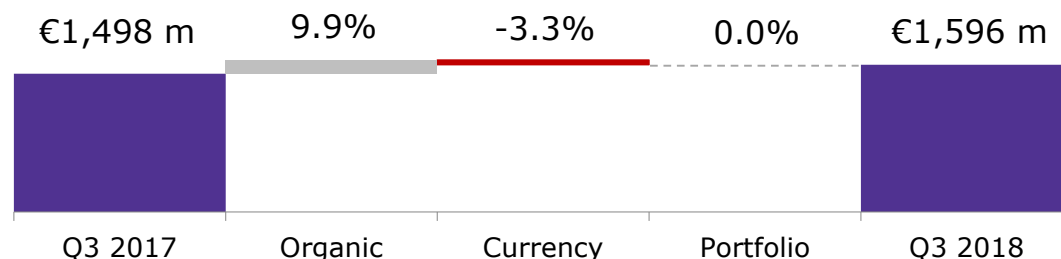
Healthcare P&L

| [€m] | Q3 2017 | Q3 2018 |
|----------------------------|---------|--------------|
| Net sales | 1,498 | 1,596 |
| Marketing and selling | -583 | -571 |
| Administration | -64 | -72 |
| Research and development | -416 | -409 |
| EBIT | 539 | 191 |
| EBITDA | 707 | 372 |
| EBITDA pre | 397 | 381 |
| Margin (in % of net sales) | 26.5% | 23.9% |

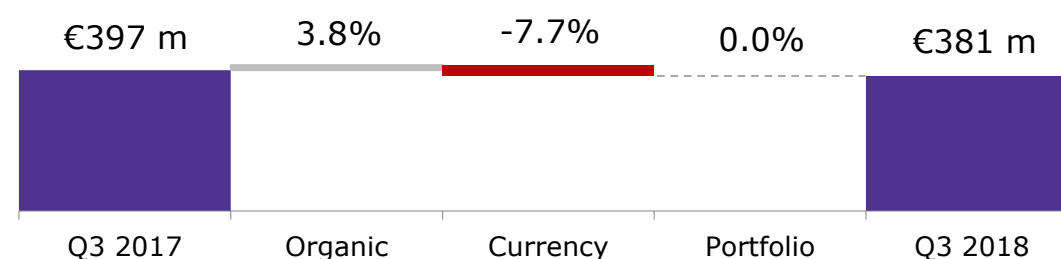
Comments

- Strong organic growth fueled by double-digit growth of Fertility and Glucophage[®]; Mavenclad[®] and Bavencio[®] launches on track
- Erbitux[®] benefitting from phasing, still facing ongoing competition and price pressure in major markets
- Ongoing decline of Rebif[®] due to competition in U.S. & EU
- FX offsetting M&S investments for Mavenclad[®]
- EBITDA pre reflects FX headwinds (mainly BRL* & ARS*) strong topline contribution offsets unfavorable prior year effect (two Bavencio[®] milestones of ~€50 m)

Net sales bridge



EBITDA pre bridge



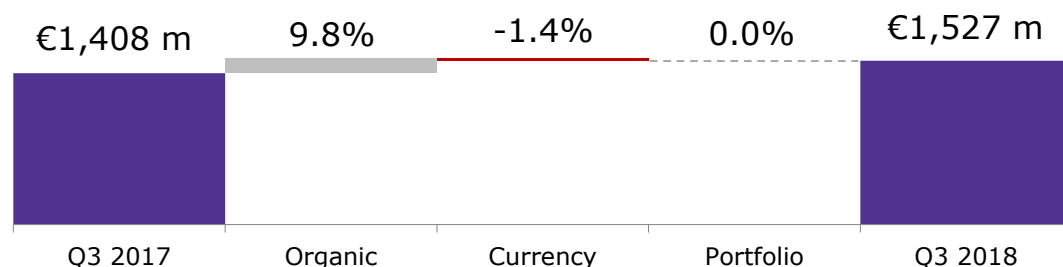
Totals may not add up due to rounding;
* BRL = Brazilian real; ARS = Argentine peso

Life Science: Strong organic sales growth across all businesses drives EBITDA pre

Life Science P&L

| [€m] | Q3 2017 | Q3 2018 |
|----------------------------|---------|--------------|
| Net sales | 1,408 | 1,527 |
| Marketing and selling | -412 | -443 |
| Administration | -59 | -69 |
| Research and development | -60 | -59 |
| EBIT | 220 | 277 |
| EBITDA | 401 | 449 |
| EBITDA pre | 426 | 460 |
| Margin (in % of net sales) | 30.2% | 30.1% |

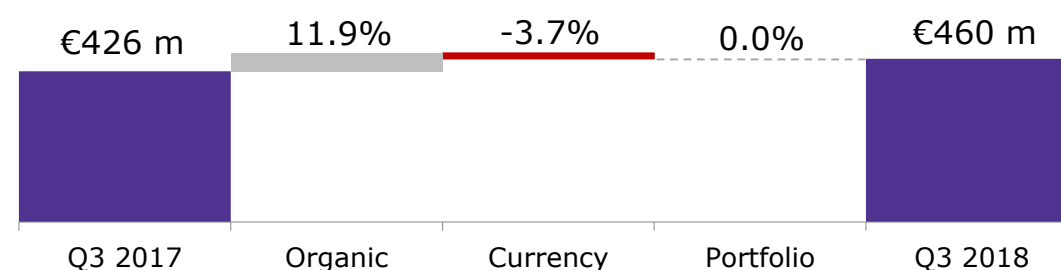
Net sales bridge



Comments

- Process Solutions posts double digit growth driven by all businesses, especially strong demand for filtration and single-use
- Applied Solutions shows high-single digit growth, reflecting continued strong demand for lab water
- Research Solutions benefits from positive demand trends across all businesses and regions, especially reagents and laboratory chemicals
- Strategic investments in viral vector manufacturing, single-use bioprocessing and China expansion start to impact topline growth
- M&S increase in line with previous quarters and topline growth
- EBITDA pre reflects strong topline growth, offset by investments in eCommerce and strategic initiatives as well as FX headwinds

EBITDA pre bridge

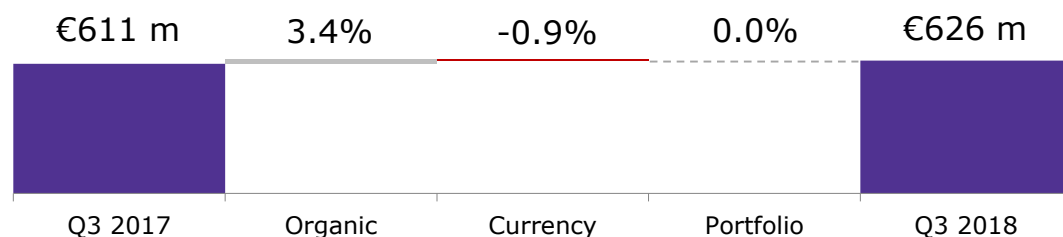


Performance Materials: Organic growth mainly driven by Semiconductor Solutions

Performance Materials P&L

| [€m] | Q3 2017 | Q3 2018 |
|----------------------------|---------|--------------|
| Net sales | 611 | 626 |
| Marketing and selling | -56 | -62 |
| Administration | -18 | -22 |
| Research and development | -57 | -65 |
| EBIT | 191 | 142 |
| EBITDA | 246 | 202 |
| EBITDA pre | 249 | 203 |
| Margin (in % of net sales) | 40.7% | 32.5% |

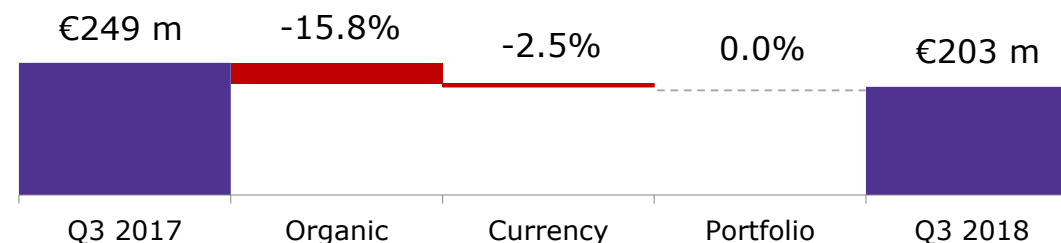
Net sales bridge



Comments

- Moderate organic growth in PM driven by growth of Semiconductor Solutions & OLED; LC benefited from new panel plant ramp up projects in China
- Above-market growth of Semiconductor Solutions reflects strong demand of dielectrics, silica and lithography materials
- Ongoing strong demand for innovative UB-FFS technology
- M&S in line with topline growth and with previous quarters
- Increased R&D due to Semiconductor Solutions related projects
- Profitability reflects negative business mix and ongoing LC price decline

EBITDA pre bridge



Performance Materials: Strong quarter benefitting from continued demand in Semiconductor Solutions

Net sales by BU,
in %

Q3 2018
Net Sales
€ 626 m

Semiconductor Solutions

- High single-digit growth above market driven by volume and market share wins
- Increasing demand for patterning and dielectric materials at 3D NAND and DRAM customers
- Spin-on dielectrics driving double digit growth with market share gains
- Strong consumption of deposition and CMP* materials at customers

Surface Solutions

- Flat automotive market in China
- Lateral development of overall surface solutions business

Display Solutions

- Continued increasing demand in UB-FFS for small devices
- Partner of choice for bringing new capacity online (limited time frame)
- Underlying trend of declining LC materials market still valid
- LC related materials < 50% of total PM net sales
- OLED participating in capacity expansion with double digit growth

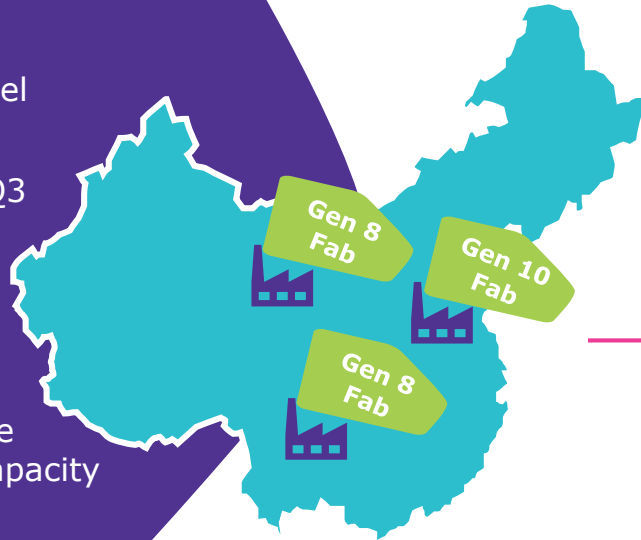
*CMP = chemical mechanical planarization

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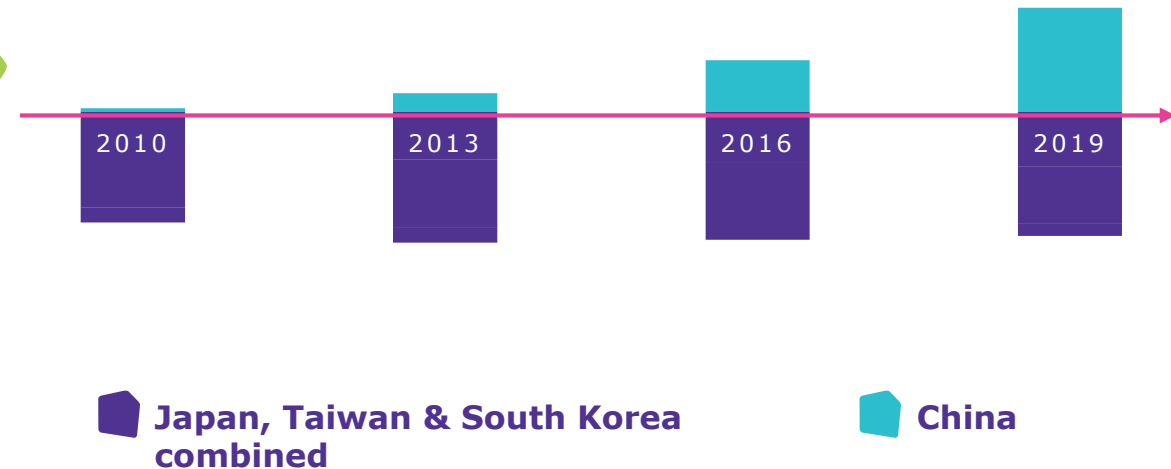
Performance Materials: Liquid crystals currently benefitting from new display-panel plant capacity ramp up projects

Temporary nature

- Accelerated ramp up of Chinese panel production facilities
- Projects supporting LC business in Q3 and expected to last until H1 2019
- Increased market share during ramp up phase, but dual sourcing afterwards highly probable
- Overcapacity in 2018 due to massive capacity ramp up in China, global capacity is expected to consolidate in 2019
 - Some manufacturing capacity might be converted to OLED or might be taken off



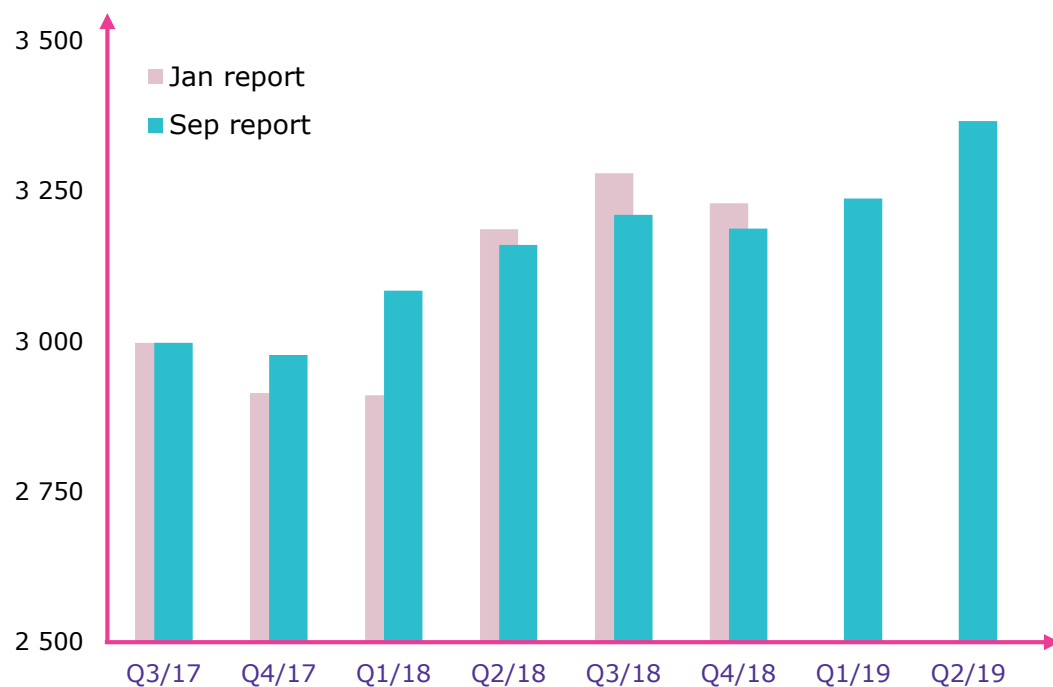
Share of global display production capacities by region [km²]*



Overall LC materials market decline in value with mid- to high-single digit CAGR until 2025 confirmed

Performance Materials: Semiconductor market outlook

Wafer shipments forecast,
in [MSI*]

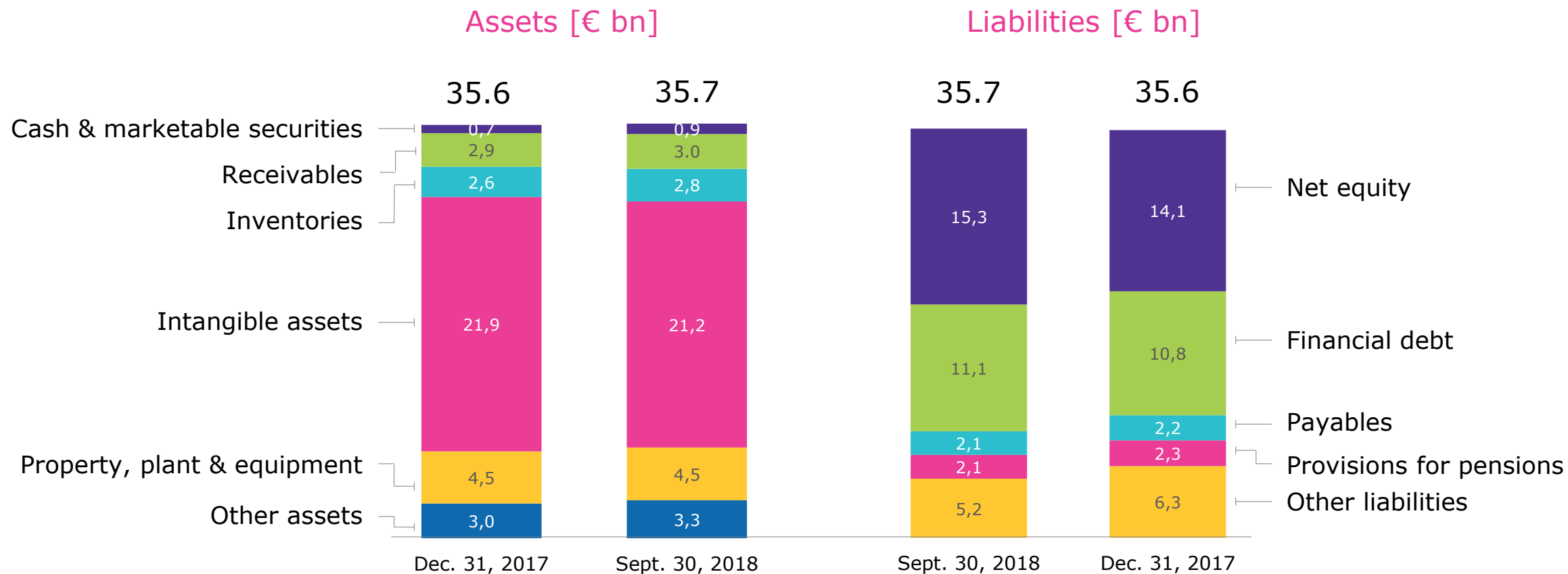


Market development

- Semiconductor market (revenue) is heavily influenced by the prices in the memory segment
- The material suppliers are relatively independent from this memory price trend
- Wafers shipments (in million square inches, MSI) is a better indicator of volume growth for material suppliers
- MSI is independent of the volatile memory prices and reflects end user demand
- MSI is expected to grow at 7% in 2018 and slightly softer at 5.2% in 2019

Total Semiconductor Market is strongly influenced by memory pricing, while the Materials Market is correlated with the wafer area

Balance sheet – deleveraging remains focus



- Total assets about stable, with an increased equity ratio of 42.9%
- Decrease in intangible assets reflects D&A (~-€0.9 bn) mitigated by FX (~+€0.4 bn)

- Higher net equity reflects 9M net income (~+€0.9 bn) and FX (~+€0.3 bn)
- Other liabilities decrease mainly driven by profit transfer to E. Merck KG

Cash flow statement

Q3 2018 – cash flow statement

| [€m] | Q3 2017 | Q3 2018 | Δ |
|-------------------------------------|---------|-------------|------|
| Profit after tax | 648 | 345 | -303 |
| D&A | 419 | 428 | 9 |
| Changes in provisions | -50 | 69 | 119 |
| Changes in other assets/liabilities | 99 | 6 | -93 |
| Other operating activities | -327 | -9 | 318 |
| Changes in net working capital | -31 | -107 | -76 |
| Operating cash flow | 758 | 731 | -27 |
| Investing cash flow | -90 | -218 | -128 |
| thereof Capex on PPE | -197 | -215 | -18 |
| Financing cash flow | -844 | -287 | 557 |

Cash flow drivers

- LY profit after tax reflects gain from Biosimilars divestment, which is neutralized in other operating activities
- Changes in provisions driven by pension provisions and LTIP
- Changes in other assets/liabilities includes LY upfront payment from Fresenius for future R&D activities
- Changes in working capital reflects higher trade account receivables mainly from HC and buildup of inventories mainly from LS and PM
- Investing cash flow reflects LY Biosimilars cash proceeds ~€150 m
- Financing cash flow reflects decrease in bank loans and commercial papers; LY includes bond repayment ~€700 m



03 GUIDANCE

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Full-year 2018 guidance*

Net sales:

Organic +4% to +6% YoY

FX ~ -3% to -5% YoY

~ € 14.4 – 14.8 bn

EBITDA pre:

Organic -1% to -3% YoY

FX -8 to -10% YoY

~ € 3,700 – 3,900 m

EPS pre:

~ € 5.00 – 5.30

Merck Group

2018 business sector guidance*



Healthcare

Net sales

- Sound organic growth of +4% to +5%: ongoing organic Rebif[®] decline offset by growth in other franchises
- Full-year contributions from 2017 launches

EBITDA pre

- Organic -1% to -2% YoY
- FX -9% to -11% YoY
- ~ €1,540 – 1,600 m (excl. CH)



Life Science

Net sales

- Organic growth ~+7% to 8%: slightly above market; all businesses contributing; main driver Process Solutions
- Full realization of expected topline synergies

EBITDA pre

- Organic ~+8% YoY
- FX -3% to -5% YoY
- ~ €1,830 - 1,880 m



Performance Materials

Net sales

- About stable with -1% to +1% YoY
- Volume increases in major businesses
- Liquid Crystals temporarily benefiting from China capacity ramp-up

EBITDA pre

- Organic -14% to -16% YoY
- FX -6% to -8% YoY
- ~ €745 – 785 m





APPENDIX

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Additional financial guidance 2018

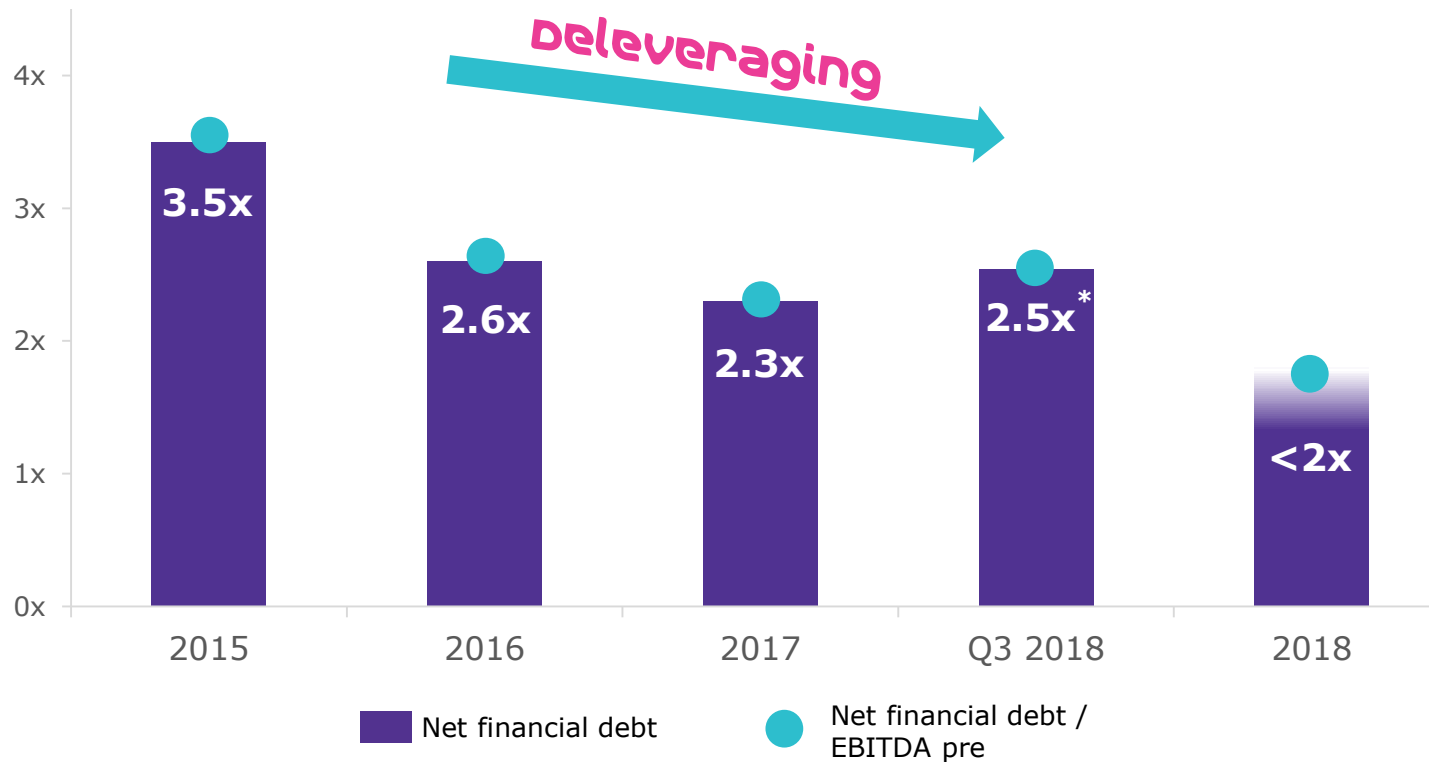
Further financial details

| | |
|------------------------------|--|
| Corporate & Other EBITDA pre | ~ -€360 – -400 m |
| Interest result | ~ -€230 – -250 m |
| Effective tax rate | ~ 24% to 26% |
| Capex on PPE | ~ €900 – 950 m |
| Hedging/USD assumption | Q4/2018 – FY 2019 hedge ratio ~60% at EUR/USD ~1.20 |
| 2018 Ø EUR/USD assumption | ~ 1.18 – 1.21 |

Strong focus on cash generation to ensure swift deleveraging

Net financial debt¹ and leverage development

[Net financial debt/
EBITDA pre]



Focus on deleveraging

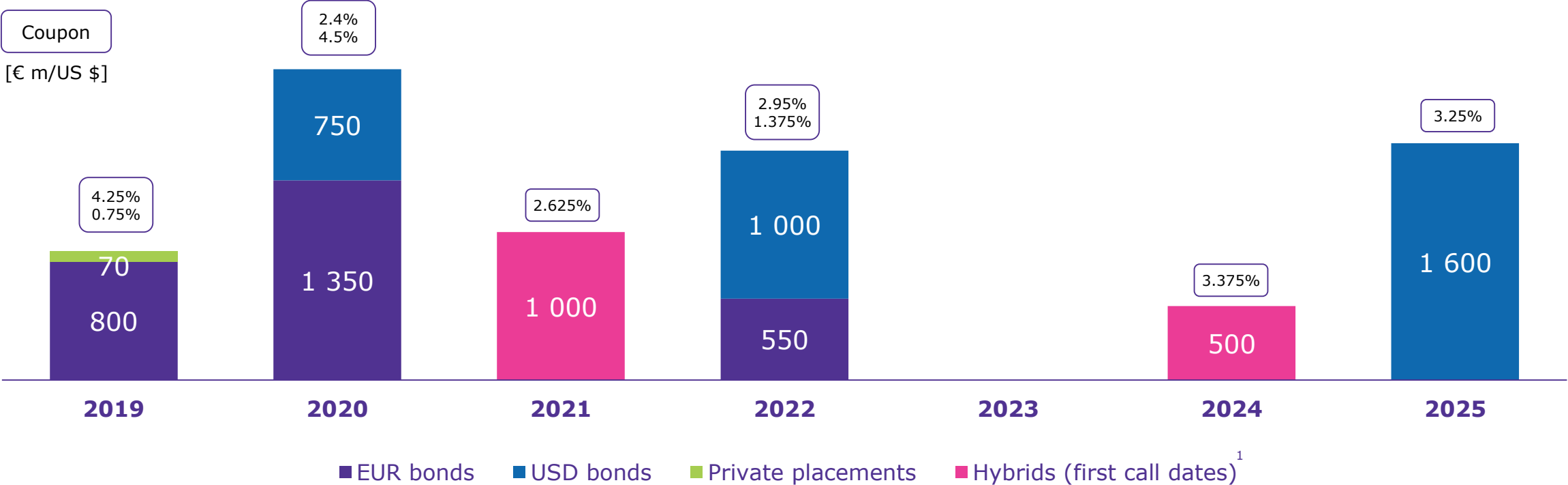
- Commitment to swift deleveraging to ensure a strong investment grade credit rating and financial flexibility
- Cash flow will be used to drive down leverage to expected <2x net debt/EBITDA pre in 2018
- Larger acquisitions (>€500 m) remain ruled out 2018

¹Net financial debt (without pensions);

*EBITDA pre (except FY) reflects last twelve months value including CH EBITDA pre (Q3 2018: €61 m)

Well-balanced maturity profile reflects Sigma-Aldrich financing transactions

Maturity profile as of Sept. 30, 2018



Financing structure enables flexible and swift deleveraging

¹No decision on call rights taken yet

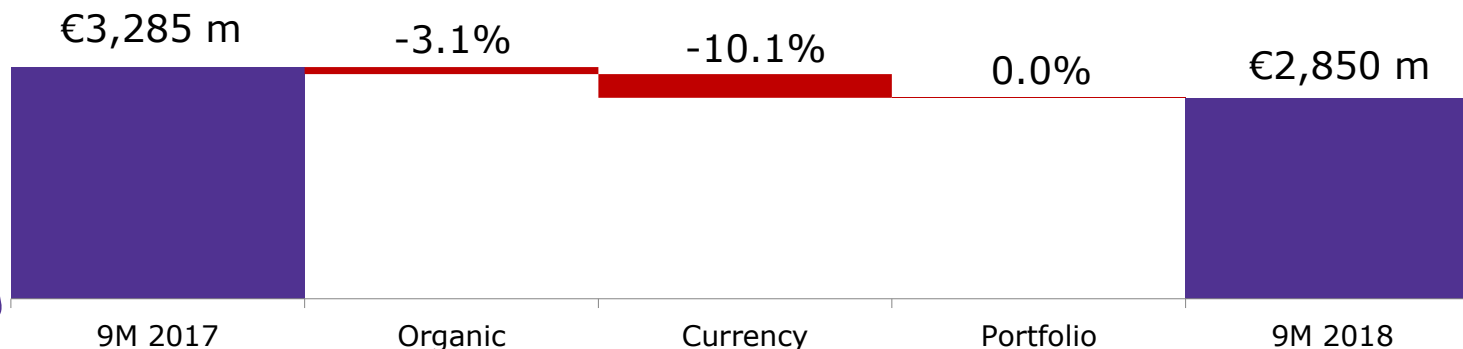
Organic growth driven by Life Science and Healthcare overcompensating FX headwinds

9M 2018 YoY net sales

| | Organic | Currency | Portfolio | Total |
|-----------------------|---------|----------|-----------|--------------|
| Healthcare | 5.1% | -5.2% | 0.0% | 0.0% |
| Life Science | 8.8% | -4.8% | 0.0% | 3.9% |
| Performance Materials | -0.2% | -4.7% | 0.0% | -4.9% |
| Merck Group | 5.7% | -5.0% | 0.0% | 0.7% |

- Healthcare driven by strong demand for Fertility & Glucophage[®]; Rebif[®] decline partially offset by Mavenclad[®]; Bavencio[®] offset Erbitux[®]
- Above-market growth in Life Science driven by all business segments across all major regions
- Performance Materials almost stable; growth of Semiconductor and OLED compensating LC decline
- Moderate FX headwinds (-€539 m) in 9M 2018

9M YoY EBITDA pre



- Organic decline of EBITDA pre driven by Healthcare's LY one-time effects, LS strategic investments, PM business mix and ongoing price decline
- Currency effects mainly related to EUR/USD development, hedging burden from Q1 onwards and BRL* & ARS* development

*Totals may not add up due to rounding;
 *BRL = Brazilian real; ARS = Argentine peso

9M 2018: Overview

Key figures

| [€m] | 9M 2017 | 9M 2018 | Δ |
|----------------------------|---------|---------------|--------|
| Net sales | 10,869 | 10,949 | 0.7% |
| EBITDA pre | 3,285 | 2,850 | -13.2% |
| Margin (in % of net sales) | 30.2% | 26.0% | |
| EPS pre | 4.67 | 3.89 | -16.7% |
| Operating cash flow | 2,055 | 1,479 | -28.0% |

| [€m] | Dec. 31, 2017 | Sept. 30, 2018 | Δ |
|--------------------|---------------|----------------|-------|
| Net financial debt | 10,144 | 10,168 | 0.2% |
| Working capital | 3,387 | 3,784 | 11.7% |
| Employees | 52,941 | 54,756 | 3.4% |

Comments

- EBITDA pre & margin reduction reflects LY one-time effects in Healthcare, ongoing LC decline and FX headwinds
- Lower EPS pre in line with EBITDA pre decline
- Operating cash flow driven by business dynamics, LY cash flow reflects positive tax effects
- Working capital reflects strong organic sales growth
- Higher headcount related to growth initiatives in Healthcare and Life Science

Reported figures

Reported results

| [€m] | 9M 2017 | 9M 2018 | Δ |
|-------------------------------|---------|--------------|--------|
| EBIT | 2,183 | 1,386 | -36.5% |
| Financial result | -200 | -182 | -9.1% |
| Profit before tax | 1,983 | 1,204 | -39.3% |
| Income tax | -457 | -303 | -33.6% |
| <i>Effective tax rate (%)</i> | 23.1% | 25.2% | |
| Net income [*] | 1,592 | 928 | -41.7% |
| EPS (€) [*] | 3.66 | 2.13 | -41.8% |

Comments

- Lower EBIT reflects LY one-time effects in Healthcare, FX headwinds and LC decline; LY EBIT driven by write-up of Vevey site (~ -€70 m)
- Profit before tax in line with EBIT decrease
- Effective tax rate within guidance range of ~24% to 26%

^{*}From continuing and discontinued operations;
Totals may not add up due to rounding

Healthcare: Solid organic sales growth while profitability declines in relation to FX headwinds and LY's substantial favorable one-time effects

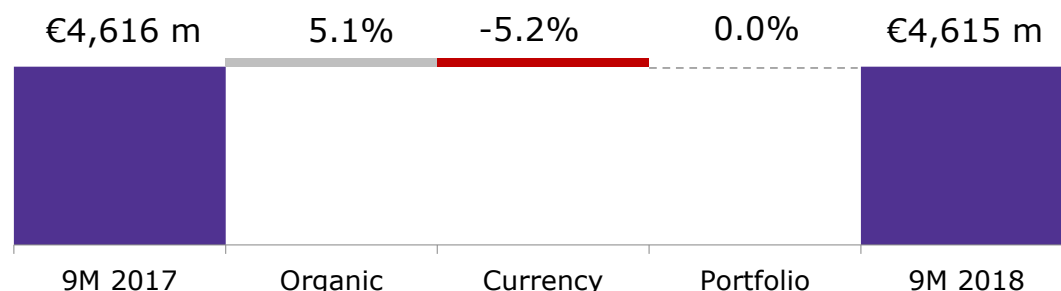
Healthcare P&L

| [€m] | 9M 2017 | 9M 2018 |
|----------------------------|---------|---------------|
| Net sales | 4,616 | 4,615 |
| Marketing and selling | -1,767 | -1,714 |
| Administration | -203 | -255 |
| Research and development | -1,166 | -1,195 |
| EBIT | 1,267 | 541 |
| EBITDA | 1,728 | 1,089 |
| EBITDA pre | 1,433 | 1,141 |
| Margin (in % of net sales) | 31.0% | 24.7% |

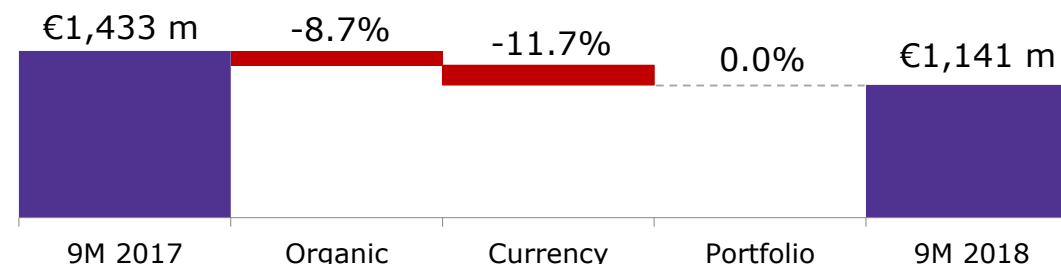
Comments

- Organic growth supported by strong Fertility and Glucophage; Launches of Mavenclad[®] and Bavencio[®] on track
- Ongoing decline of Rebif[®] due to growing competition in U.S. & EU despite stable market shares in Interferons market in North America, partially offset by Mavenclad[®]
- Erbitux[®] facing ongoing competition and price pressure in major markets
- Lower Marketing & Selling mainly due to favorable FX; higher M&S for Mavenclad[®] and Bavencio[®] offset by lower investment in mature products (esp. Rebif[®] and Erbitux[®])
- R&D costs increased due to investments on progressing pipeline
- Profitability reflects significant FX headwinds and unfavorable product mix mitigated by Peg-Pal milestone payment (+€50 m); LY included Bavencio[®] Milestone payments and royalty income swap (~€240 m)

Net sales bridge

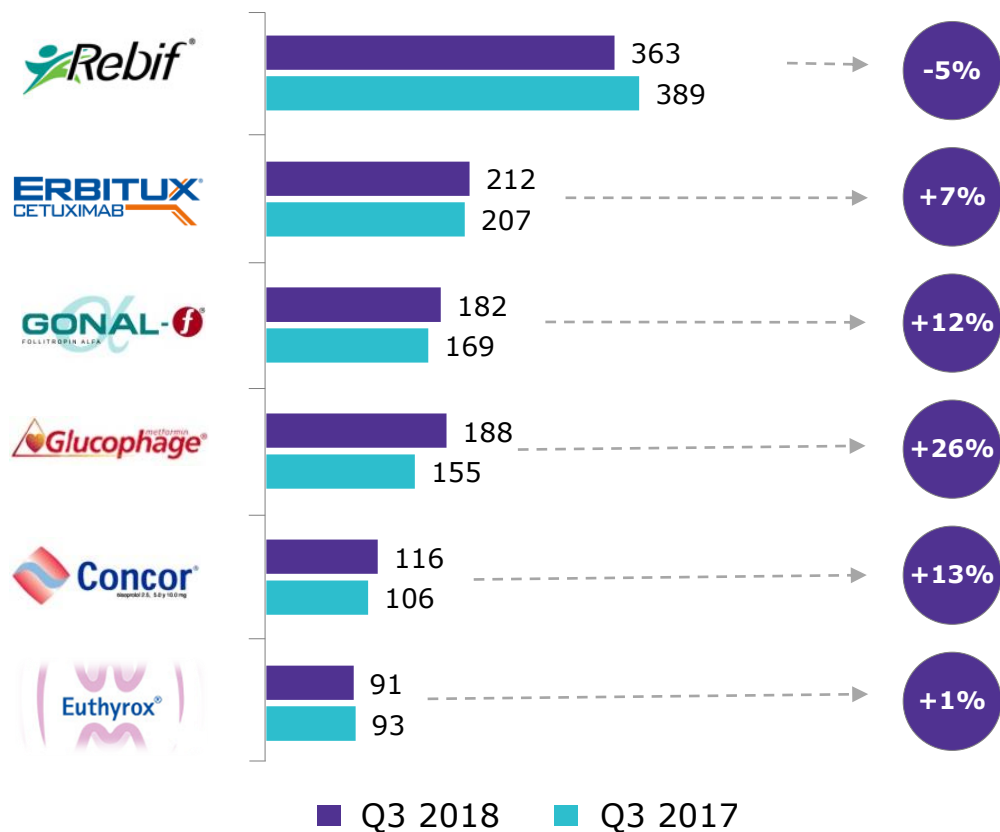


EBITDA pre bridge

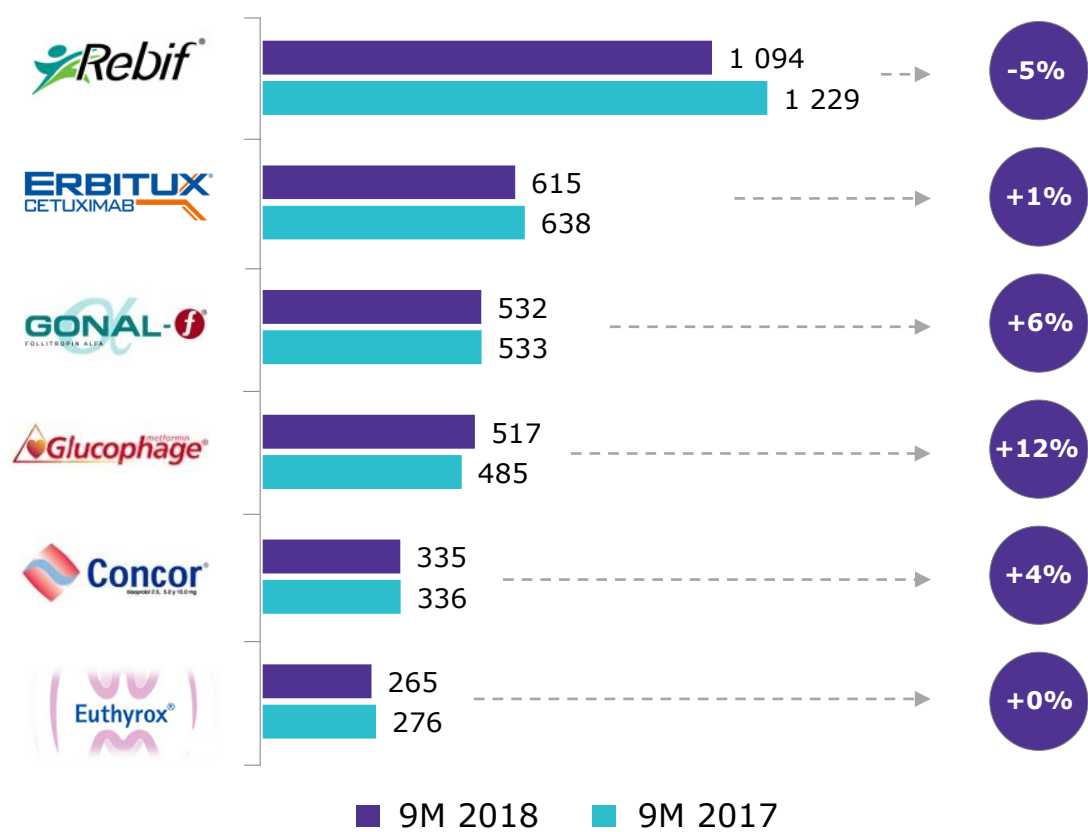


Healthcare organic growth by franchise/product

Q3 2018 organic sales growth [%]
by key product [€ m]



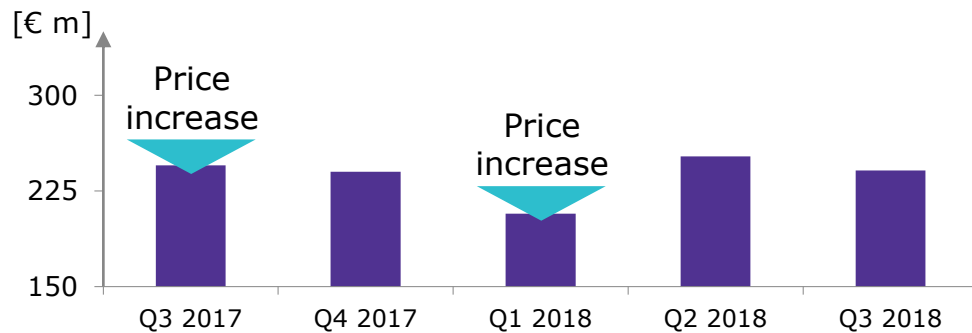
9M 2018 organic sales growth [%]
by key product [€ m]



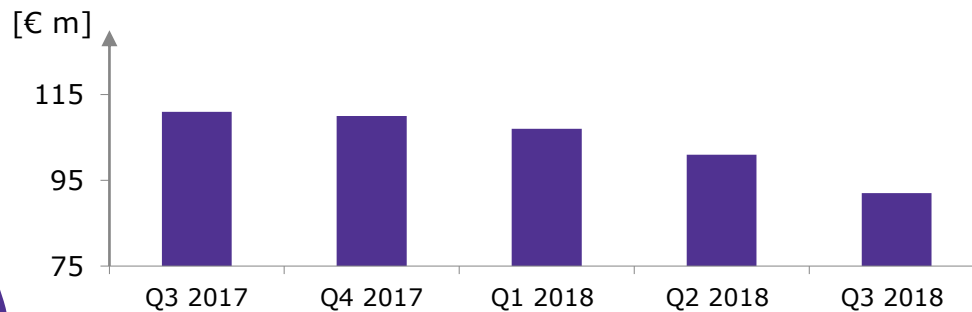
Rebif[®]: Ongoing decline in line with interferon market

Rebif[®] sales evolution

North America



Europe



Q3 drivers

-1.8% org.

- Price
- Volume
- FX

Q3 drivers

-15.5% org.

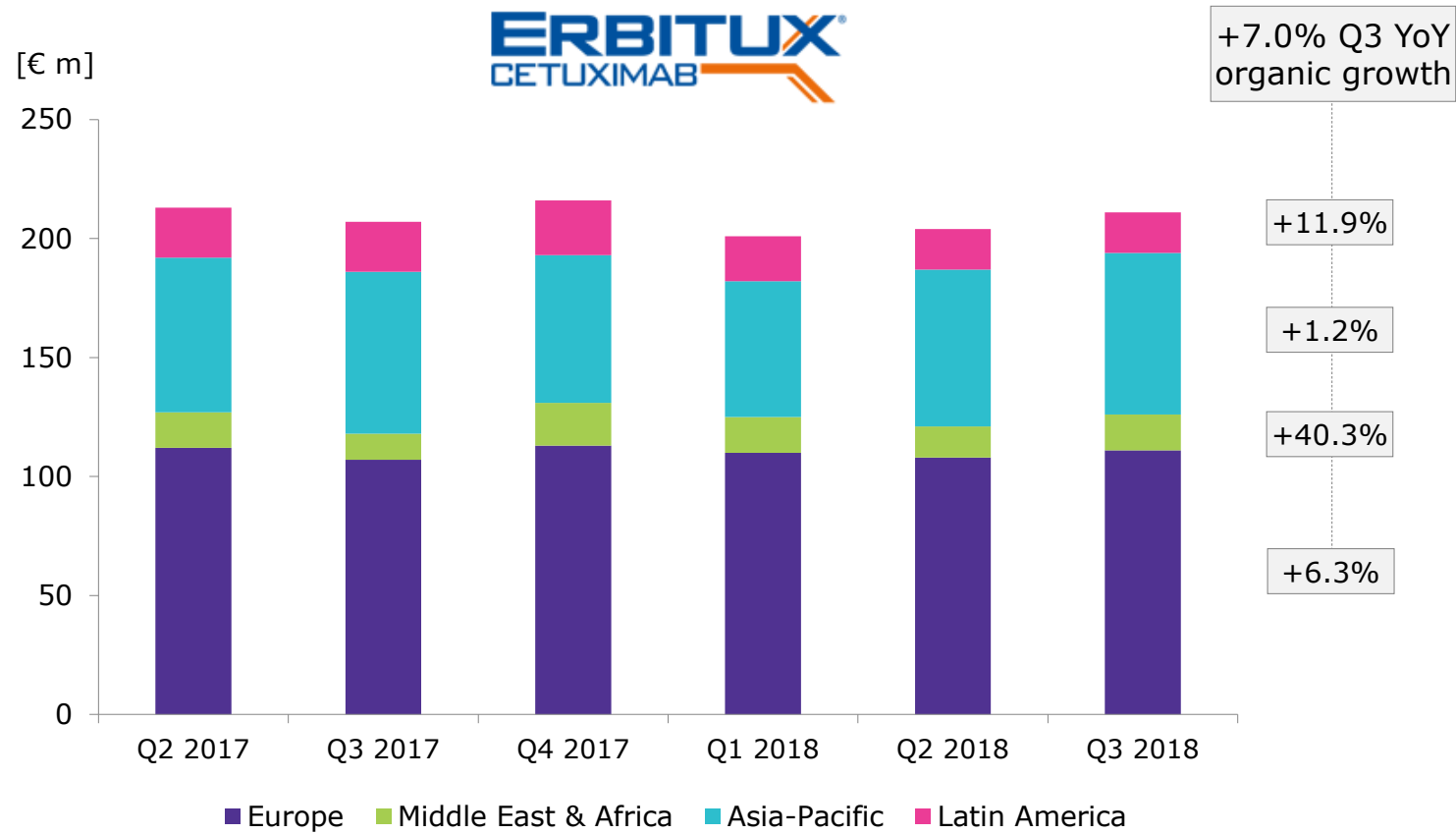
- Price
- Volume
- FX

Q3 2018 Rebif[®] performance

- Rebif[®] sales of €363 m in Q3 2018 reflect organic decline of -5.2% and negative FX effect of -1.5% mainly from LATAM
- Market shares within interferons stable due to high retention rates and known long-term track record
- Competitive environment in Europe incl. competition from orals driving ongoing organic decline

Erbitux[®]: A challenging market environment

Erbitux[®] sales by region



Q3 2018 Erbitux[®] performance

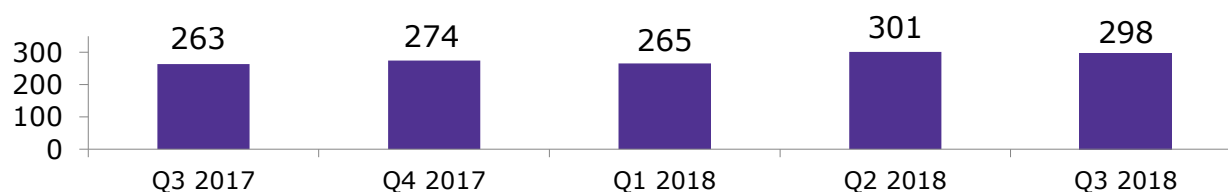
- Absolute sales increase to €212 m due to organic sales growth of +7.0%, mitigated by FX headwinds of -5.0% mainly from LATAM and EU
- Growth in Europe due to tender phasing; still impacted by ongoing competition, price reductions and shrinking market size due to increasing i-onc trials
- APAC about stable mainly driven by increased demand in China
- LATAM strong, and MEA driven by tender phasing due to importation permit

Solid organic growth of Fertility, General Medicine and Endocrinology

Sales evolution

Fertility

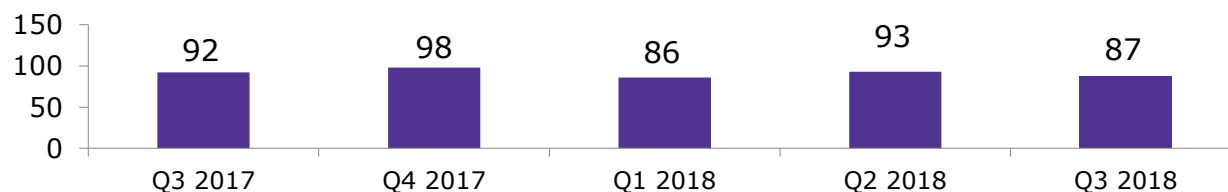
[€ m]



Organic
+17.9% org.

Endocrinology

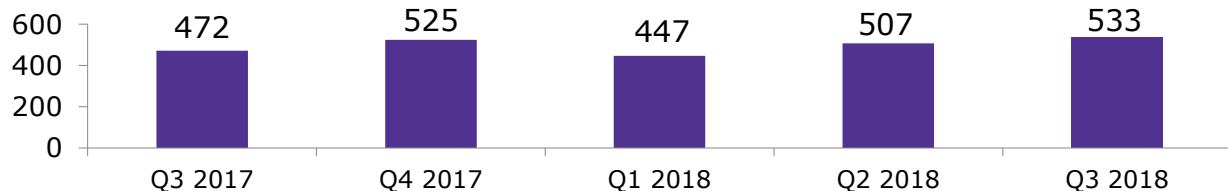
[€ m]



Organic
-1.1% org.

General Medicine*

[€ m]



Organic
11.9% org.

Q3 2018 organic drivers

- Fertility with double digit growth across all regions, especially in North America, APAC and Europe
- Gonal-f[®] shows double digit growth, supported by increasing demand in North America and APAC
- Rest of Fertility portfolio shows ongoing strong increases, especially in China and Europe
- General Medicine reflects double digit growth of Glucophage[®] (China & MEA)
- Endocrinology posts slight decline driven by lower demand in U.S., mitigated by growth in APAC, LATAM and EU

*includes "CardioMetabolic Care & General Medicine and Others

Healthcare Strategy

The Healthcare Pipeline continues to deliver

November 5, 2018

Phase I

M2698
p70S6K & Akt inhibitor
Solid tumors

M3814
DNA-PK inhibitor
Solid tumors

M6620 (VX-970)
ATR inhibitor
Solid tumors

M4344 (VX-803)
ATR inhibitor
Solid tumors

M3541
ATM inhibitor
Solid tumors

M8891
MetAP2 inhibitor
Solid tumors

M7583
BTK inhibitor
Hematological malignancies

avelumab
anti-PD-L1 mAb
Solid tumors

avelumab
anti-PD-L1 mAb
Hematological malignancies

M9241 (NHS-IL12)
Cancer immunotherapy
Solid tumors

M7824
anti-PD-L1/TGFBeta trap
Solid tumors

M6495
anti-ADAMTS-5 nanobody
Osteoarthritis

M5049
Immune receptor inhibitor
Immunology

M5717
PeEF2 inhibitor
Malaria

Phase II

tepotinib
MET kinase inhibitor
Non-small cell lung cancer

tepotinib
MET kinase inhibitor
Hepatocellular cancer

avelumab
anti-PD-L1 mAb
Merkel cell cancer 1L¹

avelumab
anti-PD-L1 mAb
Solid tumors²

avelumab
anti-PD-L1 mAb
Non-small cell lung cancer²

avelumab
anti-PD-L1 mAb
Urothelial cancer²

abrituzumab³
pan-αv integrin inhibiting mAb
Colorectal cancer 1L¹

M7824
anti-PD-L1/TGFBeta trap
Non-small cell lung cancer 1L¹

sprifermin
fibroblast growth factor 18
Osteoarthritis

atacept
anti-BlyS/APRIL fusion protein
Systemic lupus erythematosus

atacept
anti-BlyS/APRIL fusion protein
IgA nephropathy

evobrutinib
BTK inhibitor
Rheumatoid arthritis

evobrutinib
BTK inhibitor
Systemic lupus erythematosus

M1095 (ALX-0761)⁴
anti-IL-17 A/F nanobody
Psoriasis

evobrutinib
BTK inhibitor
Multiple sclerosis

Phase III

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

avelumab - anti-PD-L1 mAb
Gastric cancer 1L-M^{1M}

avelumab - anti-PD-L1 mAb
Ovarian cancer platinum resistant/refractory

avelumab - anti-PD-L1 mAb
Ovarian cancer 1L¹ and 1L-M^{1M}

avelumab - anti-PD-L1 mAb
Ovarian cancer 1L^{1,5}

avelumab - anti-PD-L1 mAb
Urothelial cancer 1L-M^{1M}

avelumab - anti-PD-L1 mAb
Renal cell cancer 1L¹

avelumab - anti-PD-L1 mAb
Locally advanced head and neck cancer

Registration

cladribine tablets
lymphocyte-targeting agent
Relapsing multiple sclerosis⁶

- Oncology
- Immuno-Oncology
- Immunology
- Neurology
- Global Health

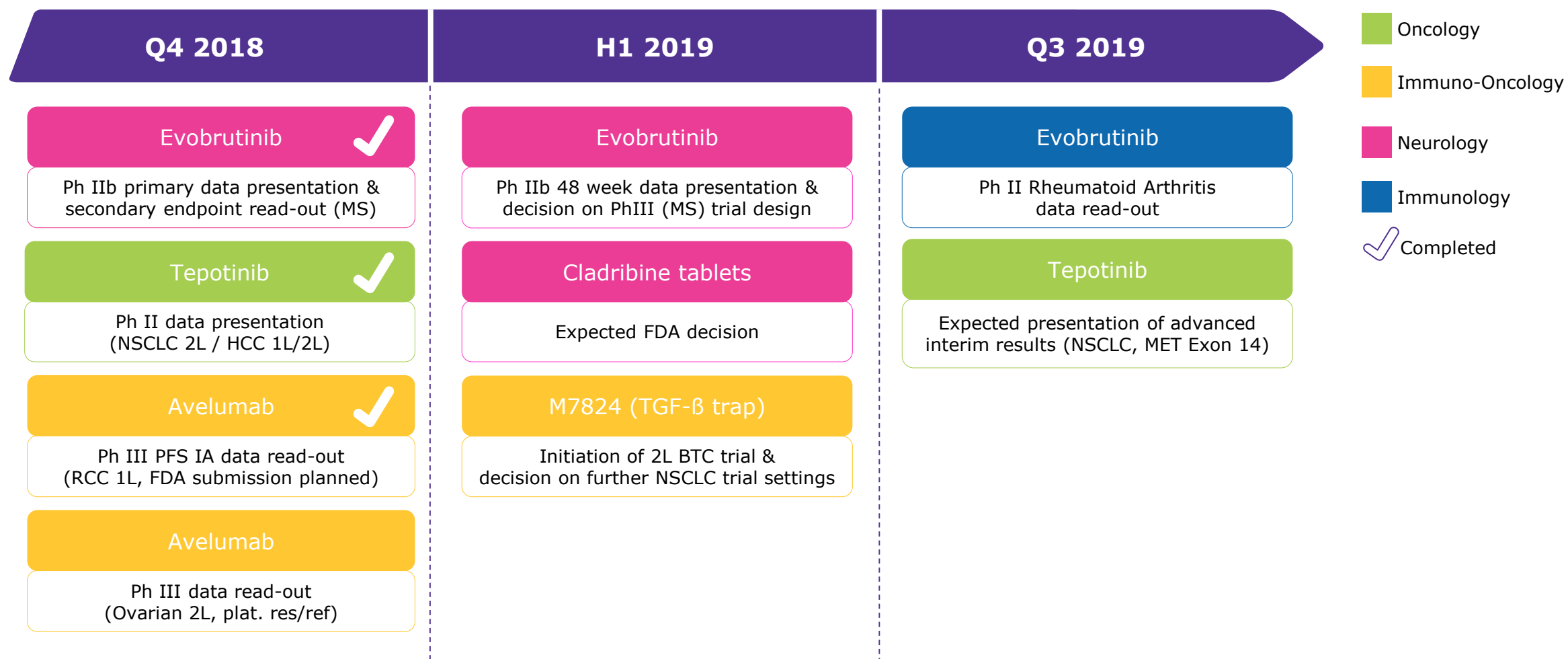
¹ First-line treatment; ^{1M} First-line maintenance treatment. ² Avelumab combination studies with talazoparib, axitinib, ALK inhibitors, chemotherapy, or novel immunotherapies. ³ As announced on May 2 2018, in an agreement with SFJ Pharmaceuticals Group, abrituzumab will be developed by SFJ for colorectal cancer through Phase II/III clinical trials. ⁴ As announced on March 30 2017, in an agreement with Avillion, anti-IL-17 A/F nanobody will be developed by Avillion for plaque psoriasis and commercialized by Merck. ⁵ Avelumab in combination with talazoparib. ⁶ As announced on July 30 2018, the US Food and Drug Administration (FDA) has accepted the resubmission of the New Drug Application (NDA) for cladribine tablets.

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



Recent & upcoming catalysts

An eventful Q4 and a year of continued pipeline development ahead¹



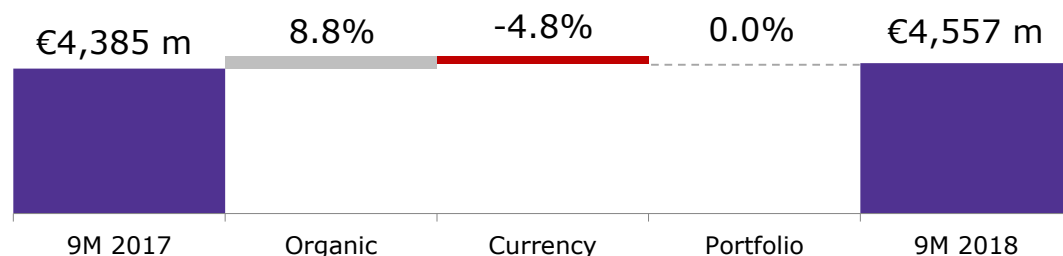
¹Note: All timelines are event-driven and may be subject to change; Acronyms: NSCLC – Non small cell lung cancer | MS – Multiple Sclerosis | RCC – Renal Cell Carcinoma | HCC – Hepatocellular Carcinoma | plat. res/ref – platinum resistant/refractory | FDA – U.S. Food and Drug Administration | IA – Interim Analysis

Life Science: Strong organic sales growth across all businesses drives EBITDA pre

Life Science P&L

| [€m] | 9M 2017 | 9M 2018 |
|----------------------------|---------|---------------|
| Net sales | 4,385 | 4,557 |
| Marketing and selling | -1,303 | -1,302 |
| Administration | -194 | -199 |
| Research and development | -190 | -179 |
| EBIT | 677 | 804 |
| EBITDA | 1,242 | 1,333 |
| EBITDA pre | 1,325 | 1,367 |
| Margin (in % of net sales) | 30.2% | 30.0% |

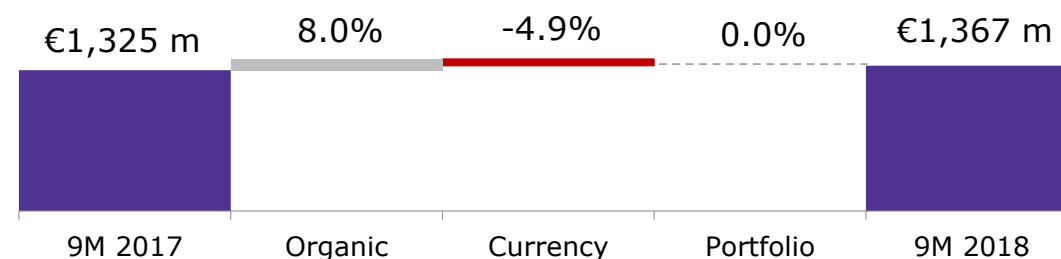
Net sales bridge



Comments

- Process Solutions with double digit growth driven by all major businesses, especially high demand for single use, filtration and cell-culture media
- Applied Solutions shows mid-single digit organic growth, fueled by all major businesses across all major regions, especially lab water
- Research Solutions posts solid organic growth across all major businesses, mainly reagents and laboratory & specialty chemicals
- Strategic investments in viral vector manufacturing, single-use bioprocessing and China expansion start to impact topline growth
- EBITDA pre reflects strong topline growth, offset by investments in eCommerce and strategic initiatives as well as FX headwinds

EBITDA pre bridge

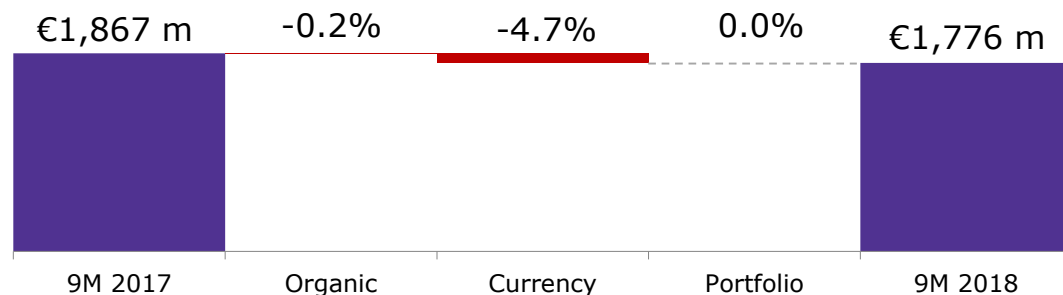


Performance Materials: Adjusting margin level due to LC decline

Performance Materials P&L

| [€m] | 9M 2017 | 9M 2018 |
|----------------------------|---------|--------------|
| Net sales | 1,867 | 1,776 |
| Marketing and selling | -181 | -183 |
| Administration | -54 | -64 |
| Research and development | -173 | -183 |
| EBIT | 553 | 409 |
| EBITDA | 734 | 586 |
| EBITDA pre | 752 | 595 |
| Margin (in % of net sales) | 40.2% | 33.5% |

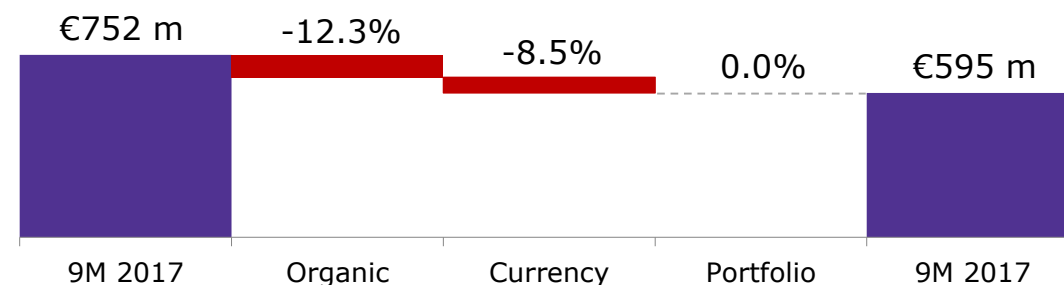
Net sales bridge



Comments

- Organically almost stable, driven by growth of Semiconductor, OLED and Photoresists compensating LC decline; LC benefited from new plant ramp up projects in China
- Stronger demand for innovative UB-FFS technology
- Semiconductor Solutions with above-market growth due to strong demand from all major material classes, esp. dielectric and lithography materials
- Increased R&D due to Semiconductor Solutions related projects
- Lower profitability reflects negative business mix, ongoing LC decline and FX headwinds

EBITDA pre bridge



Cash flow statement

9M 2018 – cash flow statement

| [€m] | 9M 2017 | 9M 2018 | Δ |
|-------------------------------------|---------|--------------|------|
| Profit after tax | 1,600 | 938 | -662 |
| D&A | 1,247 | 1,304 | 57 |
| Changes in provisions | 22 | 119 | 97 |
| Changes in other assets/liabilities | -101 | -472 | -371 |
| Other operating activities | -355 | 6 | 361 |
| Changes in net working capital | -359 | -416 | -57 |
| Operating cash flow | 2,055 | 1,479 | -576 |
| Investing cash flow | -794 | -631 | 163 |
| thereof Capex on PPE | -569 | -611 | -42 |
| Financing cash flow | -1,318 | -585 | 733 |

Cash flow drivers

- Profit after tax reflects lower EBIT; LY reflects Biosimilars disposal gain, which is neutralized in other operating activities
- D&A increase due to low base LY related to write up of Vevey site (~€70 m)
- Changes in other assets/liabilities reflects LY lower tax payment and upfront payment from Fresenius for future R&D activities
- LY Investing cash flow was driven by Vertex and F-star licensing deals, mitigated by Biosimilars divestment
- Financing cash flow reflects repayment of USD400 m bond, compensated by increased bank loan and commercial paper; LY includes bond repayment ~€700 m

Adjustments in Q3 2018

Adjustments in EBIT

| [€m] | Q3 2017 | | Q3 2018 | |
|-----------------------|-------------|-------------|-------------|-------------|
| | Adjustments | thereof D&A | Adjustments | thereof D&A |
| Healthcare | -327 | -17 | 9 | 0 |
| Life Science | 24 | 0 | 16 | 5 |
| Performance Materials | 2 | 0 | 1 | 0 |
| Corporate & Other | 29 | 0 | 23 | 0 |
| Total | -271 | -17 | 49 | 5 |

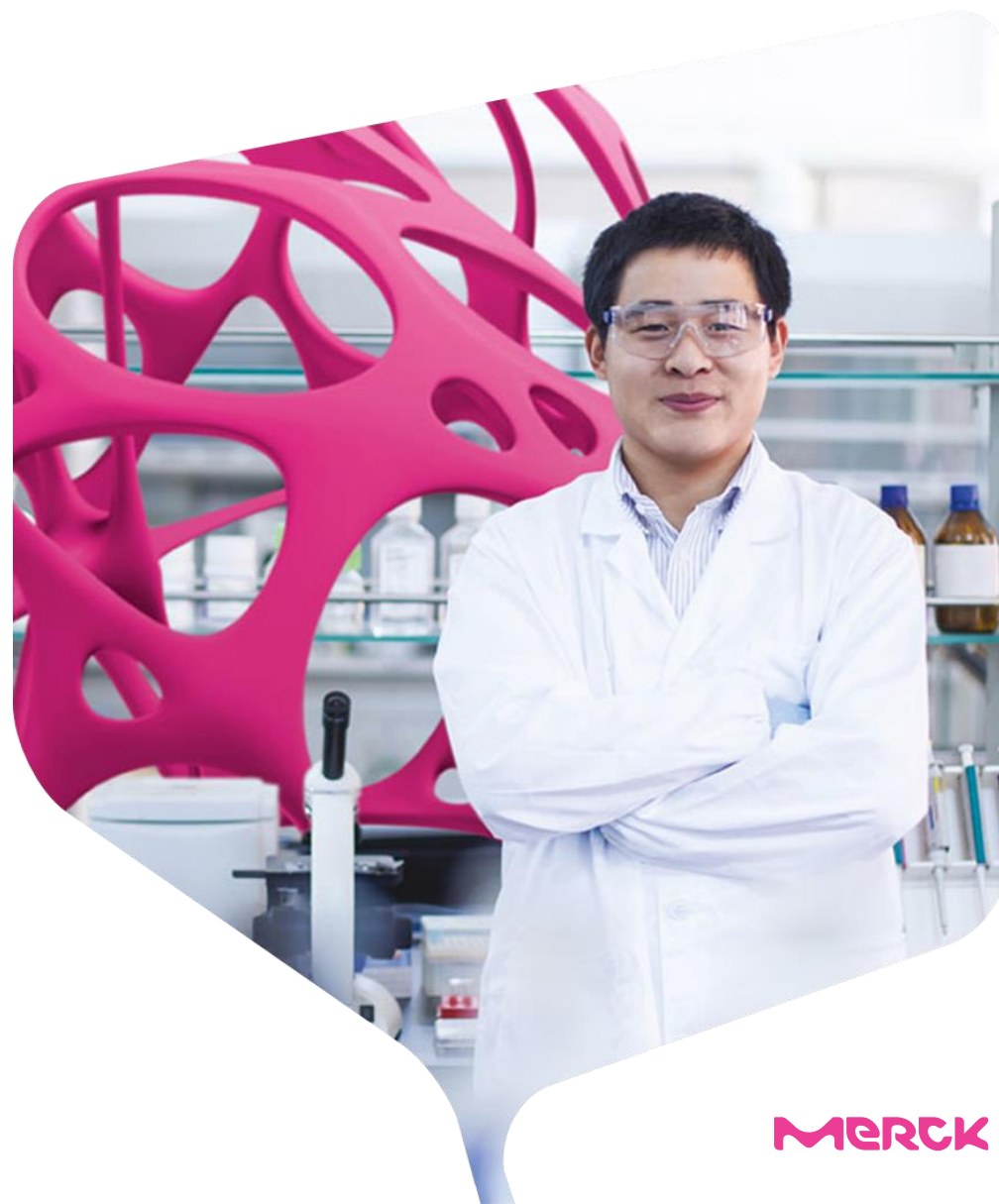
Adjustments in 9M 2018

Adjustments in EBIT

| [€m] | 9M 2017 | | 9M 2018 | |
|-----------------------|-------------|-------------|-------------|-------------|
| | Adjustments | thereof D&A | Adjustments | thereof D&A |
| Healthcare | -379 | -84 | 52 | 0 |
| Life Science | 86 | 3 | 54 | 21 |
| Performance Materials | 25 | 7 | 10 | 1 |
| Corporate & Other | 60 | 0 | 73 | 0 |
| Total | -208 | -74 | 189 | 22 |

Financial calendar

| Date | Event |
|----------------|--------------------------|
| March 7, 2019 | FY 2018 Earnings release |
| April 26, 2019 | Annual General Meeting |
| May 14, 2019 | Q1 2019 Earnings release |
| August 8, 2019 | Q2 2019 Earnings release |



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