



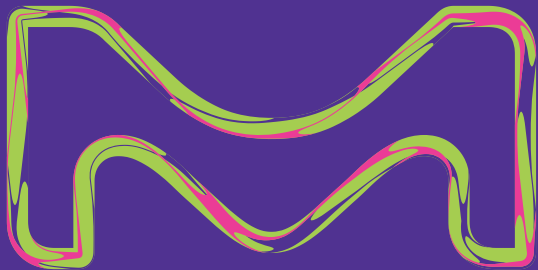
MERCK KGAA DARMSTADT, GERMANY

HEALTHCARE SET FOR FUTURE GROWTH

34th Annual J.P. Morgan Healthcare Conference

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Agenda

- | | | |
|-----------|---------------------------|--|
| 01 | Group | Business overview |
| 02 | Healthcare | A resilient business fostering pipeline output |
| 03 | Healthcare R&D | A diversified pipeline set to deliver future growth |
| 04 | Healthcare | Executive summary |



01

GROUP BUSINESS OVERVIEW

Our portfolio of three high-tech businesses



**Leading in specialty
pharma markets**

- Life cycle management
- Biologics
- Emerging markets
- Over-the-counter medicine



**Leading life science
company**

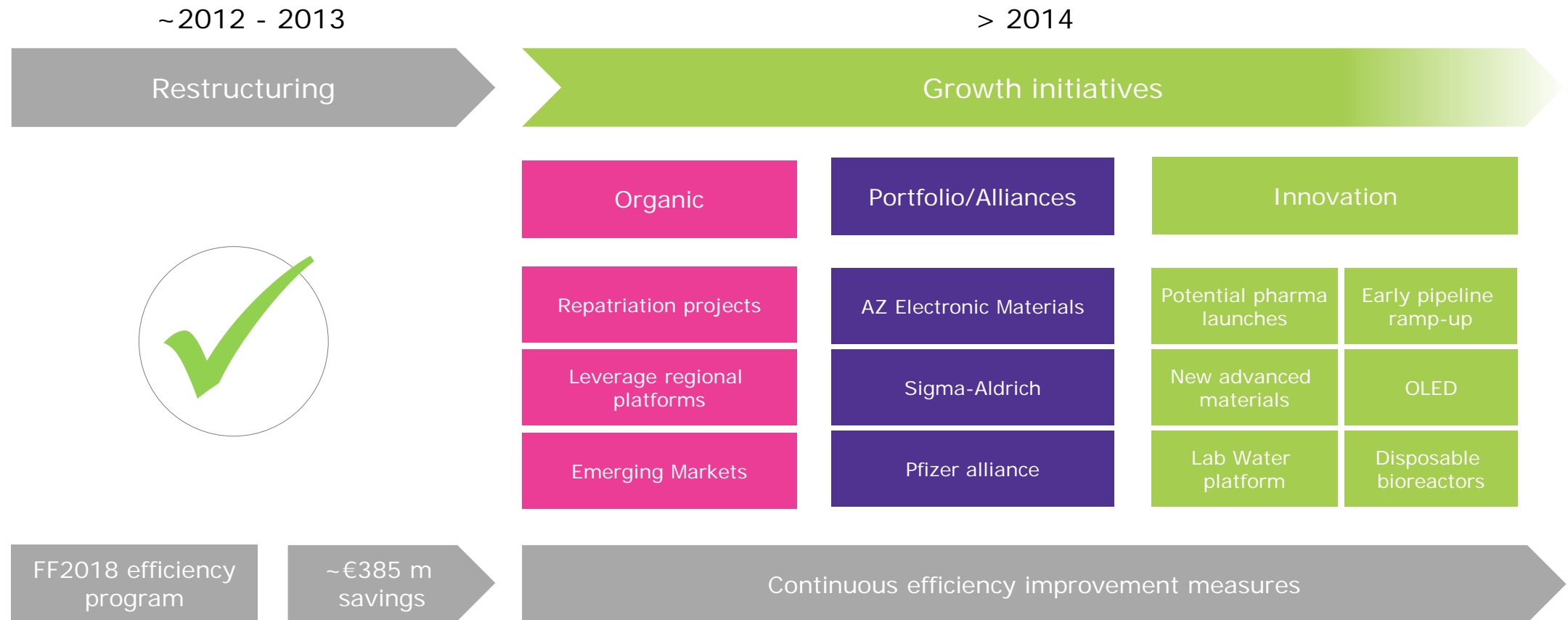
- Consumables & equipment for biotech research & production
- Tools and laboratory supply for the life science industry



**Market leader in
display materials**

- Customer intimacy
- Innovation power
- Cost and technology leadership

Strategic agenda 2018 – milestones achieved





Strategic rationale

- ▶ Broad and complementary product fit in attractive segments
- ▶ Expanding global reach and scale
- ▶ Leveraging operational excellence to deliver superior value to customers

Integration

- ▶ New organizational structure designed (Applied, Research and Process Solutions)
- ▶ Top 3 management levels already appointed
- ▶ Focus on seamless integration for customers and the organization

Financials

- ▶ Confirming synergies of €260 m, realized by the third full year after closing
- ▶ Sigma to be consolidated for 43 days in 2015

Full-year 2015 guidance upgraded and updated for Sigma

Group guidance for 2015, including Sigma-Aldrich for 43 days

▶ **Net sales:** ~ €12.6 – 12.8 bn
thereof Sigma: ~ €300 m ◀

▶ **EBITDA pre:** ~ €3,580 – 3,650 m
thereof Sigma: ~ €80 - 95 m ◀

▶ **EPS pre:** ~ €4.80 – 4.95
thereof Sigma: ~ €0.10 – 0.15 ◀





02

**HEALTHCARE-
A RESILIENT BUSINESS
FOSTERING PIPELINE
OUTPUT**

Delivering on promises from Capital Markets Day in September 2014

Capital
Markets Day
2014

Vision 2018

1
Enforce stability
in existing
businesses

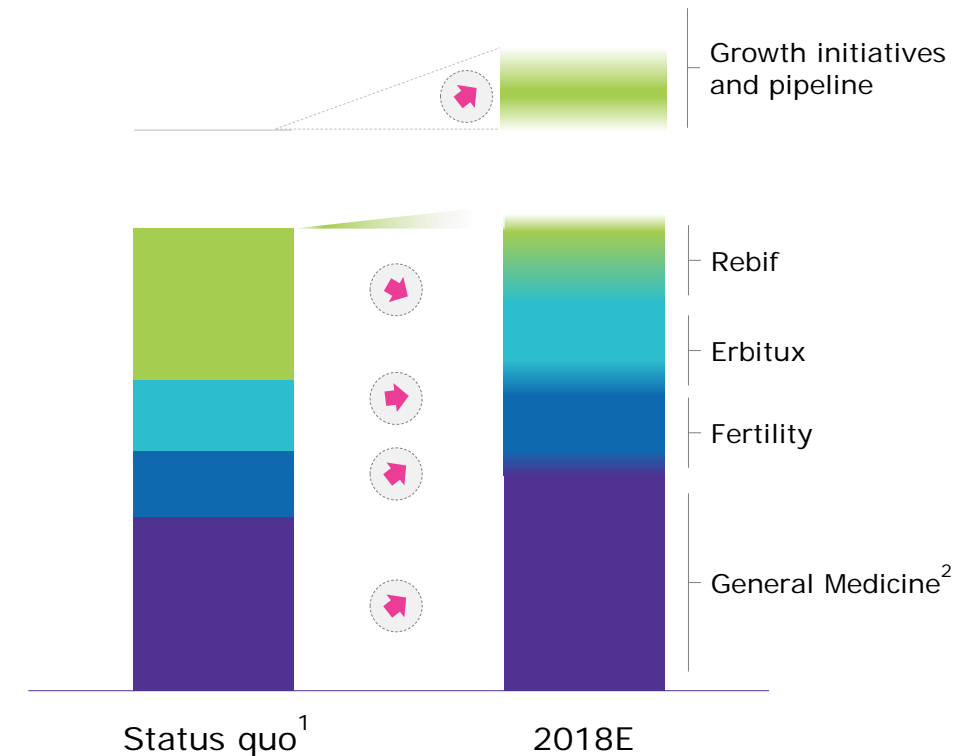
Maximize existing franchises

- ▶ Market positioning
- ▶ Regions / emerging markets capabilities
- ▶ Life-cycle management including superior devices

2
Create
sustained
growth

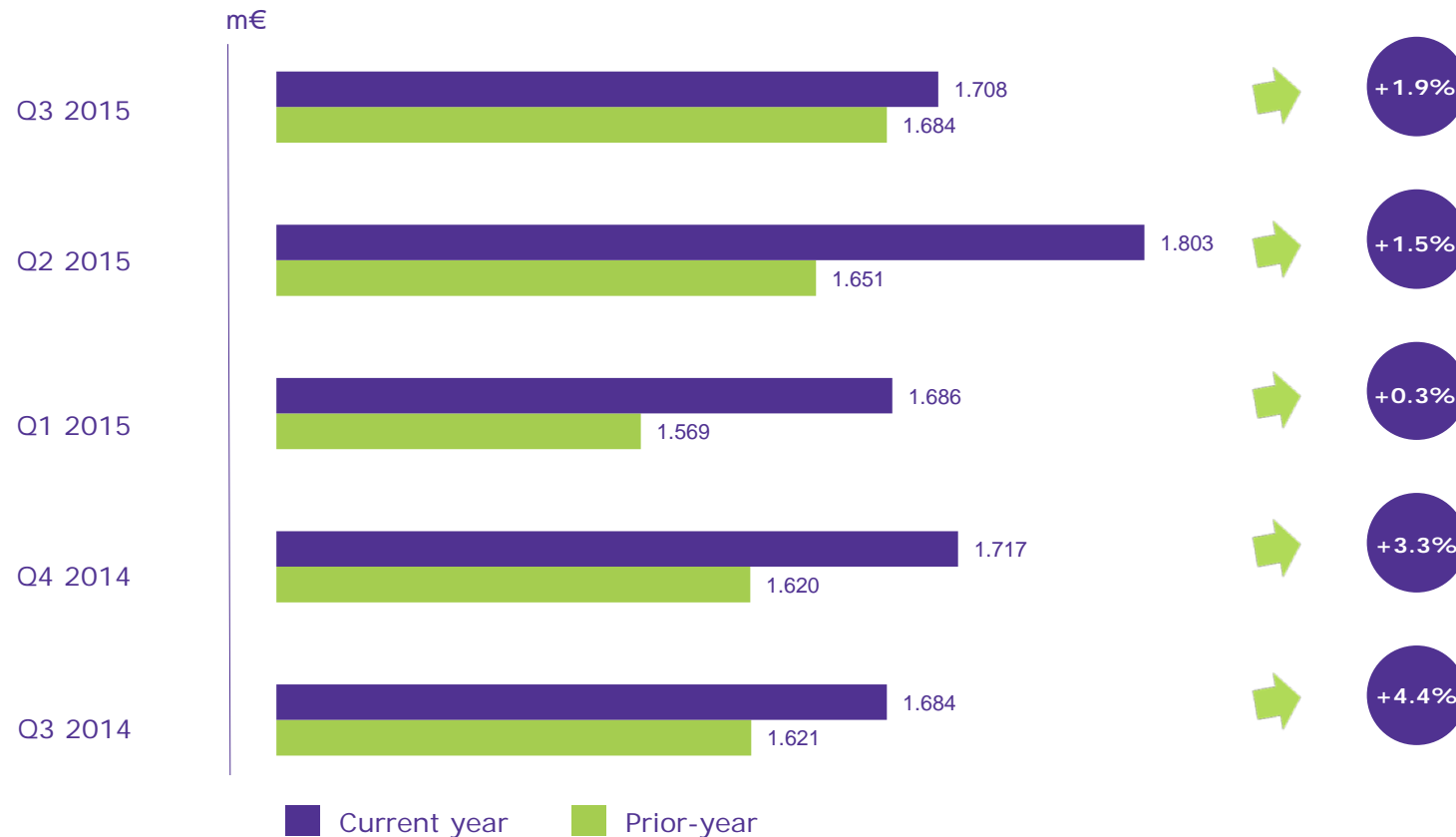
Generate new revenue streams

- ▶ Deliver on R&D pipeline
- ▶ Payor-centric devices strategy
- ▶ Expand regional portfolio through in-licensing



Delivered organic sales growth, committed to future performance

Stable to slight organic growth



ERBITUX®
CETUXIMAB

Consumer Health

Rebif®

GONAL-f®

Pergoveris®
(hullitropin alfa and lutropin alfa for injection)

VIDREL®

Luveris®

Cetrotide®



Glucophage®

Concor®

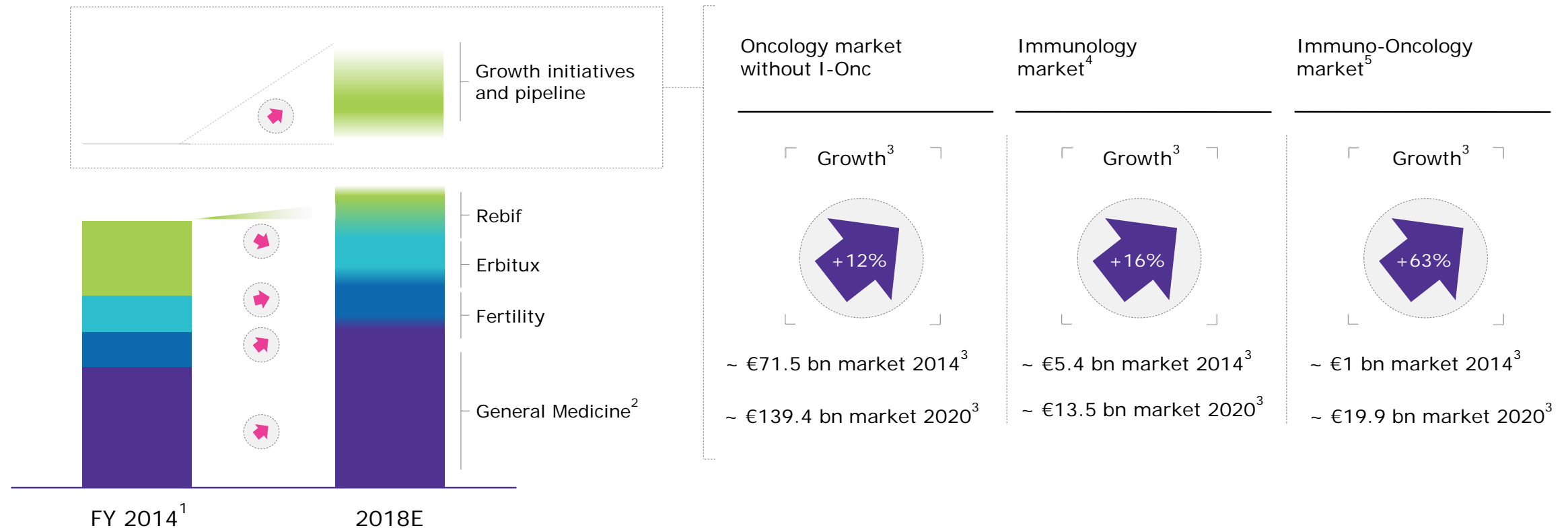
Euthyrox®

Defending the existing product portfolio is a key strength of Healthcare

Merck KGaA
Darmstadt, Germany

Healthcare is pursuing attractive growth opportunities with the pipeline

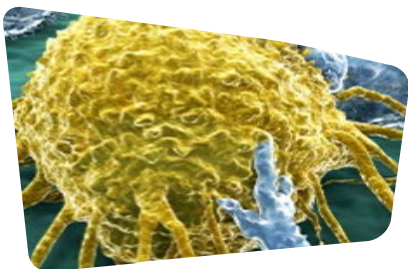
Investments focused on three attractive market segments



¹adapted to new Healthcare business sector to include Consumer Health; ²including Consumer Health, Cardiometabolic Care, Endocrinology, General Medicine and Others; ³Data for global market 2014, CAGR for 2014-2020; Source: Sales data according to EvaluatePharma®, accessed August 2015; ⁴Immunosuppressants Therapeutic Class as defined by EvaluatePharma, excluding ustekinumab; ⁵Immuno-oncology (PD-L1, PD-1, CTLA-4, OX-40, IDO, CAR T cells)

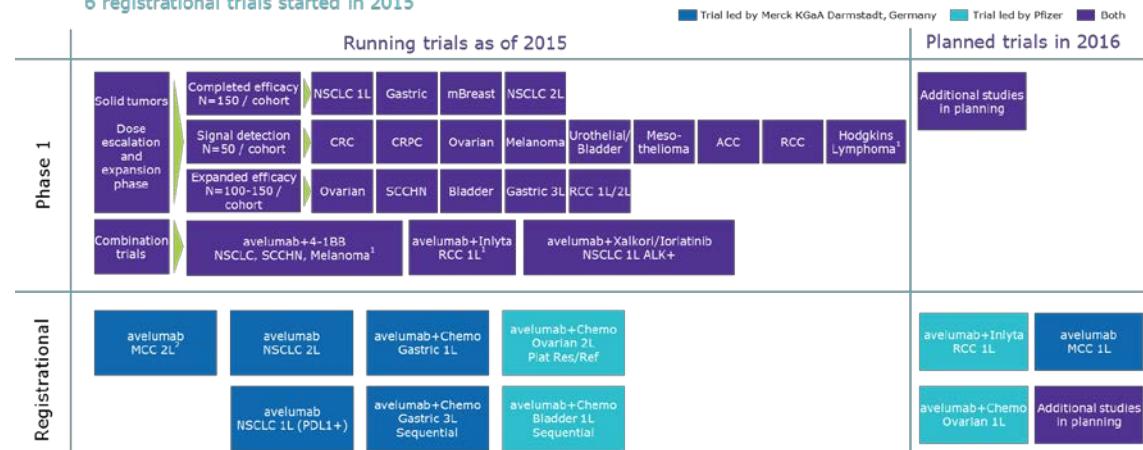
New revenue streams from pipeline expected from 2017/2018 onwards

AVELUMAB



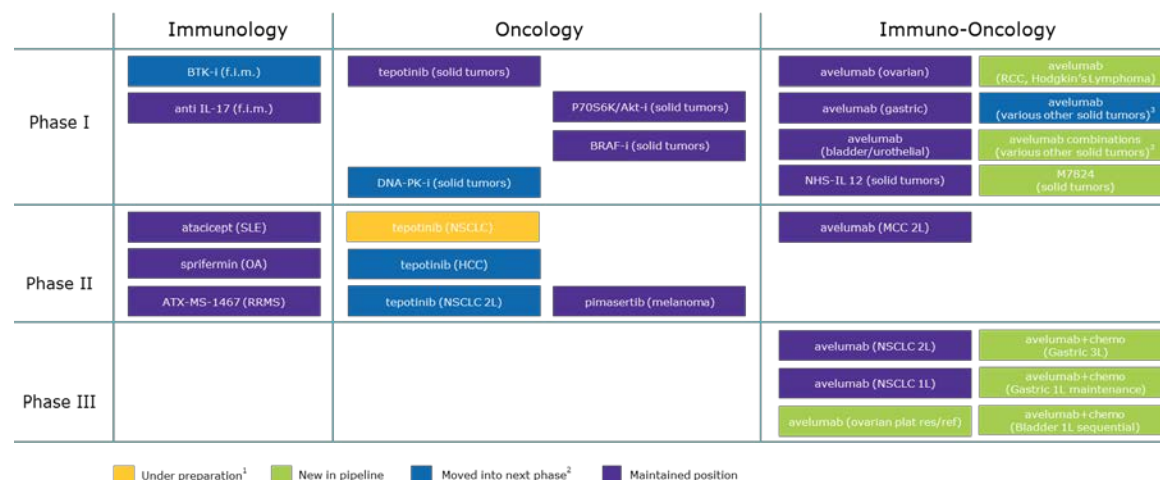
- 6 pivotal trials initiated in 2015 (NSCLC 1L/2L, ovarian platinum resistant/refractory, gastric 1L/3L, bladder 1L)
- Breakthrough therapy and Fast track designations (US) for mMCC received, Orphan Drug Designation (US and EU)
- Initiation of more than 20 clinical programs together with Pfizer across more than 15 tumor indications in 2015
- Collaboration with Syndax evaluating avelumab in combination with entinostat in ovarian cancer

6 registrational trials started in 2015



selected R&D projects

- Atacicept**: study enrolment completed ahead of schedule, data readout Phase II in H2 2016
- BTK inhibitor**: explore options for partnering
- M7824**: Phase I dose escalation for our first in class bi-functional fusion-protein targeting PD-L1 and TGF-β
- Tepotinib**: Phase II data in hepatocellular carcinoma expected in H2 2016
- Cladribine**: EU filing expected in H1 2016, other geographies under review



Avelumab – Differentiation strategy varies according to chosen target indication and market

Ambition: Smart leader

1

Unsaturated
and / or niche
indications

- Indications (Merkel cell) or markets (Asia for gastric)
- Quick to market strategy, e.g. BTD for MCC in November 2015
- Small, but less crowded markets and sales potential with notable impact for us
- Strategic strength of Healthcare in niche markets

Ambition: Smart follower

2

Saturated
and / or major
indications

- Indications such as NSCLC or Bladder
- Learn from experience of incumbents/early movers
- Potential for combinations given breadth of combined development pipelines, e.g. lung
- Differentiate in trial design and explore application of further biomarkers



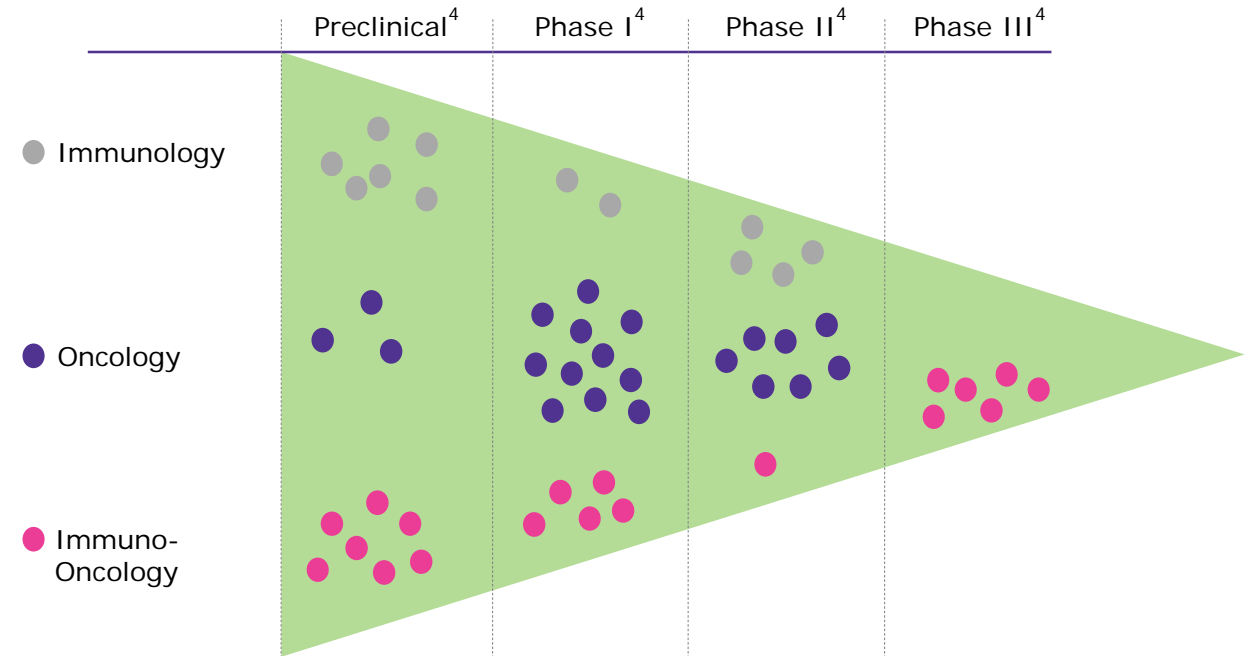
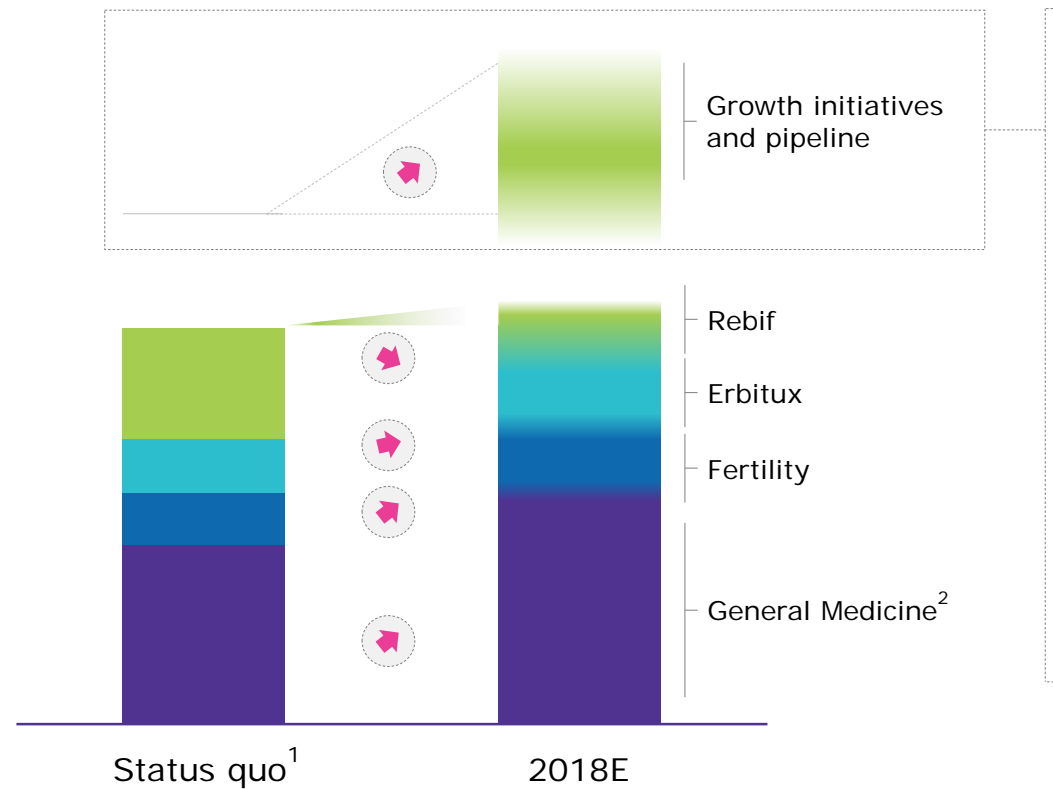


03

**HEALTHCARE R&D-
A DIVERSIFIED PIPELINE
SET TO DELIVER
FUTURE GROWTH**

New revenue streams from pipeline projects and additional growth initiatives

Broad and well structured pipeline



¹FY 2014; adapted to new Healthcare business sector to include Consumer Health; ²including Consumer Health, Cardiometabolic Care, Endocrinology, General Medicine and Others; ⁴Number of trials initiated/ongoing as of December 2015

Revamped and focused R&D pipeline shows further progress

	Immunology	Oncology		Immuno-Oncology	
Phase I	BTK-i (f.i.m.)	tepotinib (solid tumors)		avelumab (ovarian)	avelumab (RCC, Hodgkin's Lymphoma)
	anti IL-17 (f.i.m.)		P70S6K/Akt-i (solid tumors)	avelumab (gastric)	avelumab (various other solid tumors) ³
			BRAF-i (solid tumors)	avelumab (bladder/urothelial)	avelumab combinations (various other solid tumors) ³
		DNA-PK-i (solid tumors)		NHS-IL 12 (solid tumors)	M7824 (solid tumors)
Phase II	atacept (SLE)	tepotinib (NSCLC)		avelumab (MCC 2L)	
	sprifermin (OA)	tepotinib (HCC)			
	ATX-MS-1467 (RRMS)	tepotinib (NSCLC 2L)	pimasertib (melanoma)		
Phase III				avelumab (NSCLC 2L)	avelumab+chemo (Gastric 3L)
				avelumab (NSCLC 1L)	avelumab+chemo (Gastric 1L maintenance)
				avelumab (ovarian plat res/ref)	avelumab+chemo (Bladder 1L sequential)

■ Under preparation¹
■ New in pipeline
 ■ Moved into next phase²
■ Maintained position

As of 31 December 2016; ¹Under preparation for this phase; ²Since Capital Markets Day in September 2014; ³See p. 20 for more detailed development program; Acronyms: f.i.m. = First in man, SLE = Systemic lupus erythematosus, OA = Osteoarthritis, RRMS = Relapse remitting multiple sclerosis, NSCLC = Non-small cell lung cancer, HCC = hepatocellular carcinoma, STS = soft-tissue carcinoma, PaCa = Pancreatic Cancer, MCC = Merkel cell carcinoma

Several pipeline compounds have advanced and will add to long-term momentum

Avelumab

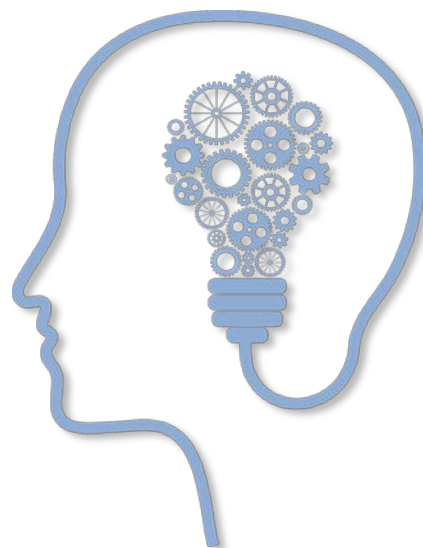
- Thought to block interaction of PD-L1 with known ligand PD-1
- May enable the activation of T-cells and the adaptive immune system
- Under investigation in more than 15 tumor types

Bi-functional immunotherapy – M7824

- Dual-acting fusion protein neutralizes two immuno-inhibitory pathways
- Expected to control tumor growth by restoring and enhancing innate and adaptive anti-tumor immune responses

NHS-IL12 – M9241

- Investigational cancer immunotherapy designed to target the DNA fragments released from the dead and dying (necrotic) cells found in the context of many solid tumors.



DNA-PK inhibitor - M3814

- Small molecule inhibitor of key enzyme in double strand break (DSB) repair pathway

Tepotinib/ C-Met Inhibitor

- Investigational small molecule inhibitor of the c-Met receptor tyrosine kinase



BTK inhibitor – M2951

- Selective inhibitor of bruton tyrosine kinase (BTK); important in the development of immune cells

The alliance met an ambitious goal in 2015 – the initiation of 6 pivotal trials

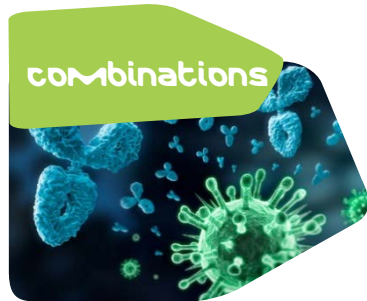
6 registrational trials started in 2015

■ Trial led by Merck KGaA Darmstadt, Germany ■ Trial led by Pfizer ■ Both

	Running trials as of 2015											Planned trials in 2016		
Phase 1	Solid tumors		Completed efficacy N=150 / cohort	NSCLC 1L	Gastric	mBreast	NSCLC 2L							Additional studies in planning
			Signal detection N=50 / cohort	CRC	CRPC	Ovarian	Melanoma	Urothelial/ Bladder	Meso- thelioma	ACC	RCC	Hodgkins Lymphoma ¹		
			Expanded efficacy N=100-150 / cohort	Ovarian	SCCHN	Bladder	Gastric 3L	RCC 1L/2L						
	Combination trials	avelumab+4-1BB NSCLC, SCCHN, Melanoma ¹			avelumab+Inlyta RCC 1L ¹		avelumab+Xalkori/Iorlatinib NSCLC 1L ALK+							
Registrational	avelumab MCC 2L ²	avelumab NSCLC 2L	avelumab+Chemo Gastric 1L		avelumab+Chemo Ovarian 2L Plat Res/Ref		avelumab+Chemo Bladder 1L Sequential					avelumab+Inlyta RCC 1L	avelumab MCC 1L	
		avelumab NSCLC 1L (PDL1+)	avelumab+Chemo Gastric 3L Sequential									avelumab+Chemo Ovarian 1L	Additional studies in planning	

Acronyms: CRC = colorectal cancer; CRPC = Castrate Resistant Prostrate Cancer; ACC = Adrenocortical Cancer; SCCHN = Squamous Cell Carcinoma of the Head and Neck; RCC = Renal Cell Carcinoma; ¹Trials currently initiating; ²Phase 2 trial

Going forward, the differentiation strategy for the alliance is fueled by the potential for combination



2015

- Phase II 2L MCC BTD, ODD and FTD received
- Phase III 1L and 3L gastric cancer
- Phase III 1L and 2L NSCLC
- Phase I Hodgkins Lymphoma

CHEMOTHERAPY

- Phase III 1L Bladder maintenance
- Phase III Ovarian Plat res/ref

NOVEL/NOVEL

- Phase I avelumab combined with 4-1BB in NSCLC, SCCHN and Melanoma
- Phase I 1L NSCLC ALK/ROS+

2016

- Initiation of phase III 1L MCC
- Further studies under preparation

- Initiation of phase III 1L ovarian cancer
- Further phase III studies under preparation

- Start of Syndax collaboration for a phase Ib/II in ovarian cancer
- Further exploratory and pivotal trials under preparation

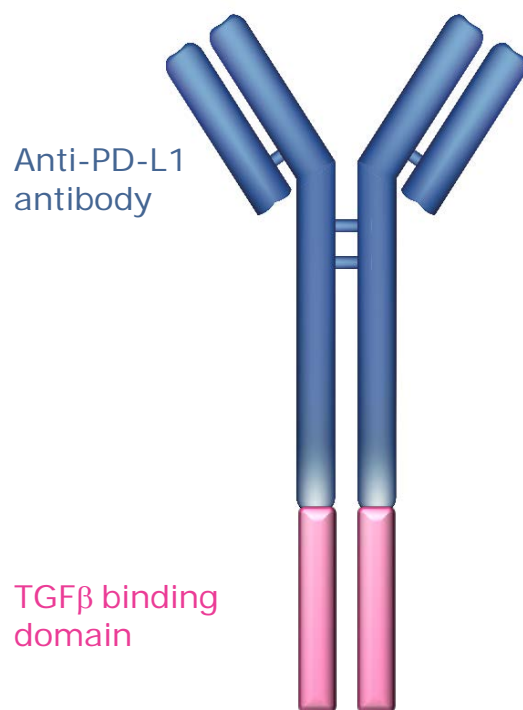
Future

Fast to market with monotherapy

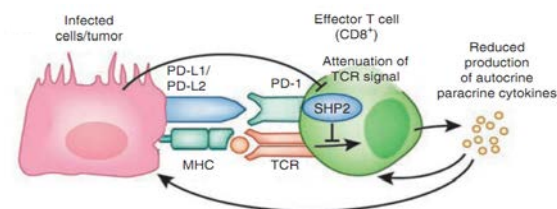
Expansion with combinations
Next generation combinations

M7824 – First-in-class bi-functional fusion protein targeting PD-L1 and TGFβ

Mechanism of Action

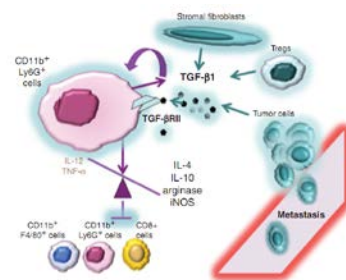


PD-1/PD-L1 immune checkpoint¹



- Is thought to bind to tumor expressed PD-L1 preventing its engagement to the immuno-inhibitory receptor PD-1 on activated T cells
- Has the potential to avert the shut down of T cell effector function

TGFβ immunosuppressive cytokine²



- “Traps” TGFβ produced by tumor cells, stromal cells, myeloid-derived suppressor cells and Tregs
- Is thought to block suppression of innate and adaptive anti-tumor immunity through TGFβ removal

M7824 addresses two immuno-inhibitory pathways and has the potential to control tumor growth by restoring and enhancing anti-tumor immune responses

Preclinical data show superior efficacy of M7824 over single agent PD-L1 or TGF β blockade justifying rapid clinical development

potential for differentiation

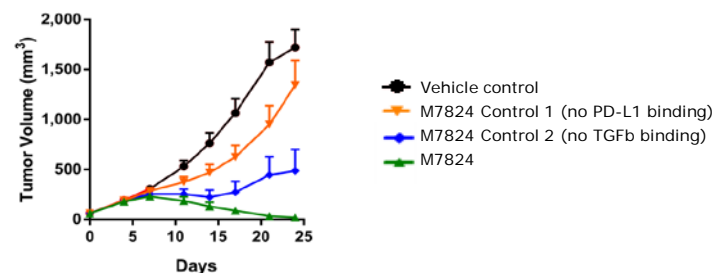
- Preclinical research indicates enhanced anti-tumor activity compared to PD-L1 or TGF β inhibition alone with complete responses seen in some in vivo models
- M7824 can induce anti-tumor immunity as shown in a tumor re-challenge setting in these models

highlights & milestones

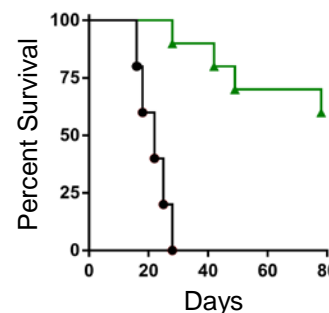
- Moved from preclinical to First-in-Human within 11 months
- Second dose level of Phase I completed by January 2016*
- Expansion cohorts expected to start in H2 2016*

EXAMPLE: EMT-6 BREAST CANCER MODEL

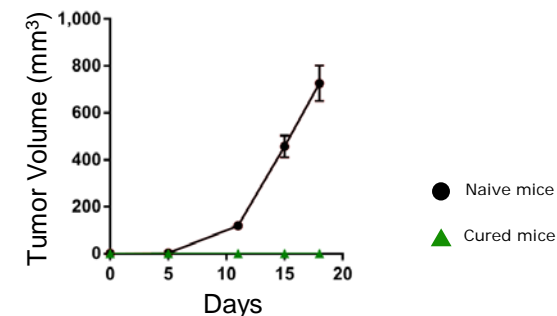
Tumor growth inhibition



Survival



Tumor re-challenge



Bifunctional mode of action of M7824 should result in broader application compared to respective monofunctional agents

*Note that timelines are event-driven and may change



04 HEALTHCARE- EXECUTIVE SUMMARY

Healthcare is well set for future Growth

Broad R&D pipeline

A broad and well-structured pipeline in the focus areas Immuno-Oncology, Oncology and Immunology

Visible progress

Since the CMD 2014 several promising earlier-stage assets have made visible progress

Broad I-Onc platform

The pipeline mix extends beyond checkpoint inhibitors and allows for clear differentiation

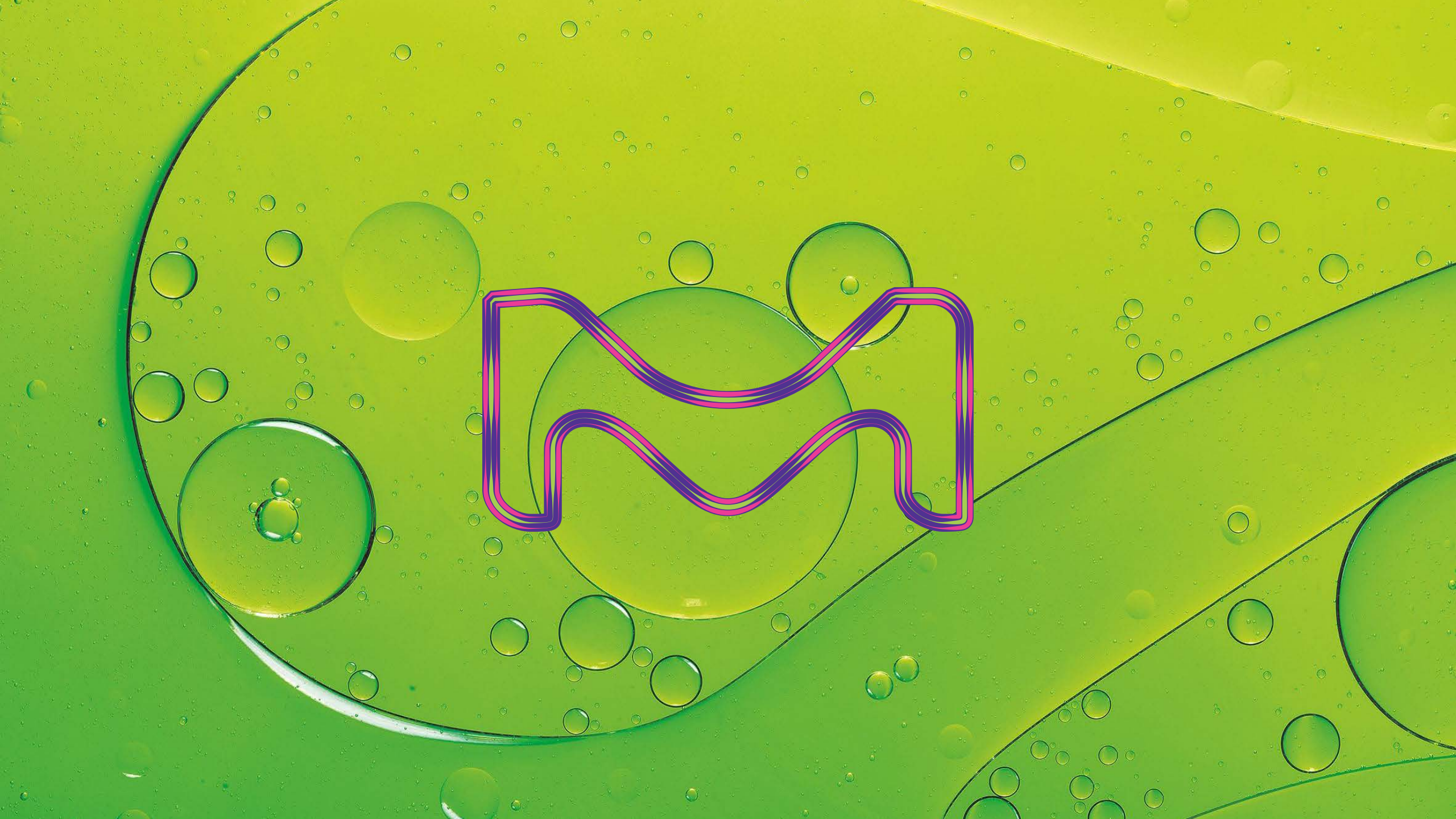
Avelumab differentiation

Combining Healthcare's and Pfizer's compounds can be a powerful lever in indications and markets

Growth trajectory

The foundation for Healthcare's long-term growth trajectory is being built step-by-step now







BACK UP

Healthcare pipeline

Phase I

Tepotinib
c-Met kinase inhibitor
Solid tumors
M2698
p70S6K & Akt inhibitor
Solid tumors
M3814
DNA-PK inhibitor
Solid tumors
Beigene-283
BRAF inhibitor
Solid tumors

Avelumab¹
Anti-PD-L1 mAb
Solid tumors
M9241 (NHS-IL12)²
Cancer immunotherapy
Solid tumors
M7824
Bifunctional immunotherapy
Solid tumors

M1095 (ALX-0761)
Anti-IL-17 A/F nanobody
Psoriasis
M2951
BTK inhibitor
Healthy volunteers

Phase II

M2736 (ATX-MS-1467)
Immune tolerizing agent
Multiple sclerosis

Pimasertib
MEK inhibitor
Melanoma
Tepotinib
c-Met kinase inhibitor
Non-small cell lung cancer
Tepotinib
c-Met kinase inhibitor
Hepatocellular cancer

Avelumab¹
Anti-PD-L1 mAb
Merkel cell carcinoma

Sprifermin
Fibroblast growth factor 18
Osteoarthritis
Atacicept
Anti-Blys/anti-APRIL fusion protein
Systemic lupus erythematosus

Phase III

Avelumab¹ – Anti-PD-L1 mAb
Non-small cell lung cancer 1L³
Avelumab¹ – Anti-PD-L1 mAb
Non-small cell lung cancer 2L⁴
Avelumab¹ – Anti-PD-L1 mAb
Gastric cancer 1L³
Avelumab¹ – Anti-PD-L1 mAb
Gastric cancer 3L⁵
Avelumab¹ – Anti-PD-L1 mAb
Bladder cancer 1L³
Avelumab¹ – Anti-PD-L1 mAb
Ovarian cancer platinum resistant/refractory

Registration

Cladribine Tablets⁶ –
Lymphocyte targeting agent
Relapsing-remitting multiple sclerosis

- Neurodegenerative Diseases
- Oncology
- Immunology
- Immuno-Oncology

Pipeline as of December 31st, 2015

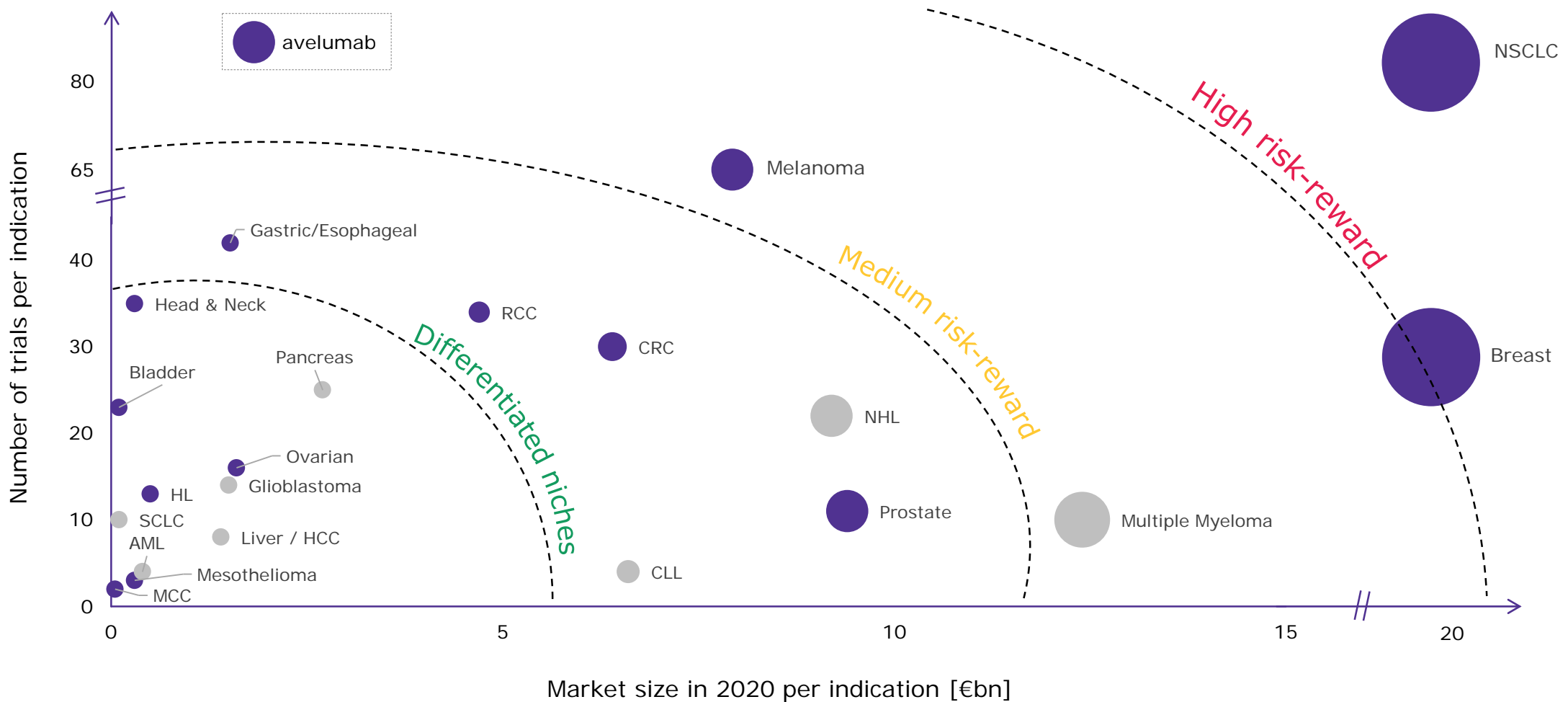
Pipeline products are under clinical investigation and have not been proven to be safe and effective.
There is no guarantee any product will be approved in the sought-after indication.

¹Avelumab is the proposed International Non-proprietary Name (INN) for the anti-PD-L1 monoclonal antibody (previously known as MSB 0010718C);

²Sponsored by the National Cancer Institute (USA); ³First Line treatment; ⁴Second Line treatment; ⁵Third Line treatment

⁶As announced on September 11th, 2015 Merck KGaA Darmstadt, Germany is preparing a regulatory submission to the European Medicines Agency

Avelumab plays predominantly in attractive and differentiated niches



Sources: Trialstrove and Cortellis as of September 2015, Boston Consulting Group, Evaluate Pharma forecast 2020
 Acronyms: SCLC = Small Cell Lung Cancer; HL = Hodgkins Lymphoma; NHL = Non Hodgkins Lymphoma; AML = Acute Myeloid Leukaemia

The alliance met an ambitious goal in 2015 – the initiation of 6 pivotal trials

AMBITION			
1 Ovarian Plat res/ref	<ul style="list-style-type: none">Estimated patient enrolment: 550Comparator: Pegylated liposomal doxorubicinEstimated primary completion: H1 2018*	✓	Smart leader
2 Bladder 1L maint.	<ul style="list-style-type: none">Estimated patient enrolment: 668Comparator: Best supportive careEstimated primary completion: H1 2019*	✓	Smart follower
3 Gastric 1L maint.	<ul style="list-style-type: none">Estimated patient enrolment: 629Comparator: Physician's choice of chemotherapy/BSCEstimated primary completion: H2 2018*	✓	Smart leader
4 Gastric 3L	<ul style="list-style-type: none">Estimated patient enrolment: 330Comparator: Physician's choice of chemotherapy/BSCEstimated primary completion: H1 2018*	✓	Smart leader
5 NSCLC 1L	<ul style="list-style-type: none">Estimated patient enrolment: 420Comparator: Physician's choice of platinum containing chemotherapyEstimated primary completion: H1 2018*	✓	Smart follower
6 NSCLC 2L	<ul style="list-style-type: none">Estimated patient enrolment:Comparator: docetaxel/chemotherapyEstimated primary completion: H2 2021*	✓	Smart follower

Avelumab shows promising clinical activity in five indications¹ supporting further clinical development

1
NSCLC

- Treatment with avelumab led to early and durable responses (ORR 14%) as a 2nd line treatment
- Longer median PFS and OS were observed for PDL1+ patients
- Phase III head-to-head trial of avelumab vs docetaxel in patients with recurrent NSCLC is underway

2
Ovarian

- Largest reported dataset² of patients with advanced ovarian cancer treated with anti-PD-(L)1
- Treatment with avelumab showed clinical activity (ORR 11%) in heavily pre-treated patients
- Phase III clinical development is planned

3
Gastric

- Largest reported dataset² of patients with advanced gastric cancer treated with anti-PD-(L)1
- Treatment with avelumab as a 2nd line treatment showed clinical activity (ORR 15%)
- Disease stabilization was also observed in a SwM (switch-maintenance therapy) group

4
Urothelial / Bladder

- Treatment with avelumab led to early and durable responses (ORR 19%)
- Biomarkers from tumor tissue and blood samples are under evaluation

5
Mesothelioma

- Treatment with avelumab in heavily pre-treated patients with advanced unresectable tumors led to:
- Partial responses in 3 patients (15.0%); all ongoing at time of analysis
- Disease control rate for patients 60.0% (partial response and stable disease)

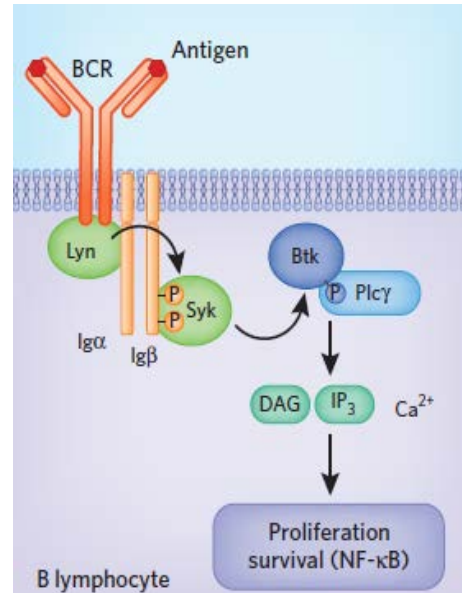
BTK inhibitor – selective inhibitor

Potential mechanism

- BTK is expressed by multiple cell types, including B lymphocytes and macrophages
- BTK may play an important role in B cell development, differentiation, activation, class-switching, proliferation, survival and cytokine release
- BTK-i is thought to suppress autoantibody-producing cells in RA and SLE; preclinical research suggests this may be therapeutically useful in certain autoimmune diseases

Potential for differentiation

- Highly differentiated and selective inhibitor
- BTK inhibitor demonstrates promising kinase selectivity profile
- Good cellular assay target profile for B and T cell interactions
- Aim to achieve best in class through minimization of off-target effects



Highlights & milestones

- BTK seems to prevent immune complex-mediated signalling and production of inflammatory cytokine in macrophages and glycoprotein VI signalling in platelets
- High and differentiated efficacy in preclinical models
- Second differentiated BTK molecule (M7583) moving into oncology clinical development in 2016

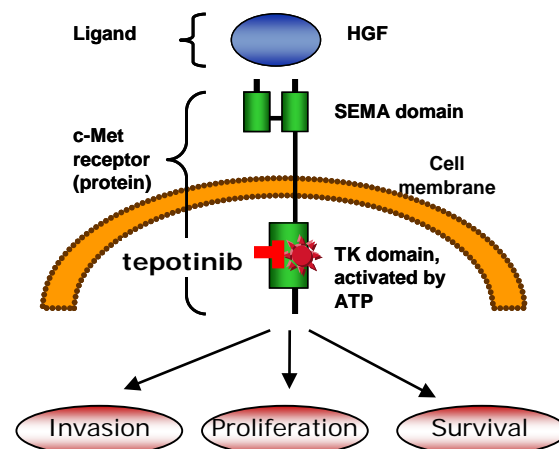
Timelines*

- Phase I (M2951), SAD/MAD/Food effect studies completed
- Phase Ib SLE start Oct 2015
- Phase IIa RA² start H1 2016

Tepotinib – leveraging biomarker science to achieve growth inhibition and regression of tumors

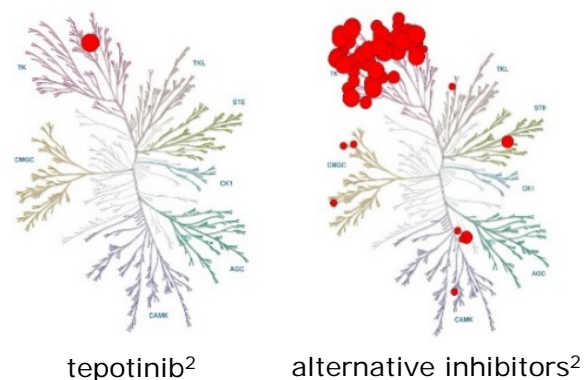
Potential mechanism

- c-Met receptor tyrosine kinase is thought to control key signaling pathway in cancer cells
- Pathway frequently deregulated in human cancer at ligand (HGF) and receptor (c-Met) levels
- In pre-clinical models, tepotinib as small molecule kinase inhibitor of c-Met causes growth inhibition and regression of tumors



Potential for differentiation

- Highly selective and potent kinase inhibitor – only c-Met is completely inhibited at clinically relevant doses
- Biomarker-driven approach for patient selection: only c-Met positive will be enrolled into tepotinib trials
- c-Met amplification and c-Met and HGF (hepatocyte growth factor) overexpression preclinically validated as predictive biomarker



Highlights & milestones

- Initiated phase II enrollment in Asia for HCC and EGFR mutant NSCLC, and for HCC in Europe – H1 2015
- Preliminary data show encouraging signs of anti-tumor activity in c-Met positive patients in NSCLC and HCC^{3,4}
- Phase I first-in-man trial: 76% of patients had no drug-related adverse events >Grade 1⁵

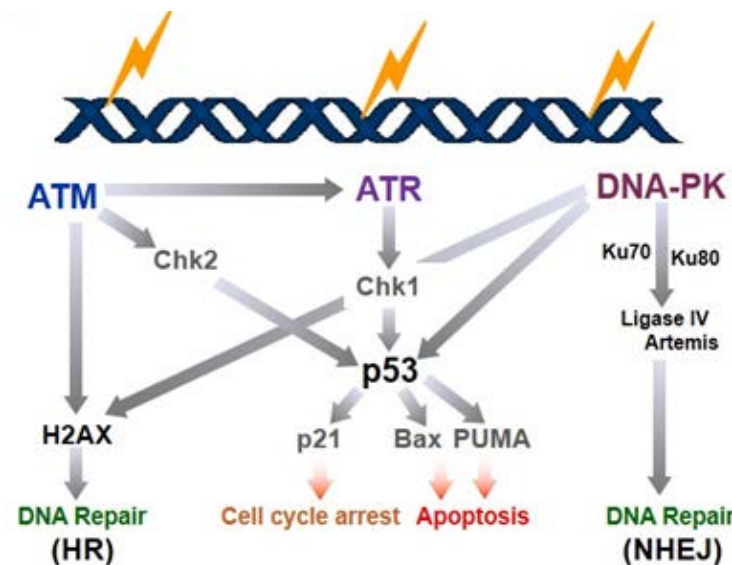
Timelines¹

- Phase II: NSCLC 2L: final analysis expected for end of 2017
- Phase II: HCC 1L, HCC 2L: interim analysis in H2 2016, and final analysis expected for H2 2017
- 2nd NSCLC trial under preparation for Phase II

DNA-PK inhibitor – targeting DNA double strand break (DSB) repair for cancer therapy

Potential mechanism

- DNA-PK is a relevant enzyme in an important DSB repair pathway
- DNA-PK inhibitor M3814 is thought to delay DNA repair of DSB and may potentiate the antitumor effect of radiotherapy
- M3814 may also have activity as single agent in cancers with dysfunctional DNA repair pathways



Highlights & milestones

- 100% cure rate in a head & neck cancer model in combination with radiotherapy in a clinically relevant setting (5x2 Gy/week for 6 weeks)
- Combination with radiotherapy may open a broad range of applications
- First in man, Phase Ia monotherapy trial: 3rd dose level completed without DLTs, 4th dose level fully recruited
- Phase Ia dose escalation trial in combination with radiotherapy open for recruitment

Potential for differentiation

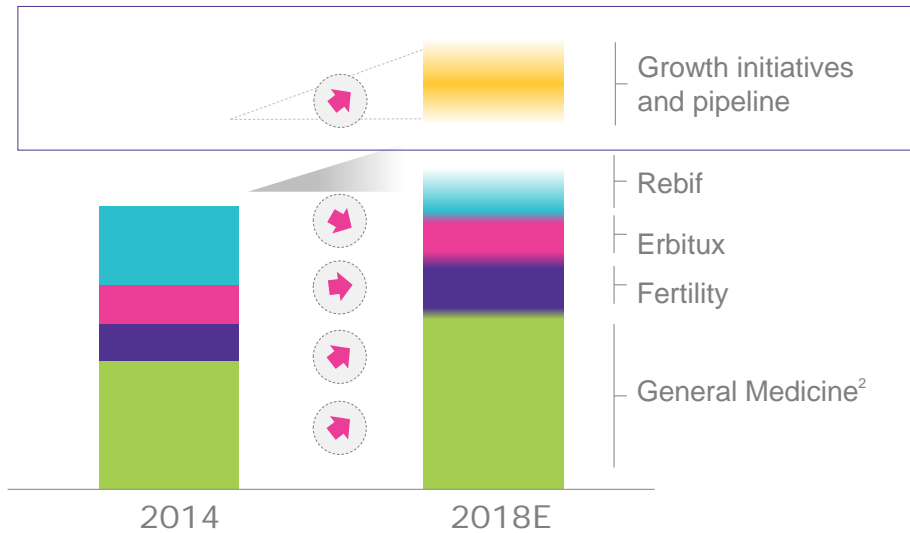
- Potential for First-in-Class orally administered selective DNA-PK inhibitor
- Potentially enhances the efficacy of many commonly used DNA damaging agents, such as radiotherapy and chemotherapies
- Strong preclinical proof-of-concept showing complete responses and/or increased progression-free survival in combination with radiotherapy in several xenograft models (SCCHN, NSCLC, CRC, PaCa)

Timelines*

- First patient cohort in radiotherapy combination trial (Phase I) to be recruited within next 1-2 quarters
- Phase Ib expansion cohorts: Solid tumors, CLL: First patient in H2 2016; Key data / statistics expected for H2 2017

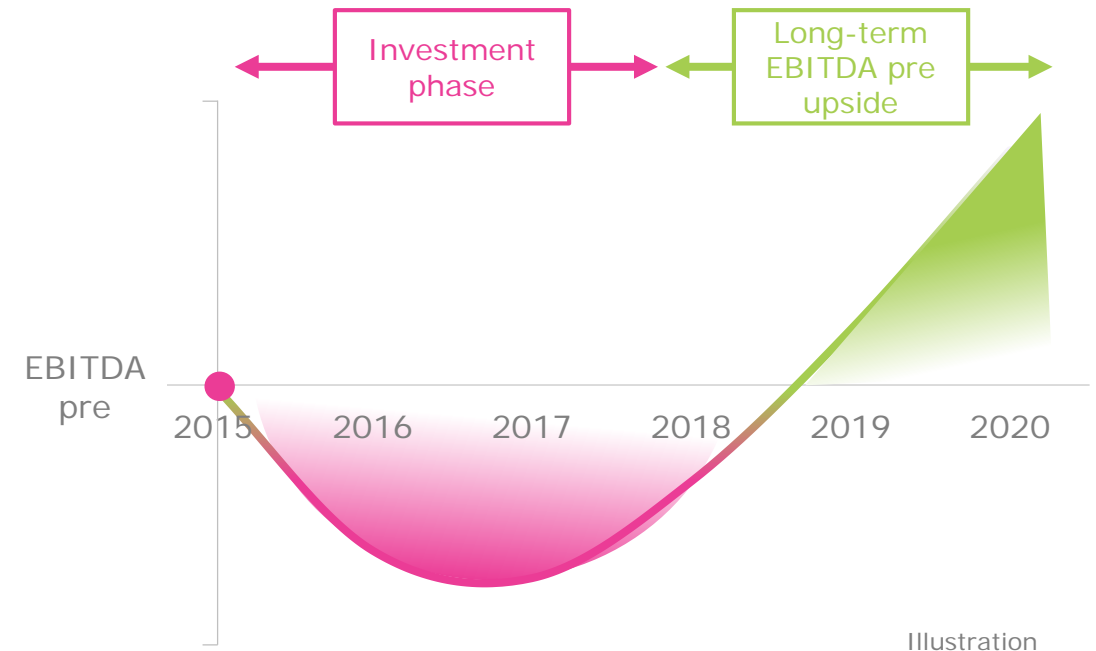
Pipeline opportunities will lead to rising investments

Stable to slightly growing¹ sales until 2018 confirmed



¹Organic; ²including Consumer Health, Cardiometabolic Care, Endocrinology, General Medicine and Others

Should pipeline catalysts materialize, investments will lead to considerable payback as of 2018+



Rising investments until 2017 to accelerate sales and earnings growth as of 2018

Investments in future growth

R&D*

- Immuno-Oncology: avelumab and ramp-up of earlier pipeline projects +€150-200m cost increase in 2016
- Oncology/Immunology, e.g. tepotinib, BTK inhibitor: mid to high double-digit €m cost increase in 2016

Marketing & Selling*

- Launch readiness to be ensured for avelumab and cladribine
- Costs for launch preparation in the mid to high double-digit €m range in 2016

- **Cost discipline remains high on the agenda**
- **Stringent pipeline assessments continue**
- **Investments based on sound business cases and robust clinical data**

Long-term growth investments partly mitigated by strict cost management

*For scenario that pipeline catalysts materialize

Life Science creates sustainable value based on strong strategic levers



Wide, innovative portfolio

- A combined portfolio of +300,000 products
- Integrated offerings along the life science value chain
- Complete workflow solutions



Balanced Geographic Footprint

- Increased presence in North America
- Accelerating growth momentum in Asia
- Expanded geographic reach in 60+ countries



Industry-leading Capabilities

- Outstanding supply chain management (Ability to deal with complexity)
- Simple e-commerce platform (customer interface with global coverage)
- Expertise to manage regulatory barriers

Our capabilities are the foundation for future topline growth in Life Science

Execute on integration and leverage synergy potential

Integration

- Significant restructuring and integration experience
- Deep knowledge and understanding of the life science industry
- L1-L3 already appointed

Synergies

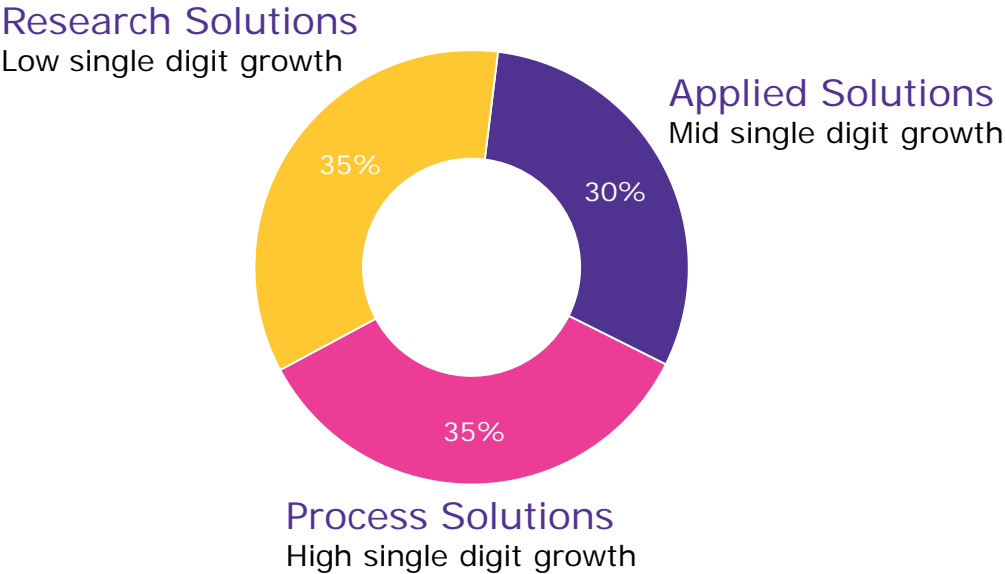
- Commitment to cost synergies of ~€260m confirmed
- Sources and timing of synergies clearly identified
- Delivery of synergies already starting in 2015



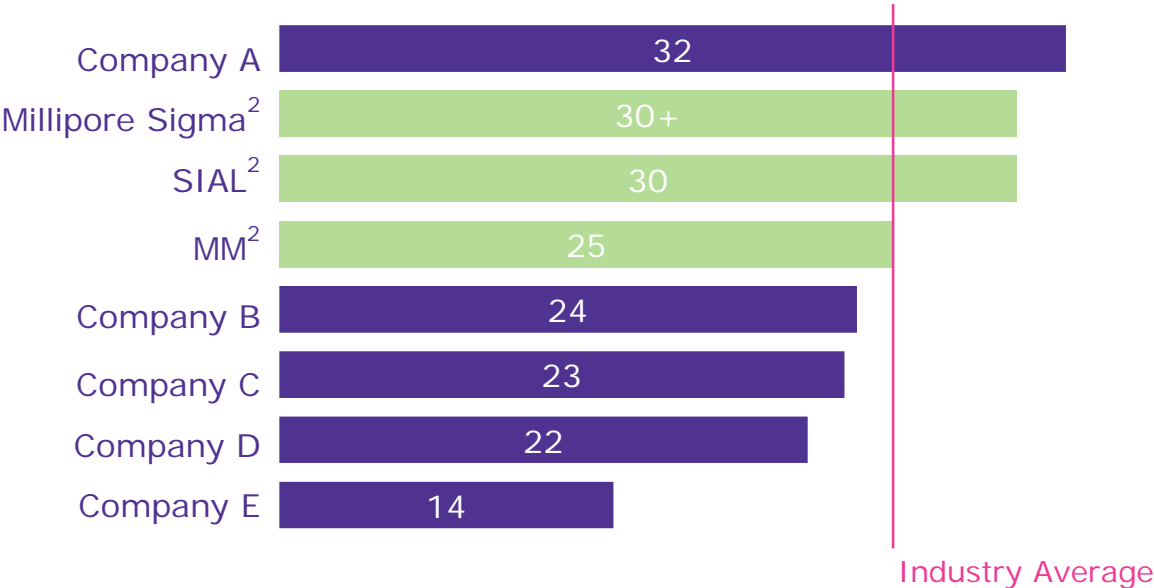
Integration process well set to maximize the capabilities of both worlds

Life Science aims to be the profitability champion of the sector

New sales breakdown¹ and market growth



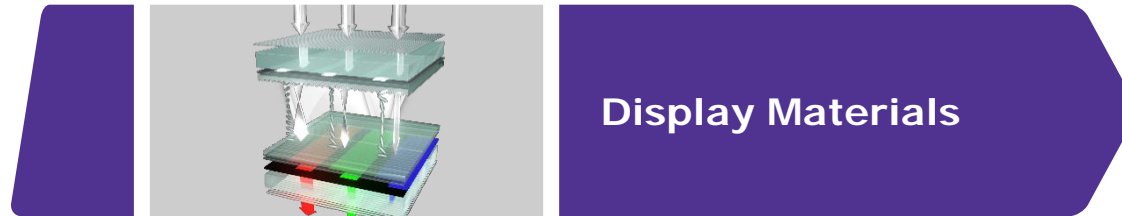
Above industry margin levels



Life Science is well set for sustainable growth and profitability

¹Pro-forma calculation based on published sales for FY 2014 for Millipore and Sigma-Aldrich (FX conversion: EUR/USD 1.30);

The four pillars in Performance Materials are set for profitable growth



~55-65% of total sales,

- liquid crystals (LC) and photoresists for TVs, smartphones and tablet computers
- other display and non-display applications (e.g. LC Windows)



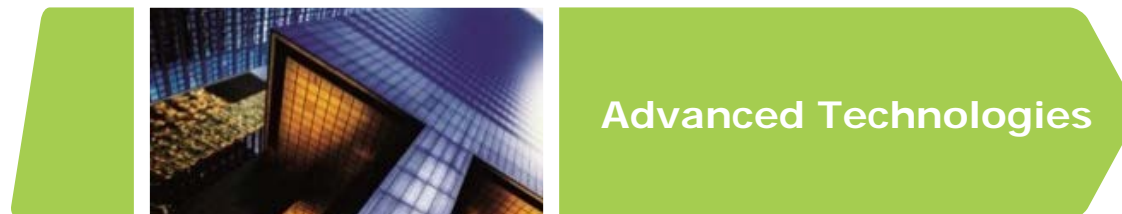
~15-20% of total sales,

- effect pigments and functional materials for coatings, plastics, printing and cosmetics
- functional materials for cosmetics and special applications



~15-20% of total sales,

- dielectrics, colloidal silica, lithography materials (photo resists), yield enhancers, edge-bead removers
- polyimide raw materials and printing materials



~5-10% of total sales,

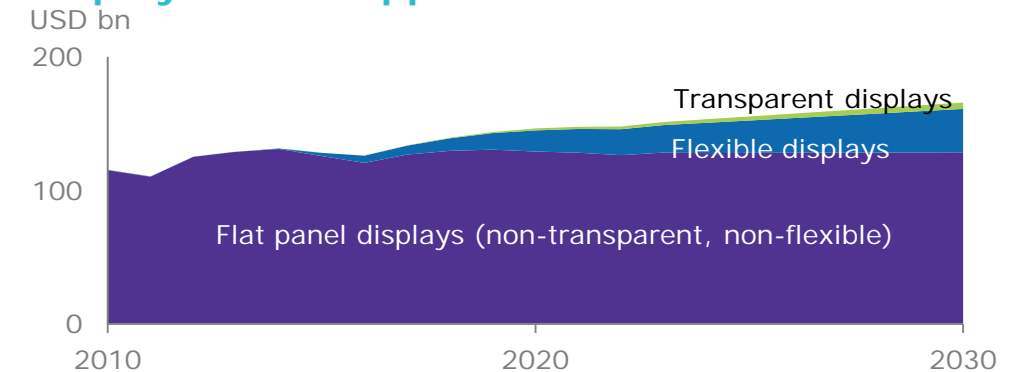
- organic (OLED) and inorganic (LED) light emitting diodes and functional materials for electronics and energy solutions, especially OLED is providing first substantial sales

In PM long-term growth and margin drivers are intact

3 Macroeconomics and electronics remain buoyant

- Global consumer electronics market expected to grow above GDP
- Mobile data, Internet of Things, Big Data being key growth drivers for LC and IC
- Display market continues to grow

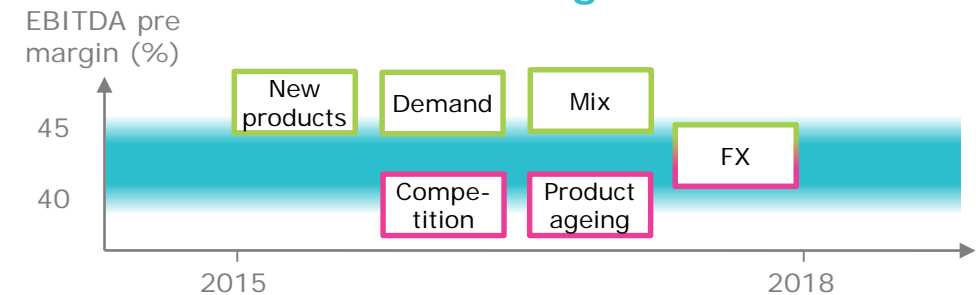
Display market opportunities continue to evolve*



4 Margins protected by high value-added products

- High market share in liquid crystals expected to prevail
- Margins are a key priority and will not be compromised

Sustainable mid-term margins



Confident to maintain low single-digit organic growth trajectory and attractive margin level

*Source: IHS, internal, VLSI

Group - key moving parts for 2016 EBITDA pre

Supporting factors

- Sigma-Aldrich contribution will be sizeable including cost synergies of ~ +€90m in the first full year
- Rebif/Pfizer end of co-promotion agreement in December 2015 (net effect ~ +€250m)
- Organic growth of net sales with all three business sectors contributing



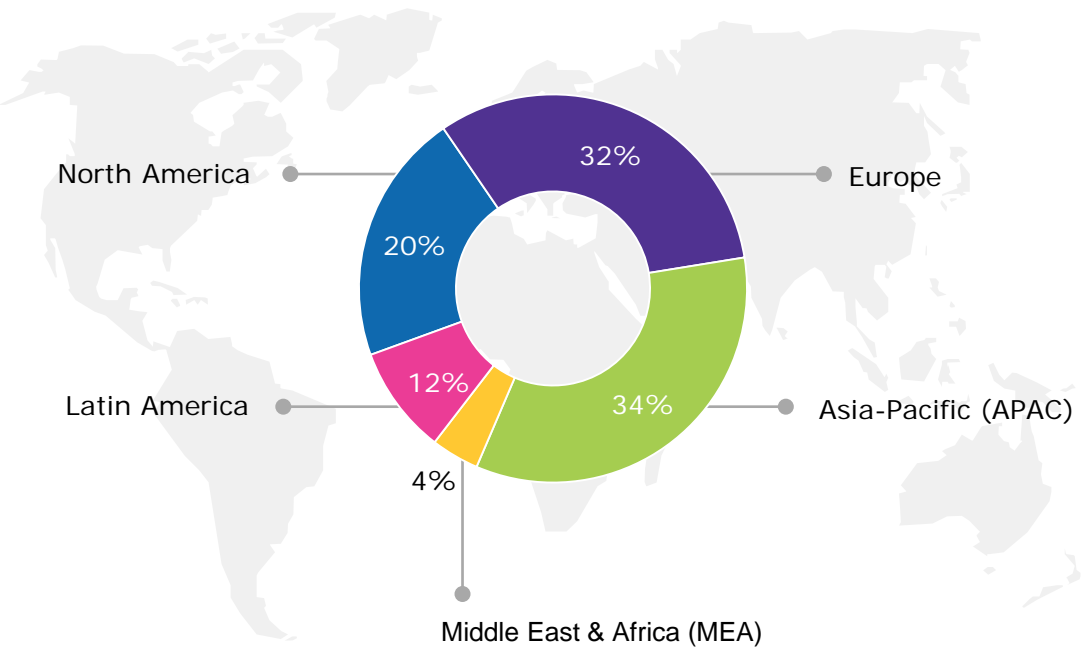
Burdening factors

- R&D costs in Healthcare ~ +€250m YoY from progressing R&D pipeline projects (clinical data)
- Healthcare margins impacted by product mix effects
- Kuvan divestment leads to lower recurring EBITDA pre (net effect mid-double digit €m YoY)

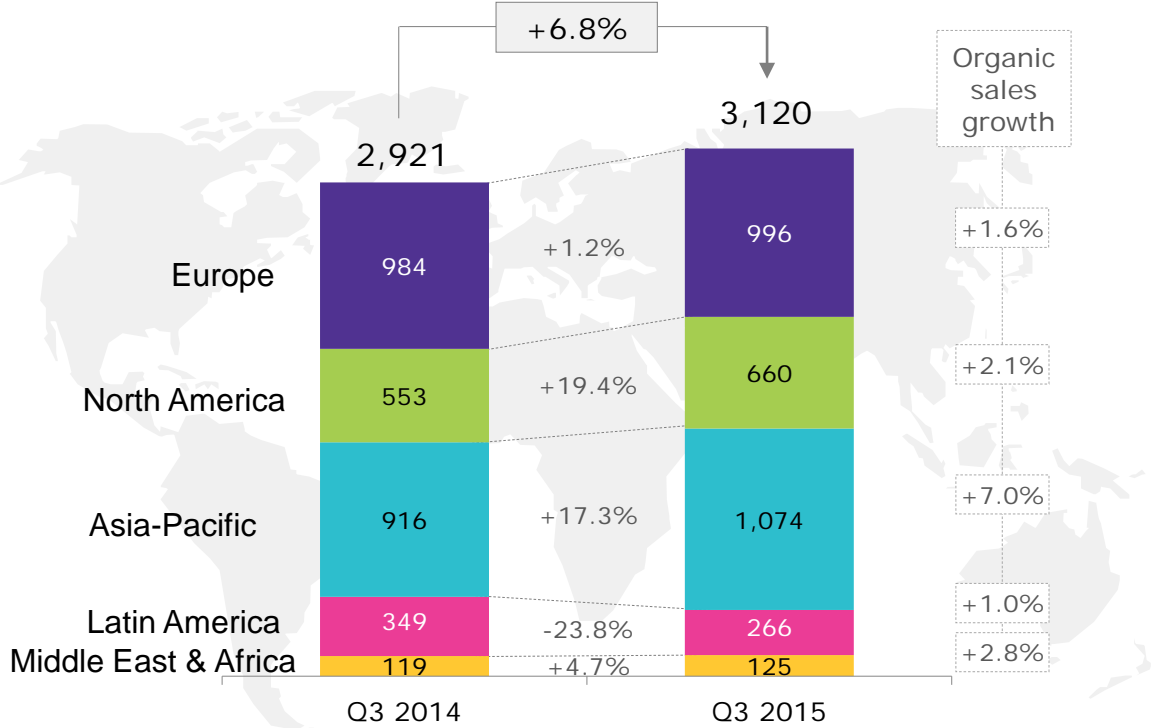
EBITDA pre in 2016 will reflect Sigma-Aldrich acquisition and investments in Healthcare pipeline

All regions contribute to organic growth – strong growth momentum in China

Group Q3 2015 net sales by region



Regional development of Q3 2015 net sales [€ m]



Q3 2015 overview

Q3 2015 – key figures

[€m]	Q3 2014	Q3 2015	Δ
Net sales	2,921	3,120	6.8%
EBITDA pre	857	944	10.2%
Margin (in % of net sales)	29.3%	30.3%	
EPS pre	1.15	1.32	14.8%
Operating cash flow	726	872	20.1%

[€m]	Dec. 31, 2014	Sept. 30, 2015	Δ
Net debt	559	-1,304	n.m.
Working capital	2,356	2,614	10.9%
Employees	39,639	40,339	1.8%

Comments – Q3 2015

- EBITDA pre increase driven by good organic performance, release of R&D termination provision and FX
- EPS pre and operating cash flow increase mainly due to higher EBITDA pre
- Net cash position reflects strong track record of deleveraging

Q3 2015 – good quarter with strong earnings growth

Q3 2015 – reported results

[€m]	Q3 2014	Q3 2015	Δ
EBIT	429	564	31.4%
Financial result	-57	-81	42.3%
Profit before tax	372	482	29.8%
Income tax	-122	-117	-4.4%
Tax ratio [in %]	32.9%	24.2%	
Net income	249	364	46.3%
EPS [€]	0.57	0.84	47.4%

Comments – Q3 2015

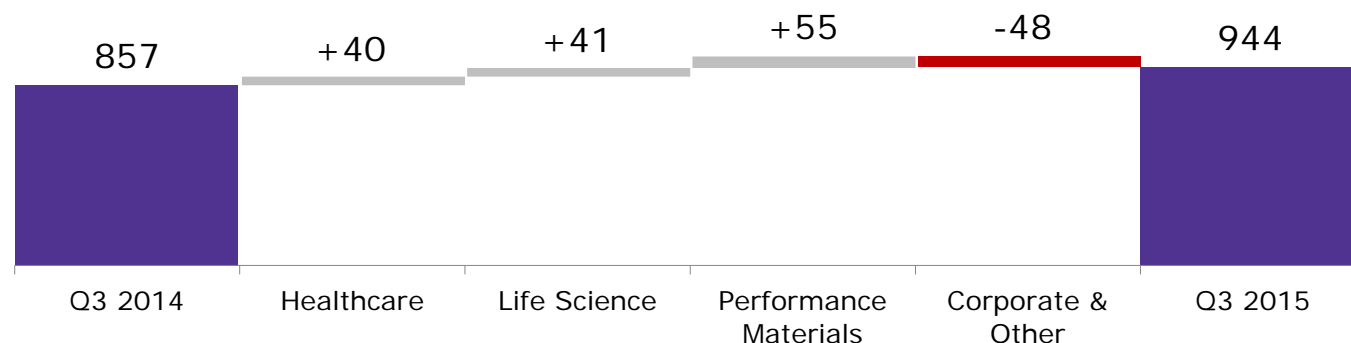
- Strong EBIT increase reflects EBITDA pre progression; last year with higher D&A and exceptionals
- Financial result includes higher interest expenses from Sigma financing
- Tax ratio last year contained taxable gain from Sigma FX hedging

Sales and EBITDA pre growth driven by all businesses

Q3 2015 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	1.9%	-0.5%	0.0%	1.4%
Life Science	8.1%	6.8%	0.0%	14.9%
Performance Materials	2.2%	11.2%	0.0%	13.4%
Group	3.3%	3.5%	0.0%	6.8%

Q3 YoY EBITDA pre contributors [€ m]



- Fertility and General Medicine more than offsetting Rebif decline
- Life Science benefits from strong performance of Process Solutions
- Performance Materials driven by FX tailwinds, LC and OLED volume growth
- Healthcare benefits from organic growth and release of R&D termination provision
- Life Science increase supported by strong organic performance
- Performance Materials reflects FX benefits and favorable LC product mix
- Hedging losses and branding initiative burden Corporate EBITDA pre

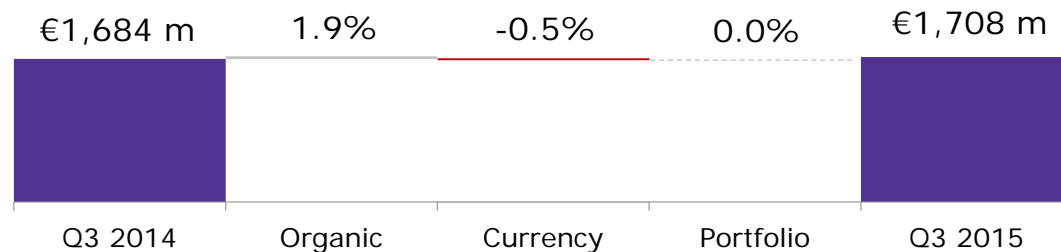
Acronyms: LC = liquid crystals, OLED = organic light emitting diode
Totals may not add up due to rounding

Healthcare: Slight sales growth driven by Fertility and General Medicine

Healthcare P&L

[€m]	Q3 2014	Q3 2015
Net sales	1,684	1,708
Marketing and selling	-625	-683
Administration	-62	-60
Research and development	-416	-322
EBIT	279	349
EBITDA	481	538
EBITDA pre	497	537
Margin (in % of net sales)	29.5%	31.5%

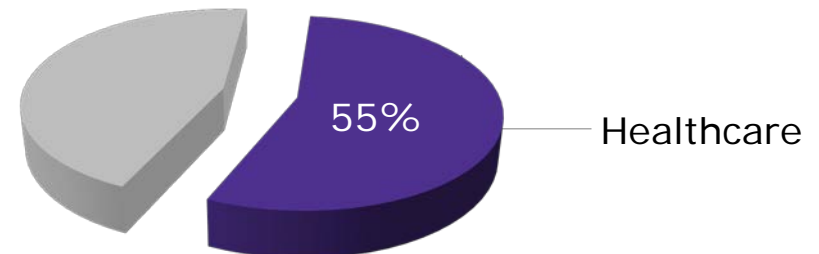
Net sales bridge



Comments

- Sales growth impacted by change of Venezuelan FX rate and softer Latin American currencies
- Rebif organically lower as volume decline mainly due to competition from orals is only partially offset by price increases in the U.S.
- Erbitux burdened by EU pricing and lower volumes in LatAm
- Fertility with strong growth mainly driven by demand from China
- General Medicine remains largest contributor to organic growth
- LY's R&D impacted by terminations; provision release in 2015 (€31 m)
- EBITDA pre expansion reflects organic growth & release of provision

Q3 2015 share of group net sales

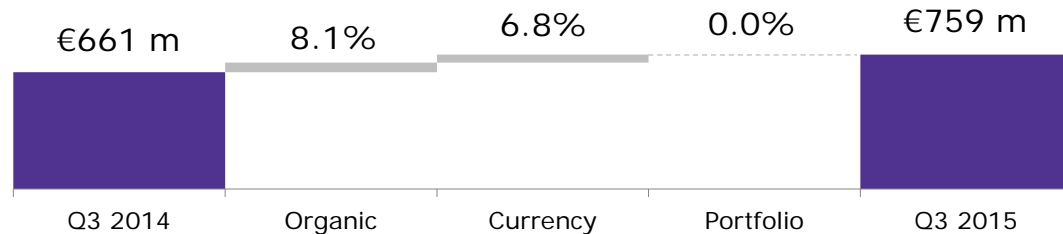


Life Science: All businesses contribute to strong organic performance

Life Science P&L

[€m]	Q3 2014	Q3 2015
Net sales	661	759
Marketing and selling	-209	-238
Administration	-26	-30
Research and development	-42	-45
EBIT	72	97
EBITDA	150	180
EBITDA pre	161	201
Margin (in % of net sales)	24.3%	26.5%

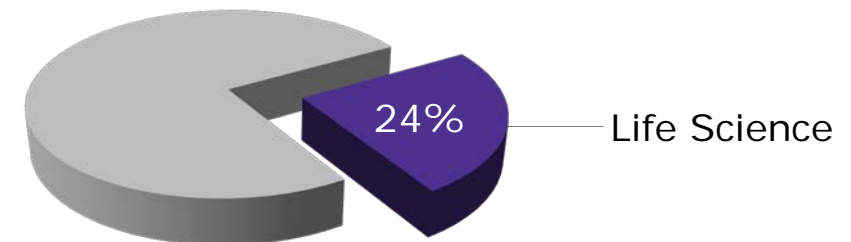
Net sales bridge



Comments

- Process Solutions remains main organic growth contributor driven by strong performance in single-use & virus filtration
- Solid organic growth in Lab Solutions led by U.S. and Europe especially in biomonitoring and lab water products
- Bioscience sees continued soft demand for reagents & antibodies offset by sound volumes of cell biology and cell culture systems
- Margin progression driven by organic performance, manufacturing efficiencies, favorable product mix and pricing

Q3 2015 share of group net sales

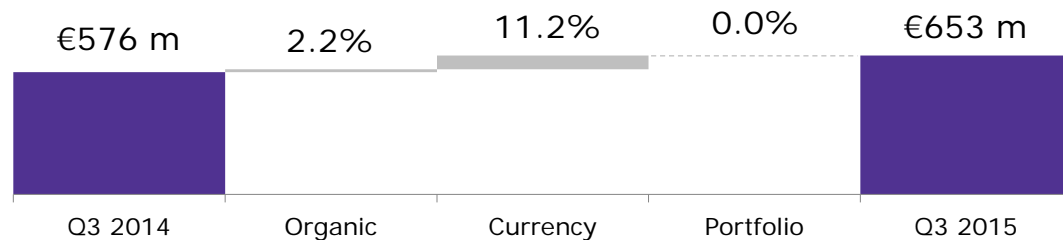


Performance Materials: All businesses yield profitable growth

Performance Materials P&L

[€m]	Q3 2014	Q3 2015
Net sales	576	653
Marketing and selling	-45	-54
Administration	-18	-16
Research and development	-46	-50
EBIT	152	233
EBITDA	218	292
EBITDA pre	243	298
Margin (in % of net sales)	42.2%	45.5%

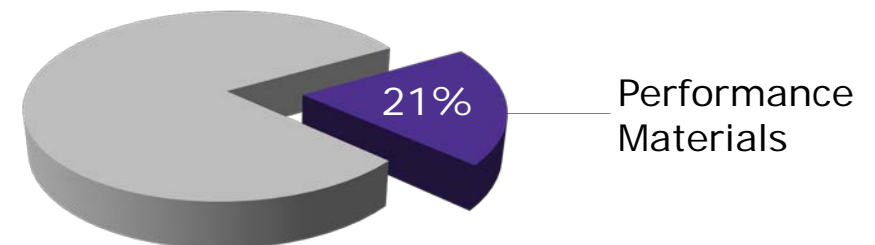
Net sales bridge



Comments

- Strong increase in sales reflecting FX tailwinds
- Further shift towards innovative liquid crystal technologies (esp. UB-FFS) supports volumes and profitability
- Display industry supply chain inventories remain at high level
- OLED and ICM* support growth with sound volume development
- Pigments slightly growing
- Profitability at high level mainly driven by FX and favorable product mix

Q3 2015 share of group net sales



Strong operating cash flow reflecting cash generating nature of businesses

Q3 2015 – cash flow statement

[€m]	Q3 2014	Q3 2015	Δ
Profit after tax	250	366	116
D&A	353	337	-16
Changes in provisions	89	11	-78
Changes in other assets/liabilities	115	153	38
Other operating activities	-4	12	16
Changes in working capital	-77	-7	70
Operating cash flow	726	872	146
Investing cash flow	-364	418	782
thereof Capex on PPE	-128	-130	-2
Financing cash flow	90	2,217	2,127

Cash flow drivers

- Last year's D&A included amortization for discontinued R&D project
- In 2014 provision built-up for R&D terminations, partial release in 2015
- Investing cash flow includes proceeds from Sigma FX hedging, payment of Intrexon upfront & cash management
- €2.1 bn eurobond issuance in August drives financing cash flow

Exceptionals in Q3 2015

Exceptionals in EBIT

[€m]	Q3 2014		Q3 2015	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	17	0	-1	0
Life Science	11	0	21	0
Performance Materials	25	0	5	0
Corporate & Other	26	4	18	0
Total	79	4	44	0

9M 2015: Overview

9M 2015 – key figures

[€m]	9M 2014	9M 2015	Δ
Net sales	8,364	9,381	12.2%
EBITDA pre	2,509	2,696	7.5%
Margin (in % of net sales)	30.0%	28.7%	
EPS pre	3.46	3.74	8.1%
Operating cash flow	1,564	1,477	-5.6%

[€m]	Dec. 31, 2014	Sept. 30, 2015	Δ
Net debt	559	-1,304	n.m.
Working capital	2,356	2,614	10.9%
Employees	39,639	40,339	1.8%

9M 2015

- Sales increase mainly driven by FX, AZ and organic performance
- EBITDA pre increases, while margin softens due to royalty loss and Rebif decline
- Operating cash flow burdened by higher tax and interest payments
- Net cash position driven by operating cash flow and cash-in from realization of Sigma FX hedging instrument
- Working capital increase mainly attributable to organic growth and FX

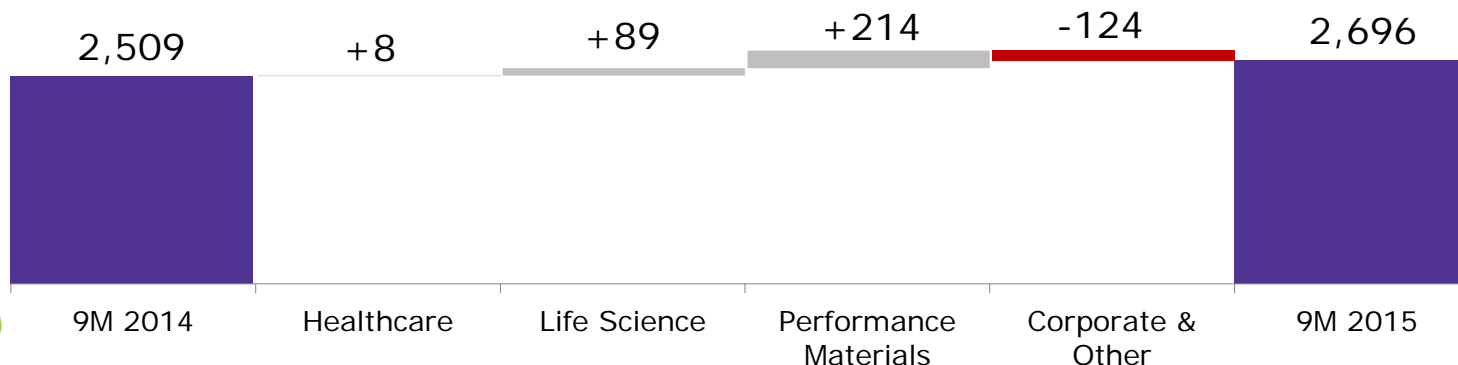
Growth driven by FX, AZ and organic performance of all segments

9M 2015 YoY net sales

	Organic	Currency	Portfolio	Total
Healthcare	1.2%	4.7%	0.0%	6.0%
Life Science	5.9%	9.3%	-0.3%	14.9%
Performance Materials	1.2%	14.1%	13.7%	28.9%
Group	2.3%	7.5%	2.4%	12.2%

- Rebif and Erbitux declines more than offset by other franchises driving organic growth of Healthcare
- Life Science benefits from positive market trends (esp. biopharma)
- Performance Materials driven by FX tailwinds, AZ and volume growth

9M YoY EBITDA pre contributors [€ m]



- Healthcare affected by Humira royalty loss and Rebif decline
- Increase in Life Science driven by good organic growth and positive mix
- Performance Materials contains FX benefits, AZ and positive product mix
- Corporate EBITDA pre reflects hedging losses

9M 2015 – solid reported figures

9M 2015 YoY – reported results

[€m]	9M 2014	9M 2015	Δ
EBIT	1,338	1,545	15.5%
Financial result	-142	-223	56.7%
Profit before tax	1,196	1,322	10.6%
Income tax	-313	-326	4.0%
<i>Tax ratio (%)</i>	26.2%	24.6%	
Net income	877	989	12.7%
EPS (€)	2.02	2.27	12.4%

Reported results

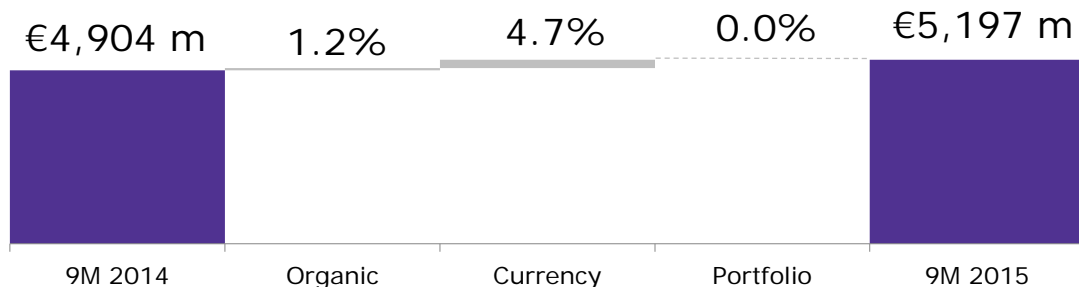
- EBIT reflects increased EBITDA pre and higher exceptionals last year
- Financial result impacted by higher interest expenses for Sigma financing (hybrid, USD and EUR bonds)
- Tax ratio in line with guidance range of 23-25%

Healthcare: Stability in base business and investments in future growth

9M 2015 YoY net sales

[€m]	9M 2014	9M 2015
Net sales	4,904	5,197
Marketing and selling	-1,894	-2,073
Administration	-184	-195
Research and development	-1,035	-1,027
EBIT	828	884
EBITDA	1,431	1,448
EBITDA pre	1,470	1,478
Margin (in % of net sales)	30.0%	28.4%

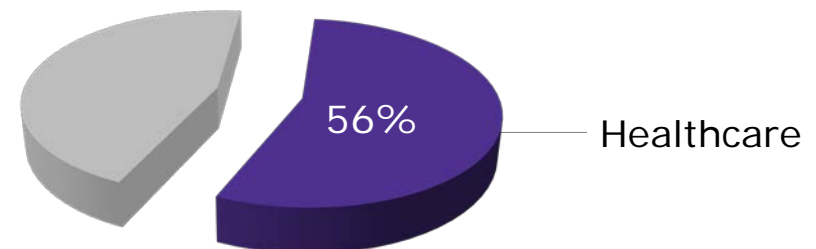
Net sales bridge



Comments

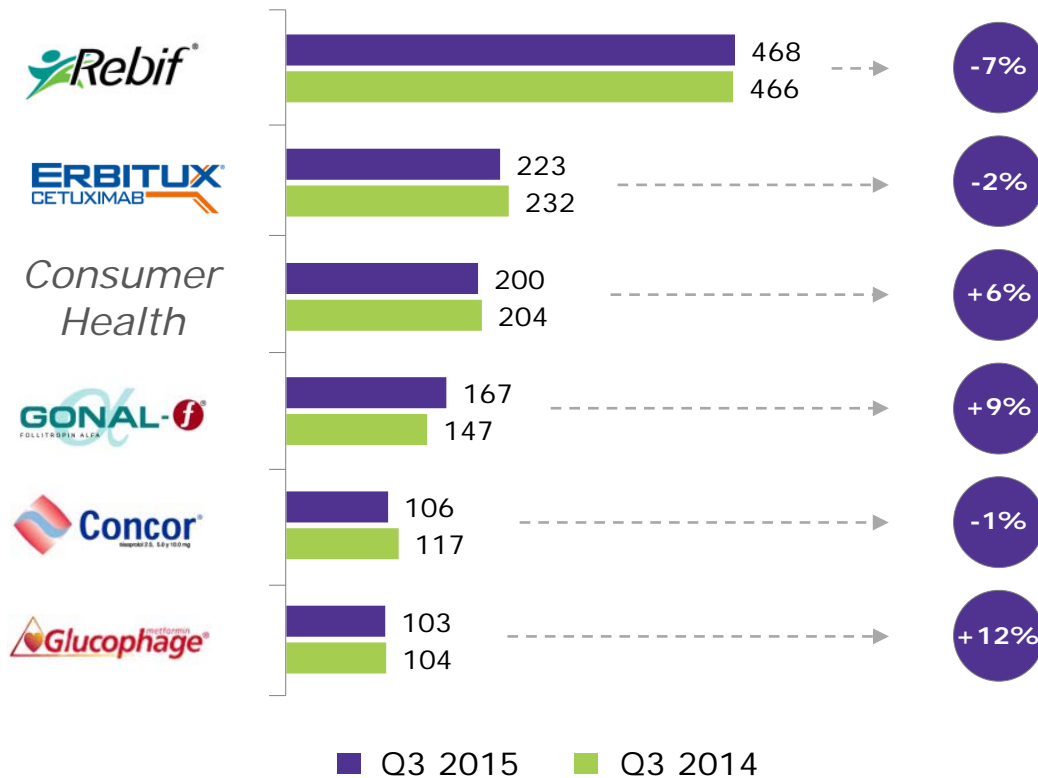
- Rebif decline due to competition partially mitigated by U.S. pricing
- Erbitux soft, as mandatory price cuts in Europe & lower private sector sales in Brazil outweigh volume increase in China
- General Medicine and Fertility remain key growth drivers
- Consumer Health with strong organic growth as new marketing approach fuels demand - especially for Neurobion in Latin America
- Investments in growth markets and FX drive higher M&S spending
- Steady ramp-up of avelumab program and other focus programs as well as promising earlier-stage pipeline candidates
- Lower profitability reflects investments and unfavorable product mix

9M 2015 share of group net sales

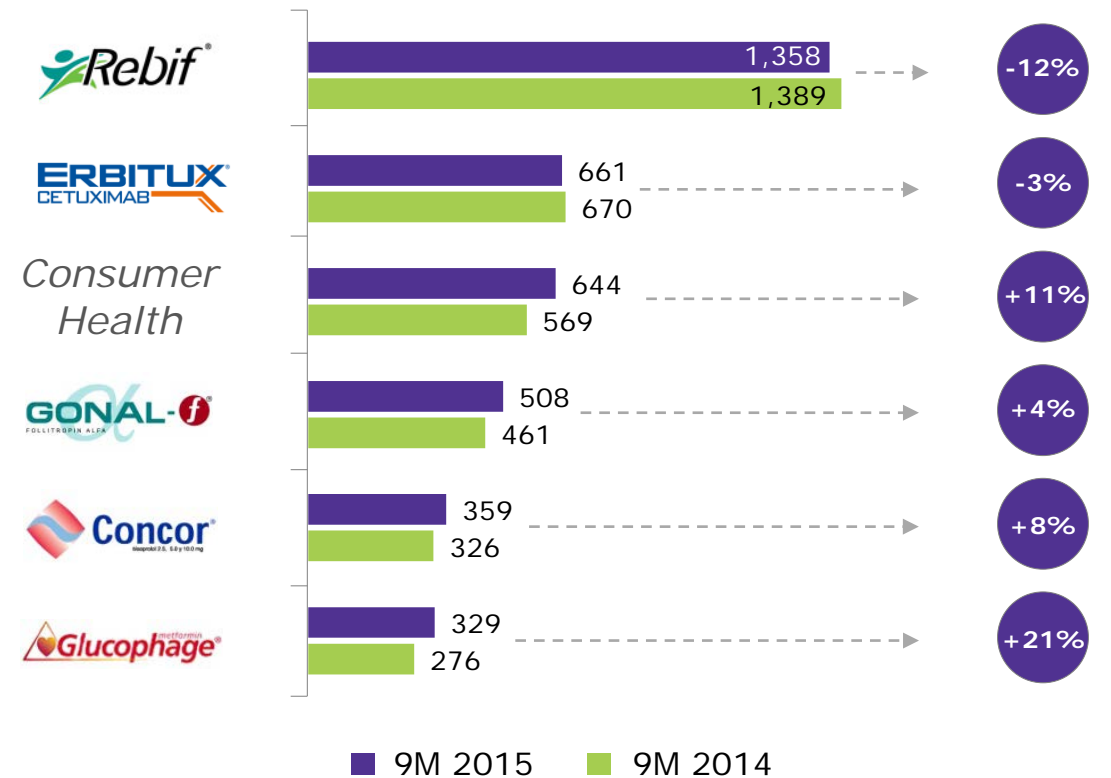


Healthcare organic growth by franchise/product

Q3 2015 organic sales growth [%]
by key products [€ m]



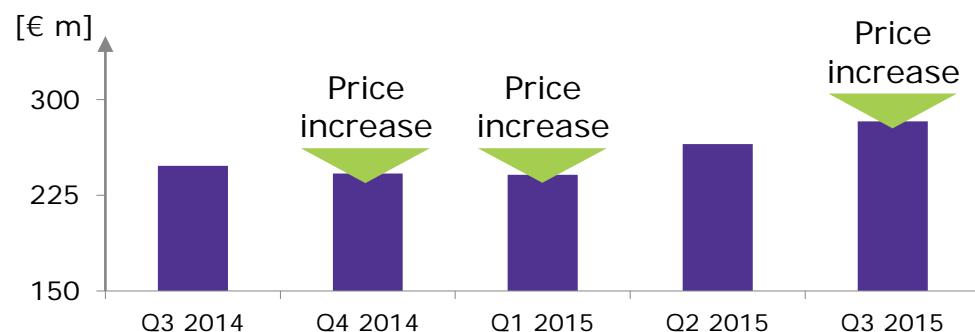
9M 2015 organic sales growth [%]
by key products [€ m]



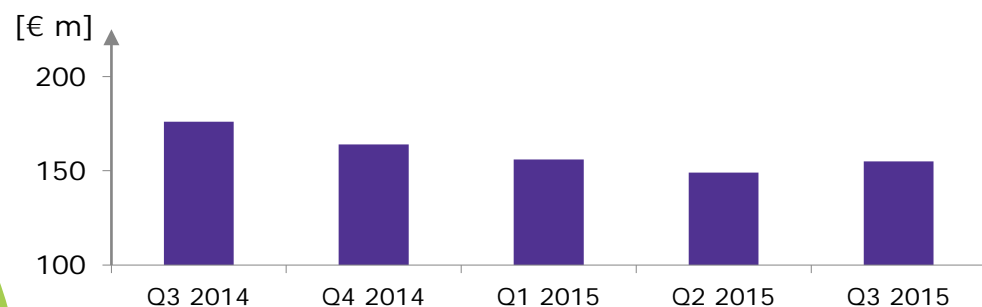
Rebif: Defending the franchise – competitive pressure in the U.S. and Europe

Rebif sales evolution

North America



Europe



Q3 drivers

-2.8% org.

Price

Volume

FX

Q3 drivers

-9.5% org.

Price

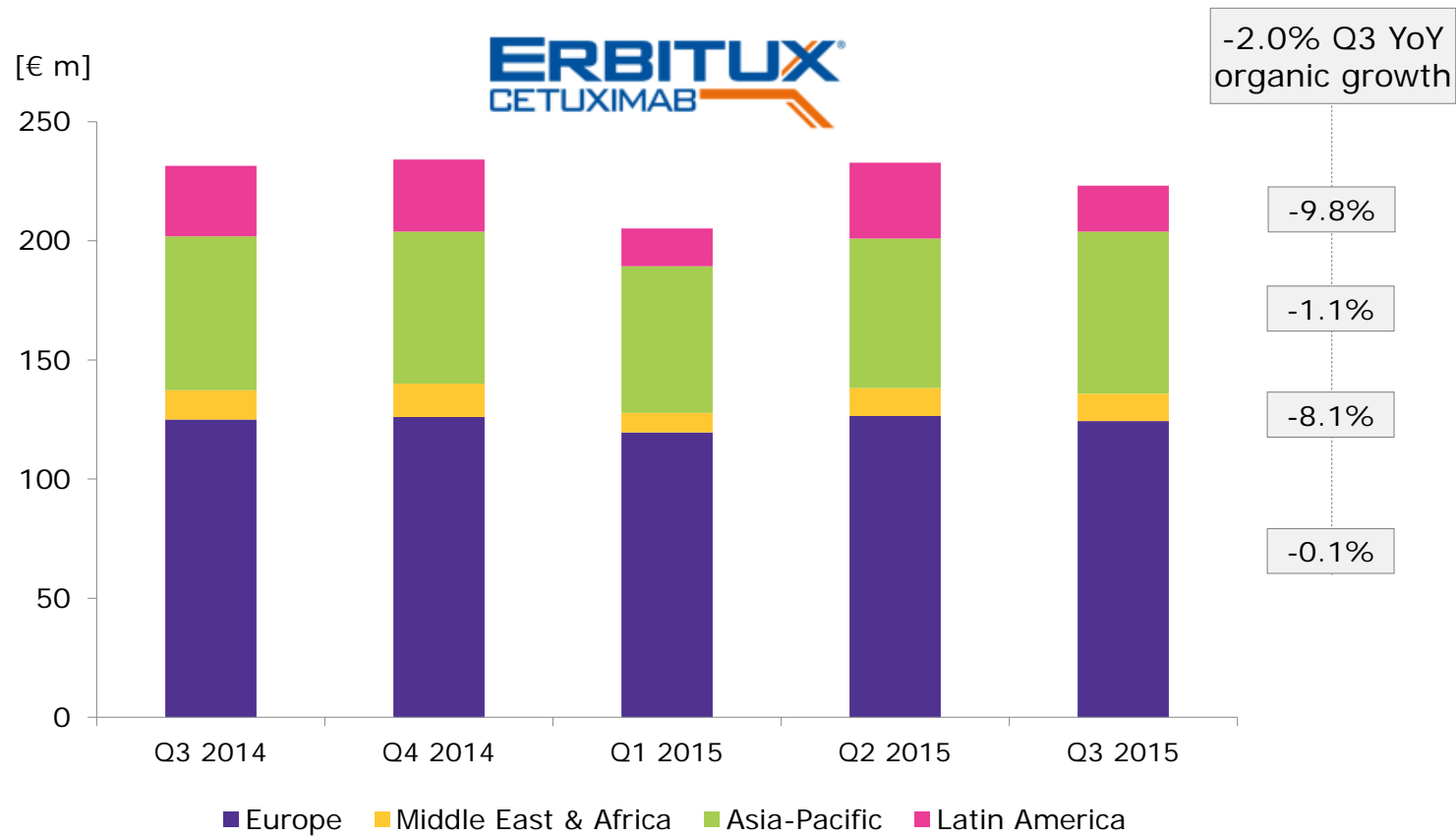
Volume

Reported results

- Rebif sales of €468 m in Q3 2015 benefit from FX tailwinds (USD)
- Organic decline of -7.0% due to lower volumes mitigated by U.S. pricing
- U.S. and European volume decline mainly due to competition from orals
- U.S. price increase in September supports performance

Erbitux: A challenging market environment

Erbitux sales by region



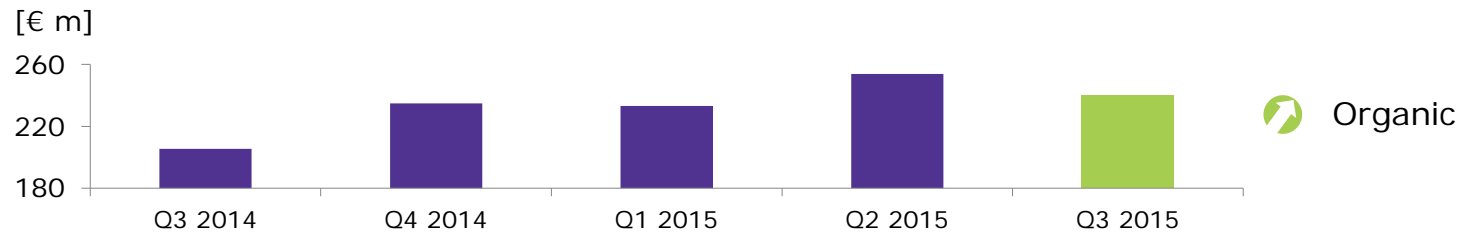
Erbitux performance

- Sales decrease to €223m due to negative pricing and FX
- Europe impacted by mandatory price cuts in various countries and increasing competition
- Latin America burdened by decline in private sector sales in Brazil
- APAC organically lower due to channel destocking outweighing strong volume growth in China

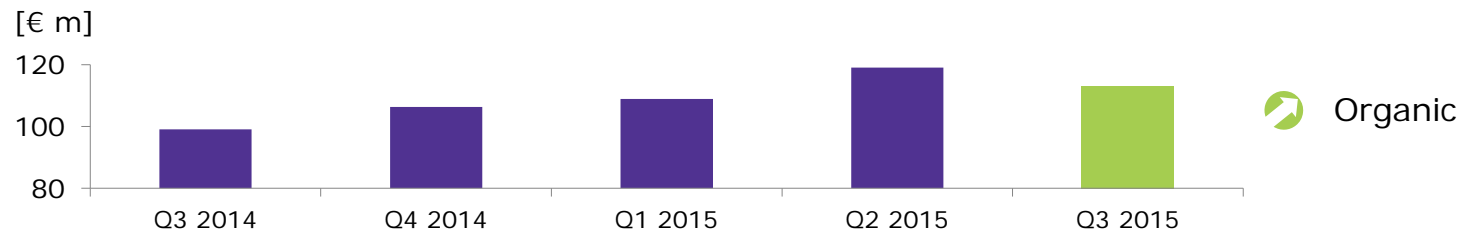
Strong growth in Fertility, General Medicine and Endocrinology

Sales evolution

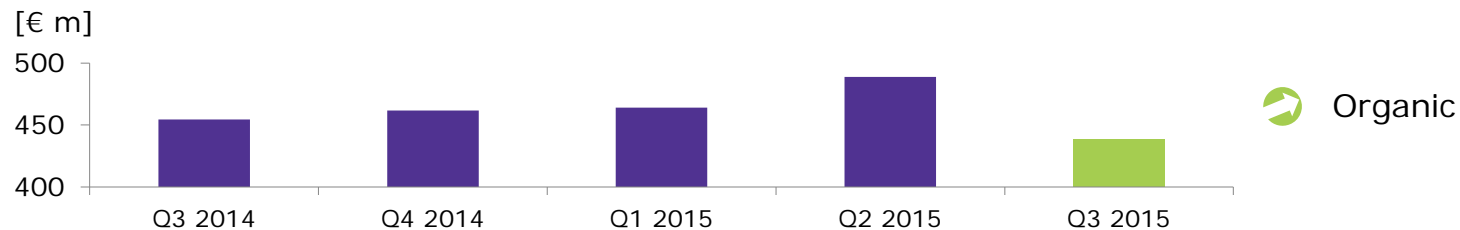
Fertility



Endocrinology



General Medicine*



Q3 drivers

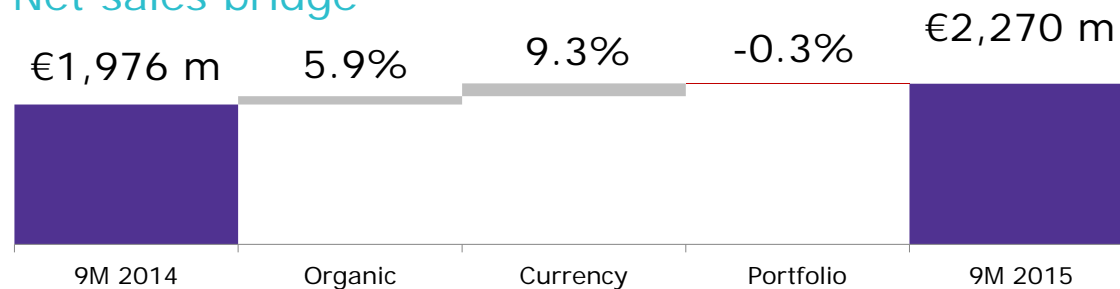
- Organic growth of Fertility driven by all major regions, especially China
- Endocrinology with strong growth across all regions and products; Saizen with market share gains in EU
- General Medicine sales affected by FX, organic performance remains good
- Thyroid products post sound volume development in Asia and Europe
- Glucophage shows ongoing strong growth, benefiting from Russia repatriation and supply issues LY

Life Science: Good organic performance fueled by ongoing demand for Process Solutions products

9M 2015 YoY net sales

	9M 2014	9M 2015
Net sales	1,976	2,270
Marketing and selling	-625	-715
Administration	-81	-88
Research and development	-119	-139
EBIT	234	266
EBITDA	464	514
EBITDA pre	496	585
Margin (in % of net sales)	25.1%	25.8%

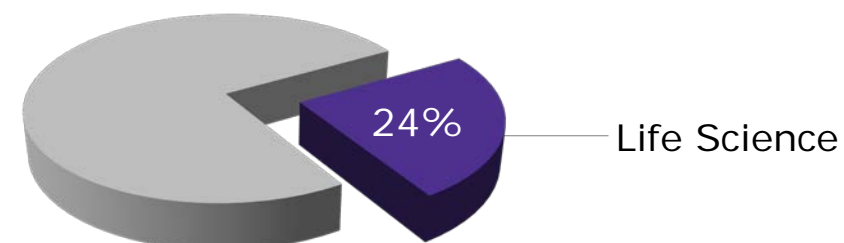
Net sales bridge



Comments

- Process Solutions drives divisional growth mainly due to strong demand from biopharma for single-use and purification products
- Lab Solutions with moderate organic growth especially in lab water consumables and biomonitoring
- Bioscience slightly positive as good development of protein detection systems offsets softness for reagents and antibodies
- Ongoing investments in R&D – several product launches in 2015
- EBITDA pre benefits from FX tailwinds and organic growth, partially offset by investments in marketing and selling

9M 2015 share of group net sales

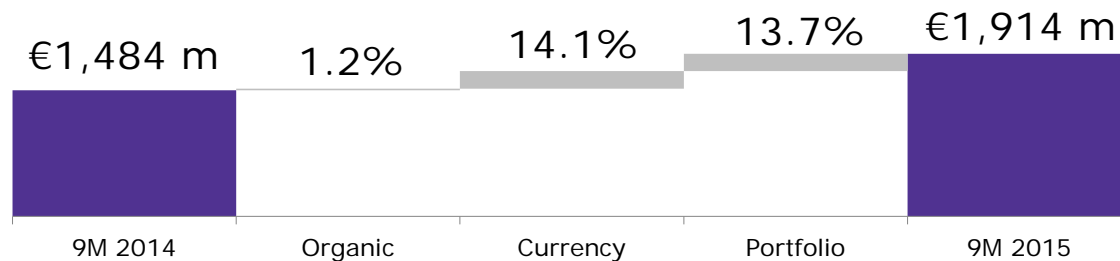


Performance Materials: Healthy trends & strong FX tailwinds drive growth

9M 2015 YoY net sales

	9M 2014	9M 2015
Net sales	1,484	1,914
Marketing and selling	-130	-154
Administration	-41	-48
Research and development	-122	-145
EBIT	441	685
EBITDA	574	864
EBITDA pre	656	870
Margin (in % of net sales)	44.2%	45.4%

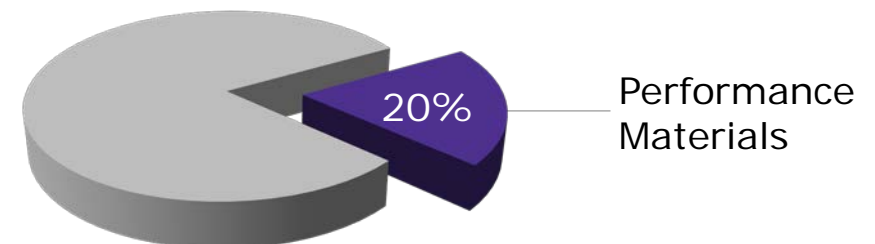
Net sales bridge



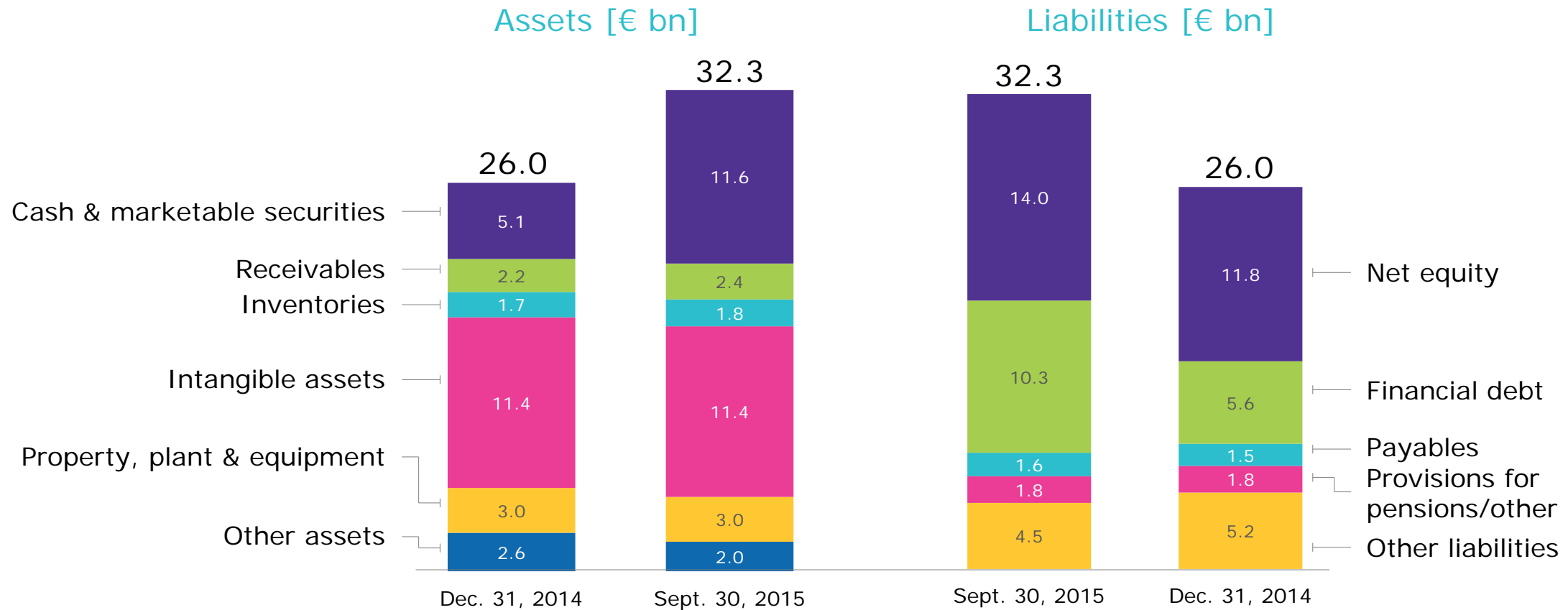
Comments

- Strong sales mainly reflect portfolio effect and FX tailwinds
- Liquid crystals volume trend remains largest contributor to growth
- Shift towards flagship technologies like PS-VA and UB-FFS amid shrinking TN-TFT market benefits product mix
- Pigments flat – growth in attractive focus markets is offset by volume decline in less profitable areas
- Integrated Circuit Materials supports organic performance with sound volume development especially in dielectric materials
- Increase in EBITDA pre driven by FX, AZ and positive product mix

9M 2015 share of group net sales



Balance sheet reflects Sigma financing measures

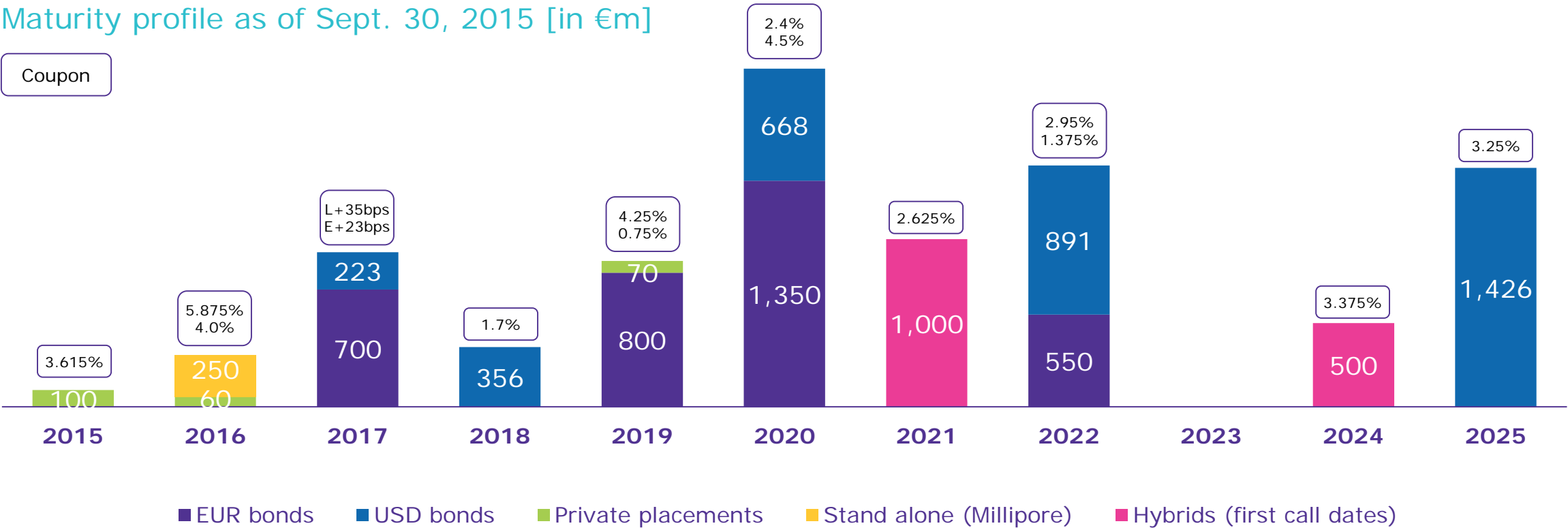


- Issuance of USD & EUR bonds impacts cash and debt

- FX development accounts for ~€1 bn total balance sheet increase (~€700 m in equity)

Well-balanced maturity profile reflects Sigma-Aldrich related capital markets transactions

Maturity profile as of Sept. 30, 2015 [in €m]



Additional loan arrangements exist that enable flexible and swift deleveraging

Operating cash flow burdened by tax payment for Pfizer upfront

9M 2015 – cash flow statement

[€m]	9M 2014	9M 2015	Δ
Profit after tax	883	997	114
D&A	980	1,006	26
Changes in provisions	0	32	32
Changes in other assets/liabilities	-67	-348	-281
Other operating activities	-8	-6	2
Changes in working capital	-224	-204	20
Operating cash flow	1,564	1,477	-87
Investing cash flow	-497	2,670	3,167
thereof Capex*	-270	-297	-27
Financing cash flow	-758	4,331	5,089

Cash flow drivers

- D&A increase due to AZ
- Changes in provisions reflect higher pension & litigation provisions
- Higher tax and interest payments main drivers of changes in other assets/liabilities
- Investing cash flow contains cash-in from Sigma hedging instrument as well as sale of financial assets
- Financing cash flow impacted by Sigma financing and repayment of eurobond; LY reflects part of purchase of AZ

Exceptionals in 9M 2015

Exceptionals in EBIT

[€m]	9M 2014		9M 2015	
	Exceptionals	thereof D&A	Exceptionals	thereof D&A
Healthcare	43	4	32	2
Life Science	32	0	71	0
Performance Materials	81	0	6	0
Corporate & Other	42	4	39	0
Total	198	8	148	2

Financial calendar

Date	Event
March 8, 2016	Q4 2015 Earnings release
April 29, 2016	Annual General Meeting
May 19, 2016	Q1 2016 Earnings release



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