MERCK KGAA, DARMSTADT, GERMANY –

BANK OF AMERICA MERRILL LYNCH GLOBAL HEALTHCARE CONFERENCE 2017

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Agenda

01 **Business overview & Strategy**

02 **Healthcare – Funding for success**

03 **Outlook**

Group

Portfolio of three high-tech businesses

Leading in specialty pharma markets

- Biologics and small-molecules
- Research focus: Oncology, Immunology & Immuno-Oncology
- Over-the-counter medicine

Leading life science company

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

Market leader in specialty materials

- Innovative display materials
- Effect pigments and functional materials
- High-tech materials for electronics

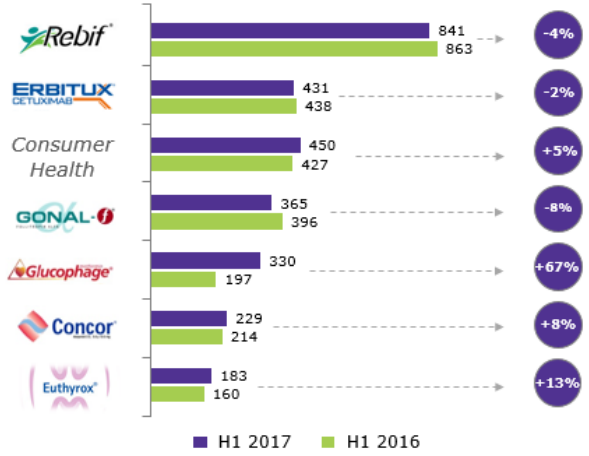
Healthcare

On track to deliver on pipeline ambition: 2bn EUR by 2022

Deliver the pipeline

Funding for growth

H1 2017 organic sales growth [%] by key franchise/products [€m]



- **Organic growth** for 24 consecutive quarters
- Commitment to at least **stable organic sales** until 2018

Illustrations | [1] Risk-adjusted

Healthcare
In H1 2017, profitability driven by royalty swap and milestone payments

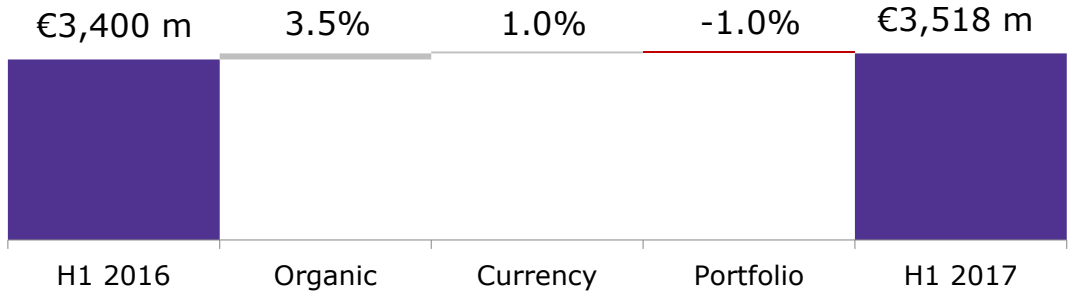
Healthcare P&L

[€m]	H1 2016	H1 2017
Net sales	3,400	**3,518**
Marketing and selling	-1,256	**-1,367**
Administration	-137	**-154**
Research and development	-756	**-765**
EBIT	939	**794**
EBITDA	1,387	**1,095**
EBITDA pre	1,065	**1,113**
Margin (in % of net sales)	*31.3%*	***31.6%***

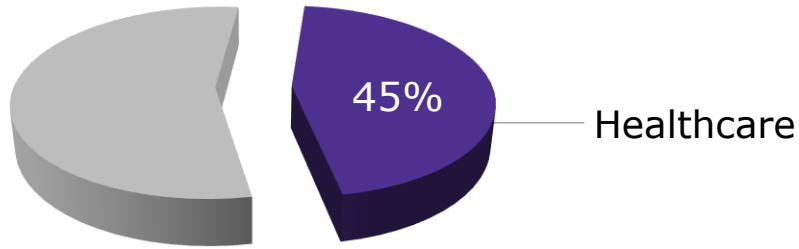
Comments

- **Rebif** still impacted by competition in U.S. & EU, while U.S. pricing and Q2 inventory stocking as well as PDP* in Brazil support performance
- **Erbitux** shows slight organic decline - volume increase in growth markets outweighed by competition and price reductions in Europe
- Marketing & selling reflects **investments for launches** and costs for Glucophage repatriation in China
- **R&D spend** slightly higher, expected ramp-up in H2
- EBIT reflects Kuvan disposal gain of €324 m in Q1 2016
- Profitability benefits from **royalty swap**, Bavencio **approval milestones** and organic performance outweighing investments

Net sales bridge



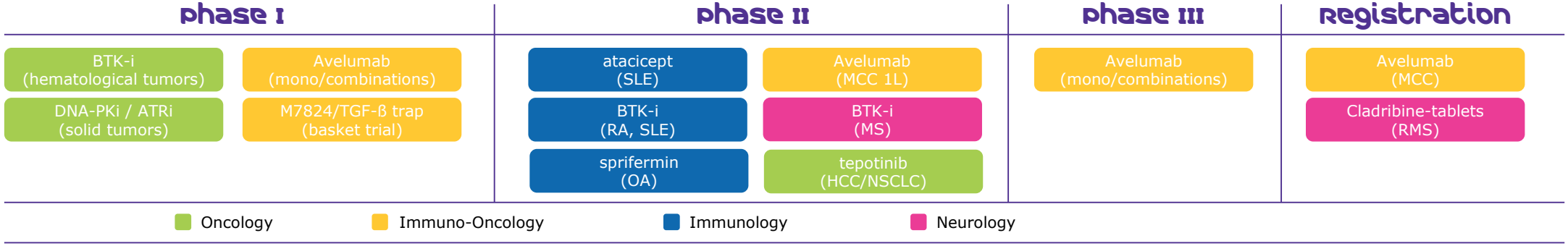
H1 2017 share of group net sales



*Productive Development Partnership
Totals may not add up due to rounding

Healthcare

Increasing R&D productivity with focus on potentially transformative assets



Avelumab
- 30 clinical programs ongoing (>6,200 patients in >15 tumor types)
- Nine phase III trials and various Phase I cohorts ongoing
- For MCC, decision by EMA expected in H2 2017

TGF-ß trap
- Enrolling in phase Ib cohorts (14 indications); >600 patients enrolled
- Preliminary data for selected cohorts expected end of 2017

BTK inhibitor
- Three immunology phase IIb trials initiated (RA, SLE, MS)
- One phase I trial in Oncology ongoing (different molecule)

DDR-Program
- Transition of in licensed ATRi and DNA-PKi compounds ongoing

Cladribine Tablets
- Mavenclad approved in Europe
- Consultations with US authorities initiated

2017 Milestones:

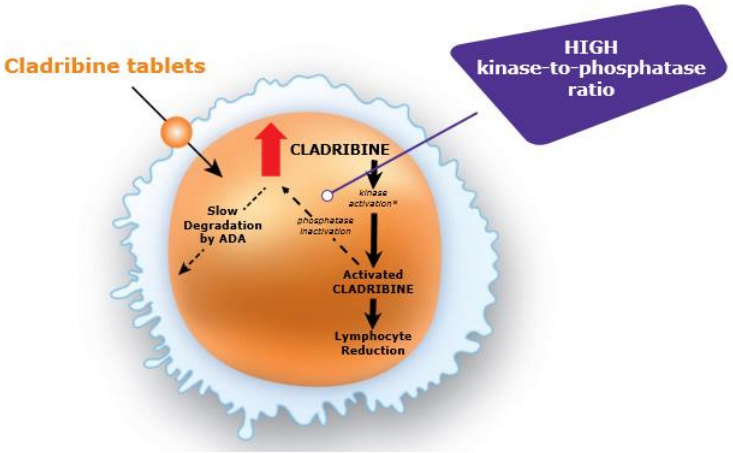
- ✓ **Mavenclad approved in Europe**
- ✓ **Bavencio successfully launched in MCC & UC in US**
- **Expected EMA decision for avelumab in MCC (pos. CHMP)**
- **Sprifermin phase II final data read-out**

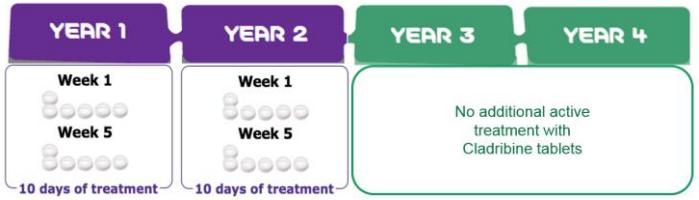
Recently approved in Europe

Healthcare

Cladribine tablets could become a relevant therapeutic option in RMS[1]

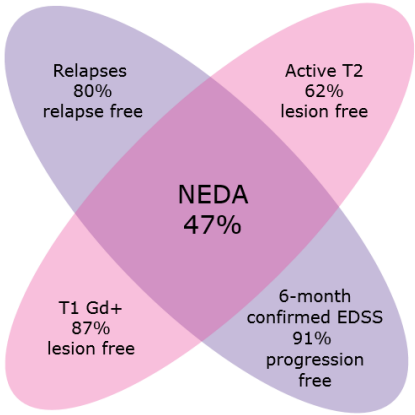
Unique targeted mechanism of action

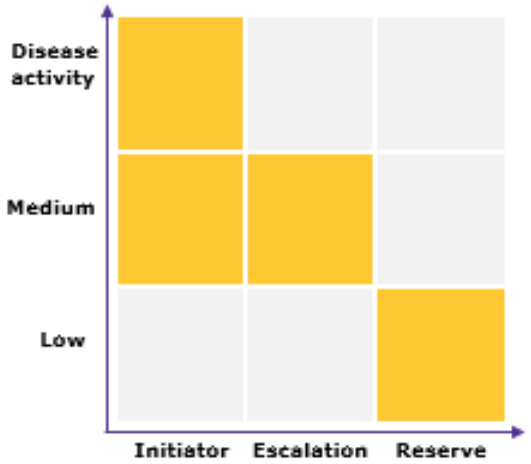




Unique posology

Efficacy profile[2]





Focus on patients with high-disease activity

[1] As announced on July 18, 2016, the EMA has accepted for review the Marketing Authorization Application (MAA) of Cladribine Tablets for the treatment of relapsing-remitting multiple sclerosis.| [2] NEDA was defined as no relapses, no 6-month confirmed EDSS progression and no new T1 Gd+ lesions and no active T2 lesions on cranial MRI. *Post hoc* analysis EDSS, Expanded Disability Status Scale; Gd+, gadolinium-enhancing; MRI, magnetic resonance imaging; NEDA, no evidence of disease activity
Giovannoni G et al. Lancet Neurol 2011;10:329–37

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Healthcare

Strong focus on generating differentiated/potentially first-in-disease assets

1	**Avelumab**	1. Monotherapy as a basis for combinations 2. Establish immunogenic priming in combination or sequence with CT/RT[1] 3. Proprietary novel combinations 4. Establish value of unique molecular characteristics (ADCC)	1. MCC, UC 2L, Gastric 3L, NSCLC 1L/2L, 2. Maintenance in UC 1L, gastric 1L, ovarian 1L 3. Avelumab + Inlyta (RCC 1L), plus 5 phase 1 combinations 4. DLBCL, NSCLC 1L (high intensity), unique combinations leveraging ADCC
2	**IO bi-functionals**	Engineer or access platforms where biology is best addressed by a bi-functional approach	• anti-PD-L1/TGF-beta trap • anti-PD-L1/anti-LAG-3 • NHS-IL 12
3	**DNA Damage Response (DDR)**	Establish leadership in DDR and leverage synergies across portfolio (immuno-oncology plus emerging platforms)	• DNA-PK-i • ATR-i • ATM-i
4	**Emerging Platforms**	Invest in complementary discovery areas	• Antibody-Drug-Conjugates (ADC, e.g. partnership with Mersana/Sutro) • Oncogenic signaling • Bi-functional fusion proteins • Bi-specific antibodies

[1] Acronyms: CT: Chemotherapy | RT: Radiotherapy | ATM: ataxia-telangiectasia mutated |ATR: ataxia telangiectasia and Rad3 | DNA-PK: DNA-dependent protein kinase | RCC: Renal Cell Carcinoma | MCC: Merkel Cell Carcinoma | NSCLC: non-small cell lung cancer | DLBCL: Diffuse Large B-cell Lymphoma

Healthcare

Funding growth through active portfolio management

Kuvan divestment

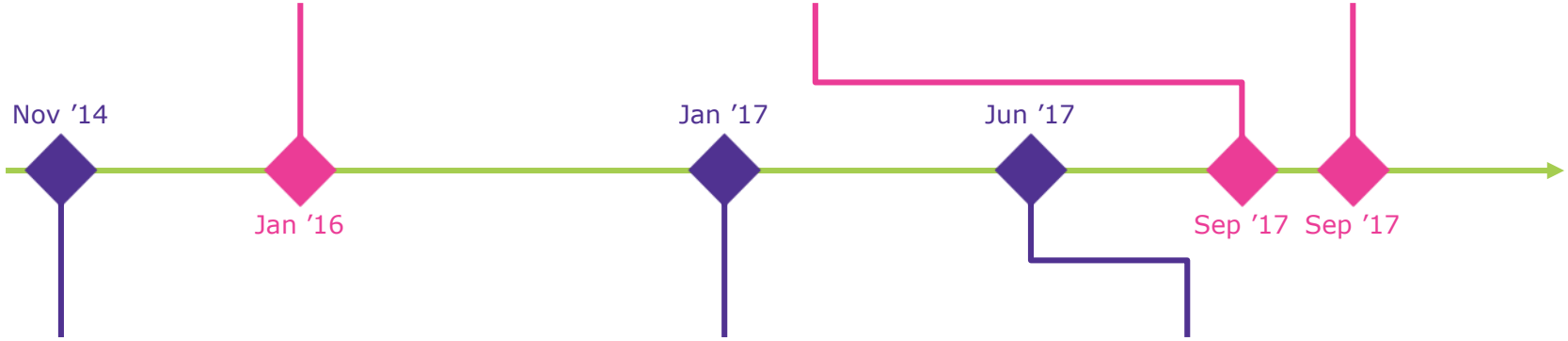
- Returning rights for Kuvan (rare disease) to BioMarin
- +324m€ divestment gain

Biosimilars divestment

- Selling Biosimilars activities
- +156m€ upfront, up to 500m€ milestone payments/royalties

Consumer Health

- Announced evaluation of strategic options for OTC business*
- Financials subject to deal model



Pfizer alliance

- Co-promotion agreement to jointly develop/commercialize avelumab (immuno-oncology)
- +850m$ upfront plus regulatory/ commercial milestone payments

Vertex in-licensing

- Access to two promising clinical programs targeting DNA damage and repair
- -230m$ upfront plus royalties on future sales

F-star collaboration

- Develop and commercialize five bi-specific IO assets (incl. anti-LAG-3/PD-L1 asset)
- Up to -115m€ upfront, plus R&D funding/milestones

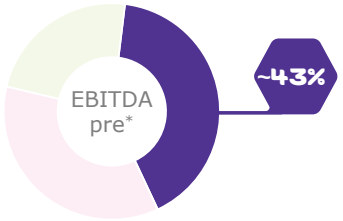
- Focused R&D on three specialty therapeutic areas
- Continuous disciplined portfolio prioritization
- Innovative deal models to realize full potential of assets

*OTC: over-the-counter

Group

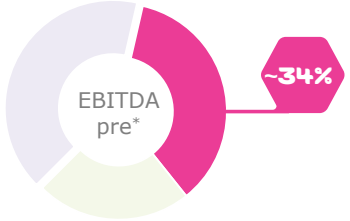
We keep focus on our major priorities and goals per 2018

Healthcare



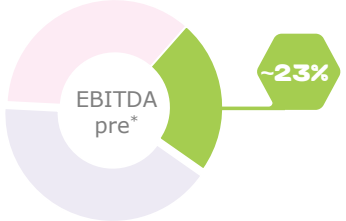
- **Maximize growth of existing franchises**
- **Deliver pipeline: one product launch or indication p.a. from 2017**

Life science



- **Focus on seamless integration and deliver cost synergies**
- **Leverage strategic capabilities for value creation**

performance Materials



- **Drive innovation and technology leadership across all businesses**
- **Innovate in applications also beyond displays**

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- **Deleverage to <2x net debt / EBITDA pre in 2018**
- **No large acquisitions (>€500 m) for the next 2 years (unless financed by divestments)**
- **Dividend policy reflects sustainable earnings trend**

*based on FY 2016 reported EBITDA pre, excluding Corporate & Other

Group
Full-year 2017 guidance

Net sales: **~ €15.3 – 15.7 bn**

EBITDA pre: **~ €4,400 – 4,600 m**

EPS pre: **~ €6.15 – 6.50**

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