



DELIVER ON GROWTH

M³ - Meet the Management

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Vice Chairman of the Executive Board, Deputy CEO

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This communication may include “forward-looking statements.” Statements that include words such as “anticipate,” “expect,” “should,” “would,” “intend,” “plan,” “project,” “seek,” “believe,” “will,” and other words of similar meaning in connection with future events or future operating or financial performance are often used to identify forward-looking statements. All statements in this communication, other than those relating to historical information or current conditions, are forward-looking statements. We intend these forward-looking statements to be covered by the safe harbor provisions for forward-looking statements in the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to a number of risks and uncertainties, many of which are beyond control of Merck KGaA, Darmstadt, Germany, which could cause actual results to differ materially from such statements.

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Agenda

- 01** Deliver on growth
- 02** Healthcare – a resilient business fostering pipeline output
- 03** Life Science – combining forces for value creation
- 04** Performance Materials – maintain leadership position
- 05** Executive Summary



01

DELIVER ON GROWTH

We have three strong growth platforms to build upon



Healthcare

Prepare for growth

- Maximize existing franchises
- Prepare for launches
- Deliver on pipeline



Life Science

Drive earnings growth

- Execute on Sigma integration and cost synergies
- Profitable and attractive market
- Create value through strategic capabilities



Performance Materials

Maintain leadership position

- Expand technological leadership in LC and grow OLED
- Develop applications beyond displays
- Build on innovative materials from former AZ

We are set for profitable and sustainable growth



02

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

Delivering on promises from Capital Markets Day in September 2014

Capital
Markets Day
2014

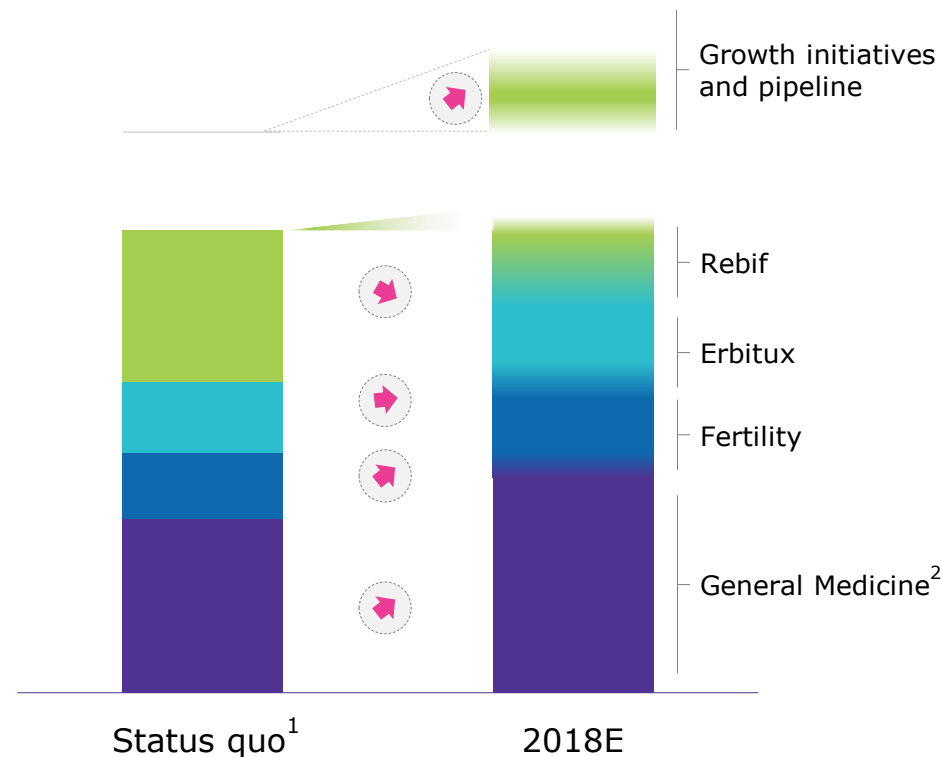
Vision 2018

1 Enforce stability in existing businesses

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

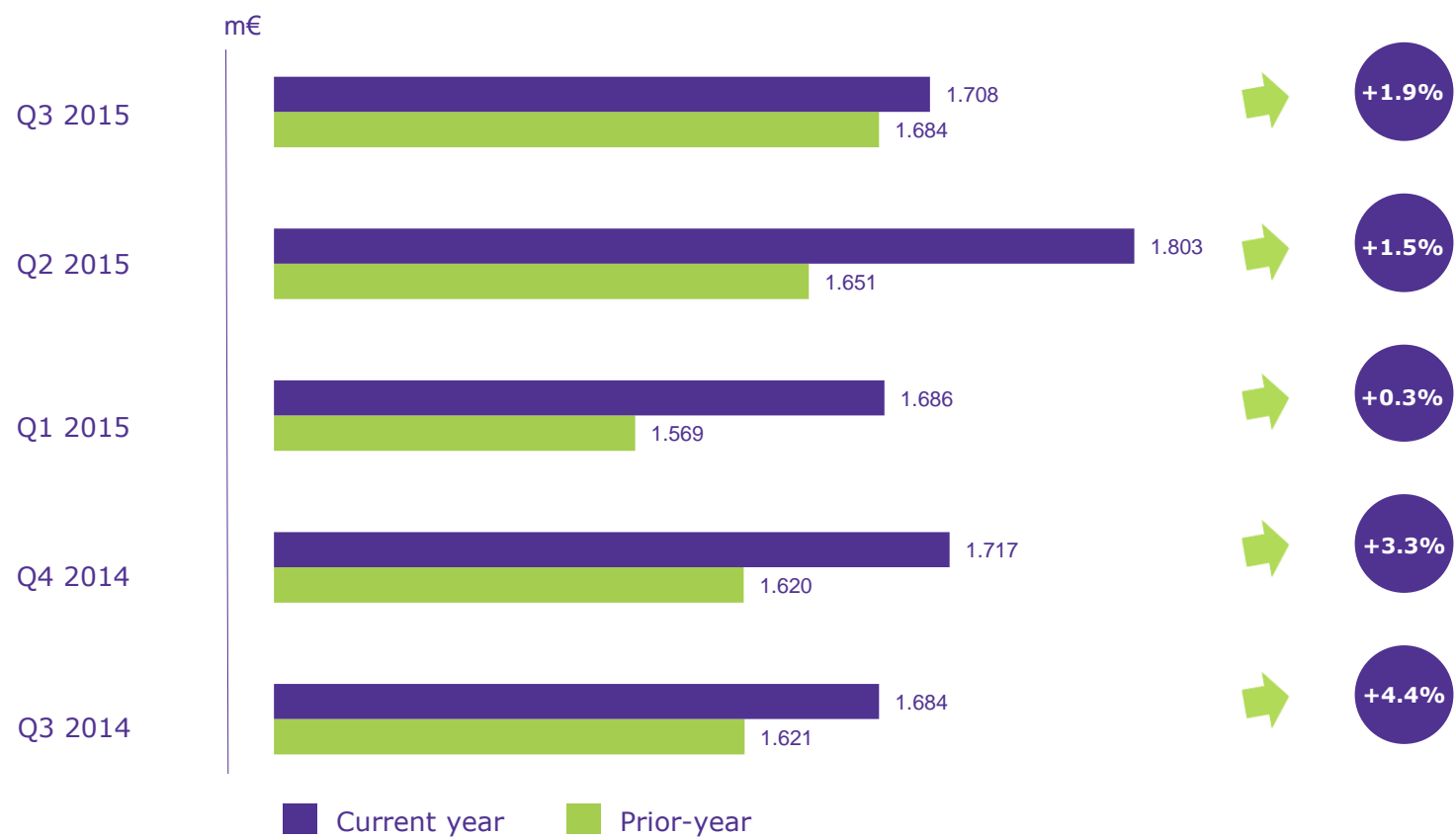
2 Create sustained growth

- #### Generate new revenue streams
- ▶ Deliver on R&D pipeline
 - ▶ Payor-centric devices strategy
 - ▶ Expand regional portfolio through in-licensing



Delivered slight 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®

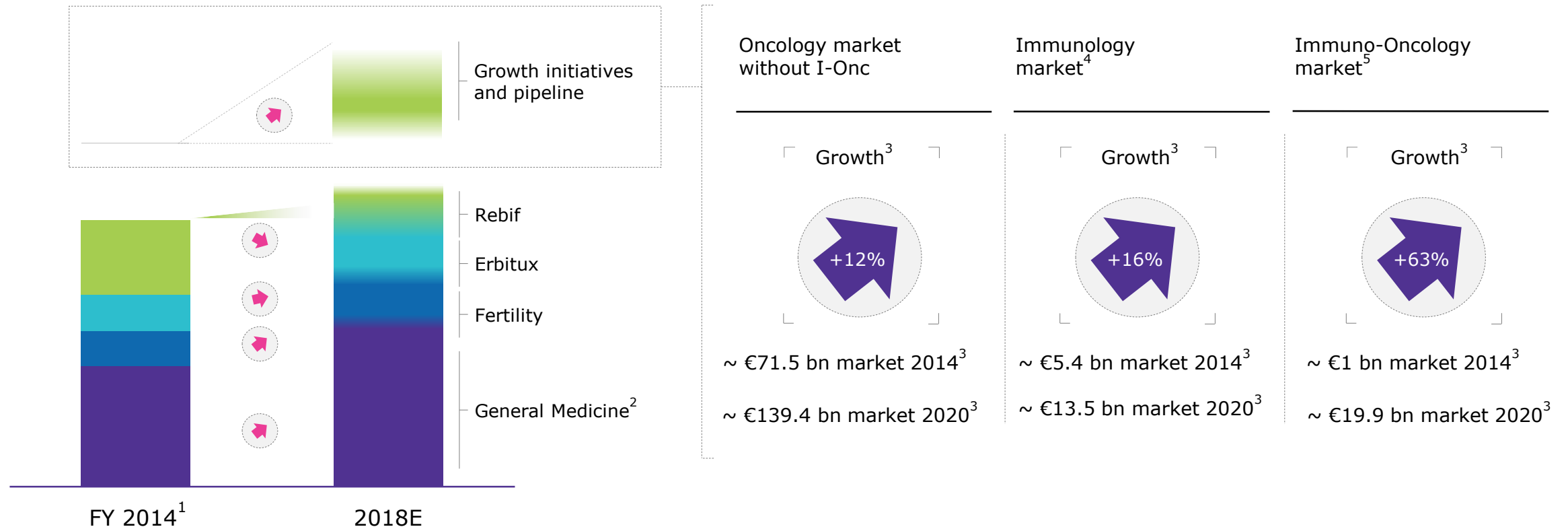
Euthyrox®

Defending the existing product portfolio is a key strength of Healthcare

Merck KGaA
Darmstadt, Germany

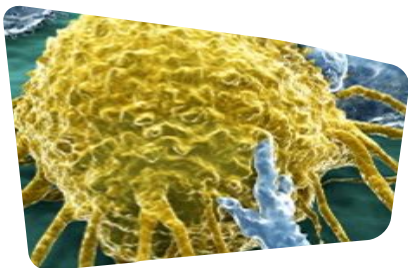
We are pursuing attractive growth opportunities with our pipeline

Healthcare investments focused on three attractive market segments



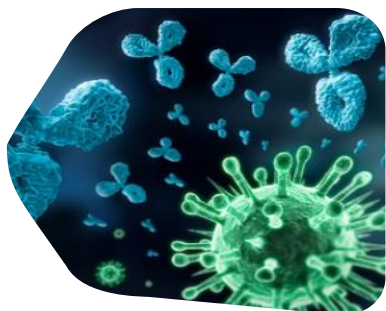
¹adapted to new Healthcare business sector to include Consumer Health; ²including Consumer Health, Cardiometabolic Care, Endocrinology, General Medicine and Others; ³Data for global market 2014, CAGR for 2014-2020; Source: Sales data according to EvaluatePharma®, accessed August 2015; ⁴Immunosuppressants 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

- Breakthrough designation (US) for mMCC received, Orphan Drug Designation (US and EU)
- Initiation of up to 20 clinical programs together with Pfizer in 15 tumor indications in 2015
- 6 pivotal trials to be initiated in 2015 (NSCLC 1st and 2nd line, ovarian 2nd line, gastric 1st and 3rd line, bladder 1st line)
- First data presented on triple negative breast cancer at the SABCS* in San Antonio
- Smart Leader / Smart Follower Strategy



selected R&D projects

- **Atacept:** 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

Confident to start up to 6 registrational trials in 2015

■ Trial led by Merck ■ Trial led by Pfizer ■ By Merck and Pfizer

		Running and planned trials in 2015													
Phase 1	Solid tumors	Completed efficacy N=150 / cohort	NSCLC 1L	Gastric	mBreast	NSCLC 2L							avelumab+ Xalkori/ toritinib NSCLC 1L ALK+		
	Dose escalation and expansion phase	Signal detection N=50 / cohort	CRC	CRPC	Ovarian	Melanoma	Urothelial/ Bladder	Meso- thelioma	ACC	RCC			avelumab Hodgkins Lymphoma	Additional studies in planning	
		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 ²											
Registration		avelumab MCC 2L ²	avelumab MCC 1L	avelumab+Chemo Gastric 1L	avelumab+Chemo Ovarian 2L Plat Res/Ref	avelumab+Inlyta RCC 1L								avelumab SCCHN 2L	
		avelumab NSCLC 2L	avelumab NSCLC 1L (PDL1+)	avelumab+Chemo Gastric 3L Sequential	avelumab+Chemo Bladder 1L Sequential								avelumab+Chemo Ovarian 1L Plat Sens	Additional studies in planning	

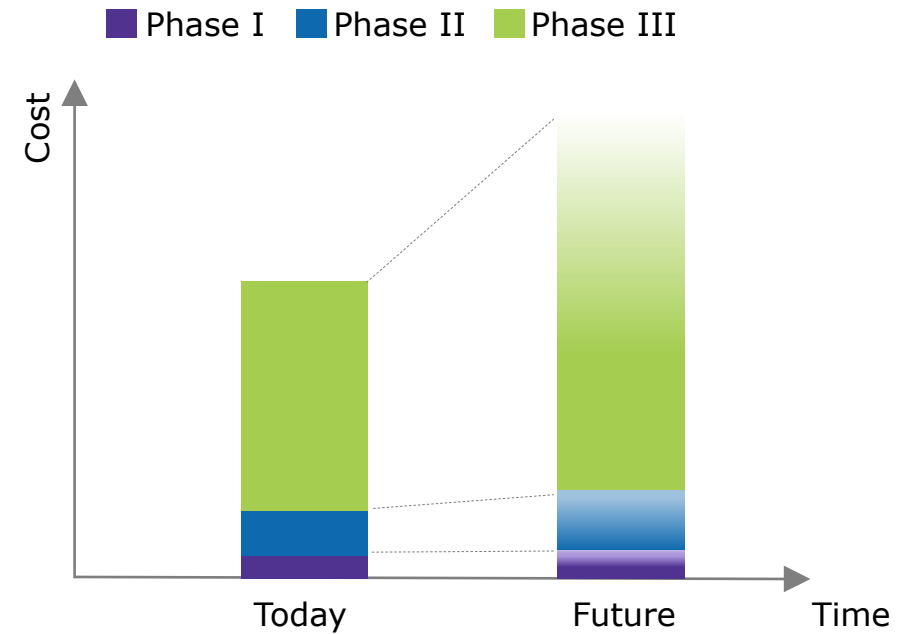
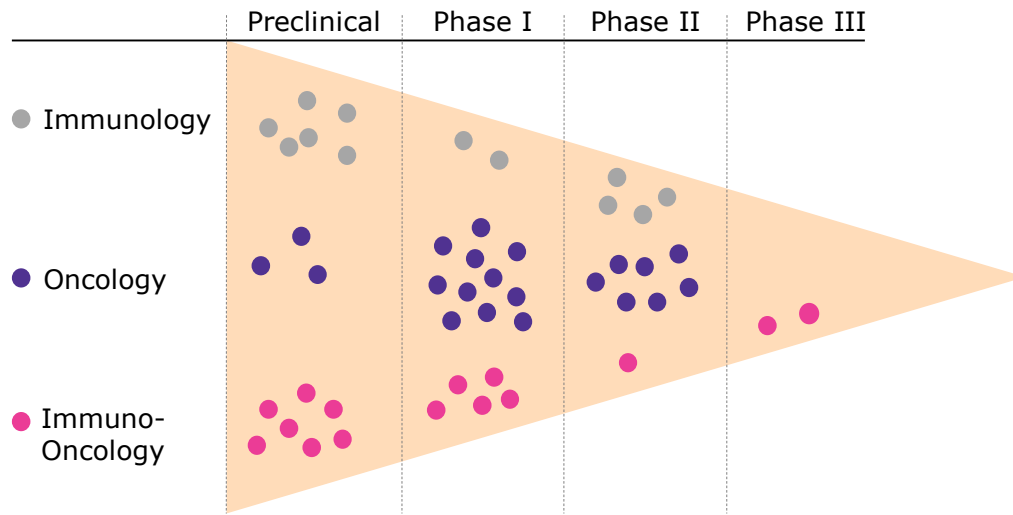
Acronyms: CRC = colorectal cancer; CRPC = Castrate Resistant Prostate Cancer; ACC = Adrenocortical Cancer; SCCNH = Squamous Cell Carcinoma of the Head and Neck; RCC = Renal Cell Carcinoma; Trials currently initiating: Phase 2 trial

	Immunology	Oncology		Immuno-Oncology	
Phase I	BTK-i (f.l.m.)	tepotinib (solid tumors)	P70S6K/Akt-i (solid tumors)	avelumab (ovarian)	avelumab (mesothelioma)
	anti IL-17 (f.l.m.)	evofosfamide (hematologic malignancies, solid tumors)		avelumab (gastric)	avelumab (various other solid tumors)
			BRAF-i (solid tumors)	avelumab (bladder/urothelial)	avelumab combinations (various other solid tumors)
		DNA-PK-i (solid tumors)	PARP-i (solid tumors)	NHS-IL 12 (solid tumors)	M7824 Bi-functional immunotherapy
Phase II	atacept (SLE)		evofosfamide (NSCLC)	avelumab (MCC 2L)	
	sprifermin (OA)	tepotinib (NSCLC)	evofosfamide (melanoma)		
	ATX-MS-1467 (RRMS)	tepotinib (HCC)	pimasertib (melanoma)		
		tepotinib (NSCLC 2L)			
Phase III				avelumab (NSCLC 2L)	avelumab (Other solid tumors)*
				avelumab (NSCLC 1L)	avelumab combinations (Other solid tumors)

Under preparation¹ New in pipeline Moved into next phase² Maintained position

The prioritization of our pipeline projects ensures efficient capital allocation

clinical development strategy



- Stringent prioritization and evaluation of value proposition of pipeline assets
- Rich pool of early stage opportunities – clinical decision making based on low investments
- Lean to PoC (Proof of concept) approach

- Need for investment increases along with maturity of clinical programs
- Funding of pipeline assets clearly linked to clinical data
- Investments fueling future growth and profitability in Healthcare

Healthcare is set to deliver on promising pipeline candidates

Deliver
on organic growth

Focus
on pipeline



Stable existing business to fuel slight organic growth



Solid pipeline of oncology, immuno-oncology and immunology molecules



Transformation of R&D operating model ongoing



Competitive R&D funding in our focus areas



Cost discipline and efficient execution





03

**LIFE SCIENCE –
COMBINING FORCES FOR
FUTURE GROWTH**

The Merck logo is displayed in a bold, blue, sans-serif font.

&

The Sigma-Aldrich logo features a red stylized atomic symbol above the text "SIGMA-ALDRICH" in a red, italicized, sans-serif font.

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

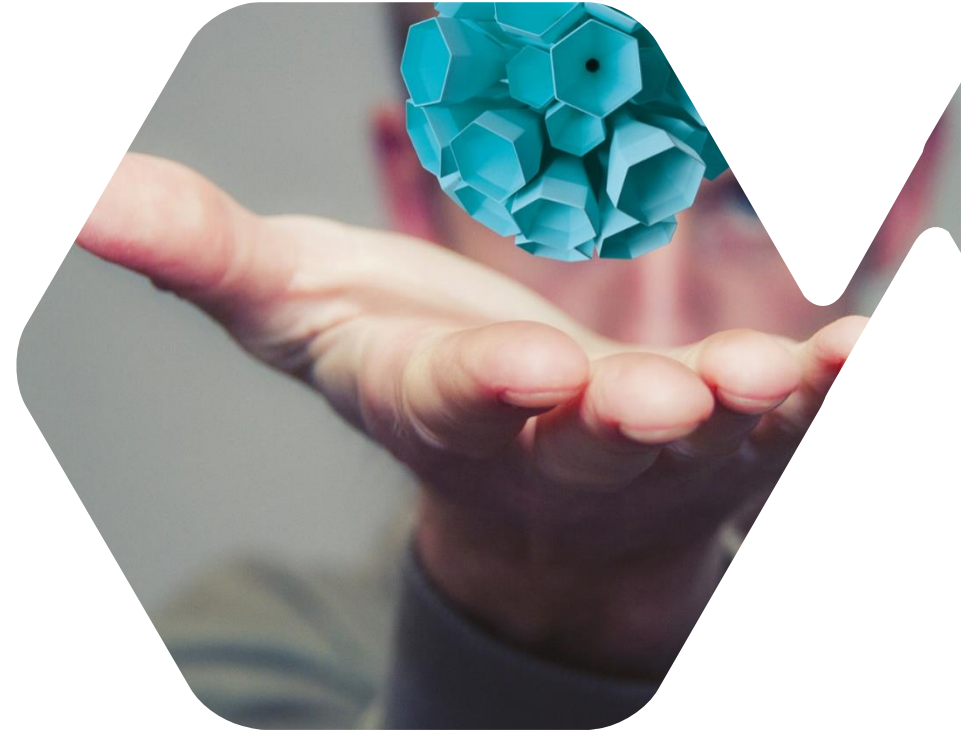
Execute on integration and leverage synergy potential

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

We serve the attractive €100bn life science industry

~€100 bn life science industry

Research Solutions

~€12 bn industry



Low single digit growth

Process Solutions

~€44 bn industry



High single digit growth

Applied Solutions

~€44 bn industry



Mid single digit growth

Market trends

- Academic/government, pharma and contract research
- Rising volume of experiments
- Capped by slow funding growth

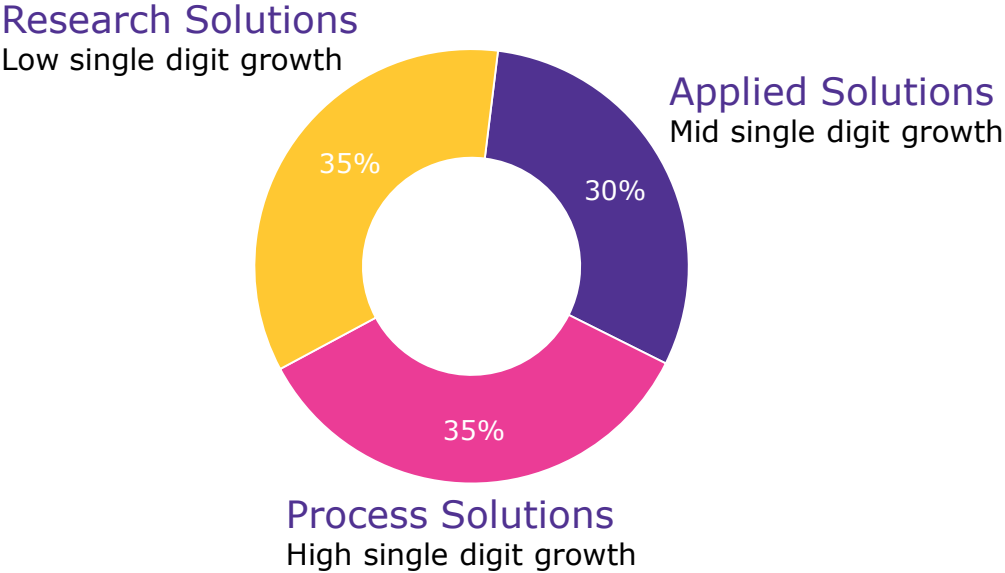
- Small molecule and biologics production
- High growth in biologics market
- Stable small molecule market

- Clinical testing, environmental, diagnostics, food and beverage
- Food safety, environmental testing requirements increasing
- Uptake of in-vitro diagnostics testing

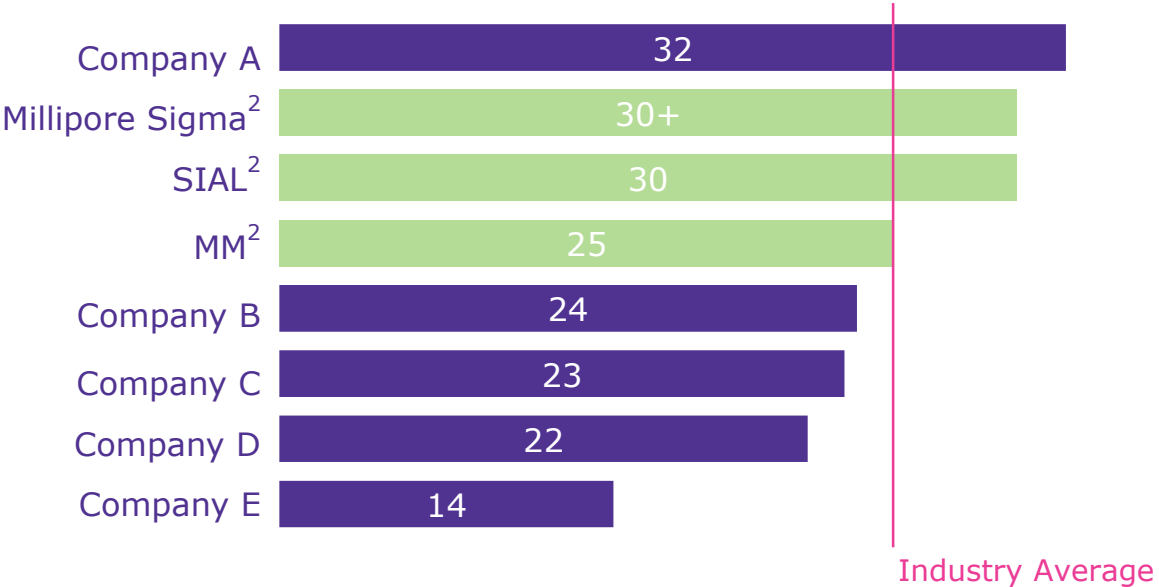
Attractive industry EBITDA margin of ~25%

We aim 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 Life Science and Sigma-Aldrich (FX conversion: EUR/USD 1.30);

We create sustainable value that is 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

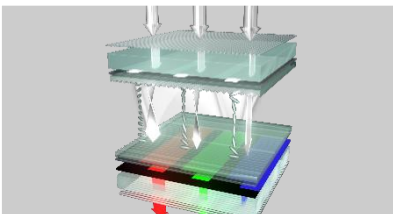
Our capabilities are the foundation for future topline growth in Life Science



04

**PERFORMANCE
MATERIALS – MAINTAIN
LEADERSHIP POSITION**

The four pillars of Performance Materials are set for future profitable growth



Display Materials

~55-65% of total sales,

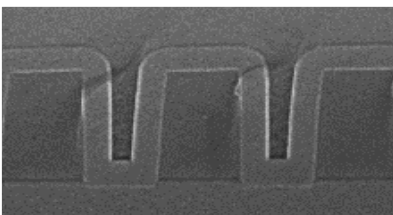
- liquid crystals (LC) and photoresists for TVs, smartphones and tablet computers
- other display and non-display applications (e.g. LC Windows)



Pigments and Functional Materials

~15-20% of total sales,

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



Integrated Circuit Materials

~15-20% of total sales,

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



Advanced Technologies

~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

Innovation leadership is the backbone of future profitability and growth

evolutionary



Incremental product adjustments - only minor investments

LC
pigments
ICM¹
advanced tech.

New singles for PSVA technology
Meoxal luminous metal effect pigments
low defect CMP² slurries
Organic Photovoltaics

revolutionary



Fundamental research - more substantial investments needed

LC
pigments
ICM¹
advanced tech.

Smart windows, smart antennas, new modes
Counterfeiting prevention applications
Directed self-assembly (DSA) in lithography
OLED printing technology

ICM - has a strong market position and will benefit further from complex technological advances and underlying market trends

Market drivers

- ▶ Big Data
- ▶ Miniaturization
- ▶ Internet of things and Mobility

Market growth

- ▶ Semiconductor Industry, total wafer area growth

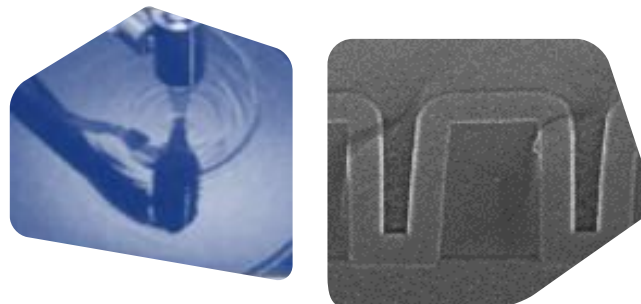
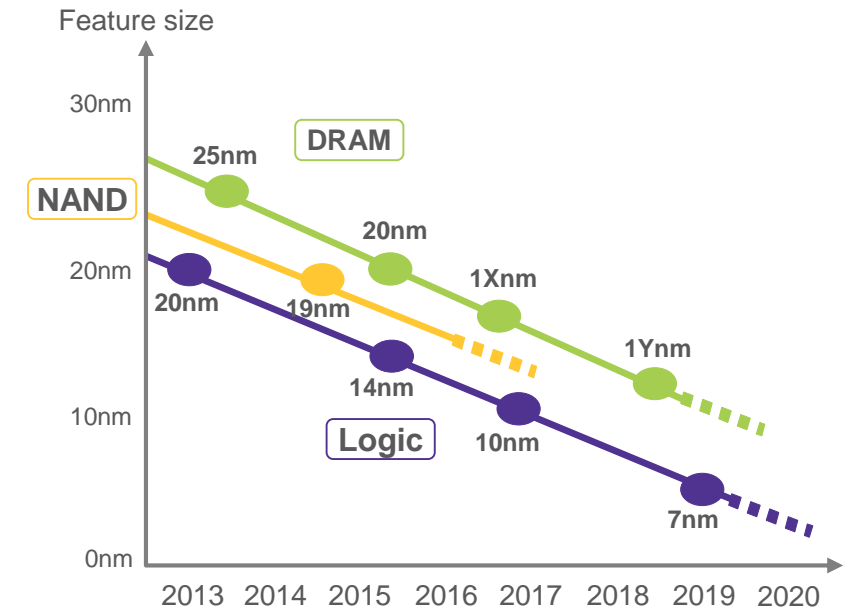
Selected competitors

- ▶ Dow Electronic Materials
- ▶ Nissan Chemicals
- ▶ Tokyo Ohka Kogyo

Business strategy

- ▶ Innovative specialty process chemicals to serve industry need for miniaturization, low-power and high data density
- ▶ No. 1 or 2 in ~80% of sales with high share of patent protection

Moore's Law



Display materials – sustain market share and profitability in a growing market

Market drivers

- ▶ Bigger avg. TV size, higher resolution, new applications
- ▶ Increasing affluence in emerging countries
- ▶ Shorter replacement cycles in mature markets

Market growth

- ▶ CAGR 4% area growth from 2014 until 2021

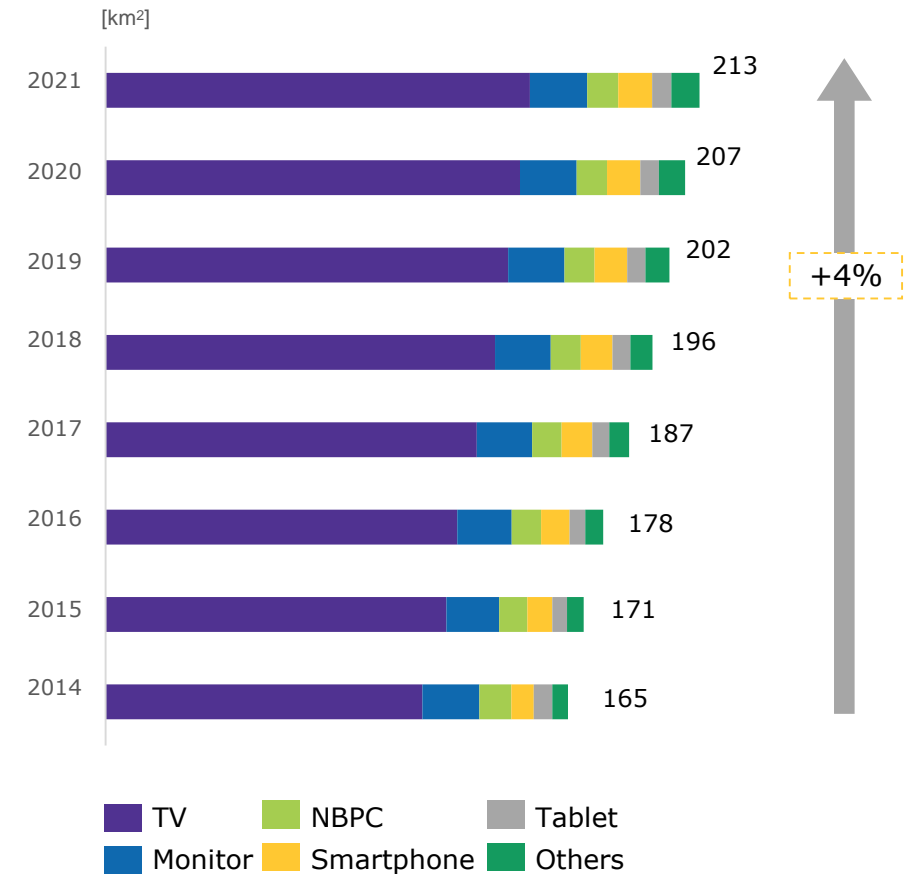
Selected competitors

- ▶ Liquid Crystals - JNC, DIC
- ▶ Photoresists - Dongjin, TOK, ECSC

Business strategy

- ▶ LC - defend 50-60+% market share through innovation
- ▶ Photoresists – leverage synergies with L/C materials-technical platform and customer proximity

LCD market demand



Source: IHS, Display long-term demand forecast tracker, Q3'15



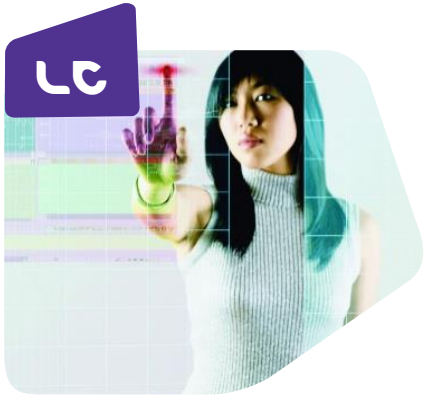
Having both LC and OLED technologies in-house creates multiple growth options even beyond displays

Time



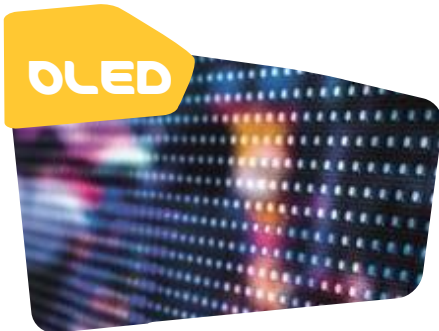
Today

Future



- Leading and most cost efficient display technology
- Evolutionary innovation based on customer needs

- Potential of LC in displays not yet exhausted (performance improvements, new modes, new types of displays)
- Explore new applications for LC (e.g. LC Windows, LC Antennas)



- Application predominantly in smaller displays
- Large display technology uncertain

- Printing could be a more cost efficient solution for larger displays
- Flexible displays, wall applications, lighting



05

EXECUTIVE SUMMARY

We are well set for profitable and sustainable growth



Maximize growth of existing franchises
Deliver on pipeline



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



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

