

# Exploiting opportunities in a competitive market

2012 Life Science Information Day

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Head of business division Life Science

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Merck KGaA  
Darmstadt · Germany

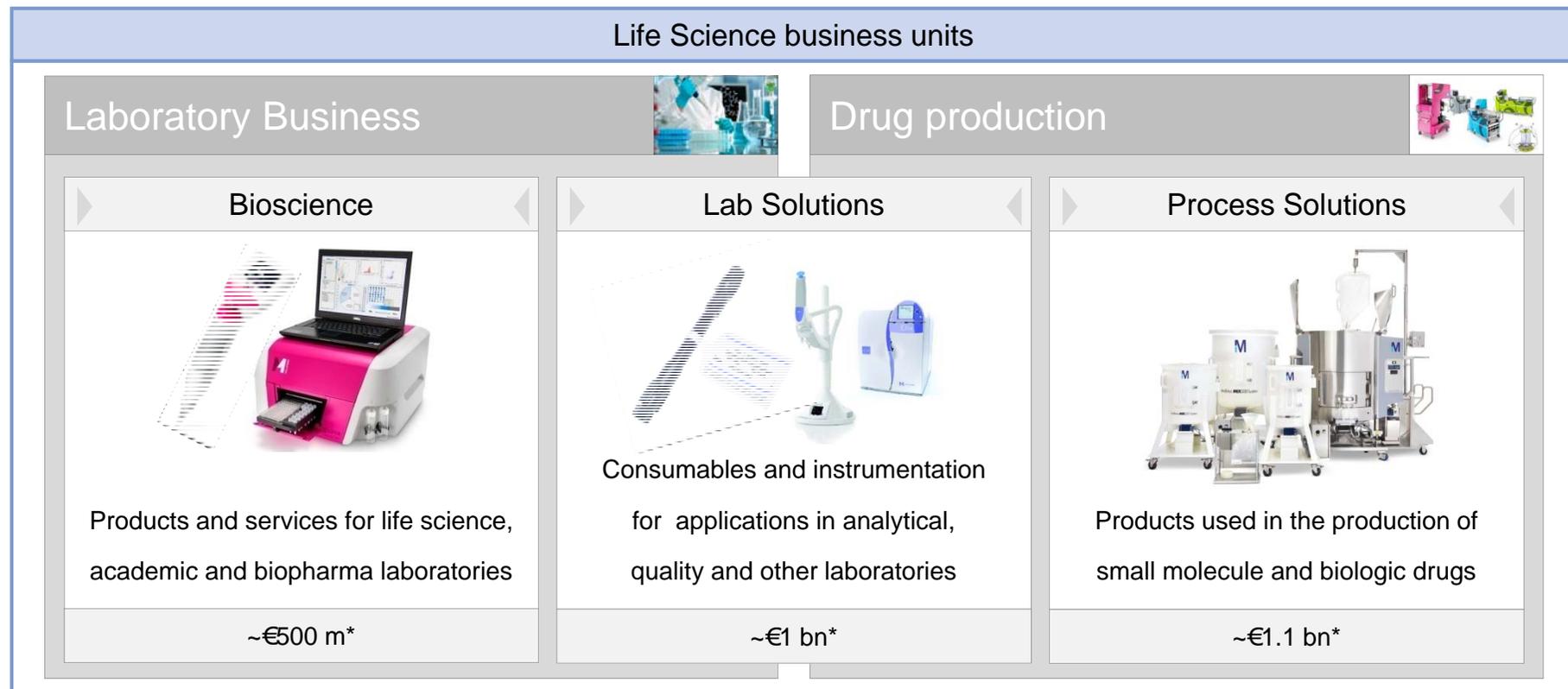


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# Agenda

- **The Life Science portfolio**
- What makes Life Science unique
- How Life Science will create value

# We organize our business around meeting the needs of our customers



\*2012E

# Bioscience focuses on serving the needs of cell biologists and protein researchers

## Bioscience – selected product applications

How do customers use our products?

Bioscience



Products and services for life science,  
academic and biopharma laboratories

~€500 m\*

To isolate and purify samples they intend to study

To investigate and analyze proteins and  
other biomolecules

To analyze the role that healthy and unhealthy cells  
play in disease progression

# Lab Solutions serves a broad spectrum of customers in analytical and research labs

## Lab Solutions – selected product applications

How do customers use our products?

### Lab Solutions



Consumables and instrumentation  
for applications in life science,  
quality and other labs

~€1 bn\*

To isolate and/or quantify a molecule or substance  
that you are trying to analyze

To purify water that is needed as a reagent in  
nearly all lab analysis

To test for presence of contaminants in food,  
drugs and other materials

\*2012E

# Process Solutions addresses needs of both small and large molecule drug manufacturers

## Process Solutions – selected product applications

How do customers use our products?

### Process Solutions



Products used in the production of small molecule and biologic drugs

~€1.1 bn\*

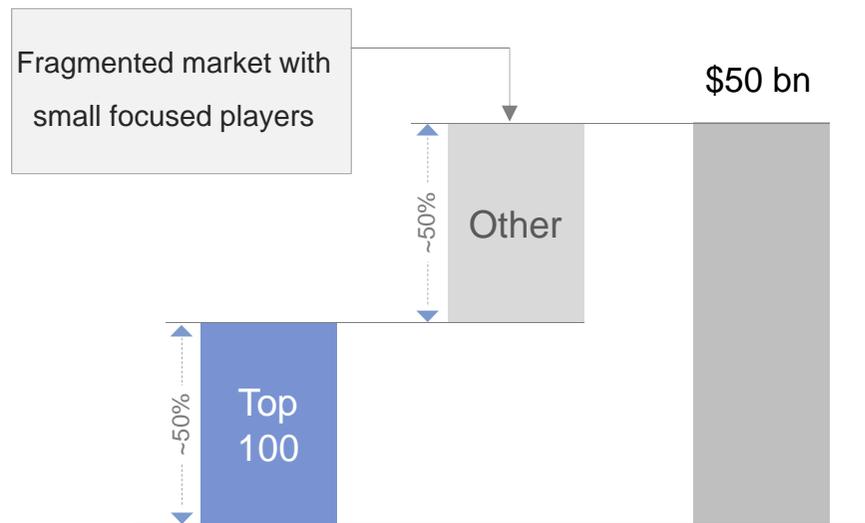
To create active pharmaceutical ingredients and ensure proper drug absorption in body

To remove bacteria, viruses and other contaminants from biologic drugs during the manufacturing process

To test drug for purity and ensure drug remains stable during fill and finish operations

# The diverse needs of these customers creates a large and fragmented market

## Life science tools market concentration\*



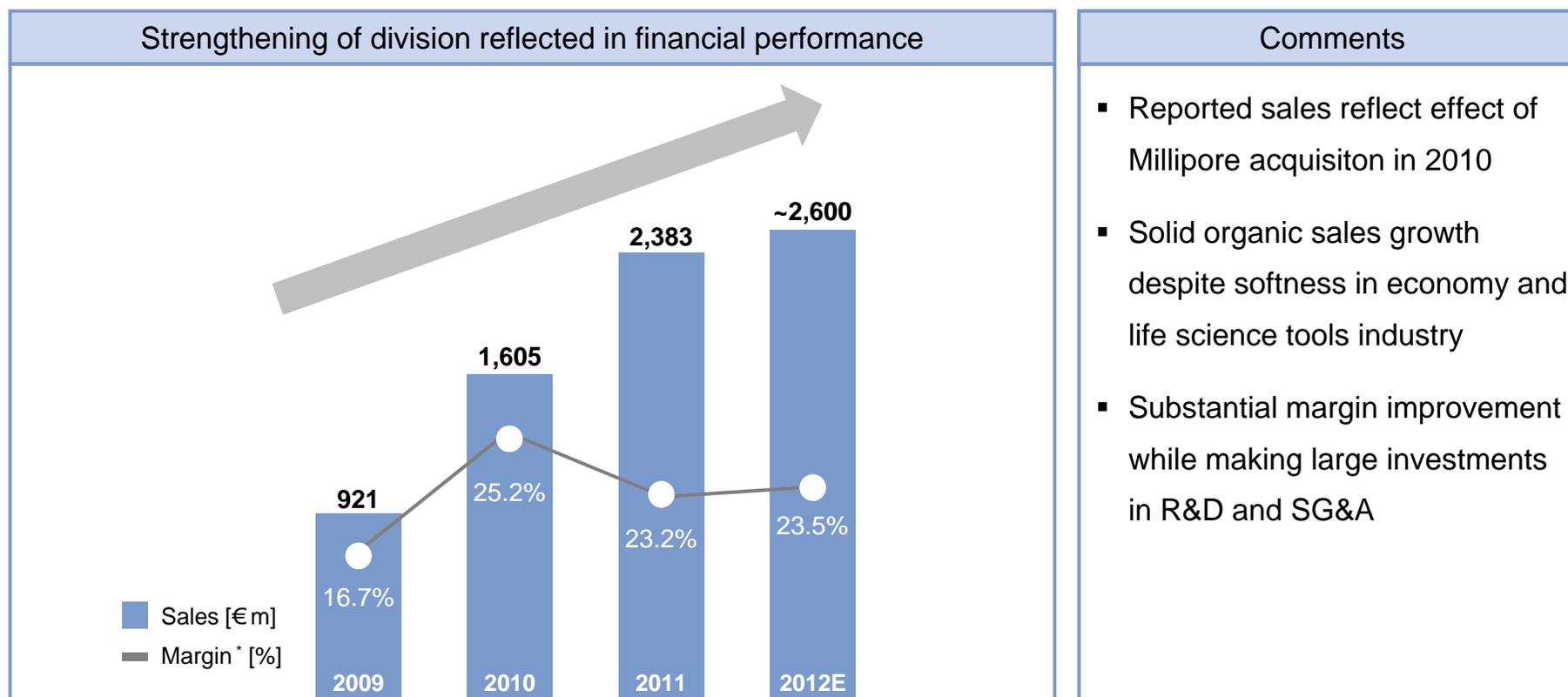
## Market characteristics

- Industry comprised of many small markets with specific needs
- 50% of industry represented by companies that generate ~\$50M or less in sales
- Need to compete effectively against both large and small companies

## Diversity of customer needs creates broad product portfolios and competitive landscape

\* Excludes clinical in-vitro diagnostics, distributors and CROs/CMOs

# Our focus and leadership in targeted markets has led to strong financial performance



\* Margin on EBITDA pre one-time items

# Agenda

- The Life Science portfolio
- **What makes Life Science unique**
- How Life Science will create value

# Life Science is differentiated by several characteristics that make us unique

1

Consumables-driven revenue stream

2

Global geographic reach & balance

3

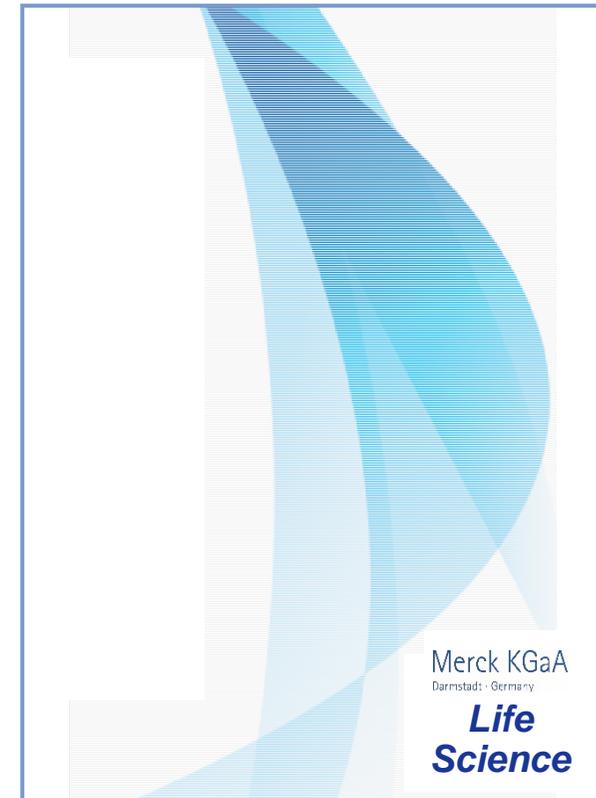
Biopharma manufacturing leadership

4

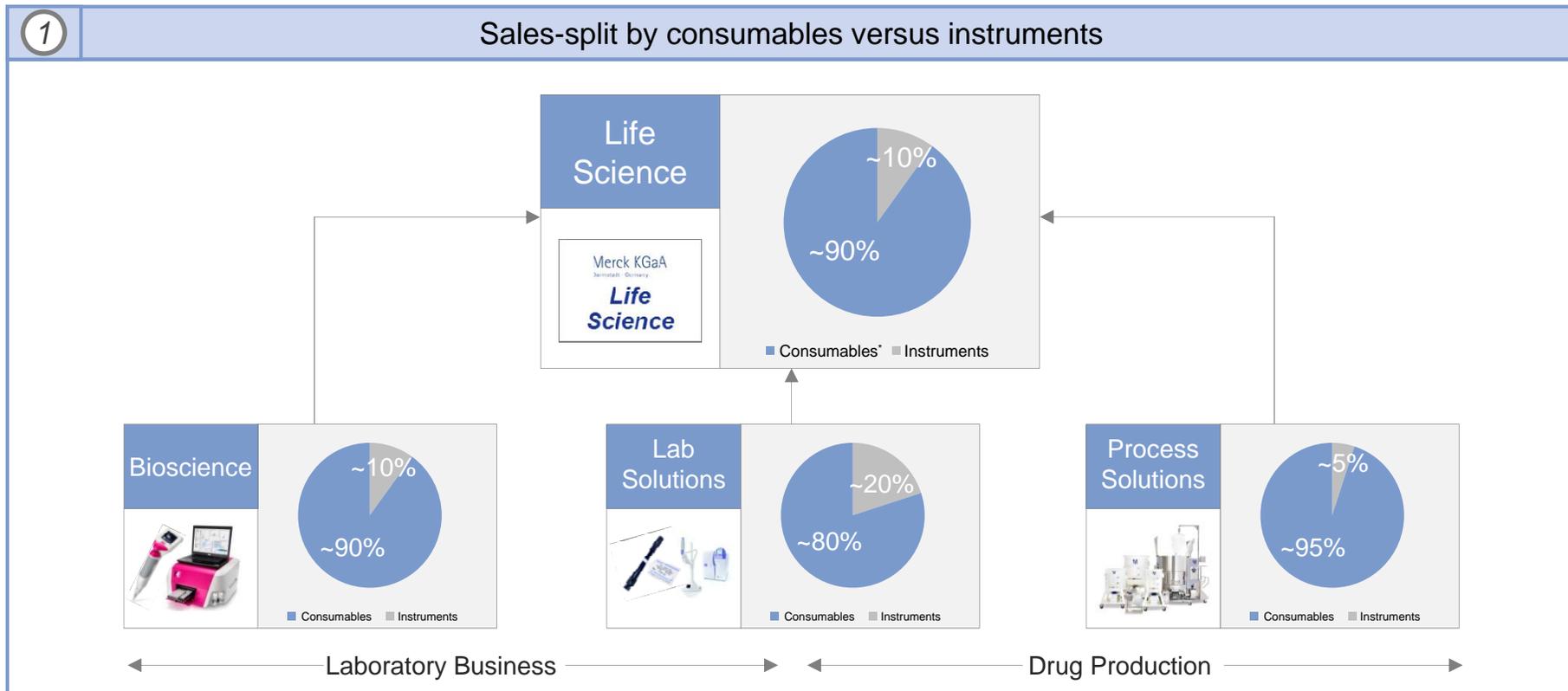
Customer intimacy

5

Brand loyalty and premium

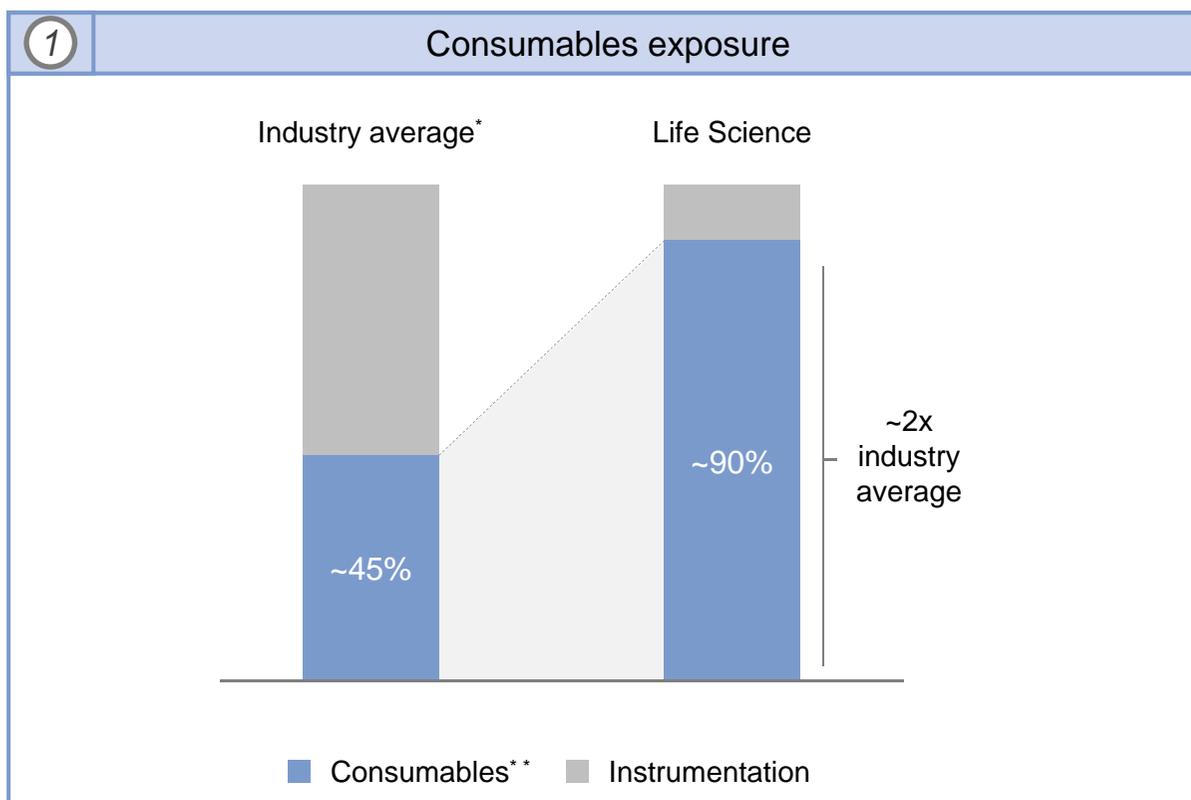


# Consumables provide the division with a stable and predictable revenue stream...



All data company estimates; \*Includes services

# ...which makes us unique compared to peers in the life science tools industry



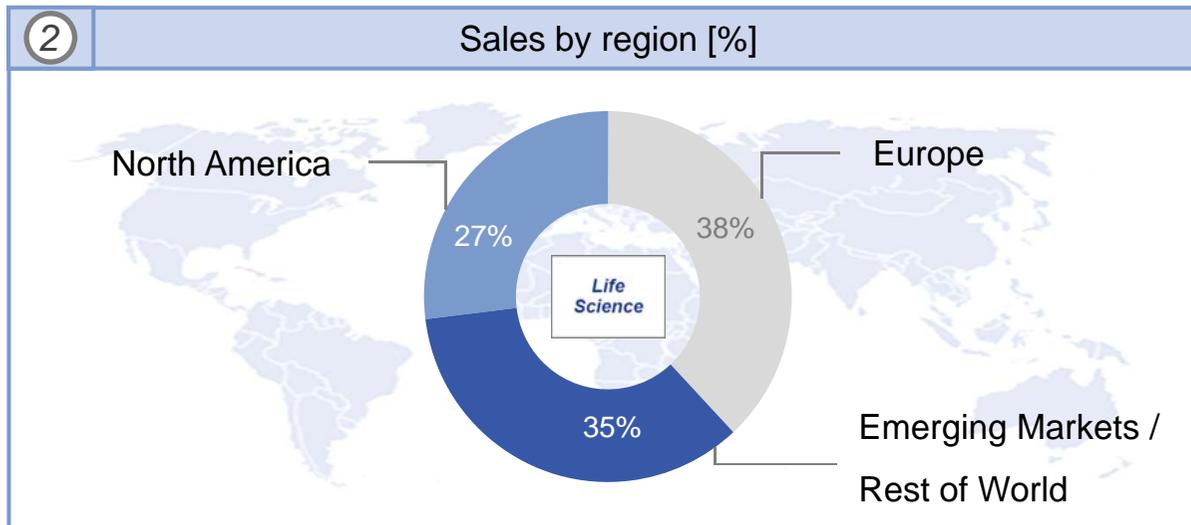
### Advantages

- Products are used once and then discarded
- Consumables paid out of operating versus capex budgets
- Products are often not discretionary and must be used to conduct research or manufacture drugs

**Stable and recurring revenue streams**

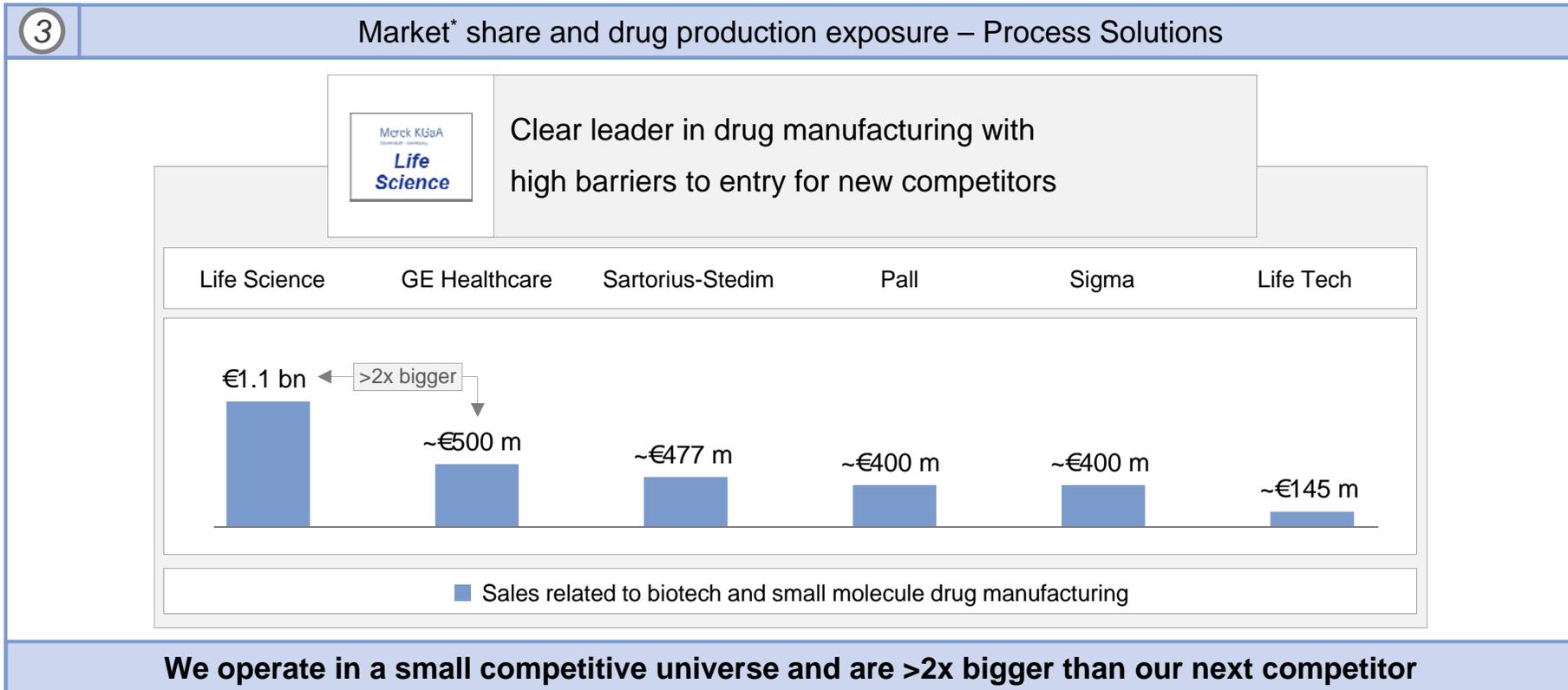
\*Source: capital market research, company analysis  
\*\* Includes services

# We are a global business with excellent geographic reach and balance



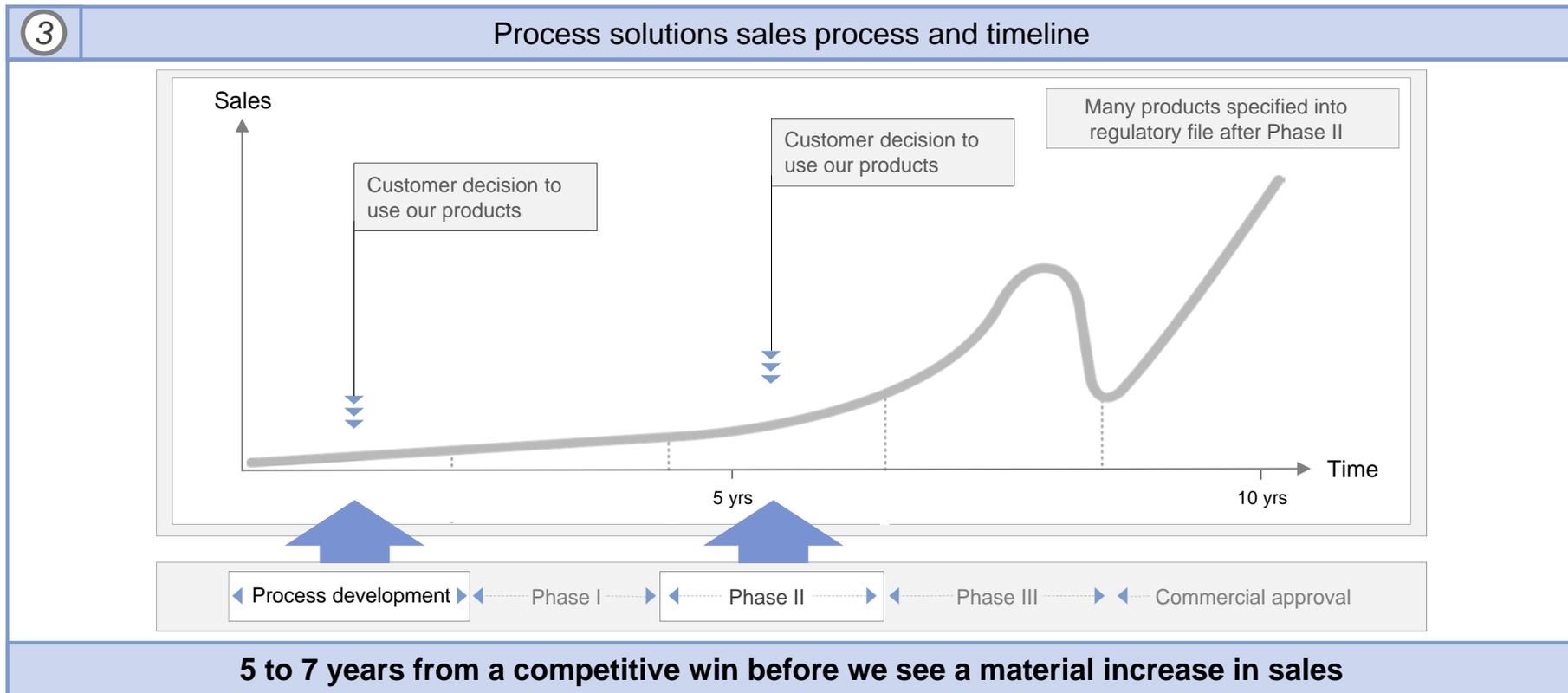
**We have the best geographic balance  
of any company in the industry**

# We are the clear leader in supplying services & consumable products to drug manufacturers



\*Source: 2011 sales, company estimates, based on average EUR-USD 2011 exchange rate of 1.39

# Drug production: a long-term business model for customers manufacturing biologic drugs



# Customer intimacy, delivering value to our customers to drive sustained competitiveness

4

Life Science – partnering with our customers



**Working side-by-side with our customers to bring solutions that strengthen their business**

# Life Science brand has been built over 50 years and helps us to win business

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Life Science – a strong brand



Quality is the most important factor when customers choose suppliers

# Customers pay a premium to suppliers due to how critical quality is to their business



## Cost of poor product quality

*Laboratory Business*

Months of expensive research wasted

Integrity of scientific outcomes affected,  
inability to reproduce results

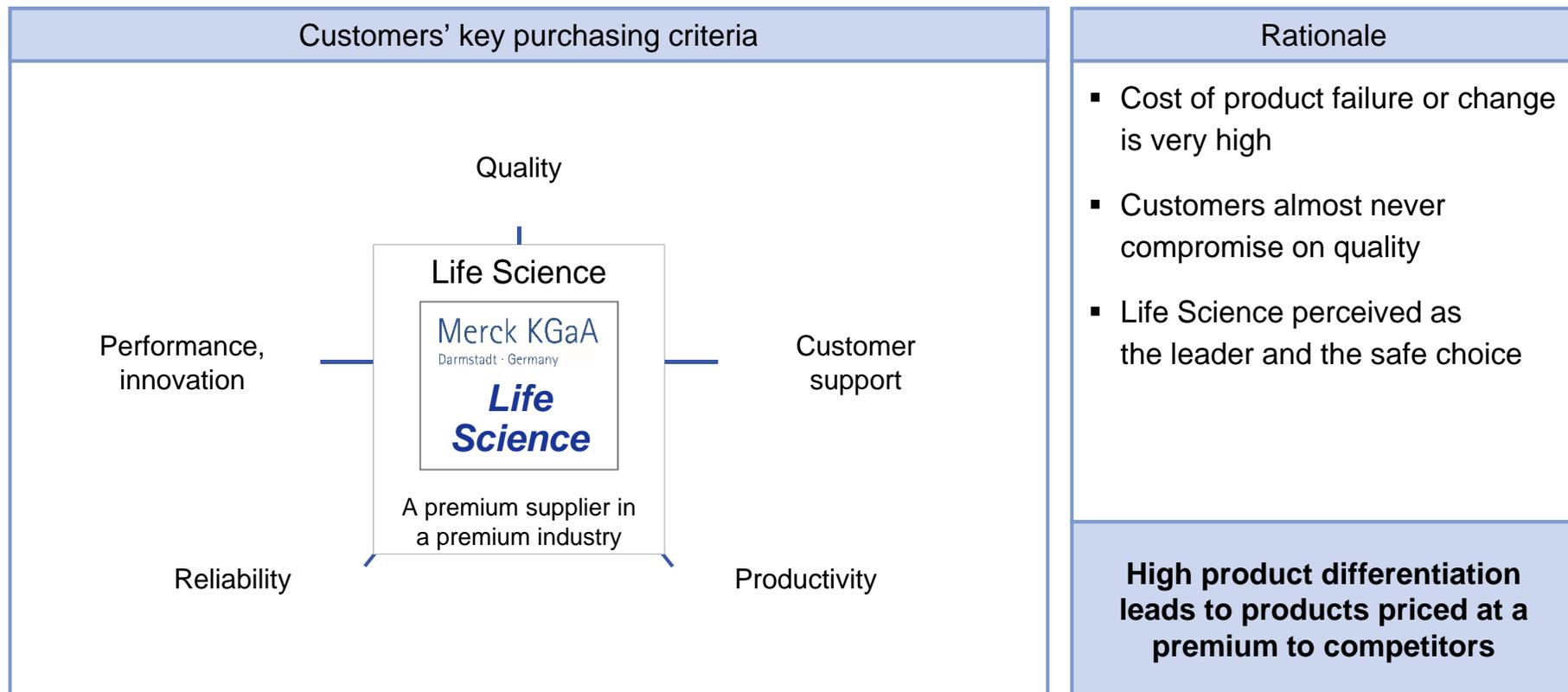
Missed or inaccurate identification  
of contaminants

Longer timelines to move potential drugs  
into clinical trials



Expensive research  
and lab analysis  
wasted due to poor  
product quality

# Price is not the key decision criteria for customers choosing life science suppliers



# Agenda

- The Life Science portfolio
- What makes Life Science unique
- **How Life Science will create value**

# We will benefit from market drivers and internal initiatives to drive growth & profitability

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## External value drivers

Emerging Markets

Volume growth of Biologics

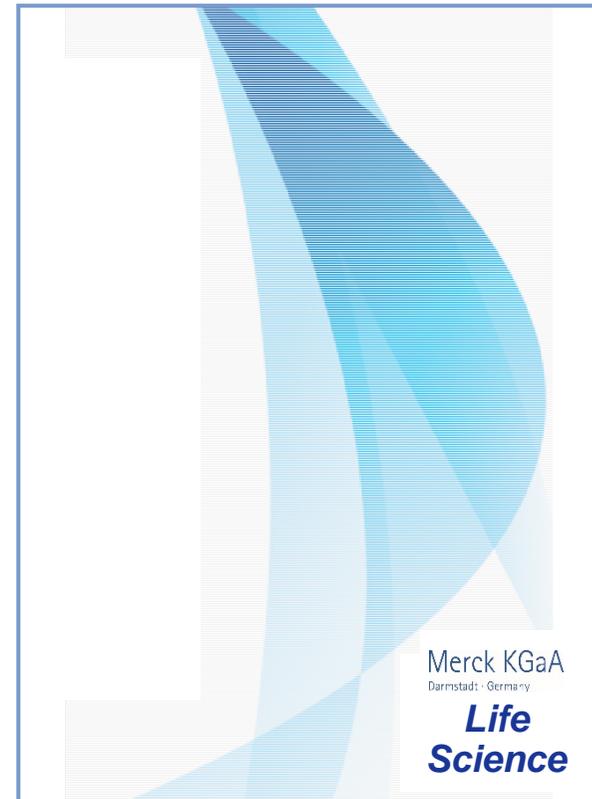
Increasing quality and regulatory standards

## Internal value drivers

Innovation investment

New product launches

Simplifying global operations



# Emerging Markets driving higher demand for laboratory and drug manufacturing business

## Emerging Markets business trends



More Ph.D scientists in Emerging Markets than in any other geographic region, growth in volume and complexity of research



China is a global R&D player with rapidly expanding drug manufacturing capabilities



India developing into a global player for generic drug production and biotech



Multinationals investing in region as growth stalls in developed markets

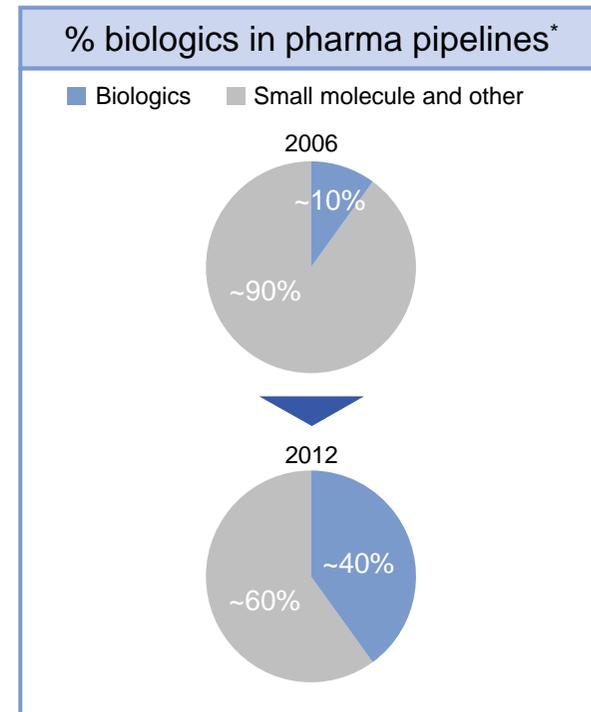
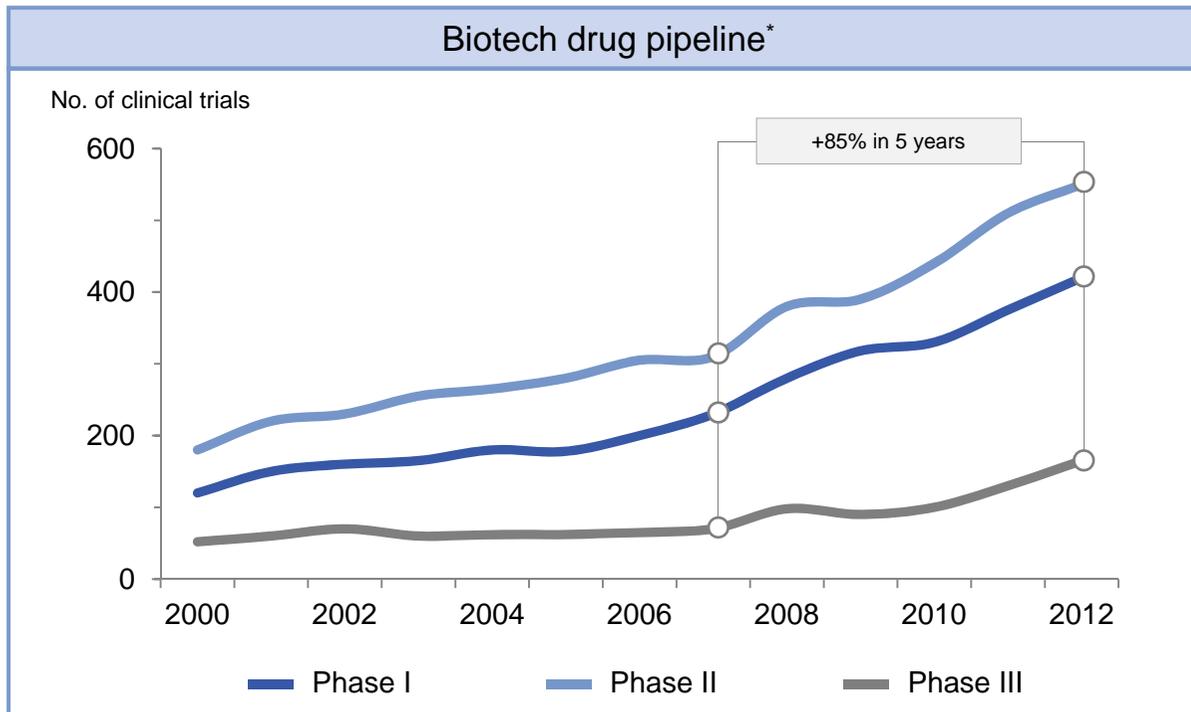


Increasing pressure on quality and regulatory standards leading to demands for higher quality products

### Value to Life Science

- Emphasis on quality and premium suppliers
- Higher biotech production, new state-of-the art plants
- Increasing number of tests for food and drugs due to government pressure

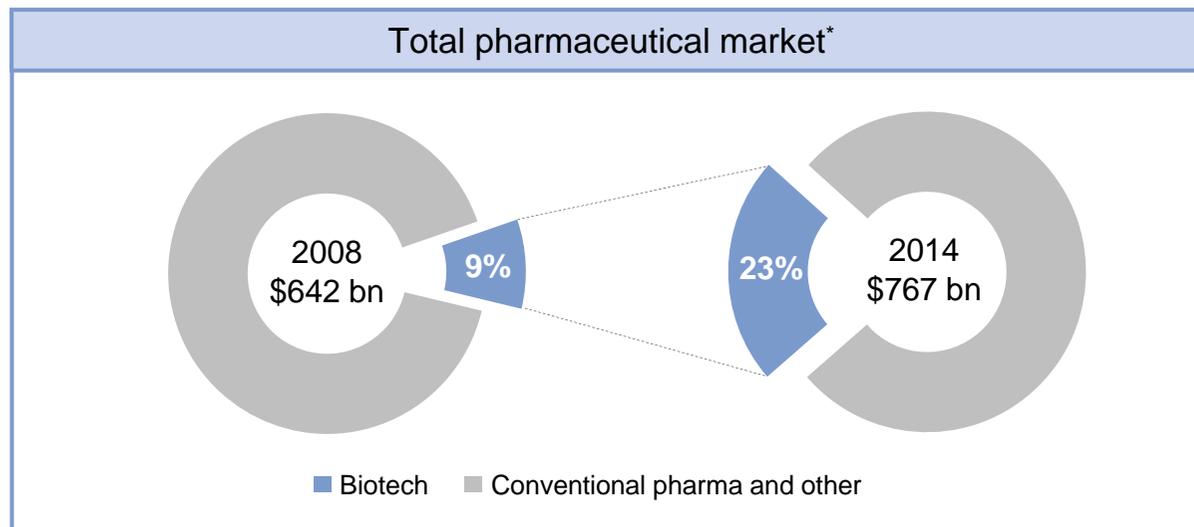
# Pharma pipelines continue to shift toward biologic drugs...



**Average exposure to biologics in pharma companies' pipelines has increased from 10% to 40%**

\* Source: IMS health

## ... which will lead to higher volumes of biologics and a changing industry landscape



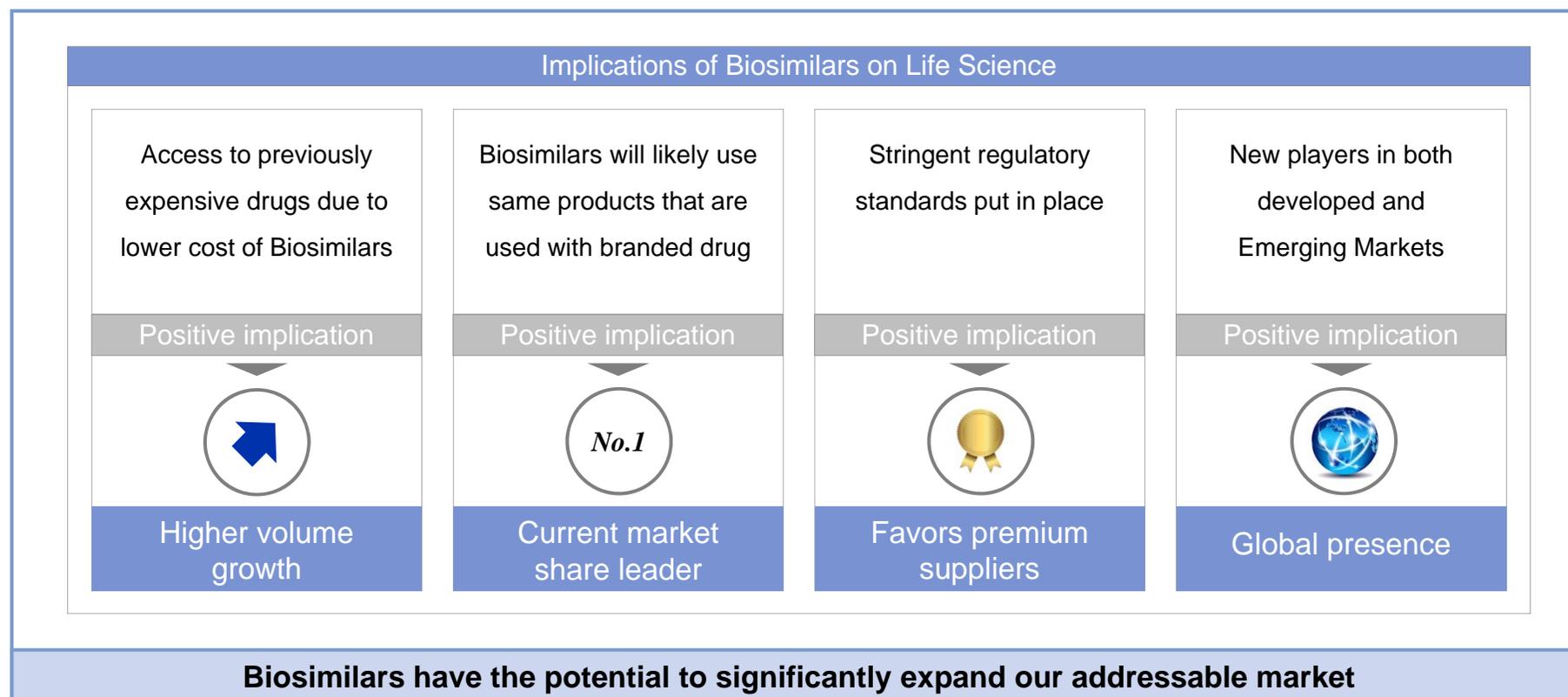
Value to Life Science

- Fundamental demand for our consumable products will remain robust
- New innovation opportunities for nascent biosimilars market
- Division has 5x greater sales opportunity in biologics compared to small molecule drugs

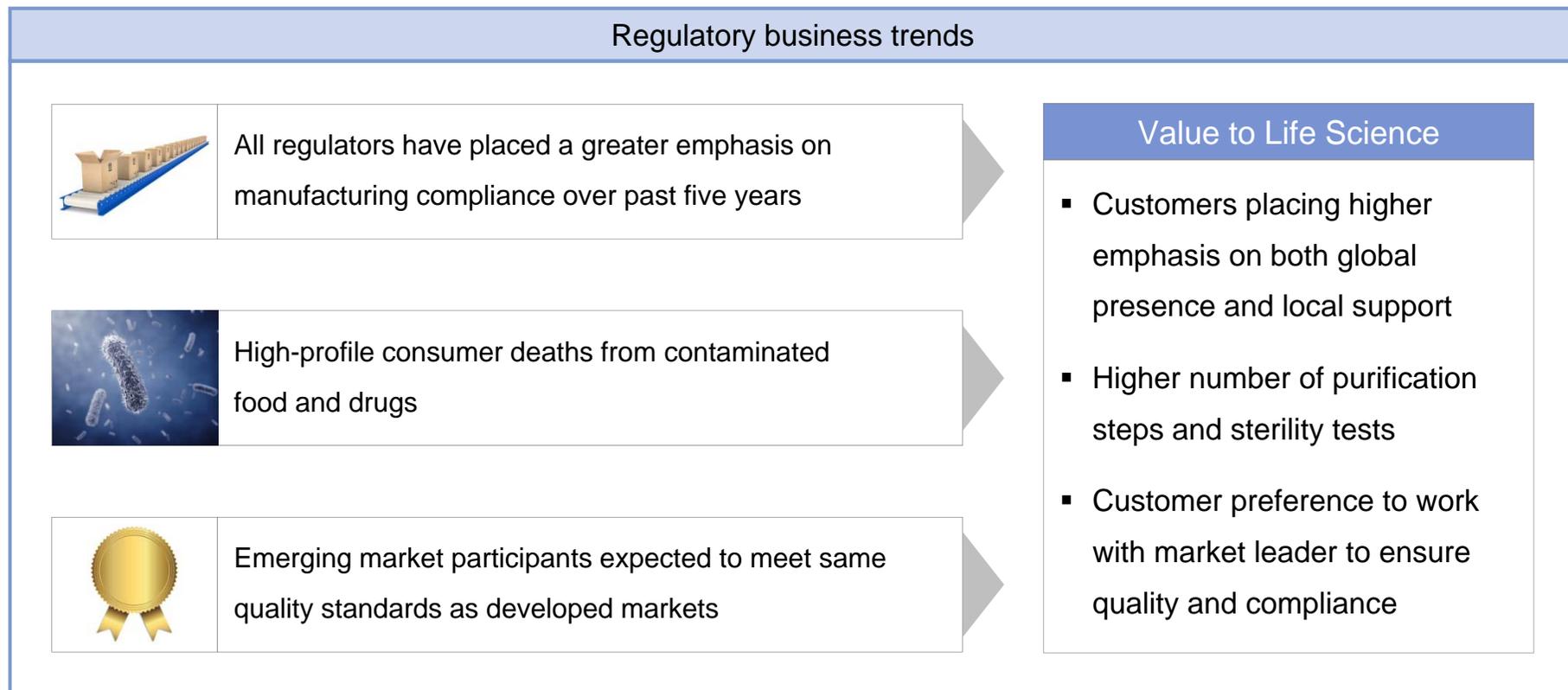
**Expansion of biologic drug volumes will be the biggest growth driver for the division**

\*Source: Evaluate pharma

# The regulatory pathways for Biosimilars have been established



# Regulatory authorities become more stringent in all geographies, increasing requirements



# Costs of not meeting quality standards in drug manufacturing can be devastating



## Cost of poor quality

*Drug production*

Inability to supply drugs to patients

Regulatory fines and reputation damage

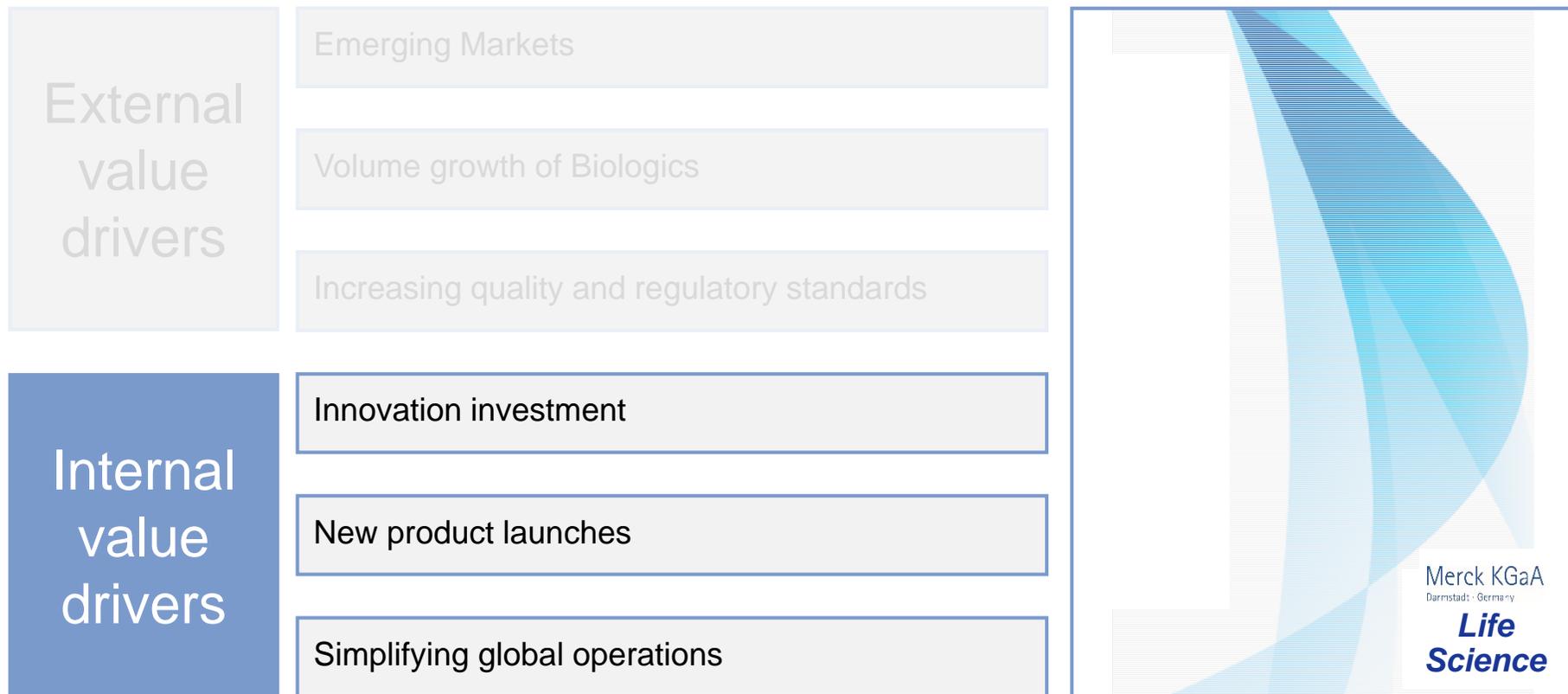
Plant shutdowns

Loss of inventory

## Value to Life Science

- Customers rely on our expertise to solve the most complex problems
- Preference to work with industry leader since losses can amount to hundreds of millions

# Life Science with additional momentum from internal value drivers



# Our innovation investment requires a unique approach for our various business units

## R&D investment by Business Unit

### Bioscience



- Highly competitive and fast moving market
- 10% of sales invested in R&D
- 30% of annual sales targeted from products launched in past 3 years
- Licensing and M&A augment internal R&D

### Lab Solutions



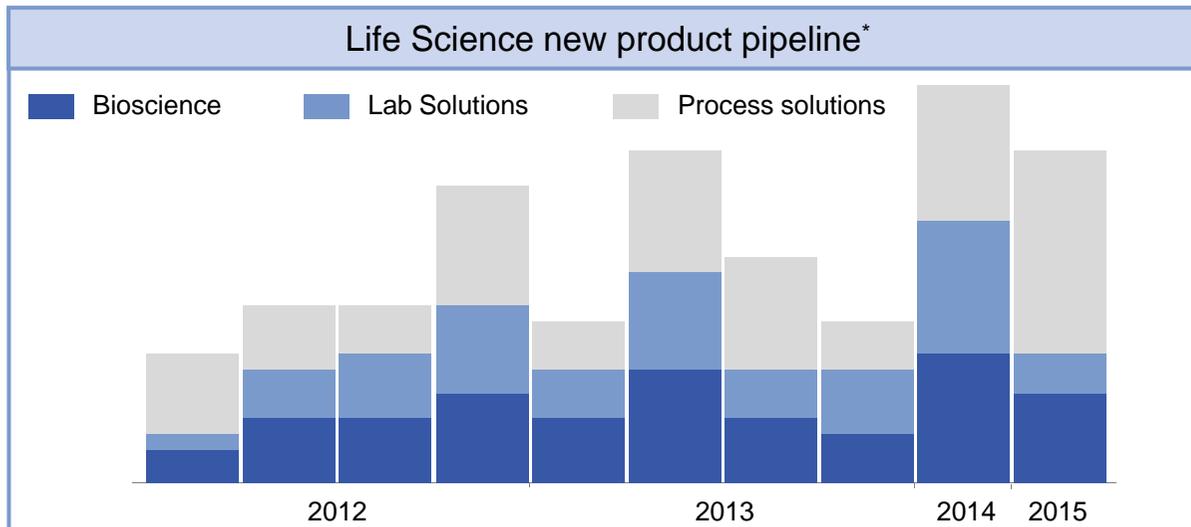
- Market leadership in all three business fields
- Broadest portfolio in division
- Portfolio requires lower R&D investment as a percentage of sales

### Process Solutions



- 5 to 7 years between new product launch and meaningful sales
- Longer timeline for R&D returns, but longer product lifecycles
- Customers unlikely to adjust commercially processes

# We have a strong pipeline to continuously drive innovation and new product sales



Comments

- We aim each year to move a higher percentage of our portfolio into a differentiated, high margin category
- Success of new product launches are critical to the growth and profitability of the division

**~€100 m of targeted sales  
each year from R&D pipeline projects**

\*Shown quarterly by number and sales potential of projects

# Recent product launches reflect commitment to innovation

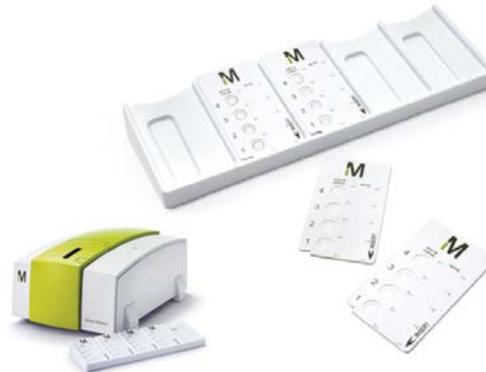
## New product launches

### MUSE



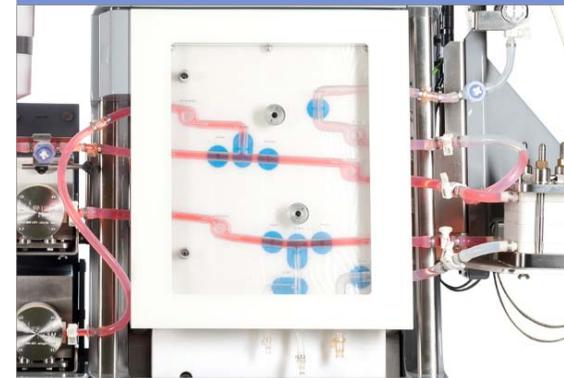
- Simplified cell counting, viability and health profiling

### Direct Detect



- Accurate protein quantification and expanded biomolecule detection

### Smart Flexware



- Simplified tubing for single-use production - chromatography
- Easier to scale production, greater flexibility

# Value creation by reducing the complexity of our global operations and channel distribution

## Simplifying global operations



### Plant consolidation

From 27 to 20 plants



### Simplified logistics

Consolidate activities into major hubs



### Improved channel distribution

Strengthen web and e-business presence

**We expect to deliver ~€40m in net cost savings between 2015-2017**



# Life Science – a leader in one of the most attractive segments of the healthcare market

## Strong portfolio

We have a strong portfolio of leading brands that are sold into healthy industries

## Unique business

Our consumables-driven business model and drug production business make us unique in the industry

## Poised for value creation

Strong market trends and continued innovation will drive profitable growth in the future

