



WACKER

CREATING TOMORROW'S SOLUTIONS



**WACKER BIOSOLUTIONS -
*A Breeding Ground For Innovation And Growth***

Dr. Thomas Maier, Managing Director WACKER Biotech GmbH
Baader Investment Conference, 20th September 2016

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Our Business Portfolio – A Foundation For Growth

WACKER BIOSOLUTIONS

- ▶ High potential for future development
- ▶ Innovative biotech and chemistry platforms

WACKER POLYMERS

- ▶ No. 1 in dispersible polymer powders
- ▶ No. 1 in VAE dispersions
- ▶ Global footprint

WACKER POLYSILICON

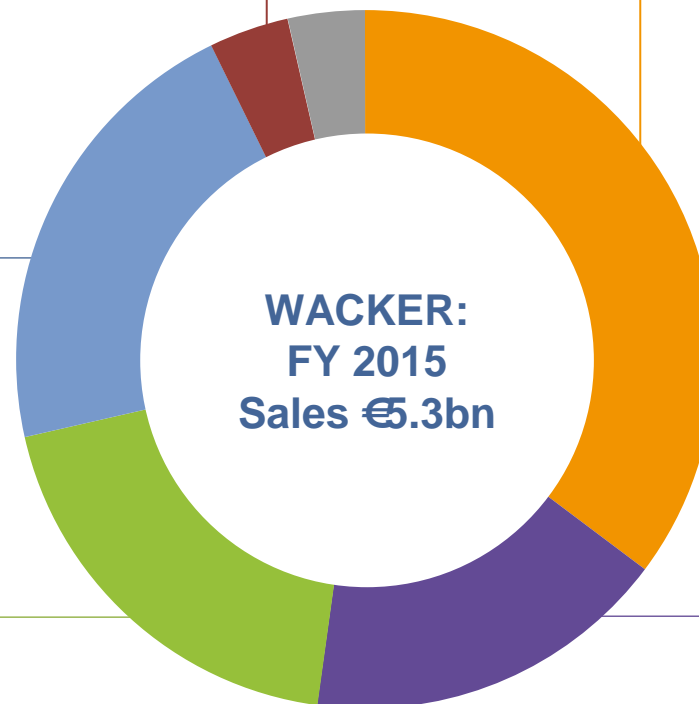
- ▶ No. 2
- ▶ Cost and quality leader
- ▶ Enabling industry growth

WACKER SILICONES

- ▶ No. 2 with global footprint
- ▶ Leading positions in key growth segments

Siltronic

- ▶ No. 3
- ▶ Balanced base of customers
- ▶ Minority position floated (WAF300; WAF)

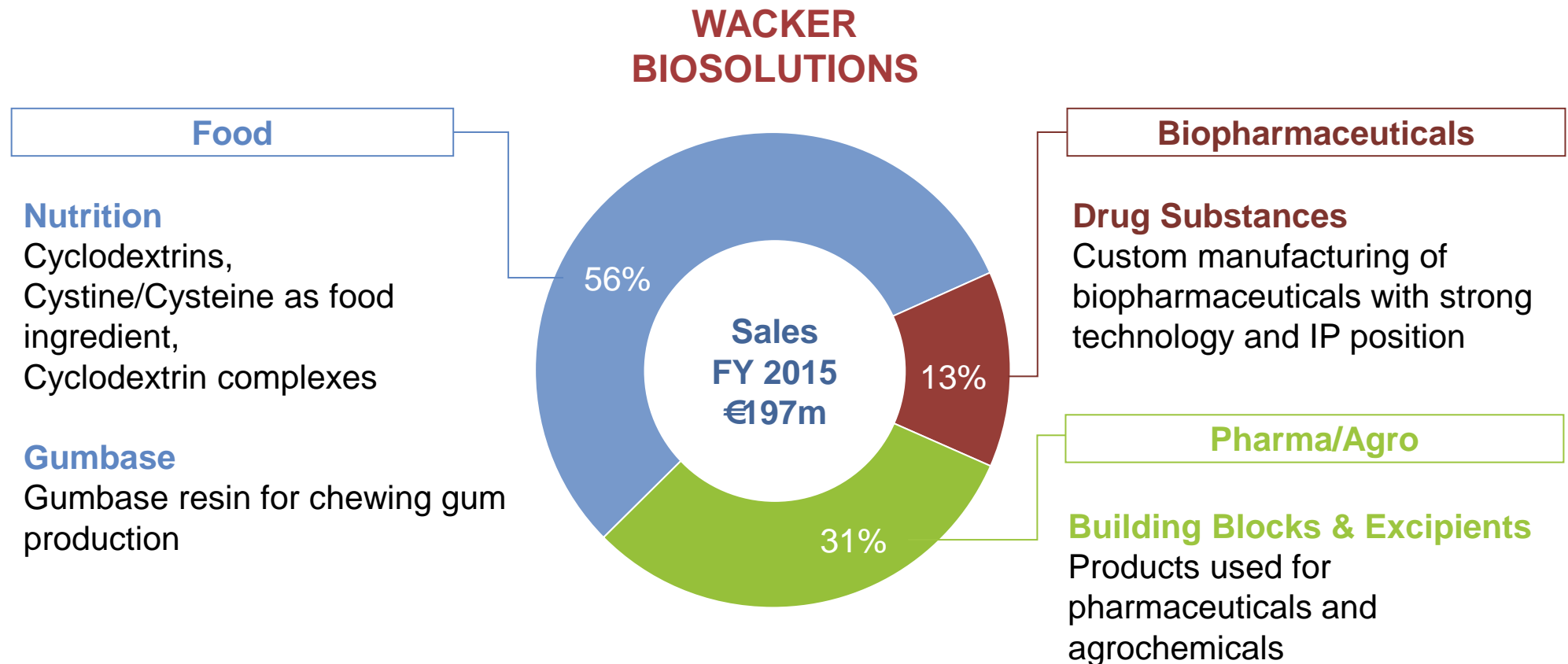


WACKER:
FY 2015
Sales €5.3bn

*Sales FY 2015, Others

WACKER BIOSOLUTIONS – The Life Science Division

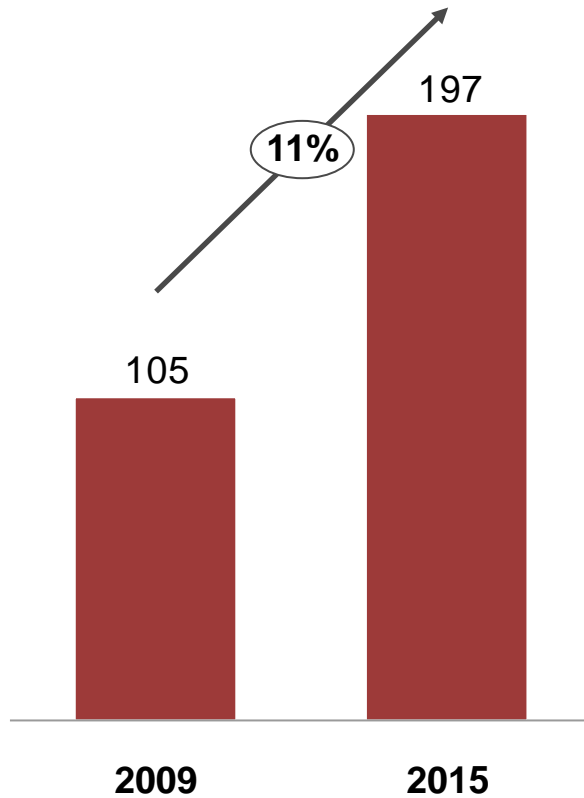
Business Structure



BIOSOLUTIONS – Double Digit Growth in Promising Markets is Driven by Our Innovative Technology Platforms

Sales development

mn EUR



Technology Platforms

Production of Biopharmaceuticals

insight

ESETEC® FOLDTEC®

Cyclodextrin Technology

CAVAMAX® CAVASOL® CAVACURMIN®

Metabolic Engineering of Bacteria

insight

Food Polymer Solutions

CAPIVA® VINNAPAS®

Main Markets served

(Bio-)Pharma

Agro

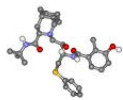
Food

Biopharmaceuticals Are The Innovation Driver in The Pharmaceutical Industry

insight 1

Classical drug substances

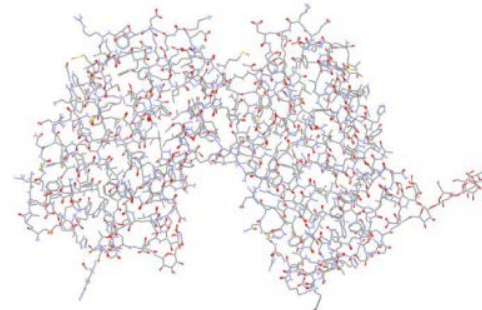
- ▶ Manufactured by **chemical syntheses**
- ▶ Relatively **small** and simple molecules



Viracept
HIV-Infection

Biopharmaceuticals

- ▶ Manufactured by **biotechnological processes** using bacteria, yeast or mammalian cells
- ▶ Highly **complex, large proteins**



Interferon β
Multiple
Sklerose

- ▶ **10 out of the 20 top-selling drugs are biopharmaceuticals** by end 2016
- ▶ **604 new biopharmaceutical drug candidates in the pipeline:** more than doubled compared to 265 in 2005

With Strategic R&D And Acquisitions of Start-ups a Fast Growing Biopharmaceuticals Business Has Been Established

WACKER Biopharmaceuticals Production Platform

Established by R&D and Acquisitions

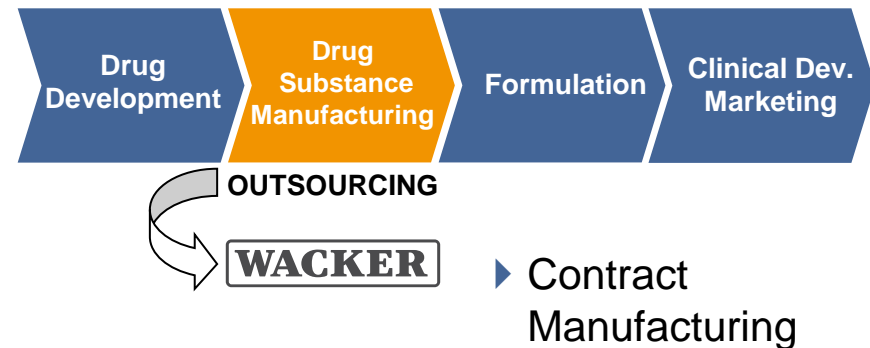


▶ 2005: Prothera GmbH

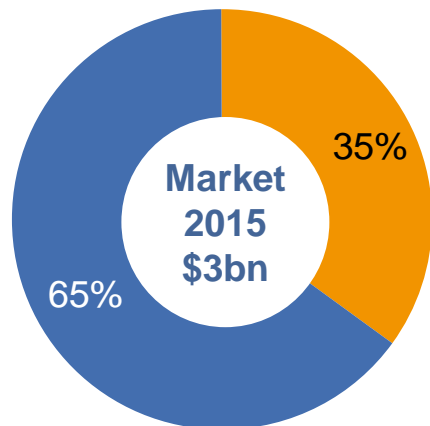


▶ 2014: Scil Proteins Production GmbH

Business Model of WACKER Biotech GmbH



Biopharmaceuticals Contract Manufacturing Market



Long-Term Annual Growth of above 8% expected

Microbial Technology
Mammalian Technology

- ▶ WACKER is the biggest dedicated microbial contract manufacturer in Europe
- ▶ Major Competitors include Lonza, Boehringer Ingelheim, Sandoz, FujiFilm Diosynth, Synco Biopartners

WACKER Introduced A Revolutionary Technology For The Production of Biopharmaceuticals

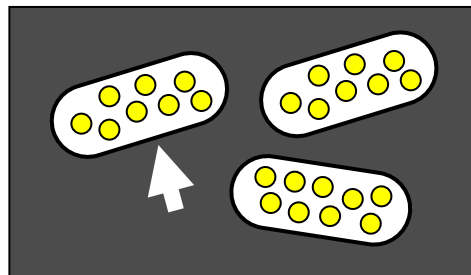
Strong Customer Base – Strong Market Reputation



G. Wasserman, Sr. Vice President Development:
“ESETEC®... helps improve productivity and simplifies the purification process, which is critical as we work to bring important medicines to patients as quickly as possible.”

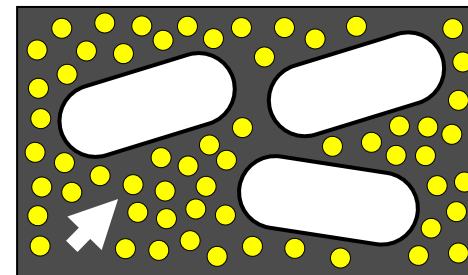
Traditional Process (microbial, *E. coli*)

- ▶ Product accumulates inside the bacteria



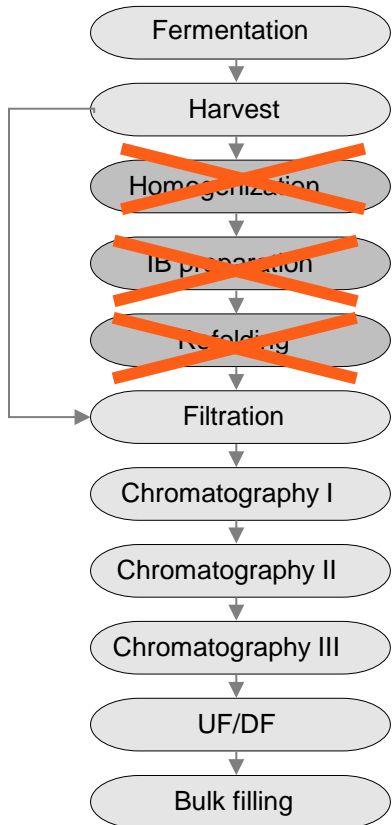
ESETEC® (*E. coli* secretion technology)

- ▶ Product is transported outside the bacteria



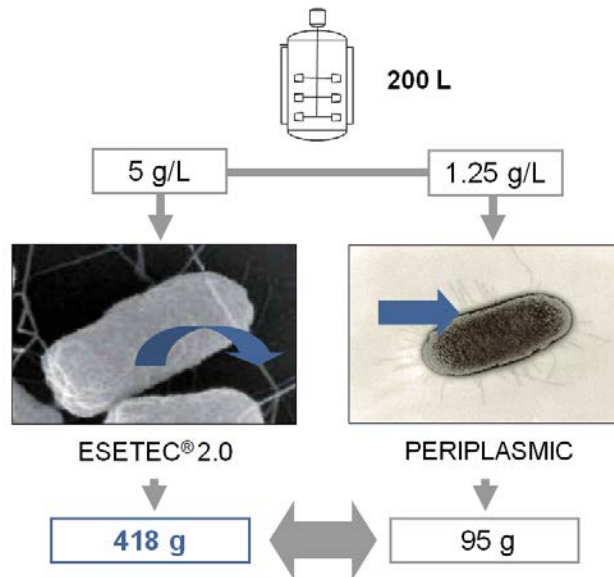
ESETEC® Enables Time- And Cost-Efficient Manufacturing of Biopharmaceuticals

Simplified Process



- ▶ ESETEC® **reduces** the number of **process steps**

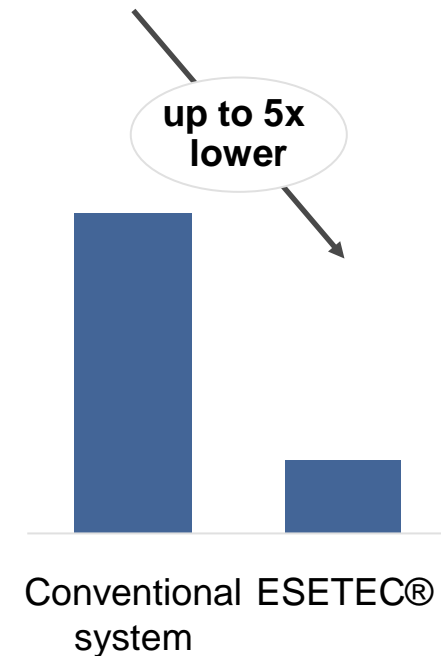
Superior Yields



**Example:
Antibody Fragments**

- ▶ ESETEC® significantly **increases yields**

Lower Cost of Goods



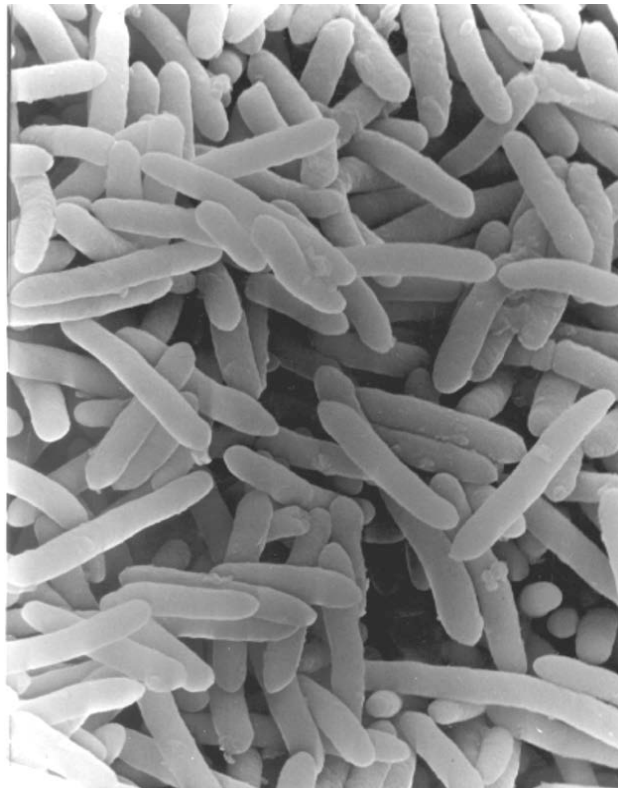
- ▶ ESETEC® **reduces** production **costs**

▶ **Our Potential: Expand ESETEC® Use and Continue Growth with >20% CAGR**

Metabolic Engineering Takes Advantage of The Synthetic Capabilities of Bacterial Cells

Insight 2

Bacterial Cells



Raw materials

- ▶ Glucose
- ▶ Mineral salts

High value products

- ▶ Amino acids
- ▶ Vitamins
- ▶ Fatty acids
- ▶ Isoprenoids
- ▶ Antibiotics
- ▶ Nucleotides
- ▶ Biopolymers
- ▶ Biofuels

Metabolic Engineering is the practice of optimizing genetic and regulatory processes within cells to increase the cells' production of a certain substance.

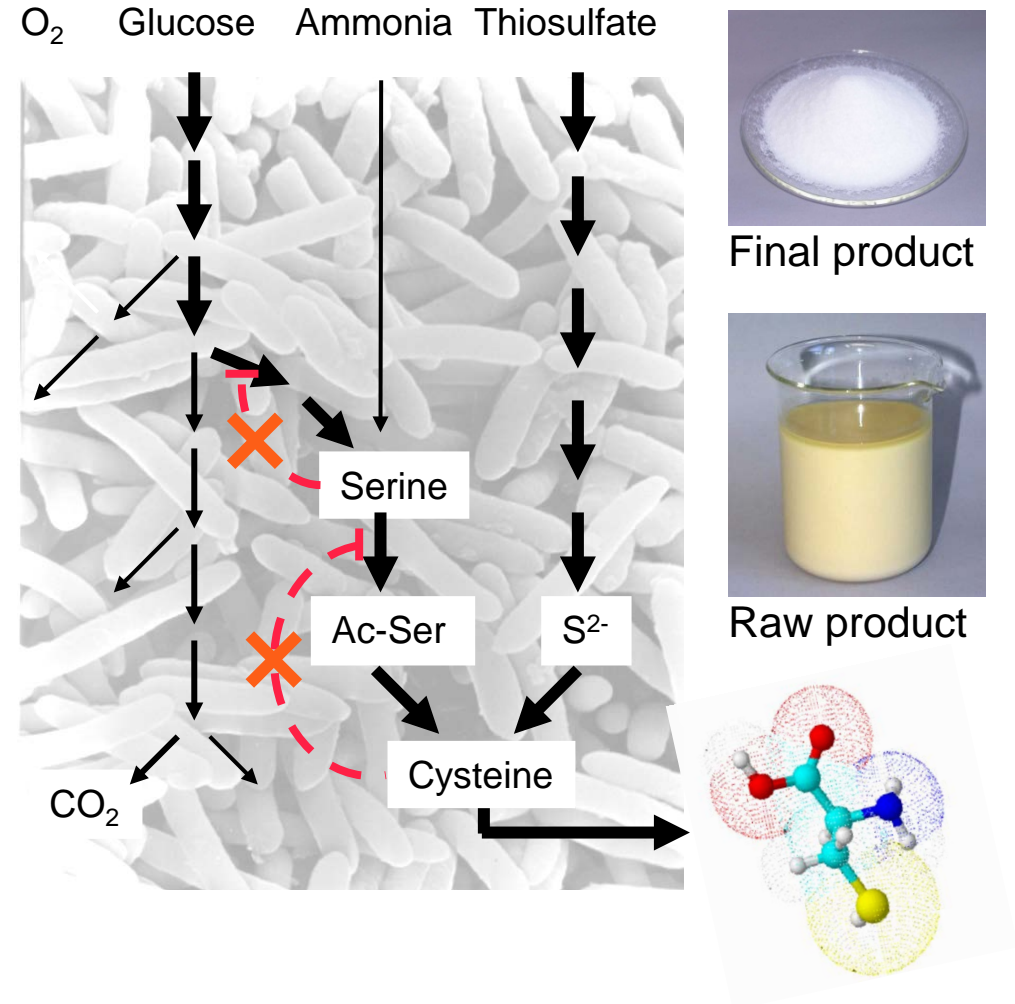
WACKER's Metabolic Engineering Technology Led to a New Vegetarian Quality Product of The Amino Acid Cysteine

Traditional Process

- ▶ Extraction from **human hair** and animal feather = unwanted in food applications

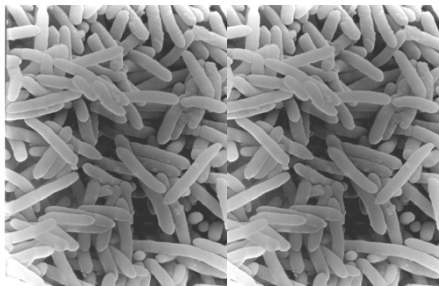
WACKER Process = **vegetarian**

- ▶ Cysteine synthesis in bacteria comprises **17 steps**
- ▶ WACKER scientists identified and modified the “**bottleneck**” genes
- ▶ **20.000-fold increase** of cysteine production achieved
- ▶ **Vegetarian**, Kosher and Halal
- ▶ Compliant with all major food (HACCP) and pharmaceutical standards
- ▶ Raw material and energy **efficient**

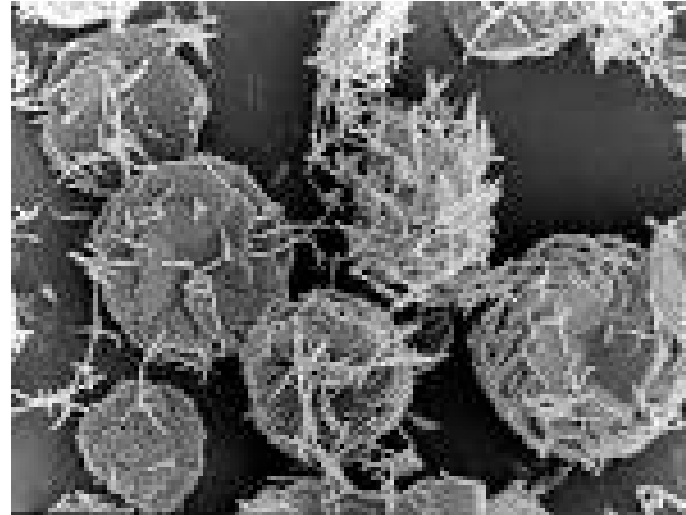


WACKER's Metabolic Engineering Technology Enabled Market Leadership For Cysteine

Our Metabolic Engineering Platform

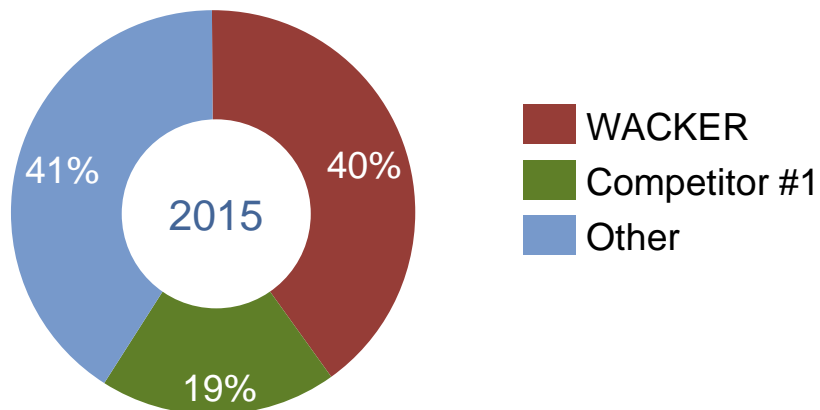


▶ Bacteria before Metabolic Engineering



▶ Bacteria after Metabolic Engineering sitting "proud" on their product

Cysteine Market Split by Revenue*



- ▶ We are the clear **market leader** in the Cysteine food market
- ▶ Cysteine-business is unlike other amino acids a **specialty business**
- ▶ We realize price premiums due to our **superior quality**

*Food only

Solid Growth For Vegetarian Cysteine in All Markets – New Ingredients Are Being Developed

Selected Applications for Cysteine as a Life Science Ingredient



Food additive



Food flavors



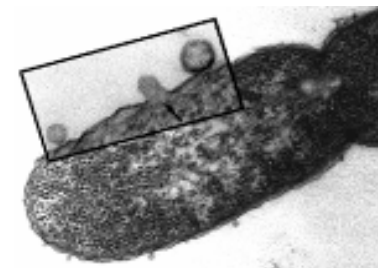
Supplement



Pharma

New Metabolic Engineering Developments are ongoing

- ▶ Our platform technology fits to customer need for “natural” ingredients
- ▶ Technology is being used to produce other high-value and “natural” ingredients
- ▶ We are aiming for a superior cost position in specialty markets of food and pharma
- ▶ A strong IP position secures our success



▶ **Our Potential: >€50m Additional Revenue by Developing New Ingredients for Life Science Markets**

Our Commitment to Innovation Pays Off – A Decade of Successful Product Launches And Recognition as Innovator

● = product launch

	05-07	2008	2009	2010	2011	2012	2013	2014	2015
Pharma & Biopharma	●●	●	●●	●●●●			●	●●	●●
Food & Cosmetics	●●	●●		●		●●●●	●●●●	●●	●●
Agro & Industrial			●	●●	●		●		
Total	4	3	3	7	1	4	6	4	4

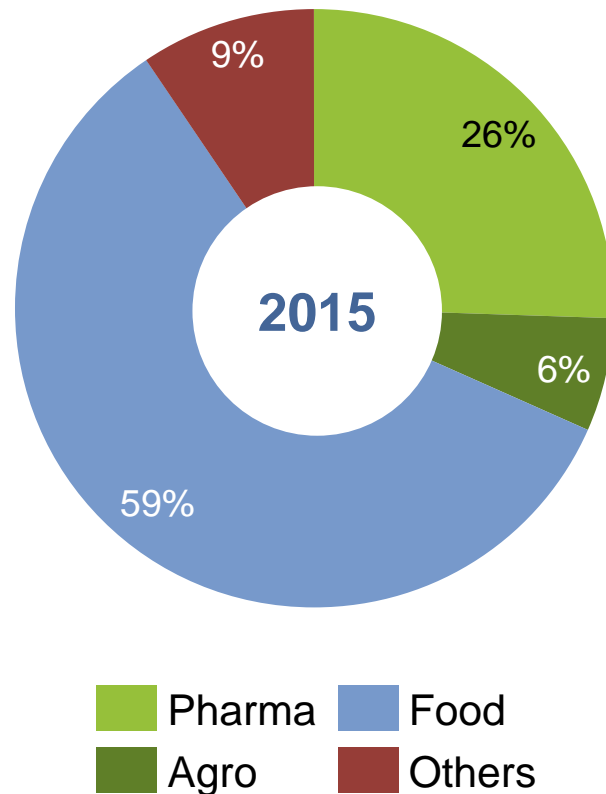


Business Innovation Award 2016

- ▶ Sponsored by the **Federal Ministry of Economic Affairs**
- ▶ WACKER among the **top four** corporate **finalists** selected by the scientific committee
- ▶ Honored for developing ESETEC®: **cost-efficient technology** for manufacturing cutting-edge biopharmaceuticals

BIOSOLUTIONS Growth Impetus Driven by Technology Platforms

WACKER BIOSOLUTIONS Revenue split by end market



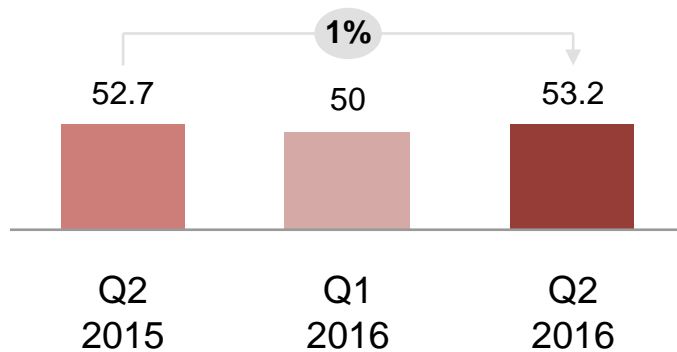
BIOSOLUTIONS – What’s next?

- ▶ BIOSOLUTIONS grows with solutions for the **megatrend** “ageing population”
- ▶ We expect continuation of our **growth momentum** in Pharma, Food, and Agro
- ▶ BIOSOLUTIONS has a **low exposure** to economic cycles and raw material cost
- ▶ **Innovation** remains key element of our business and our **technology platforms** will expand into new products, applications, and services to our customers

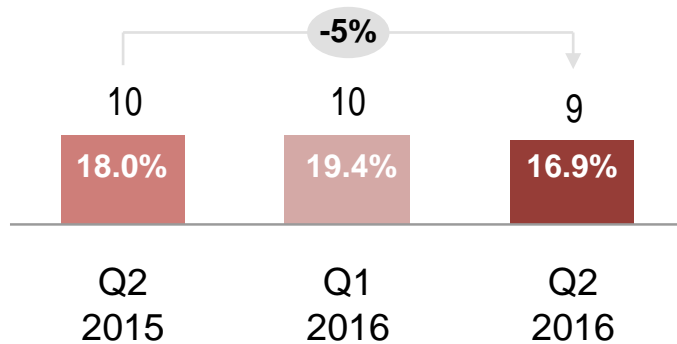
BIOSOLUTIONS

Strong Volumes in Biopharmaceuticals

Sales (€m)



EBITDA (€m) / margin



Highlights Q2

- ▶ Sales +1% yoy
- ▶ Higher volumes in biopharmaceuticals and nutrition overcompensate lower prices in gum segment

Outlook FY 2016

- ▶ Mid-single digit sales growth with EBITDA at the level of previous year
- ▶ Significant growth expected for biopharmaceuticals



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Questions & Answers

WACKER: Issuer, Contact and Additional Information

Issuer and Contact

Wacker Chemie AG
Hanns-Seidel-Platz 4
D-81737 Munich

Investor Relations Contacts

Joerg Hoffmann, CFA
Tel. +49 89 6279 1633
joerg.hoffmann@wacker.com

Monika Stadler
Tel. +49 89 6279 2769
monika.stadler.ir@wacker.com

Financial Calendar

10/11/16 – Capital Market Day
10/27/16 – Q3 Results 2016

Additional Information

ISIN:	DE000WCH8881
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Deutsche Börse:	WCH
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Listing:	Frankfurt Stock Exchange Prime Standard

