BASF Agricultural Solutions

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Sanford Bernstein Annual Agriculture Conference

London
March 10, 2015

150 years
1 | Positioning & strategy

2 | Financial results & targets

3 | Growth levers:
   3.1 | Portfolio development
   3.2 | Growth markets
   3.3 | Innovation & investments

4 | Summary & outlook
Population growth drives crop demand, triggering innovation in agriculture.
Farmer Expenses
Crop Protection represents only small share of overall costs

Farmer expenses 2014F*
in %

- Other: 22%
- Crop Protection: 13%
- Fertilizer: 25%
- Energy: 20%
- Seed: 20%

Crop Protection: small share of farmer expenses

Farmer expenses in the U.S.
- U.S. Ag market has highest degree of technology adaption
- Seeds, fertilizers: Significant share of farmer expenses. Fertilizers very price volatile
- Crop protection cost portion is comparatively small
- Crop protection demand impacted by weather

* Source: based on USDA ERS farm income statistics for US market 2014, includes farm-origin costs
Accelerated crop protection market growth

Crop protection market has clearly outgrown Agriculture and GDP

* GDP: Annual percentage change of a country's GDP in constant prices. Agriculture industry: BASF analysis of FAO, IHS Global Insight and national statistics (e.g. Eurostat). Crop Protection: Phillips McDougall data
Crop protection: Six leading innovators
BASF with top growth rates over 5-year time frame 2009-2014

FY sales 2014

- BASF: €5,446m, CAGR* 8%
- Dow: $5,657m, CAGR* 8%
- Syngenta: $11,381m, CAGR* 6%
- Monsanto: $5,115m, CAGR* 3%
- Bayer: €7,712m, CAGR* 7%
- Dupont: $3,686m, CAGR* 9%

Source: Crop protection sales, *CAGR 2009-2014 from corporate reports and BASF estimations
Positioning & strategy
Evolution of crop protection innovators’ offering

Crop protection has become a solutions business

1970:
- Broad use of modern crop protection

1990:
- Further increase of technology adoption

Today:
- Farmer as steward of the land
- IT Services

Future:
- Precision farming
- Integrated solutions
- Advanced mixtures and formulations
- Solo products
Positioning & strategy
Strategic positioning, product examples

- **Crop protection**
  - Disease control: F500®
  - Insect control: Fipronil®
  - Weed control: Kixor®
  - Urban pest control: Termidor®

- **Traits & seed partnerships**
  - Seed treatment: Standak® Top
  - Herbicide tolerant systems: Clearfield® Dicamba HT*

- **Innovation beyond crop protection**
  - Biologicals
  - Plant health
  - Soil management
  - Financial services
  - IT Services

- **BASF offering**

* incl. Engenia™: technologically-advanced dicamba formulation for use in dicamba/glyphosate tolerant cropping systems
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### Financial results

We stick to our long-term EBITDA margin target of 25%

<table>
<thead>
<tr>
<th>million €</th>
<th>FY 2014</th>
<th>FY 2013</th>
<th>Δ%</th>
<th>Q4 2014</th>
<th>Δ%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales*</td>
<td>5,446</td>
<td>5,227</td>
<td>+4%</td>
<td>1,109</td>
<td>+25%</td>
</tr>
<tr>
<td>EBITDA before special items</td>
<td>1,298</td>
<td>1,389</td>
<td>-7%</td>
<td>177</td>
<td>+58%</td>
</tr>
<tr>
<td>EBITDA before special items margin</td>
<td>23.8%</td>
<td>26.3%</td>
<td>-</td>
<td>16%</td>
<td>-</td>
</tr>
<tr>
<td>EBIT before special items</td>
<td>1,109</td>
<td>1,222</td>
<td>-9%</td>
<td>123</td>
<td>+84%</td>
</tr>
<tr>
<td>EBIT before special items margin</td>
<td>20.4%</td>
<td>23.4%</td>
<td>-</td>
<td>11.1%</td>
<td>-</td>
</tr>
<tr>
<td>Assets (as of Dec 31st)</td>
<td>7,857</td>
<td>6,777</td>
<td>+16%</td>
<td>7,857</td>
<td>+16%</td>
</tr>
<tr>
<td>Capex</td>
<td>391</td>
<td>324</td>
<td>+21%</td>
<td>116</td>
<td>+22%</td>
</tr>
<tr>
<td>Research and development expenses</td>
<td>511</td>
<td>469</td>
<td>+9%</td>
<td>133</td>
<td>-5%</td>
</tr>
</tbody>
</table>

Second best year ever despite tougher market environment and currency headwinds.
Financial results
A regionally balanced market presence

3rd Party sales FY 2014 by region
in million €

- **North America**: 1,574 (+5%)
- **Europe**: 2,046 (+5%)
- **Asia Pacific**: 526 (+3%)
- **South America, Africa, Middle East**: 1,300 (+2%)

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**2014**

- **Europe**: Strong performance in Western and Central Europe, mainly with Xemium®; challenging market environment in Ukraine and Russia.
- **North America**: Sales grew, mainly driven by high demand for innovative herbicides Kixor® and Dicamba®
- **South America**: Growth with recent introductions Kixor® and Xemium® performing well
- **Asia Pacific**: High demand for fungicides, mainly F500®, in China; successful direct business in Australia
Financial results
A balanced portfolio, with new segment Functional Crop Care

3rd Party sales FY 2014 by indication
in million €

- **Fungicides**: 2,409 (+6%) growth in Europe driven by blockbuster fungicide Xemium®, in Asia by F500®
- **Herbicides**: 1,884 (+5%) increase with Kixor® in Brazil, strong demand in North America
- **Insecticides**: Price pressure partly compensated by new product launches in North and South America
- **Functional Crop Care**: 308 (+7%) growth in inoculants, seed coatings/colorants and plant growth regulators

**2014**

- **Fungicides**: Growth in Europe driven by blockbuster fungicide Xemium®, in Asia by F500®
- **Herbicides**: Increase with Kixor® in Brazil, strong demand in North America
- **Insecticides**: Price pressure partly compensated by new product launches in North and South America
- **Functional Crop Care**: Growth in inoculants, seed coatings/colorants and plant growth regulators
Financial results & targets
Keeping the momentum towards €8 billion sales target in 2020

Financial targets & sales drivers
in million €

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>5,227</td>
</tr>
<tr>
<td>2014</td>
<td>5,446</td>
</tr>
<tr>
<td>2015/16</td>
<td>~6,000</td>
</tr>
</tbody>
</table>

CAGR 2013-2020 6%

~8,000

Product innovations:
- New a.i.s & formulations
- Functional Crop Care

GMs*: Tailored business models. Growth towards 50% sales share

Functional Crop Care
Fungicides
Insecticides
Herbicides
Financial results & targets
Further profitable growth targeted with ~25% EBITDA (average)
Our growth levers

2020 sales target: €8 billion

- Acquisitions
- Innovation pipeline
- Emerging markets
- Services

High profitability
23.8% EBITDA* margin in 2014

Technology Verbund
Production Verbund**
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Portfolio development
Blockbuster fungicide F500®

- Market launch of F500®, first mixtures (incl. Epoxiconazol)
- Nominated for the German "Zukunftspreis"
- Launch of global brand AgCelence, (Brazil, soy)
- 3rd plant expansion comes on stream

- Production start-up
- Launch of mixture with Boscalid
- Launch of Plant Health products in the US
- Collaboration with Monsanto on F500® & Xemium®-based seed treatments

Revolving innovation towards >€1 billion peak sales potential for F500® franchise
Portfolio development
New blockbuster fungicide Xemium® continues to thrive

- New carboxamide fungicide; one a.i. covers all market segments
- Registration proceeds swiftly:
  - Status: > 70 crops in 50 countries
  - Target: > 100 crops in > 70 countries
- In launch since Q4 2011, outstanding market reception
- Registration in Brazil and China in September 2013
- Peak sales potential has tripled since launch, now > €600 million
Portfolio development
Continuing innovation in insecticides: E.g. Termidor® systems

**Termidor® success story (launches 2000-2013)**

- Differentiating product innovations based on the a.i. fipronil
- Termidor has been the leading termite control product for over a decade
- Termidor HE: Technology which enhances dispersal of fipronil in treatment zone
- Easier handling: 1/3 viewer drills, 50% lower water use, 1/3 less labor
Portfolio development
Continued flow of new herbicide launches esp. in the Americas

U.S. herbicide launches by BASF

- Integrity™
- Treevix™
- OpTill™
- Sharpen™
- Optill PRO™ Powered by Kixor® Herbicide
- Armezon™ Herbicide
- Facet L™ Herbicide
- Zidua™ Herbicide
- Sharpn™ Powered by Kixor® Herbicide
- Outlook™ Herbicide
- Plus
- Optill PRO™ Powered by Kixor® Herbicide
- Improved Residual
- Armezon™ Herbicide
- Clearfield Plus™ Production System
- Zidua™ Herbicide
- Varisto™ Herbicide
- Outlook™ Herbicide
- Engenia™ Herbicide
- Sharpen™ Powered by Kixor® Herbicide
- Alfalfa and Harvest Aid in Rice & Wheat
- Engenia™ Herbicide
- Soybean, Corn

Increasing weed resistance drives demand for new weed control solutions.
Portfolio development
Clearfield® system for weed management

**Sunflower**

- **>5M** ha
- Russia, Ukraine, Bulgaria, Hungary, Argentina

**Oilseed Rape / Canola**

- **>2.5M** ha
- Central & Eastern Europe, Canada, Australia

**Rice**

- **>2M** ha
- US, Brazil, Central America, Malaysia

BASF sells imidazolinone herbicides to farmers and licenses own herbicide tolerance trait technology to >100 seed partners
Portfolio development
Offering is moving towards integrated solutions

- Fallow / Burndown
- Seed Solutions
- Pre/Post Emergence
- Crop Care
- Soil Management
**Portfolio development**

**AgMusa™: Game changer in sugarcane planting**

<table>
<thead>
<tr>
<th>Sourcing</th>
<th>Production and treatment</th>
<th>Delivery excellence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursaries</td>
<td>Multiplication</td>
<td>Planting</td>
</tr>
<tr>
<td></td>
<td>Treatment</td>
<td></td>
</tr>
</tbody>
</table>

**AgMusa™: Integrated, tailored solution to increase quality and yield of sugarcane**

- Market launch in Brazil in 2013
- Maximizing sugarcane yield by caring for its foundation: healthy seedling
- Disease free, pre-treated seedlings from nursery formation
- Biofabric operation in São Paulo
- Enhanced value creation for the farmer, significantly higher price level
Portfolio development
Functional Crop Care

Crop Care
Products to manage abiotic stress factors (heat, cold, nutrient deficiency) and thus enhance plant health

Seed Solutions
Seed treatment to enhance seed performance

Soil Management
Products to enhance water and nutrient management in the soil
Portfolio development
Functional Crop Care

- Target: > €500m sales in 2020
- Functional Crop Care is a key growth field with significant investment (incl. acquisition of Becker Underwood in 2012)
  - 2015: Launch of urease inhibitor Limus® and biological fungicide Serifel™
  - Wave of product launches ahead (2nd half of decade)
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Increasing importance of growth markets
Brazil now the largest crop protection market

Crop protection markets
in million €

<table>
<thead>
<tr>
<th>Country</th>
<th>Market (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>7,540</td>
</tr>
<tr>
<td>USA</td>
<td>5,563</td>
</tr>
<tr>
<td>China</td>
<td>3,638</td>
</tr>
<tr>
<td>Japan</td>
<td>2,552</td>
</tr>
<tr>
<td>France</td>
<td>2,151</td>
</tr>
<tr>
<td>Germany</td>
<td>1,597</td>
</tr>
<tr>
<td>Canada</td>
<td>1,481</td>
</tr>
<tr>
<td>Argentina</td>
<td>1,316</td>
</tr>
<tr>
<td>India</td>
<td>1,304</td>
</tr>
<tr>
<td>Italy</td>
<td>981</td>
</tr>
<tr>
<td>Australia</td>
<td>834</td>
</tr>
<tr>
<td>Spain</td>
<td>750</td>
</tr>
</tbody>
</table>

Total 2013 CP market: ~€41m

Source: Phillips McDougall, 2013 data
Increasing importance of growth markets

Third-party sales in growth markets in billion €

Success in growth markets
- Over-proportional sales increase in growth markets
  - CAGR +11% for 2008-2014
  - 2014: 42% of sales from growth markets (2008: 37%)
- Tailored business models as basis for further expansion
- Ongoing increase of resources and R&D investments
- Profitable business expansion in growth markets
- Consolidated margins globally on comparable level
- ~€1 bn in EBIT bSI expected by 2020

* Eastern Europe, Africa, Asia (w/o Japan, Australia, New Zealand)
Increasing importance of growth markets

Growth market sales (indexed)

- **Eastern Europe**: CAGR 2008-2020 = 10%
- **Latin America**: CAGR 2008-2020 = 11%
- **Asia**: CAGR 2008-2020 = 16%
- **Africa**: CAGR 2008-2020 = 12%

- **Portfolio upgrade and sales channel excellence**
- **Strengthened portfolio and pioneering sugarcane solution**
- **Stronger sales presence and portfolio growth**
- **Stronger market presence and ongoing portfolio expansion**

BASF Agricultural Solutions Capital Market Story 2015

* CAGR 2008-2020
Increasing importance of growth markets
Local grower business models: “Samruddhi”

Samruddhi in India
- Trained agronomists safeguard successful use of ‘technology’
- >220,000 farmers participating*
- Focus crops: soybean, potato, onion, groundnut
- Proven, tangible benefit for the farmer: more than 30% higher net profit**
- Roll-out in other growth markets ongoing (e.g. Indonesia)

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* Source: BASF, Samruddhi
**audited by PWC
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Innovation & investments

Innovation involves internal and external partners

Innovation network

- Core of our business model: Innovative solution provider
- R&D involves BASF Research Verbund and external partners
- Commitment to high R&D intensity (~9% of sales):
  - 2009 - 2013: ~€ 2.0 billion
  - 2014 - 2018: ~€ 2.9 billion
Innovation process: 8-10 years
Active ingredient discovery and development

Discovery phase
- Synthesis
- Greenhouse tests
- Lab trials
- Field trials

Development phase
- Field trials
- Formulation development
- Process development
- Regulatory studies for registration

Registration
- Approval
- Production
- Dossier submission

≈80 – 90% chance**

Investment of more than € 200 million from synthesis to market launch

* Each bubble represents an individual approach/lead
** Industry-wide probability of success = launch (BASF estimate)
Innovation & investments
Commitment to R&D is rewarded by strong pipeline growth

in million €

R&D commitment is rewarded

- Consistent growth and output of our R&D pipeline
- 2014: Peak Sales Potential of innovation pipeline increased by €200 million to €2.3 billion
- Increase boosted by innovations in all areas:
  - New, especially high-performance insecticide
  - Herbicide tolerance with the herbicide Engenia™
  - Functional Crop Care continues to show very promising development

R&D expenditures – money well spent

BASF Agricultural Solutions Capital Market Story 2015

* Pipeline: market launches in 2010-2020 timeframe  ** as shown in BASF Report 2014
Innovation & investments
R&D commitment drives earnings growth

Continued commitment to R&D (~9% of sales annually). Earnings have outgrown R&D expenses by factor 2.
Innovation & investments
A differentiator: High share of raws from Verbund sources

Raw materials: Make or buy

- **Make: Raws from the Verbund**
  - Security & flexibility of supply
  - Market-based transfer pricing
  - Typically 35-40% of the Top-100 raws come from Verbund

- **Buy: Sourcing synergies**
  - Economy of scale via joint BASF procurement

Raw materials* sourcing (Top-100 by value)
in million €

from 3rd parties 66%
from Verbund 34%

>€700 million

* 2013 without AI tolling, 3rd party AI, formulants, packaging
Innovation & investments
Intensive capex program across all regions

Capex development in million €

- **Capex 2010-2014**
  - F500®: 3rd plant expansion
  - Kixor®, Xemium® and Dicamba: new production plants
  - Formulation: new plants and expansions
  - Agricultural Research Center Pune, India

- **Planned capex 2015-2019**
  - Further capacity expansion Xemium
  - New formulation plants (e.g. Brazil, China)
  - New active ingredient plant
  - R&D site expansion (IND, USA)

Continued capex investment on a high level
Services
AgIT: Farmers need to manage multiple decision parameters

- Financials
- Wheat prices
- Fertilizer prices
- Task management
- Weather
- Fleet management
- Documentation
- Field stress
- Certification
Services

AgIT: Today’s IT situation does not meet farmers’ needs

Agriculture 2.0 – Precise mapping of field conditions at farmer’s finger tip
Financial services for farmers

BASF balances farmers’ risk exposure

BASF helps farmers to cope with uncertainties

BASF offers financial services

- Financial programs with price guarantees
- Grain exchange programs
- Brazil: Major share of business with lower payment risk terms

Financial services are key to mitigate BASF/farmers’ business risks

Farmers’ challenges go beyond the farm gate

Farmer income

Weather, FX & crop price volatility
Working with farmers & food value chain partners

Food value chain partnerships

- Sustainability goes beyond regulatory requirements
- Increasing consumer concern about food safety - globally
- BASF’s solutions address changing requirements
- Partnerships with farmers as well as retailers – to the benefit of the consumer
- Differentiator in competition
Clear commitment to sustainable agriculture

- Enable farmers to grow more quality food more efficiently
- Support farmers to make a better life for themselves
- Never compromise on safety
Managing sustainable farming with Balance™ assessment

Management tool supports sustainable farming
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Outlook

- Positive, long-term market fundamentals expected to continue, despite increased crop price volatility
- Continued sales momentum of recent market launches
- Accelerated technology adoption in growth markets will create additional demand for BASF’s innovative solutions
- Continued profitable growth expected, supported by high demand for innovative solutions and our strong pipeline
- 25% average annual EBITDA* margin target (2014: 23.8%)
- Keeping the momentum towards €8 billion sales target in 2020

*BEBITDA before special items
150 years

BASF

We create chemistry