



Shaping the Future of Agriculture



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Shaping Agriculture to Benefit Farmers, Consumers and Our Planet

As the Industry Leader Uniquely Positioned to Create Value and Pioneer Tailored Solutions

Our Mission



Deliver world-class innovation



Pioneer the digital transformation



Set new standards of sustainability



Drive operational excellence



> Tailored solutions are key to sustainably managing resources and improving productivity to feed a growing global population

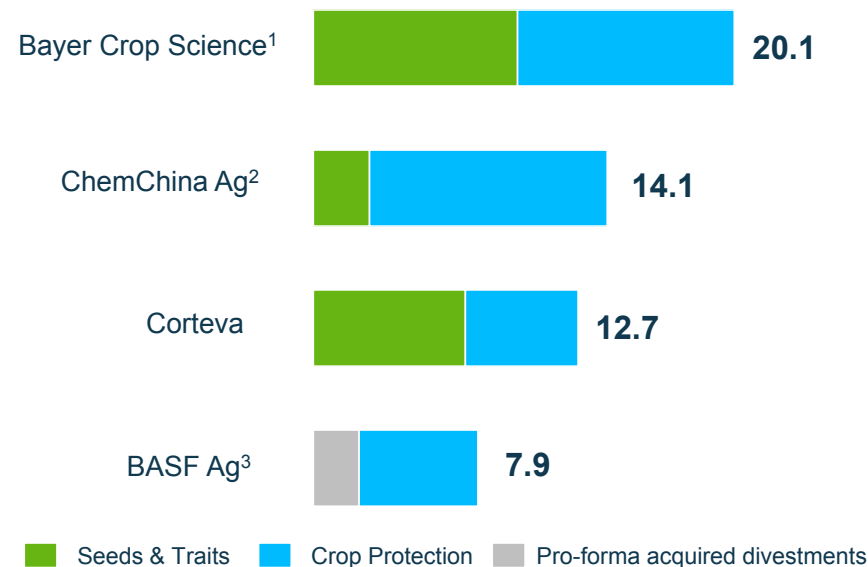
The Established Leader in Crop Science

Grower Endorsement of Excellent Product Portfolio Evidenced by Industry Leading Sales

Broadest Crop Science Product Portfolio⁴



Sales 2017 (€bn)



¹ The unaudited Pro-forma data are presented as if both the acquisition of Monsanto and the associated divestments had taken place as of January 1, 2017. Sales of Monsanto are presented in periods as per the Bayer fiscal year. One-time effects of business operations, the accounting for discontinued operations and the recognition and measurement of sales from certain business transactions have been adjusted in line with our accounting.

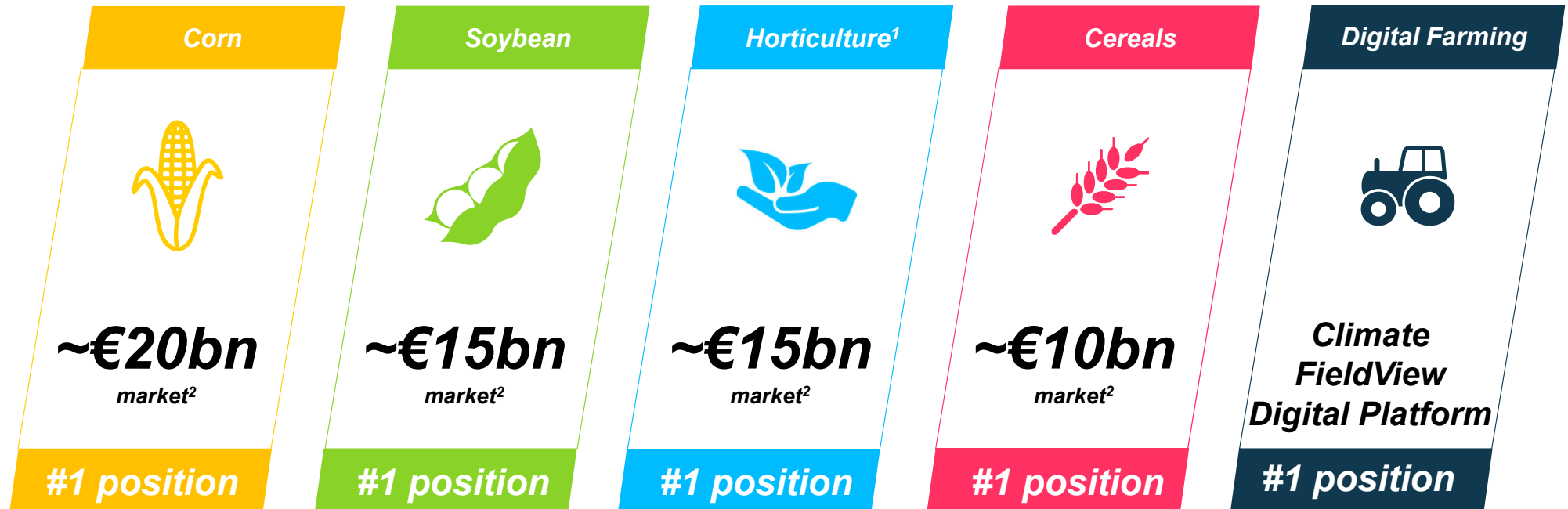
² Excludes non-agro business sales of ADAMA (nutritional supplements, aromatic products, industrial products)

³ Includes BASF Ag Sales 2017 as reported (€ 5.7bn) plus €2.2bn Pro-forma sales in 2017 from Bayer businesses sold to BASF

⁴ Not all products registered in all countries

Leading Position in All Major Categories

Crop Science Market² Currently Valued at ~€90bn // ~3% Long-term CAGR Expected



¹ Includes fruits, vegetables, flowers and nuts

² Includes seeds, traits, crop protection chemistries and environmental science; does not include fertilizer

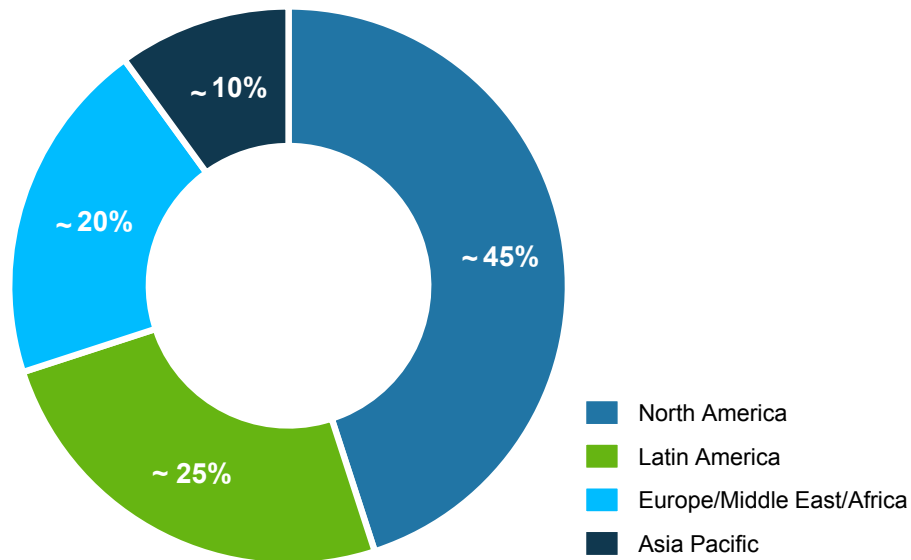
Note: Reflecting BCS' portfolio after divestments. Market sizes rounded to nearest \$5bn. Source: Pro-forma calculations Bayer; Bayer CS market model



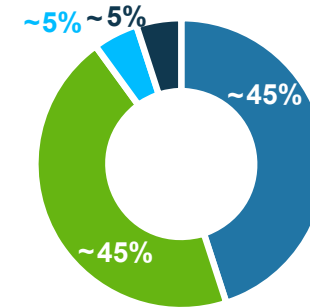
World's Broadest Commercial Footprint in Agriculture

~7,800 Customer-facing Employees with Significant Opportunity to Optimize Portfolio Across Key Regions

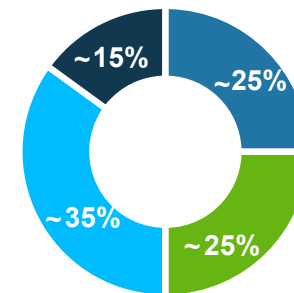
Sales 2017¹: €20.1bn



Seed & Trait Technology Acres 2017/2018²: >400m acres (160m ha)



Crop Protection Sales 2017¹: ~€9.5bn



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² Internal estimates; represents acres containing at least one Bayer seed or biotech trait technologies

Unmatched Investment in R&D

Shaping the Future of Agriculture with Most Productive Innovation Platform in the Industry

#1 R&D Platform in Crop Science

// ~7,300 R&D employees

// >35 R&D sites

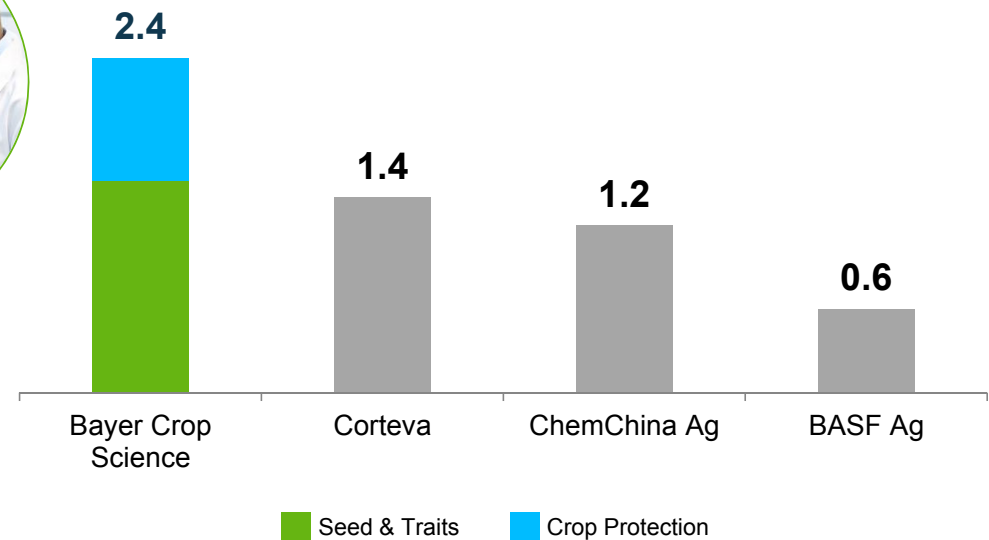
// >175 breeding locations delivering innovation

// Partner of choice

// Technology provider to the industry



2017 Ag R&D Investment (€bn)¹

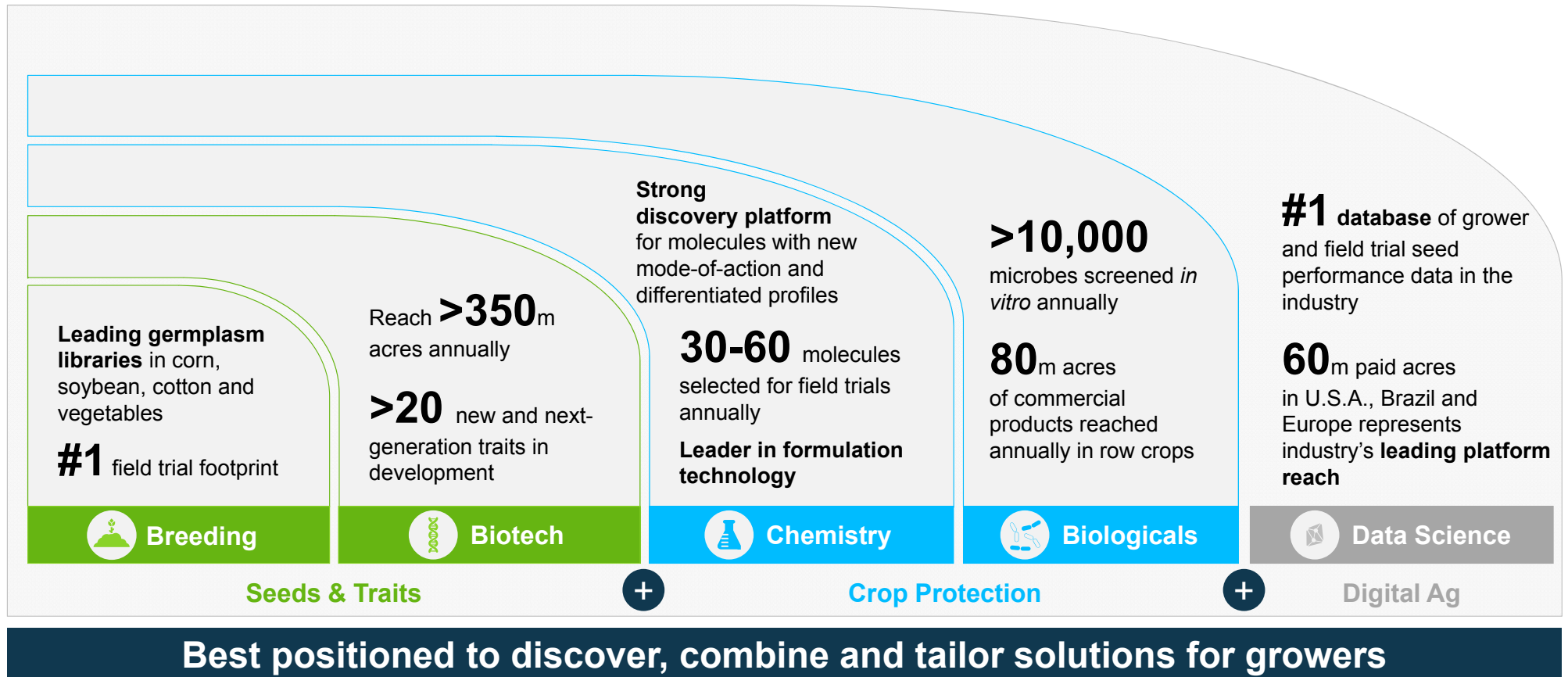


¹ Pro-forma estimates based on company information and internal calculations. | Bayer Pro-forma figures consider Monsanto acquisition and related divestments | Monsanto calendarized to twelve-month-period end ended November 30, 2017



Next Growth Opportunity: Convergence of Leading R&D Platforms

Extensive Germplasm and Biotech Foundation, Combined with Leadership in Chemistry and Biologicals and Data Science Optimization, Serves As Innovation Engine To Accelerate Benefits Across The Industry



Driving the Largest and Most Valuable R&D Pipeline in Ag

Highly Effective in Converting Investment into Meaningful Products for Farmers

Newly Combined Pipeline

Scale

Unmatched in the Industry

- // **>75** projects in seed & traits, crop protection and digital ag pipelines
- // **100's** of new hybrids and varieties commercialized annually

Advancements

Outpacing Competitors

- // **>70** advancements in 2016 and 2017
- // **>50** advancements in 2018

Value

Up to **€30bn** Peak Sales¹

- // Potential to accelerate with combined pipelines
- // Climate tools serve as an enabler to reach peak opportunity

Peak Sales Opportunity by Crop

Corn
~ €11-14bn



Soybean
~ €6-7bn



Cereals & Other
~ €4-5bn



Horticulture
~ €3-4bn



¹ Represents non-risk adjusted estimated peak sales for the combined breeding, biotech, crop protection and environmental science pipelines. Applied FX rate of USD/EUR of 1.15

Expect €17bn in Peak Sales from Recent and Near-Term Launches

	Recent Launches	2019-2020 ¹	2021-2022 ¹	
Corn	<ul style="list-style-type: none"> // Annual germplasm upgrades // BioRise 2 microbial seed treatment // Trecepta insect control trait // Delaro Fungicide, U.S.A. 	<ul style="list-style-type: none"> // Annual germplasm upgrades // Nemastrike™ Technology nematicide // Vayego insecticide 	<ul style="list-style-type: none"> // Annual germplasm upgrades // SmartStax PRO corn // 3rd gen weed control management system 	
Soybean	<ul style="list-style-type: none"> // Annual germplasm upgrades // Roundup Ready 2 Xtend soybean // XtendiMax Herbicide with VaporGrip Technology 	<ul style="list-style-type: none"> // Annual germplasm upgrades // XtendFlex soybean // Soybean Cyst Nematode resistance trait // Nemastrike Technology nematicide // Fox Xpro fungicide, Brazil 	<ul style="list-style-type: none"> // Annual germplasm upgrades // Intacta 2 Xtend trait // Indiflin fungicide 	
Horticulture	<ul style="list-style-type: none"> // Annual germplasm upgrades (vegetables) 	<ul style="list-style-type: none"> // Annual germplasm upgrades(vegetables) // Tiviant fungicide // Vayego insecticide 	<ul style="list-style-type: none"> // Annual germplasm upgrades (vegetables) // Highly concentrated biological fungicide 	
Cereal and Others	<ul style="list-style-type: none"> // Annual germplasm upgrades // Bollgard II XtendFlex cotton // Bollgard 3 XtendFlex cotton // XtendiMax Herbicide with VaporGrip Technology 	<ul style="list-style-type: none"> // Annual germplasm upgrades // Vayego insecticide (rice, other crops) // TruFlex canola weed management // Nemastrike™ Technology nematicide 	<ul style="list-style-type: none"> // Annual germplasm upgrades // Lygus & Thrips control cotton 	
Digital Ag	<ul style="list-style-type: none"> // Advance Seed Scripting - corn // Manuel Seed Scripting - corn // Nitrogen Management // Manuel Fertility Scripting for P,K, N,Lime 	<ul style="list-style-type: none"> // Corn Seed Advisor // Expanded FieldView - EA // FieldView - AR, PY, UY // Advanced Seed Scripting - BR // Crop Protection Risk Tool // Crop Protection Outcome-Based Models 	<ul style="list-style-type: none"> // FieldView Machine Compatibility // Irrigation mgmt.- EA // FarmRise features // FieldView – Retail // Fertility Risk Tool 	<ul style="list-style-type: none"> // Outcome-based Models in Seed and Fertility // Crop Disease Diagnosis // FieldView – Fruits & Vegetables // Soybean Seed Advisor

¹ Subject to regulatory approvals. Represents a subset of the pipeline; not representative of the entire €30bn peak sales opportunity.



Well Positioned to Create Value in Ag with Genome Editing

Tools and Capabilities Build on Existing Core Competencies to Usher in New Benefits in the Next Decade

Transformative Editing Tools

Numerous technology licenses and partnerships, including:

Broad Institute



RNA-guided nucleases:
CRISPR-Cas9 and CRISPR-Cpf1

Pairwise Plants



Base editing technology, which is the next-generation of editing capability

Enabling & Differentiating Competencies

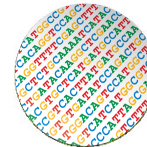
Germplasm

Plant genetics central to leading brand positions in key crops and countries



Genomics

Leading genome libraries and whole-genome sequencing capabilities



Testing Network

Leading field testing network, lined up end-to-end it wraps around the globe twice



Unlocking Opportunity

Bring new products to market: improved silage quality in world-class germplasm



Current corn germplasm

Improved Silage edited allele

Deliver future agricultural benefits, including disease resistance, stress tolerance, and plant growth and development



FieldView Platform Leads the Digital Transformation in Agriculture

Provides Multiple Ways to Create Value for Farmers, the Industry and the Enterprise

Today: Agronomic services

- // Applications that visualize, analyze and recommend
- // Driven by data



\$1,000 subscription + \$300 hardware (FieldView Drive Starter Kit)

- // Data Visualization and Storage
- // Yield Analysis
- // Manual Fertility Scripting
- // Manual Seed Scripting
- // Field Health Imagery

Per-Acre Offerings

Advanced Seed Scripting
Nitrogen Management

Seed Placement Advisor

Today: FieldView platform¹

50+ partners leverage FieldView platform to bring their digital Ag innovations to farmers, and pay for access to platform



Tomorrow: Enterprise benefit

Driving value across our internal operations and businesses by reducing production costs and enabling outcome-based pricing models to drive incremental sales

- // Commercial sales
- // Technology
- // Supply chain
- // Business analytics

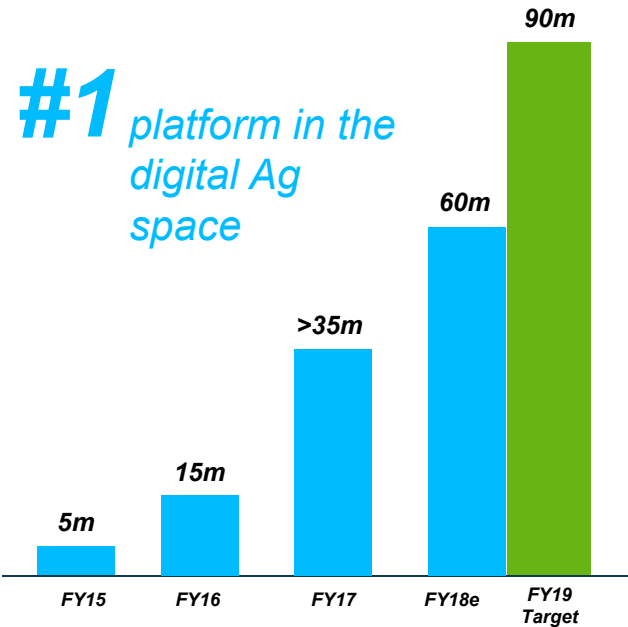
¹ All trademarks are the property of their respective owners.



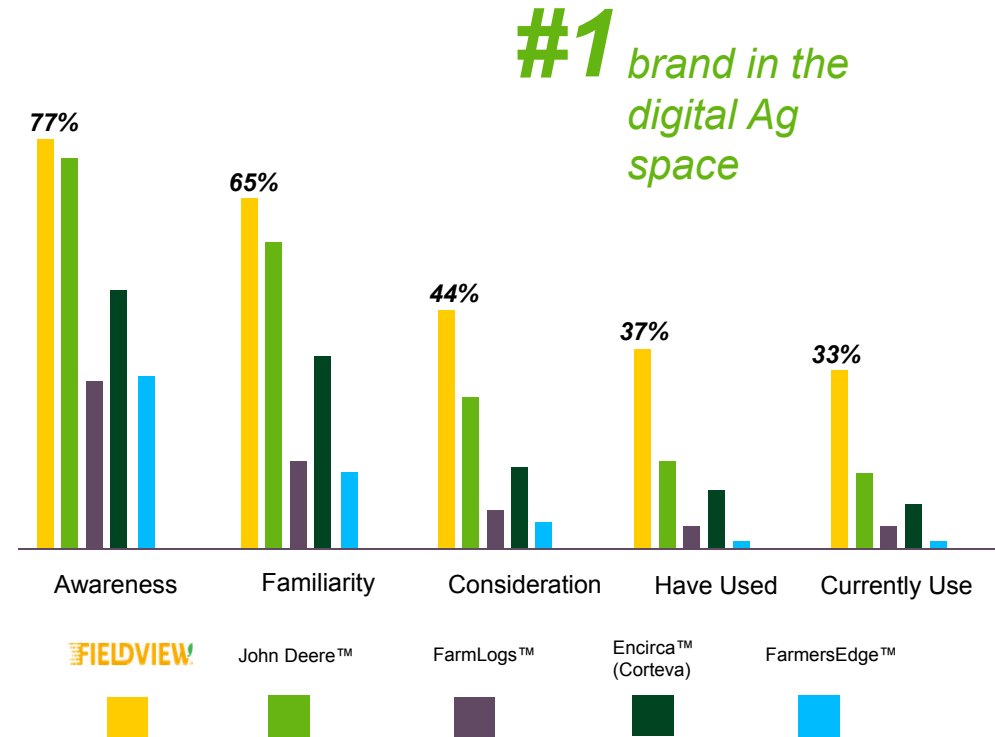
FieldView: The Leading Brand and Platform for Growers

Our Value Creation is Supported by our Performance Trends; Paid Acres >7x Closest Competitor

Global Paid Acres¹



Brand Health² (U.S.)



>35 next-generation projects in the pipeline

¹ Internal estimates
² 2018 Brand Health Monitor



Opportunity for Digital Transformation and Tailored Solutions

Precise Resource Use and Innovation Required to Address Significant Demand Growth, Field Variability and Increased Pressure On Ecosystems

$$\text{Yield} = f(g, e, p)$$

g = Genetics

Inherent yield potential in the seed



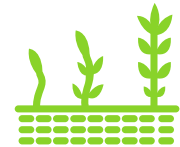
e = Environment

Weather and variability in soil types



p = Farming Practices

40 decisions made over a growing season



Opportunity from optimized yield equation

542 bu/ac vs. 175 bu/ac
national average¹



2017 NCGA Corn Yield Contest winner

138 bu/ac vs. 49 bu/ac
national average¹



2017 Soybean Yield Contest winner

Our evolution to capture the opportunity



Leading Products



Product Combinations



Digitally Informed Offerings



Tailored Solutions

¹ USDA crop production summary report



Poised to Solve Grower Challenges and Capture the Opportunity

Leadership in Digital Tools and Innovation Accelerates the Transformation

Significant opportunities ahead



Digitally informed offerings

Data science drives more informed decisions for growers and enables outcome-based offerings; 75% of U.S.A. farmers more likely to purchase a product with outcome-based pricing

FieldView Fungicide Pilot Program

// **~8** bu/acre¹ more yield when DEKALB® hybrids used with a fungicide¹

// **15-20%** of U.S.A. corn growers use a fungicide²

// **SOLUTION:** Offer outcome-based pricing at defined bu/ac threshold using Climate FieldView; rebate fungicide and application if yield gain is not achieved



Tailored solutions

Tailored solutions create new value for farmers beyond the sum of the products, benefit consumers and increase environmental sustainability

Short-Stature Corn Production System (Phase 2)

Benefits

// Increases precision of crop input applications through extended in-season crop access due to shorter height

// Reduced crop loss from lodging and greensnap due to improved plant stability

// Increased environmental sustainability from optimized use of fertilizer, inputs, land and water



¹ Internal R&D trials

² USDA NASS 2016/2017 report, figure 2 and internal estimates

Base Case Targets at Least 30% EBITDA Margin by 2022

Upside Potential in Case of Commodity Cycle Recovery

	Guidance 2019	Target 2022 ¹
Sales growth ³	~4%	CAGR >4%
EBITDA margin ²	~25%	>30%

¹ 2022 targets at constant currencies, not including portfolio measures.

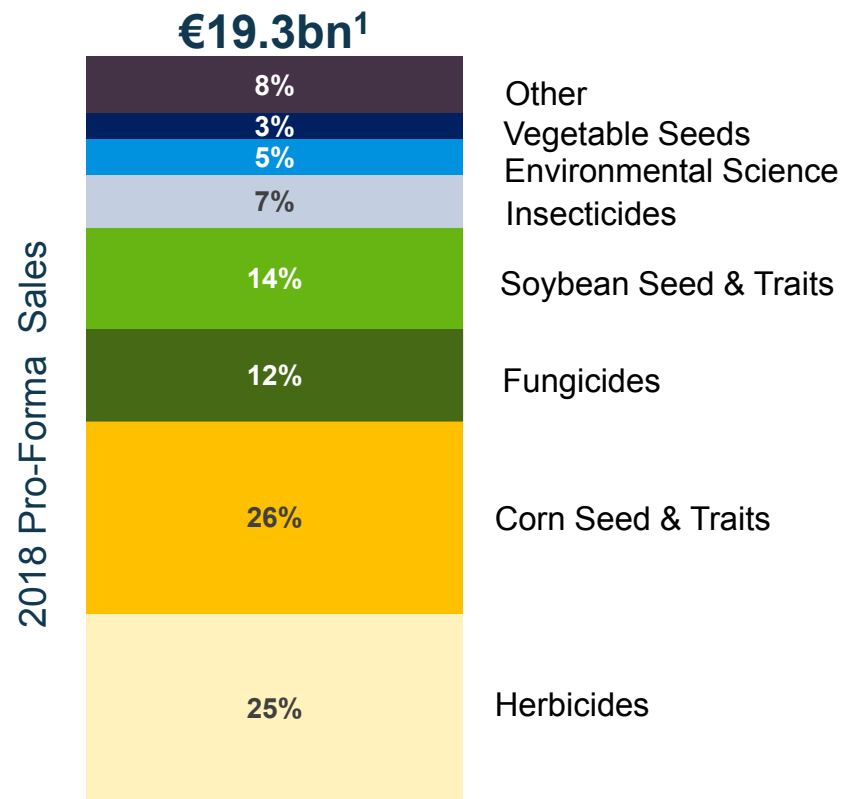
² EBITDA margin based on EBITDA before special items

³ Currency and portfolio adjusted rate



Target Greater than 4% Sales CAGR from 2018 to 2022

Leadership and Innovation Translate into Above Market Sales Growth



Key Sales Growth Drivers

- // Deliver annual germplasm refresh across the seeds portfolio to drive price and share gains
- // Continue penetration of Roundup Ready Xtend crop system; transition to XtendFlex with expected U.S.A. launch in 2020²
- // Continue penetration of Intacta RR2 PRO soybeans; transition to Intacta 2 Xtend with expected launch in South America in 2021²
- // Increase crop protection sales on the >400m acre seed & trait footprint; FieldView platform an enabler
- // Maximize sales synergies

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² Pending regulatory approvals

Integration on Track and Culture Evolving to Serve our Customers

Leadership in Place and Very Positive Engagement Scores Noted Across Both Legacy Companies

Cultural Integration Priorities

1

Build on similarities

Center our efforts on shared passion for innovation, science and agriculture

2

Bridge complementary approach

Drive work that leverages global scale and respects local needs

3

Actively manage differences

Foster courageous decision-making and thorough execution based on data insights



Achievement-to-Date Highlights

- // **Customer:** Leadership met >2,000 customers in 15 countries
- // **Leadership positions:** Top leadership teams named and operational (>400 positions), balance of legacy companies represented
- // **Cultural activation:** All named leaders engaged in driving integrated culture
- // **Exchange:** ~30 leaders based in other legacy company site
- // **Cultural integration:** High engagement scores of ~85% at both legacy companies
- // **Synergies:** Validated ~€1bn synergies and achieved 2018 synergy aspirations
- // **Systems and Processes:** Day One IT fully functional, future integration approach confirmed
- // **Governance:** Bayer policy adoption confirmed across crop science

Focus on customers, business continuity and innovation

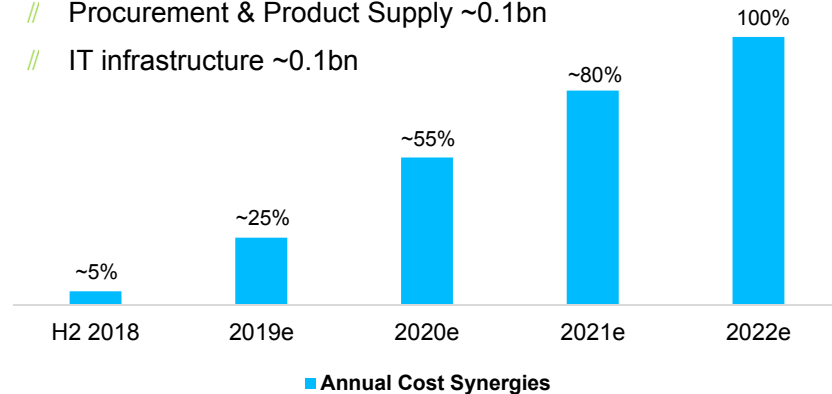
Targeted Synergies of ~€1bn (\$1.2bn) as of 2022

Cost Synergies

EBITDA Target^{1,2}: ~€870m (~\$1bn) as of 2022

// Key Initiatives:

- // Commercial and R&D Operations ~0.3bn
- // Support Functions & Country Integration ~0.3bn
- // Procurement & Product Supply ~0.1bn
- // IT infrastructure ~0.1bn



Sales Synergies

EBITDA Target¹: ~€170m (~\$200m) as of 2022



- // **Four countries** to generate >60% of the sales synergies
- // U.S.A., Brazil, Argentina and Mexico
- // **Increase crop protection chemistry sales** in Americas on the >400m acre **seed & trait footprint**; digital ag to serve as an enabler

Expected one-time costs (~€1.3bn)

¹ Net EBITDA impact before special items, net of estimated dissynergies such as termination of selected distribution agreements as well as sales disruptions

² Majority of one time costs to achieve synergies expected to be recorded as special items
Applied FX rate of USD/EUR of 1.15

Key Takeaways

Shaping agriculture to benefit farmers, consumers and our planet

1 Successfully integrate Monsanto and strengthen leadership position in Crop Science

2 Deliver world class innovation from industry's leading R&D pipeline

3 Pioneer the digital ag transformation with FieldView platform

4 Deliver financial targets through operational excellence, new technologies and synergy benefits

5 Set new standards of sustainability

6 Commit to responsibility, transparency and dialogue



FY/Q4 2018 Crop Science Results

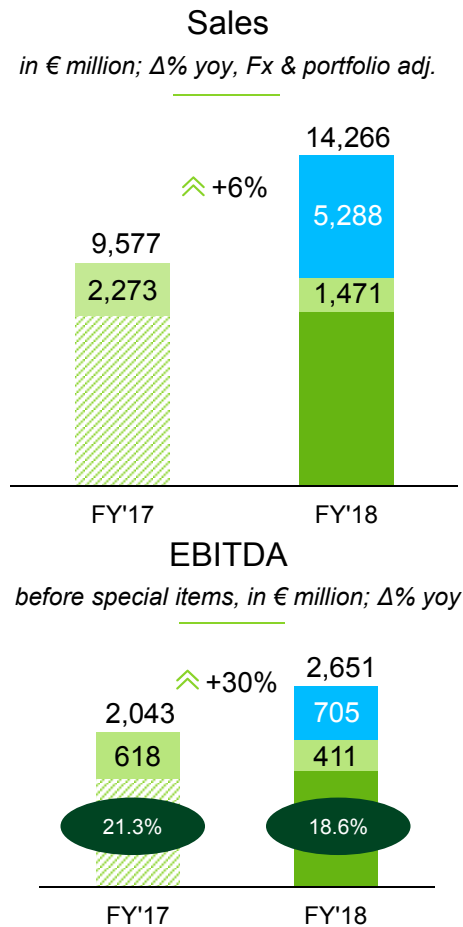


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FY 2018 – Crop Science Global #1 in Agriculture



// Volume	+6%	// Currency	-4%
// Price	+0%	// Portfolio	+47%

// Positive sales development in Latin America (+17%), North America (+8%) and Asia/Pacific (+10%)*

// Herbicides, fungicides and insecticides sales grew after the normalization of inventories in Brazil

// Sales benefited from service agreements with BASF

// EBITDA benefits from acquisition, Fx with negative impact of €101m

● EBITDA Margin ■ Monsanto contribution since June 7 ■ BASF divestment *Δ% yoy, Fx & portfolio adj.