



**Credit Suisse 31<sup>st</sup> Annual Basic Materials  
Conference**

*Shaping Agriculture  
for the Benefit of Farmers,  
Consumers and the Planet*



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*COO, Crop Science Division*

*September 10, 2019*





## Forward-Looking Statements

This presentation may contain forward-looking statements based on current assumptions and forecasts made by Bayer management.

Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Bayer's public reports which are available on the Bayer website at <http://www.bayer.com/>.

The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.



# 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



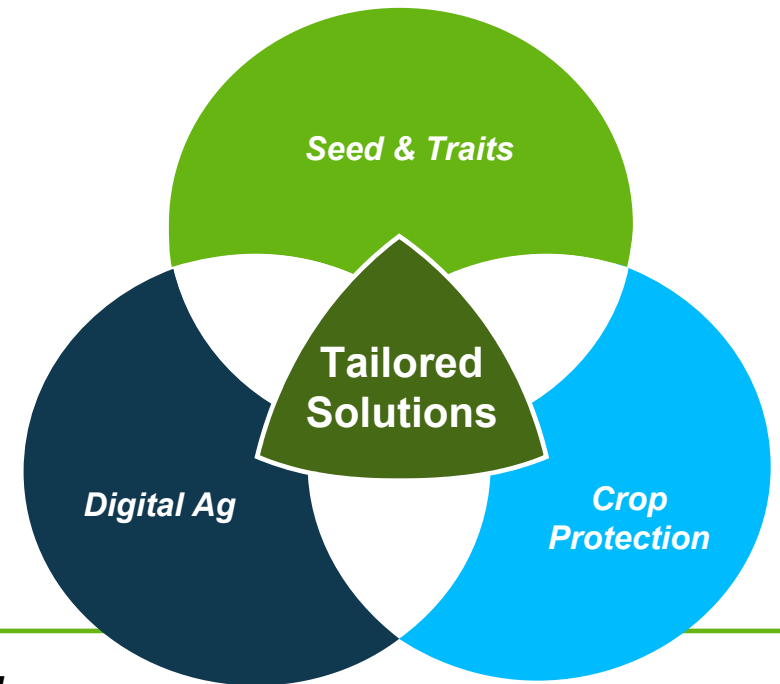
Pioneer the digital transformation



Set new standards of sustainability



Deliver on operational commitments



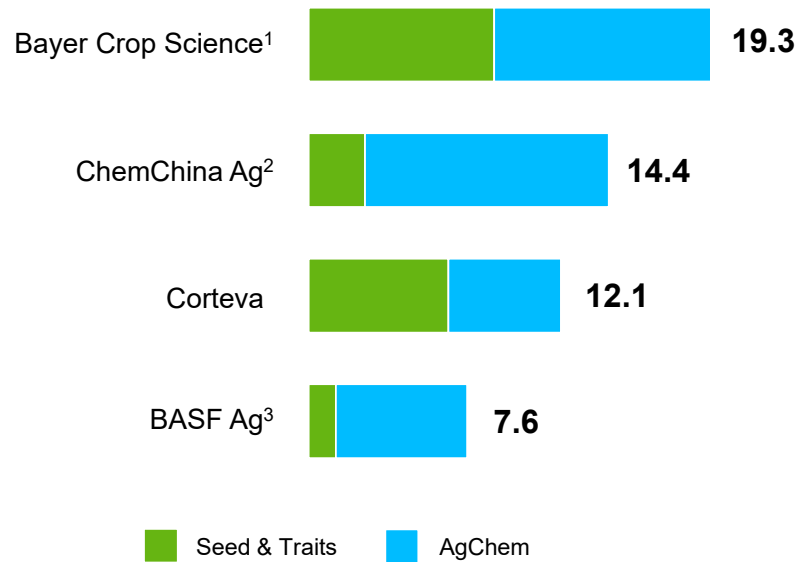
**> Tailored solutions are key to sustainably managing resources and improving productivity to feed a growing global population**



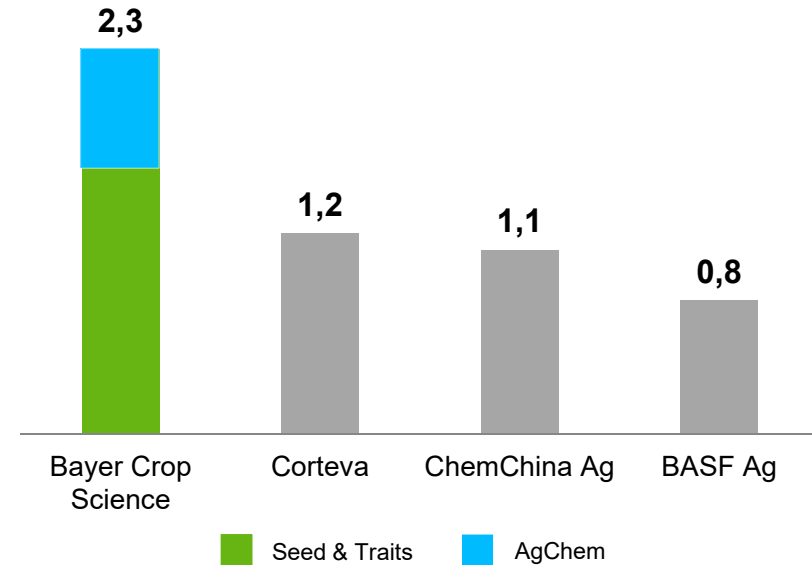
# The Established Leader in Crop Science

Industry Leading Sales and Unmatched Investment in R&D

Sales 2018 (€bn)



2018 Ag R&D Investment (€bn)<sup>1</sup>



<sup>1</sup> 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, 2018. 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.

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

<sup>3</sup> Includes BASF Ag Sales 2018 as reported plus €1.4bn (€2.027m sales FY 2018 excluding €586m sales from Jan '18 until cut-off in Aug '18) reported sales in 2018 from Bayer businesses sold to BASF. Split between Seed and CP businesses based on internal estimates.

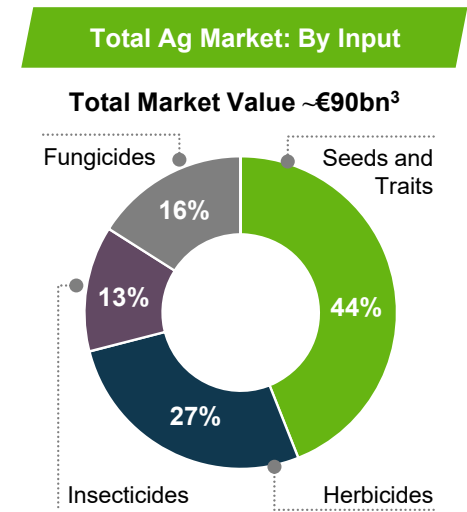
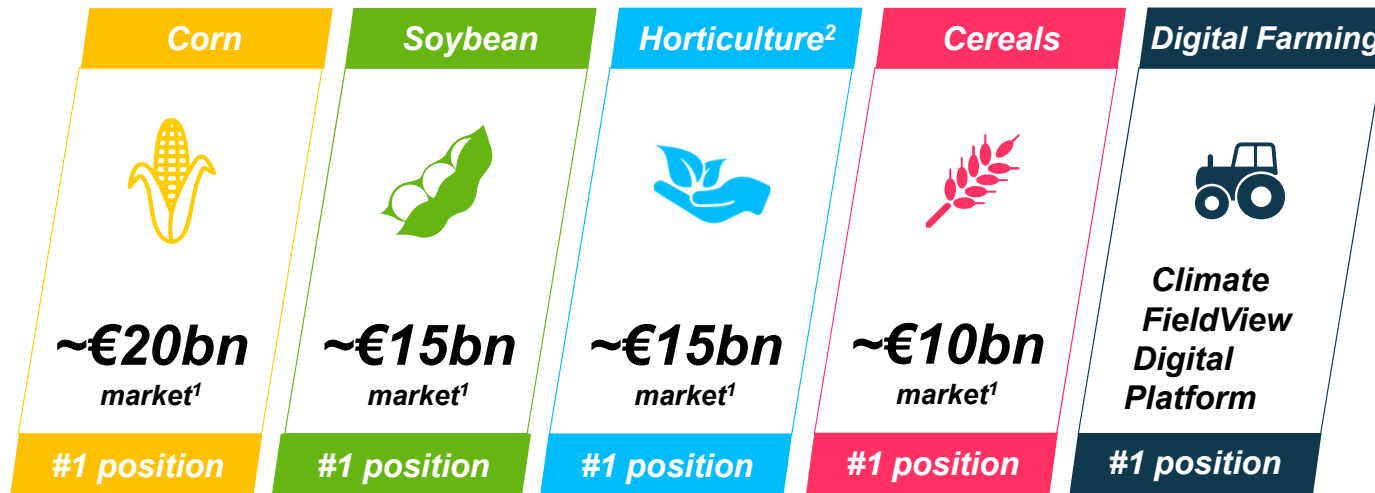
<sup>4</sup> Exchange rate: FY 2018: ~1.18 USD/EUR

<sup>5</sup> Competitor Pro forma R&D cost split not available



# Leading Position in All Major Categories

Crop Science Market<sup>1</sup> Currently Valued at ~€90bn



<sup>1</sup> Includes seeds, traits, crop protection chemistries and environmental science; does not include fertilizer

<sup>2</sup> Includes fruits, vegetables, flowers and nuts

<sup>3</sup> Total market of ~€90bn includes €5bn of Environmental Science; actual pie charts exclude that amount, as not relevant in these views (Source: Bayer Crop Science market model)

Note: Reflecting Crop Science portfolio after divestments. Market sizes rounded to nearest €5bn. Source: Pro-forma calculations Bayer; Bayer Crop Science market model



# Opportunity for Digital Transformation and Tailored Solutions

Precise Resource Use and Innovation Required to Address Demand Growth, Field Variability and Increased Pressure on Ecosystems to Generate Sustainable Yield Improvements

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

g = Genetics

Inherent yield potential in the seed



e = Environment

Climate and variability in soil types



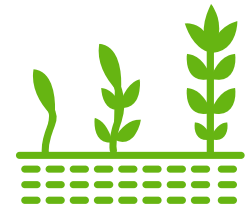
FieldView Yield Map



**+75 bu/ac yield difference** between red and green areas

p = Farming Practices

40 decisions made over a growing season



## Opportunity from optimized yield equation

**542 bu/ac vs. 175 bu/ac** national average<sup>1</sup>



**2017 NCGA Corn Yield Contest winner**

**138 bu/ac vs. 49 bu/ac** national average<sup>1</sup>



**2017 Monsanto Soybean Yield Contest winner**

<sup>1</sup> USDA crop production summary report. Results not typical.

## Our evolution to capture the opportunity



Leading Products



Product Combinations



Digitally Informed Offerings



Tailored Solutions

Each Plot  
**=10**  
Bushel Yield

 **Future**

 **2019**

 **2018**

 **2000**

 **1980**

 **1940**



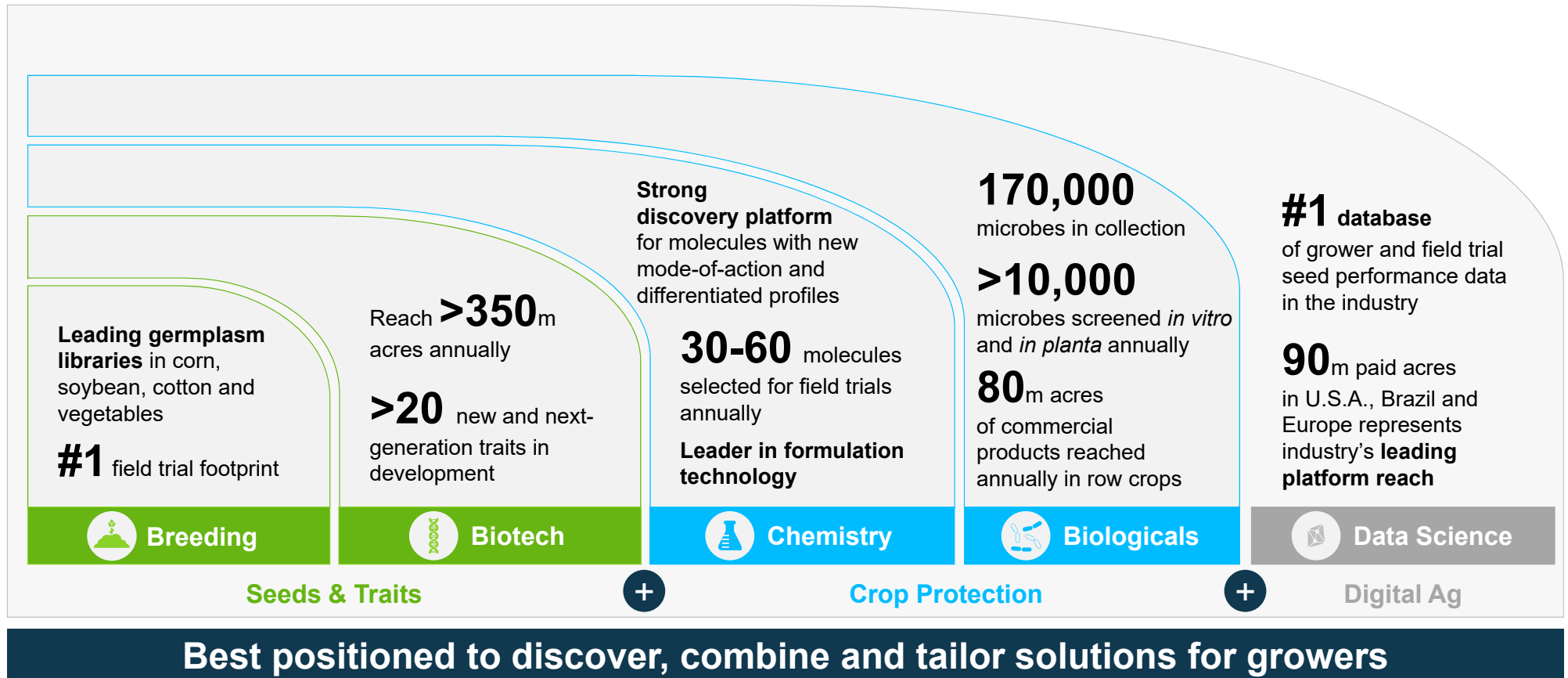
# Producing Better

The history of corn production plot demonstrates the great strides we have made in producing more with less, and the opportunity we have to continue to “produce better” through tailored solutions that drive us toward our reduced environmental impact commitment while meeting the needs of a growing population on an increasingly hotter planet.



# Next Growth Opportunity: Convergence of Leading R&D Platforms

Continued Investment in Data Science and New Technologies are Driving Future Opportunity



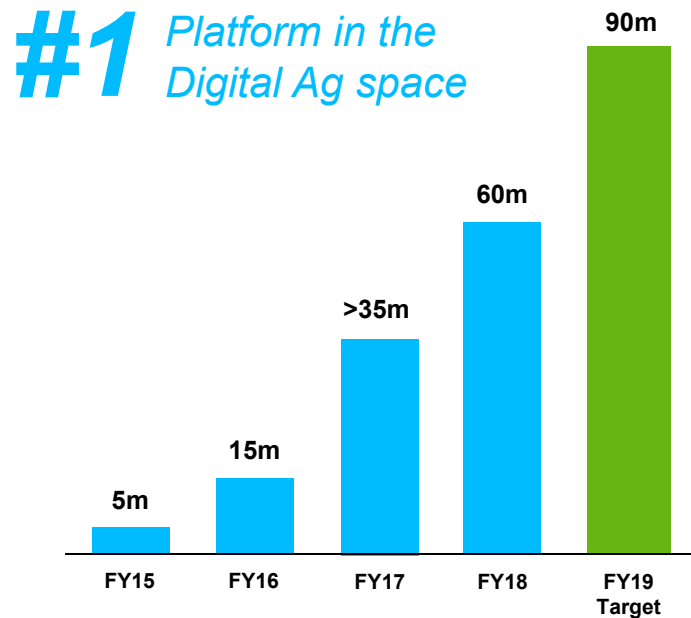




# FieldView: The Leading Brand and Platform for Growers

Significant Opportunity to Expand Digital Ag Footprint

## Global Paid Acres<sup>1</sup>



## Growth Fueled by Platform Advantages

**Most Established, scalable**

digital farming infrastructure

**>60 Partners**

on the FieldView Platform

**#1 Brand**

in digital Ag space<sup>2</sup>

**New Business Models**

enabling share of value and risk

**Largest Database**

of grower and field trial seed performance data in the industry

**>35 Next-Gen Projects**

in the pipeline

**Global**

distribution footprint established

**~1bn Global Acre**

Opportunity for Corn, Soybean, Wheat<sup>3</sup>

<sup>1</sup> Internal estimates

<sup>2</sup> 2018 Brand Health Monitor

<sup>3</sup> Harvested acres – USDA FAS 2018-10-11, ex China



# Extensive and Unique Data Collection Capability

FieldView Drive Device Collects, Connects and Digitizes Farmer Activity Informing and Improving our Models and the Digital Tools Farmers are Deploying in their Fields

## Connected Combines

Seamless Data Aggregation

FIELDVIEW drive

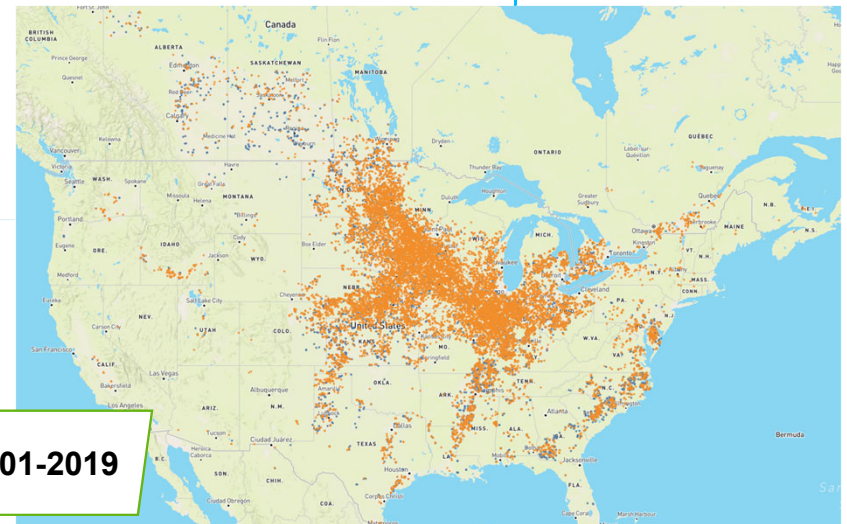


## Connected Planters & Sprayers

Seamless Data Aggregation

> ~10,000 connected combines uploading data on 10-18-2018

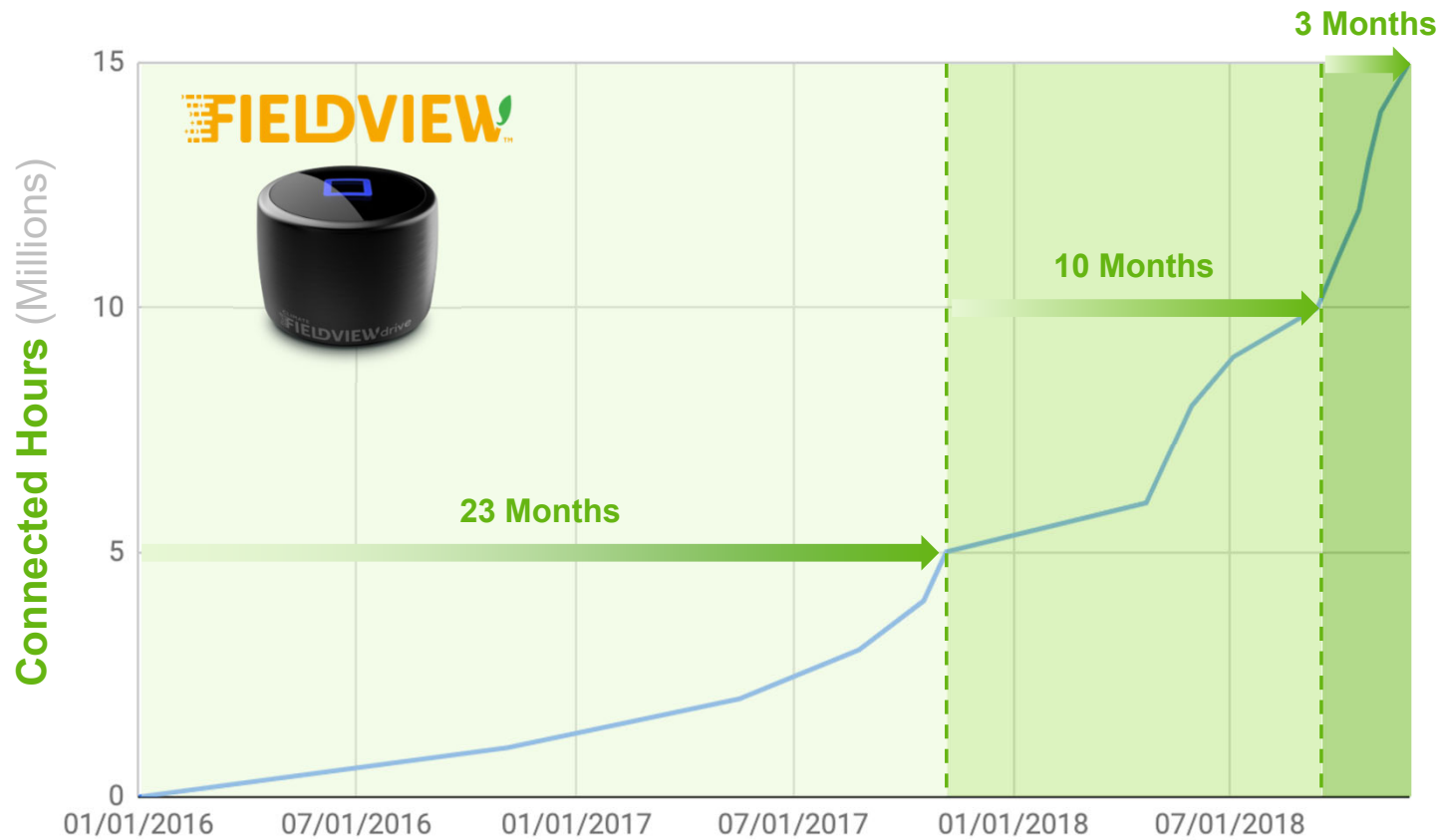
> ~16,000 planters and ~4,500 sprayers uploading data since 01-01-2019





# Data Collection as Core Competitive Advantage

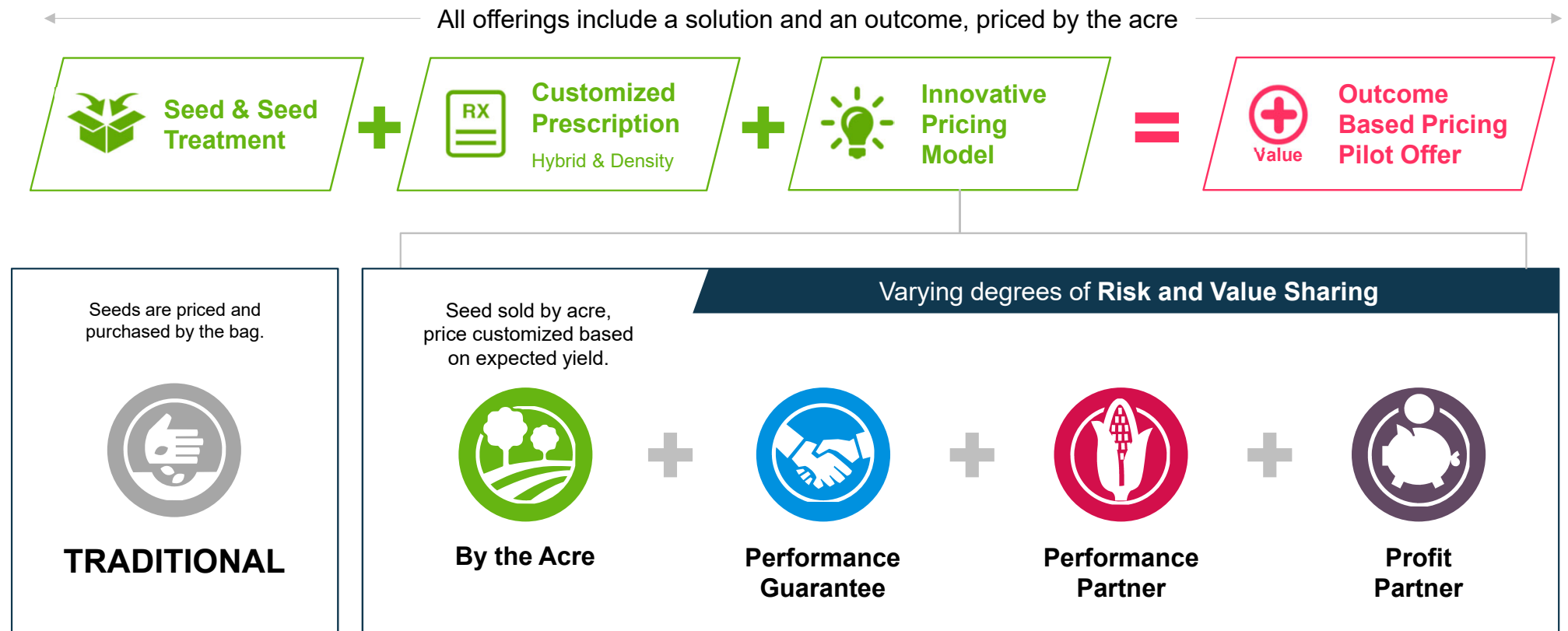
Able to Collect 5 Million Connected Hours of Data in a Fraction of the Time it Took a Year Ago





# Trials of Four Outcome-Based Offerings Underway in the U.S.

Bringing the Best of Bayer Crop Science; Personalized for the Grower Profile and His Fields



\* Subject to terms and conditions to be agreed between grower and Bayer

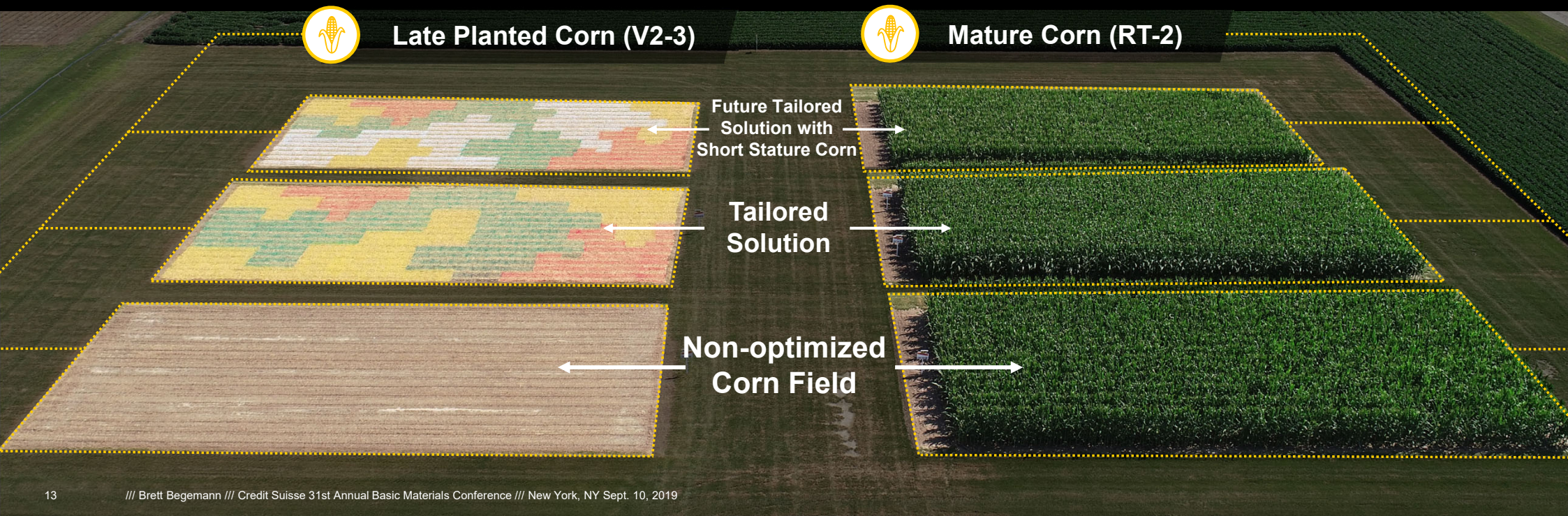


# Tailored Solutions and New Business Models

**Non-optimized Corn Field:** Representative of this region

**Tailored Solution:** Advanced Seed Scripting to optimize hybrid selection, placement and planting rate plus Elite Seed Treatment, Disease Mgmt. System, Delaro Fungicide, executed through new Outcome-Based Pricing business model

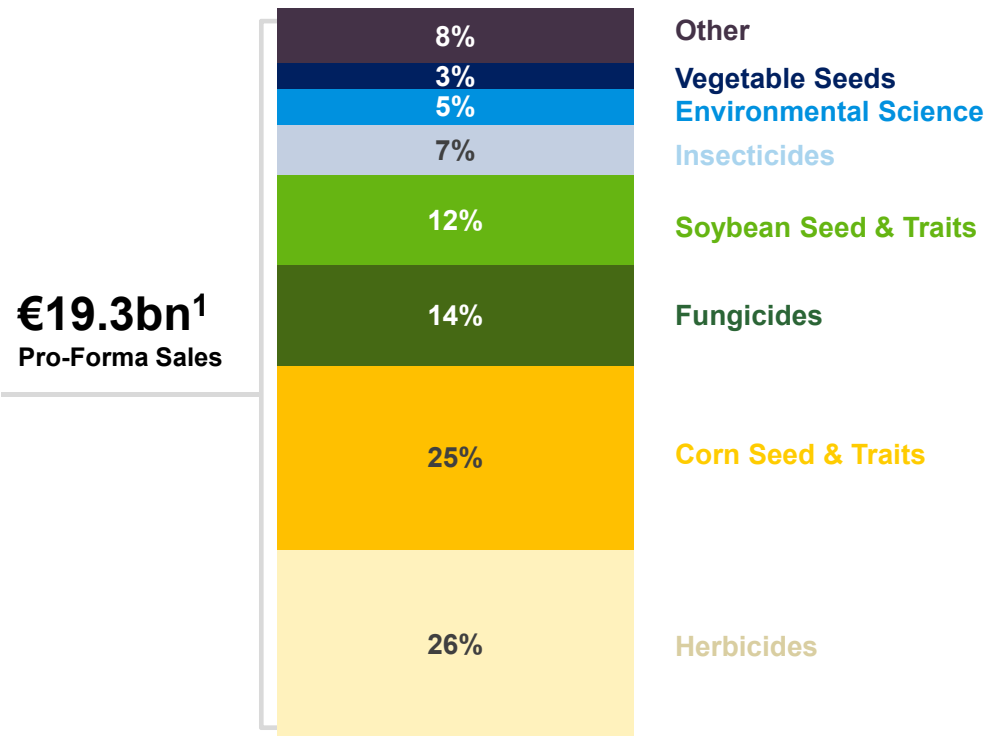
**Future Tailored Solution:** Same as tailored solution, plus short stature corn, next-generation fungicide. UAV to showcase imagery, stress detection and in-season application flexibility.





# Leadership and Innovation Drive Above Market Sales Growth Target

Target Above Market Sales Growth from 2018 to 2022 and >30% EBITDA Margin by 2022<sup>3,4</sup>



## Key Sales Growth Drivers

- // Deliver annual germplasm refresh across the seeds portfolio to capture price and share gains
- // Continue penetration of Roundup Ready Xtend crop system; transition to XtendFlex soybeans with expected U.S.A. launch in 2020<sup>2</sup>
- // Continue penetration of Intacta RR2 PRO soybeans; transition to Intacta 2 Xtend with expected launch in South America in 2021<sup>2</sup>
- // Increase crop protection sales on the >400m acre seed & trait footprint; FieldView platform an enabler
- // Maximize sales synergies

<sup>1</sup> 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, 2018. 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. Due to this simplified procedure, they explicitly do not reflect sales according to IFRS or IDW RH HFA 1.004, meaning they have not been audited. Amounts as per the 2018 annual report.

<sup>2</sup> Pending regulatory approvals

<sup>3</sup> EBITDA margin based on EBITDA before special items

<sup>4</sup> 2022 targets at constant currencies, not including portfolio measures



# Integration and Synergies On Track

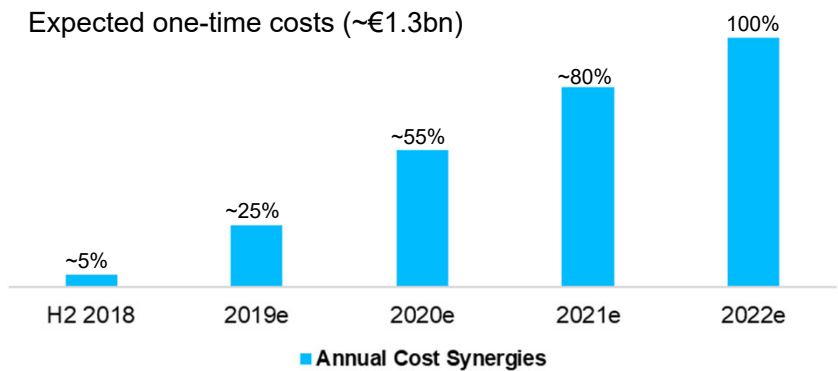
Leadership in Place, Engagement High and Progressing Toward €1bn Synergy Target as of 2022

## Integration Achievements

- // Crop Science functions advancing rapidly with **organizational integration**, expect completion by year end 2019 – Support functions to be completed in alignment with Bayer 2022 project
- // **Cultural Integration:** Q2 employee survey indicates continued high levels of employee engagement
- // **Cost Synergies:**
  - // Achieved 2018 target
  - // Q1 and Q2 well on track with anticipated ramp up of 25% in 2019
  - // Focused on headcount, IT and infrastructure savings



## Cost Synergies <sup>1,2</sup>: ~€870m (~\$1bn) as of 2022



## Sales Synergies<sup>1</sup>: ~€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

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

<sup>2</sup> 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 Priorities

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**