



Shaping the Future of Agriculture



**BMO Farm to Market
Conference, New York**

May 16, 2019

Liam Condon
Head of the Crop Science Division





Disclaimer

Cautionary Statements Regarding Forward-Looking Information

This presentation contains forward-looking statements. A forward-looking statement is any statement that does not relate to historical facts and events, but rather reflects Bayer's current beliefs, expectations and assumptions regarding the future. This applies, in particular, to statements in this presentation on revenue growth, including product introductions and peak sales potential, synergies, especially in relation to the acquisition and integration of Monsanto Company, portfolio adjustments, cost reduction, financial targets and earnings, cash flow generation, deleveraging and other similar statements relating to future performance, including with respect to the markets in which Bayer is active.

Although the forward-looking statements contained in this presentation are based upon what Bayer's management believes are reasonable assumptions, they necessarily involve known and unknown risks and uncertainties that could cause actual results and future events to differ materially from those anticipated in such statements. Forward-looking statements are not guarantees of future performance and undue reliance should not be placed on them. Bayer undertakes no obligation to update forward-looking statements if circumstances or management's estimates or opinions should change except as required by applicable securities laws.

For more information on factors that could cause actual results and future events to differ from those anticipated in forward looking statements, please refer to the factors discussed in Bayer's public reports which are available on the Bayer website at <https://www.investor.bayer.com/en/reports/annual-reports/overview/>, including in the Annual Report 2018 under the caption "Report on Future Perspectives and on Opportunities and Risks".



We are a Global Leader in Health & Nutrition

Well-Positioned Across Our Businesses



~€45bn 2018 Pro-forma Sales¹

Crop Science

~€19bn / ~43% of Group
#1 Position

Growing ahead of competition over last five years on average

Best-in-class profitability through the cycle

- // Leading portfolio of seed & traits, crop protection and digital farming
- // World-class R&D platform with best talent and technology in the industry
- // Positioned to shape the future of agriculture: development of tailored solutions to address farmers' individual needs and challenges

Pharmaceuticals

~€17bn / ~38% of Group
#2 Position in Cardiovascular

One of the fastest growing Pharma businesses over the past five years
Xarelto and Eylea among the world's leading Pharma brands

- // Innovative medicines in areas of high unmet medical need
- // Therapeutic focus areas: Cardiology, Oncology, Gynecology, Hematology and Ophthalmology
- // Strong position in emerging markets
- // Leading in Radiology and Women's Health

Consumer Health

~€5bn / ~12% of Group
#2 Position

Leading Positions in 7 of the Top 10 OTC Markets

- // Focus categories: Allergy & Cold, Cough, Sinus and Flu; Nutritionals; Dermatology; Pain and Cardio; Digestive Health
- // Concentrated portfolio of 16 mega-brands with annual sales of >€100m

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, 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.



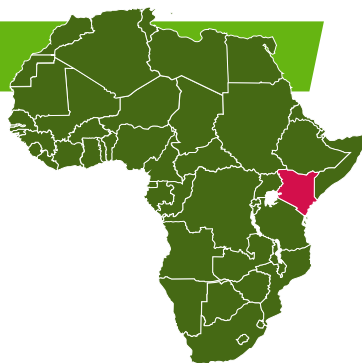
Glyphosate is a Vital and Effective Tool

Every Year, as much as 40% of World's Potential Harvests are Lost to Pests, Including Weeds

Glyphosate is the most widely used, non-selective herbicide in the world, accounting for roughly half of the global volume of herbicides used annually.

Critical for Global Food Security

// Without glyphosate, global crop production would decrease by a combined 19M MT¹— enough to feed **46M** people annually, about the population of Kenya



Environmentally Beneficial

// Use of glyphosate-based herbicides today leaves soil intact, supporting soil health and **reducing greenhouse gas emissions by the equivalent of ~11.8M¹ additional cars** on the road annually



History of Safe Use

- // **800+** rigorous studies, submitted to the EPA and other regulators in connection with the registration process, confirm that glyphosate-based products are safe when used as directed.
- // EPA's 2018 risk assessment examined more than **100** studies and concluded glyphosate is not likely to be carcinogenic to humans.

“ If we are going to feed 10 billion people by 2050, we are going to need all the tools at our disposal, which includes the use of glyphosate. USDA applauds EPA’s proposed registration decision as it is science-based and consistent with the findings of other regulatory authorities that glyphosate does not pose a carcinogenic hazard to humans.” - U.S. Secretary of Agriculture Sonny Perdue, April 30, 2019

¹ The contribution of glyphosate to agriculture and potential impact of restrictions on use at the global level. : <https://www.tandfonline.com/doi/full/10.1080/21645698.2017.1390637>



Need for Innovation Driven by Megatrends

Producing More with Less: A Fundamental Driver for our Crop Science Business

Megatrends
through 2050

Societal Needs

Growing Population

+2.2bn
people¹



+50%

more food and feed
required to meet
growing demand and
changing diets²

Pressure on Ecosystems



-17%

Harvest losses from
climate change³

-20%



2016 2050
Significant loss in
arable land per capita⁴

**Secure a sufficient
supply of quality food**

**Use natural resources more
efficiently and responsibly**



Science For A Better Life

¹ UNDESA 2017 (United Nations Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision); ² FAO 2017 (FAO Global Perspective Studies)

³ Nelson et. all. (2104); (2) FAO 2016 "Climate change and food security"; ⁴ FAOSTAT (accessed Oct 30, 2018) for 1961-2016 data on land, FAO 2012 for 2030 and 2050 data on land, and UNDEDA 2017: World Population Prospects for world population data.



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



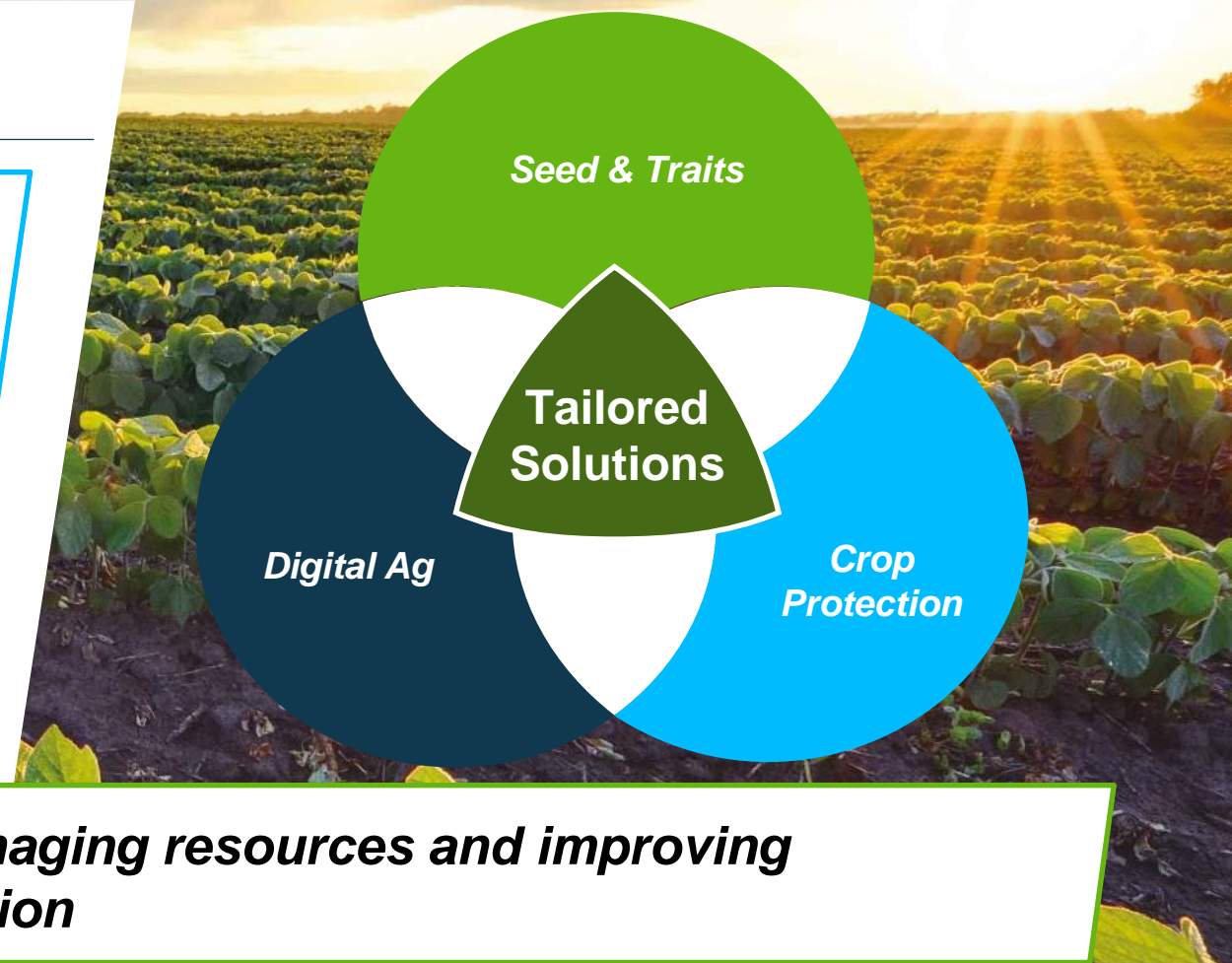
Pioneer the digital transformation



Set new standards of sustainability



Drive operational excellence



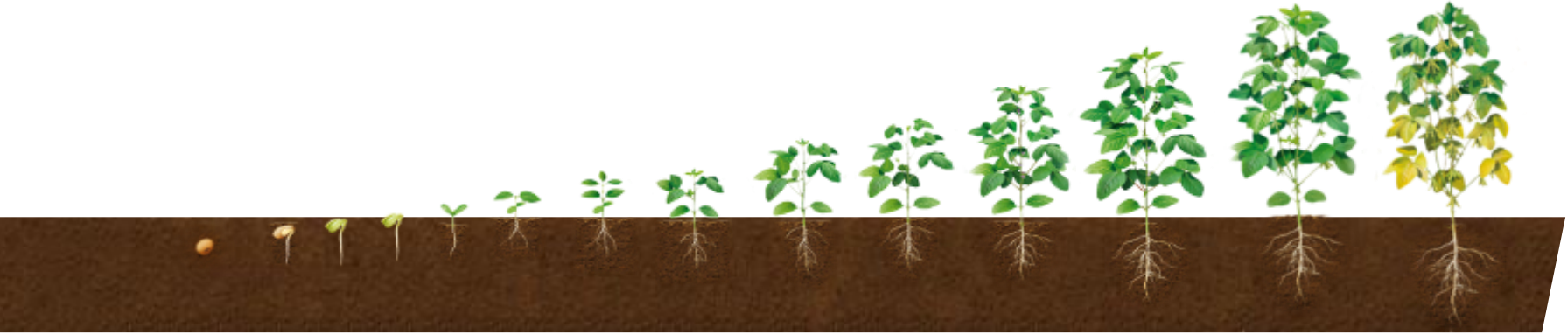
> Tailored solutions are key to sustainably managing resources and improving productivity to feed a growing global population



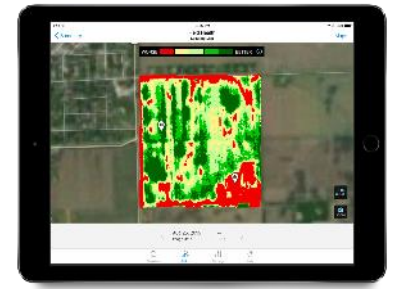
Tailored Solutions Enable Optimal Grower Productivity

Optimizing Decisions for Growers to Produce More with Less

Superior products and use of digital tools like Climate FieldView across the Brazil soybean season



Digital Farming



Seeds & Traits

Seed Treatment

Weed Management

Pest Management

Disease Management

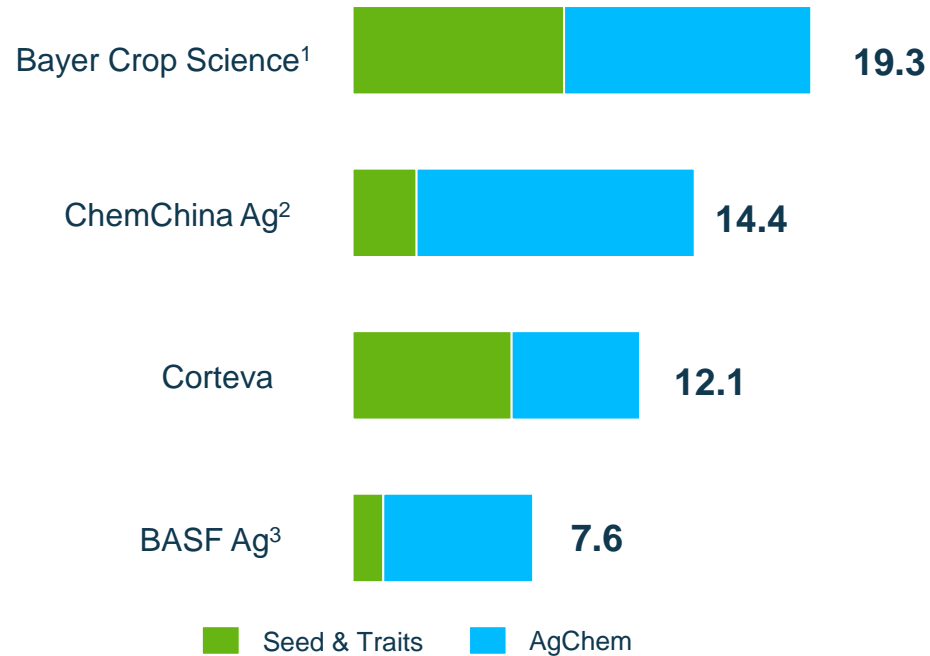
Tailor-made customer solutions holistically enhance yield and sustainability, ensuring safe, healthy, and affordable food



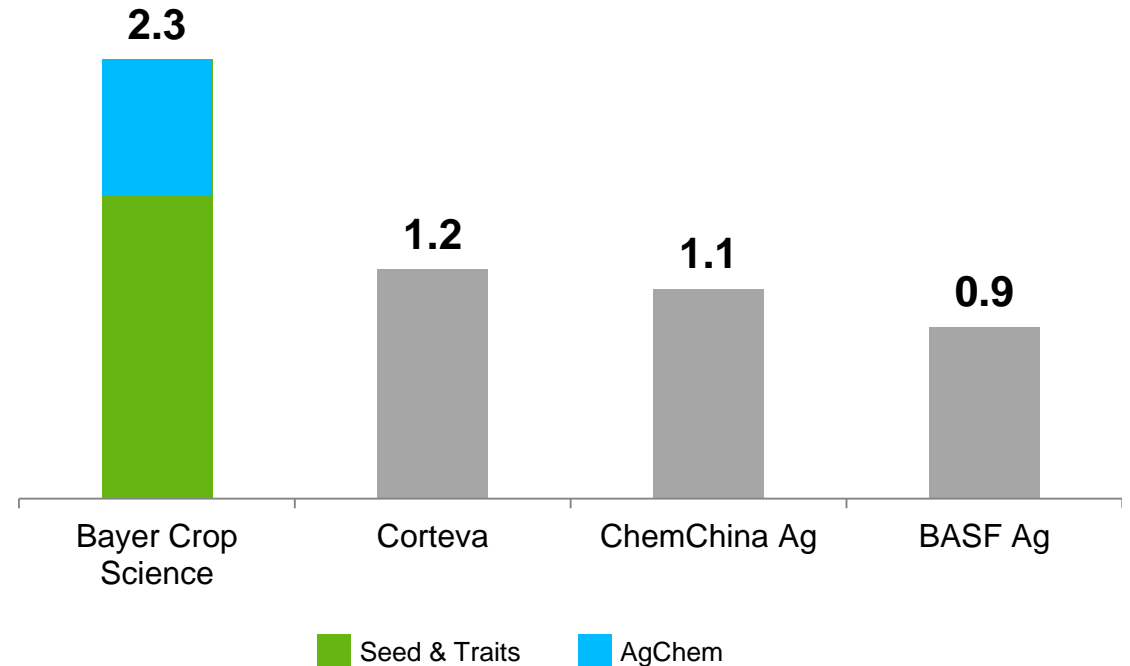
The Established Leader in Crop Science

Industry Leading Sales and Unmatched Investment in R&D

Sales 2018 (€bn)



2018 Ag R&D Investment (€bn)¹



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, 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.

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

³ 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.

⁴ Exchange rate: FY 2018: ~1.18 USD/EUR

⁵ Competitor Pro forma R&D cost split not available



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 nematocide // 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 nematocide // 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 nematocide 	<ul style="list-style-type: none"> // Annual germplasm upgrades // Lygus & Thrips control cotton 	
Digital Ag	<ul style="list-style-type: none"> // Advanced Seed Scripting - corn // Manual Seed Scripting - corn // Nitrogen Management // Manual 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

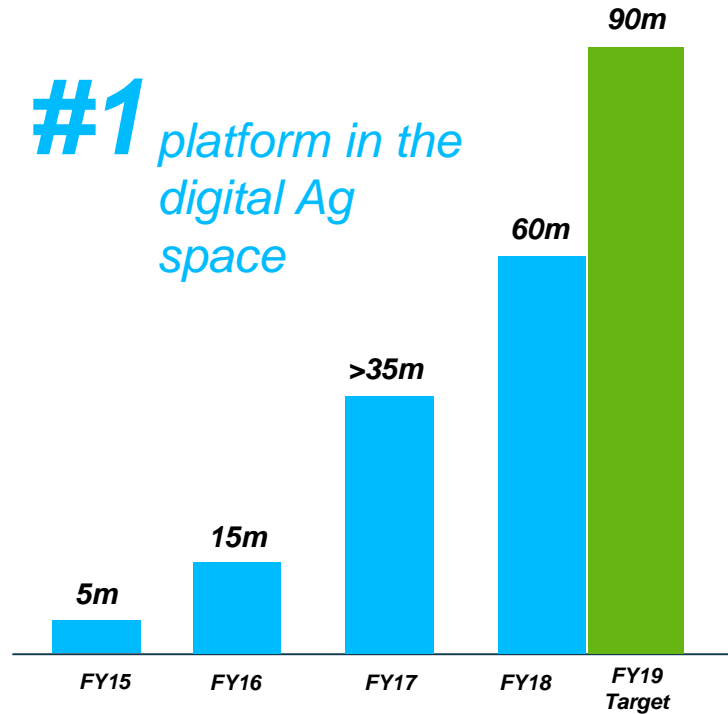
¹ Subject to regulatory approvals. Represents a subset of the pipeline; not representative of the entire €30bn peak sales opportunity.



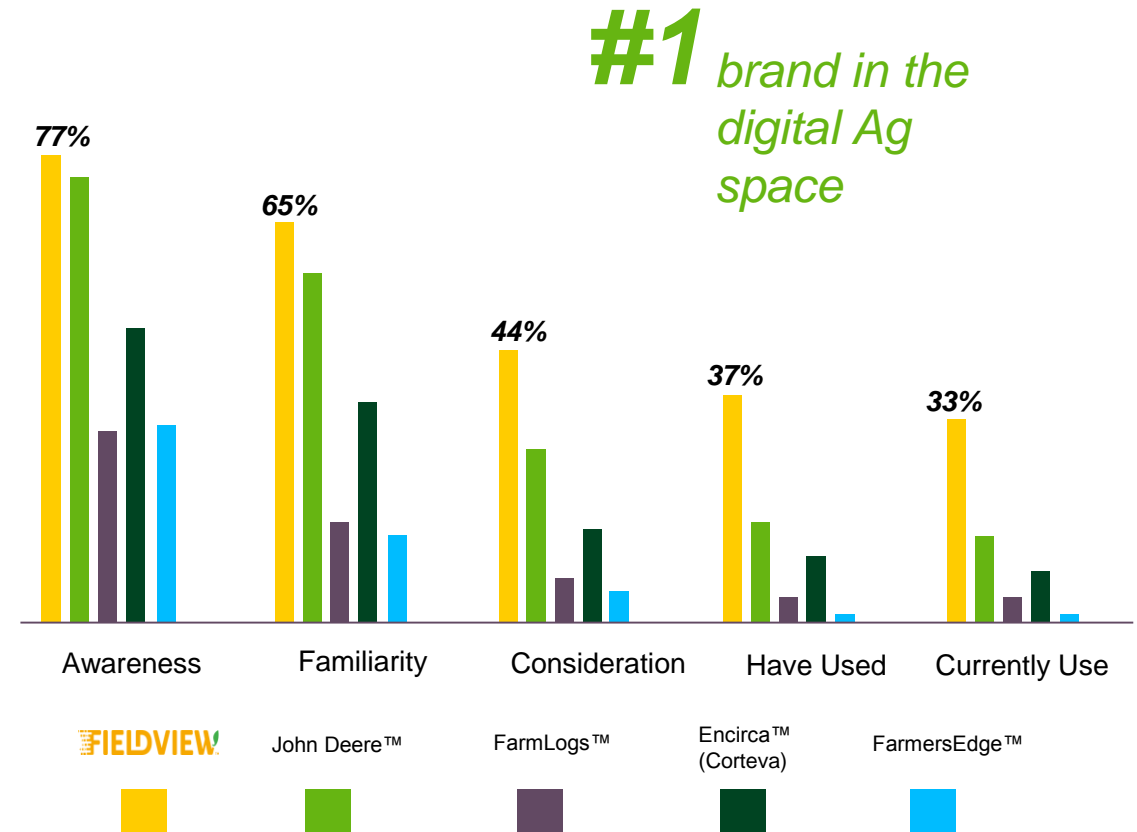
FieldView: The Leading Brand and Platform for Growers

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



FieldView Platform Uniquely Enables Innovative Business Models

Data Science Drives More Informed Decisions for Growers and Enables Outcome-Based Offerings



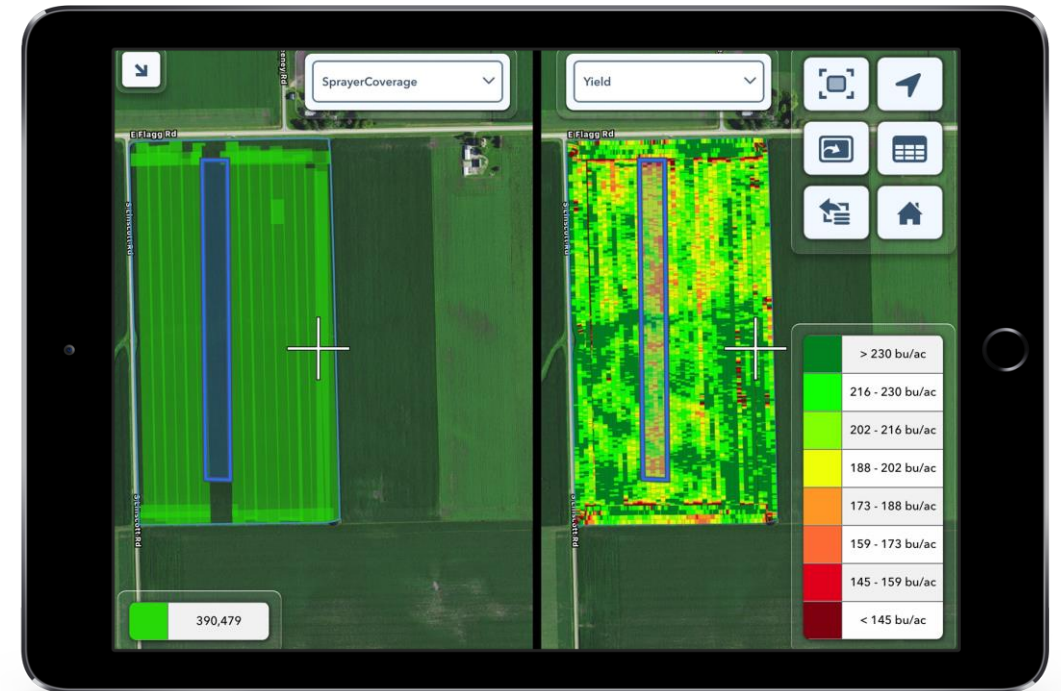
Example: Fungicide Opportunity

- // **~8** bu/acre¹ more yield when DEKALB® hybrids used with a fungicide¹
- // **15-20%** of U.S.A. corn growers use a fungicide²
- // **75%** of U.S.A. farmers more likely to purchase a product with outcome-based pricing
- // **SOLUTION:** Offer outcome-based pricing at defined bu/ac threshold using Climate FieldView to measure; rebate fungicide and application if yield gain is not achieved

Fungicide Pilot Offer

- // Offered outcome-based price for fungicide at a defined bu/ac threshold using FieldView as tool to assess in field performance
- // If yield gain is not achieved, a rebate paid to grower for fungicide and application cost

FieldView Maps of 2018 Fungicide Trial

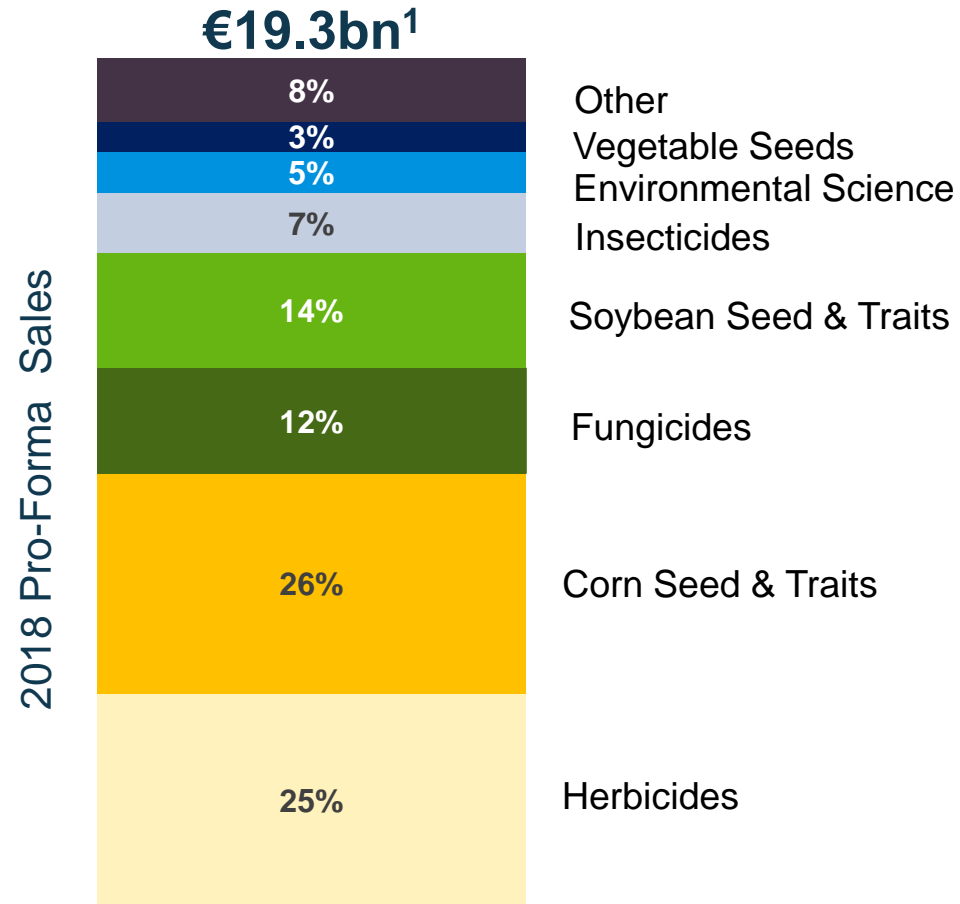


Blue box on right yield map depicts lower yields on portion of field not treated with a fungicide, as depicted in spray map on the left



Leadership and Innovation Drive Above Market Sales Growth Target

Target >4% Sales CAGR from 2018 to 2022



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 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

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, 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.

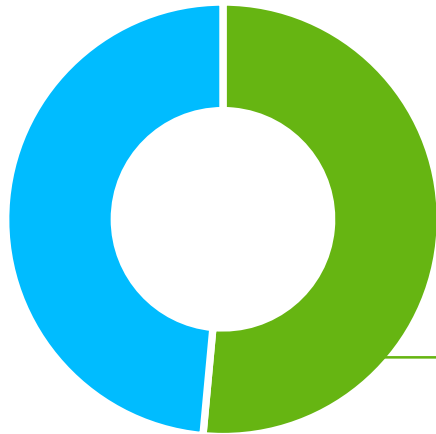
² Pending regulatory approvals



Seed Sales Reflect Value of Germplasm, Traits and Treatments

Preserve and Create New Value with Pipeline of Options to Create Tailored Solutions for Each Farm

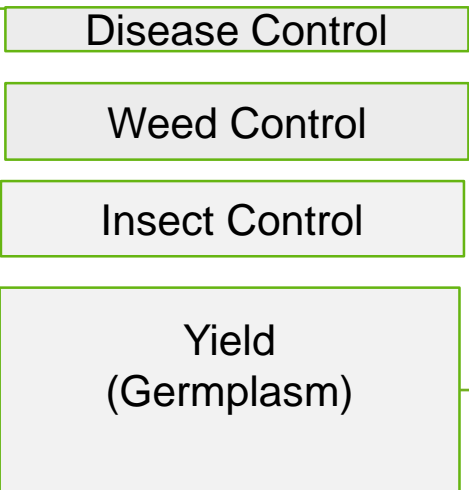
2018 Crop Science
Pro Forma Sales €19.3bn



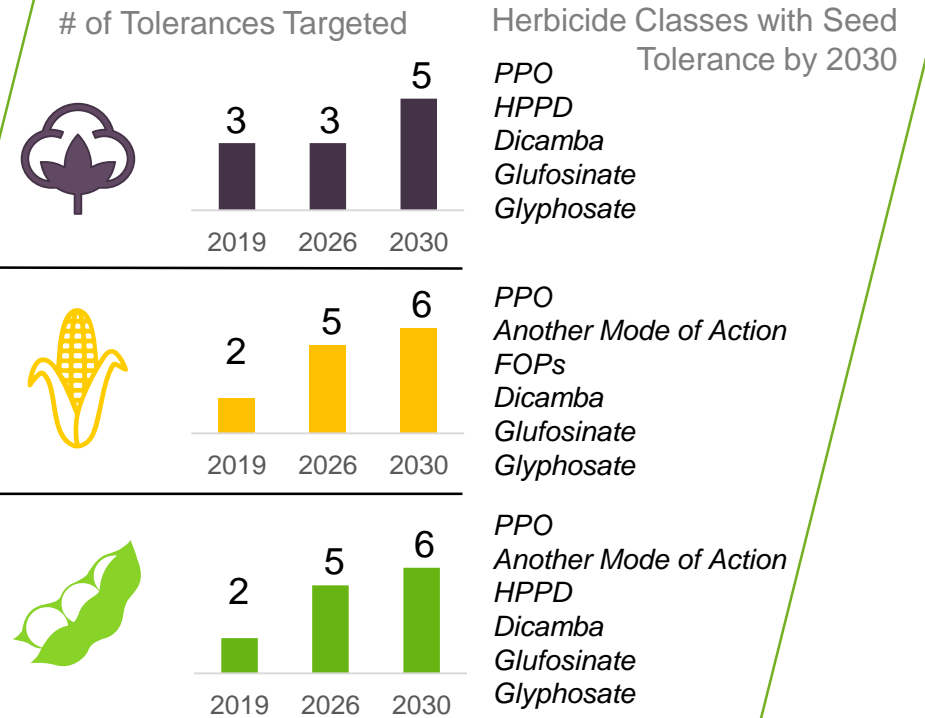
Crop Protection Seed & Traits



Value Components in Seed Bag



EX.: Herbicide Tolerance Biotech Trait Pipeline Replenishes Value for Weed Control Benefit in Seed



Pipeline of **1000's** of new hybrids and varieties across corn, soybeans, cotton, vegetables and other crops; **100's** launch annually to enhance and replenish value



Corn Seed & Trait: Leading Share Position Enhanced by Innovation

Annual Germplasm Upgrade, New Technology Launches and Digital Ag Key to Growth

Germplasm Position and Share¹

U.S.A.	#1	>50%
Brazil	#1	~45%
Argentina	#1	~75%
E.U.	#2	~20%

2018 global trait acres¹ **~110 m**

Sales Growth Opportunity Areas to 2022



INSECT CONTROL: SmartStax Pro

WEED CONTROL: New herbicide tolerance traits

DIGITAL AG: Climate FieldView Platform

SEED GROWTH: BioRise 2 corn offering and NemaStrike Technology

SEED: Annual launch of ~200 new higher-performing hybrids globally

NEAR TERM

2022+

¹ Internal estimates of branded and licensed germplasm share positions



Annual Germplasm Upgrades Serve as Foundational Growth Driver

Leading Global Germplasm Libraries and Advanced Breeding Tools Deliver High-performing Products

Corn



// Deployed >200 hybrids in 2018

// Maintain average >7 bu/acre U.S.A. yield advantage with leading hybrids

Soybean



// Deployed ~200 varieties in 2018

// Maintain average ~2 bu/acre U.S.A. yield advantage with leading varieties

Cotton



// Deployed 20 varieties in 2018

// Maintain lint/acre U.S.A. yield advantage with leading varieties; 2018 was 81lbs of lint per acre advantage

Vegetables



// Deploy ~150 varieties annually; focus in tomatoes and peppers

// Focus on disease resistance and yield with new launches

Protect performance with NemaStrike Technology and other seed-applied solutions

Provides for annual price mix gains as growers trade up to higher-performing seeds

Digital Ag becomes proof point for performance advantage



Soybean Seed & Trait: Key Trait Upgrades Expected to Fuel Growth

New Solutions in Insect and Weed Control Provide More Options for Farmers in the Americas

Germplasm Position and Share¹

U.S.A.	#1	>40%
Brazil	#1	~20%

2018 global trait acres¹ **~220 m**

Sales Growth Opportunity Areas to 2022



INSECT CONTROL: Intacta 2 Xtend

WEED CONTROL: XtendFlex Soybean

DIGITAL AG: Climate FieldView Platform

SEED GROWTH: NemaStrike Technology

SEED: Annual germplasm upgrade of ~200 higher-performing varieties annually

NEAR TERM

2022+

¹ Internal estimates of branded and licensed share positions



Continued Penetration of Roundup Ready 2 Xtend and Intacta RR2 Pro Soybean Trait Technologies

Providing More Weed and Insect Control Options for Farmers in the Americas

Roundup Ready 2 Xtend Soybean



Greenville, MS June 2017

Intacta RR2 PRO



Nao-Me-Toque, Rio Grande Do Sul, Brazil 2010

- // >40m acres in 2018; expect the Roundup Ready Xtend Crop System for soybean and cotton to grow to 60m acres in 2019
- // EPA continues registration of XtendiMax with VaporGrip technology, a low-volatility dicamba formulation for in-crop use
- // Potential fit on all soybean acres in North America; broadly licensed to U.S.A. seed companies who account for >90% share

- // Exceptional performance, penetrating 65m acres in South America in six years
- // Consistently provides yield advantage and reduces insecticide applications for the primary insect pest in tropical soybean
- // Insect-protected soybean technologies have a fit on ~100m acres in South America



Advancing our Soybean Pipeline with New Trait Technologies for Next-Generation Weed and Insect Control Systems

Building on record-growth of Roundup Ready 2 Xtend and Intacta RR2 PRO

Next-Generation Weed Control

Third-Gen Phase 4


X TEND FLEX SOYBEANS

- // Glyphosate
- // Dicamba
- // Glufosinate




Fourth-Gen Phase 2

- // Glyphosate
- // Dicamba
- // Glufosinate
- // HPPD & another mode of action



Fifth-Gen Phase 1

- // PPO tolerance added to Fourth-Gen product




Next-Generation Insect Control

Second-Gen Phase 4

PLATAFORMA INTACTA 2 XTEND


- // Two additional modes of action for the control of key Lepidopteran pests and expands the spectrum of control to include Armyworm Lepidopteran pests
- // Glyphosate
- // Dicamba



Uberlandia, Minas Gerais, Brazil 2017/2018

Third-Gen Phase 3

- // Multiple modes of action to provide protection and improve durability against an expanded spectrum of primary and secondary pests



Velvetbean Caterpillar 2017 Monsanto Trials Jerseyville, IL Screenhouse

¹ Pending regulatory approvals ² XtendiMax with VaporGrip Technology is a restricted use pesticide



Integration and Synergies On Track in Largest-Ever Ag Combination

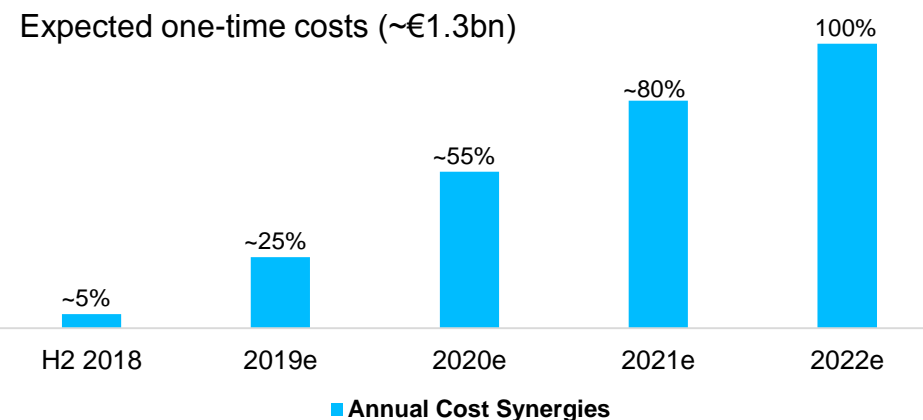
Leadership in Place, Engagement High and Progressing Toward €1bn Synergy Target as of 2022

Integration Achievements

- // **Customer:** Leadership teams **actively engaging customers** around the world and incorporating feedback
- // **Leadership: First three** organizational **levels (~500 positions) in place**; expect rest of organization to be in place by end of 2019.
- // **Cultural integration: Employee engagement scores** consistently **above 75%** across all major countries. Relocated numerous leadership positions to accelerate integration.
- // **Synergies:**
 - // Communicated significant **consolidation of site landscape** in US, Canada, Brazil and Mexico and 20+ smaller markets
 - // Substantial early cost synergies delivered by **consolidating procurement activities**
 - // **Personnel synergies** from selection process



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



Sales Synergies¹: ~€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

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



Base Case Targets at Least 30% EBITDA Margin by 2022

Upside Potential in Case of Commodity Cycle Recovery

	Guidance 2019	Target 2022 ¹
Sales growth³	~4%	CAGR >4%
EBITDA margin²	~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



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



Shaping the Future of Agriculture



Appendix





Group Targets - Value Creation from Strengthened Base

Triple Leverage

€bn		2018 PF	Guidance 2019	Target 2022	CAGR 2018-22 ²
Sales ¹	Total Group	44.7	~46 (~4%)	~52	~4%
	Crop Science	19.3	~4%		>4%
	Pharmaceuticals	16.7	~4%		~4-5%
	Consumer Health	5.5	~1%		~2%
EBITDA before special items (%)	Total Group		~12.2 (~27%)	~16 (>30%)	~9%
	Crop Science		~25%	>30%	
	Pharmaceuticals		~34%	>35%	
	Consumer Health		~21%	~24% ⁴	
Core EPS (€)			~6.8	~10	~10%
FCF		~4.7 ³	~3-4	~8	~18%
Net financial debt		~35.7 ³	~36 ⁵	~26-28	

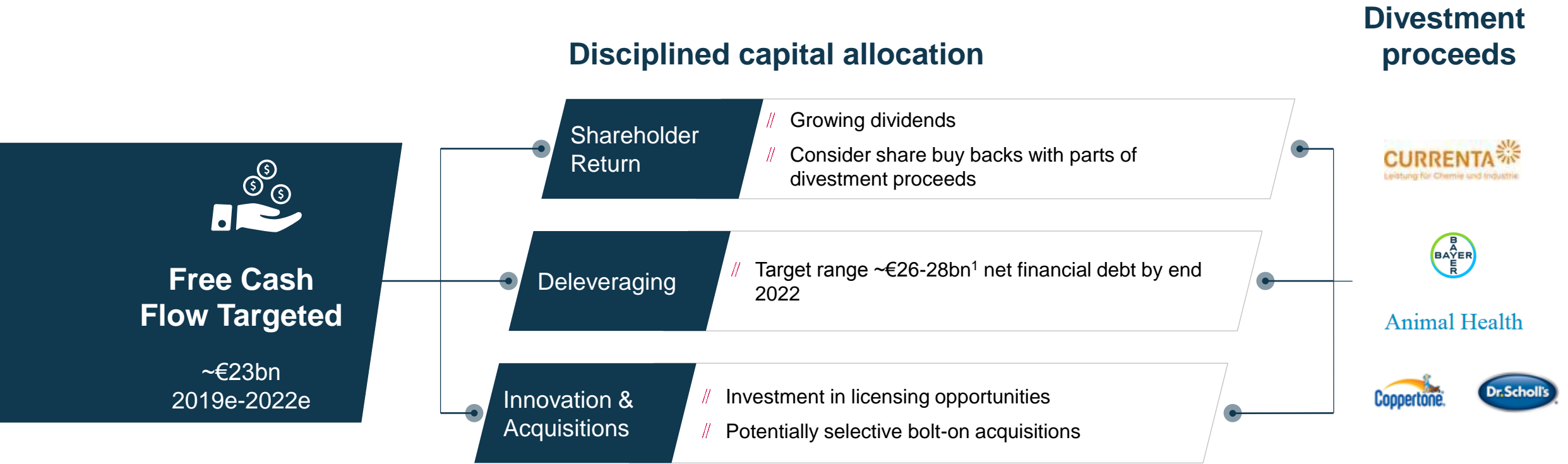
2022 targets at constant currencies, not including portfolio measures (except for Consumer Health)

¹ Sales: cpa growth; ² CAGR from 2018 base year; ³ as reported; ⁴ includes portfolio measures; ⁵ including around ~€1bn lease liability due to IFRS 16



We Have Clear Priorities for Capital Allocation

Focus on Shareholder Return, Innovation and Deleveraging



¹ Before M&A / Portfolio



Strong Start into the Year and on Track to Meet FY Guidance

€13,015m

Sales

€4,188m

EBITDA

Before special items

€2.55

Core EPS

€508m

Free Cash Flow

- Sales increased by 42.4% to €13.0bn (+4.1% cpa)
- EBITDA before special items improved 44.6% to €4.2bn
 - Margin up 50 bps to 32.2%
- Core EPS plus 13.8% to €2.55
- Free Cash Flow almost doubled to €508m



Progress in All Focus Areas

1 *Target Delivery*

- Guidance for 2019 confirmed

2 *Crop Science*

- Integration well underway
- Strong earnings performance

3 *Pharmaceuticals*

- FDA inspection conducted in March
- Profitable growth continued

4 *Consumer Health*

- “Fit to win” initiative starting to deliver
- FY guidance confirmed

5 *Efficiency / Bayer 2022*

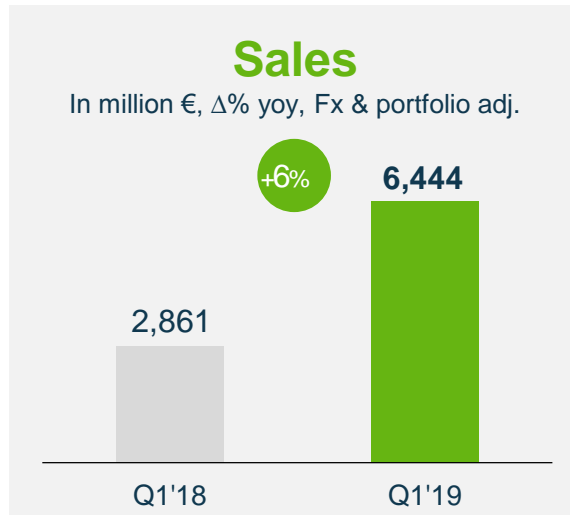
- Key program elements defined
- Synergy realization on track

6 *Portfolio Measures*

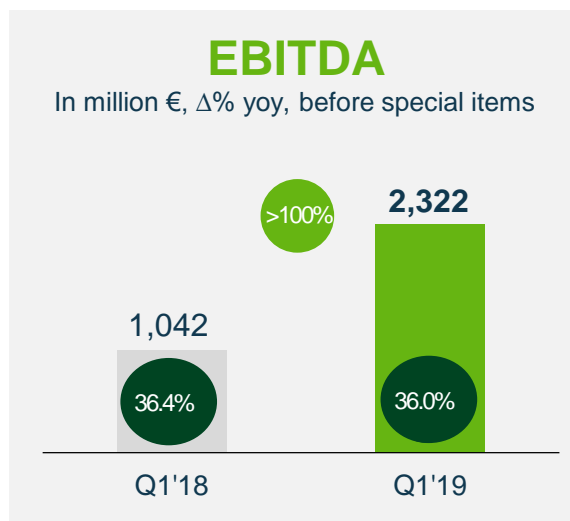
- Disposal process of all announced divestments on track



Crop Science with Strong Start into 2019



Volume +4%	Currency +0%
Price +2%	Portfolio +120%



- 6% cpa sales growth driven by Latin and North America
- Good growth across herbicides, insecticides and cotton seeds & traits
- On track with Xtend technology and Climate FieldView in 2019
- EBITDA before special items more than doubled to €2.3bn
- On track to deliver on synergy targets for 2019