Agenda

1. Welcome
   Oliver Maier
   Head of Investor Relations

2. Prepared Remarks
   Rodrigo Santos
   President, Crop Science Division
   Robert Reiter, Ph.D.
   Head of R&D, Crop Science Division
   Jeremy Williams, Ph.D.
   Head of Climate LLC and Digital Farming Solutions

3. Q&A
Cautionary Statements Regarding Forward-Looking Information

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.

Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only, and is not and shall not be construed as an offer to sell, or a recommendation to use, any unregistered pesticide for any purpose whatsoever. It is a violation of federal law to promote or offer to sell an unregistered pesticide.
Rodrigo Santos
• President of the Crop Science Division

Vision
Health for all, hunger for none
Purpose

Shaping agriculture for the benefit of farmers, consumers and the planet

Strategic Ambition

Perform
Grow above market and deliver strong returns

Transform
Achieve 100% digitally enabled sales by 2030

Pillars

Operational Excellence
World Class Innovation
Digital Transformation
New Standards in Sustainability

Win
by being more grower centric

Vision

Health for all, hunger for none
Innovative, Sustainable Solutions to Address Global Challenges

Key Global Challenges
- Growing Population
- Water Quality
- Climate Change
- Increasing Protein Demand
- Soil Health
- Sustainable Energy Sources

Our Priorities
- Producing & Protecting Higher Yielding Seeds
- Using Fewer Natural Resources
- Advancing a Carbon Smart Future for Ag

Pipeline of Sustainable Solutions
- Higher-yielding, disease-resistant seeds
- Next-generation biotech traits and crop protection to protect and enhance yield
- Small molecules and complementary biological solutions focused on reducing environmental impact
- Short-stature corn to enable optimal use of inputs, while minimizing harvest losses
- Digital tools for carbon sequestration measurement, precise input application
- Next-generation herbicide-tolerant traits to support no-till/conservation tillage systems

Solutions must serve growers large and small; Empowering 100m smallholders by 2030
Unmatched R&D Investment Powers Industry-Leading Portfolio

Ag R&D Investment (€bn)

- **Bayer Crop Science**: 2.0
- **Syngenta + Adama**: 1.2
- **Corteva**: 1.0
- **BASF Ag**: 0.8

#1 R&D Platform in Crop Science

>7,100 R&D employees

>100 key collaborations; partner of choice

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1. 2020 reported results, company information; exchange rate: FY 2020: ~1.14 USD/EUR. Bayer R&D excludes impairment charges.
2. Represents the legacy Syngenta results plus Adama, includes capitalized development costs.
3. Includes permanent and temporary employees.
**Leaps** Breakthrough Technology Investments Expand R&D Reach

Five Additions in 2021; 21 Distinct Investments in Sustainable Productivity and Improved Nutrition

**Leap 03/ Reduce** environmental impact of agriculture

**Leap 07 / Provide** next-generation healthy crops

**Leap 08/ Develop** sustainable protein supply

**Leap 09/ Prevent** crop and food loss

Companies shown by primary Leap but may have potential in further Leaps. ⚫ New investment in 2021.

For additional information on these and other Leaps by Bayer investments, please visit: [https://leaps.bayer.com/](https://leaps.bayer.com/)
Pipeline with Up to €30bn Peak Sales Potential Delivering for Farmers

Eight Projects Advance, Eight New Formulations Launch and Hundreds of Seed Deployments in 2021

>500
New hybrids and varieties deployed across corn, cotton, soybeans and vegetables

>300
New crop protection registrations

8
New formulations launched

2
New actives advanced

5
New trait projects advanced across corn, soybeans and cotton

Soybean Seed Placement digital tool advances to Phase 2

Value of Up to €30bn in Cumulative Peak Sales Potential

~50% Incremental

Cumulative contribution of projects reaching PSP (in %)

By 2031

Cumulative PSP by SBE

<table>
<thead>
<tr>
<th>Category</th>
<th>By 2031</th>
<th>2032-35</th>
<th>2036+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soy S&amp;T</td>
<td>~ 40%</td>
<td>~ 40%</td>
<td>~ 20%</td>
</tr>
<tr>
<td>Other</td>
<td>~ 40%</td>
<td>~ 40%</td>
<td>~ 20%</td>
</tr>
<tr>
<td>Insecticides</td>
<td>~ 40%</td>
<td>~ 40%</td>
<td>~ 20%</td>
</tr>
<tr>
<td>Fungicides</td>
<td>~ 40%</td>
<td>~ 40%</td>
<td>~ 20%</td>
</tr>
<tr>
<td>Herbicides</td>
<td>~ 40%</td>
<td>~ 40%</td>
<td>~ 20%</td>
</tr>
<tr>
<td>Corn S&amp;T</td>
<td>~ 40%</td>
<td>~ 40%</td>
<td>~ 20%</td>
</tr>
</tbody>
</table>

Represents non-risk adjusted estimated peak sales for the combined breeding, biotech, crop protection and environmental science pipelines, as well as new business models and new value areas. PSP = Peak sales potential  SBE = Strategic Business Entity
advanced breeding technologies

New product design center in Petrolina, Brazil
Deploying >250 Corn Hybrids in 2021 to Expand Leading Position
Foundational to Expected Growth in Our > €5bn Global Annual Corn Seed & Trait Sales

Bayer Corn Seed Market and Share Positions in Key Countries

NEW
Superior-performing Bayer branded hybrids capture #1 brand share position in the U.S. in 2021.

<table>
<thead>
<tr>
<th>Country</th>
<th>#1 Market Pos.</th>
<th>Market Size</th>
<th>Germplasm Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>#1 Market Pos.</td>
<td>~93m acres</td>
<td>&gt;55%</td>
</tr>
<tr>
<td>Mexico</td>
<td>#1 Market Pos.</td>
<td>~20m acres</td>
<td>&gt;65%</td>
</tr>
<tr>
<td>Brazil</td>
<td>#1 Market Pos.</td>
<td>~52m acres</td>
<td>~30%</td>
</tr>
<tr>
<td>Europe</td>
<td>#2 Market Pos.</td>
<td>~60m acres</td>
<td>~20%</td>
</tr>
<tr>
<td>South Africa</td>
<td>#1 Market Pos.</td>
<td>~6m acres</td>
<td>~70%</td>
</tr>
<tr>
<td>Argentina</td>
<td>#1 Market Pos.</td>
<td>~20m acres</td>
<td>~60%</td>
</tr>
</tbody>
</table>

Note: Size of market, market position and germplasm share measured as of 2021.

1 In hybrid corn market only; 2 Eu27 + UK, Russia and Ukraine

NEW

Deployed >250 new hybrids globally in 2021; offer >1,500 hybrids globally

>7 bu/acre U.S. yield advantage with leading hybrids in like-for-like trait package hybrid comparisons

NEW

Best NCGA Yield Performer in 2021, winning ~80% of the National Spots, with 21 of the 27 spots from Bayer germplasm

1 Includes licensed and branded hybrids; 2 Annual yield advantage calculated each year by comparing 3 leading DEKALB products within each state having a minimum of 100 comparisons to national competitor products containing similar crop protection traits as of 2021. All comparisons are head-to-head using -2RMs and weighted average calculated using 15% moisture;

3 NCGA = National Corn Growers Association – National Corn Yield Contest

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Bayer Crop Science Annual R&D Pipeline Update // February 16, 2022
Annual Germplasm Upgrade Drives Growth and Attracts Partners
High-Performing Seeds in Soybeans, Cotton and Vegetables Generating ~€3bn in Annual S&T Sales

Soybeans
- Deployed >150 new varieties in 2021; offer >850 varieties in North America
- **XtendFlex Soybeans**, as a part of the Roundup Ready Xtend Crop System have a 2.7+ bu/ac advantage vs. Enlist™ Weed Control system in farmer managed herbicide system trials¹

Cotton
- Deployed >10 varieties in 2021; offer >25 varieties in the U.S.
- U.S. lint/acre yield advantage with leading varieties; 2021 was 80 lbs./ac advantage for Deltapine vs. top-planted competitor varieties

Vegetables
- Deployed >90 varieties in 2021; sell over 2,100 vegetable hybrids and varieties in 22 crops
- Focus on disease resistance, yield and climate resistance for growers; consumer benefits in flavor, color and shelf life

¹2021 Farmer Managed Soybean System Trials (59 locations in 2021 reporting data located with 10-IA, 11-IL, 2-MI, 9-MN, 6-NE, 4-OH, 2-PA, 1-WI, 1-ND, 2-SD, 3-KS). Significant at P ≤ 0.05 LSD at 1.2 Bu/A as of 11/29/2021. Roundup Ready® Xtend Crop System data = XtendFlex® soybeans with a farmer-selected weed control program that may include dicamba, glyphosate, glufosinate and various residual herbicides. Enlist™ Weed Control System data = Enlist E3® soybeans with a farmer-selected weed control program that may include glyphosate, Enlist One® herbicide, Liberty® 280 SL herbicide and various residual herbicides.

// Bayer Crop Science Annual R&D Pipeline Update // February 16, 2022
Designing the Best Seeds Through Precision Breeding

Utilizing Advancements in Genomics, Data Science and Gene Editing to Accelerate Product Development

Customer Data & Insights @ Scale

Seed Chipping, Genotyping, & Selection

Accelerated Germplasm Design

Prescriptive Field Evaluation

Globally connected data ecosystem

Customer Designed Solutions

Data-driven ideas based on customer needs and insights

Vast germplasm library, cutting-edge genomic selection and AI models used to design germplasm

New methods and automation double the rate of product improvement and accelerate trait integration

Prescriptive field evaluation improving customer recommendations and match of products to specific environments

Millions of simulated field environments enrich product and system knowledge prior to launch

Customer designed solutions that enable new business models, improve customer experience and are tunable to global environmental changes
next-generation biotech traits
Three Generations of Soybean Herbicide Tolerance Traits

Technologies Provide Solutions to Address Farmer’s Needs, Herbicide Resistance Challenges

3 herbicide tolerances

- Glyphosate
- Dicamba
- Glufosinate

HT4
Fourth-Gen Phase 3
Expected 2027 launch

HT5
Fifth-Gen Phase 2
Expected 2027 launch

5 herbicide tolerances

- Glyphosate
- Dicamba
- Glufosinate
- HPPD
- 2,4-D

6 herbicide tolerances

- Glyphosate
- Dicamba
- Glufosinate
- HPPD
- 2,4-D
- PPO

Always read and follow label instructions. Products not registered in all jurisdictions.

/// Bayer Crop Science Annual R&D Pipeline Update /// February 16, 2022
Next-Gen Intacta Traits to Sustain Leading Franchise in Brazil
Intacta 2 Xtend Launched; IP3 Currently in Phase 3, IP4 Advanced to Phase 1

- Excellent control of soybean loopers, velvetbean caterpillar and axil borer
- Glyphosate tolerance provides proven weed control and enables conservation tillage
- Licensed to seed producers with >90% share of market in Brazil
- On >85m acres in South America in 2020/21

**Control**
**IP3**

- Industry-first with three proteins for insect control and resistance management, plus adds dicamba tolerance for tough-to-control weeds
- **LAUNCHED** on >800k acres in Brazil in 2021/22 season. Targeting more than 6m acres for the 2022/23 season.
- Performance advantage of 2.89 bu/acre

**IP3**

- IP3 in Phase 3; delivering multiple modes-of-action for insect control

**Control**
**IP3**

- IP4 **ADVANCED** to Phase 1; focused on Brazil

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IP3 = 3rd generation insect protection trait in soybeans
IP4 = 4th generation insect protection trait in soybeans

1 Data based on number of traited acres per Bayer internal estimates
Multiple Traits in Late-Stage Development for Cotton Farmers

Leading Innovation for Cotton Growers Driving Growth in >€500m\(^1\) Cotton S&T Business

1\(^{st}\) generation
- First-ever biotech trait for piercing and sucking insect control

5 herbicide tolerances
- Glyphosate
- Dicamba
- Glufosinate
- HPPD
- PPO

4\(^{th}\) generation
- Season-long protection with multiple modes of action for key lepidopteran pests

Stewarded Commercial Launch in 2022 in the U.S.

HT4 Cotton
- ADVANCED to Phase 3

Control
- 2x 5-way tank mix at V3 stage in US2020 field trial in Scott, MS

Bollgard 4 Cotton
- ADVANCED to Phase 3

Control
- 2019 Rocky Mount NCSU Results

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\(^1\) 2020 cotton seed & trait sales for Bayer Crop Science
ThryvOn\(^\text{TM}\) Technology has received full approval for planting in the United States but, as of the date this material was published, is pending approval in certain export markets. Specific plans for commercialization depend upon regulatory approvals and other factors.
Rollout of Most Advanced Corn Rootworm Control Trait Continues
CRW3: Industry’s-Only RNAi-Based Corn Rootworm Trait

- Most advanced technology for control of insects in Brazil corn
- Two modes below-ground insect control, including CRW3, plus two modes above-ground insect control and glyphosate tolerance

LAUNCHED: Brazil 2021
~500k acres

LAUNCHED: U.S. 2022
~100k acres

Corteva QROME Product (P1366Q)

2021 U.S. Field Results

- SmartStax PRO with RNAi Technology had lower root injury scores 97.4% of the time
- SmartStax PRO: 0.28 nodes of root injury
- Qrome Products: 0.97 nodes of root injury
- For each root node damaged by CRW larvae, a yield loss of ~15% can be expected. Root injury score of 0.97 nodes in a 200 bu/acre yield environment could result in 29 bu/acre yield loss.
  - ~30m acres infested with CRW in the U.S.

1 Head-to-head comparisons across 40 locations with corn rootworm pressure in the U.S. in 2021
3 SmartStax® PRO corn products will be commercially available for the 2022 growing season. VT4PRO with RNAi Technology is not currently available for commercial sale or commercial planting. Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only and is not and shall not be construed as an offer to sell.

NEW: VT4PRO®

Expected Launch: U.S. 2024

// Bayer Crop Science Annual R&D Pipeline Update // February 16, 2022
Three Development Approaches to Short-Stature Corn Enable Broader Market Reach:

**Breeding:** *ADVANCED* to Phase 4

*Planning for U.S. Commercial Trials in 2023*

- Advanced breeding introgresses naturally occurring short stature characteristic into elite germplasm

**Biotechnology:** Phase 3

- In collaboration with BASF; uses transgene to shorten internodes; enables applicability across wide-array of germplasm

**Genome Editing: Discovery**

- Multiple, elegant approaches to generate short-stature corn
Short-Stature Corn Offers Transformational Shift in Production
Anticipated Fit on >220m Acres and Estimated Incremental Peak Sales Potential of ~€1bn for NA

Field Plots Around the Globe Demonstrate Key Features and Benefits of Short-Stature Corn

Game-Changing Innovation
- Unparalleled production stability with improved standability in high winds and challenging weather conditions
- Annual yield losses due to stalk lodging in the U.S. range from 5% to 25%\(^1\)

Digitally Optimized System
- Extended in-season crop access due to shorter height
- Supports tailored solutions with precise in-season crop protection

More Sustainable Future
- Potential to optimize use of key nutrients like nitrogen, as well as reducing land and water requirements
- Opportunity to plant at higher densities, as evidenced in Vitala commercial beta in Mexico

1 Purdue University (http://www.extension.purdue.edu/ay/ay-262.html)

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Iowa 2020 Trials Following Derecho Windstorm
Spray Rig in Short-Stature Corn Plot Jerseyville, IL August 2019
Poseyville, Indiana July 2021 Nitrogen Y-Drops for Precise In-Season Application
Top Producer Farmer Focus Group – Dyersville, IA August 2021

Likelihood of Planting Short-Stature Corn Hybrids

<table>
<thead>
<tr>
<th>Rating</th>
<th>PRE Tour (n=14)</th>
<th>POST Tour (n=17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-10 Ratings</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>7-8 Ratings</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>5-6 Ratings</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1-4 Ratings</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Online Farmer Survey, Feb/March 2020 (n = 900)

- When full choice available, **75% of farmers** indicated they **would likely plant** some acres of short stature corn, and had it been available in 2020, could have planted **as much as one third of their acres** to it.

- **Highest likelihood to plant a new trait** vs. previous trait introductions, surpassing the previous high for SmartStax

2022 U.S. Pre-Launch Plans:

- >200 market development trials
- pre-launch grower trials with >150 growers
new approaches in crop protection
Progressing from Volume to Value with Our Crop Protection Vision

**Leading Portfolio**

Convergence of Advances in Small Molecules, Biology and Biotechnology Innovation with Digital Technology to Create New Value and Sustainable Productivity

**Industry Leading CP Development**
- >15 new AIs launched in the past 15 years; 8 AI in development and 2 launching in 2022

**Advances in Formulation Technology**
- Leadership in formulation technology enables lower volumes with equivalent or better efficacy; drone-specific formulations for safety and precision

**New Insights and Precision Application with Digital Tools**
- Crop specific digital application timing to optimize disease control and yields
- Showing and sharing value of fungicide applications with growers’ data

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**1** Leadership in value, treated area AND exceptionally low crop protection environmental impact

**2018 Crop Protection Environmental Impact of Crop Protection**

<table>
<thead>
<tr>
<th>Sales Value (EUR)</th>
<th>Total Area (HA)</th>
<th>Environmental Impact (CP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>20%</td>
<td>40%</td>
</tr>
<tr>
<td>60%</td>
<td>80%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Bayer** | **Multinationals** | **Others**

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1 Note: Environmental impact study conducted by University of Denmark; other multinationals consists of combination of four multinationals.

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// Bayer Crop Science Annual R&D Pipeline Update // February 16, 2022
Fungicides: New Innovations Drive our Growth Potential

Fungicide sales in 2020: €2.6bn, Pipeline Peak Sales Potential of ~€4bn

- Offers unrivaled control of Asian Soybean Rust
- Builds on #1 position in soybean fungicides in LATAM

**Fox Supra**

- Includes next-gen technology Indiflin, with Prothioconazole

**DELARO Complete**

3 MoA

- Prothioconazole
- Trifloxystrobin
- Fluopyram

**Xivana**

- Powered by Fluoxapiprolin

- New global horticulture fungicide with best-in-class MoA; delivers outstanding protection of grapes, potatoes and vegetables
- Higher, longer-lasting efficacy above established standards

**PSP of >€400m**

Expected to launch in 2022 in Brazil

- Fox Supra

**PSP of >€100m**

Launched in the U.S. in 2021

Use in soybeans in Frankenmuth, Michigan, 2019

**PSP of >€150m**

Expected to launch in 2022 in Australia (grapes)

Typical use rates: potatoes, vegetables [g/ha]
Herbicides: Focused on Unlocking Greater Flexibility

Herbicide sales in 2020: **€4.7bn**, Pipeline Peak Sales Potential of **~€3bn**

**Mateno Complete**

- Pyroxasulfone
- Diflufenican
- Aclonifen NEW

- Mateno Complete includes Aclonifen, a new herbicide mode of action for Australia
- Suitable for use in wheat and barley for hard-to-control grass and broadleaf weeds

**New Herbicide Molecule**

- First new mode of action in post emergence weed control in 30 years
- Potential to build on #1 position in global herbicides\(^1\)
- Allows use in various market segments, beyond traditional nonselective use

**PSP of >€50m**

Registration and launch expected in time for 2022 season

**Untreated Control**

**Mateno Complete**

**Glyphosate Standard 1**

**Mix Partner + New Herbicide**

Product concept with new active

\(^1\) Internal estimates
Transformation of Small Molecule Discovery to Enrich Pipeline with Novel and Sustainable MoA’s

**Advanced Discovery Engine**

- **Computational Target Discovery**
  - Discover selective and safe MoA by proprietary algorithms & omics

- **New Paradigm in Screening**
  - Gain deep knowledge on biological systems by machine learning approaches & virtual screening and docking

- **Digital Chemistry**
  - Explore unlimited virtual chemical spaces by AI supported selection, design & synthesis

- **Predictive Early Safety**
  - Focus on registrability & sustainability supported by early in vitro tests & in silico predictive models

**Novel MoA in Research Pipeline**

- **100% in Target Discovery**
- **>70% in Early Research**
- **>60% in Advanced Research**

- >50 new molecular targets under investigation

**Successful track record:** Launched >15 active ingredients over the last 15 years
Biologics Create New Value; Enable Crop Management Benefits

Leveraging the Power and Sustainability Derived from Microbes

Bayer is the #1 Trusted Brand in Biologicals by Growers

### Business Opportunities

- **Reduction of environmental impact** of Crop Protection
- **Maximizing yield potential** of high value germplasm
- **Increasing nitrogen use efficiency**
- **Use in Tailored solutions** to leverage our full portfolio, combining biologics, chemistry, germplasm and digital to deliver new grower value

### Vibrant Innovation Ecosystem

- **>20** In-licensed/Commercial products
- **>5** Ongoing collaborations and licensing partners
- **>10** Pipeline Candidates
- **>30** Assets under evaluation for new collaborations or in-licensing opportunities

### Reaching >60m acres in row crops and high value horticulture and vegetables acres

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1 Also sold under Acceleron® and Torque® brand names; 2 3rd party product from BASF; 3 In-licensed from Novozymes

4 75-100 growers polled in each of seven countries (Europe, Brazil, US) for potato, tomato and grapes, Bayer Market Research 2020, 5 Includes early research and collaborations
Biologicales Complementary to our Seeds, Digital and Small Molecules Portfolio

**Serenade**
Biological Fungicide

- Delivers sustainable solutions in emerging soil and expanding bacterial disease markets
- Serenade Soil Activ propels growth of Serenade brands to >€150m peak net sales
- Soil Activ Launched in the U.S. and Australia in 2021, Chile in 2022 and broader global uses to follow

**FLIPPER**
Biological Insecticide

- Natural product containing fatty acids derived from a by-product of extra virgin olive oil
- Consistent broad-spectrum activity across multiple fruit and vegetable crops and pests
- Compatible with conventional crop chemistry

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**All Organic Production with Serenade in Beans**

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**Complementary Season-long Pest Control in Apples**

Crop stage

- 57
- 59
- 60-65
- 67-69
- 72
- 74
- 75-79
- 81-87

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Owner: Benoit Hartmann & Denise Manker, PSP: Laurent Dubecco

Biologicals Complementary to our Seeds, Digital and Small Molecules Portfolio
powered by
data
science
Digital Farming Solutions Underpin and Enhance Our Ability to Bring Transformational Solutions to Agriculture

Our Positive Impact on Agriculture

• Increase *yield* and improve *profitability*

• Leverage information to *manage risk* and address *variability*

• Manage fields down to the square meter, to farm more *efficiently* and *sustainably*

• Seamlessly collect, visualize and analyze data to enable *more informed decisions*

Three Core Value Drivers

Franchise Value

Downstream Value

Platform Value
Climate FieldView Provides Unmatched Visualization, Analysis and Insights to Enable Growers to Enhance Productivity

<table>
<thead>
<tr>
<th>Climate FieldView</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>&gt;180m</strong> subscribed acres</td>
</tr>
<tr>
<td>• <strong>#1</strong> brand in digital ag&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>• Operates in <strong>23</strong> countries</td>
</tr>
<tr>
<td>• <strong>Largest database</strong> of grower and field trial seed performance data in industry</td>
</tr>
<tr>
<td>• <strong>&gt;70</strong> partners on platform</td>
</tr>
</tbody>
</table>

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1 according to Kynetec December 2021 FieldView Brand Tracker
FieldView Creates Franchise Value via Insights
Increases Product Performance Transparency and Enables Seed and CP Digital Recommendations

Turning field data into insights

- Data Connectivity
- Data Visualization
- Crop Performance Analysis
- Field Health Imagery
- Variable Rate Planting Scripts
- Fertility Management
- Crop Protection

 Turning field data into innovation
premium offerings in development

Corn Seed Advisor - North America -
Corn Seed Showcase - North America -
Corn and Soybean Digital Disease Management - North America -
Corn density / Placement - Brazil -
Wheat Digital Disease Management - Europe -
Soybean Seed Placement - North America -
ADVANCED to Phase 2

Bayer corn seed customers who are FieldView Plus users have

>5%
higher 2-Year sales CAGR

U.S. customers who are active FieldView Plus users have a

+4 points
higher U.S. Net Promoter Score in 2020-2021

U.S. customers who use FieldView had a

~2.5%
higher seeding rate
for Bayer owned corn brands in 2021 vs. national average

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1 vs. non FV Plus users; 2 based on U.S. GPOS data; 3 Internal estimates
Digital Unlocks Scalable Climate-Smart Business Models

Carbon Markets Valued at >$200bn/year\(^1\) and Growing with Consumers’ Demand for Sustainability

\[\text{FIELDVIEW}\] has the potential to streamline the way carbon is measured, verified and reported, to enable scalable, climate-smart business models

\[\text{Carbon Initiative}\]

\(~2,500\) participating farmers in Brazil and the U.S. alone

\(10\) countries covered

\(1.5m\) acres globally

- Long-term program providing **annual incentives** to Climate FieldView enrolled growers for verified and validated **climate-smart practices** like no-till and cover cropping

- Ranked **#1** in the U.S., scoring very high in terms of **grower trust**\(^2\)

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**Enables 3 Expected Downstream Revenue Opportunities**

**Carbon Services**

Project **Carbonview**, collaboration with Bushel, The Andersons, and built on Amazon Web Services cloud infrastructure, expected to track carbon emissions across ethanol chain

**Product sales**

**Carbon assets**

CHS Inc., largest Ag Coop in the U.S., agreed to be our **carbon program provider**, providing advice to growers moving to sustainable practices.

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Enabling New Digital Platforms in Ag
Opens Access to Participate in Broader B2B AgTech Value Pools; Expanding into Digital Marketplaces

• Combines Bayer’s ag expertise and leading digital farming platform with Microsoft’s cloud technology and unrivaled B2B solutions, to enhance digital infrastructure

• Cloud-based set of digital tools and data science solutions for agriculture and adjacent industries

• Seeking to create and commercialize off-the-shelf opportunities for other companies to enter and innovate directly in ag and other industries.

• Solutions to address farming operations, sustainable sourcing, manufacturing and supply chain improvement, and ESG monitoring and measurement

Orbia: First Digital Ag-Marketplace

• JV between Bayer and Bravium

• Connects growers, input providers and grain traders to a network to expand their reach, secure financing, redeem rewards, purchase and sell inputs

• Established in 2019 in Brazil

• Main agricultural marketplace with largest loyalty program

• >300 distributors with inputs such as pesticides, seeds and fertilizers

• >185,000 registered growers

• Covers ~70% of planted area

1 Brazil-based marketing agency.
Win with world class innovation

Key Take-Aways

Investing to Lead
- ~€2bn annual R&D spend to fuel ~€30bn peak sales potential
- Five New Leaps Investments

Advancing Innovation
- Eight projects advance, including
  - Short-Stature Corn Hybrids
  - Bollgard 4 and HT4 Cotton

Powering the Core
- ~500 new hybrids and varieties launch
- >300 new crop protection registrations
- 2022 Launches: SmartStax Pro corn, Intacta 2 Xtend soybeans & Fox Supra fungicide

Transforming with Digital
- Robust Carbon Initiative
- Microsoft Collaboration
Q&A
## Crop Science Division: R&D Pipeline (as of February 2022)

### Key Corn Seed & Traits, Soybean Seed & Traits and Other Projects with ~€19-€21bn Peak Sales Potential; ~50% Incremental

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Phase IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Digital Disease Mgmt. - NA</td>
<td>5th Generation Lepidoptera Protection Trait</td>
<td>Short Stature Corn – Breeding Approach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5th Generation Herbicide Tolerance Trait</td>
<td>4th Generation Lepidoptera Protection Trait</td>
</tr>
<tr>
<td></td>
<td>Annual Germplasm Upgrades - Breeding</td>
<td>6th Generation Herbicide Tolerance Trait (6 Tolerances – Adds PPO)</td>
<td>3rd Generation Insect Protection Trait</td>
</tr>
<tr>
<td></td>
<td>Corn Disease Shield Breeding - NA</td>
<td>Seed Placement Digital Tool – NA</td>
<td>2nd Generation Soy Cyst Nematode resistance</td>
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<td></td>
<td>Seed Density Digital Tool - NA</td>
<td></td>
<td>- Breeding</td>
</tr>
<tr>
<td></td>
<td>Seed Placement Digital Tool - NA</td>
<td></td>
<td>4th Generation Herbicide Tolerance Trait (HT4)</td>
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<td></td>
<td></td>
<td></td>
<td>(5 Tolerances – Adds 2, 4-D and PP2)</td>
</tr>
<tr>
<td><strong>CORN SEED &amp; TRAIT</strong></td>
<td><strong>€10-11bn PSP</strong></td>
<td><strong>~€3bn PSP</strong></td>
<td><strong>Short Stature Corn – Biotech Trait</strong></td>
</tr>
<tr>
<td><strong>SOYBEAN SEED &amp; TRAIT</strong></td>
<td><strong>3rd Generation Insect Protection Trait</strong></td>
<td><strong>2nd Generation Soy Cyst Nematode resistance</strong></td>
<td><strong>4th Generation Herbicide Tolerance Trait w/ (RHS2)</strong></td>
</tr>
<tr>
<td><strong>VEGETABLES and OTHER</strong></td>
<td><strong>5th Generation Herbicide Tolerance Trait</strong></td>
<td><strong>Seed Density Digital Tool – EMEA</strong></td>
<td><strong>Seed Density Digital Tool – LATAM</strong></td>
</tr>
<tr>
<td><strong>4th Generation Coleoptera Protection Trait</strong></td>
<td><strong>SEED DENSITY DIGITAL TOOL</strong></td>
<td><strong>5th Generation Lepidoptera Protection Trait</strong></td>
<td><strong>Cotton 4th Generation Insect Protection Trait</strong></td>
</tr>
<tr>
<td><strong>4th Generation Herbicide Tolerance Trait w/ (RHS2)</strong></td>
<td><strong>SEED DENSITY DIGITAL TOOL</strong></td>
<td><strong>Cotton 4th Generation Herbicide Tolerance Trait (HT4)</strong></td>
<td><strong>Cotton 4th Generation Insect Protection Trait</strong></td>
</tr>
<tr>
<td><strong>Canola/OSR Digital Disease Mgmt. - NA</strong></td>
<td><strong>Canola Dicamba Tolerant Trait</strong></td>
<td><strong>Canola Dicamba Tolerant Trait</strong></td>
<td><strong>Lygus and Thrips Control Trait</strong></td>
</tr>
<tr>
<td><strong>Wheat Digital Disease Mgmt. - EMEA</strong></td>
<td><strong>Sugarbeets 2nd Generation Herbicide Tolerance Trait</strong></td>
<td><strong>Sugarbeets 2nd Generation Herbicide Tolerance Trait</strong></td>
<td><strong>Stewarded Commercial Launch</strong></td>
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<tr>
<td><strong>Wheat Annual Germplasm Upgrades - Breeding</strong></td>
<td><strong>Cotton 4th Generation Herbicide Tolerance Trait (HT4)</strong></td>
<td><strong>Cotton 4th Generation Herbicide Tolerance Trait (HT4)</strong></td>
<td><strong>(5 tolerances – Adds 2, HPP2 and PPO)</strong></td>
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<tr>
<td><strong>Wheat Disease Package Upgrades - Breeding</strong></td>
<td><strong>Cotton 4th Generation Insect Protection Trait</strong></td>
<td><strong>Cotton 4th Generation Insect Protection Trait</strong></td>
<td><strong>(5 tolerances – Adds 2, HPP2 and PPO)</strong></td>
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<tr>
<td><strong>Cotton Annual Germplasm Upgrades - Breeding</strong></td>
<td><strong>Lygus and Thrips Control Trait</strong></td>
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<td><strong>(ThryvOn Technology)</strong></td>
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<tr>
<td><strong>Canola/OSR Annual Germplasm Upgrades - Breeding</strong></td>
<td><strong>Stewarded Commercial Launch</strong></td>
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<tr>
<td><strong>Vegetables Annual Germplasm Upgrades - Breeding</strong></td>
<td><strong>Stewarded Commercial Launch</strong></td>
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<td><strong>Stewarded Commercial Launch</strong></td>
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<tr>
<td><strong>Rice Annual Germplasm Upgrades - Breeding</strong></td>
<td><strong>Stewarded Commercial Launch</strong></td>
<td><strong>Stewarded Commercial Launch</strong></td>
<td><strong>Stewarded Commercial Launch</strong></td>
</tr>
</tbody>
</table>

Projects listed here and included in the peak sales potential by segment do not include projects funded by our LEAPS investments.

- PSP = Peak Sales Potential
- 1 In collaboration with BASF
- 1 “Other” category includes seeds and traits, such as cotton, canola, wheat, OSR and sugarbeets, plus carbon and digital Models
- Annual upgrades with new hybrids or varieties launching annually and multiple generations in development.

**Note:** Bayer Crop Science Annual R&D Pipeline Update /// February 16, 2022
**Crop Science Division: R&D Pipeline (as of February 2022)**

**Key Crop Protection Projects with ~€9bn Peak Sales Potential; ~50% Incremental**

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Phase IV</th>
<th>Life Cycle Management¹</th>
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<tbody>
<tr>
<td>New AI Development</td>
<td>New Herbicide</td>
<td>New Herbicide (Post-Emergence Broad Acre)</td>
<td>Non-Selective Glyphosate LCM</td>
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<tr>
<td>New Herbicide</td>
<td>New Fungicide for Asian Rust</td>
<td>Minuet/Serenade Soil Activ</td>
<td>Selective Merlin Flexx / Adengo LCM</td>
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<tr>
<td>New Herbicide</td>
<td>New Biological Fungicide</td>
<td>Fox Supra (Indiflin®)</td>
<td>Balance Flexx LCM</td>
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<tr>
<td>New Herbicide</td>
<td>New Fungicide for Asian Rust</td>
<td>Minuet/Serenade Soil Activ</td>
<td>Council Xtra</td>
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<td>New Herbicide</td>
<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
<td>Council Star</td>
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<td>New Herbicide</td>
<td>New Fungicide for Asian Rust</td>
<td>New Herbicide for Asian Rust</td>
<td>Council One</td>
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<tr>
<td>New Herbicide</td>
<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
<td>Ronstar One</td>
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<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
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<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
<td>Luna Flexx</td>
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<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
<td>Super Nativo</td>
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<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
<td>Delaro Forte</td>
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<td>New Herbicide</td>
<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
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<td>New Biological Fungicide</td>
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<td>Rice Plant Hopper</td>
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<td>New Herbicide</td>
<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
<td>INS FUN ready mixture</td>
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<td>New Herbicide for Asian Rust</td>
<td>New Fungicidal Seed Treatment</td>
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<td>New Herbicide</td>
<td>New Biological Fungicide</td>
<td>New Herbicide for Asian Rust</td>
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</tr>
</tbody>
</table>

- **HERBICIDES ~€3bn PSP**
- **FUNGICIDES ~€4bn PSP**
- **INSECTICIDES ~€2bn PSP**
- **SEEDGROWTH**

1 Shown here is a subset of Bayer's total life cycle management activities; focused on new formulation developments which have the potential to bring significant innovation to customers compared to currently marketed product. Products shown may not yet be fully registered in all jurisdictions.

2 SeedGrowth is currently reported within other SBEs

Selection of projects listed here and included in the peak sales potential by segment do not include projects in early research or discovery.

- **PSP** = Peak Sales Potential
- **advanced to next phase**
Platform Capabilities and Development Timelines

Appendix 2
## Breadth and Depth of Five Core R&D Platforms Power Innovation

### SEEDS & TRAITS
- **Breeding**
  - Leading germplasm libraries paired with advanced breeding and data science technology application
  - $1.7P^3$ calculations in cloud-based algorithms
  - >3,500 unique field-testing locations
  - >500 deployments a in corn, soybeans, vegetables in 2021

- **Biotech**
  - Leading protein optimization technology with extensive protein libraries
  - First to combine RNAi technology with biotech
  - >2.7bn datapoints generated by Precision Genomics team to deliver biotech traits and accelerate genetic gain
  - >15 new and next-gen. traits in development

### CROP PROTECTION
- **Chemistry**
  - Strong discovery platform for molecules with new modes-of-action and differentiated profiles
  - 100% novel Mode of Action in early discovery
  - >2.7bn datapoints generated by Precision Genomics team to deliver biotech traits and accelerate genetic gain

- **Biologics**
  - 30-60 molecules selected for field trials per year
  - Expect ~100 new formulations to launch in the next decade

- **Data Science**
  - 270,000 microbes in collection
  - >100,000 strains characterized every year with in silico, in vitro or in planta assays
  - >1700 trials in 44 countries in 2021
  - >1,700 trials in 44 countries in 2021
  - ~60m acres of commercial products in row crops annually

### DIGITAL FARMING
- **SEEDS & TRAITS**
  - #1 database of grower and field trial seed performance data in the industry
  - >87.5bn data points of product performance under real-world farmer management practices
  - >180m subscribed acres across 23 countries

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Bayer Crop Science Annual R&D Pipeline Update // February 16, 2022
Scale and Expertise in Biotech Crop Development Lead the Industry

Designing Crops to Revolutionize Agriculture

Trait Development Process (12-15 years)

Phase 0
Gene/Trait Identification
Genomics and High-Throughput Protein Screening to Identify Desired Characteristics

Phase 1
Proof of Concept
Gene Optimization and State-of-the-Art Genome Editing Capabilities Drive Product Concept Demonstrations In-Crop

Phase 2
Early Development
Large-Scale Transformation, Commercial Candidate Selection, Pre- Regulatory Data Generation

Phase 3
Advanced Development
Trait Integration, Regulatory Data Generation

Phase 4
Pre-Launch
Regulatory Submissions & Approvals, Seed Bulk-Up, System Testing and Pre-Marketing

Competitive Advantage
Industry-leading genomics capabilities and germplasm libraries
Best-in-class screening capabilities

Gene/Trait Identification
Genomics and High-Throughput Protein Screening to Identify Desired Characteristics

Competitive Advantage
Best-in-class genome editing and gene expression toolkits drive precision in gene to phenotype optimization
High throughput protein optimization leveraging machine learning to design unique modes of action for pest control

Early Development
Large-Scale Transformation, Commercial Candidate Selection, Pre- Regulatory Data Generation

Competitive Advantage
Ability to rapidly test many gene combinations to evaluate stacks
Knowledge of optimal genome locations
Largest global field-testing footprint diversifies geographic data insights

Advanced Development
Trait Integration, Regulatory Data Generation

Competitive Advantage
New traits are introgressed into the most elite germplasm, and stacked with the industry’s leading traits

Pre-Launch
Regulatory Submissions & Approvals, Seed Bulk-Up, System Testing and Pre-Marketing

Competitive Advantage
Unrivaled global regulatory experience
Identification of optimal agronomic systems (trait, germplasm, chemistry) for product deployment & customer recommendations

Industry leading genomics capabilities and germplasm libraries
Best-in-class screening capabilities

Transformative Technologies
Competitive Advantage
Industry-leading genomics capabilities and germplasm libraries
Best-in-class screening capabilities
Designing Low Impact Chemicals to Safely & Sustainably Address Needs of Farmers and Society

Chemical Crop Protection R&D timeline (10-14 years)

**Phase 0**
Molecular Target & Hit Identification
- AI-supported molecular target & hit identification toward selection of potent and safe molecules
  - Competitive Advantage
  - Powerful target-based discovery platform
  - Unique early safety assessment with *in vitro* tests and *in silico* prediction tools & models
  - Focus on novel Mode of Action & novel chemical spaces

**Phase 1**
Proof of Concept
- Profiling of best candidates addressing market needs; Field trials; chemical & formulation optimization; mammalian & environmental toxicology assessment
  - Competitive Advantage
  - AI-supported design of molecules to create desired properties
  - World-class biology testing
  - Combined regulatory and chemical expertise allow early decisions to maximize probability of success

**Phase 2**
Early Development
- Commercial candidate selection and product concepts; process development; pre-regulatory data generation
  - Competitive Advantage
  - Largest global field-testing footprint diversifies geographic data insights
  - Industry-leading formulation expertise with locations in Europe, NA, APAC
  - CoGs leadership ensured by cutting edge science and AI-supported synthesis and route design

**Phase 3**
Advanced Development
- Commercial proof of concept, regulatory data generation
  - Competitive Advantage
  - Largest portfolio of assets and digital capabilities to define digitally enabled tailored solutions (CP, Breeding, Plant Biotech, Data Science)
  - Scientific and agronomic knowledge to design best resistance-breaking products

**Phase 4**
Pre-Launch
- Regulatory Submissions & Approvals, Production, Application Optimization, Pre-Marketing
  - Competitive Advantage
  - Unrivaled global regulatory experience advising
  - Evaluation of agronomic systems for product deployment & customer recommendations

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Industry-Leading Expertise in Chemical Crop Protection R&D

...
Scale and Leading Technology Drives New Seed Development

Enhancing the Breeding Process with Scalable Analytics, Automation and Improvements in Testing

Germplasm Product Development Process (8 - 10 years)

**Discovery**
- Population Selection: Population simulation and selection for desired agronomic characteristics and attributes
- Competitive Advantage: Industry-leading global germplasm libraries across crops and markets
- Decades for field and genomic data combined with industries leading data science platform

**Phase One**
- Early Development: Advanced genomic selection, first year of field testing, and early demonstration of Product Concept In-Crop
- Competitive Advantage: Ability to rapidly sample and genetically evaluate millions of seeds
- Advanced Product Design facilities that enable multiple cycles of planting per year

**Phase Two**
- Intermediate Development: Large-Scale Field Testing, Trait Integration, disease screening advanced selection analytics, early COGS assessment
- Competitive Advantage: Industry leading Trait Integration programs stack traits into elite germplasm
- Largest global field-testing footprint diversifies geographic data insights

**Phase Three**
- Advanced Development: Traited Testing, Early Tailored Solutions data generation, and preparation of digital data package for Climate models
- Competitive Advantage: Fully automated seed distribution centers prescriptively sample diverse growing environment
- Traited Testing evaluates products as they would be experience by the growers

**Phase Four**
- Pre-Launch: Broad product testing by R&D and Marget Development, Seed Bulk-Up, System Testing and Pre-Marketing
- Competitive Advantage: Most advanced and distributed network of field testing in the industry
- Evaluation of agronomic systems for product deployment & customer recommendations
Exploring New Product Concepts Drives Future Growth for Biologics
Open Innovation approach broadens product offerings with exceptional product development and support

4-6 Year Product Development Timeline

Partner of choice for developing biological products including new concepts

**Discovery**
- Vast library of diverse microbes for new generation of microbials and biochemicals

**Research Optimization**
- Core competencies in fermentation and formulation optimization of microbial products for agriculture

**Field Development**
- World wide network of field testing capabilities for early screening and development of spray programs

**Grower Support**
- Dedicated resources to understand compatibility, rainfastness and stability of biologicals in jug and on seed

**Industry leading portfolio**
- Sustaining today’s leading lineup and pioneering next generation of biologicals

**Competitive Advantage**
- In depth understanding of genomes and modes of action results in novel products

**Competitive Advantage**
- Market leading end use products with ease of handling for customer and good shelf life for distribution

**Competitive Advantage**
- Understanding of geographic product range with precise guidance on practical use

**Competitive Advantage**
- Exceptional customer support with market leading biological products

**Competitive Advantage**
- Ability to address untapped markets and work within challenging regulatory constraints worldwide