Science for a Better Life
A Global Leader in Health & Nutrition

Investment Case
November 2022 / Bayer AG
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.
Bayer: A Global Leader in Health and Nutrition
Well Positioned to Create Value in Growing Markets using Science to Address Societal Megatrends

Bayer Group Sales

- €44.1bn FY 2021
- 46% Crop Science
- 42% Pharmaceuticals
- 12% Consumer Health

Crop Science

- #1 in Sales and Profitability & R&D
- ~€100bn\(^1\)

Pharmaceuticals

- #3 OTC Player
- Leading Positions in Key Therapeutic Areas
- ~€1,000bn\(^2\)

Consumer Health

- ~€150bn\(^3\)

Market Size

\(\text{\textsuperscript{1}}\text{Source: Company Estimates}\)
\(\text{\textsuperscript{2}}\text{Source: IQVIA MIDAS MAT Q3-20}\)
\(\text{\textsuperscript{3}}\text{Source: Nicholas Hall & Company DB6}\)
Global Megatrends in Health & Nutrition
Attractive Macro Drivers of Our Strategy and Underpin the Need for Innovation

Megatrends through 2050

Societal Needs

Our Mission

We leverage science to address these societal needs – with the ultimate goal to improve people’s lives

2 FAO 2017, (FAO Global Perspective Studies)
3 Nelson et. al, (2014); FAO 2016 “Climate change and food security”
Leadership and Innovation Set the Course for Our Future Growth

Key Growth Drivers

- Long-term megatrend tailwinds are propelling growing demand in the Life Sciences
- Number one position in Ag inputs and leading positions in key Pharma and Consumer categories
- World-class innovation: technological breakthroughs driven by the bio-revolution
- Accelerated transformation and further efficiency gains in our operations
- Focus on sustainability to create new value

Crop Science Innovation Pipeline

- Annual R&D Investment: €2.0bn
- Key Current Launch Products:
  - TendFlex
  - VTPRO
  - INTACTA SmartStax PRO
- Key Mid-/Late-Stage Pipeline Opportunities:
  - Short Stature Corn
  - Soybean Herbicide Trait Stack with Five-Tolerances
  - Fox Supra (Indiflin®)1

Pharmaceuticals Innovation Pipeline

- Annual R&D Investment: €3.1bn
- Key Current Launch Products:
  - Finerenone
  - NUBEQA
  - Kerendia
  - Elinzanetant (KaNDy NT-814)
- Key Mid-/Late-Stage Pipeline Opportunities:
  - Non-diabetic CKD
  - Heart Failure
  - Thrombo-embolic diseases
  - Vasomotor symptoms during menopause

Note: Subject to regulatory approvals and pending registrations. Represents a subset of the pipeline.

1 In collaboration with Sumitomo
New Transformation Program with Gross Contributions of >€1.5bn
Expect Partial Reinvestment to Drive New Opportunities; Remainder to Drive Margin Expansion

- Bayer 2022 program successfully concluded
- We accelerate our transformation to become leaner and more agile
  - Divisions and Enabling Functions
  - Improving our go-to-market models
  - Strengthening our digital and data capabilities
  - Structural measures and optimization of external spend

* Gross contributions will be partially re-invested to fuel growth and are included in our guidance for 2022-24
Note: One-time costs in same magnitude as for Bayer 2022 (1.7x the total contribution)
Focus on Cash Generation Now Embedded in Incentive Plans

Improvements Expected from Sales Growth, Working Capital & Divestments; Litigation Pay-outs and One-Time Costs for Transformation Mitigating Factors

**Improve Free Cash Flow**
- Optimize **working capital** focusing on overdue management, inventory and payables; prioritizing **CapEx**

**Adapt incentive scheme**
- Free Cash Flow integrated as a key performance metric in our **short-term incentive** plan for all managerial employees

**Capital Employed / Divestments**
- Optimization of **fixed asset** portfolio, for example sale of property
- **Sale of businesses / brands** below division level (e.g. ES professional)

**Litigation pay-outs & special items**
- Our Free Cash Flow is impacted by **litigation** pay-outs and cash-effective **one-time costs** for transformation

ES: Environmental Science
Disciplined Capital Allocation to Delever, Pay Dividends and Invest

Expect Net Debt to Return to €28-30bn by 2024

**Capital allocation priorities**

- **Deleveraging**: Rating target: A category
- **Dividends**: Pay-out range: 30-40% of cEPS
- **External growth investments**: Bolt-on M&A, Leaps

**Net financial debt development**

- 2021: €33bn
- 2022e: €31bn
- 2024e: €28-30bn

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1. From non-strategic divestments below divisional level and sale of other fixed assets
2. Currency assumptions based on month-end Dec 2021 spot rates (1 EUR=) 1.13 USD, 6.31 BRL, 7.98 CNY, 128 JPY, 85.4 RUB
3. Currency assumptions based on month-end Dec 2020 spot rates (1 EUR=) 1.23 USD, 6.37 BRL, 7.98 CNY, 126 JPY, 91.5 RUB

= Indicates corridor between high- and low case
Sustainability is Integral to Our Values, Strategy and Operations

We intend to create bold impact and generate sustainable business opportunities

**Megatrends**

- Aging Population
- Growing Population
- Pressure on Ecosystems

**Societal Needs**

- Preserve and restore health
- Secure sufficient supply of quality food
- Use natural resources more efficiently and responsibly

**Impact**

- Help more people thrive
- Decrease ecological footprint

**Our Vision: Health for all, hunger for none**

**Sustainable Growth**

Long-term business growth through sustainable innovation
Investment Thesis

Key Takeaways

1. We are a global leader in Health & Nutrition that addresses societal megatrends
2. We are well-positioned to shape disruption in the bio-revolution
3. We expect to translate innovation into profitable mid-term growth
4. We expect to improve our profitability by accelerating our transformation
5. We have disciplined capital allocation priorities: delever, pay dividends and invest
6. We have integrated sustainability in our business strategy and incentive systems
Science for a Better Life
Shaping the Future of Agriculture

Investment Case
November 2022 / Bayer AG
Shaping the Future of Agriculture

1. Market & Position
2. Strategy
3. Operational Performance
4. World-Class Innovation
5. Digital Transformation
6. New Standards in Sustainability
The Established Leader in Crop Science

Industry Leading Profitability Underpinned by >€2bn in Annual Seed & Trait Licensing Revenue

**Largest in Sales**

<table>
<thead>
<tr>
<th></th>
<th>Total Sales ($bn), FY 2021</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>11.2</td>
<td>9.0</td>
</tr>
<tr>
<td>Syngenta + Adama</td>
<td>18.2</td>
<td></td>
</tr>
<tr>
<td>Corteva</td>
<td>13.2</td>
<td></td>
</tr>
<tr>
<td>BASF</td>
<td>8.2</td>
<td></td>
</tr>
</tbody>
</table>

**Highest Profitability**

<table>
<thead>
<tr>
<th></th>
<th>EBITDA ($bn) / EBITDA Margin (%) FY 2021</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>4.7 / 23.2%</td>
<td></td>
</tr>
<tr>
<td>Syngenta + Adama</td>
<td>3.2 / 17.5%</td>
<td></td>
</tr>
<tr>
<td>Corteva</td>
<td>2.2 / 16.5%</td>
<td></td>
</tr>
<tr>
<td>BASF</td>
<td>1.4 / 16.8%</td>
<td></td>
</tr>
</tbody>
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1 Company information; exchange rate: FY 2021: ~1.18 USD/EUR. EBITDA before special items. FY2021 sales representing the legacy Syngenta results plus Adama of FY 2021.
Growers Worldwide Recognize the Value We Deliver

#1 in Seed & Traits Sales with Leading Crop Protection Portfolio in €100bn Global Ag Input Market

Bayer Crop Science 2021 Sales (€20.2bn)

Sales by Product Line

- Corn Seed & Traits: 26%
- Herbicides: 26%
- Fungicides: 15%
- Soybean Seed & Traits: 11%
- Insecticides: 7%
- Other: 7%
- Environmental Science: 5%
- Vegetable Seed: 3%

Sales by Region

- North America: 43%
- Latin America: 25%
- EMEA: 21%
- Asia / Pacific: 11%

1 Source: Company estimates. Market positions based on 2021 data. 2 announced definitive agreement to sell Environmental Science Professional business in March, 2022
Vision / Health For All, Hunger For None

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

Pillars:
- Operational Excellence
- World Class Innovation
- Digital Transformation
- New Standards in Sustainability

Win by being more grower centric

Strategic Ambition

Perform:
Grow above market and deliver strong returns

Transform:
Achieve 100% digitally enabled sales by 2030
A Clear Plan to Accelerate Growth and Outperform the Market

1. Deliver growth in crop protection sales through new products, integrated offerings

2. Grow corn seed & traits with annual portfolio refresh and new insect traits

3. Upgrade the Americas to next-gen soybean trait technology

4. Implement new vegetable seeds strategy and launch new traits in cotton to drive growth

5. Achieved planned 2022 synergies in 2021; accelerate with new efficiency program until 2024
Driving Higher Value with Lowest Estimated Environmental Impact
Crop Protection Portfolio Relative to Sales and Treated Value

Preliminary impact assessment has been conducted by Technical University of Denmark (DTU) based on the PestLCI/USEtox® models. PestLCI secondary distributions currently out of scope. Impact assessment limited to current scientific consensus of USEtox®: aquatic organisms and the substances which can be characterized in USEtox®. Terrestrial and pollinator impact assessment is currently not included in USEtox®. CP application data mostly from third parties such as Kynetec/Kleffmann. In some countries based on Bayer estimates.

Bayer Crop Protection accounts for nearly 12% of the global treated area, yet less than 2% of the environmental impact.
Herbicides: Focused on Unlocking Greater Flexibility

Herbicide sales in 2021: **€5.3bn**, Pipeline Peak Sales Potential of **~€3bn**

**TriVolt**
Pre-emergence selective corn herbicide

- Contains 3 AIs: Thiencarbazone, Flufenacet and Isoxaflutole to help growers mitigate resistance challenges
- TriVolt goes to work to provide overlapping residual control of key broadleaf weeds and grasses.

**Convintro**
Waterhemp and Palmer Amaranth control in North America

- Diflufenican is a new site of action for use in corn and soybeans in North America
- Diflufenican is already used in Europe and will be available for burndown and pre-emergence

**Launched in 2022**

- **Control**
- **TriVolt Complete**

**To Launch in mid-decade**

- **Pyroxasulfone**
- **Convintro**

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1 Internal estimates; 2 Not yet registered in U.S. or Canada and is subject to approval

/// Bayer AG /// Investment Case /// November 2022
Fungicides: New Innovations Drive our Growth Potential

Fungicide sales in 2021: €2.9bn, Pipeline Peak Sales Potential of ~€4bn

- **Fox Supra**
  - Offers *unrivaled control* of Asian Soybean Rust
  - Builds on #1 position in soybean fungicides² in LATAM

- **Delaro Complete**
  - Highest performing foliar fungicide from Bayer
  - Third MoA provides consistent control against Gray Leaf Spot, White Mold and Brown Spot
  - Corn, soybeans

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

**Fox Supra**
- Adds next-gen technology *Indiflin*¹ to Fox Xpro

**PSP of >€400m**
- Pre-Launch in 2022; full scale launch in 2023

**Delaro Complete**
- Prothioconazole
- Trifloxystrobin
- Fluopyram
- MoA 3

**PSP of >€100m**
- Launched in the U.S. in 2021

**Xivana**
- Powered by Fluoxapiprolin

**PSP of >€150m**
- Pre-Launch in 2022; full scale launch in 2023

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1 In collaboration with Sumitomo; ²Internal estimates; ³BASF Orkestra Ultra

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Typical use rates: potatoes, vegetables [g/ha]

- Mandipropamid
- Cyazofamid
- Metalaxyl
- XIVANA®

Use in soybeans in Frankenmuth, Michigan, 2019

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# Bayer AG /// Investment Case /// November 2022
Insecticides: New Launches Drive our Global Expansion

Insecticide sales in 2021: €1.4bn, Pipeline Peak Sales Potential of ~€2bn

- **Diamide insecticide** with active ingredient Tetraniliprole
- Expansion in Asia Pacific; recently launched in key markets like China and Vietnam and now registered in 21 countries
- Use in key crops; corn, rice, potatoes, fruits & nuts and vegetables

Peak Sales Potential ~€300m

![Untreated Control](image1) ![Tetraniliprole Vayego duo](image2)

- Fast-acting and long-lasting control of all important caterpillars and selected beetles and sucking pests

Plenexos

- First ketoenol insecticide expected to offer both foliar and soil uses against key sucking pests (aphids, white flies)
- Spidoxamat is suitable for application in arable and horticulture crops (soybeans, cotton, fruits and vegetables)
- First regulatory submissions in key markets in 2022, approvals expected starting in 2024

Peak Sales Potential >€300m

![Untreated Control](image3) ![Spidoxamat - Foliar](image4)

- Fast-acting and long-lasting control of all important caterpillars and selected beetles and sucking pests

![Untreated Control](image5)![Tetraniliprole Vayego duo](image6)
### 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 biologicals, 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

NEW

Closed transaction with Gingko Bioworks to become multi-year microbial strategic partner

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

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#1 in Global Corn Seed & Trait Sales

Expect to Widen the Gap with Corn S&T Pipeline with €10-11bn of Peak Sales Potential

## 2021 Corn S&T Sales

<table>
<thead>
<tr>
<th>In €bn</th>
<th>Bayer</th>
<th>Corteva</th>
<th>Syngenta AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

## Key Seed Brands

- **U.S.**
  - Seed Share & Position: >55%, #1
  - Trait Share: ~85%

- **Brazil**
  - Seed Share & Position: ~30%, #1
  - Trait Share: ~30%

- **Argentina**
  - Seed Share & Position: ~50%, #1
  - Trait Share: ~50%

- **Mexico**
  - Seed Share & Position: >70%<sup>5</sup>, #1
  - Trait Share: NA

- **Europe**
  - Seed Share & Position: ~20%, #2
  - Trait Share: NA

- **South Africa**
  - Seed Share & Position: ~70%, #1
  - Trait Share: ~65%

### Key Corn Traits in Bayer Pipeline – Underpinned by Annual Launch of >250 New Hybrids Globally

- **VTPRO4**
- **SmartStax PRO**
- **SmartCorn System**
- **VT4PRO**
- **HT4 and HT5 Corn**
  - 4<sup>th</sup> Gen Lepidoptera Trait
  - 5<sup>th</sup> Gen Lepidoptera Trait

### Key Corn Traits

- Short-stature corn hybrids
- Short-Stature Corn – Biotech Trait
- 4<sup>th</sup> Gen Coleoptera Protection Trait

1. Source: Bayer and Corteva as reported, Syngenta based on Agbiocinvestor estimates, exchange rate FY2021: ~1.18 USD/EUR; 2. Internal estimates; market position and seed (germplasm) share measured as of 2022 for U.S. and Europe and as of 21/22 season for Brazil, Argentina, Mexico and South Africa; 3. Includes the sum of branded plus licensed seed share in the respective countries/regions; 4. Represents the percentage of corn acres planted in the country that contain at least one Bayer biotech trait; 5. Hybrid corn market only; 6. Expect ~50% of peak sales potential to be incremental and expect ~80% of the projects to reach peak by 2035.
CRW3: Industry’s-Only RNAi-Based Corn Rootworm Trait

Rollout of Most Advanced Corn Rootworm Control Trait Continues

LAUNCHED: Brazil/Argentina 20/21
2021/2022: >4m acres

LAUNCHED: U.S. 2022
2022: ~100k acres
2023e: >1m acres

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.

• 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

Corteva QROME Product (P1366Q)
Average Root Rating: 0.30
Location: Ireton, Iowa July 20, 2021
Average Root Rating: 1.20

2021 U.S. Field Results

• ~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. 4 VT4PRO with RNAi Technology corn products are expected to be commercially available for the 2024 growing season.
Global Soybean Seed & Trait Sales Leader

Upgrading the Americas with Recent XtendFlex and Intacta 2 Xtend Trait Launches

### 2021 Soybean S&T Sales

<table>
<thead>
<tr>
<th>Brand</th>
<th>Sales (€bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>2.2</td>
</tr>
<tr>
<td>Corteva</td>
<td></td>
</tr>
<tr>
<td>Syngenta AG</td>
<td></td>
</tr>
</tbody>
</table>

### Bayer 2022 Soybean Seed & Trait Share

- **U.S.**
  - Seed Share & Position: >35%, #1
  - Trait Share: >50%
- **Brazil**
  - Seed Share & Position: ~20%, #2
  - Trait Share: >80%

### Key Seed Brands

- Agriarion
- Corn States
- Fontanelle
- Monsoy
- Leuvis
- Channel
- Jung Seeds
- Golden Seed
- Syngenta AG
- Kruger

### Key Soybean Traits in Bayer Pipeline – Underpinned by Annual Launch of ~150 New Varieties in the Americas

<table>
<thead>
<tr>
<th>Year</th>
<th>Trait</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>HT4 Soybeans (3rd Gen Insect Protection Trait)</td>
</tr>
<tr>
<td>2025</td>
<td>HT5 Soybeans (4th Gen Insect Protection Trait)</td>
</tr>
</tbody>
</table>

*Source: Bayer and Corteva as reported; Syngenta based on AgbioInvestor estimates; exchange rate FY2021: ~1.18 USD/EUR; 2 internal estimates; market position and seed (germplasm) share measured as of 2022 for U.S and as of 21/22 season for Brazil; 3 includes the sum of branded plus licensed seed share in the respective countries/region; 4 represents the percentage of soybean acres planted in the country that contain at least one Bayer biotech trait.*
XtendFlex and XtendiMax Defend #1 Soybean System in NA

~16m XtendFlex Acres in First Season in North America; >20m in 2022

- Provides tolerance to dicamba and glyphosate
- Recommended Herbicide Pairings:
  - XtendiMax® + Rappor®
  - GLP® + Warrant®
  - Roundup PowerMAX® + Warrant®
- Proven performance, high-yield potential, strong agronomics
- Broadly licensed across the industry

Only system with **14-days residual activity**; controls significantly more weeds than the Enlist system

~45m acres in soybean system in 2022; retained **leading position** in 2022

Top volume XtendFlex soybeans have a **2.5+ bu/acre** advantage vs. Enlist E3 soybeans

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1 Bayer internal estimates; 2 2021 Farmer Managed Soybean System Trials (67 locations in 2021 reporting data located with 12-IA, 11-IL, 9-IN, 3-MI, 8-MN, 8-NE, 5-OH, 2-PA, 2-WI, 1-ND, 1-SD, 4-KS). Significant at P ≤ 0.05 LSD at 1.2 Bu/A as of 01/05/2022. 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; 3 Based on EPA labels for the chemistries.
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 2021/22

- 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 in Phase 3; delivering multiple modes-of-action for insect control
- IP4 ADVANCED to Phase 1; focused on Brazil

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

# 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

1st generation

ThryvOn

First-ever biotech trait for piercing and sucking insect control

5 herbicide tolerances

HT4 Cotton

- Glyphosate
- Dicamba
- Glufosinate

4th generation

Bollgard 4 Cotton

Season-long protection with multiple modes of action for key lepidopteran pests

Stewarded Commercial Launch in 2022 in the U.S.

ADVANCED to Phase 3

Control

HT4 Cotton

2x 5-way tank mix at V3 stage in U.S. 2020 field trial in Scott, MS

ADVANCED to Phase 3

Control

Bollgard 4 Cotton

2019 Rocky Mount NCSU Results

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$^1$2021 cotton seed & traits sales for Bayer Crop Science

ThryvOn™ 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.
Industry Leading R&D Investment Powers Pipeline Potential

2021 Ag R&D Investment (€bn)

- Bayer Crop Science: 2.0
- Syngenta + Adama¹: 1.0
- Corteva: 1.0
- BASF Ag: 0.9

2021 reported results, exchange rate: FY 2021: ~1.18 USD/EUR

1 Represents the legacy Syngenta results plus Adama
2 Includes permanent and temporary employees
3 2021

Top Talent:
- >7,100 R&D employees²
- >100 Key Collaborations

Generating Next Generation Solutions:
- >500 Hybrids & Varieties Deployed³
- 15 New Biotech Traits in Development
- >300 New Crop Protection Registrations³
- 30-60 New Molecules in Field Trials Annually

Seed & Traits
Ag Chem
Competitors

Leadership
World-Class Innovation
World-Class Innovation

Bayer AG /// Investment Case /// November 2022
Pipeline with Up to €30bn Peak Sales Potential Delivering for Farmers
Seed, Trait, Crop Protection and Digital Solutions Peak Sales Potential by Strategic Business Segments

**World-Class Innovation**

**Insecticides: ~€2bn**
- Plenexos
- Novel Mite Solution

**Herbicides: ~€3bn**
- 3 New Herbicides (Corn, Corn & Soy, Other)
- New post-emergence broad acre Herbicide

**Soybeans S&T: ~€3bn**
- Annual Germplasm Upgrades
- HT4 and HT5 Soybeans
- 3rd and 4th Gen Insect Control Traits
- Digital Tools (e.g. Disease Management, Seed Placement)

**Fungicides: ~€4bn**
- Fox Supra (Indiflin®)
- Iblon
- Xivana
- Minuet/Serenade Soil Activ
- 2 new Fungicides (soybeans, F&V)
- New Biological Fungicide (F&V)

**Corn S&T: ~€10-11bn**
- Annual Germplasm Upgrades
- Short Stature Corn
- 4th and 5th Gen Insect Control Traits
- 4th and 5th Gen HER Tolerance Traits
- Digital Tools (e.g. Disease Management, Seed Density)

**Veg. & Other: ~€6-7bn**
- Annual Germplasm Upgrades
  (e.g. vegetables, canola, cotton, rice)
- Hybrid wheat
- HT4, ThryvOn Technology, Bollgard 4 in Cotton
- Canola Dicamba Tolerance Trait
- Sugarbeets 2nd Gen Herbicide Tolerance Trait
- Digital Tools (e.g. Microsoft Collaboration, Orbia, Wheat Digital Disease Management EMEA)
- Carbon
- New Biological Seed Treatment (SeedGrowth)

1 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. ~50% incremental sales value. Estimated to reach ~40% of peak sales potential by 2031, ~40% by 2032-2035 and ~20% by 2036+. Note: Projects listed are subset of the pipeline; selected top contributors to peak sales potential; as of February 2022
Short-Stature Corn Offers Transformational Shift in Production
Phase 4 Breeding Approach Expected in U.S. Pilot in 2023; Biotech Approach in Phase 3

**Key Features and Benefits of Short-Stature Corn**

- **Reduced Crop Loss**
  - 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

- **Precision of Crop Application**
  - Improved in-season crop access due to reduced height
  - Supports tailored solutions with precise in-season crop protection

- **Increased Environmental Sustainability**
  - Potential to optimize use of key nutrients like nitrogen, as well as reducing land and water requirements
  - Shows promise in unlocking yield potential through increased opportunity to optimize crop inputs, planting densities, and field placement.

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

Anticipated Fit on >220m Acres and Incremental Peak Sales Potential of ~€1bn for NA

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Iowa 2020 Trials Following Derecho Windstorm

Spray Rig in Short-Stature Corn Plot

Jerseyville, IL August 2019

Nitrogen Y-Drops for Precise In-Season Application

Poseyville, Indiana July 2021
Three Generations of Soybean Herbicide Tolerance Traits

Technologies Provide Solutions to Address Farmers’ Needs, Herbicide Resistance Challenges

3 herbicide tolerances

- Glyphosate
- Dicamba
- Glufosinate

XtendFlex Soybeans

LAUNCHED; reached >20m commercial acres in 2022

Enlist E3 Soybeans

June 29th, 2021 | Storm Lake, Iowa

5 herbicide tolerances

- Glyphosate
- Dicamba
- Glufosinate
- HPPD (Mesotrione)
- 2,4-D

HT4 Fourth-Gen Phase 3

Expected 2027 launch

Control HT4 Soybeans

July 14th, 2021 | Jerseyville, Illinois

6 herbicide tolerances

- Glyphosate
- Dicamba
- Glufosinate
- HPPD (Mesotrione)
- 2,4-D
- PPO

HT5 Fifth-Gen Phase 2

July 14th, 2021 | Jerseyville, Illinois

Always read and follow label instructions. Products not registered in all jurisdictions.
First New Herbicide MoA in Post Emergence Weed Control in 30 years

New Herbicide Molecule

- Potential to build on #1 position in global herbicides¹
- Allows use in various market segments, beyond traditional nonselective use
- Herbicide tolerance trait to be paired with this molecule currently in discovery

Project is currently in Phase 3

Glyphosate Standard 1

Mix Partner + New Herbicide
Product concept with new active

¹ Internal estimates
**CoverCress:** New Cash Cover Crop to Serve as Low-Carbon Renewable Feedstock for Growing Biodiesel Market

Bayer Acquires Majority Share (65%) in Sustainable Low-Carbon Oilseed Producer CoverCress Inc. (CCI)

*Example: CoverCress seed fit in Bayer rotational corn/soy crop system*

**Unique Rotational Contract Offer & Agronomic System**

Lowers Carbon with Higher Oil for Renewable Diesel and Creates Carbon Value for Farmer – 3 Crops in 2 Seasons

**Smart Corn System**

**CoverCress System**

**HT4 Soy System**

**CoverCress:**

- Low input rotational cash crop with ecosystem benefits of a cover crop and attractive economics of an oilseed crop
- Carbon sequestration and ecosystem services potential
- Developed through gene editing and advanced breeding tools; improved the oil profile, protein content and yield of field pennycress
- Niche market in U.S. Midwest initially; within draw area in proximity to crushing and refining facilities
- Expect to launch crush-ready CoverCress product mid-2020’s

**The Need:**

- Majority of aviation and industrial transportation sector emissions reductions to come from sustainable low carbon intensity biofuels, due to lack of electrification options
- Expect demand for 6bn gallons of Renewable Diesel/Sustainable Aviation Fuel by 2030

**The Business Model:**

- Closed Loop Production Contract: Farmers paid a premium to contract produce CoverCress; Bunge delivers premium valued oil to Chevron to convert to Renewable Diesel/Sustainable Aviation Fuel
- CoverCress receives payment from crusher (e.g. Bunge) for the crop delivered; owners share profits: Bayer 65%; Chevron and Bunge 35%
Climate FieldView Digital Tools Reach >200m Subscribed Acres in 23 Countries; Fueled by Grower and Field Trial Performance Data

>200m subscribed acres

#1 brand in digital ag¹

Operates in 23 countries

Largest database of grower and field trial seed performance data in industry

>70 partners on platform

¹ according to Kynetec December 2021 FieldView Brand Tracker
Digital Farming Solutions Underpin and Enhance Our Ability to Bring Transformational Solutions to Agriculture

Our Vision for Digital Agriculture

- Increase **yield** and improve **profitability**
- Glean insights from data to help **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**
Digital Unlocks Scalable Climate-Smart Business Models

Carbon Markets Valued at >$200bn/year¹ and Growing with Consumers’ Demand for Sustainability

FIELDVIEW has the potential to streamline the way carbon is measured, verified and reported, to enable scalable, climate-smart business models

Carbon Initiative

~2,600 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 trust²

Enables 3 Expected Downstream Revenue Opportunities

Carbon Services

Product sales

Carbon assets

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

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

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

**Orbia**

- JV between Bayer, Bravium, Yara and Itau; Bayer with ~60% stake
- Connects growers, input providers and grain traders to a network to expand their reach, secure financing, redeem rewards from Bayer’s Impulso loyalty program, purchase and sell inputs
- Established in 2019 in Brazil, later expanded to Argentina, Colombia and Mexico
- ~300 distributors with inputs such as pesticides, seeds and fertilizers
- >200,000 registered growers
- Covers ~75% of planted area

1 Brazil-based marketing agency.
The Next Frontier: Evolution to Digitally Enhanced System Solutions

Illustration: NA Smart Corn System Featuring Short Stature Corn

Discrete Solutions

Tailored Solutions

SEEDS & TRAITS + CROP PROTECTION + DIGITAL

SEEDS & TRAITS

CROP PROTECTION

DIGITAL

Performance Transparency Yield Analysis

Short-Stature Corn Hybrids

Field Level Hybrid Seed Placement & Density

Field and Zone Level Crop Protection Recommendations

Increased Value from Digital Enhancements to Grow Share of Farm

Inputs to Outcomes

2022 → 2030

1 Biotech approach in collaboration with BASF; 2 VT4PRO™ with RNAi Technology corn products are expected to be commercially available for the 2024 growing season.
Innovative, Sustainable Solutions to Address Global Challenges

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

Our Goals
- Producing & Protecting Higher-Yielding Seeds
  - Reduction in Crop Protection impact on the environment
  - 30%

Our Priorities
- Using Fewer Natural Resources
  - Reduction in Crop Protection impact on the environment
  - 30%

Our Solutions
- Advancing a Carbon Smart Future For Ag
  - 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
Science for a Better Life
Pharmaceuticals: Driving Continued Long-term Growth

//////////////
Investment Case

November 2022 / Bayer AG
Pharmaceuticals: Driving Continued Long-Term Growth

1. Market & Position
2. Strategy
3. Growth Drivers
4. Innovation
We are Operating in a Rapidly Changing but Attractive Market Environment Driven by Megatrends and the Bio Revolution

Pharma Market

- **Market Size 2021e**: ~€1,180bn
- **Market CAGR 2021-25e**: 4 - 5%

Market Dynamics

**Opportunities**
- Aging and growing population megatrends
- Rising life expectancy and increased access to healthcare systems
- Accelerated digital transformation across the value chain
- Technological disruption by breakthrough science
- Shift from treatment to prevention and potential cure

**Challenges**
- Pressure on pricing
- Declining R&D productivity
- Increased pressure for value and real-world evidence

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1 Source: IQVIA Market Prognosis as of September 2021

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// Bayer AG /// Investment Case /// November 2022
Bayer Pharmaceuticals Holds Strong Positions in Areas of High Unmet Medical Needs, Generating Growth and Attractive Returns

Bayer Pharmaceuticals – Sales and EBITDA margin before special items 2011-2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales [€bn]</th>
<th>EBITDA margin before special items</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1,170</td>
<td>40%</td>
</tr>
<tr>
<td>2012</td>
<td>2,918</td>
<td>50%</td>
</tr>
<tr>
<td>2013</td>
<td>4,735</td>
<td>60%</td>
</tr>
</tbody>
</table>

Sales by therapeutic area

- Cardiovascular* (36%)
- Ophthalmology* (16%)
- Hematology* (5%)
- Oncology (10%)
- Radiology (10%)
- Other (16%)
- Women’s Health* (36%)

* Market leading positions

Sales of top products

- Xarelto® 2021: 4,735
- Xarelto® 2020: 2,918
- Novaldex® 2021: 1,170
- Eylea® 2021: 823
- Adalat® 2021: 763

1) as reported in the respective fiscal years
Solid topline growth after COVID-19 related restrictions in prior year

Flagship products performed particularly well, contributing ~60% to higher sales:
- Eylea™ +19%
- Xarelto™ +6%

Successful launch of Kerendia™ and continued rollout of Nubeqa™ and Verquvo™

Lower earnings reflect continued investments into R&D and marketing of new products
Our Strategy is Geared Towards Continued and Sustainable Long-term Growth, also Addressing Loss of Exclusivity of Major Products

- **Capture the value** of the current portfolio and **manage LoE** for Xarelto & Eylea
- **Grow new potential blockbusters**
- **Build digital health solutions**
- Capitalize on **Cell & Gene therapy platform**
- **Build an at scale player** in oncology in our areas of focus
- **Evolve regional strategies in China and the US** to sustain future growth
Over the Last Three Years we Successfully Launched Four New Drugs and Strengthened Pipeline and Technologies

Main Building Blocks of Post LoE Growth

Late-stage Pipeline in CV & WH

- **Verquvo** (vericiguat) tablets
  - PSP ~ €0.5bn
  - launched in 2021
- **Kerendia** (finerenone)
  - PSP ≥ €1.0bn
  - launched in 2021
- **Elinzanetant** (KaNDy NT-814)
  - PSP ≥ €1.0bn
  - potential launch in 2025

External Innovation and BD&L

>40 BD&L transactions signed since 2020

Enhanced focus on external innovation to replenish pipeline

Oncology

- **NUBEQA** (darolutamide)
  - PSP ≥ €3bn
  - launched in 2019
- **VITRAKVI** (larotrectinib)
  - PSP > €0.75bn
  - launched in 2019

Cell & Gene Therapy Platform

C&GT platform expected to deliver significant sales contributions from ~2025 onwards

Pipeline

- eg. EGFR exon20 inhib., ATR inhibit., TTCs

1 In collaboration with Merck & Co. Inc., Kenilworth, NJ, USA
2 In collaboration with Orion Corporation

PSP = Peak Sales Potential
Capturing the Full Commercial Potential of Market Leading Therapies

New indications & label updates in 2021

- Pediatric VTE: approved in EU, Japan, Canada (EINSTEIN Jr) and the US (EINSTEIN Jr & UNIVERSE)
- Symptomatic peripheral artery disease (VOYAGER PAD): label update approved both in the EU & US

European Patent Office confirmed patent protection for once-daily treatment until 2026

Apr. 2024 + 21 months Jan. 2026

2 Phase III studies with high-dose formulation (initiated 2020)

- PHOTON (DME)
- PULSAR (neov. AMD)

Goal: Prolongation of injection intervals

Guidance FY2022

- Higher volumes to largely offset 12 months impact of VBP in China
- Mid-single digit growth
Kerendia is a Game Changer for CKD and Type 2 Diabetes Patients

Next milestone in renal disease treatment, continuing our RAAS-centric treatment history

Largest clinical program with unparalleled data

Novel MOA intensifies RAAS inhibition (gold-standard for treatment)

Treatment continuity for HCPs with trust in RAASi for CV and kidney outcomes

Characteristics of CKD/T2D

- 160m patients globally
- Shortens life expectancy by 16y
- #1 cause for dialysis/transplants

Successful launch trajectory

- Full global rights including the US
- Broad early adoption following US launch in Q3 2021
- Updated ADA guidelines
- Approved in EU in Feb. 2022

Phase III trials in 2 additional indications (HFpEF, non-diabetic CKD) with results in 2024/25

13,171 patients early in DKD progression
Kerendia sets the stage for a long-term cardio-renal vision and targets to deliver blockbuster potential

Unmet Needs

Need for RAASi intensification
Need for earlier use in disease progression
Need for disease modification and outcomes

Kidney Dedicated
Establish Kerendia as the next gen RAASi for CKD/T2D

CardioRenal Disease Modifier
Heart failure (HFpEF)
Non-diabetic CKD

Phase III studies:

- **FIDELIO-DKD**
  - (2020/2021)
- **FINEARTS-HF**
  - (2024E)
- **FiND-CKD**
  - (2025E)

Dates indicate primary trial completion according to clinicaltrials.gov

---

Bayer AG /// Investment Case /// November 2022
We are Targeting to Significantly Expand our Presence in Selected Areas of Oncology where One Blockbuster can Build a Franchise

Key elements to achieve our growth aspiration

- Continue to build strong prostate cancer franchise with NUBEQA and Xofigo
- Realize >€3bn peak sales potential of NUBEQA
- Continue to execute launch of VITRAKVI
- Expand into IO-combo opportunities with Stivarga
- Accelerate early pipeline projects
- Seek external growth opportunities through BD&L
- Continue to invest in next generation disruptive technologies
Prostate Cancer is at #2 of the Most Common Cancer Types in Men Worldwide with Significant Unmet Medical Need

Estimated number of new cases in 2020, worldwide, males, all ages

- Lung 1,435,943 (14.3%)
- Prostate 1,414,259 (14.1%)
- Colorectum 1,065,960 (10.6%)
- Oesophagus 418,350 (4.2%)
- Bladder 440,864 (4.4%)
- Liver 632,320 (6.3%)
- Stomach 719,523 (7.1%)
- Other cancers 3,938,086 (39.1%)

Characteristics of Prostate Cancer

- Usual onset: age >50 years
- Diagnostic method: PSA testing, tissue biopsy, medical imaging
- Prognosis: long-term survival in early-stage, significant higher morbidity in late-stage


// Bayer AG /// Investment Case /// November 2022
Two Highly Consistent Phase 3 Studies Confirm Nubeqa’s Strong Clinical Profile in Prostate Cancer Treatment

<table>
<thead>
<tr>
<th>Study</th>
<th>Efficacy</th>
<th>Tolerability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARAMIS nmCRPC</td>
<td><strong>Metastasis free survival</strong> prolongation by 22.0 months, 59% risk reduction (HR=0.41, p&lt;0.001)</td>
<td><strong>favourable tolerability profile</strong></td>
</tr>
<tr>
<td>ARASENS mHSPC</td>
<td><strong>Overall survival</strong> 32.5% risk reduction (HR=0.675, p&lt;0.0001)</td>
<td></td>
</tr>
</tbody>
</table>

**Potent efficacy**

**Delivering strong survival benefit and favourable tolerability**¹

¹ compared to control arm

**ARASENS strengthens the efficacy promise from ARAMIS**

**ARASENS confirms the tolerability profile of ARAMIS**

**Darolutamide**

Potential to become foundational therapy in PC
We Are Committed to Make Nubeqa Available to a Broad Spectrum of Prostate Cancer Patients

<table>
<thead>
<tr>
<th>G7 Drug treated epidemiology estimates²:</th>
<th>(Neo-)Adjuvant early-stage</th>
<th>Nonmetastatic mid-stage</th>
<th>Metastatic late-stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>~145k</td>
<td>BCR³ ~85k</td>
<td>nmCRPC² ~46k</td>
<td>mHSPC¹ ~75k</td>
</tr>
<tr>
<td>DaSL-HiCap</td>
<td></td>
<td>ARAMIS 2019</td>
<td>ARASENS 2022</td>
</tr>
<tr>
<td>Planned to be started in H2 2022</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Darolutamide (Nubeqa) Phase 3 study program:

- **DaSL-HiCap** 2028
- **ARAMIS** 2019
- **ARASENS** 2022
- **ARANOTE** (ARASEC)* 2025

**ARi’s⁶ moving into earlier segments**

---

¹ Metastatic castration resistant prostate cancer  
² Metastatic hormone sensitive prostate cancer  
³ Non-metastatic castration resistant prostate cancer  
⁴ Biochemical relapse  
⁵ G7: US, EU5, JP  
⁶ Androgen receptor inhibitor

* Not label generating; supports ARANOTE submission
Nubeqa With the Chance to Become a Foundational Drug to Treat Prostate Cancer – Peak Sales Potential of >€3bn

**Efficacy**
- Highly efficacious ARi\(^1\)
- Very consistent set of data from two Phase 3 studies
- First to show more than 30% risk reduction of death in nmCRPC and mHSPC

**Safety**
- Well tolerated safety profile
- Limited potential for drug-interactions
- Early data indicate limited blood-brain barrier penetration

**Lifecycle Management**
- Approved in nmCRPC in the US (2019), Europe + Japan (2020) and China (2021)
- Become agent of choice in prostate cancer
- Combination opportunities

---

\(^1\) Androgen receptor inhibitor

---

**Strong launch performance in nmCRPC**

<table>
<thead>
<tr>
<th>Weekly TRx (US)</th>
<th>Sales 2021: ~€220m</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>120</td>
<td>400</td>
</tr>
</tbody>
</table>

**Planned submissions for mHSPC label extension**

<table>
<thead>
<tr>
<th>Dec 2021</th>
<th>Jan 2022</th>
<th>Feb 2022</th>
<th>Mar 2022</th>
<th>Apr 2022</th>
<th>May 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

ARASENS primary endpoint met

**ARASENS at ASCO GU**
Our Innovation Engine is Delivering

1. Global R&D organization
2. Collaborations, in-licensing, M&A
   - Elinzantant
3. Platform Companies
   - CGT
   - SMOL

- Committed and experienced new leadership team
- Advancing leading cell and gene therapy business
- World leading science added through new platforms
- Unlocking value for patients in the highest need areas
External Innovation to Accelerate Replenishment of Pipeline and Broaden Modalities
Selected High-Level Overview

Momentum Significantly Increased

>40 Transactions signed since 2020

- Deals covering the entire spectrum from equity investments (with LEAPS), over licensing agreements to acquisitions
- Active portfolio management taking internal assets outside (eg. Vincera Pharma)

Strategic Focus

- Venturing into new modalities (Cell & Gene Therapy)
- Broadening the Oncology pipeline (eg. Systems Oncology, Atara)
- Commercial partnerships in China (eg. Hua Medicine)
- Deals in the Digital Space (eg. R&D: Schroedinger, Exscientia, Recursion; Commercial: OneDrop)
- Continued augmentation of core therapeutic areas: (WHC: KaNDy Therapeutics)
- Strengthening the Cardiovascular pipeline (Curadev, Broad Institute)
Elinzanetant Addresses High Unmet Needs for Non-hormonal Treatment of Vasomotor Symptoms in Menopausal Women

**Typical Vasomotor Symptoms During Menopause**

- Sleep disturbance
- Hot flashes
- Night sweats

About 16m women in the U.S. and another 16m in Europe suffer from menopause symptoms

**Elinzanetant**

- A first-in-class, non-hormonal, once-daily, oral neurokinin-1,3 receptor antagonist
- Differentiated, double mode of action
- Well tolerated - no serious AEs related to treatment
- Efficacy data compare well with BSC

**Reduction in moderate/severe VMS per day from baseline (Phase IIb results)**

<table>
<thead>
<tr>
<th></th>
<th>Week 4</th>
<th>Week 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2.7</td>
<td>-4.7</td>
</tr>
<tr>
<td></td>
<td>(P&lt;0.001)</td>
<td>(P=0.009)</td>
</tr>
<tr>
<td>Placebo</td>
<td>-6.7</td>
<td>-7.8</td>
</tr>
<tr>
<td>Elinzanetant, 120 mg OD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Phase III study started in 2021, data expected in H1 2023
Significant Progress Has Been Achieved in Anti-coagulation Therapy but Medical Need Still Exists

- Heparin and VKAs were the only anticoagulants available for most of the 20th century
- Guidelines now prefer New Oral Anticoagulants (NOACs) over VKAs for many indications
- NOACs are contraindicated in ESRD patients and in patients with mechanical heart valves
- Need remains for anticoagulants with a reduced bleeding risk especially in specific patient populations

Fredenburgh and Weitz, JTH 2020; DOI: 10.1111/jth.15128
Hereditary Factor XI Deficiency is Associated with Lower Risk for Cardiovascular and Venous Thromboembolic Events

- Subjects with hereditarily reduced levels of blood coagulation factor XI have a reduced risk of thrombotic disorders without suffering the risk of spontaneous bleeds.
- Factor XI inhibition could achieve greater anti-coagulation without increased bleeding risk.

Preis et al., Blood (2017); Georgi et al, Stroke (2019)
Advancing Leading CGT Platform with Strong Clinical Pipeline

Diverse tech platforms and capabilities

- AAV platform (AskBio and Bayer established)
- BlueRock’s iPSC
- CAR-T
- Gene-editing (+ Mammoth)

CDMO business with strong momentum

Industry leading CGT clinical pipeline

- 7 clinical projects
- >15 projects at pre-clinical stage

Example: Two-pronged approach to deliver transformative therapies to treat Parkinson’s

☑ Successful administration of first dose of DA01\(^1\) to a Parkinson’s disease patient in open-label Phase 1 clinical study

☑ Ongoing recruitment and evaluation of patients in the US for AskBio’s Phase 1b clinical study to assess safety and preliminary efficacy

\(^1\) Pluripotent stem cell-derived dopaminergic neurons

Photo: Dr. Viviane Tabar, Chair of the Department of Neurosurgery, Memorial Sloan Kettering Cancer Center
Overview Development Portfolio (as of November 8, 2022)

**Phase I (17)**
- Elimusertib (ATR Inhibitor) (BAY 1895344)
- SLFN12 Complex-Inducer (BAY 2666005)
- mEGFR Inhibitor (BAY 2920888)
- HER2/TTC (HER2-Targeted Thorium Conjugate) (BAY 2701439)
- Bapotuzumab (ILDR2 fb Antibody) (BAY 1905254)
- CCR8 dep Ab (BAY 3375968)
- AhR Inhibitor (BAY 3176803)
- Congestive Heart Failure Gene Therapy
- sGC Activator 4 (BAY 3283142)
- P2X4 Antagonist (BAY 2328065)
- BDKRB1 Receptor Antagonist (BAY 2599210)
- Pompe Disease Gene Therapy
- Parkinson’s Disease Gene Therapy
- Parkinson’s Disease Cell Therapy
- sGC Activator 3 (BAY 1211163)
- ADRA2C Antagonist (BAY 2925978)
- Zabedosertib (IRAK4 Inhibitor) (BAY 1834845)

**Phase II (10)**
- Regorafenib (combi-Nivolumab) (BAY 734506)
- Regorafenib (combi-Pembrolizumab) (BAY 734506)
- Hepatocellular Carcinoma (HCC)
- Asundexian (FXa Inhibitor) (BAY 2433334)
- Stroke Prevention in Atrial Fibrillation (PACIFIC-AF)
- 2nd Stroke Prevention (PACIFIC-STROKE)
- Major Adverse Cardiac Events Prevention (PACIFIC-AMI)
- Runcadiquat (sGC Activator) (BAY 1637108)
- Chronic Kidney Disease (CKD) (CONCORD)
- Non-prol. Diabetic Retinopathy (NPDR) (NEON-NPDR)
- Adrenomedullin Pegol (PEG-ADM) (BAY 1097761)
- Acute Resp. Distress Syn. (ARDS) (SEAL TRIAL)
- BDKRB1 Receptor Antagonist (BAY 2599210)
- Neuropathic Pain (BRADINP)
- Gadroquatrane (High Relaxivity Contrast Agent) (BAY 1747846)
- Magnetic Resonance Imaging (HRCA-PAT)

**Phase III (9)**
- Darolutamide (AR Inhibitor) (BAY 1841788)
- Prostate Cancer (mHSPC) (ARA-NOTE)
- Prostate Cancer (aHSPC) (DASL-HiCaP)
- Copanlisib (PI3K Inhibitor) (BAY 806946)
- Non-Hodgkin Lymphoma (CHRONOS-4)
- Finerenone (MR Antagonist) (BAY 948952)
- Heart Failure (HFmregEF) (FINEARTS-HF)
- Non-diabetic CKD (FIND-CKD)
- Vericiguat (sGC Stimulator) (BAY10121189)
- Heart Failure (HF-REF) (VICTOR)
- Eliquis (Neurokinin-1,3 Rec Antagonist) (BAY 3427080)
- Vasomotor Symptoms (OASIS)
- Alfibrocept (MGK (BAY 865321)
- Diabetic Macular Edema (DME) (PHOTON**)
- Neovasc. Age-rel. Macular Degen. (rANID) (PULSAR)

Selection of major Pharma development portfolio projects in clinical Phase I to III
- **ONCOLOGY**
- **CARDIOVASCULAR**
- **WOMEN’S HEALTH**
- **DISEASES**
- **OTHERS**

* Trial conducted by Merck & Co.
** Trial conducted by Regeneron Pharmaceuticals

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4 Innovation
R&D Developments (since last update on August 4, 2022)

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Initiation of <strong>CCR8 dep antibody</strong> (immuno oncology)</td>
<td>Completion of PACIFIC study program with <strong>FXa inhibitor asundexian</strong> (stroke prevention in atrial fibrillation, secondary stroke prevention and prevention of major cardiac events following an acute myocardial infarction)</td>
<td>Completion of <strong>OCEANIC</strong> study program with <strong>FXa inhibitor asundexian</strong> (stroke prevention in atrial fibrillation, secondary stroke prevention)</td>
<td><strong>Nubeqa (darolutamide):</strong> US label extension to treat patients with metastatic hormone-sensitive prostate cancer</td>
</tr>
</tbody>
</table>
| - Discontinuation of **peboctocogene camaparvovec** (FVIII gene therapy) | Completion of **fesomersen and osocimab** studies (thrombosis prevention in end-stage renal disease); decision taken to discontinue further development | Presentation of **aflibercept 8mg** study program (diabetic macular edema and neovascular age-related macular degeneration) at the Annual Meeting of the American Academy of Ophthalmology | **Kerendia (finerenone):**
  - US label extension to include results from Phase III study **FIGARO-DKD** (patients with earlier stage of chronic kidney disease associated with type 2 diabetes (CKD/T2D))
  - Adaption of KDIGO guideline to add Kerendia to a RASI and SGLT2i for treatment of CKD/T2D |

- **Oncology**
- **Cardiovascular Diseases**
- **Women's Health**
- **Others**

- **Additions**
- **Discontinuations**
- **Newsflow**
- **Advancements**
Science for a Better Life
Winning in Consumer Health

Investment Case
November 2022 / Bayer AG
Winning in Consumer Health

1. Market & Position
2. Strategy
3. Sustainability
Consumer Health: A Leading Global OTC Player

**FINANCIALS**

**Sales development**
% yoy cpa

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales development</td>
<td>2.6%</td>
<td>5.2%</td>
<td>6.5%</td>
</tr>
</tbody>
</table>

**EBITDA margin development**
In %, before special items

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA margin development</td>
<td>20.9%</td>
<td>22.0%</td>
<td>22.5%</td>
</tr>
</tbody>
</table>

**Sales by region: €5.3bn**
In %, in 2021

<table>
<thead>
<tr>
<th>Region</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>39</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Latin America</td>
<td>11</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Asia / Pacific</td>
<td>16</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

**PRODUCTS**

**Sales by categories: €5.3bn**
In %, in 2021

<table>
<thead>
<tr>
<th>Category</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain &amp; Cardio</td>
<td>15</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td>Allergy, Cough &amp; Cold</td>
<td>20</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Digestive Health</td>
<td>21</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Nutritionals</td>
<td>28</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Dermatology</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

**Market positions by category**

<table>
<thead>
<tr>
<th>Category</th>
<th>Rank</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>#1</td>
<td>Aspirin</td>
</tr>
<tr>
<td>Allergy</td>
<td>#2</td>
<td>CCFSF</td>
</tr>
<tr>
<td>Digestive Health</td>
<td>#3</td>
<td>Nutritional</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td></td>
<td>Claritin</td>
</tr>
<tr>
<td>Nutritionals</td>
<td>#2</td>
<td>Bepanthen</td>
</tr>
<tr>
<td>Dermatology</td>
<td>#1</td>
<td>Canesten</td>
</tr>
</tbody>
</table>

**Key products**

<table>
<thead>
<tr>
<th>Category</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain &amp; Cardio</td>
<td>Aspirin</td>
</tr>
<tr>
<td>Dermatology</td>
<td>Canesten</td>
</tr>
<tr>
<td>Nutritionals</td>
<td>Bepanthen</td>
</tr>
<tr>
<td>Digestive Health</td>
<td>Claritin</td>
</tr>
<tr>
<td>Allergy &amp; Cold</td>
<td>Clarity</td>
</tr>
</tbody>
</table>

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1 Source: Net Sales FY2021, TABS Market Share MAT Aug 2021
A Multifaceted Plan to Drive Further Growth

**AMBITION**
Grow ahead of the market and increase margins

**WHERE TO PLAY**
Winning & Balanced Portfolio

**HOW TO WIN**
- Growth focused Innovation (esp. in powerbrands)
- Modern Marketing & Sales (e.g. precision marketing)
- Optimized Cost & Cash (with focus on an agile organization)

**OUR ACCELERATORS**
- Digital Transformation
- Sustainability
Driving Disproportionate Growth in Attractive Segments and Markets

Strong positions in 7 out of Top 10 OTC markets

Top 5 position

Accelerate growth in fast-growing and profitable markets

USA

CHINA

India

South-East Asia
Accelerating Growth from Innovation
Iconic Global and Local Brands Built over Decades

Note: xx = Year of brand launch

1898 ASPIRIN
1940 ONE A DAY
1930 Alka-Seltzer
1943 Bepanthen
1934 Redoxon
1950 Iberogast
1983 elevit
1992 Claritin

---

Strategy: Growth-Focused Innovation
Modernizing Our Brand Building and Sales Capabilities

Brands with Purpose

From Mass to Precision Marketing

Accelerating E-commerce

1 Percentage of digital media which is data-driven precision marketing
2 Percentage of net sales which is through e-commerce channels

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2021</th>
<th>2024 - Ambition</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Precision marketing&lt;sup&gt;1&lt;/sup&gt;</td>
<td>25%</td>
<td>58%</td>
<td>80%</td>
</tr>
<tr>
<td>% Net Sales&lt;sup&gt;2&lt;/sup&gt;</td>
<td>3%</td>
<td>10%</td>
<td>15%+</td>
</tr>
</tbody>
</table>
Taking Bold Steps on Sustainability

<table>
<thead>
<tr>
<th>2030 Goal</th>
<th>Expand access to everyday health for 100 million underserved consumers</th>
</tr>
</thead>
</table>

### Societal

- **Health Literacy**
  - Partnerships & brand purpose activations for underserved
  - Vitamin Angels, Kirk Humanitarian

- **Accessible Products**
  - Affordable formats, innovations, and go-to-market (GTM) models
  - Accessible SKUs & relevant GTMs

### Environmental

- **Carbon Neutral Production**
  - CO2 reduction: Energy efficiency and renewable energy projects
  - Removal of ozone depleting liquids from HVAC plants

- **Sustainable Products**
  - Sustainable packaging
  - Baselining of environmental impact of packaging & finding alternatives
Sustainability is Integral to Our Values, Strategy and Operations

We intend to create bold impact and generate sustainable business opportunities

Megatrends

Aging Population
- Preserve and restore health

Growing Population
- Secure sufficient supply of quality food

Pressure on Ecosystems
- Use natural resources more efficiently and responsibly

Societal Needs

Preserve and restore health

Secure sufficient supply of quality food

Use natural resources more efficiently and responsibly

Impact

Our Vision: Health for all, hunger for none

Help more people thrive

Decrease ecological footprint

Sustainable Growth

Long-term business growth through sustainable innovation
Sustainable Innovation as Foundation for Business Opportunities

Co-Shaping the Bio-Revolution

We are among the companies that help to shape the ongoing bio-revolution. Our extensive knowledge of human and plant science, supported by our expertise in regulatory processes and a global footprint ultimately bring innovations from labs to market.

Sustainable Solutions in Agriculture

We develop solutions with improved sustainability profiles: seeds/traits and related farming practices (e.g. short stature corn, direct seeded rice), crop protection products & irrigation systems (e.g. lower environmental impact), digital farming and precision agriculture, climate-smart practices.

Breakthrough Technologies in Pharmaceuticals

We foster innovation and portfolio extension in important therapeutic areas with an increasingly strong setup in the cell & gene sphere and the potential to meet undruggable targets.

Better Access to Health & High-Quality Nutrition

Our access targets bear chances of meaningful inclusive growth with recipients as potential future market participants while addressing global megatrends in health and nutrition.
Ambitious Measurable Targets for Sustainable Development

Our 2030 Targets are in line with UN SDGs and the Science Based Targets Initiative

---

**Decrease ECOLOGICAL footprint**

- **Climate neutrality at own sites** + reduced emissions in our supply chain
  - 42% reduction target\(^1\) for Scope 1 & 2
  - 500m € CapEx for emission reduction
  - 50m-200m € OpEx for offsetting projects
  - 12.3% reduction target\(^2\) for Scope 3

- **Net Zero emission target until 2050** in line with Paris Agreement (Scope 1, 2 & 3)

**CS:** -30% greenhouse gas emissions produced by key crops in the main regions we serve and -30% environmental impact of crop protection

**CH:** Sustainable production and transition to circular options (reduce, recycle, reuse, replace)

---

**Help more PEOPLE thrive**

- **Support 100m smallholder farmers** in LMIC\(^3\)

- **Provide 100m women** in LMIC\(^3\) with access to modern contraception

- **Expand access to self-care for 100m people** in underserved\(^4\) communities

- **Gender parity** at all leadership levels & targets for further diversity dimensions

**PH:** Increase the availability and affordability of our products in LMIC via equitable pricing and patient affordability programs, with the ambition of reaching an additional pool of 100m patients

---

1. By 2029 from a 2019 base year is in line with limiting global warming to 1.5 °C
2. By 2029 from a 2019 base year is in line with limiting global warming to below 2 °C
3. LMIC: low and middle income countries - all countries included in the World Bank list as of 1 July 2019
4. Underserved: economically or medically

We Take Broad Climate Action Along the Value Chain

Reduce Emissions
- 42% less CO₂ in our own operations¹ by 2029
- 12.3% less CO₂ in the value chain² by 2029
- 30% less greenhouse gas emissions³ by 2030
- Net Zero by 2050

Offset remaining emissions with increasing share of removals
Generate certified digitally-enabled carbon assets⁴ with farmers

In supply chains
Support Resilience
- Of farmers on climate change impacts
- Integrate climate into risk and opportunity management following TCFD recommendation

Carbon Reduction
Carbon Removal
Climate Resilience

¹Scope 1+2  ²Scope 3  ³30% less in our farming customers’ in-field GHG emissions per kg of crop yield in the most emitting cropping systems in the regions we serve
⁴Offsets and in-sets

Find more info here: https://www.bayer.com/en/sustainability/climate-protection
We Are on Track in our Decarbonization Journey

**Scope 1&2**

- **42% less CO₂** in our own operations by 2029 & **Net Zero** by 2050
- **Reduced emissions by 11.5%** or around 410,000 tons compared to 2020
- Reduction mostly due to **increase of renewable energy share to approx. 25%** of total purchased energy
- Additionally, offsetting of 300,000 metric tons of greenhouse gas emissions
- Reduced emissions by 0.6% or 50,000 tons vs. prior year
- Collaboration with CDP Supply Chain Initiative, TfS and WBCSD to standardize calculation for product-related carbon footprint

**On the Field**

- **30% less greenhouse gas emissions** by 2030
- Continued efforts in **Carbon Initiative**: 17 months since launch in 2020, >2,600 growers enrolled in 10 different countries, >1.4M acres added & 500,000 tons of carbon sequestered in soil
- Innovative, profitable and tailored solutions through integrated environmental metrics in field trials
- Active partner in advancing carbon neutrality in ag (e.g., EU Carbon+ Farming Coalition, Global Soil Health Program)

1Find our offsetting approach [here](https://www.bayer.com/en/sustainability/climate-protection); 2TfS: Together for Sustainability; 3WBCSD: World Business Council for Sustainable Development; 430% less in our farming customers’ in-field GHG emissions per kg of crop yield in the most emitting cropping systems in the regions we serve; baseline calculated based on 2020 data
Support 100m Smallholder Farmers

Accessing smallholders improves lives and creates business opportunities

Challenges

- Lack of access to new technologies
- Limited access to knowledge
- Limited productivity of their crops
- Climate change
- Exposed to market price volatility and fluctuations
- Hunger and malnutrition
- Additional challenges caused by Covid-19

Feed

>50% of population in developing countries

How to get there

- Commercial operations:
  Regional commercial strategies focused on smallholders’ needs
- Value-Chain-Partnerships:
  ‘Better Life Farming’ centers and integration into other value chain ecosystems
- Digital Solutions:
  Digital Incubator & Innovation Hub in APAC
- Portfolio Differentiation:
  Better & affordable crop protection products, tailored to local farmer needs
- License-to-Operate & Biotech Approvals:
  Large regulatory approval pipeline in Africa and APAC to enter new markets

Progress

2019 (baseline) 2020 2021 2030

- 42
- 45
- 49
- 100

Numbers reflect people (millions)

Progress in 2021:

- Strong business expansion in regions
- Key initiatives continued (e.g. partnerships, rapid Better-Life-Farming expansion, piloting of new digital ventures)
Access for 100m Women to Family Planning
Catalyst for important societal and economic impact

Challenges

- >200 million women in developing regions who want to avoid pregnancy are not using safe and effective family planning methods, central to women's empowerment
- Reducing poverty, protecting maternal and child health, driving economic development, and achieving sustainable development
- Gender inequality is still high, teenage pregnancy and maternal death are serious health concerns, especially in LMICs
- The need to provide reproductive supplies and services will further increase
- By 2030, an additional 130 million women in LMICs will have entered reproductive age

How to get there

- Additional supply capacity, most importantly for long-acting contraceptives: >400m€ investment into Costa Rica and Finland facilities
- Capacity building¹, e.g. cooperation with urban health project 'The Challenge Initiative' (TCI)
- Route to women in rural areas and humanitarian settings in cooperation with partners (e.g. UNFPA)
- Long-term: Innovation, e.g. non-hormonal contraceptive technologies

Progress in 2021:

- Two partnerships integrated: TCI & UNFPA Egypt
- Major funding cut by UK government to UNFPA’s supplies partnership

Numbers reflect women using modern contraception (millions)

¹ Capacity building refers to the development of knowledge, skills, commitment, structures, systems and leadership to enable and strengthen self-reliance and resilience of the local health systems and of the key players towards family planning and sexual reproductive health. We aim to do leverage partnerships to create impact at scale.
Access to Self-Care for 100m People in Underserved Communities

Everyday health as the first and last line of care

Challenges

• **Ageing population**, a rise in *lifestyle related diseases* and a constantly increasing level of healthcare costs
• Expanding access to self-care solutions helps with *early intervention and lowers healthcare costs* for society
• Consumers are *4-6 times more likely* to purchase, protect, champion or trust *brands with a strong purpose*

How to get there

• **Appropriate Portfolio**: adapting our science-based portfolio to design everyday health solutions with the underserved in mind, from formula to pricing
• **Deeper Penetration**: meeting low-income consumers where they shop to bridge the physical gap
• **Self-Care Education** initiatives form the basis for shaping behavioral change to empower consumers to manage their own health better
• **Partnerships and Initiatives**, e.g. the Nutrient Gap Initiative
• Activating our trusted **OTC brands** and **end-to-end value chain**
• Focus on **high impact markets**: US, LATAM, ASEAN, METAP

Progress

Progress in 2021:

// Growth driven by partnership initiative
// 13 million additional people were already reached in India¹

Numbers reflect people (millions)

¹ We successfully integrated the consumer business in India, which was previously managed by a third party. India is reported separately and will be included in 2024.
Strong Governance Measures Accompany our Strategy

Our CEO is Chief Sustainability Officer

Established Governance Bodies
- Supervisory Board ESG Committee advises & monitors management, systematically assesses contribution to SDGs
- External Sustainability Council\(^1\) as institutionally anchored independent expert advisory

Sustainability Goals Part of Compensation
- Group-wide goals (access & scope 1-3 targets) have a 20% weighting in the long-term incentive
- Additional qualitative goals are reflected in the short-term incentives

Focus on Transparency\(^2\) Engagement and Reporting
- Group Positions\(^3\) published on important sustainability matters
- Science Collaboration Register launched
- Reporting in line with sustainability frameworks (SASB, TCFD)

Group-Wide Regulations as Mandatory Framework
- BASE\(^1\) principles guide our interactions with all stakeholders

Sustainability as Integral Part of Bayer Processes
- Gradual integration in processes of functions & divisions such as Strategic Planning (e.g. internal CO2 price of €100 per metric ton for CAPEX projects), Risk Management, Procurement, Research & Development and Human Resources

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## Important Improvements in ESG Ratings Achieved

Removal of red flags at MSCI and ISS ESG Norm-Based Research in 2021/2022

<table>
<thead>
<tr>
<th>Agency</th>
<th>Score (type)</th>
<th>Score 2022</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCI</td>
<td>ESG Score Controversy level</td>
<td>A (GMO)</td>
<td>Improvement of Rating from BB to A (GMO) removed</td>
</tr>
<tr>
<td></td>
<td>Risk Score Controversy level</td>
<td>29.9 (medium) 5</td>
<td>Controversy level and rating impacted by ongoing Glyphosate litigations</td>
</tr>
<tr>
<td>SUSTAINALYTICS</td>
<td>ESG Score Norm-based</td>
<td>C+ (1st decile) (Neonics)</td>
<td>Currently under review (Neonics) removed in 2021</td>
</tr>
<tr>
<td>ISS ESG</td>
<td>Index</td>
<td>53 (high risk)</td>
<td>Ambition to reach medium risk target corridor</td>
</tr>
<tr>
<td>RepRisk</td>
<td>Climate Water Forest</td>
<td>A A- B</td>
<td>Scores maintained on high level</td>
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<tr>
<td>CDP</td>
<td>Ranking</td>
<td>#9 out of 20</td>
<td>Entered Top 10 in November 2022 Significant Top Improvement from previous score #13</td>
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<tr>
<td>Access to</td>
<td>Ranking</td>
<td>#1 of 32 Africa¹ #3 of 31 South &amp; South-East Asia</td>
<td>Leading Positions in relevant regions</td>
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<tr>
<td>medicine INDEX</td>
<td></td>
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<tr>
<td>Access to Seeds</td>
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</tbody>
</table>

¹Regions “Western & Central Africa” and “Eastern & South Africa”
Investment Thesis

Key Takeaways

1. We are a global leader in Health & Nutrition that addresses societal megatrends

2. We are well-positioned to shape disruption in the bio-revolution

3. We expect to translate innovation into profitable mid-term growth

4. We expect to improve our profitability by accelerating our transformation

5. We have disciplined capital allocation priorities: delever, pay dividends and invest

6. We have integrated sustainability in our business strategy and incentive systems