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.

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

**MARKET SIZE**

<table>
<thead>
<tr>
<th>Crop Science</th>
<th>2022</th>
<th>&gt; €100bn(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2030</td>
<td>&gt; €200bn(^1)</td>
</tr>
</tbody>
</table>

| Pharmaceuticals | ~ €1,400bn\(^2\) |

| Consumer Health | ~ €150bn\(^3\) |

1. Source: Company Estimates. >€200bn market opportunity by 2030 includes global Ag input market + related adjacencies
2. Source: IQVIA Market Prognosis as of September 2022
3. Source: Nicholas Hall

---

**BAYER GROUP SALES**

- 12% Consumer Health
- 38% Pharma
- 50% Crop Science

- #3 OTC Player
- Leading Positions in Key Therapeutic Areas
- #1 in Sales and Profitability & R&D

- €50.7bn FY 2022

---

Bayer AG /// Investment Case /// August 2023
Global Megatrends in Health & Nutrition

Attractive Macro Drivers of Our Strategy and Underpin the Need for Innovation

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:** €2.6bn\(^1\)

- **Key Current Launch Products:**
  - Fox Supra (Indiflin\(^2\))
  - Xivana

- **Key Mid-/Late-Stage Pipeline Opportunities**
  - Preceon Smart Corn System featuring Short Stature Corn
  - Soybean Herbicide Trait Stack with Five-Tolerances
  - New Herbicide Molecule
  - New Fungicide Molecules
  - Next Gen Corn Insect Traits (LEP4, 5, CRW4)

---

**PHARMACEUTICALS INNOVATION PIPELINE**

- **Annual R&D Investment:** €3.4bn

- **Key Current Launch Products:**
  - Factor XI(a) portfolio
  - Elinzanetant (KaNDy NT-814)

- **Key Mid-/Late-Stage Pipeline Opportunities**
  - Finerenone
    - Non-diabetic CKD
    - Heart Failure
  - Factor XI(a) portfolio
    - Thrombo-embolic diseases
  - Elinzanetant (KaNDy NT-814)
    - Vasomotor symptoms during menopause

---

Note: Subject to regulatory approvals and pending registrations. Represents a subset of the pipeline; \(^1\)R&D expenses exclude special items \(^2\)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

GROSS CONTRIBUTIONS*

Bayer 2022 synergy and efficiency program (announced in 2018)

New transformation program

BAYER 2022 PROGRAM SUCCESSFULLY CONCLUDED

We accelerate our transformation to become leaner and more agile

- Optimizing Divisions and Enabling Functions
- Improving our go-to-market models
- Strengthening our digital and data capabilities
- Structural measures and optimization of external spend
- Increasing resilience of supply chain

* 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 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 metric 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
Disciplined Capital Allocation to Delever, Pay Dividends and Invest

Financial Strategy Directed Towards Regaining Long-Term “A” rating

**Capital Allocation Priorities**

1. **Free Cash Flow**
   - Deleveraging
   - Dividends
   - External growth investments

2. **Divestment proceeds**
   - Rating target: A category
   - Pay-out range: 30-40% of cEPS
   - Bolt-on M&A, Leaps

**Development of Leverage**

* (Net Financial Debt + Pensions – 50% of Hybrid Volume) / reported EBITDA before special items

[Graph showing the development of leverage from 2019 to 2022: 3.5, 3.2, 3.4, 2.5]
Sustainability is Integral to Our Values, Strategy and Operations

We intend to create bold impact and generate sustainable business opportunities

Long-term business growth through sustainable innovation

PHARMACEUTICALS • CONSUMER HEALTH • CROP SCIENCE

Megatrends

Societal Needs

Impact

Sustainable Growth

AGING POPULATION

Preserve and restore health

GROWING POPULATION

Secure sufficient supply of quality food

PRESSURE ON ECOSYSTEMS

Increase productivity and farm incomes while renewing nature

OUR VISION: HEALTH FOR ALL, HUNGER FOR NONE

Help more people thrive

Deliver net benefits to nature

1 NO POVERTY
2 Zero hunger
3 Good health and well-being
5 Gender equality
6 Clean water and sanitation
13 Climate action
15 Life on land
Investment Thesis

Key Takeaways

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

02. We are well-positioned to shape regenerative agriculture

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

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

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

06. We have integrated sustainability in our business strategy and incentive systems
Science for a Better Life

Shaping the Future of Regenerative Agriculture

01

Investment Case
August 2023 / Bayer AG
Shaping the Future of Regenerative Agriculture

01 Market & Position

02 Strategy

03 Operational Excellence

04 World-Class Innovation

05 Digital Transformation

06 New Standards in Sustainability
The Established Leader in Crop Science

Industry Leading Profitability underpinned by ~€2.6bn in Annual Seed & Trait Licensing Revenue

Largest in Sales

Total Sales¹ (€bn), FY 2022

- Syngenta + Adama: 24.3
- Corteva: 16.6
- BASF: 10.3

Highest Profitability

EBITDA¹ (€bn) / EBITDA¹ Margin (%), FY 2022

- Syngenta + Adama: 4.4 (18.0%)
- Corteva: 3.1 (18.5%)
- BASF: 1.9 (18.8%)

¹ Company information; exchange rate: FY 2022 ~1.05 USD/EUR. EBITDA before special items; Representing the legacy Syngenta AG results plus Adama

/// Bayer AG /// Investment Case /// August 2023
Bayer Crop Science 2022 Sales (€25.2bn)$

### Sales by Strategic Business Entity

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Sales Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbicides</td>
<td>33%</td>
</tr>
<tr>
<td>Corn Seed &amp; Traits</td>
<td>24%</td>
</tr>
<tr>
<td>Fungicides</td>
<td>13%</td>
</tr>
<tr>
<td>Soybean Seed &amp; Traits</td>
<td>10%</td>
</tr>
<tr>
<td>Others</td>
<td>7%</td>
</tr>
<tr>
<td>Insecticides</td>
<td>6%</td>
</tr>
<tr>
<td>Environmental Science$^2$</td>
<td>4%</td>
</tr>
<tr>
<td>Vegetable Seed</td>
<td>3%</td>
</tr>
</tbody>
</table>

### Sales by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Sales Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>41%</td>
</tr>
<tr>
<td>Latin America</td>
<td>30%</td>
</tr>
<tr>
<td>EMEA</td>
<td>19%</td>
</tr>
<tr>
<td>Asia / Pacific</td>
<td>10%</td>
</tr>
</tbody>
</table>

Note: Market Position determined annually, as of Q1-2023
$^1$ Company information; exchange rate: FY 2022: ~1.05 USD/EUR.
$^2$ Environmental Science Divestiture - October 2022
Our Global Food Systems are Under Increasing Pressure

Demand for Sustainably Sourced Food and Renewable Fuels Never Greater

2 FAO 2017, (FAO Global Perspective Studies)
3 FAO, 2020 (Water Scarcity | UN-Water (unwater.org))
4 UN-Water, 2021 (Water Scarcity | UN-Water (unwater.org))
5 FAO Saving our soils by all earthly ways possible | FAO Stories | Food and Agriculture Organization of the United Nations
7 Nelson et. al, (2014): FAO 2016 “Climate change and food security”
Maintain Leadership positions in our core markets

Shape Regenerative Ag by investing to increase food production, farm incomes and resilience in a changing climate, while renewing nature

Digitally Enable Our Sales to offer full crop system solutions, creating an outstanding customer experience

Invest in innovation to Win in new markets
More than Doubling Our Accessible Market by Driving Productivity and Sustainability Together to Unlock Adjacent Spaces

>100bn\(^1\) €
2022 Global Ag Input Market

>2x opportunity

>200bn\(^1\) €
2030 Global Ag Input Market & Related Adjacencies

Crop Protection
Seed and Traits
Precision Application
Market Places
Digital Platforms
Carbon
Crop Fertility
Biofuels

\(^1\) Company estimates

Bayer AG Investment Case August 2023
A Clear Operational Plan to Create New Value and Outperform the Market in the Mid-term

01 Deliver growth in crop protection sales through new products, integrated offerings and effective management of glyphosate-based herbicide dynamics.

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

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

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

05 Execute efficiency program to reinvest in new opportunities and drive margin expansion.
Key Corn Traits in Bayer Pipeline – Underpinned by Annual Launch of >250 New Hybrids Globally

<table>
<thead>
<tr>
<th>Year</th>
<th>Short-Stature Corn Hybrids</th>
<th>Short-Stature Corn – Biotech Trait</th>
<th>HT5 Corn – 5th Gen Lepidoptera Trait</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>VT4PRO</td>
<td>4th Gen Lepidoptera Trait</td>
<td>5th Gen Lepidoptera Trait</td>
</tr>
<tr>
<td>2023</td>
<td>SmartStax PRO</td>
<td>4th Gen Coleoptera Protection Trait</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>PRECION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td></td>
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<td></td>
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<tr>
<td>2027</td>
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<td>2028</td>
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<tr>
<td>2029</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Expect ~50% of peak sales potential to be incremental and expect ~80% of the projects to reach peak by 2037; 2. Source: Bayer and Corteva as reported in FY 2022, exchange rate FY2022: ~1.05 USD/EUR, Syngenta based on AgbioInvestor estimates; 3. Internal estimates; market position, seed (germplasm) share and trait share measured as of 2022 for U.S. and Europe and as of 22/23 season for Brazil, Argentina, Mexico and South Africa; 4. Includes the sum of branded plus licensed seed share in the respective countries/region; 5. Represents the percentage of corn acres planted in the country that contain at least one Bayer biotech trait.
Rollout of Most Advanced Corn Rootworm Control Trait Continues

CRW3: Industry’s Only RNAi-Based Corn Rootworm Trait Launched in Brazil in VTPRO4 and in the U.S. in SmartStax PRO; Expected 2024 Launch in VT4PRO in U.S. as Additional Offering

LAUNCHED // // // //
BRAZIL/ ARGENTINA 20/21

2023/2024e: >15m acres

Most advanced technology for control of insects in Brazil corn

Two modes below-ground insect control, including CRW3, plus three modes above-ground insect control and glyphosate tolerance

SmartStax PRO with RNAi Technology has less average corn rootworm damage in 100% of the trials vs. Corteva Qrome® products in 34 Bayer trials in medium to very high corn rootworm pressure environments1

Average Root Rating: 0.30
Location: Ireton, Iowa July 20, 2021
Average Root Rating: 1.20

For each root node damaged by CRW larvae, a yield loss of ~15% can be expected.3 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.

VT4PRO with CRW3 expected 2024 launch in the US; additional offering with 5+ bu/ac advantage over Corteva Qrome products3

1 Head-to-head comparisons across 34 Bayer trials in medium to very high corn rootworm pressure environments;
3 Based on 2022 Bayer breeding data generated over 253 locations, 2838 comparisons of 2024 launch class of VT4PRO with RNAi technology vs. key commercial Qrome products within +/- 2 RM maturity range
Global Soybean Seed & Trait Sales Leader

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

### 2022 Soybean S&T Sales

<table>
<thead>
<tr>
<th>Brand</th>
<th>Sales (€bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayer</td>
<td>2.5</td>
</tr>
<tr>
<td>Corteva</td>
<td>1.7</td>
</tr>
<tr>
<td>Syngenta AG</td>
<td>0.6</td>
</tr>
</tbody>
</table>

### Bayer 2022 Soybean Seed & Trait Share

<table>
<thead>
<tr>
<th>Region</th>
<th>Seed Share &amp; Position</th>
<th>Trait Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>&gt;35% #1</td>
<td>~50%</td>
</tr>
<tr>
<td>Brazil</td>
<td>~15% #2</td>
<td>&gt;80%</td>
</tr>
</tbody>
</table>

### Key Seed Brands

- **ASGN**, **CORN STATES**, **Fontanella**, **MONSOY**, **Leveza**, **Jung**, **Channel**, **Gold Tone Mill**, **Monderer**, **Kruger**

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

- **HT4 Soybeans**
  - 3rd Gen Insect Protection Trait
  - 2021: //
  - 2025: //
  - 2030: //

- **HT5 Soybeans**
  - 4th Gen Insect Protection Trait

---

1 Source: Bayer and Corteva as reported; Syngenta based on AgBioInvestor estimates – exchange rate FY’2022: ~1.05 USD/EUR; 2 Internal estimates; market position and seed (germplasm) share measured as of 2022 for U.S and as of 22/23 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.
Bayer Maintains #1 Leadership Position with XtendFlex Technology and XtendiMax Herbicide Performance

Upgrade to >20m XtendFlex Acres in North America in 2022

#1

In North America soybean performance

Only technology that includes 14-days residual activity:
Controls significantly more weeds than the Enlist system
>45m acres in Bayer’s soybean technology in 2022; retained leading position in 2022

Provides tolerance to dicamba and glyphosate

Recommended Herbicide Pairings:

Glufosinate

Recommended Herbicide Pairings:

Proven performance, high-yield potential, strong agronomics

Broadly licensed across the industry

Add glufosinate tolerance to the proven performance of Roundup Ready 2 Xtend Technology to provide additional flexibility to manage tough-to-control weeds

Reached >20m acres in the U.S. in 2022

Over the last 4 years, RR2Xtend & XtendFlex soybeans saw a 2.9+bu/acre advantage vs. Enlist™ E3 soybeans

1 Bayer internal estimates; 2 Based on EPA labels of the chemistries; 3 Soybean Crop Trials (184 locations with 20 in 2019 (Roundup Ready® 2 Xtend), 57 in 2020 (Roundup Ready® 2 Xtend), 67 in 2021 (XtendFlex® Soybeans) and 40 in 2022 (XtendFlex® Soybeans) reporting data located with 22-IA, 24-IL, 23-IN, 11-KS, 1-KY, 7-MI, 30-MN, 10-MO, 1-MS, 5-ND, 17-NE, 15-OH, 1-OK, 11-SD, 4-PA and 2-WI. Significant at P ≤ 0.10 LSD at 0.6 Bu/A as of 12/13/2022. Roundup Ready® Xtend Crop data = XtendFlex® soybeans with a farmer-selected (or in case of Bayer Trials, Bayer-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 (or in case of Bayer Trials, Bayer-selected) weed control program that may include glyphosate, Enlist One® herbicide, Liberty® 280 SL herbicide and various residual herbicides.
Next-Gen Intacta Traits to Expand Leading Soybean Franchise

Intacta 2 Xtend Successfully Launched; IP3 and IP4 in Pipeline to Deliver >€800m peak sales potential

1st Generation

#1 South America soybean system¹

- Excellent control of soybean loopers, velvetbean caterpillar and axil borer
- Glyphosate tolerance provides proven weed control and enables conservation tillage
- On ~85m acres in Brazil in 2022/23

2nd Generation

- Industry-first with three proteins for insect control and resistance management, plus adds dicamba tolerance for tough-to-control weeds
- LAUNCHED in Brazil in 2021/22 season, Targeting >10m acres for the 2023/24 season
- Performance advantage of 2.89 bu/acre

3rd and 4th Generation

Velvetbean Caterpillar Infested
- IP3 in Phase 3; Delivering multiple modes-of-action for insect control

Soybean Looper Infested
- IP4 ADVANCED to Phase 2; focused on Brazil
- >€800m peak sales potential

---

¹ IP3 = 3rd generation insect protection trait in soybeans // IP4 = 4th generation insect protection trait in soybeans // 1 Data based on number of treated acres per Bayer internal estimates
Driving Sustainability and Profitability in our >€600m Cotton S&T Business

Next-Generation Traits Further Enhance Cotton Productivity

Global Leader in Cotton Seeds and Traits

U.S. Germplasm Share of Market: >60%

Trait Share of Market: U.S. ~70%, Brazil >40%, Australia 100%

Next Generation Cotton Trait Technologies

Building on Bollgard 3 XtendFlex Technology with 2023 commercial launch of ThryvOn Technology

Phase 3:
- 4th gen herbicide tolerance, adding HPPD and PPO tolerance to XtendFlex
- 4th gen Bollgard 4 cotton also in Phase 3, offering multiple modes of action to control lepidopteran insects

1 2022 cotton seed & trait sales for Bayer Crop Science; shares measured as of 2022 for U.S and as of 22/23 season for Brazil and Australia. 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.
Driving Vegetable Seed Profitability and Growth

- Expect above market growth across all four customer segments: protected, smallholder, open field and processing
- Deployed >90 new varieties in 2022; sell ~2,000 vegetable hybrids and varieties in 22 crops across 110 countries
- Developing innovative varieties to drive more sustainable and regenerative food systems and increase access to essential nutrients
- Portfolio well positioned to deliver on expanding markets in EMEA and APAC
- Focused on value creation by driving customer operations & innovation excellence
- Partnering across the value chain to deliver products for sustainability & consumer value
Driving >€13bn in Sales in 2022

Leading Positions in Global Crop Protection

**2022 Herbicides Sales**

- **Bayer**: €8.3bn
- **Syngenta AG**: 
- **Corteva**: 
- **BASF**: 
- **FMC**: 

**2022 Fungicides Sales**

- **Syngenta AG**: 
- **Bayer**: €3.3bn
- **BASF**: 
- **Corteva**: 
- **FMC**: 

**2022 Insecticides Sales**

- **FMC**: 
- **Syngenta AG**: 
- **Bayer**: €1.6bn
- **Corteva**: 
- **BASF**: 

---

1 Source: Company reporting, exchange rate FY2022: ~1.05 USD/EUR
2 Corteva Insecticides sales exclude non-crop business, internal estimates

Chart shows comparison to strategic peer group
Bringing New Crop Protection Innovation to Market

Launched Two New Actives, 10 New Formulations and >250 Registrations in 2022

Industry Leading Crop Protection Development...

1. Includes next-gen technology Indiflin®\(^1\), with Prothioconazole
2. Offers unrivaled control of Asian Soybean Rust
3. Builds on #1 position in soybean fungicides\(^2\) in LATAM

PSP of Fox Family ~€850m
Pre-launched in 2022 in Brazil & Paraguay

Xivana

1. Powered by Fluoxapiprolin
2. New horticulture fungicide; delivers outstanding protection of grapes – to expand to potatoes and vegetables
3. High, long-lasting efficacy

PSP of >€200m
Launched in 2022 in Australia (grapes)

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

- Mandipropamid
- Cyazofamid
- Metalaxyl
- XIVANA®

0 50 100 150

… drives our Life Cycle Management

10 new formulations launched in 2022

TriVolt

1. Pre-emergence selective corn herbicide for U.S.
2. Launched in 2022
3. Contains 3 AIs: Thiencarbazone, Fluafenacet and Isoxaflutole to provide overlapping residual control of key broadleaf weeds and grasses

Mateno Complete

1. Includes Aclonifen, a new herbicide mode of action for Australia
2. Launched in 2022
3. Suitable for use in wheat and barley for hard-to-control grass and broadleaf weeds

Fox Supra

- Competitor\(^4\)
- Fox Supra

Fox products also sold under Cripton brand name in other markets; \(^1\) In collaboration with Sumitomo; \(^2\) Internal estimates; \(^3\) for soybeans in LATAM; \(^4\) BASF Orkestra Ultra; PSP = Peak Sales Potential

// Bayer AG // Investment Case // August 2023 //
Building on the Leading Portfolio of Biological Solutions to Meet Growing Market Needs

**Biocontrols**

- **Insecticides**
  - Integral Pro³
  - Poncho Votivo³

- **Fungicides**
  - B-360²
  - TagTeam⁴
  - Nitragin Gold⁴
  - Optimize⁴

- **SeedGrowth/Soil**
  - In-licensed / Commercial Products

**Biostimulants**

- **SeedGrowth**
  - Race 7602
  - Optimize

- **Crop Performance Enhancers**
  - Ambition

**Leading Position**

- Bayer is the #1 Trusted Brand in Biologicals by Growers⁵
- Delivering ~€200m in annual sales in 2022
- Offering >20 commercial products

**Select Key Product Offerings**

- Acceleron portfolio offers advanced seed treatment solution in the industry (for corn, soybean and cotton)
- Designed to complement, protect, and enhance seeds including Bayer’s DEKALB corn commercial hybrids from the outset (exclusive combinations of seed treatments merging chemical and biological products)
- 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
- In-licensed from AlphaBio Control

---

1. In-licensed from Total Energies; 2. Also sold under BioRise and Torque brands; 3. 3rd party product from BASF; 4. In-licensed from Novozymes; 5. 75-100 growers polled in each of seven countries (Europe, Brazil, US) for potato, tomato and grapes, Bayer Market Research 2020.
Serenade Soil Activ Tailored for Soil and Crop Health
Accelerate Growth in Emerging Global Soil Application Market Across Fruits & Vegetables

NEW Serenade Soil Activ propelling Serenade brands to >€170m peak net sales in next 10 years

Serenade brand family: the biological active bacillus amyloliquefaciens strain QST 713 delivers solutions in emerging soil treatment and expanding bacterial disease markets:

- Serenade ASO offers QST 713’s combination of several modes of action to help control foliar bacterial and fungal diseases while reducing residues
- NEW Serenade Soil Activ with its higher concentration of QST 713 spores provides farmers handling efficiency with low use rates and less water consumption
- The concentrated QST 713 spores, applied in furrow or via drip, can speed up root formation and uptake of nutrients, raising marketable qualities (skin, shelf life, nutrient content)
- Launched in U.S., Canada & Australia, sales in all global regions expected with coming registrations

Higher proportion of big potatoes
~10% more premium class potatoes
Better skin finish, improved uniformity
Lower use of water/ac

Sustainably increases marketable yield with spores optimized for improved root colonization

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

Bayer AG /// Investment Case /// August 2023
Building the Farm of the Future with €2.6bn Annual R&D Investment

2022 Ag R&D Investment

- Bayer Crop Science: 2.6
- Corteva: 1.2
- Syngenta + Adama: 1.0
- BASF Ag: 0.9

Top Talent:

- >7,700 R&D employees
- >100 Key Collaborations

Providing Next Generation Solutions:

- >500 Hybrids & Varieties Deployed in ’22
- 12 New Biotech Traits in Development
- >250 New Crop Protection Registrations in ’22
- 30-60 New Molecules in Field Trials Annually

2022 reported results, exchange rate: FY 2022: ~1.05 USD/EUR; ¹ Bayer R&D expenses exclude special items; ² Represents the legacy Syngenta results plus Adama for FY’22; ³ Per Bayer annual report

// Bayer AG /// Investment Case /// August 2023
R&D Investment Powers Pipeline with >€30bn Peak Sales Potential

~50% of Peak Sales Incremental to Current Annual Sales

**Other SBE**
- Hybrid Wheat, ~€700m
- Digital Platforms, HortiView
- 100’s of cotton varieties, 1000’s of vegetable varieties/hybrids, canola hybrids and rice hybrids

**Insecticides**
- Plenexos Insecticide, ~€500m
- Various LCM projects (formulations and mixtures)
- Digital Farming Solutions Franchise Value

**Fungicides**
- Next generation Fungicide Small Molecules, >€1.2bn
- Various LCM projects (formulations and mixtures)
- Digital Farming Solutions Franchise Value

**Herbicides**
- New Herbicide Small Molecule, >€750m
- Various LCM projects (formulations and mixtures)
- Digital Farming Solutions Franchise Value

**Upside Opportunities:**
- Direct Seeded Rice
- Corn Biotech Traits in new markets in Asia & Africa
- New Herbicide Small Molecule, over-the-top label
- Carbon Farming
- ~€1.5bn Biologicals Sales Ambition

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. Note that products are excluded from the pipeline PSP typically the year following launch. Projects listed are only a subset of the pipeline.

2 Other SBE category includes seeds and traits, such as cotton, canola, wheat, OSR, rice, vegetable seeds and sugar beets, plus digital platforms

3 Phasing of €30bn PSP: 30% by 2032, 80% by 2037
Convergence of Leading R&D Platforms to Unlock Next Layer of Value Creation in Agriculture

<table>
<thead>
<tr>
<th>SEEDS &amp; TRAITS</th>
<th>CROP PROTECTION</th>
<th>DIGITAL FARMING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BREEDING</strong></td>
<td><strong>BIOTECH</strong></td>
<td><strong>DATA SCIENCE</strong></td>
</tr>
<tr>
<td>Leading germplasm libraries paired with advanced breeding and data science technology application</td>
<td>Leading protein optimization technology with extensive protein libraries</td>
<td>#1 database of grower and field trial seed performance data in the industry</td>
</tr>
<tr>
<td>&gt;3,500 unique field-testing locations</td>
<td>First-ever biotech trait for piercing and sucking insect protection</td>
<td>&gt;40 assets under evaluation for new collaborations or in-licensing</td>
</tr>
<tr>
<td>&gt;500 deployments in 2022:</td>
<td>&gt;65 traits products in 27 years – reaching ~300m acres annually</td>
<td>&gt;115bn data points of product performance under real-world farmer management practices</td>
</tr>
<tr>
<td>&gt;250 in corn</td>
<td>~3bn datapoints generated by Precision Genomics team to deliver biotech traits and accelerate genetic gain</td>
<td>&gt;220m subscribed acres across 23 countries</td>
</tr>
<tr>
<td>~150 in soybeans</td>
<td>12 next-gen. traits in development</td>
<td></td>
</tr>
<tr>
<td>&gt;90 in vegetables</td>
<td>100% Novel Mode of Action in early discovery</td>
<td></td>
</tr>
<tr>
<td>&gt;10 in cotton</td>
<td>30-60 molecules selected for field trials per year</td>
<td></td>
</tr>
<tr>
<td><strong>CHEMISTRY</strong></td>
<td><strong>BIOLOGICALS</strong></td>
<td><strong>BIOLOGICALS</strong></td>
</tr>
<tr>
<td>Strong discovery platform for molecules with new modes-of-action and differentiated profiles</td>
<td>Open Innovation Model to deliver innovative and sustainable solutions to growers</td>
<td></td>
</tr>
<tr>
<td>&gt;1,300 trials in 46 countries in 2022</td>
<td>&gt;40 assets under evaluation for new collaborations or in-licensing</td>
<td></td>
</tr>
<tr>
<td>Expect ~90-100 new formulations to launch in the next decade</td>
<td>&gt;115bn data points of product performance under real-world farmer management practices</td>
<td></td>
</tr>
<tr>
<td>Launched 15 new actives in past 15 years</td>
<td>&gt;220m subscribed acres across 23 countries</td>
<td></td>
</tr>
<tr>
<td><strong>DIGITAL FARMING</strong></td>
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</tbody>
</table>
Breeding Product Development Process (8-10 years)

**Data & analytics driving decisions & AI connected pipeline - enabling a dynamic breeding pipeline**

- **Fieldview Field Health Imagery Data Collection**
- **Seed Chipping Technology for accelerated discovery**
- **Marana, AZ Protected Culture Design Center**
- **Cassette Planter delivers large scale field testing**
- **Drone Sensors; globally connected data ecosystem**
- **Seed Bulk-Up for Pre-Launch testing**

### Customer Insights
- **Data & Insights**
  - Customer driven quantitative economic indices

### Discovery
- **Population Selection**
  - Population simulation and human supervised, model driven selection for desired characteristics

### Phase One
- **Early Design**
  - Advanced genomic selection including future environmental challenges

### Phase Two
- **Intermediate Development**
  - Large-Scale Field Testing, Trait Integration and prescriptive data collection to inform models and feed pipeline

### Phase Three
- **Advanced Product Understanding**
  - Traited Testing, Early Tailored Solutions data generation, and preparation of digital data package for Climate models

### Phase Four
- **Pre-Launch**
  - Broad product testing by R&D and Market Development, Seed Bulk-Up, System Testing and Pre-Marketing

### Competitive Advantages
- Extensive environmental and on-farm data driving targeted discovery
- Unique data-driven bio-economic models that allow precise fitting of product concepts
- Industry-leading global germplasm libraries across crops and markets - 100X larger
- Decades of field and genomic data combined with industries leading data science platform
- Ability to rapidly sample and genetically evaluate millions of seeds - 15X faster
- Advanced Product Design facilities that enable multiple cycles of planting per year
- Industry leading Trait Integration programs stack traits into elite germplasm
- Largest global field-testing footprint & digital field-testing twin capabilities diversifies geographic data insights
- Fully automated seed distribution centers prescriptively sample diverse growing environment
- Traited-Testing evaluates products as they would be experienced by the growers
- Most advanced and distributed network of field testing in the industry
- Evaluation of agronomic systems for product deployment & customer recommendations
Deploying >250 Corn Hybrids in 2022 to Expand Leading Position

Foundational to Expected Growth in Our >€6bn Global Annual Corn Seed & Trait Sales

Extensive Corn Germplasm Delivers

- >100m acres of Bayer Corn Germplasm grown in 2022
- Deployed >250 new hybrids globally in 2022; offer >1,500 hybrids globally
- >7 bu/acre U.S. yield advantage with leading hybrids in like-for-like trait package hybrid comparisons
- Best NCGA Yield Performer in 2022, winning >70% of the ~National Spots, with 20 of the 27 spots from Bayer germplasm

Key Seed Brands

1 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 2022. All comparisons are head-to-head using +- 2RMs and weighted average calculated using 15% moisture; 2 NCGA = National Corn Growers Association – National Corn Yield Contest.
Soybeans, Cotton and Vegetable Seed Businesses Annual Germplasm Refresh to Drive Sales Growth

**Soybeans**

- Deployed ~150 new varieties in 2022; offer >850 varieties in North America
- Over last 4 years, RR2Xtend & Xtend Flex Soybeans saw a 2.9 bu/acre advantage¹ over Enlist™ E3 Soybeans

**Cotton**

- Deployed >10 varieties in 2022; offer >30 Deltapine varieties in the U.S.
- U.S. lint/acre yield advantage with leading varieties; 2022 was ~70 lbs/ac advantage for Deltapine² vs. top-planted competitor varieties

**Vegetables**

- Deployed >90 varieties in 2022; sell ~2,000 vegetable hybrids and varieties in 22 crops across 110 countries
- Innovative varieties of fruits and vegetables can help develop more sustainable and regenerative food systems and increase access to essential nutrients

---

¹ Soy Trials: (184 locations with 20 in 2019 (Roundup Ready® 2 Xtend), 57 in 2020 (Roundup Ready® 2 Xtend), 67 in 2021 (XtendFlex® Soybeans) and 40 in 2022 (XtendFlex® Soybeans) reporting data located with 22-IA, 24-IL, 23-IN, 11-KS, 1-KY, 7-MI, 30-MN, 10-MO, 1-MS, 5-ND, 17-NE, 15-OH, 1-OK, 11-SD, 4-PA and 2-WI). Significant at P ≤ 0.10 LSD at 0.6 Bu/A as of 12/13/2022. Roundup Ready 2 Xtend or XtendFlex® soybeans planted with a farmer-selected (or in case of Bayer Trials, Bayer-selected) weed control program that may include dicamba, glyphosate, glufosinate and various residual herbicides. Enlist E3® soybeans planted with a farmer-selected (or in case of Bayer Trials, Bayer-selected) weed control program that may include glyphosate, Enlist One® herbicide, Liberty® 280 SL herbicide and various residual herbicides.

² Cotton 3-year average: 2600 trials comparing top DP varieties within a region vs. the top 3 planted competitors based on market survey data (Kynette).
Hybrid Wheat: New Production System for the World’s Largest Crop

Potential to Shape Transformation of Wheat Production by End of the Decade

Resilient Hybrid Wheat System

- Hybrid wheat expected to provide **higher yield** and **yield stability**, with potential fit on a significant portion of the ~555m **acres of wheat** grown globally and ~€700m **PSP**
- Envision a **more sustainable and resilient system** with better nitrogen use efficiency, disease, drought and heat tolerance
- Advancements in **genomic tools** and the **cytoplasmic male sterility system** are enabling the development of hybrid wheat at competitive cost
- ‘Blue ocean’ market potential to drive value of market for Wheat seed and technologies, which has already happened in crops like corn

Market Leaders in Hybrid Wheat

Different climatic zones in key regions Europe and North America require **distinct approaches**:

### Europe
- In 2021, we launched a **strategic R&D partnership with RAGT**, the European market leader in varietal wheat, leveraging strong complementarity of partners:
  - **RAGT**: Best-in-class germplasm and rich portfolio of native traits
  - **Bayer**: Wide array of R&D assets, seed production know-how; leader in CP

### US
- Hybrid wheat program based on our leading U.S. WestBred germplasm position

Our Vision: A digitally enabled sustainable hybrid wheat system offering
Bayer Direct Acres: Direct Seeded Hybrid Rice System

Elite Rice Germplasm, Effective Weed Mgmt. and Digital Tools to Drive Sustainable, Operational Efficiency

Seeds & Seed Growth
- Arize
- Gaucho

~40% Seed Share in DSR Market in India (7% of Acres)

Herbicides
- Council
- Adora
- Antracol

Post-Emergent single shot application Need Based LPO

Fungicides
- NATIVO

Insecticide
- Ambition

Crop Performance Enhancer

Opportunity for 75% DSR HA in India by 2040

Digital Tools & Platforms

Carbon & Sustainability

DIRECT SEEDED RICE SYSTEM

- Elite Designed Hybrid Rice
- Integrated & Effective Weed Mgmt System
- Digital Insights & Agronomic Support

Hybrid Rice Trials

1 Internal estimate based on socio economic, climate effects and policy environment
Decades of Investment and Expertise Unlocks Biotech Advantage

Biotech Trait Development Process (12-15 years)

Phase 0: Trait Discovery
- High-Throughput Screening Identifies Desired Characteristics
- Industry-leading microbial gene libraries enable new trait areas and novel MOAs
- Application of cutting-edge RNA technologies to develop targeted innovative products
- Industry leading genome editing toolkits drives novel trait discovery

Phase 1: Proof of Concept
- State-of-the-Art Gene and Protein optimization capabilities
- Drive Product Concept Demonstrations In-Crop
- Best-in-class synthetic biology gene expression toolkits drive precision in gene to phenotype optimization
- High throughput, AI-driven protein design drives rapid iteration to optimize new MOAs

Phase 2: Early Development
- Large-Scale Transformation, Commercial Candidate Selection, Pre-Regulatory Data Generation
- Development of multi-gene stacks that enable a multitude of solutions for growers
- CRISPR technology for targeted insertion to enable product development flexibility
- Largest global field-testing footprint diversifies geographic data insights

Phase 3: Advanced Development
- Trait Integration, Regulatory Data Generation
- New traits are introgressed into the most elite germplasm, and stacked with the industry’s leading traits

Phase 4: Pre-Launch
- Regulatory Submissions & Approvals, Seed Bulk-Up, System Testing and Pre-Marketing
- Experience successfully launching traits globally
- Identification of optimal agronomic systems (trait, germplasm, chemistry) for product deployment & customer recommendations

Gene Library contains Millions of Unique Proteins
Gene to Phenotype Optimization
Commercial Candidate Selection
Field Trials for Trait Approval
Seed Bulk-Up for Pre-Launch testing

Competitive Advantages
- Development of multi-gene stacks
- CRISPR technology for targeted insertion
- Largest global field-testing footprint
- Industry-leading microbial gene libraries
- Best-in-class synthetic biology gene expression toolkits
- High throughput, AI-driven protein design
- Experience successfully launching traits globally
- Identification of optimal agronomic systems
- New traits are introgressed into elite germplasm
- Stacked with industry’s leading traits
- Regulatory Submissions & Approvals
- Seed Bulk-Up, System Testing and Pre-Marketing
Offers Transformational Shift in Production
Powered by Short Stature Corn Hybrids and **FIELDVIEW**

Key Features and Benefits Enhance Profitability and Environmental Sustainability of Corn Production

**Protection**
- 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%

**Access**
- Improved in-season crop access due to reduced height
- Supports tailored solutions with precise in-season crop protection

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

---

1 Purdue University (http://www.extension.purdue.edu/ey/ey-262.html)
Global On-Farm Trials for PRECEON Smart Corn System

Powered by Short Stature Corn Hybrids and Fieldview

New era in corn production to help farmers manage risk and protect yields

NA
- 300 on-farm trials on 30,000 U.S. acres

LATAM
- Trialing with large key customers in Brazil, Argentina and Mexico

EMEA
- 80 trials in 2 countries

APAC
- Early phase testing in multiple countries

Highest likelihood to plant a new trait in the history of our trait introductions

1 Source: Online farmer survey Feb./Mar. 2020 (n=900)

9-12ft
Traditional corn hybrid plant height

<7ft
Short stature corn hybrid plant height
+ Fieldview Digital Insights
+ Tailored Support

Bayer AG /// Investment Case /// August 2023
Planning Regional Tailored Approaches

Holistic Smart Corn System Powered by Short Stature Corn Developed via Three Technology Approaches

Breeding Approach – Phase IV
2023 Ground Breaker Trials in the U.S.
Native Trait: advanced breeding used to introgress naturally occurring short stature characteristics into elite germplasm

Biotech Approach¹ – Phase III
Uses transgene to shorten internodes; enables applicability across wide array of germplasm

Gene Editing Approach - Discovery
Location of launch will be dependent upon regulatory environments

>220m
Corn Acres Global Potential

Americas Alone Account for 140m Acres

>€1.5bn
Global Peak Sales Potential

¹ in collaboration with BASF
Next Gen Soybean Herbicide Tolerance Traits to Provide Industry Leading Flexibility

Drives ~€1bn Peak Sales Potential by Addressing Farmers’ Herbicide Resistance Challenges

4th Gen Herbicide Tolerance (HT4)

In Phase 3

Expected 2027 launch

- Adds 2 additional herbicide tolerances:
  - HPPD (Mesotrione) + 2,4-D

5th Gen Herbicide Tolerance (HT5)

Advanced to Phase 3

- Adds 1 additional herbicide tolerance:
  - PPO

>180m Soybean Acres

Always read and follow label instructions. Products not registered in all jurisdictions.
Developing Novel Cash Cover Crop with Potential for Low-Carbon Renewable Feedstock

Bayer Acquires Majority Share (65%) in CoverCress Inc. (CCI)

**Unique Rotational Agronomic System to Deliver Renewable Fuels to the Market**
3 Crops in 2 Seasons to provide growers sustainable benefits and new cash cover crop

**CoverCress**
- **Low carbon intensity rotational cash crop** that can deliver many ecosystem benefits of a cover crop and attractive economics of an oilseed crop
- **Carbon sequestration** 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**
- 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** (i.e. Farmers will be paid a premium to produce CoverCress; Bunge delivers oil to Chevron to convert to Renewable Diesel/Sustainable Aviation Fuel; CoverCress receives value from crusher (i.e. Bunge))
- **CoverCress ownership: Bayer 65%; Chevron and Bunge 35%**
Designing Molecules to Safely & Sustainably Address Needs of Farmers and Society

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

**Mode of Action & Hit Identification**
- AI-supported molecular target & hit identification toward designing of potent and sustainable 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

**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

**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

**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

**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
Plenexos… Where Healthier Fields Meet Higher Yields
Our Next Generation Ketoenol Insecticide with ~€500m Peak Sales Potential

Plenexos will be the first ketoenol insecticide expected to offer both foliar and soil uses

Plenexos will enhance ketoenol insecticides by offering:

- High plant mobility, which will ensure **high efficacy** against key sucking pests (aphids, whiteflies, scales, mealybugs) at **low dose rates** for foliar and soil uses
- Featuring a **broad crop scope**, Plenexos will be suitable for application in **arable and horticulture** crops (soybeans, cotton, fruits and vegetables)
- Favorable pollinator and beneficial toxicological profile which will ensure **broad flexibility** and fit to **Integrated Pest Management programs**, as well as **low residue levels** for several uses
- **Targeted markets:** LATAM, NA, APAC and TAMECIS¹
- **First regulatory submissions** in key markets in 2022, **first launches** expected from 2025 onwards²

Always read and follow label instructions. Products not registered in all jurisdictions. Plenexos is the brand name of the ketoenol insecticide Spidoxamat.

¹ TAMECIS stands for Turkey, Africa, Middle East, Commonwealth of Independent States; ² 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.

Bayer AG /// Investment Case /// August 2023
New Broad Spectrum Fungicide\(^1\) with a PSP of >€1bn

A New Fungicide with Broad Geographical, Crop and Disease Scope, Currently in Phase 3

\(\text{New broad-spectrum Fungicide with blockbuster potential}\)

- For global use confirmed in cereals, corn, fruits & vegetables with upside potential in numerous other crops
- Proven Mode of Action in a highly competitive future market
- Favorable regulatory profile
- Providing farmers worldwide with a reliable tool to ensure healthy crops and robust resistance management
- Excellent fit with Bayer’s fungicide portfolio, helping to strengthen our leading position

\(^1\) in collaboration with 3rd party; PSP = Peak Sales Potential
Enriching Our Pipeline with Novel and Sustainable Modes of Action

**CropKey** First representatives of CropKey approach are being brought from conception to reality in record time

### New Herbicide Molecule
- First new mode of action in post emergence weed control in 30 years, based on CropKey approach
- Securing farmers production in situations with tough to control grasses
- Allows use in various new market segments, as well as potential for precision application
- **PSP of €750m**
  - Project is currently in Phase 3

### New Fungicide Molecule
- Broad-spectrum Horticulture fungicide with a new mode of action, based on CropKey approach
- Control of key leaf spot fungi (incl. Anthracnose) across key regions
- Opportunities to extend beyond horticulture to cereals (barley), oil seed rape and seed treatment
- **PSP of €200m**
  - Project is currently in Phase 2

1 Expansion into oil seed rape and seed treatment not yet included in PSP; PSP = Peak Sales Potential
Industry-Leading Technology for the Next Generation of Biologicals

4-6 Year Product Development Timeline

Partner of Choice to Bring the Next Generation of Biologicals to Growers

- **Discovery**
  - Access to a variety of diverse technologies through our Open Innovation Network

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

- **Field Development**
  - Worldwide network of field-testing capabilities for early screening and development of application 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**

- **Strategic research partners with in-depth understanding of innovative modes of action resulting in novel products**

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

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

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

- **Ability to address untapped markets and work within challenging regulatory constraints worldwide**
Biologica Market Expected to More than Double to €30bn by 2035

We aim to Outgrow the Market with a 17% CAGR

**Global Biologicals Market**

- **€12bn** in 2022
- **€30bn** in 2035

  - **7% CAGR**
  - Biocontrol
  - Biostimulants

**Bayer Biologicals Opportunity**

- **€200m** Sales 2022
- **17% CAGR**
- **>€1.5bn** Sales 2035e

- In-licensing or distribution; expanding current portfolio
- Pipeline advancements
- Strategic research partnerships

Increasingly stringent regulatory approvals processes, consumers’ demand for low- and no-residue food products and retailer food sourcing standards drive growers to look for new innovations in crop protection

Source: Global Agricultural Biologicals Market, Forecast to 2030, Frost & Sullivan, 2022 and internal estimates
Expanding a World Class Biological Platform with Open-Innovation
Partner of Choice with Industry Leading Capabilities in Development, Regulatory and Commercialization

**Open Innovation Ecosystem**

<table>
<thead>
<tr>
<th>January 2023</th>
<th>Commercialized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scouting to meet short to mid-term portfolio needs</td>
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</tr>
<tr>
<td>M2i: partner to supply fruit and vegetable growers around the world with pheromone-based crop protection products</td>
<td></td>
</tr>
<tr>
<td>Ecología y Protección Agricola: commercialized Vynyt Citrus</td>
<td></td>
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</tbody>
</table>

| Pipeline advancements through development of internal assets and co-development with selected partners |
| Evaluating opportunities for mid-term portfolio differentiation |
| Actively advancing products in our pipeline |
| Establishing preferred partners for co-development and commercialization |

<table>
<thead>
<tr>
<th>October 2022</th>
<th>February 2023</th>
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<tbody>
<tr>
<td>Driving next-generation biological concepts</td>
<td></td>
</tr>
<tr>
<td>Ginkgo: 3-year collaboration on nitrogen optimization, carbon sequestration, and next generation crop protection</td>
<td></td>
</tr>
<tr>
<td>Kimatec: strategic partnership to accelerate the development and commercialization of biological crop protection solutions and biostimulants</td>
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</tbody>
</table>

Complementing efforts with academic partnerships and Leaps by Bayer investments, such as: andes, Sound, PIVOT BIO
Comprehensive Open-Innovation Strategy for Nitrogen Fixation

The Need

- Synthetic nitrogen fertilizer has helped feed >3.5bn people¹

- But accounts for ~3% of global greenhouse gas emissions

Our Approach

- Enhance nitrogen fixing bacteria through synthetic biology
- Leverage Ginkgo's expertise in microbial discovery, our expertise in agronomics, product development and commercialization
- Exclusive commercialization rights to programs already started at Bayer and/or Joyn Bio
- Aiming to reduce use of added synthetic fertilizers while maintaining the yield potential of the crops

¹ Source: Our World in Data
Leaps by Bayer Technology Investments Expand R&D Reach

18 Distinct Investments in Sustainable Productivity and Improved Nutrition

Leap 03/ Reduce environmental impact of agriculture
- Earth Optics
- Sound
- NewLeaf symbiotics
- ChrysaLabs

Leap 07/ Provide next-generation healthy crops
- pairwise
- UKFOD
- ukko

Leap 08/ Develop sustainable protein supply
- NuCicer
- AMFORA
- FORK&GOOD

Leap 09/ Prevent crop and food loss
- Grão direto
- Apolo Agriculture
- Rantizo
- CerthBio

Companies shown by primary Leap but may have potential in further Leaps.
For additional information on these and other Leaps by Bayer investments, please visit: https://leaps.bayer.com/
Digital Platform Optimizing Through the Farm into the Value Chain

Enabling Sustainable Solutions from Farm to Fork

Digital shifting from data collection and visualization to an essential tool for all farming operations.

Digital is transforming to enable new opportunities across the value chain.

Lab & Greenhouse

DRONE-BASED APPLICATION
TIMING RECOMMENDATIONS
PEST DETECTION
HYBRID RECOMMENDATIONS

Farm

Value Chain

AG MARKETPLACES
DOWNSTREAM VALUE
RISK SHARING
SUSTAINABILITY & CARBON
Digital Farming Brings Transformational Solutions While Driving Significant Franchise Value and Opportunities Downstream and in Value Chain

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

01 FRANCHISE VALUE

02 DOWNSTREAM VALUE

03 PLATFORM VALUE
Fieldview Digital Insights
Maximizing Smart Corn System

Comprehensive Digital Agronomic Support

- Hybrid Selection & Placement
- Planting Density
- Planting Date
- Fertility Recommendations & Timing
- Crop Protection Recommendations & Timing

Spray Rig in Short-Stature Corn Plot
Jerseyville, IL August 2019

Poseyville, Indiana July 2021
Nitrogen Y-Drops for Precise In-Season Application
Advancing Climate Smart Practices on Farm to Achieve Carbon Goals for Growers and Businesses; Creating New Revenue Stream

ForGround by Bayer

Digital platform that helps farmers transition to climate-smart practices and connects growers, acres, and buyers to more meaningful opportunities.

Growers have access to tools, resources, discounts and financial benefits (through Bayer Carbon Program)

Companies have access to carbon assets and services powered by FIELDVIEW platform to support their sustainability goals

Our Commitment: **30% Reduction** of Field Greenhouse Gas Emissions by 2030

Builds on Success with our Existing Bayer Carbon Program

| ~2,600 participating farmers | 10 countries covered | ~1.5m acres globally |

// Long-term program providing annual incentives to FIELDVIEW users, enrolled in the program, for verified and validated climate-smart practices like no-till and cover cropping

// Enables 3 Expected Downstream Revenue Opportunities in >$200bn/year market

<table>
<thead>
<tr>
<th>Carbon Services</th>
<th>Product Sales</th>
<th>Carbon Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>First revenue generating carbon asset in 2023</td>
</tr>
</tbody>
</table>

Creates new opportunities for growers and businesses alike

Perdue

First food value chain B2B collaboration on ForGround platform spanning across Perdue’s entire grain network

Perdue grain farmers may be compensated for adopting regenerative practices, allowing Perdue to decarbonize their supply chain

Nori

Supports Nori in advancement of the carbon marketplace

Pave the way for price discovery of carbon removal credits on the open market

Bayer Carbon Program grower payments will be reassessed in accordance with carbon credit market price fluctuations

---

Industry First Collaboration Offering B2B Digital Solutions that Connect the Farm to the Value Chain

Azure Data Manager for Agriculture is the largest connection point of agricultural data and services driving interoperability across the value chain – including food, feed, fiber, and fuel.

Combines Bayer’s ag expertise and leading digital farming platform with Microsoft’s cloud technology for unrivaled B2B solutions.

Bayer AgPowered Services, based on proprietary capabilities, now available to the industry on Azure Data Manager’s robust infrastructure:
- Imagery Insights
- Crop Water Use Maps
- Growing Degree Days
- Smart Boundary Detection
- Crop Growth Models

Provides cloud-based digital tools and data science solutions for ag and agri-food businesses to license and use for internal platforms or customer-facing digital solutions.

Will provide solutions to address farming operations, sustainable sourcing, manufacturing and supply chain improvement, and ESG monitoring and measurement.

Disorderly Data in Today’s Food and Ag Supply Chains

Enabling Transparency and Sustainability for Companies and Consumers; Advancing New Opportunities for Farmers
Orbia JV is the Largest Digital Ag-Marketplace in LATAM

In Combination with FIELDVIEW, Provides an Integrated Digital Grower Experience

- JV between Bayer, Bravium\(^1\), 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\(^2\)
- \(~300\) distributors with inputs such as pesticides, seeds and fertilizers
- \(~€460m\) in commissioned online transactions (GMV\(^3\)) in 2022
- >270,000 registered growers across LATAM
- Covers \(~75\%\) of Brazil planted area
- Recently launched Orbia Pag, the first digital pre-approved credit mechanism for farmers

---

1. Brazil-based marketing agency who managed Bayer’s loyalty program in Brazil, prior to the formation of Orbia.
2. Orbia is named ‘Nucle’ in Mexico
3. GMV means Gross Merchandise Value, the most common metric for marketplace development
Sustainability Focus

“Producing more with less”

We’re supporting food security while reducing agriculture’s impact on nature

- We’re committed to: (1) minimizing the climate footprint of farming, (2) reducing the environmental impact of crop protection, (3) enabling smallholder farmers and (4) improving water use

Reducing and mitigating: Increasing productivity while reducing the impact on nature

Regenerative Focus

“Producing more and restoring more”

We’re supporting food security and securing farm incomes while delivering net benefits to nature

- We’re committed to: (1) minimizing the climate footprint of farming, (2) reducing the environmental impact of crop protection, (3) enabling smallholder farmers and (4) improving water use

+ We’re delivering nature-positive outcomes by improving soil health, restoring biodiversity and protecting habitats, conserving water and sequestering carbon

- We’re helping farmers increase productivity and incomes with climate adaptation solutions and new sources of revenue

Adapting and regenerating: Increasing productivity and incomes while renewing nature

Future of Farming

Broadening our sustainability approach with a regenerative focus
Today our seed & trait technologies reach ~340m acres globally, anchoring our vision for regenerative system solutions.

By the middle of the next decade, we envision broadening our reach to >400m acres.

Hybrid wheat, direct seeded rice, corn traits in Africa & Asia and carbon farming enable potential in new crops and markets.

Preceon Smart Corn System and next-gen herbicide tolerance in soybeans build out our base.
Delivering Regenerative Ag Benefits and Improved Profitability

Example: 130 HA Bayer Forward Farm Agricola Testa, located in Pergamino, Argentina 2019-2022

Increased farmer roi¹

+13% grain productivity

+22% gross margin/HA

.....And more sustainable agriculture¹

65% Improvement in carbon balance (CO2 eq kg/ha)

+1,512 carbon sequestration (Kg CO2/HA)

+40% system biomass production

-15% less sprays

Farmer expanded regenerative farming practices to 1,000 HA rented land after seeing these results

¹Since 2015, Agricola Testa has been certified in Good Agricultural Practices in sowing, spraying and harvesting. Results shown here depict the improvements achieved from adoption of no-till agriculture, crop rotation, inclusion of winter & cover crops, implementation of digital agriculture, selection of top performing germplasm, biotechnology traits, a balanced fertilization strategy and monitoring pests for defined control timing practices, from 2019 to 2022 at Bayer’s Forward Farm, Agricola Testa, located in Pergamino, Argentina.
Innovative, Sustainable Solutions to Address Global Challenges

Global Challenges:

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

Our Sustainability Goals:

- **30% Reduction in Crop Protection impact on the environment**
- **30% Reduction in Field Greenhouse gas emitted per kg of crops produced**
- **25% Reduction in Water Use per kg of crops produced in rice cropping systems**
- **100m Empowering 100m smallholder farmers by 2030, to become more productive and profitable**

Our Solutions:

- **Novel small molecules and biological solutions with reduced environmental impact**
- **Short stature corn to unlock additional yield potential by optimizing crop inputs**
- **Digital tools for carbon sequestration measurement, precise input application**
- **Next-gen herbicide tolerant traits to enable no-till/conservation tillage systems**
- **Covercress cover crops**
- **High-performing rice seed**
- **Digital precision farming**
- **Innovative crop protection solutions for weed control in lieu of field flooding**
- **Arize dry-seeded rice varieties and hybrids**
- **Better Life Farming**
- **FarmRise Mobile App**
- **Food Value Chain Partnerships and BayGAP**

Growing Population

Increasing Protein Demand

Global Challenges:
Crop Science: Seed & Traits and Digital R&D Pipeline  
(Annual Update Feb 2023)

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Phase IV</th>
<th>PSP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CORN - SEED &amp; TRAIT</strong>&lt;br&gt;Corn Disease Shield - NA&lt;br&gt;2nd Generation Seed Density Digital Tool - NA</td>
<td>5th Generation Lepidoptera Protection&lt;br&gt;5th Generation Herbicide Tolerance w/ (RHS2)&lt;br&gt;Digital Disease Mgmt. – NA&lt;br&gt;Seed Placement Digital Tool - NA</td>
<td>Short Stature Corn – Breeding Approach&lt;br&gt;4th Generation Coleoptera Protection&lt;br&gt;Annual Germplasm Upgrades</td>
<td>Short Stature Corn – Breeding Approach&lt;br&gt;4th Generation Lepidoptera Protection&lt;br&gt;Seed Density Digital Tool – EMEA&lt;br&gt;Seed Density Digital Tool – LATAM</td>
<td>~€11bn</td>
</tr>
<tr>
<td><strong>SOYBEAN - SEED &amp; TRAIT</strong>&lt;br&gt;Digital Disease Mgmt. - NA</td>
<td>Seed Placement Digital Tool – NA&lt;br&gt;4th Generation Insect Protection</td>
<td>3rd Generation Insect Protection&lt;br&gt;2nd Generation Soy Cyst Nematode resistance&lt;br&gt;4th Generation Herbicide Tolerance (HT4) (5 Tolerances – Adds 2, 4-D and HPPO)&lt;br&gt;5th Generation Herbicide Tolerance (6 Tolerances – Adds PPO)</td>
<td>Vistive Gold Xtend&lt;br&gt;Annual Germplasm Upgrades&lt;br&gt;Soybean Native Resistance</td>
<td>~€4bn</td>
</tr>
<tr>
<td><strong>VEGETABLES and OTHER</strong>&lt;br&gt;Canola/OSR Digital Disease Mgmt. - NA</td>
<td>Wheat Digital Disease Mgmt. - EMEA</td>
<td>Canola Dicamba Tolerance&lt;br&gt;Sugarbeets 2nd Generation Herbicide Tolerance&lt;br&gt;Cotton 4th Generation Herbicide Tolerance (HT4) (5 tolerances – Adds 2, HPPO and PPO)&lt;br&gt;Cotton 4th Generation Insect Protection</td>
<td>Lygus and Thrips Control (ThryvOn Technology) - Stewarded Commercial Launch</td>
<td>~€6bn</td>
</tr>
<tr>
<td>Annual Germplasm Upgrades&lt;br&gt;Soybean Native Resistance</td>
<td>Wheat Annual Germplasm Upgrades&lt;br&gt;Wheat Disease Package Upgrades&lt;br&gt;Cotton Annual Germplasm Upgrades&lt;br&gt;Canola/OSR Annual Germplasm Upgrades&lt;br&gt;Veg- Annual Germplasm Upgrades&lt;br&gt;Rice Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades&lt;br&gt;Wheat Disease Package Upgrades&lt;br&gt;Cotton Annual Germplasm Upgrades&lt;br&gt;Canola/OSR Annual Germplasm Upgrades</td>
<td>Wheat Annual Germplasm Upgrades&lt;br&gt;Wheat Disease Package Upgrades&lt;br&gt;Cotton Annual Germplasm Upgrades&lt;br&gt;Canola/OSR Annual Germplasm Upgrades&lt;br&gt;Veg- Annual Germplasm Upgrades&lt;br&gt;Rice Annual Germplasm Upgrades</td>
<td>~€1bn</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; includes all advancements made in FY’22, updated Feb’23. 

PSP = Peak Sales Potential; 50% incremental; Expected to reach 30% of PSP by 2022, 80% of PSP by 2037 and remainder in 2038+. 

Note that products are excluded from the pipeline PSP. Typically the year following launch.

1 In collaboration with KWS; 2 In collaboration with BASF; 3 “Other” category includes seeds and traits, such as cotton, canola, wheat, OSR, rice, vegetable seeds and sugarbeets, plus carbon and digital models.
Crop Science: Crop Protection R&D Pipeline
(Annual Update Feb 2023)

### HERBICIDES
- **Phase I**
  - New Herbicide
  - New Herbicide
  - New Herbicide

- **Phase II**
  - New Herbicide
  - New Herbicide

- **Phase III**
  - New Herbicide

- **Phase IV**
  - New Herbicide
  - New Herbicide

- **Life Cycle Management**
  - Non-Selective
    - Glyphosate LCM
  - Selective
    - Luna Flexx / Adengo LCM
    - Balance Flexx LCM
    - Convintro
    - New over-the-top herbicide

### SEED GROWTH
- **Phase I**
  - New Seed Treatment

- **Phase II**
  - New Seed Treatment

### Fungicides
- **Phase I**
  - New Fungicide

- **Phase II**
  - New Fungicide

- **Phase III**
  - New Fungicide

- **Phase IV**
  - Plenexos

- **Life Cycle Management**
  - Vayego Duo
  - Velum LCM
  - Rice Plant Hopper
  - INS FUN ready mixture
  - Redigo FS 25

### Insecticides
- **Phase I**
  - New Insecticide

- **Phase II**
  - New Insecticide

### Note
- 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; includes all advancements made in FY'22, updated Feb'23; SeedGrowth is currently reported within other SBEs; 3rd party collaboration.
- 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, 50% incremental; Expected to reach 30% of PSP by 2032, 80% of PSP by 2037 and remainder in 2038+; Note that products are excluded from the pipeline PSP typically the year following launch.

---

1. **Com**, **Soybeans**, **Fruits and vegetables**, **Cereals, oilseed rape, sugarbeets, cotton and rice**, **Biological**, **Small Molecule**
Science for a Better Life

Pharmaceuticals: Driving Continued Long-term Growth

02

Investment Case
August 2023 / Bayer AG
Pharmaceuticals: Driving Continued Long-Term Growth

01 Market & Position

02 Strategy

03 Growth Drivers

04 Innovation
Pharma Is An Attractive And Dynamic Market With Significant Opportunities Ahead

**Global Pharmaceuticals Market**

- **Market Size 2022**
  - USA: 46%
  - APAC: 11%
  - EMEA: 24%
  - LATAM: 7%
  - Canada: 5%
  - China: 2%
  - Japan: 5%

- **Market CAGR 2022-26** \( \sim 5\% \)

**Trends and Challenges**

- **Disruptive medicines** from breakthrough science
- **Shift from treatment to prevention** and potential cure
- **Loss of exclusivity**
- **Pressure on pricing**
- **Declining R&D productivity**
- **Increased pressure** for value and real-world evidence

---

1 Source: IQVIA Market Prognosis as of March 2023
Bayer Holds Strong Positions In Areas Of High Unmet Medical Needs, Generating Attractive Returns

**Bayer Pharmaceuticals**
Sales and EBITDA margin before special items 2011-2022

- **Sales (in €bn)**
- **EBITDA margin before special items (in %)**

**FY2022 Sales by therapeutic area in %**
- Cardiovascular*
- Women’s Health*
- Hematology*
- Oncology
- Ophthalmology*
- Radiology*

**€19bn**

**FY 2022 Sales of top products in €m**
- Xarelto
- EYLEA
- Kyocera
- Mirena
- Jivi
- Kovaltry
- ROGENATE
- 4.516
- 3.213
- 1.277
- 847
- 831

* Market leading positions

**Margin corridor 30-35%**

**Sales CAGR ~ 6% (cpa)**

**01**

---

1. As reported in the respective fiscal years

// Bayer AG /// Investment Case /// August 2023

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71
Driving our strategic agenda

1. Grow potential blockbusters
   Capture the full commercial value of the current portfolio

2. Build & grow US business
   Shift in marketing & R&D towards growth drivers

3. Progress late-stage pipeline
   Strengthen early pipeline through increasing contributions from platform companies as well as partnering
Launch Assets And Late-stage Pipeline Expected to More than Offset LoE and Drive Long-Term Growth

Projected Sales Bayer Pharmaceuticals (indicative)

- **Total 2021:** €18.3bn
- **Peak sales potential:** €6bn

### Cell & Gene Therapies
- Asundexian, Elinzanetant

### Phase 3 pipeline assets
- Nubeqa, Kerendia, Vitrakvi

### Launch assets
- Xarelto

### Other late lifecycle assets
- e.g. Nexavar, Adalat, Hematology franchise

### Stable / moderate growth
- e.g. Radiology, Eylea & 8mg aflibercept, Women’s Health
Xarelto’s Main Patent Expirations* and Losses of Exclusivity (LoE)

<table>
<thead>
<tr>
<th>Year</th>
<th>Patent Expiry</th>
<th>Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Compound patent</td>
<td>China</td>
</tr>
<tr>
<td>2021</td>
<td>Once-daily use patent</td>
<td>Mexico LoE, Brazil LoE</td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td>Australia, EU, UK, CH</td>
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<tr>
<td>2023</td>
<td></td>
<td>Japan (July 2024: SPAF)</td>
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<tr>
<td>2024</td>
<td></td>
<td>Canada, EU, UK, CH</td>
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<tr>
<td>2025</td>
<td></td>
<td>Japan (July 2025: VTE)</td>
</tr>
<tr>
<td>2026</td>
<td></td>
<td>USA, Canada, EU, CH</td>
</tr>
<tr>
<td>2027</td>
<td></td>
<td>USA***</td>
</tr>
</tbody>
</table>

Xarelto sales by main markets in 2022

- **EU**: 40%
- **USA**: 13%
- **Canada**: 9%
- **CH**: 9%
- **Other EMEA**: 8%
- **Japan**: 7%
- **Other regions**: 5%
- **Canada**: 3%
- **UK**: 5%
- **China**: 4%
- **Other regions**: 10%

FY 2022: €4.5bn

* Additional IP rights with later expiration dates exist in some countries; ** Bayer royalty income; *** Gx entry on once-daily patent
Nubeqa & Kerendia Driving Growth of our Innovative Medicines Business in the US

Bayer Pharmaceuticals Sales by Region

USA Rx
USA non-Rx
EMEA
China
Japan
LatAm
Other

FY 2022
€19.3bn

Sales of Rx Pharma US (€bn)

2,2
2,6
~3.0

2021
2022
2023e

~17% CAGR

Market share of Nubeqa in the US expanded to >40% in nmCRPC\(^1\), being #1\(^2\) in 2nd generation ARIs\(^3\); #2\(^2\) in mHSPC\(^4\)

Re-entering cardio-renal with Kerendia & Verquvo: significant investments made to build up an appropriate marketing and sales organization, headcount increased by ~50% in past 3 years

\(^1\) nmCRPC: non-metastatic castration resistant prostate cancer, \(^2\) adjusted to reflect nmCRPC and mHSPC only, \(^3\) ARI: Androgen Receptor Inhibitor, \(^4\) mHSPC: metastatic hormone sensitive prostate cancer

75

// Bayer AG /// Investment Case /// August 2023
A Focused R&D Strategy to Deliver an Innovative, Differentiated and Sustainable Pipeline

Our focus

Core Therapeutic Areas
- Oncology
- Cardiovascular+
- Neurology & Rare Diseases
- Immunology

Modalities
- Small molecules
- Protein Therapeutics
- Radiotherapy
- Chemoproteomics
- Cell Therapy
- Genetic medicine

Platform Companies
- AskBio
- BlueRock
- Vividion

Our priorities

Science & Portfolio
- Launch elinzanetant and asundexian
- Progress and accelerate high-value assets
- Focused investments in BD&L
- Maximize impact from platform companies
- Unlock full potential of precision medicine

Productivity
- Excellence in execution to generate more value and improve capital efficiency in R&D
- Shift to asset-centric operating model
- Increase agility and dynamic resource allocation
- Accelerate data science & AI across R&D value chain
Refined Focus Areas with Highest Impact and Value Potential

Clear Strategic Mandates Guiding Decision Making and Resource Allocation

ONCOLOGY

Become a Top Oncology Company

Drive leadership in focus areas, accelerate growth through competitive early-stage pipeline

CARDIOVASCULAR+1

Remain Top player, shift to precision medicine

Enhance our leadership in precision cardiovascular, nephrology and acute care

NEUROLOGY & RARE DISEASES

Advance a competitive Cell & Gene therapy pipeline

Drive and de-risk platform with focus on first-in-market potential

IMMUNOLOGY

Build expertise and portfolio

Advance our pipeline to build a presence and support other focus areas

1 including Precision Cardiovascular, Nephrology & Acute Care
A Multi Faceted Innovation Engine to Unlock Value for Patients

Addressing Need for Breakthrough Science with Diverse Research Capabilities, Technologies and Talents
Targeting the Sweet Spot of Precision Medicine Across our Focus Areas

Through Disease Understanding and Value Potential Assessment

Address individual patients' needs to achieve improved and sustainable health by delivering transformative medicines: the right treatment, to the right patient, at the right time.

Optimized outcomes by focusing on highest unmet needs, value potential, differentiation and risk mitigation.

Open for disruption in large indications.

Illustrative

Population

Value

Large indications

Subpopulations

Rare indications
Moving to Higher, Sustainable Level of R&D Productivity

Supported by Key Levers

**Increase in pts**
- Moving toward precision medicine
- Improved validation of targets and translation to patient-target disease link
- Strategic investments in new biomarker approaches
- Improved patient profiling and selection using advanced Data Science/AI approaches

**Reduction of costs**
- Digitization of clinical trials
- Lean, innovative, adaptive clinical trial design in stratified population, as well as platform studies
- Reduction of in-vivo/wet lab work by applying prediction tools
- New ways of working leveraging organizational synergies

**Decrease in cycle times**
- Improved governance and decision making (fail / accelerate fast)
- Accelerate development from IND to launch through tailored development approaches
- Unlock the potential of Real-World Data with AI and Machine learning. Automation and digitization enabling decentralized trials
### A Diverse and Innovative Modality Toolkit to Deliver our Ambition

Delivering Innovative and Competitive Medicines in our Focus Therapeutic Areas

<table>
<thead>
<tr>
<th>Small Molecules</th>
<th>Oncology</th>
<th>Cardiovascular+1</th>
<th>Neurology &amp; Rare Diseases</th>
<th>Immunology</th>
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<tr>
<td>Small Molecules (SMOL)</td>
<td><img src="image1" alt="SMOL" /></td>
<td><img src="image2" alt="SMOL" /></td>
<td><img src="image3" alt="SMOL" /></td>
<td><img src="image4" alt="SMOL" /></td>
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<td>RNA targeting</td>
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<td>Protein degraders</td>
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<tr>
<td>Peptides Conjugates</td>
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<th>Protein Therapeutics</th>
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<td><img src="image6" alt="Antibody" /></td>
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<td>Multispecific antibodies</td>
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<td>Monoclonal antibodies</td>
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<th>Radiotherapy</th>
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<td>Targeted Radiotherapy</td>
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<td>SMOL</td>
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<th>Oncology</th>
<th>Cardiovascular+1</th>
<th>Neurology &amp; Rare Diseases</th>
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<td>Covalent binders</td>
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<td>Heterobifunctional degraders</td>
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<td>Molecular glues</td>
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<th>Cell Therapy</th>
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<td>Pluripotent Stem Cells (PSCs)</td>
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<th>Neurology &amp; Rare Diseases</th>
<th>Immunology</th>
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<td>Adeno-Associated Virus (AAV) based gene therapy</td>
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<td><img src="image22" alt="AAV" /></td>
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<td>CRISPR-based gene editing</td>
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<td>Non-viral gene delivery</td>
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</tbody>
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1 including Precision Cardiovascular, Nephrology & Acute Care

Bayer innovation capabilities

Innovation capabilities added since 2019
Nubeqa Has The Potential to Become The New Standard of Care in Prostate Cancer Across Indications

Launch performance

US Market Share¹

- nmCRPC
  - Nubeqa: 43%
  - Others: 25%

- mHSPC
  - Nubeqa
  - Others

Sales €0.5bn 2022

Ex-US, additional approvals will drive further growth

Expanding to earlier prostate cancer settings

Patient progression in prostate cancer

- (Neo-) Adjuvant
  - ~145k
  - 2028

- Nonmetastatic
  - Not label generating; supports ARASTEP/ARANOTE submission
  - ~86k
  - 2019

- Metastatic
  - mHSPC
  - ~47k
  - 2022
  - ~76k
  - 2025

Phase III program:

- DaSL-HiCAP
- ARASTEP (ARAMON)⁴
- ARAMIS
- ARASENS
- ARANOTE (ARASEC)⁴

Committed to make Nubeqa available to a broad spectrum of prostate cancer patients

¹ Source: IQVIA January 2023 3-month rolling market share, adjusted to reflect nmCRPC and mHSPC only ² 2030 Treated Estimates G7: US, EUS, J ³ Peak Sales Potential
⁴ Not label generating; supports ARASTEP/ARANOTE submission

Bayer AG /// Investment Case /// August 2023
Finerenone is a Potent, Highly Selective Non-Steroidal Mineralocorticoid Receptor Antagonist (MRA) with Differentiated Profile

Different binding modes between steroidal MRAs and non-steroidal Finerenone

1. Physicochemical properties
   - Tissue distribution / cellular penetration

2. Binding Mode
   - MR translocation / Degradation

3. Coregulator modulation
   - Differential gene expression

Finerenone and steroidal MRAs differ in their molecular receptor binding mode resulting in distinct effects on gene expression.

Preclinical data: receptor profile, drug metabolism & tissue distribution of Finerenone

<table>
<thead>
<tr>
<th></th>
<th>Spironolactone</th>
<th>Eplerenone</th>
<th>Finerenone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MRA Class</strong></td>
<td>Steroidal</td>
<td>Steroidal</td>
<td>Non-steroidal</td>
</tr>
<tr>
<td><strong>Potency</strong></td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td><strong>Selectivity</strong></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td><strong>Metabolites</strong></td>
<td>Multiple, active</td>
<td>No active</td>
<td>No active</td>
</tr>
<tr>
<td><strong>Tissue distribution</strong></td>
<td>Kidney&gt;&gt;heart (&gt;6-fold)</td>
<td>Kidney&gt;heart (~3-fold)</td>
<td>Balanced (1:1)</td>
</tr>
</tbody>
</table>

No sexual side effects including gynecomastia

Balanced kidney safety

Low incidence of hyperkalaemia-related adverse events with clinical impact and permanent treatment discontinuation

Kerendia With Strong Launch Dynamics And The Option to Broaden The Use in CKD And to Expand into HF

Launch Performance

US launch performance (monthly TRx)$^2$

Sales €0.1bn 2022

One of the strongest launch dynamics in CV despite initial COVID restrictions

Continued US market uptake with broad utility and relevance across GPs and specialists

China: NRDL Listing starting March 2023; granted Extended Indication in China in mid-May, including CV outcomes from FIGARO-DKD

Expanding to additional indications

Global Patient Population$^3$

Growing recognition of strong interlink between CKD and HF

Chronic Kidney Disease

HF

T2D | T1D | Non-diabetic | HFmr/pEF

FIGARO-DKD | FINE-ONE | FIND-CKD | FINEARTS-HF

FIDELIO-DKD

2025 2026 2024

$^1$ Entresto developed and commercialized by Novartis

$^2$ Source: IQVIA TRx April 2023

$^3$ Source: Vijay et al, 2021

$^4$ Peak Sales Potential

84 /// Bayer AG /// Investment Case /// August 2023
Existing Phase III data support potential expansion into Heart Failure

Unmet medical need

- HF is the fastest-growing global CV disease with approximately ~60m HF patients worldwide
- About 50% of HF patients have HF with LVEF ≥ 40%. They suffer from a high CV mortality rate (42% within 5y of diagnosis) despite SoC
- Renal dysfunction and HFmrEF/pEF frequently coexist, due to shared comorbidities and factors impacting macrovascular and microvascular circulation

Clinical data suggest benefit of Finerenone in Heart Failure

- **Phase III FIGARO-DKD:** Reduced risk of HF-related death or first HHF
- **Phase III ARTS-HF:** Reduced risk of CV hospitalization and CV death vs eplerenone

FINEARTS-HF Phase III data expected in 2024

---

Elinzanetant as Investigational Non-hormonal Treatment Option in The Menopause Market With Peak Sales Potential of >€1bn

**Market Characteristics**

80% of women will experience vasomotor symptoms, with over half reporting moderate or severe symptoms.

~60% of women with menopausal symptoms are not treated.

1.2 billion women menopausal or postmenopausal by 2030.

**Elinzanetant**

// First, non-hormonal, once-daily, oral neurokinin-1,3 receptor antagonist

// Differentiated, double mode of action

// Phase II indicated significant and rapid improvement in VMS and positive safety profile

**Current Status**

// Four Phase III studies (OASIS-1 – OASIS-4)

// First Phase III data expected in H2 2023

// Potential launch: 2025

---

1 Source: Market Research - IPSOS - Global VMS Women Segmentation

2 Peak Sales Potential

---

// Bayer AG /// Investment Case /// August 2023
**Antithrombotic Therapy Timeline**

- **1939** Heparin (i.v., s.c.) *Indirect inhibitor of clotting factors*
- **1941** Warfarin (p.o.) *VKA*
- **1954** Dicoumarol (p.o.) *VKA*
- **1980** Aspirin* (p.o.) *Antiplatelet*
- **1985** Clopidogrel# (p.o.) *Antiplatelet*
- **1998** Fondaparinux (i.v., s.c.) *Indirect FXa inhibitor*
- **2000** Bivalirudin (i.v.) *Direct thrombin inhibitor*
- **2008** DOACs (p.o.) *Direct FXa/thrombin inhibitors*
- **2011** Ticagrelor (p.o.) *P2Y12 inhibitor*

*Year aspirin approved for stroke prevention. EU approval in 1998, FDA approval in 1997. ‡FXI(a) inhibitors are a class of antithrombotics that are currently being investigated in clinical trials; they are not approved for use in any country.

DOAC, direct oral anticoagulant; FDA, US Food and Drug Administration; FXa, activated factor X; FXI(a), activated Factor XI; i.v., intravenous; p.o., oral; s.c., subcutaneous; VKA, vitamin K antagonist.

---

FXI(a) Inhibitors Are a Promising And Distinct New Class of Drugs For Thrombosis Prevention

Separating Thrombosis Protection from Haemostasis via Selective Modulation of the Coagulation System

Mode of Action¹-³

Paradigm shift in thrombosis prevention, with the potential to uncouple efficacy from bleeding risk

Patients with genetically higher FXI levels show increased risk of ischemic stroke⁴

<table>
<thead>
<tr>
<th>Ischemic stroke subtype⁵</th>
<th>x</th>
<th>Cases (N)</th>
<th>Controls (N)</th>
<th>OR 95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardioembolism</td>
<td>3,071</td>
<td>28,722</td>
<td></td>
<td>0.0003</td>
<td></td>
</tr>
<tr>
<td>Large artery atherosclerosis</td>
<td>2,454</td>
<td>28,880</td>
<td></td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Small vessel occlusion</td>
<td>2,736</td>
<td>27,588</td>
<td></td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td>Undetermined cause</td>
<td>4,755</td>
<td>25,292</td>
<td></td>
<td>0.0002</td>
<td></td>
</tr>
</tbody>
</table>

FXa, activated Factor X; FXI(a), activated Factor XI; FXII(a), activated Factor XII; TF, tissue factor.

Phase III Decision for Asundexian Strongly Backed by Results From PACIFIC Phase II Program

Innovative, Once-daily, Oral Small Molecule FXIIa Inhibitor

**Study Data: PACIFIC-AF**

- **Bleeding:** Asundexian at near maximum FXIIa inhibition showed lower rates of observed bleeding versus apixaban in PACIFIC-AF.
- **Efficacy:** Too few events to draw conclusion

**Study Data: PACIFIC-STROKE**

- **Bleeding:** No significant increase vs. Placebo on top of Antiplatelet/Dual Antiplatelet

**PROPORTION OF PARTICIPANTS WITH BLEEDING EVENT, % OF PATIENTS**

<table>
<thead>
<tr>
<th></th>
<th>Asundexian 50mg</th>
<th>Apixaban</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISTH major bleeding or clinically relevant non-major bleeding</td>
<td>0.4%</td>
<td>3.5%</td>
</tr>
<tr>
<td>ISTH minor bleeding</td>
<td>3.9%</td>
<td>2.4%</td>
</tr>
<tr>
<td>All bleeding</td>
<td>8.0%</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

**RECURRENT STROKE AND TIA IN PATIENTS WITH ANY EXTRA-/INTRACRANIAL ATHEROSCLEROSIS**

<table>
<thead>
<tr>
<th></th>
<th>Asundexian 50mg</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISTH major bleeding or clinically relevant non-major bleeding</td>
<td>3.1%</td>
<td>8.1%</td>
</tr>
<tr>
<td>ISTH minor bleeding</td>
<td>0.39 (0.18-0.85)</td>
<td></td>
</tr>
</tbody>
</table>

Currently Un(der)treated Patients May Provide Asundexian a Strong Entry Point Into The Anticoagulation Market

Market Characteristics

- Stroke prevention in AF
  - ~32m diagnosed AF patients in top 8 markets¹
  - Standard of care: DOACs (or VKA)
  - Unmet need: lower bleeding with potential for efficacy benefits vs. SOC

- Non-cardioembolic stroke
  - ~27m diagnosed patients in top 8 markets¹
  - Standard of care: Single/Dual APT
  - Continuous high recurrence despite APT, and safety concerns with DAP
  - Unmet need: higher efficacy without increase in bleeding vs. SOC

Asundexian

- Innovative, once-daily, oral small molecule FXIa inhibitor
- Paradigm shift in thrombosis prevention, with the potential to uncouple efficacy from bleeding risk
- Broad Phase II study program PACIFIC confirmed consistent safety and near maximum FXIa inhibition

Current Status

- Two Phase III studies (OCEANIC-AF and OCEANIC-STROKE)
- U.S. FDA Fast Track Designation granted for both indications
- Phase III data expected in H2 2025

---

¹ Top 8 markets: US, CN, JP, EU5; ² Peak Sales Potential
Strong Aflibercept 8mg Data Reinforce Leading Clinical Profile of Eylea Franchise

**Leading medicine in wAMD and DME treatment**

**Eylea Volume Development**
(vials + prefilled syringes)

- Share in ex-US markets: ~60%
- CAGR: ~17%

### 2016 - 2022

- Gold standard in efficacy and safety
- High competitive hurdle: >8 million of treated years for patients and physicians
- First biosimilar launches expected in 2023 (CA, JP)

**Unparalleled clinical data further raising the bar**

<table>
<thead>
<tr>
<th>Injection</th>
<th>Photon (DME)</th>
<th>PULSAR (wAMD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>every 12 weeks</td>
<td>91%</td>
<td>79%</td>
</tr>
<tr>
<td>every 16 weeks</td>
<td>89%</td>
<td>77%</td>
</tr>
</tbody>
</table>

1) after 48 weeks; comparator arms: Eylea every 8 weeks

- Significant prolongation of injection intervals without compromising efficacy and safety
- Set to become new standard of care despite increasing competitive dynamics
- Submissions in major markets in 2023, launch by 2024

**Commercial potential substantially strengthened**

DME: diabetic macular edema; wAMD: wet age-related macular degeneration
Oncology will Remain a Major Segment of the Pharma Market and we have a Strong Foundation to Build on

### Oncology Opportunity

#### MARKET ATTRACTIVENESS

**High unmet need**

// Growing health burden, with cancer being the second leading cause of death at present
// 30M new cases annually expected by 2040

**One of the largest and fastest growing segments**

// 2021-28 CAGR of 12%, expected to reach >€300bn by 2028

**Disruptive innovation in Oncology**

// Access to “undruggable” targets, new biomarker approaches & diagnostic tools create numerous opportunities for new precision therapeutics

---

#### BAYER'S KEY STRENGTHS

**Scientific and clinical expertise**

// SMOL chemistry and peptide therapeutics
// Vividion as leaders in chemoproteomics
// Targeted Radiotherapy (TRT)
// GI, GU (notably prostate) and other high unmet need cancers

**Commercial capabilities**

// Successfully launched several assets

---

Source: EvaluatePharma (July 2022), Pharmaprojects (Oct 2021); IQVIA Pharma Deals (January 2021); McKinsey analysis
Focus Where External Opportunity Meets Internal Strength

Scientific focus: Precision Drug Development

- Targeted Radionuclide Therapies (TRT)
- Precision Molecular Oncology (PMO)
- Next Generation Immuno Oncology (IO)

(Projected) Unmet need

- Genitourinary (GU)
  Prostate, Bladder, Renal cancers
- Gastrointestinal (GI)
  Colorectal, Liver, Gastric cancers
- Lung Cancer (NSCLC)
- Other Tumors with high unmet need
Bayer to Continue Leadership Position in CV

**MARKET ATTRACTIVENESS**

**High unmet medical needs**
- Leading cause of death
- Increasing disease burden and rising comorbidities
- Huge impact on healthcare systems and workforce

**Emerging trends**
- Novel drug modalities offer new opportunities
- Advanced tools like multi-omics enable precision medicine
- Digital solutions enable early diagnosis and targeted treatment

**Attractive growth market**
- Worldwide market value of €65bn (2022) continuing to grow at a steady pace
- Pharma industry underinvests in CV R&D in relation to disease burden
- Huge opportunity in precision CV due to scientific progress

**BAYER’S KEY STRENGTHS**

**Record of success**
- Industry leader in cardiovascular
- Expertise along the entire value chain
- Established global commercial footprint

**Exciting recent and near-term launches**
- Late-stage pipeline asset asundexian: Innovative, once-daily, oral small molecule FXIa inhibitor
- Successful launch of Kerendia with LCM potential

**Strategic focus on precision CV**
- Expertise available to address and internalize scientific progress
- External collaborations & platform companies further enhance our transition into precision CV

---

1 including Precision Cardiovascular, Nephrology & Acute Care
Bayer’s Heritage in Cardiovascular Disease

- Start of the statin era
- Angiotensin II receptor blockers in hypertension
- American Heart Association (AHA) recommends low-dose Aspirin during heart attack and to reduce risk
- Antithrombotics in ACS, PCI and stents
- Xarelto approved in VTE, SPAF, DVT, PE, ACSsp, CAD/PAD
- NOACs recommended over warfarin in stroke guidelines
- Factor Xla inhibitors
- Anti-a2ap in acute ischemic stroke and pulmonary embolism
- FIDELIO-DKD trial in Type 2 Diabetes & Diabetic Kidney Disease
- Kerendia in Chronic Kidney Disease (CKD)
- Kerendia in Acute Respiratory Distress Syndrome
- sGC Activators in chronic kidney disease and Acute Respiratory Distress Syndrome
- Congestive Heart Failure
- rAAV Gene Therapy

**Aspirin** (p.o.)
- **Antiplaletet**
- **American Heart Association (AHA)** recommends low-dose Aspirin during heart attack and to reduce risk
- **Antithrombotics in ACS, PCI and stents**
- **2008**
- **2010s**
- **2013**
- **2020**
- **2021**
- **2023**

*Year aspirin approved for stroke prevention.

Acute coronary syndrome (ACS), acute coronary syndrome secondary prevention (ACSsp), coronary artery disease (CAD), deep vein thrombosis (DVT), novel oral anticoagulants (NOACs), peripheral artery disease (PAD), percutaneous coronary intervention (PCI), pulmonary embolism (PE), stroke prevention in atrial fibrillation (SPAF), venous thromboembolism pharmacoprophylaxis (VTEp).
We Focus on Three Value Pools to Build on our Leadership in CV

Gradual Shift from Large Indications to High Value Subpopulations and Rare Indications

Patient focus

Addressing the highest unmet medical need for patients with rare diseases

Catering to subpopulations of larger indications with high unmet medical need

Opportunistic focus on real disruption in large indications with highest standard of care

Disease areas

Cardiovascular

Nephrology

Acute Care

Selected indications (indicative)

High

Rare Disease

Alport Syndrome

Subpopulations of larger indications

Heart Failure and Chronic Kidney Disease

Disruption in large indications

Stroke Prevention

Low

Patient population size

High
Bayer in Neurology & Rare Diseases
Opportunity to Become Leaders in Transforming Patient Care

MARKET ATTRACTIVENESS

High unmet medical needs
// Many underserved or previously intractable diseases with high unmet need

Paradigm shift in patient treatments
// Transition from symptomatic treatment to transformative therapies addressing disease root causes with long-lasting clinical benefit

Attractive growth market
// Exciting scientific breakthroughs in Neurology and rapid advances in new modalities including CGT
// ~7,000 known rare disease, 80% of which are genetic in origin

BAYER’S KEY STRENGTHS

Enabled by our existing capabilities
// State-of-the-art technology platforms for cell and gene therapy
// Bundling capabilities of strong in-house teams, platforms and partnerships in key technologies such as gene editing and lipid nanoparticles
// Bayer know-how and experience across the value chain
// Infrastructure and upscaling know-how

Synergies with other therapeutic areas
// Opportunity to address unmet needs at the intersection of cardiovascular and ophthalmology to leverage synergies
Bayer Entering Immunology

Significant Unmet Medical Need Despite Rapid Scientific Advances

MARKET ATTRACTIVENESS

- High unmet medical needs
  - Many underserved diseases
  - Globally increasing incidence & prevalence

- Robust research innovation
  - Advancing disease understanding, biomarker research to drive future precision therapies

- Potential for long-lasting remission
  - Novel precision targets empowered by new technology (incl. Machine Learning & AI) for better disease understanding

- Attractive growth market
  - Among top-growing pharma markets
  - Efficient clinical trials and attractive PTS

BAYER’S KEY STRENGTHS

- Enabled by our existing capabilities
  - Access to highly differentiated Vividion’s chemoproteomics platform
  - Highly differentiated small molecules library
  - Covalent and non-covalent small molecules, direct functional modulators, degraders
  - Rapidly accelerating assets in preclinical and clinical development

- Synergies with other therapeutic areas
  - Relevant expertise enabling Bayer’s other strategic focus areas

IMMUNOLOGY

04

MARKET ATTRACTIVENESS

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  - Globally increasing incidence & prevalence

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IMMUNOLOGY
AskBio is a Pioneer in AAV-based Gene Therapy with Unparalleled Pipeline, Talent and Manufacturing Capabilities

Founded in 2001 by R. Jude Samulski, Sheila Mikhael and Xiao Xiao who pioneered the AAV gene therapy field

Dedicated to developing life-saving medicines that can potentially cure genetic diseases

// ~7,000 rare diseases are known to date; ~80% of rare diseases are genetic in origin

PILLAR I
Technology
Renowned toolbox (capsids, regulatory elements, gene editing)

PILLAR II
Manufacturing
Distinguished manufacturing capabilities (cell line/infrastructure)

PILLAR III
Clinical development
Strong translational expertise, combined with academic network

TRANSLATE INTO
Promising therapeutic pipeline

FIRST

// to clone AAV for therapeutic purposes
// to deliver AAV intrathecally
// to treat DMD and Pompe patients
// to deliver AAV to the brain
The Gene Therapy Market is Expected to Reach €17bn in 2028

**Gene therapies in clinical development**

- Phase I: 245
- Phase II: 247
- Phase III: 30
- ~500

**Gene Therapy projected sales (€bn)**

- 2021: 1
- 2022: 1
- 2023: 2
- 2024: 4
- 2025: 7
- 2026: 11
- 2027: 14
- 2028: 17

CAGR +43%

**Majority of approved gene therapies are based on AAV vector technology**

**First AAV gene therapy approval in 2017; number of gene therapy approvals is expected to increase significantly until 2030, resulting in strong anticipated sales growth**

**Shaping of access models, policies and payer environment are crucial to sustainable success**

Source: 1 ASGCT Q1/2023 report; 2 Evaluate Pharma Feb 2023, Fx rate based on central financial 1.01US$ = 1€
AskBio’s Balanced Portfolio is Addressing Monogenic and Pathway Disorders

Monogenic disorders

// Mutation occurs in the DNA sequence of a single gene

// Most monogenic disorders are rare diseases such as Pompe disease, Huntington’s disease, hemophilia and cystic fibrosis.

// Historically the first to be targeted by gene therapy

// Smaller patient populations

Pathway disorders

// Caused by mutations in several genes and can be compounded by environmental factors such as smoking or diet

// Common examples include heart disease, cancer and type 2 diabetes

// Require more complex therapeutic approaches than monogenic disease-targeting therapies, which are mainly gene addition (or augmentative) gene therapies

// Larger patient populations
BlueRock Therapeutics is a Leader in PSC Biology, Bringing Therapies From Bench to the Clinic

MISSION: To discover and develop new cell therapies that change the way disease is treated and improve patients’ lives

Cell Replacement
- REPLACE Cells
- RESTORE Function
- REVERSE Disease

Founding science
- Lorenz Studer, MD
  - MSK Cancer Center
- Gordon Keller, PhD
  - University Health Network
- Bruce Blazar, MD
  - University of Minnesota

Engineered Cells
- ENGINEER Cells
- DELIVER Payload
- TREAT Rare & Common

FOUR SITES ACROSS USA, Canada and Germany
- Cambridge (HQ)
  - Immunology Research
  - Clinical & Regulatory
  - Pilot cGMP facility
  - Genome Biology
- New York
  - Neurology Research
  - Platform Technology
- Toronto
  - Cardiac Research
  - Device and Formulations
  - Pilot cGMP Facility
- Berlin
  - Support for clinical programs and coordination of regulatory processes in Europe

Focus on four disease areas (Neurology, Cardiology, Immunology, Ophthalmology)
The Cell Therapy Market Is Expected to Reach >USD25bn by 2026

History of FDA cell therapy approvals

- CAR-T
- Non-genetically modified cells
- Anticipated regulatory decisions

<table>
<thead>
<tr>
<th>Year</th>
<th>CAR-T</th>
<th>Non-CAR-T</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>2</td>
<td>137</td>
<td>139</td>
</tr>
<tr>
<td>2018</td>
<td>2</td>
<td>158</td>
<td>160</td>
</tr>
<tr>
<td>2019</td>
<td>2</td>
<td>47</td>
<td>49</td>
</tr>
<tr>
<td>2020</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2021</td>
<td>6</td>
<td>73</td>
<td>80</td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2023</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

First cell therapy approved in 2017, majority of currently approved cell therapies still CAR-T based for hematological malignancies

Cell therapies expected to remain one of the fastest growing therapeutic options in the pharmaceutical sector

Key considerations for successful commercialization:
- streamlining supply chain and administration logistics
- patient and caregiver support
- innovative payment solutions

Number of cell therapies in clinical development today

- Phase 1
  - CAR-Ts: 158
  - Non-CAR-Ts: 137
- Phase 2
  - CAR-Ts: 73
  - Non-CAR-Ts: 224
- Phase 3
  - CAR-Ts: 1
  - Non-CAR-Ts: 47

Global sales of cell therapies

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (USDbn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>0.6</td>
</tr>
<tr>
<td>2019</td>
<td>0.9</td>
</tr>
<tr>
<td>2020</td>
<td>1.4</td>
</tr>
<tr>
<td>2021</td>
<td>2.4</td>
</tr>
<tr>
<td>2022</td>
<td>3.9</td>
</tr>
<tr>
<td>2023</td>
<td>6.7</td>
</tr>
<tr>
<td>2024</td>
<td>11.1</td>
</tr>
<tr>
<td>2025</td>
<td>17.5</td>
</tr>
<tr>
<td>2026</td>
<td>25.6</td>
</tr>
</tbody>
</table>

Forecast: 52% CAGR

Sources:
1. FDA Approved Cellular and Gene Therapy Products
2. Informa, June 2023
3. EvaluatePharma, Oct. 2022 for pipeline and sales/ forecast

Cord Blood approvals not included in approved therapies
Pluripotent Stem Cells (PSCs): Potential to Restore Lost Cellular Function and Introduce New Functions to Address Multiple Diseases

**Therapeutic potential of PSCs**

- Reprogram blood cells
- Differentiated cell to restore lost function
- Engineered to introduce new functions

**Examples of target disease areas**

- Parkinson’s Disease
- Heart Failure
- Retinitis Pigmentosa
- Geographic Atrophy (AMD)
- Oncology
- Alzheimer’s Disease
- Metabolic Diseases
- Autoimmune Diseases

Source: El-Kadiry 2021. Frontiers in Medicine, p.2340
**Parkinson's Disease** is a Progressive, Neurodegenerative Condition Defined by Dopaminergic Neuron Loss and Motor Impairment

Healthy dopamine neurons (DA) in the brain make the neurotransmitter dopamine critical for several brain functions, including movement. Loss of DA cells results in less dopamine and leads to Parkinson's Disease.

Both PD motor symptoms caused by loss of DA neurons and current treatments and unmet need are discussed.

- **PD motor symptoms caused by loss of DA neurons**
  - Healthy dopamine neurons in the brain make dopamine critical for several brain functions, including movement.
  - Loss of DA cells results in less dopamine and leads to Parkinson's Disease.

- **Current treatments and unmet need**
  - PD is the second most common neurodegenerative disorder in the US.
  - Limited treatment options available as patients progress.
  - Medications, effective at early stages, become less and less effective with disease progression.
  - Significant unmet need for longer-lasting therapies that will alter the disease trajectory.

Bemdaneprocel is being developed as a one-time cell therapy that will provide dopaminergic neurons to the brain to restore lost dopaminergic function. The goal is to alter disease progression and reverse symptoms over time, so patients remain independent and live a life that is not defined by their diagnosis.

Bemdaneprocel is the First PSC-derived Dopaminergic Cell Therapy with Positive Data in Parkinson's Disease

**Addressable patient population**

<table>
<thead>
<tr>
<th>Indication</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parkinson’s Disease</td>
<td>US ~1 million</td>
</tr>
</tbody>
</table>

**Asset potential**

<table>
<thead>
<tr>
<th>Indication</th>
<th>Asset Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parkinson’s Disease</td>
<td>€500m–€1bn</td>
</tr>
</tbody>
</table>

**Status and upcoming development milestones**

- Q3 2023 planned presentation of Phase 1 data in a medical meeting
- Phase 2 clinical study expected to begin enrolling patients in H1 2024

**Topline Phase I results**

- The study met the primary endpoint; bemdaneprocel was well tolerated with no major safety issues by all twelve patients in both the low and high dose cohorts through one year.
- Feasibility of transplantation, and evidence of transplanted cell survival and engraftment in both cohorts was demonstrated through one year.
- Detailed phase 1 trial data from primary and secondary endpoints will be presented at the 2023 International Congress of Parkinson’s Disease and Movement Disorders (MDS) taking place in Copenhagen from Aug. 27 – 31, 2023.

**Phase I study endpoints**

**Primary Endpoint:**
- Safety and tolerability at 1-year post-transplant

**Secondary Endpoints (1- and 2-year post transplant):**
- Evidence of cell survival – F-DOPA PET
- Changes in motor function – Changes in MDS-UPDRS III
- Changes in waking hours in "OFF" state
- Continued safety and tolerability
Vividion Addresses Limitations of Conventional Small Molecule Drug Discovery

100s of human proteins are known to cause disease

Only ~10% of these disease-causing proteins/targets are drugged by current therapies

Despite advances in genomics, structural biology, and high-throughput screening, most disease relevant targets are inaccessible to conventional chemistry – perceived as pocketless or undruggable

---

Vividion’s “Covalent First” Platform Expands Druggable Space

Reversible drug

Drug-like potency and selectivity requires

- Large contact surface between drug and protein
- Multiple specific types (polar) of interactions
- Deep pockets

Drugs for targets within druggable classes (e.g., enzymes, receptors)

VIVIDION “covalent first” drug

Drug-like potency and selectivity requires

- Small contact surface and minimal polar interactions that guide covalent bond formation
- Reactive amino acid (cysteine)
- Shallow pockets

Allows for druggability of all/any disease relevant targets (e.g., enzymes, receptors, transcription factors, ubiquitin ligases)

1 Source: Market Research - IPSOS - Global VMS Women Segmentation
2 Peak Sales Potential

04 Bayer AG /// Investment Case /// August 2023
Foundations of the Vividion Platform

01 The chemistry

Unique Covalent Small Molecule Library

VVD compounds are comprised of 2 distinct structural elements:

- Scaffold
- Cysteine-reactive group

Diversity

02 The platform (assay)

Proteome-wide Footprinting of Small Molecule-Target Interactions in Native Systems

CELLS / LYSATES / TISSUE

TARGET PROTEIN

Novel pockets

LC-MS/MS
Vividion’s Continuous Library Expansion Allows for Pipeline Growth and Durable Competitive Advantage
Pharmaceuticals – Pipeline Overview¹ (as of July 31, 2023)

<table>
<thead>
<tr>
<th>Phase 0²</th>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGKalpha Inh (BAY 2862789)</td>
<td>Elimusertib (ATR Inhibitor) (BAY 1895344)</td>
<td>Regorafenib (combi Nivolumab) (BAY 734506)</td>
<td>Copanlisib (PI3K Inhibitor)</td>
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<tr>
<td>PSMA TAC (BAY 3546828)</td>
<td>AhR Inhibitor (BAY 2416964)</td>
<td>Asundexian (FXa Inhibitor) (BAY 2433334)</td>
<td>Darolutamide (AR Inhibitor)</td>
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<tr>
<td>PSMA SMOL TAC (BAY 3563254)</td>
<td>mEGFR Inhibitor (BAY 2927088)</td>
<td>Major Adverse Cardiac Events Prevention (PACIFIC-AMI)</td>
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</tr>
<tr>
<td>VVD STAT3 Inh (BAY 3630914)</td>
<td>DGKzeta Inhibitor (BAY 2955501)</td>
<td>Zabosertib (IRAK4 Inh.) (BAY 1834845)</td>
<td></td>
</tr>
<tr>
<td>Anti-coagulant (BAY 3389394)</td>
<td>CCR8 Ab (BAY 3375968)</td>
<td>Runcaciaguit (sGC Activator) (BAY 1101042)</td>
<td>Finerenone (MR Antagonist)</td>
</tr>
<tr>
<td>Next Generation Liver MRI</td>
<td>VVD KEAP1 Act (VVD-13307 aka NRF2 Inh, BAY 360549)</td>
<td>Congestive Heart Failure rAAV Gene Therapy (AB-1002 aka NANT-101)</td>
<td></td>
</tr>
<tr>
<td>(BAY 3393081)</td>
<td></td>
<td>sGC Activator Oral (BAY 3283142)</td>
<td>Anti-coagulant (BAY 3389934)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anti-a2AP (BAY 3016250)</td>
<td>Next Generation Liver MRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sGC Activator Inhale (BAY 1211163)</td>
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<td>SEMA 3a (BAY 3401016)</td>
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<td>Bemdaneprocel (Parkinson’s Disease Cell Therapy) (BRT-DA01)</td>
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<tr>
<td></td>
<td></td>
<td>Parkinson’s Disease rAAV Gene Therapy (AB-1005 aka AAV2-GDNF-PD)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multiple System Atrophy rAAV Gene Therapy (AB-1005 aka AAV2-GDNF-MSA)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pompe Disease rAAV Gene Therapy (ACTUS-101)</td>
<td></td>
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<td></td>
<td></td>
<td>Huntington’s Disease rAAV Gene Therapy (AB-1001 aka EV-101)</td>
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<td></td>
<td>LGMD2IR/R9 rAAV Gene Therapy (AB-1003 aka LION-101)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPR84 Antagonist (BAY 3178275)</td>
<td></td>
</tr>
</tbody>
</table>

### Submissions

- **Afiblercept 8mg (VEGF Inhibitor)**
  - EU, JP, US, CN: Diabetic Macular Edema (DME)

<table>
<thead>
<tr>
<th>Oncology</th>
<th>Cardiovascular³</th>
<th>Neurology &amp; Rare Diseases</th>
<th>Immunology</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>New molecular entity</td>
<td>Life cycle management</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Bayer and partner sponsored + 3rd party label enabling studies with first patient first visit ² Pre-clinical selected assets on path to IND ³ Conducted by Merck & Co ⁴ US submission made by Regeneron ⁵ Including Precision Cardiovascular, Nephrology & Acute Care

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111 /// Bayer AG /// Investment Case /// August 2023

Science for a Better Life
Driving Sustainable Outperformance in Consumer Health

03

Investment Case
August 2023 / Bayer AG
Driving Sustainable Outperformance in Consumer Health

01 Market & Position

02 Strategy

03 Sustainability
Consumer Health: A Leading Global OTC Player

**FINANCIALS**

**Sales development**

- % yoy cpa

- 5.2% in 2020
- 6.5% in 2021
- 8.4% in 2022

**EBITDA margin development**

- In %, before special items

- 22.0% in 2020
- 22.5% in 2021
- 22.5% in 2022

**Sales by region: €5.3bn**

- In %, in 2022

- North America 40%
- EMEA 32%
- Asia / Pacific 12%
- Latin America 16%

**MARKET POSITIONS BY CATEGORY**

- Nutritionals: Rank #3
- Digestive Health: Rank #2
- Allergy, Cough & Cold: Rank #5
- Pain & Cardio: Rank #5
- Dermatology: Rank #1
- CCSF: Rank #1

**Key Products**

- Pain & Cardio: Aspirin, Aleve
- Dermatology: Clarin
- Digestive Health: Loperamid, Panacol
- Allergy & Cold: Rennie, Allegra
- Nutritionals: All-Bran, Clarin

**PRODUCTS**

- Sales by categories: €5.3bn

- Nutritionals: 26%
- Dermatology: 23%
- Digestive Health: 15%
- Allergy, Cough & Cold: 15%
- Pain & Cardio: 21%

---

1Source: November MAT 2022 Consumer Health proprietary data base
A Clear Game Plan to Sustain Outperformance

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

**WHERE TO PLAY**
- Winning Portfolio focused on where Bayer can win

**HOW TO WIN**
- Driving Growth-focused Innovation
- Modernizing Marketing & Sales
- Optimizing Costs & Cash

**OUR ACCELERATORS**
- Digital Transformation
- Sustainability
A leading Consumer Health Player with a Well-Balanced Portfolio

**Category Portfolio**

- Nutritionals: 25%
- Cardiovascular: 3%
- Pain: 12%
- Allergy: 11%
- Digestive Health: 15%
- Dermatology: 23%

**Geographic Footprint**

- North America: ~40%
- Europe, Middle East & Africa: ~35%
- Latin America: -15%
- Asia Pacific: -10%

Sources: Bayer CH Portfolio – Company BD, IQVIA, IRI, & Nielsen, May MAT 2022; Bayer Geographic Footprint – Net Sales 2021
Focused portfolio on Core Consumer Health
Where We Can Win

Clear Focus on Core CH Market

Key Portfolio Moves Executed

Divestures

- Derma Rx
  - Jul 2019

Acquisitions / Licenses

- care/of
  - Personalized Nutritionals
  - Nov 2020

- Sun care
  - Sep 2019

- Foot care
  - Nov 2019

- GloryFeel
  - Nutritionals eCom
  - Pure-players
  - Oct 2021 & Jun 2022

- Astepro (Rx-to-OTC Switch)
  - Jun 2022 (Launch)

Other CH categories
(e.g. Oral care; Sun care)

~170 B€

54%

25%

21%

Core Consumer Health

Over-The-Counter

Vitamins, Minerals, Supplements

~170 B€

54%

25%

21%

Over-The-Counter

Vitamins, Minerals, Supplements

* Strategic minority stake in Natsana

Sources: OTC, VMS - Nicholas Hall DB, Global CHC Sales 2021; Others – Euromonitor Retail Value MSP, 2021
Accelerating Growth from Innovation
Iconic Global and Local Brands Built Over Decades
Key levers to sustain above-market growth

Attractive Demand Spaces
- Premium Nutritionals
- Healthy Aging
- Stress and Sleep
- Medicated Skin

High-growth Markets
- China
- India
- Mexico
- ASEAN

Rx-to-OTC Switches
- Astepro
- Switch #2
- Switch #3

Digital Commerce & Health Platforms
- eCommerce
- Digital Diagnostics
- Digital Therapeutics
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
Accelerating Use of Data to Personalize Consumer Engagement

<table>
<thead>
<tr>
<th>Data &amp; Digital First</th>
<th>Leading in Digital Platforms</th>
<th>Contextual Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2019 - 2022</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of Digital Media¹</td>
<td>TikTok</td>
<td>Take Away Lover</td>
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<tr>
<td></td>
<td></td>
<td>Foodies</td>
</tr>
<tr>
<td>2X</td>
<td><em>Alexa</em></td>
<td><em>Seasonality</em></td>
</tr>
<tr>
<td></td>
<td><em>YouTube</em></td>
<td><em>Pregnancy</em></td>
</tr>
<tr>
<td>Share of Data-driven Marketing Investments¹</td>
<td><em>Twitch</em></td>
<td></td>
</tr>
<tr>
<td>3X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of Personalized Creatives¹</td>
<td><em>Tinder</em></td>
<td></td>
</tr>
<tr>
<td>5X</td>
<td><em>Facebook</em></td>
<td></td>
</tr>
</tbody>
</table>

¹ Bayer internal data
Doubling Down on e-Commerce and Growth Platforms

### Winning in Key eCom Platforms

<table>
<thead>
<tr>
<th>Year</th>
<th>Share of Digital Commerce</th>
<th>eCom Growth FY’21</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>4%</td>
<td>&gt;50%</td>
</tr>
<tr>
<td>2022</td>
<td>~11%</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>&gt;15%</td>
<td></td>
</tr>
</tbody>
</table>

1 Bayer internal sales data * Strategic minority stake in Natsana

### Strategic Portfolio Moves

- **care/of**: Nov. 2020
- **GloryFeel**: Oct. 2021
- **n.**: June. 2022*

### Digital Engagement Mechanisms

*Unsure About Your Symptoms?* Take a fast and discreet symptom assessment to find out what could possibly be causing your symptoms.

*powered by oda*
Pricing and Trade Excellence to Drive Value Creation with Customers

Innovations Playing Across Different Value Tiers

Premium

Value Offerings

Premium consumer solutions

Innovation

Low-income consumer solutions
Consumer Health as a Force for Good

Expand Access to Everyday Health

59 Million people with improved access to self-care in underserved communities

// Investing in accessible and more sustainable products
// Reached 4+ Million underserved women and babies through the Nutrient Gap Initiative

Path to Climate Neutrality

35% CO\textsubscript{2} emissions reduction achieved across our operations

// Investing in energy efficiency projects and increasing green energy across our sites
// Advancing sustainable packaging

Note: 2021 Health access and environmental footprint achievements vs 2019 baseline

Bayer AG /// Investment Case /// August 2023
Driving Sustainable Outperformance in Consumer Health

- A leading Consumer Health player with a well-balanced portfolio
- World-class science, consumer and HCP capabilities
- Clear strategy to sustain outperformance
- Track record of execution excellence
- Attractive growth profile and cash flow generation
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**
  - Increase productivity and farm incomes while renewing nature

**Societal Needs**

**OUR VISION: HEALTH FOR ALL, HUNGER FOR NONE**

1. **Serve the Poor**
2. **Ending Hunger**
3. **Good Health and Well-Being**
4. **Gender Equality**
5. **Clean Water and Sanitation**
6. **Climate Action**
7. **Life on Land**

**Impact**

- Help more people thrive

**Sustainable Growth**

Long-term business growth through sustainable innovation
Ambitious Measurable Targets for Sustainable Development

Our 2030 Targets positively contribute to today’s pressing challenges

**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)

- Water strategy addressing our own operations and up-/downstream activities

- **CS:** -30% greenhouse gas emissions in key agricultural crops in main regions;
  - -30% environmental impact of our crop protection products

- **CH:** Transition all Consumer Health products to 100% recyclable or reusable packaging

**Help more PEOPLE thrive**

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

- Fulfill the need of 100m women in LMICs\(^3\) for modern contraception

- Support 100m people in underserved\(^4\) communities with self care

- Achieve gender parity at each individual managerial level

- **PH:** Increase availability and affordability of our innovative pharma products in LMICs\(^3\)

---

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 per 1 July 2019
4. Underserved: economically or medically

We Are on Track in Our Decarbonization Journey – Need to Work Harder with Our Supply Chain

**Scope 1 & 2**

42% less CO₂ in our own operations by 2029 & Net Zero by 2050

- **Reduced emissions by 4.5%** or around 140,000 metric tons compared to 2021 (-19.5% compared to base year)
  - Reduction mainly due to a greater share of electricity being purchased from renewable energy sources
  - Additionally, offsetting of 450,000 metric tons of greenhouse gas emissions¹

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (mio metric tons of CO₂ equivalent)</th>
<th>% Change vs. Base Year 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>3.76</td>
<td>100%</td>
</tr>
<tr>
<td>2021</td>
<td>3.17</td>
<td>-15.7%</td>
</tr>
<tr>
<td>2022</td>
<td>3.03</td>
<td>-19.5%</td>
</tr>
<tr>
<td>2029</td>
<td>2.15</td>
<td>-42%</td>
</tr>
</tbody>
</table>

**Scope 3**

12.3% less CO₂ in the value chain by 2029

- Emissions increased by 12.5% or 990,000 tons vs. prior year
  - Increase was largely attributable to business growth, replenishment of inventories and an increase in air freight and business travel

<table>
<thead>
<tr>
<th>Year</th>
<th>Emissions (mio metric tons of CO₂ equivalent)</th>
<th>% Change vs. Base Year 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>8.82</td>
<td>100%</td>
</tr>
<tr>
<td>2021</td>
<td>7.91</td>
<td>-10.2%</td>
</tr>
<tr>
<td>2022</td>
<td>8.90</td>
<td>+1.0%</td>
</tr>
<tr>
<td>2029</td>
<td>7.73</td>
<td>-12.3%</td>
</tr>
</tbody>
</table>

**On the Field**

30% less greenhouse gas emissions by 2030²

- Continued efforts in Carbon Initiative Program supported by our digital application **Climate FieldView™**
- Digital platform was used on >220m acres of farmland in 23 countries in 2022
- Carbon Program was further expanded in 10 countries in 2022
- Launched “For Ground” in the U.S.

1Find our offsetting approach here and more info here: https://www.bayer.com/en/sustainability/climate-protection

230% 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
Ambitious water strategy aiming at transformational impact beyond own operations

Contribution to climate resilience and a more sustainable water usage

**01 Valuation of water**
- We plan to develop a method to value water
- We aim to start to incorporate in 2024 water quality and quantity into business decisions and investment

**02 Own operations**
- We are committed to provide safe drinking water, sanitation and hygiene to all our employees
- We apply safe discharges limits for active ingredients into wastewater at all sites where they are produced
- By 2025 we aim to set context-relevant water targets for own operations to be achieved by 2030

**03 Upstream activities**
- We updated our Supplier Code of Conduct with strengthened and dedicated topics addressing water and wastewater
- We evaluate the sustainability performance of all Key and of selected high-sustainability-risk suppliers, using a classification that includes water-risks with a priority-weighting
- We aim to continuously raise suppliers’ sustainability awareness by leveraging sustainability initiatives TFS and PSCI.
- We aim to continue to drive improvements in water use efficiency with growers across the seed production footprint

**04 Downstream**
- We strive for driving positive change in water productivity in water scarce regional cropping systems – starting with rice where we aim to improve water use per kg of crop by 25% in 2030 by transforming rice cropping system for our smallholder customers in the relevant regions where Bayer operates.
- By 2030, we target to reduce the environmental impact of our crop protection portfolio by 30%, which contributes to water quality.
Support 100m Smallholder Farmers

Accessing Smallholders Improves Lives and Creates Business Opportunities

**Challenges**

- Feed >50% of population in developing countries
- ~550M Smallholder farmers worldwide
- Lack of access to new technologies
- Limited productivity of their crops
- Limited access to knowledge
- Climate Change
- Exposed to the markets; price volatility and fluctuations
- Hunger & malnutrition
- Lack of access to markets and capital
- Additional challenges caused by Covid-19
- Lack of access to markets and capital
- Climate Change
- Hunger & malnutrition
- Limited access to markets and capital
- Additional challenges caused by Covid-19

**How to get there**

- 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**

Commercial Forecast & Initiatives

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019 (Baseline)</td>
<td>42</td>
</tr>
<tr>
<td>2021</td>
<td>49</td>
</tr>
<tr>
<td>2022</td>
<td>52</td>
</tr>
<tr>
<td>2030</td>
<td>100</td>
</tr>
</tbody>
</table>

Support 100m Smallholder Farmers

Accessing Smallholders Improves Lives and Creates Business Opportunities
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

// 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

// Reducing poverty, protecting maternal and child health, driving economic development, and achieving sustainable development

How to get there

// 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

// Additional supply capacity, most importantly for long-acting contraceptives: >400m€ investment into Costa Rica and Finland facilities

Progress

Bayer Products & Capacity Building¹

2019 (Baseline) | 2021 | 2022 | 2030

38 | 41 | 44 | 100

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
- 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
- Self-Care Education initiatives form the basis for shaping behavioral change to empower consumers to manage their own health better

**Progress**

Access Driven Growth & Strategic Partnership

<table>
<thead>
<tr>
<th>Year</th>
<th>2019 (Baseline)</th>
<th>2021</th>
<th>2022</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>46</td>
<td>49</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

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. We reached 21 million people in India in 2022 in addition.
Bayer’s Sustainability Governance framework
Holistic approach ensuring sustainable execution and advancement

**Independent Oversight**
- Supervisory Board
- ESG & Audit Committees
- Sustainability Council\(^1\) & Bioethics Council\(^2\)
- External & Internal Audits

**Regulations & Processes**
- Broad group-wide policy-based framework, incl. Sustainability Policy and BASE principles\(^5\)
- ESG included in Compensation
- CEO as Chief Sustainability Officer
- Sustainability Decision Committee
- Topic specific transparency initiatives\(^4\)

**Organizational Setup**
- ESG included in Compensation
- Sustainability Decision Committee
- Topic specific transparency initiatives\(^4\)

**Latest updates (selected):**
- Reports on GMOs, UNGC adherence, and Crop Science Sustainability Progress
- New Bioethics Council established
- Extension of Bayer Science Collaboration Explorer with US launch
- OpenLabs 360\(^{°}\) launched
- Progress on climate sphere (e.g., publication of offsetting approach, updated supplier code of conduct, and industry asssociation climate review)

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\(^1\) https://www.bayer.com/en/sustainability/sustainability-council
\(^3\) https://www.bayer.com/en/sustainability/transparency
\(^4\) https://www.bayer.com/en/sustainability/initiatives
Bayer with strong results in ESG ratings and assessments
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>Latest Score</th>
<th>Year*</th>
<th>△</th>
<th>Explanatory information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MSCI</strong></td>
<td>ESG Score</td>
<td>A (industry average)</td>
<td>2022</td>
<td>▲</td>
<td>Improvement of rating from BB to A</td>
</tr>
<tr>
<td></td>
<td>Controversy level**</td>
<td>severe (GMO)</td>
<td></td>
<td></td>
<td>▲ (GMO) removed</td>
</tr>
<tr>
<td><strong>ISS ESG</strong></td>
<td>ESG Score</td>
<td>C+ (1st decile of industry)</td>
<td>2022</td>
<td>▲</td>
<td>▪ (Neonics) removed</td>
</tr>
<tr>
<td></td>
<td>Norm-Based Research</td>
<td>(Neonics)</td>
<td></td>
<td>▲</td>
<td>New assessment in progress</td>
</tr>
<tr>
<td>SUSTAINANLYTICS</td>
<td>Risk Score</td>
<td>27.4 (medium)</td>
<td>2023</td>
<td>▲</td>
<td>Overall high exposure &amp; above subindustry average</td>
</tr>
<tr>
<td></td>
<td>Controversy level**</td>
<td>5 (severe)</td>
<td></td>
<td></td>
<td>▶ Impacted by Glyphosate litigation, outlook positive</td>
</tr>
<tr>
<td><strong>Moody's Analytics</strong></td>
<td>ESG Score</td>
<td>55 / 100</td>
<td>2023</td>
<td>▲</td>
<td>Above industry average and sector average performance</td>
</tr>
<tr>
<td>Access to medicine Foundation</td>
<td>Index of pharmaceutical companies worldwide</td>
<td>3.36 / 5 (Rank 1: 4.06) #9 out of 20</td>
<td>2022</td>
<td>▲</td>
<td>Bayer entered the top 10 of the 2022 ATM ranking</td>
</tr>
<tr>
<td>EcoVadis</td>
<td>Supply Chain Sustainability Assessment</td>
<td>76 / 100</td>
<td>2023</td>
<td>▲</td>
<td>Top 2% of all evaluated companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>▶ Strong improvements in environmental score</td>
</tr>
<tr>
<td>CDP</td>
<td>Climate Change</td>
<td>A</td>
<td>2022</td>
<td>▶</td>
<td>Score maintained on high level</td>
</tr>
<tr>
<td></td>
<td>Forests</td>
<td>B</td>
<td></td>
<td></td>
<td>New assessment in progress</td>
</tr>
<tr>
<td></td>
<td>Water Security</td>
<td>A-</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

* year of latest rating/scoring publication
** evaluation of controversial issues related to the company within the last 3 to 5 years through media and press releases
Thank You