Science for a Better Life

# A Global Leader in Health & Nutrition

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## Investment Case

August 2022 / Bayer AG

# Cautionary Statements Regarding Forward-Looking Information

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

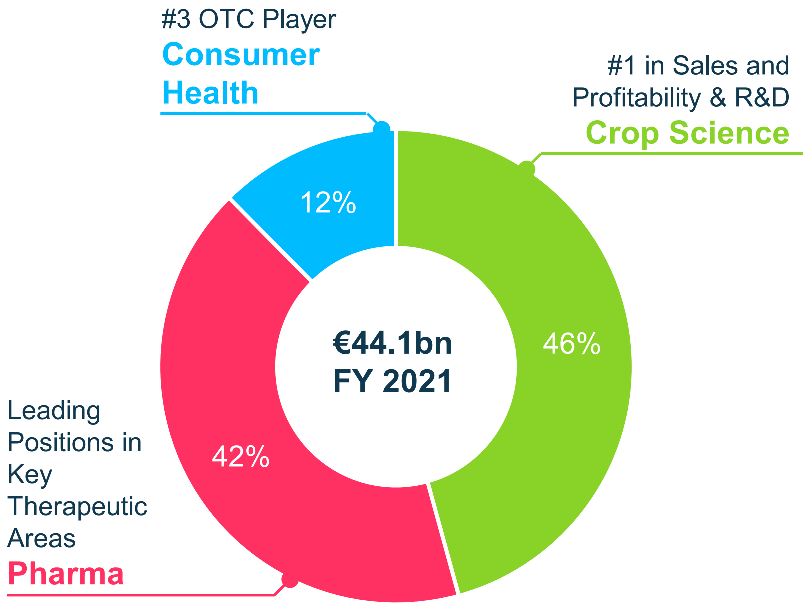
Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Bayer's public reports which are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

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

# Bayer: A Global Leader in Health and Nutrition

## Well Positioned to Create Value in Growing Markets using Science to Address Societal Megatrends

### Bayer Group Sales

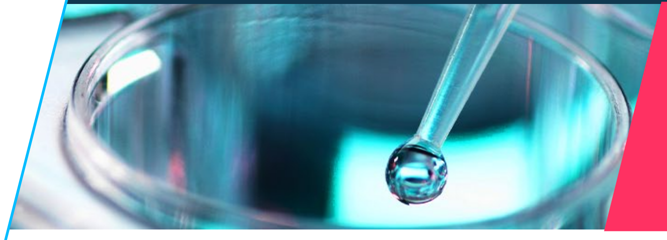



### Market Size

**Crop Science**

**~€100bn[1]**

**Pharmaceuticals**



**~€1,000bn[2]**

**Consumer Health**

**~€150bn[3]**

[1]Source: Company Estimates
[2]Source: IQVIA MIDAS MAT Q3-20
[3]Source: Nicholas Hall & Company DB6

# Global Megatrends in Health & Nutrition

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

**Pharmaceuticals Consumer Health Crop Science**

### Megatrends through 2050

**Aging Population**

**People 60+ more than doubling[1]**

>20% of total population[1]

**Growing Population**

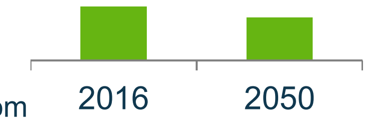
**+2.2bn** people[1]

**+50%** more food and feed required to meet growing demand[2]

**Pressure on Ecosystems**

**-17%** Harvest losses from climate change[3]

**-20%**




Significant loss in arable land per capita[4]

### Societal Needs

**Preserve and restore health**

**Secure sufficient supply of quality food**

**Use natural resources more efficiently and responsibly**

### Our Mission

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

Science For A Better Life

[1] UNDESA 2017 (United Nations Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision)
[2] FAO 2017, (FAO Global Perspective Studies)
[3] Nelson et. al, (2014); FAO 2016 "Climate change and food security"
[4] FAOSTAT (accessed Oct 30, 2018) for 1961-2016 data on land, FAO 2012 for 2030 and 2050 data on land, and UNDEDA 2017: World Population Prospects for world population data

# Leadership and Innovation Set the Course for Our Future Growth

## Key Growth Drivers

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

## Crop Science Innovation Pipeline

*Annual R&D Investment:*

€2.0bn

*Key Current Launch Products:*

XTENDFLEX SOYBEANS, VTPRO4, PLATAFORMA INTACTA2 XTEND, SmartStax PRO

*Key Mid-/Late-Stage Pipeline Opportunities:*

- Short Stature Corn — SmartStax PRO
- Soybean Herbicide Trait Stack with Five-Tolerances — Xivana

Fox Supra (Indiflin®)[1]

## Pharmaceuticals Innovation Pipeline

*Annual R&D Investment:*

€3.1bn

*Key Current Launch Products:*

NUBEQA (darolutamide), Kerendia finerenone, VITRAKVI (larotrectinib), Verquvo (vericiguat) tablets

*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] 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

### Transformation Programs

**€2.6bn**

gross contributions*

**Bayer 2022 synergy and efficiency program**

*(announced in 2018)*

+

**> €1.5bn**

gross contributions*

**New transformation program**

### Delivery

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

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

# Focus on Cash Generation Now Embedded in Incentive Plans

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

### Improve Free Cash Flow

Optimize **working capital** focusing on overdue management, inventory and payables; prioritizing **CapEx**

### Adapt incentive scheme

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

### Capital Employed / Divestments

Optimization of **fixed asset** portfolio, for example sale of property

**Sale of businesses / brands** below division level (e.g. ES professional)

### Litigation pay-outs & special items

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

ES: Environmental Science

# Disciplined Capital Allocation to Delever, Pay Dividends and Invest

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

### Capital allocation priorities

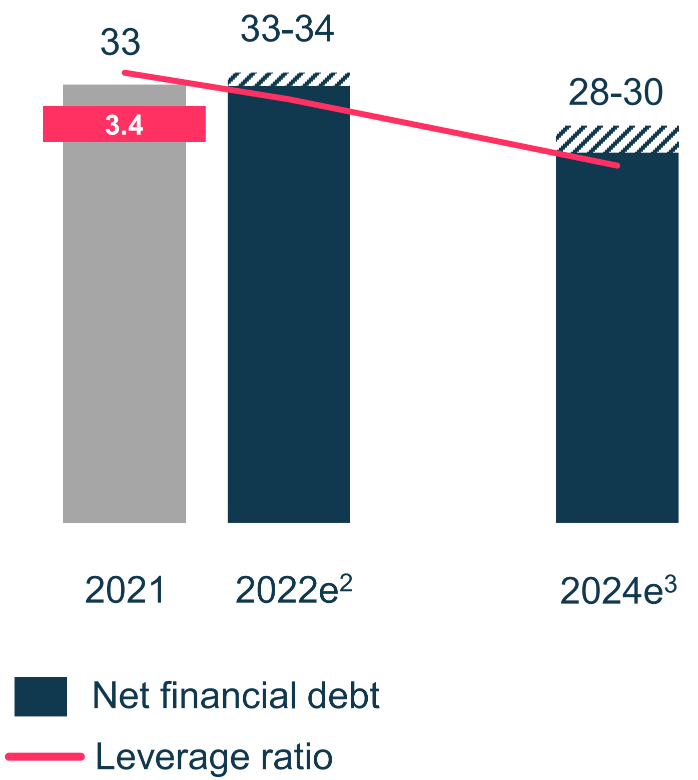
**Free Cash Flow**

**Divestment proceeds[1]**

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

### Net financial debt development

*In €bn*




[1] From non-strategic divestments below divisional level and sale of other fixed assets [2] Currency assumptions based on month-end Dec 2021 spot rates (1 EUR=) 1.13 USD, 6.31 BRL, 7.20 CNY, 130 JPY, 85.4 RUB
[3] Currency assumptions based on month-end Dec 2020 spot rates (1 EUR=) 1.23 USD, 6.37 BRL, 7.98 CNY, 126 JPY, 91.5 RUB

= Indicates corridor between high- and low case

# Sustainability is Integral to Our Values, Strategy and Operations

## We intend to create bold impact and generate sustainable business opportunities

Pharmaceuticals | Consumer Health | Crop Science

| | | | |
|---|---|---|---|
| **Megatrends** | Aging Population | Growing Population | Pressure on Ecosystems |
| **Societal Needs** | Preserve and restore health | Secure sufficient supply of quality food | Use natural resources more efficiently and responsibly |

**Impact**

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

**Help more people thrive**


**Decrease ecological footprint**

**Sustainable Growth**

**Long-term business growth through sustainable innovation**

# Investment Thesis

## Key Takeaways

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

Science for a Better Life

# Shaping the Future of Agriculture

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## Investment Case

August 2022 / Bayer AG

# Shaping the Future of Agriculture

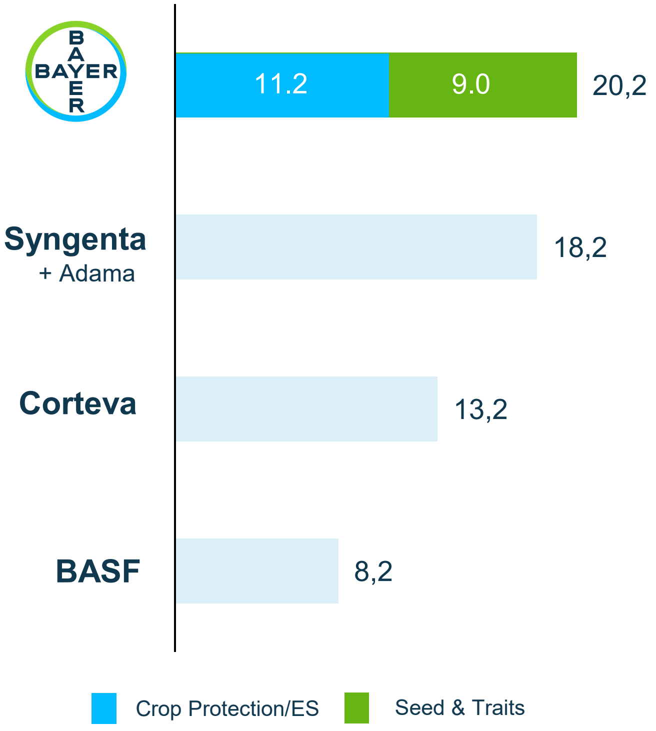
1. Market & Position
2. Strategy
3. Operational Performance
4. World-Class Innovation
5. Digital Transformation
6. New Standards in Sustainability

# The Established Leader in Crop Science

## Industry Leading Sales, Profitability and Unmatched Investment in R&D to Fund Future Growth

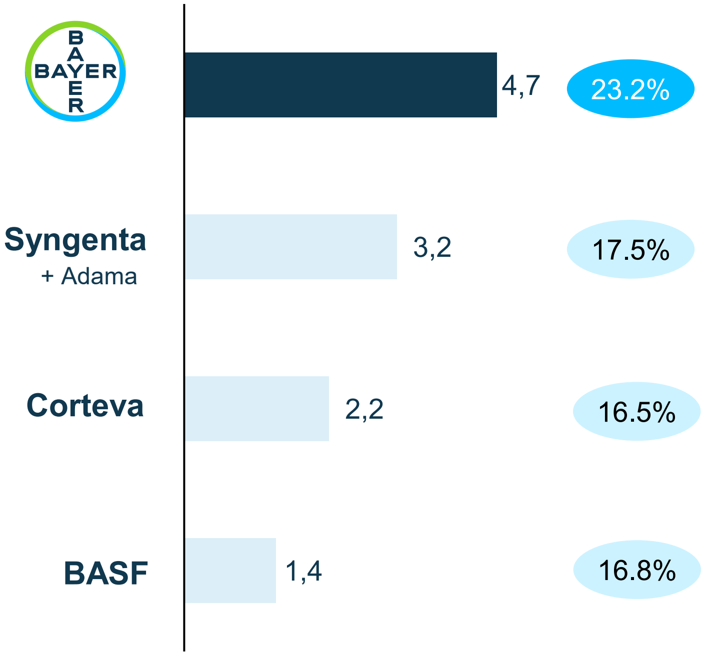
### *Largest in Sales*

***Total Sales[1] (€bn), FY 2021***




### *Highest Profitability*

***EBITDA[1] (€bn) / EBITDA[1] Margin (%), FY 2021***



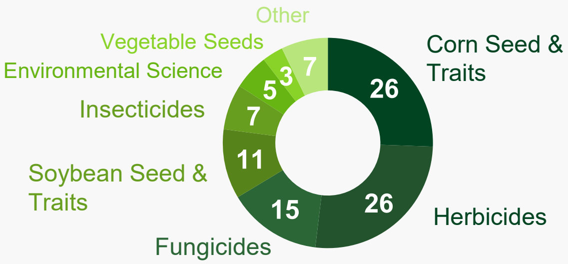

[1] Company information; exchange rate: FY 2021: ~1.18 USD/EUR. EBITDA before special items. FY2021 sales
Representing the legacy Syngenta results plus Adama of FY 2021

# Global #1 in Seed & Traits with Leading Crop Protection Portfolio

## Product areas – Bayer Crop Science

In %, based on sales 2021

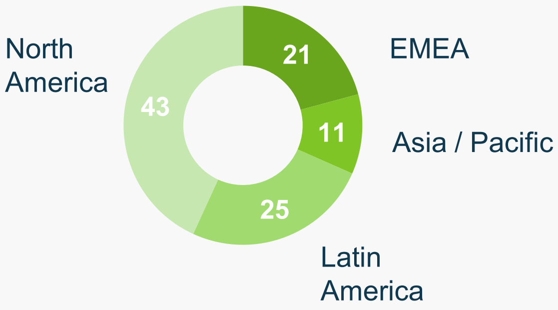
**€20.2bn**




## Sales by Region – Bayer Crop Science

In %, in 2021

**€20.2bn**



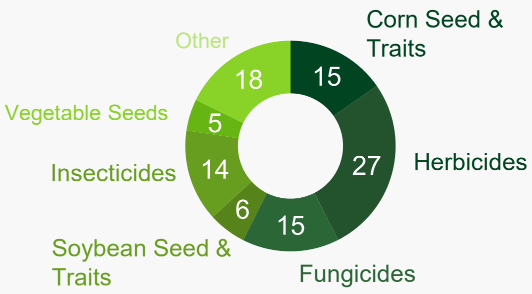

## Market Positions[1]

| | |
|---|---|
| Corn S&T | #1 |
| Soybean S&T | #1 |
| Vegetable Seeds | #2 |
| Herbicides | #1 |
| Fungicides | #2 |
| Insecticides | #3 |

## Product areas – Ag Input Market

In %, based on sales 2021

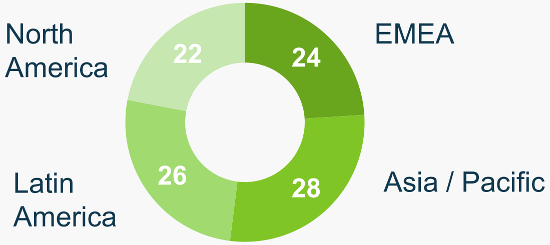
**~€100bn[1]**




## Sales by Region – Ag Input Market

In %, in 2021

**~€100bn[1]**




## Key Products

***Crop Protection:***

***Seed & Traits:***

***Digital:***

[1] Source: Company estimates. Market positions based on 2021 data, AG Input Market – not including ES

# **Vision** / Health For All, Hunger For None

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

**Pillars:**

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

**Strategic Ambition**

| **Perform:** | **Transform:** |
|---|---|
| Grow above market and deliver strong returns | Achieve 100% digitally enabled sales by 2030 |

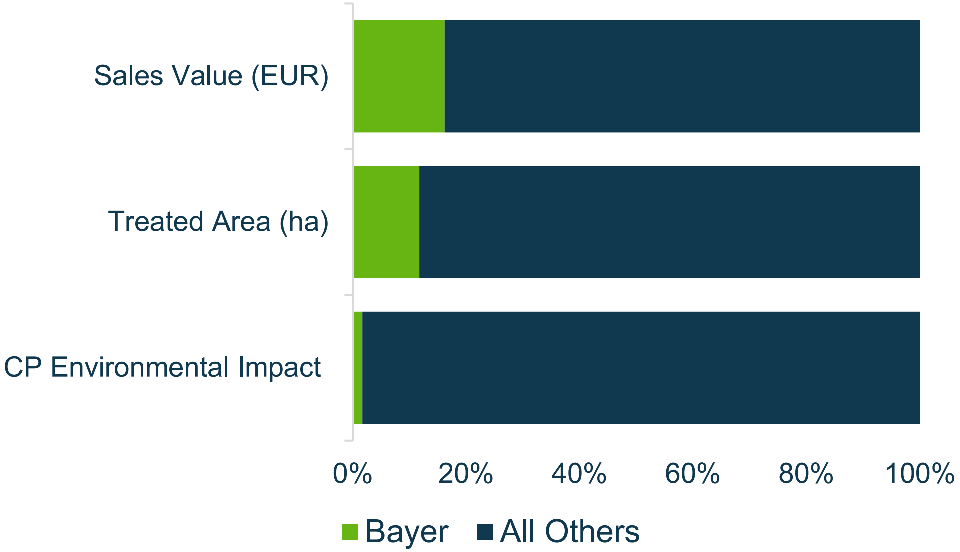
***Win by being more grower centric***

# A Clear Plan to Accelerate Growth and Outperform the Market

1. Deliver growth in crop protection sales through new products, integrated offerings
2. Grow corn seed & traits with annual portfolio refresh and new insect traits
3. Upgrade the Americas to next-gen soybean trait technology
4. Implement new vegetable seeds strategy and launch new traits in cotton to drive growth
5. Achieved planned 2022 synergies in 2021; accelerate with new efficiency program until 2024

# Driving Higher Value with Lowest Estimated Environmental Impact Crop Protection Portfolio Relative to Sales and Treated Value

## 2020 Crop Protection Industry's Environmental Impact




*Bayer Crop Protection accounts for nearly **12%** of the global treated area, yet less than **2%** of the environmental impact*

## Key Crop Protection Products

CORVUS®
Luna®
Xpro™
vayego®
SERENADE®
VELUM® TOTAL
Roundup POWERMAX® HERBICIDE

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

# Herbicides: Focused on Unlocking Greater Flexibility

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

**Mateno® Complete**

**3** MoA

- Pyroxasulfone
- Diflufenican
- **Aclonifen** *NEW*

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

***PSP of >€50m***
***Launched** in Australia in 2022*

**Untreated Control**

**Mateno Complete**

***New Herbicide Molecule***

- First new mode of action in post emergence weed control in 30 years

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

***Project is currently in Phase 3***

**Glyphosate Standard 1**

**Mix Partner + New Herbicide**
Product concept with new active

[1] Internal estimates

# Fungicides: New Innovations Drive our Growth Potential

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

### Fox Supra

- Adds next-gen technology **Indiflin®**[1] to Fox Xpro

- Offers **unrivaled control** of Asian Soybean Rust
- Builds on **#1 position** in soybean fungicides[2] in LATAM

***PSP of >€400m***

*Pre-Launch in 2022; full scale launch in 2023*


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

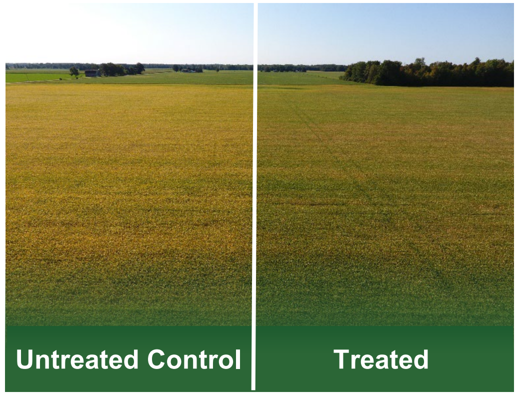
### DELARO Complete

3 MoA
- Prothioconazole
- Trifloxystrobin
- **Fluopyram**

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

***PSP of >€100m***

*Launched in the U.S. in 2021*




Use in soybeans in Frankenmuth, Michigan, 2019

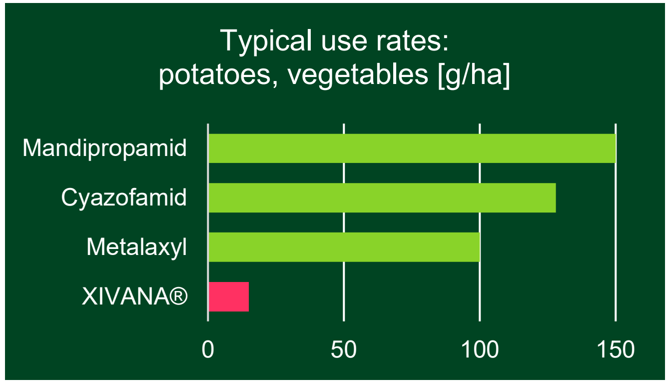
### Xivana

- Powered by **Fluoxapiprolin**

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

***PSP of >€150m***

*Pre-Launch in 2022; full scale launch in 2023*



# Insecticides: New Launches Drive our Global Expansion

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

**vayego®**

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

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

**Peak Sales Potential ~€300m**

**Untreated Control** | **Tetraniliprole Vayego duo**

*Plenexos*

- First **ketoenol insecticide** expected to offer both **foliar and soil uses** against key sucking pests (aphids, white flies)

- **Spidoxamat**[2] is suitable for application in arable and horticulture crops (soybeans, cotton, fruits and vegetables)
- First regulatory submissions in key markets in 2022, **approvals expected** starting in **2024**

**Peak Sales Potential >€300m**

**Untreated Control** | **Spidoxamat - Foliar**

# Biologicals Create New Value; Enable Crop Management Benefits

## Leveraging the Power and Sustainability Derived from Microbes

Bayer is the **#1 Trusted Brand** in Biologicals by Growers[4]

BIOLOGICALS by Bayer — The power of nature. Empowered by science.

| | SeedGrowth | | | | | Foliar & Soil applied | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Corn Yield | Soy Yield | Nematicide | Fungicide | Other | Insecticide | Fungicide | Soilborn Disease/Pest | Crop Performance Enhancers |
| **In-licensed / Commercial Products** | BioRise[1] | TagTeam®[3] Optimize®[3] | Poncho® Votivo®[2] | Integral® Pro[2] | TagTeam®[3] JumpStart®[3] | FLiPPER, VYNYTY Citrus, XenTari WG, REQUIEM prime, ABP 111 | SERENADE ASO, SERENADE SOIL ACTIV, SONATA, Donjon, BALLAD, MINUET | BioAct | Ambition Aktivator, Ambition Cobre |

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

### *Business Opportunities*

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

### *Vibrant Innovation Ecosystem*

**>20** *In-licensed/ Commercial products*

**>5** *Ongoing collaborations and licensing partners*

**>10** *Pipeline Candidates[5]*

**>30** *Assets under evaluation for new collaborations or in-licensing*

***NEW*** *Pursuing agreement with Gingko Bioworks to become multi-year microbial strategic partner*

[4] 75-100 growers polled in each of seven countries (Europe, Brazil, US) for potato, tomato and grapes, Bayer Market Research 2020, [5] Includes early research and collaborations

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

# Deployed >250 Corn Hybrids in 2021 to Expand Leading Position

## Foundational to Expected Growth in Our >€5bn Global Annual Corn Seed & Traits Sales

### Mid-Term Key Growth Drivers in Corn

*NEW* DEKALB

Bayer branded hybrids capture ***#1 brand share position*** in the U.S. in 2021.

| | | |
|---|---|---|
| United States | #1 Market Position | |
| Market Size: | ~93m acres | |
| Germplasm Share: | >55% | |

| | | |
|---|---|---|
| Argentina | #1 Market Position | |
| Market Size: | ~20m acres | |
| Germplasm Share[1]: | ~60% | |

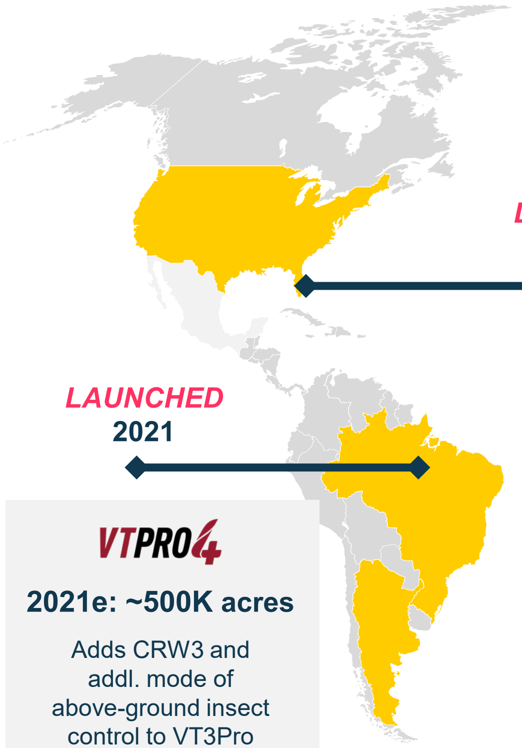
| | | |
|---|---|---|
| Mexico | #1 Market Position | |
| Market Size: | ~5m acres | |
| Germplasm Share: | >65%[1] | |

| | | |
|---|---|---|
| Europe | #2 Market Position | |
| Market Size[2]: | ~60m acres | |
| Germplasm Share: | ~20% | |

| | | |
|---|---|---|
| Brazil | #1 Market Position | |
| Market Size: | ~50m acres | |
| Germplasm Share[1]: | ~30% | |

| | | |
|---|---|---|
| South Africa | #1 Market Position | |
| Market Size: | ~6m acres | |
| Germplasm Share: | ~70% | |

Launching CRW3 as a part of VTPro4, SmartStax Pro and VT4Pro stacked offerings in the near-term; game-changing short-stature corn expected launch in the mid-term in the U.S. and Brazil.



COMING SOON: VT4PRO[4] With RNAi TECHNOLOGY

*LAUNCHED* 2021

VTPRO4

**2021e: ~500K acres**

Adds CRW3 and addl. mode of above-ground insect control to VT3Pro

*LAUNCHED* 2022

SmartStax PRO[3] With RNAi TECHNOLOGY

**2022e: ~100K acres Adds CRW3 to SmartStax**

CRW3 is Industry's Only RNAi-Based Insect Trait for Rootworm Control

*Expected Launch* 2024

2023/27 F

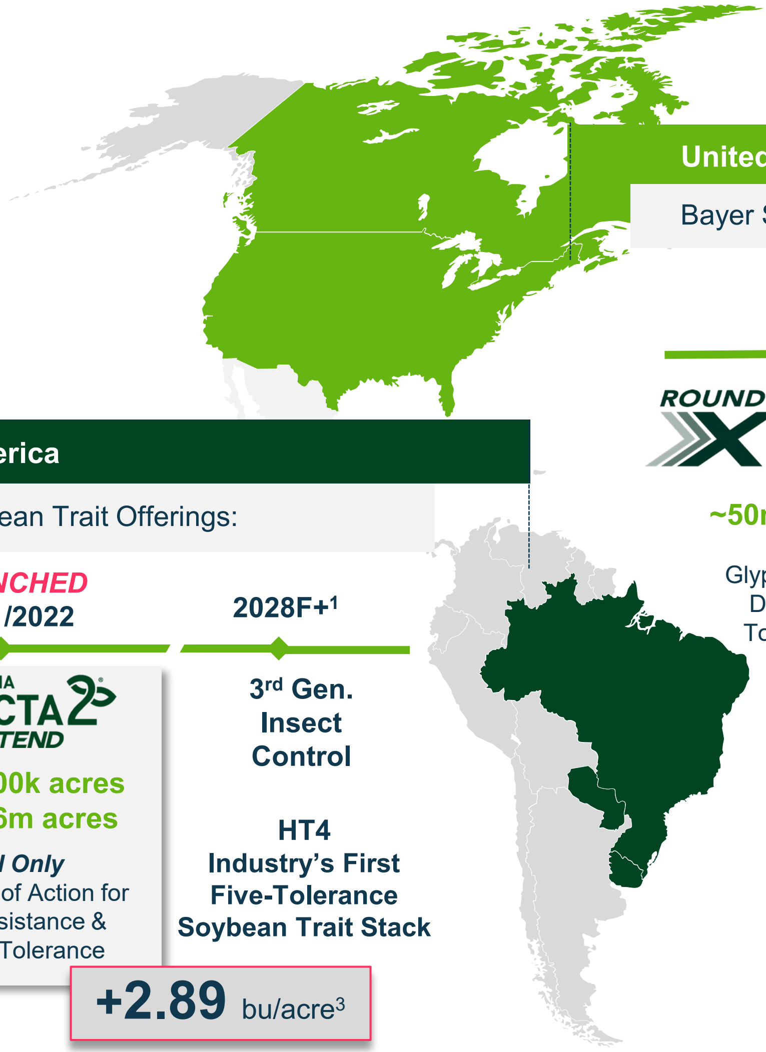
**Short-Stature Corn**

**Industry-First**

Provides increased plant stability and more precise use of inputs by enabling late-season applications

Note: Size of market, market position and germplasm share measured as of 2021. Market size relates to planted hybrid acres.
[1] In hybrid corn market only; [2] Eu27 +UK, Russia and Ukraine
[3] SmartStax® PRO corn products will be commercially available for the 2022 growing season.
[4] VT4PRO with RNAi Technology is not currently available for commercial sale or commercial planting. Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only and is not and shall not be construed as an offer to sell.

# Upgrading the Americas to Next-Gen Soybean Trait Technology



## United States and Canada

# 1 Market Pos.

Bayer Soybean Trait Offerings:

| 2020 | *LAUNCHED* 2021 | 2027 F |
|---|---|---|
| ROUNDUP READY 2 XTEND SOYBEANS | XTENDFLEX SOYBEANS | **HT4 Industry's First Five-Tolerance Soybean Trait Stack** |
| ~50m acres | 2021: ~16m acres<br>2022e: >20m acres | |
| Glyphosate & Dicamba Tolerance | Adds Glufosinate Tolerance to Roundup Ready 2 Xtend | Adds 2,4-D, HPPD tolerance to XtendFlex |

## South America

# 1 Market Pos.

Bayer Soybean Trait Offerings:

| 2020/2021 | *LAUNCHED* 2021/2022 | 2028F+[1] |
|---|---|---|
| INTACTA RR2 PRO® | PLATAFORMA INTACTA 2 XTEND | **3rd Gen. Insect Control** |
| ~85m acres | 2021/22: >800k acres<br>2022/23e: >6m acres | **HT4 Industry's First Five-Tolerance Soybean Trait Stack** |
| Insect Resistance & Glyphosate Tolerance | ***Brazil Only***<br>Adds Mode of Action for Insect Resistance & Dicamba Tolerance | |

**+2.89** bu/acre[3]

[1] Launch timing reflects Brazil
[2] Currency and portfolio adjusted
[3] Compared to similar varieties in checks across 500 locations in 2020/2021 crop year

# Multiple Traits in Late-Stage Development for Cotton Farmers

## Leading Innovation for Cotton Growers Driving Growth in >€500m[1] Cotton S&T Business

**1st generation**

ThryvOn™ Technology

First-ever biotech trait for piercing and sucking insect control

**5 herbicide tolerances**

*HT4 Cotton*

- Glyphosate
- Dicamba
- Glufosinate
- HPPD
- PPO

**4th generation**

*Bollgard 4 Cotton*

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

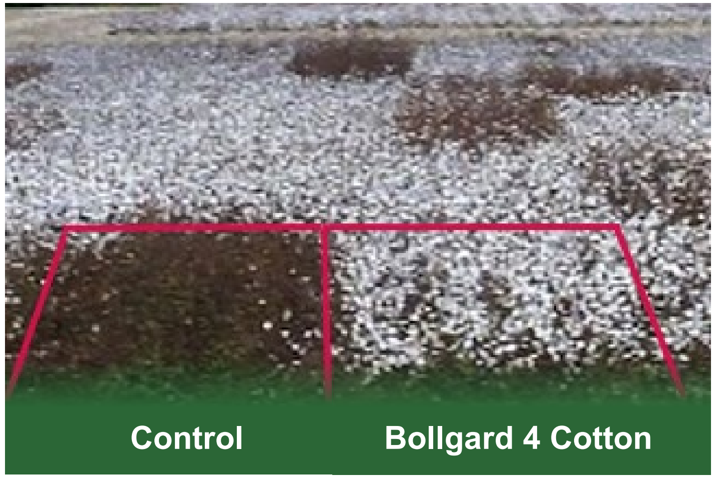
*Stewarded **Commercial Launch** in 2022 in the U.S.*


Scott, Mississippi, U.S. | Sep. 27, 2021

***ADVANCED** to Phase 3*


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

***ADVANCED** to Phase 3*



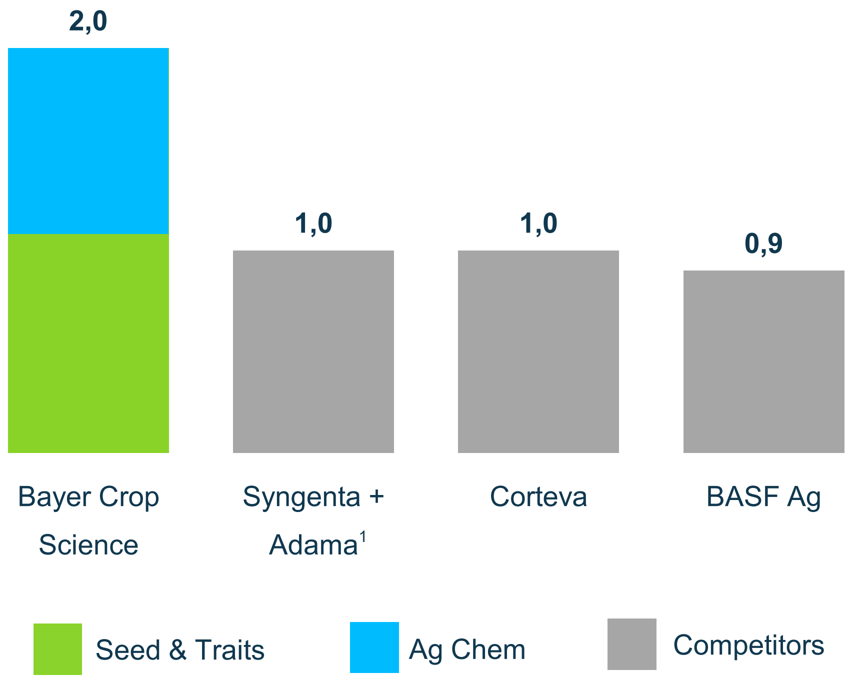

2019 Rocky Mount NCSU Results

[1] 2021 cotton seed & traits sales for Bayer Crop Science

ThryvOn™ Technology has received full approval for planting in the United States but, as of the date this material was published, is pending approval in certain export markets. Specific plans for commercialization depend upon regulatory approvals and other factors.

# Industry Leading R&D Investment Powers Pipeline Potential

## 2021 Ag R&D Investment (€bn)




## Top Talent:

**>7,100**
R&D employees[2]

**>100**
Key Collaborations

## Generating Next Generation Solutions:

**>500**
Hybrids & Varieties Deployed[3]

**15**
New Biotech Traits in Development

**>300**
New Crop Protection Registrations[3]

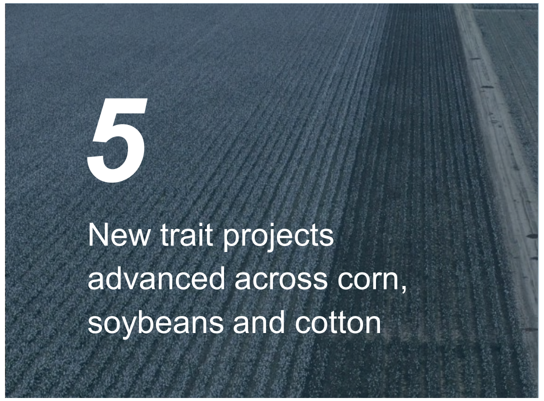
**30-60**
New Molecules in Field Trials Annually

2021 reported results, exchange rate: FY 2021: ~1.18 USD/EUR
[1] Represents the legacy Syngenta results plus Adama
[2] Includes permanent and temporary employees
[3] 2021

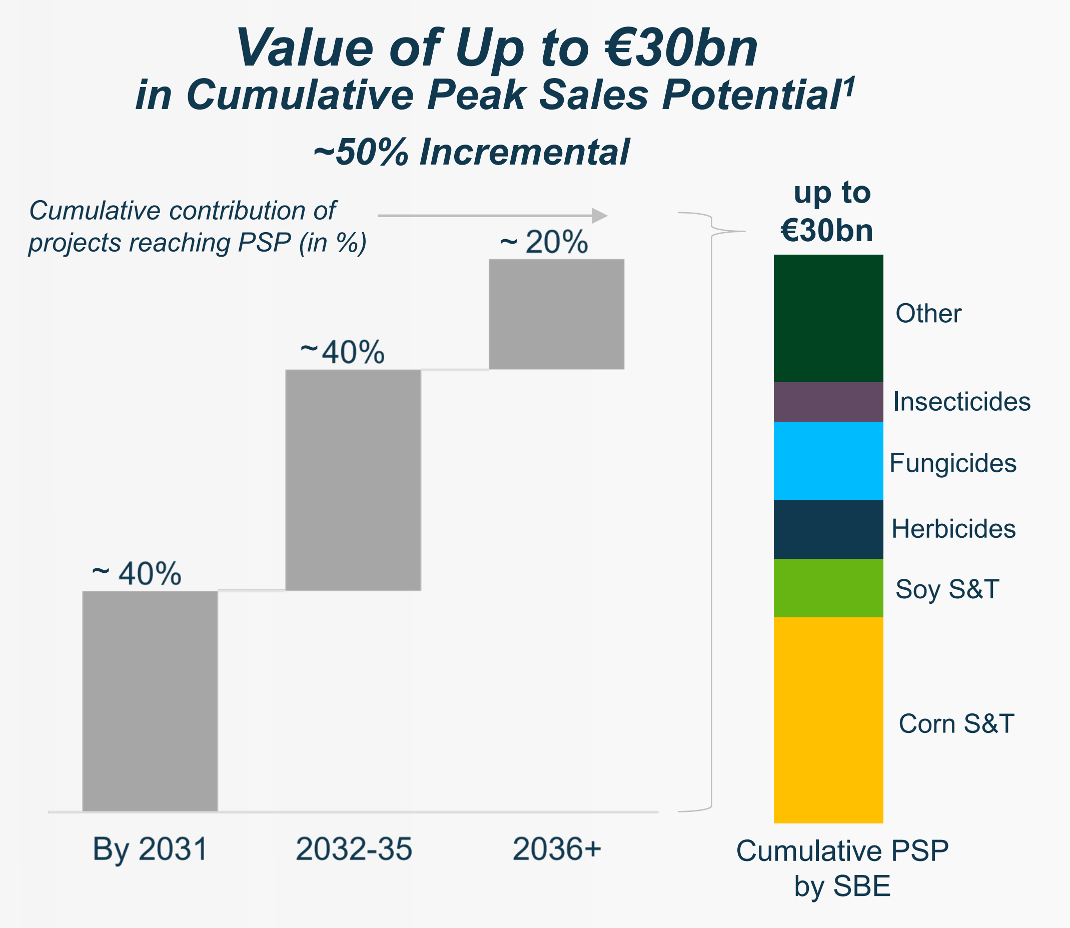
# Pipeline with Up to €30bn Peak Sales Potential Delivering for Farmers

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










[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. PSP = Peak sales potential SBE = Strategic Business Entity

# Three Generations of Soybean Herbicide Tolerance Traits

## Technologies Provide Solutions to Address Farmers' Needs, Herbicide Resistance Challenges

**3** herbicide tolerances

XTENDFLEX SOYBEANS

*LAUNCHED*
in 2021 on ~16m commercial acres

- Glyphosate
- Dicamba
- Glufosinate


June 29th, 2021 | Storm Lake, Iowa

**5** herbicide tolerances

**HT4**
Fourth-Gen
**Phase 3**

Expected 2027 launch

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


July 14th, 2021 | Jerseyville, Illinois

**6** herbicide tolerances

**HT5**
Fifth-Gen
**Phase 2**

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


July 14th, 2021 | Jerseyville, Illinois

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

# Short-Stature Corn Offers Transformational Shift in Production

## Phase 4 Breeding Approach Expected in U.S. Pilot in 2023; Biotech Approach in Phase 3

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

### Reduced Crop Loss

- Production stability with improved standability in high winds and challenging weather conditions
- Annual yield losses due to stalk lodging in the U.S. range from 5% to 25%[1]

### Precision of Crop Application

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

### Increased Environmental Sustainability

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


**Iowa 2020 Trials Following Derecho Windstorm**

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

**Poseyville, Indiana July 2021**
**Nitrogen Y-Drops for Precise In-Season Application**

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

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

# The Next Frontier: Evolution to Digitally Enhanced System Solutions

*Illustration: NA Smart Corn System Featuring Short Stature Corn*

**Win** by being more grower centric

## Discrete Solutions

**SEEDS & TRAITS**
DEKALB
SmartStax RIB COMPLETE

**CROP PROTECTION**
LAUDIS
TriVolt
DELARO Complete
Roundup
ACCELERON

**DIGITAL**
FIELDVIEW
Performance Transparency Yield Analysis

## Tailored Solutions

**SEEDS & TRAITS** + OR **CROP PROTECTION** + OR **DIGITAL**

**SEEDS & TRAITS**
DEKALB
SmartStax PRO with RNAi Technology
*Short-Stature Corn Hybrids*

**CROP PROTECTION**
LAUDIS
TriVolt
DELARO Complete
Roundup
ACCELERON

**DIGITAL**
FIELDVIEW
**Field Level** *Hybrid Seed Placement & Density*
**Field and Zone Level** *Crop Protection Recommendations*

## Crop System Solutions

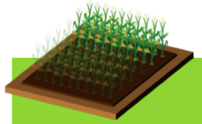
**SEEDS & TRAITS** + **CROP PROTECTION** + **DIGITAL**

**SEEDS & TRAITS**
DEKALB
SmartStax PRO with RNAi Technology
*Short-Stature Corn Hybrids*[1]

VT4PRO with RNAi Technology[2]
Cover crops

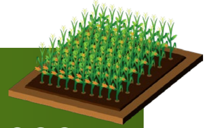
**CROP PROTECTION**
LAUDIS
TriVolt
DELARO Complete
Roundup
ACCELERON
Biological Solutions

**DIGITAL**
FIELDVIEW
**Field Level** *Hybrid Seed Placement & Density*
**Field and Zone Level** *Crop Protection Recommendations*
**Field Level** *Fertility Prescriptions*
*Targeted Application Recommendations*
$CO_2$ Carbon Program



***Increased Value from Digital Enhancements to Grow Share of Farm***

**2022** → ***Inputs to Outcomes*** → **2030**



[1] Biotech approach in collaboration with BASF; [2] VT4PRO™ with RNAi Technology corn products are expected to be commercially available for the 2024 growing season

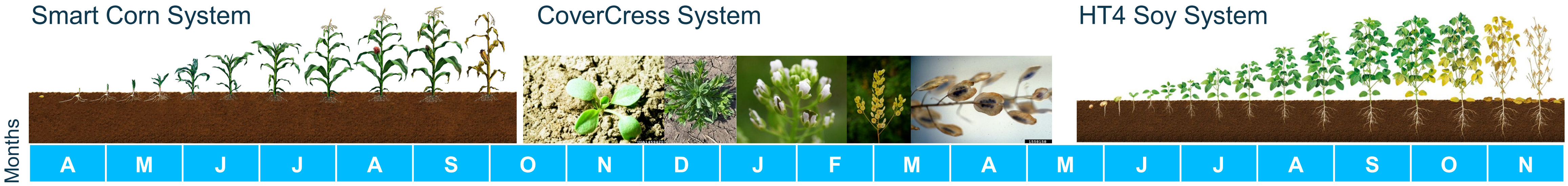
# CoverCress: New Cash Cover Crop to Serve as Low-Carbon Renewable Feedstock for Growing Biodiesel Market

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

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

**Unique Rotational Contract Offer & Agronomic System**

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




### CoverCress:

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

### The Need:

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

### The Business Model:

- Closed Loop Production Contract: Farmers paid a premium to contract produce CoverCress; Bunge delivers premium valued oil to Chevron to convert to Renewable Diesel/Sustainable Aviation Fuel
- CoverCress receives payment from crusher (e.g. Bunge) for the crop delivered; owners share profits: *Bayer 65%; Chevron and Bunge 35%*

# Climate FieldView Digital Tools Reach >200m Subscribed Acres in 23 Countries; Fueled by Grower and Field Trial Performance Data

## Climate Fieldview

**>200m** subscribed acres

**#1** brand in digital ag[1]

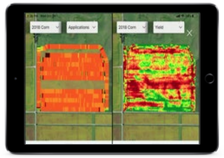
Operates in **23** countries

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

**>70** partners on platform

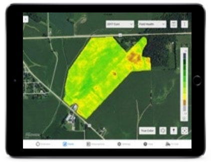
**In-cab visualization**

**Performance Visualization**



**Performance Evaluation**

**Field Health Images**



**Prescription Delivery**

[1] according to Kynetec December 2021 FieldView Brand Tracker

# Digital Farming Solutions Underpin and Enhance Our Ability to Bring Transformational Solutions to Agriculture

## Our Vision for Digital Agriculture

- Increase **yield** and improve **profitability**
- Glean insights from data to help **manage risk** and address **variability**
- Manage fields down to the square meter, to farm more efficiently and sustainably
- Seamlessly collect, visualize and analyze data to enable **more informed decisions**

## Three Core Value Drivers

**Franchise Value**

**Downstream Value**

**Platform Value**

# Digital Unlocks Scalable Climate-Smart Business Models

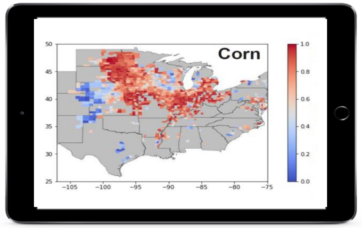
## Carbon Markets Valued at >$200bn/year[1] and Growing with Consumers' Demand for Sustainability

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

**Quantification**


CO$_2$e Total

**Verification & Reporting**




Crop Rotation by Field

### *Carbon Initiative*

***~2,600*** *participating farmers in Brazil and the U.S. alone*

***10*** *countries covered*

***1.5m*** *acres globally*

- Long-term program providing **annual incentives** to Climate FieldView enrolled growers for verified and validated **climate-smart practices** like no-till and cover cropping
- Ranked **#1 in the U.S.**, scoring very high in terms of **grower trust[2]**

***Enables 3 Expected Downstream Revenue Opportunities***

**Carbon Services** | **Product sales** | **Carbon assets**

- **Project Carbonview**, collaboration with **Bushel, The Andersons,** and built on **Amazon Web Services** cloud infrastructure, expected **to track carbon emissions across ethanol chain**
- **CHS Inc.,** largest Ag Coop in the U.S., **agreed** to be our **carbon program provider,** providing advice to growers moving to sustainable practices.

[1] Source: https://www.reuters.com/article/us-carbontrading-turnover/global-carbon-trading-turnover-at-record-214-billion-last-year-research-idUSKBN1ZN1RN; [2] Forward Group Research Carbon Credit Program Perceptions & Evaluation, July 2021

# Enabling New Digital Platforms in Ag

## Opens Access to Participate in Broader B2B AgTech Value Pools; Expanding into Digital Marketplaces


Microsoft

**Collaboration**

- Combines **Bayer's ag expertise** and leading digital farming platform with **Microsoft's cloud technology** and unrivaled B2B solutions, to enhance digital infrastructure
- **Cloud-based set of digital tools** and data science solutions for agriculture and adjacent industries
- Seeking to create and commercialize **off-the-shelf opportunities** for other companies **to enter and innovate directly in ag** and other industries.
- **Solutions** to address farming operations, **sustainable sourcing, manufacturing and supply chain improvement**, and **ESG monitoring** and measurement

### *Orbia: First Digital Ag-Marketplace*


- JV between Bayer, Bravium, Yara and Itau; Bayer with ~60% stake
- Connects growers, input providers and grain traders to a network to expand their reach, secure financing, redeem rewards **from Bayer's Impulso loyalty program**, purchase and sell inputs

- Established in 2019 in **Brazil,** later expanded to Argentina, Colombia and Mexico
- **~300 distributors** with inputs such as pesticides, seeds and fertilizers
- **>200,000** registered growers
- Covers **~75% of planted area**

[1] Brazil-based marketing agency.

# Innovative, Sustainable Solutions to Address Global Challenges

| *Global Challenges* | *Our Goals* | *Our Priorities* | *Our Solutions* → | *In the Field Today* |
|---|---|---|---|---|
| Growing Population<br>Increasing Protein Demand | **30%**<br>***Reduction in Crop Protection impact*** *on the environment* | **Producing & Protecting Higher-Yielding Seeds** | • High-yielding, disease-resistant seeds<br>• Next-generation biotech traits and crop protection to protect yield | DEKALB<br>Bollgard 3 ThryvOn with XTENDFLEX Technology<br>PLATAFORMA INTACTA 2 XTEND |
| Water Quality<br>Soil Health | **30%**<br>***Reduction in Crop Protection impact*** *on the environment* | **Using Fewer Natural Resources** | • Novel small molecules and biological solutions with reduced environmental impact<br>• Short stature corn provides the opportunity to unlock additional yield potential by optimizing crop inputs | FLiPPER<br>Xivana<br>SERENADE ASO |
| Climate Change<br>Sustainable Energy Sources | **30%**<br>***Reduction of field greenhouse gas*** *emitted per kg of crops produced* | **Advancing a Carbon Smart Future For Ag** | • Digital tools for carbon sequestration measurement, precise input application<br>• Next-generation herbicide-tolerant traits to support no-till/ conservation tillage systems | $CO_2$ Carbon Program<br>CoverCress The cover crop that pays<br>XTENDFLEX SOYBEANS |




**Solutions must serve growers large and small; Empowering 100m smallholders by 2030**

Science for a Better Life

# Pharmaceuticals: Driving Continued Long-term Growth

////////////

**Investment Case**

August 2022 / Bayer AG

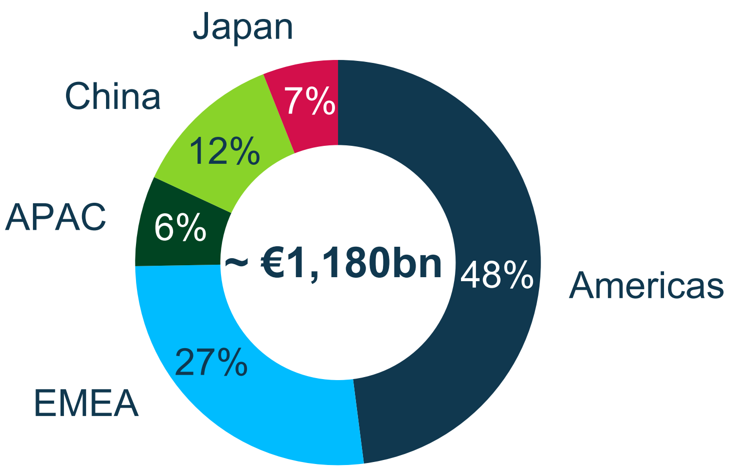
# Pharmaceuticals: Driving Continued Long-Term Growth

1. Market & Position
2. Strategy
3. Growth Drivers
4. Innovation

# We are Operating in a Rapidly Changing but Attractive Market Environment Driven by Megatrends and the Bio Revolution

## Pharma Market

### Market Size 2021e[1]




### Market CAGR 2021-25e[1]

**4 - 5%**

## Market Dynamics

### Opportunities

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

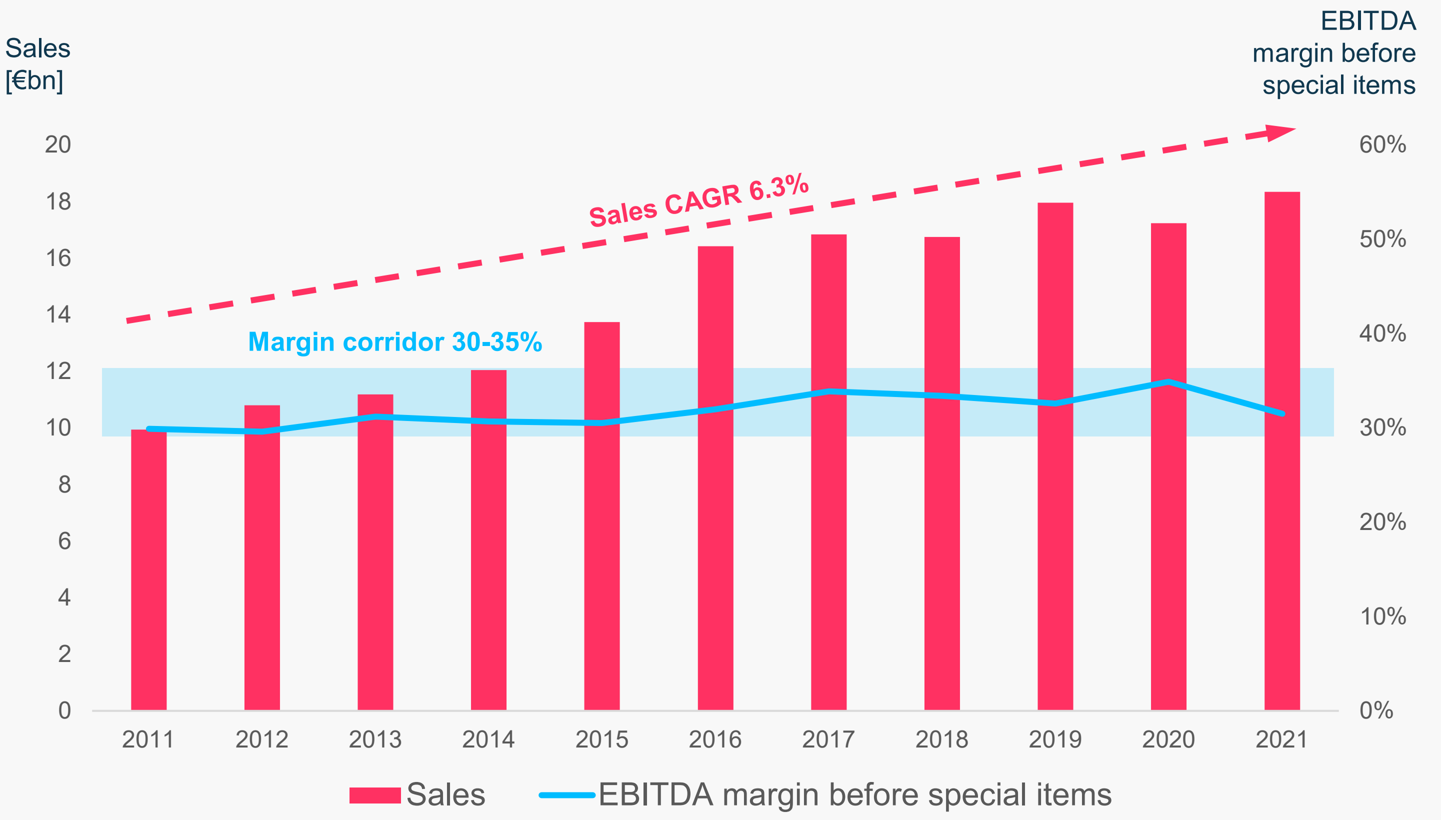
### Challenges

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

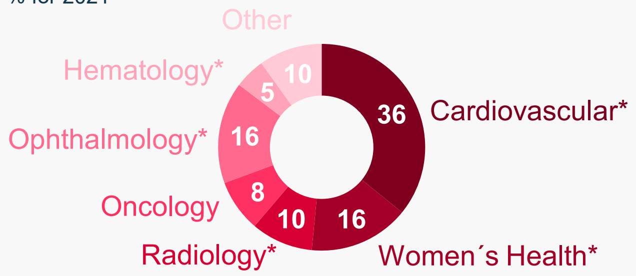
[1] Source: IQVIA Market Prognosis as of September 2021

# Bayer Pharmaceuticals Holds Strong Positions in Areas of High Unmet Medical Needs, Generating Growth and Attractive Returns

**Bayer Pharmaceuticals – Sales and EBITDA margin before special items 2011-2021[1)]**

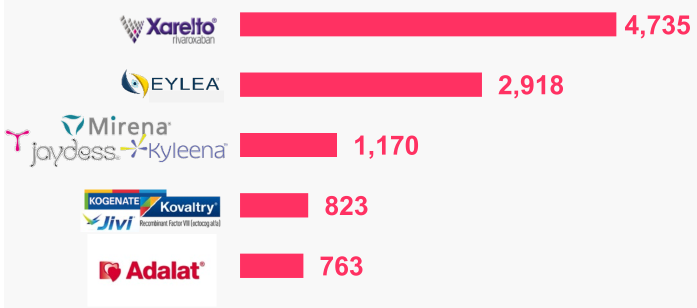



**Sales by therapeutic area**
In % for 2021




* Market leading positions

**Sales of top products**
In €m for 2021




1) as reported in the respective fiscal years

# Strong Volume Expansion in FY 2021

## Sales

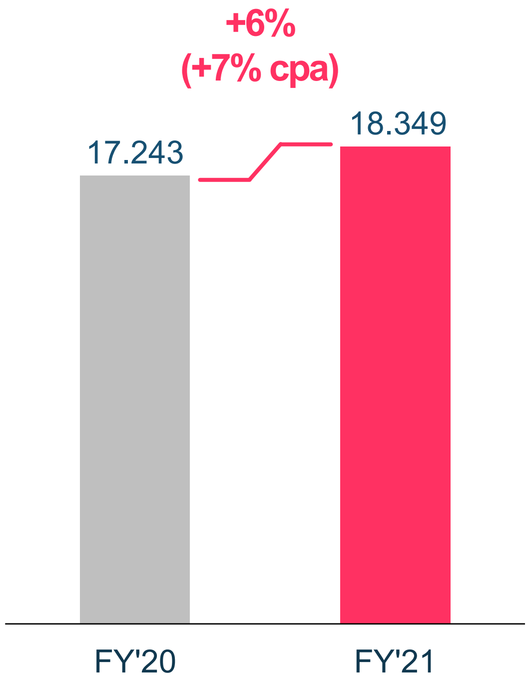
In million €, ∆% yoy

Volume +9%

Price -2%

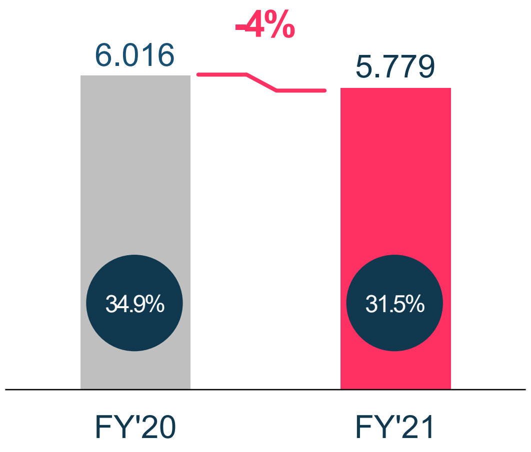
Currency -1%

Portfolio +0%




## EBITDA

In million €, before special items




### *Key Messages*

- Solid topline growth after COVID-19 related restrictions in prior year
- Flagship products performed particularly well, contributing ~60% to higher sales:
  - Eylea™ +19%
  - Xarelto™ +6%
- Successful launch of Kerendia™ and continued rollout of Nubeqa™ and Verquvo™
- Lower earnings reflect continued investments into R&D and marketing of new products

● EBITDA Margin before special items, cpa = currency and portfolio adjusted

Sales growth rates in Key Messages cpa = currency and portfolio adjusted

# Our Strategy is Geared Towards Continued and Sustainable Long-term Growth, also Addressing Loss of Exclusivity of Major Products

**Capture the value** of the current portfolio and **manage LoE** for Xarelto & Eylea

**Grow new potential blockbusters**

**Build digital health solutions**

Capitalize on **Cell & Gene therapy platform**

**Build an at scale player** in oncology in our areas of focus

**Evolve regional strategies in China and the US** to sustain future growth

# Over the Last Three Years we Successfully Launched Four New Drugs and Strengthened Pipeline and Technologies

## Main Building Blocks of Post LoE Growth

**Late-stage Pipeline in CV & WH**

- **Verquvo (vericiguat) tablets** 2.5 mg, 5 mg, 10 mg [1] — **PSP ~ €0.5bn**, launched in 2021
- **Kerendia finerenone** — **PSP ≥ €1.0bn**, launched in 2021
- **Elinzanetant** (KaNDy NT-814) — **PSP ≥ €1.0bn**, potential launch in 2025

**Oncology**

- **NUBEQA (darolutamide)** 300 mg tablets [2] — **PSP ≥ €3bn**, launched in 2019
- **VITRAKVI (larotrectinib)** 25-mg/100-mg CAPSULES 20-mg/mL ORAL SOLUTION — **PSP > €0.75bn**, launched in 2019
- **Pipeline** eg. EGFRexon20 inhib., ATR inhib., TTCs

**Cell & Gene Therapy Platform**

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

AskBio

BlueRock Therapeutics

**External Innovation and BD&L**

>40 BD&L transactions signed since 2020

Enhanced focus on external innovation to replenish pipeline

[1] In collaboration with Merck & Co. Inc., Kenilworth, NJ, USA
[2] In collaboration with Orion Corporation
PSP = Peak Sales Potential

# Capturing the Full Commercial Potential of Market Leading Therapies

Xarelto rivaroxaban

**Guidance FY2022**

Higher volumes to largely offset 12 months impact of VBP in China

**New indications & label updates in 2021**

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

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

**Apr. 2024** → **Jan. 2026**

+ 21 months

EYLEA (aflibercept solution for injection)

**Guidance FY2022**

Mid-single digit growth

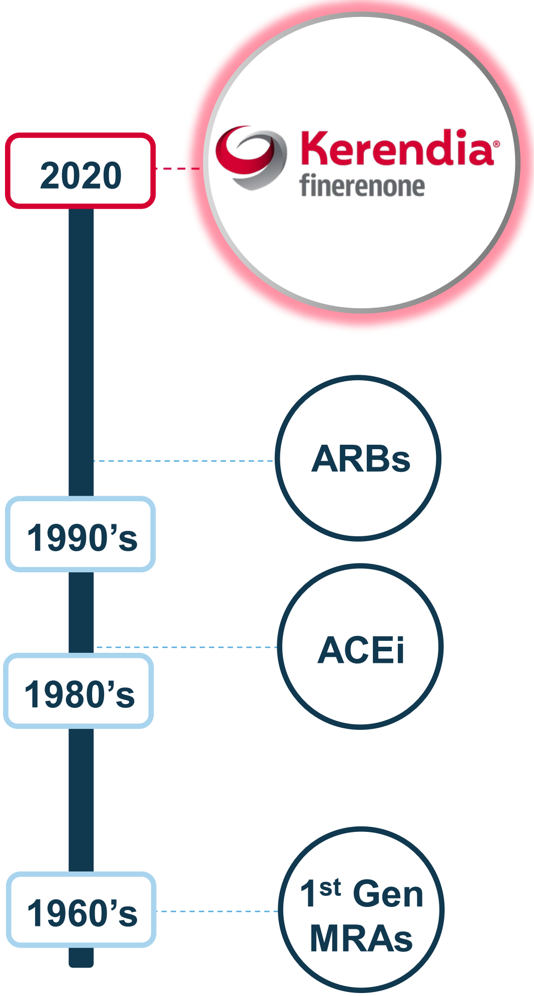
**2 Phase III studies with high-dose formulation** (initiated 2020)

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

**Goal:** Prolongation of injection intervals

Prefilled syringes launched in 2020 in EU and JP

# Kerendia is a Game Changer for CKD and Type 2 Diabetes Patients




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

**Largest clinical program** with unparalleled data[1]

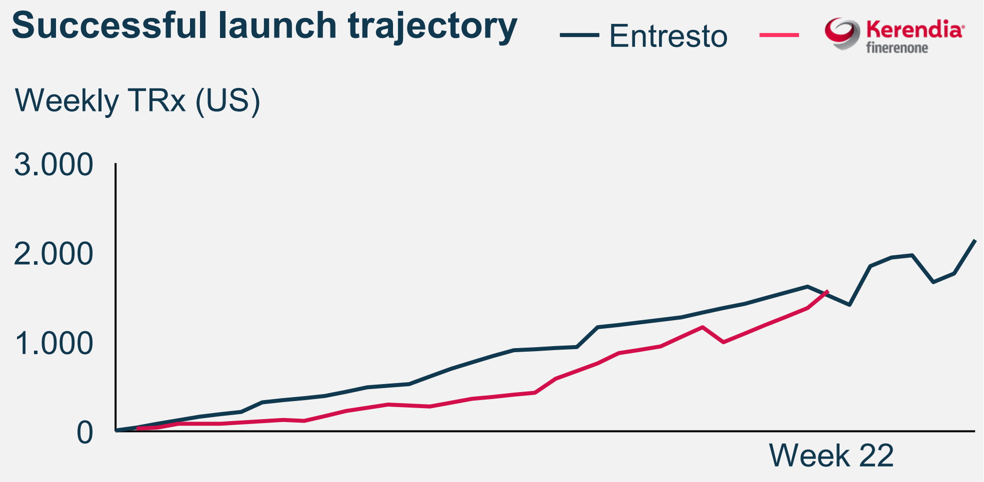
**Novel MOA** intensifies RAAS inhibition (gold-standard for treatment)

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

**Characteristics of CKD/T2D**

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

**Successful launch trajectory**




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

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

[1] 13,171 patients early in DKD progression

# Kerendia sets the stage for a long-term cardio-renal vision and targets to deliver blockbuster potential

**Unmet Needs**

Need for RAASi intensification

Need for earlier use in disease progression

Need for disease modification and outcomes

**Kidney Dedicated**

**CardioRenal Disease Modifier**

| Establish Kerendia as the next gen RAASi for CKD/T2D | Heart failure (HFpEF) | Non-diabetic CKD |
|---|---|---|
| FIDELIO-DKD, FIGARO-DKD, FIDELITY | FINEARTS-HF | FIND-CKD |
| (2020/2021) | (2024E) | (2025E) |

Phase III studies:

Dates indicate primary trial completion according to clinicaltrials.gov

# We are Targeting to Significantly Expand our Presence in Selected Areas of Oncology where One Blockbuster can Build a Franchise

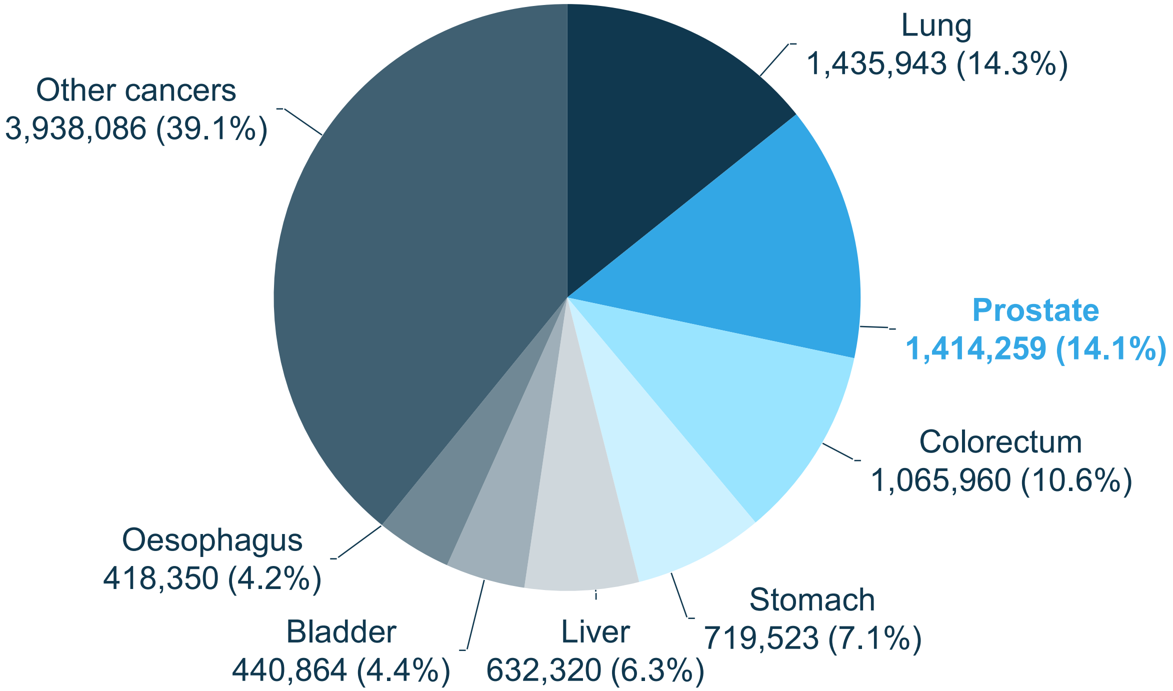

*Key sales contributors, graphic illustrative*

## Key elements to achieve our growth aspiration

- Continue to build strong prostate cancer franchise with NUBEQA and Xofigo
- Realize >€3bn peak sales potential of NUBEQA
- Continue to execute launch of VITRAKVI
- Expand into IO-combo opportunities with Stivarga
- Accelerate early pipeline projects
- Seek external growth opportunities through BD&L
- Continue to invest in next generation disruptive technologies

# Prostate Cancer is at #2 of the Most Common Cancer Types in Men Worldwide with Significant Unmet Medical Need

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



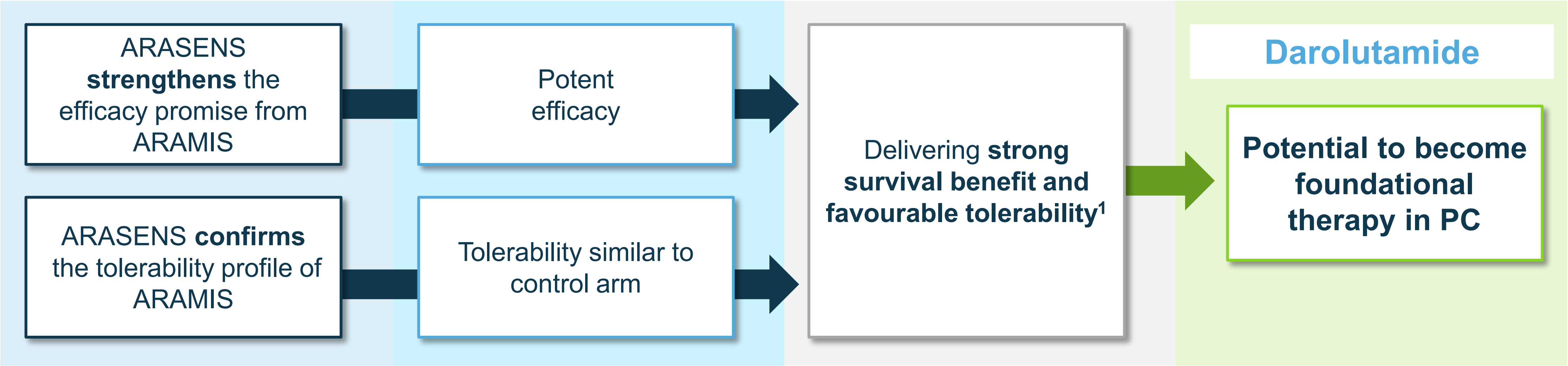

## Characteristics of Prostate Cancer

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

Source: International Agency for Research on Cancer, https://gco.iarc.fr/today/online-analysis-table

# Two Highly Consistent Phase 3 Studies Confirm Nubeqa's Strong Clinical Profile in Prostate Cancer Treatment

| Study | Efficacy<br>Primary endpoint | Selected secondary endpoints | Tolerability |
|---|---|---|---|
| **ARAMIS**<br>nmCRPC | **Metastasis free survival**<br>prolongation by 22.0 months,<br>59% risk reduction (HR=0.41, p<0.001) | **Overall survival**<br>31% risk reduction (HR=0.69, p=0.003)<br><br>**Time to pain progression**<br>prolongation by 14.9 months, 35% risk reduction (HR=0.65, p<0.001) | favourable tolerability profile |
| **ARASENS**<br>mHSPC | **Overall survival**<br>32.5% risk reduction (HR=0.675, p<0.0001) | **Time to castration resistant PC**<br>64% risk reduction (HR=0.357, p<0.0001 | |




[1] compared to control arm

# We Are Committed to Make Nubeqa Available to a Broad Spectrum of Prostate Cancer Patients

**Patient progression in prostate cancer**

~10-15 years

| | (Neo-)Adjuvant early-stage | Nonmetastatic mid-stage | | Metastatic late-stage | |
|---|---|---|---|---|---|
| | | BCR[4] | nmCRPC[3] | mHSPC[2] | mCRPC[1] |
| ***G7 Drug treated epidemiology estimates[5]:*** | ***~145k*** | ***~85k*** | ***~46k*** | ***~75k*** | ***~145k*** |
| ***Darolutamide (Nubeqa) Phase 3 study program:*** | ***DaSL-HiCap*** 2028 | Planned to be started in H2 2022<br>2027 | ***ARAMIS*** ✔<br>2019 | ***ARASENS*** ✔<br>2022<br>***ARANOTE*** *(ARASEC)**<br>2025 | Xofigo<br>**ARi** |

**ARi's[6] moving into earlier segments**

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

** Not label generating; supports ARANOTE submission*

# Nubeqa With the Chance to Become a Foundational Drug to Treat Prostate Cancer – Peak Sales Potential of >€3bn

**Efficacy**

- Highly efficacious ARi[1]
- Very consistent set of data from two Phase 3 studies
- First to show more than 30% risk reduction of death in nmCRPC and mHSPC

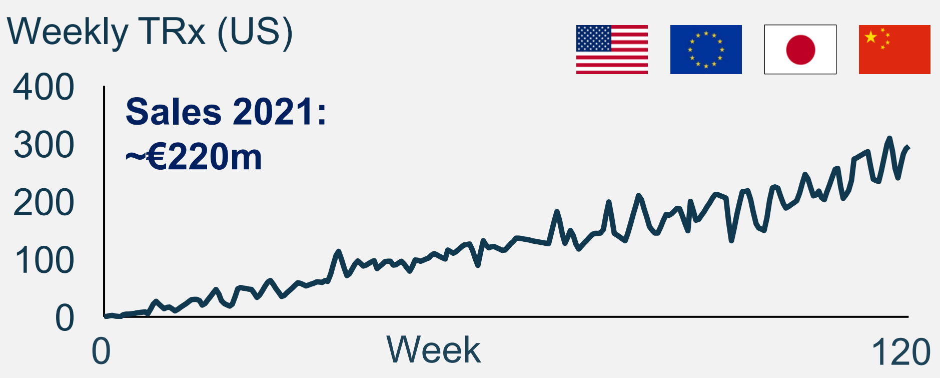
**Safety**

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

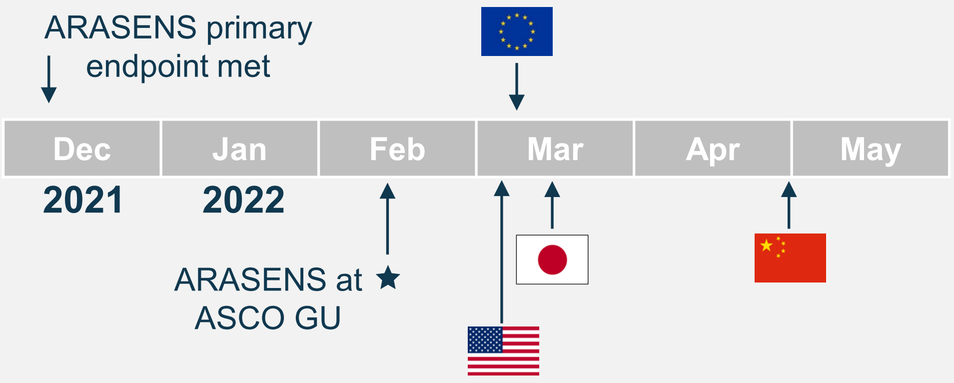
**Lifecycle Management**

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

**Strong launch performance in nmCRPC**

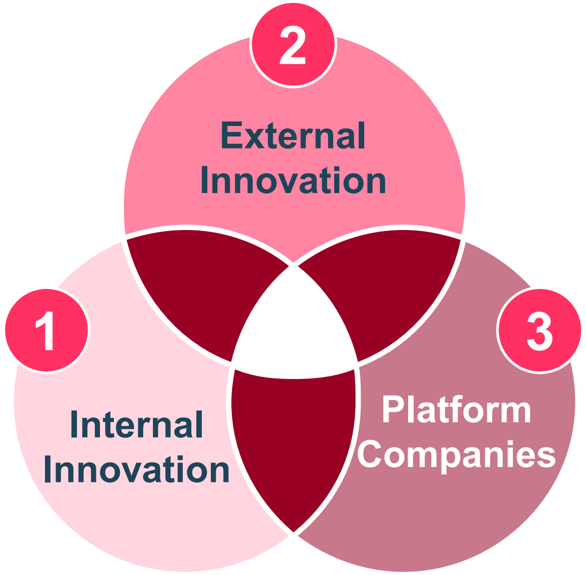



**Planned submissions for mHSPC label extension**




[1] Androgen receptor inhibitor

# Our Innovation Engine is Delivering




**1**

**Global R&D organization**

NUBEQA (darolutamide)
Kerendia finerenone
Verquvo vericiguat

**2**

**Collaborations, in-licensing, M&A**

Elinzanetant
leaps
BROAD INSTITUTE
MERCK INVENTING FOR LIFE

**3**

**CGT**

AskBio
BlueRock THERAPEUTICS
Mammoth Biosciences

**SMOL**

VIVIDION Therapeutics

Committed and experienced new leadership team

Advancing leading cell and gene therapy business

World leading science added through new platforms

Unlocking value for patients in the highest need areas

# External Innovation to Accelerate Replenishment of Pipeline and Broaden Modalities

## Selected High-Level Overview

### Momentum Significantly Increased

**>40 Transactions** signed since 2020

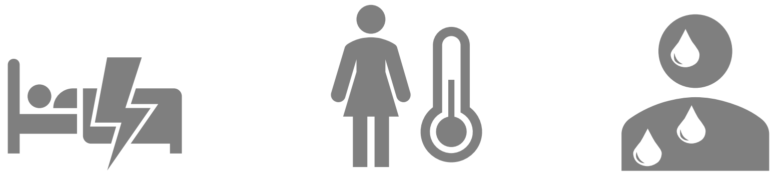
- Deals covering the entire spectrum from **equity investments** (with LEAPS), over **licensing agreements** to **acquisitions**
- **Active portfolio management** taking internal assets outside (eg. Vincera Pharma)

### Strategic Focus

- Venturing into **new modalities** (Cell & Gene Therapy)
- Broadening the **Oncology** pipeline (eg. Systems Oncology, Atara)
- Commercial partnerships in **China** (eg. Hua Medicine)
- Deals in the **Digital** Space (eg. R&D: Schroedinger, Exscientia, Recursion; Commercial: OneDrop)
- Continued augmentation of core therapeutic areas: (**WHC**: KaNDy Therapeutics)
- Strengthening the **Cardiovascular** pipeline (Curadev, Broad Institute)

# Elinzanetant Addresses High Unmet Needs for Non-hormonal Treatment of Vasomotor Symptoms in Menopausal Women

### Typical Vasomotor Symptoms During Menopause



Sleep disturbance

Hot flashes

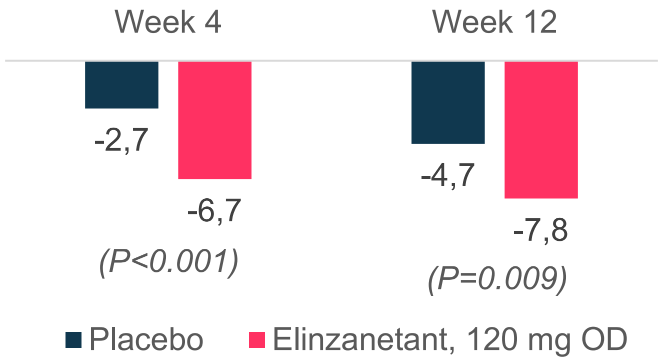
Night sweats

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

## Elinzanetant

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

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




Phase III study started in 2021, data expected in H1 2023

# Significant Progress Has Been Achieved in Anti-coagulation Therapy but Medical Need Still Exists

NOACs

Heparin → Vitamin K Antagonists (VKA) → LMWH → Direct Thrombin Inhibitors → Direct FXa Inhibitors

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

Fredenburgh and Weitz, JTH 2020; DOI: 10.1111/jth.15126

# Bayer Has a World Leading Factor XI(a) Portfolio – Next Class of Anticoagulation Drug Candidates with Disruptive Potential

## Asset | Mode of Action | Comprehensive Phase IIb Program

### FXI-Antisense (IONIS-LICA)

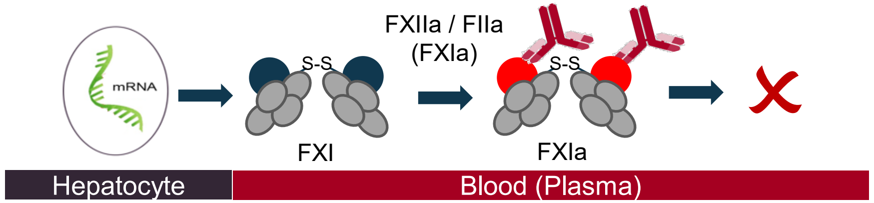
**Antisense technology prevents FXI expression**


- **RE-THINc ESRD** Data to be presented in 2022

  Reduction of thrombotic events in end-stage renal disease patients on hemodialysis

### FXIa-Antibody (Osocimab)

**Antibody binds FXIa to block further interaction and activity**

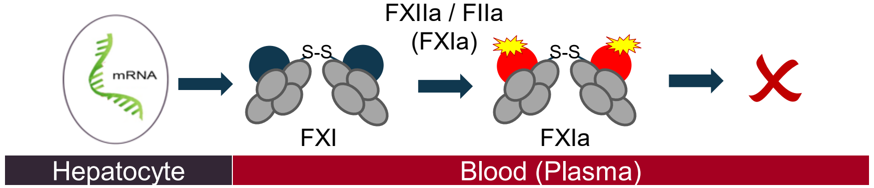



- **CONVERT ESRD** Data to be presented in 2022

  Prevention of thromboembolic events in ESRD patients on hemodialysis who are at risk for thromboembolic events

### Oral FXIa Inhibitor

**Small molecule blocks activity of FXIa**



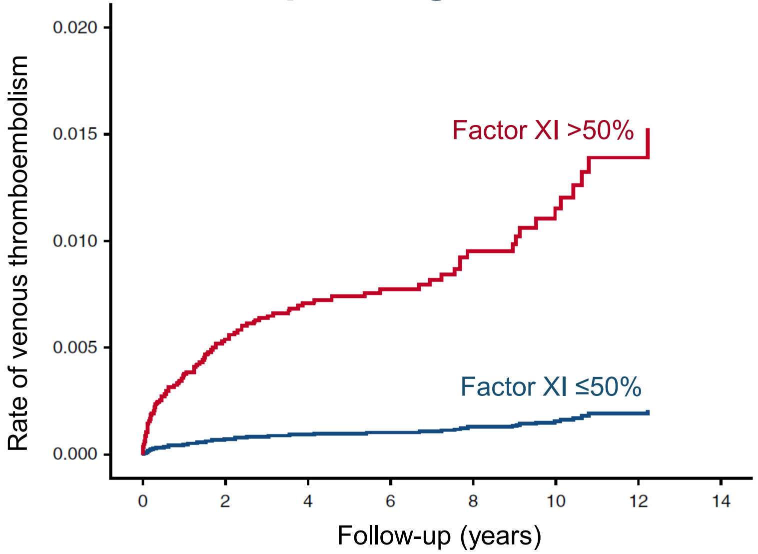

- **PACIFIC** study program

  PACIFIC AF — Data to be presented at ACC on April 3, 2022

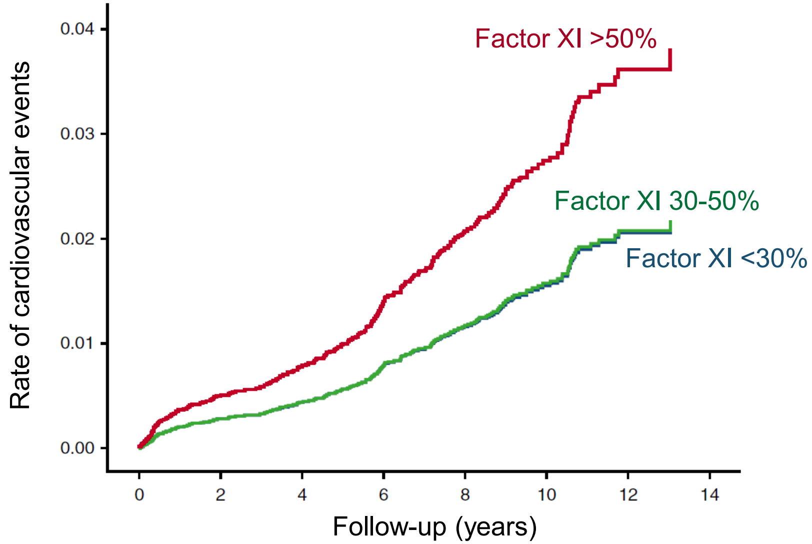
  PACIFIC STROKE, PACIFIC AMI — Data to be presented in 2022

# Hereditary Factor XI Deficiency is Associated with Lower Risk for Cardiovascular and Venous Thromboembolic Events

**Rate of Venous Thromboembolism depending on FXI Level**




**Rate of Cardiovascular Events depending on FXI Level**




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

Preis et al., Blood (2017); 129; Georgi et al, Stroke (2019)

# Advancing Leading CGT Platform with Strong Clinical Pipeline

**Diverse tech platforms and capabilities**

- AAV platform (AskBio and Bayer established)
- BlueRock´s iPSC
- CAR-T
- Gene-editing (+ Mammoth)

**CDMO business** with strong momentum

**Industry leading CGT clinical pipeline**

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

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

BlueRock THERAPEUTICS

Successful administration of first dose of DA01[1] to a Parkinson's disease patient in open-label Phase 1 clinical study

AskBio

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

Photo: Dr. Viviane Tabar, Chair of the Department of Neurosurgery, Memorial Sloan Kettering Cancer Center

[1] Pluripotent stem cell-derived dopaminergic neurons

# Pharmaceuticals – Overview Development Portfolio (as of August 4th, 2022)

| Phase I (17) | Phase II (12) | Phase III (10) |
|---|---|---|
| Elimusertib (ATR Inhibitor) *(BAY 1895344)* | Regorafenib (combi Nivolumab) *(BAY 734506)*<br>/// Solid tumors (recurrent or metastatic) | Darolutamide (AR Inhibitor)<br>/// Prostate Cancer (mHSPC) *(ARANOTE)*<br>/// Adjuvant Prostate Cancer *(DASL-HiCaP)* |
| SLFN12 Complex-Inducer *(BAY 2666605)* | Regorafenib (combi Pembrolizumab) *(BAY 734506)*<br>/// Hepatocellular Carcinoma (HCC) | Copanlisib (PI3K Inhibitor)<br>/// Non-Hodgkin Lymphoma *(CHRONOS-4)* |
| mEGFR Inhibitor *(BAY 2927088)* | Asundexian (FXIa Inhibitor) *(BAY 2433334)*<br>/// Stroke Prevention in Atrial Fibrillation *(PACIFIC-AF)*<br>/// 2º Stroke Prevention *(PACIFIC-STROKE)*<br>/// Major Adverse Cardiac Events Prevention *(PACIFIC-AMI)* | Regorafenib (multi-Kinase Inhibitor)<br>/// Glioblastoma *(GBM AGILE)* |
| HER2-TTC (HER2-Targeted Thorium Conjugate) *(BAY 2701439)* | Fesomersen (FXI-LICA) *(BAY 2976217)*<br>/// Thrombosis Prevention in ESRD *(RE-THINC ESRD)* | Finerenone (MR Antagonist)<br>/// Heart Failure (HFmr/pEF) *(FINEARTS-HF)*<br>/// Non-diabetic CKD *(FIND-CKD)* |
| Bapotulimab (ILDR2 fb Antibody) *(BAY 1905254)* | Osocimab (anti-FXIa Antibody) *(BAY 1213790)*<br>/// Thrombosis Prevention in ESRD *(CONVERT ESRD)* | Vericiguat (sGC Stimulator)<br>/// Heart Failure (HFrEF) *(VICTOR*)* |
| AhR Inhibitor *(BAY 3176803)* | Runcaciguat (sGC Activator) *(BAY 1637108)*<br>/// Chronic Kidney Disease (CKD) *(CONCORD)*<br>/// Non-prolif. Diabetic Retinopathy (NPDR) *(NEON-NPDR)* | Elinzanetant (Neurokinin-1,3 Rec Antagonist)<br>/// Vasomotor Symptoms *(OASIS)* |
| Congestive Heart Failure Gene Therapy | Adrenomedullin Pegol (PEG-ADM) *(BAY 1097761)*<br>/// Acute Resp. Distress Syn. (ARDS) *(SEAL TRIAL)* | Aflibercept 8MG<br>/// Diabetic Macular Edema (DME) *(PHOTON**)*<br>/// Neovasc. Age-rel. Macular Degen. (nAMD) *(PULSAR)* |
| sGC Activator 4 *(BAY 3283142)* | BDKRB1 Receptor Antagonist *(BAY 2599210)*<br>/// Neuropathic Pain *(BRADiNP)* | |
| P2X4 Antagonist *(BAY 2328065)* | Gadoquatrane (High Relaxivity Contrast Agent) *(BAY 1747846)*<br>/// Magnetic Resonance Imaging *(HRCA-PAT)* | |
| BDKRB1 Receptor Antagonist *(BAY 2599210)* | | |
| Peboctocogene Camaparvovec (FVIII Gene Therapy) *(BAY 2599023)* | | |
| Pompe Disease Gene Therapy | | |
| Parkinson‘s Disease Gene Therapy | | |
| Parkinson’s Disease Cell Therapy | | |
| sGC Activator 3 *(BAY 1211163)* | | |
| ADRA2C Antagonist *(BAY 2925976)* | | |
| Zabedosertib (IRAK4 Inhibitor) *(BAY 1834845)* | | |

**Selection of major Pharma development portfolio projects in clinical Phase I to III**

- ONCOLOGY
- WOMEN'S HEALTH
- CARDIOVASCULAR DISEASES
- OTHERS

* Trial conducted by Merck & Co.

** Trial conducted by Regeneron Pharmaceuticals

Science for a Better Life

# Winning in Consumer Health

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## Investment Case

August 2022 / Bayer AG

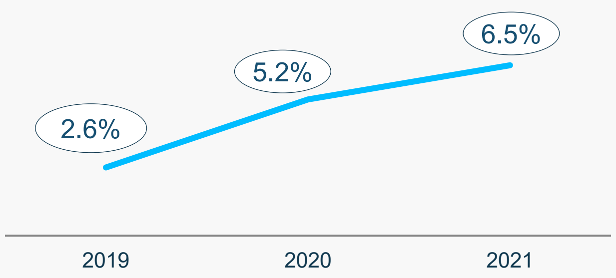
# Winning in Consumer Health

1. Market & Position
2. Strategy
3. Sustainability

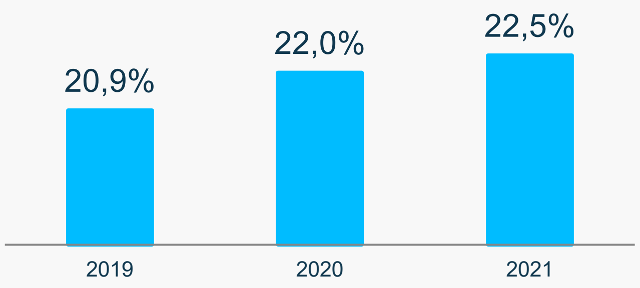
# Consumer Health: A Leading Global OTC Player

## FINANCIALS

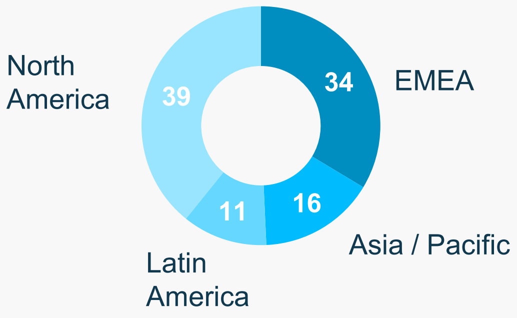
### Sales development
% yoy cpa




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

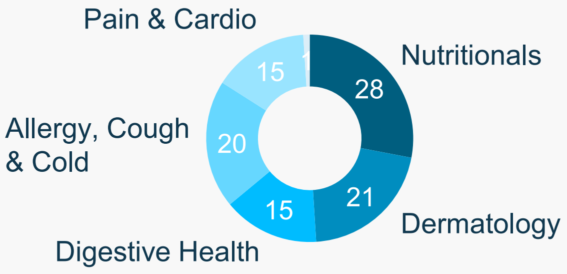



### Sales by region: €5.3bn
In %, in 2021

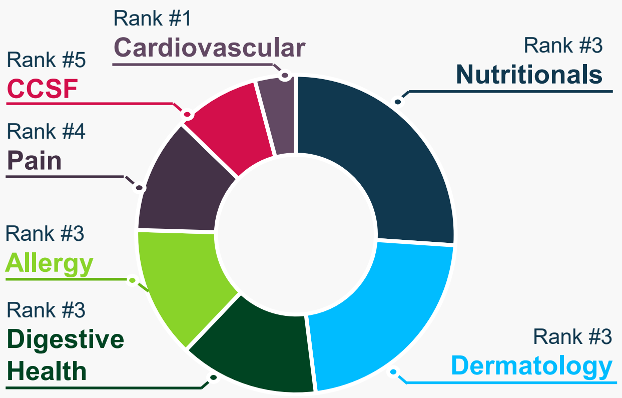



## PRODUCTS

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




### Market positions by category[1]




### Key products

*Pain & Cardio:* Aspirin, Aleve

*Dermatology:* Bepanthen, Canesten

*Digestive Health:* Alka-Seltzer Plus, Rennie, MiraLAX, Iberogast

*Allergy & Cold:* Claritin

*Nutritionals:* Redoxon, Supradyn, Berocca

[1] Source: Net Sales FY2021, TABS Market Share MAT Aug 2021

# A Multifaceted Plan to Drive Further Growth

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

***WHERE TO PLAY*** — Winning & Balanced **Portfolio**

***HOW TO WIN***

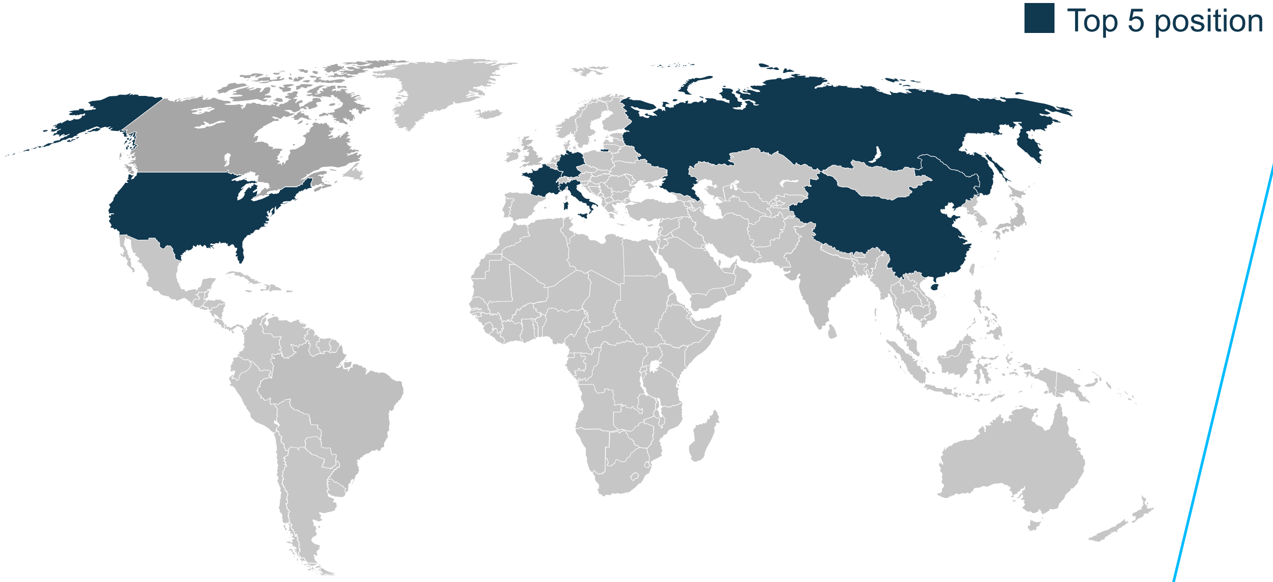
- Growth focused **Innovation** (esp. in powerbrands)
- Modern **Marketing & Sales** (e.g. precision marketing)
- Optimized **Cost & Cash** (with focus on an agile organization)

***OUR ACCELE-RATORS***

- **Digital Transformation**
- **Sustainability**

# Driving Disproportionate Growth in Attractive Segments and Markets

## Strong positions in 7 out of Top 10 OTC markets




## Accelerate growth in fast-growing and profitable markets

USA

CHINA

India

South-East Asia

# Accelerating Growth from Innovation

## Iconic Global and Local Brands Built over Decades

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

Note: xx = Year of brand launch

# Modernizing Our Brand Building and Sales Capabilities

## *Brands with Purpose*




## *From Mass to Precision Marketing*

| | 2018 | 2021 | 2024 - Ambition |
|---|---|---|---|
| *% Precision marketing*[1] | 25% | 58% | 80% |

## *Accelerating E-commerce*

| | 2018 | 2021 | 2024 - Ambition |
|---|---|---|---|
| *% Net Sales*[2] | 3% | 10% | 15%+ |

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

# Taking Bold Steps on Sustainability

**2030 Goal** — **Expand access to everyday health for 100 million underserved consumers**

## Societal

### Health Literacy

Partnerships & brand purpose activations for underserved

Vitamin Angels, Kirk Humanitarian

### Accessible Products

Affordable formats, innovations, and go-to-market (GTM) models


Accessible SKUs & relevant GTMs

## Environmental

### Carbon Neutral Production

CO2 reduction: Energy efficiency and renewable energy projects

Removal of ozone depleting liquids from HVAC plants

### Sustainable Products

Sustainable packaging


Baselining of environmental impact of packaging & finding alternatives

Science for a Better Life

# Sustainability @Bayer

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## Investment Case

August 2022 / Bayer AG

# Sustainability is Integral to Our Values, Strategy and Operations

## We intend to create bold impact and generate sustainable business opportunities

Pharmaceuticals | Consumer Health | Crop Science

**Megatrends**

- Aging Population
- Growing Population
- Pressure on Ecosystems

**Societal Needs**

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

**Impact**

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


**Help more people thrive**

**Decrease ecological footprint**

**Sustainable Growth**

**Long-term business growth through sustainable innovation**

# Sustainable Innovation as Foundation for Business Opportunities

## Co-Shaping the Bio-Revolution

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

## Sustainable Solutions in Agriculture

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

PLATAFORMA INTACTA2 XTEND · Arize · FIELDVIEW · JOYN BIO

## Breakthrough Technologies in Pharmaceuticals

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

## Better Access to Health & High-Quality Nutrition

Our access targets bear chances of meaningful inclusive growth with recipients as potential future market participants while addressing global megatrends in health and nutrition



Find more info here: https://www.bayer.com/en/sustainability/esg-topics

# Ambitious Measurable Targets for Sustainable Development

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

### *Decrease ECOLOGICAL footprint*

SCIENCE BASED TARGETS

**Climate neutrality at own sites** + **reduced emissions in our supply chain**

- 42% reduction target[1] for Scope 1 & 2
  - 500m € CapEx for emission reduction
  - 50m-200m € OpEx for offsetting projects
- 12.3% reduction target[2] for Scope 3

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

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

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


### *Help more PEOPLE thrive*

Support **100m smallholder farmers** in LMIC[3]

Provide **100m women** in LMIC[3] with **access to modern contraception**

Expand **access to self-care for 100m people** in underserved[4] communities

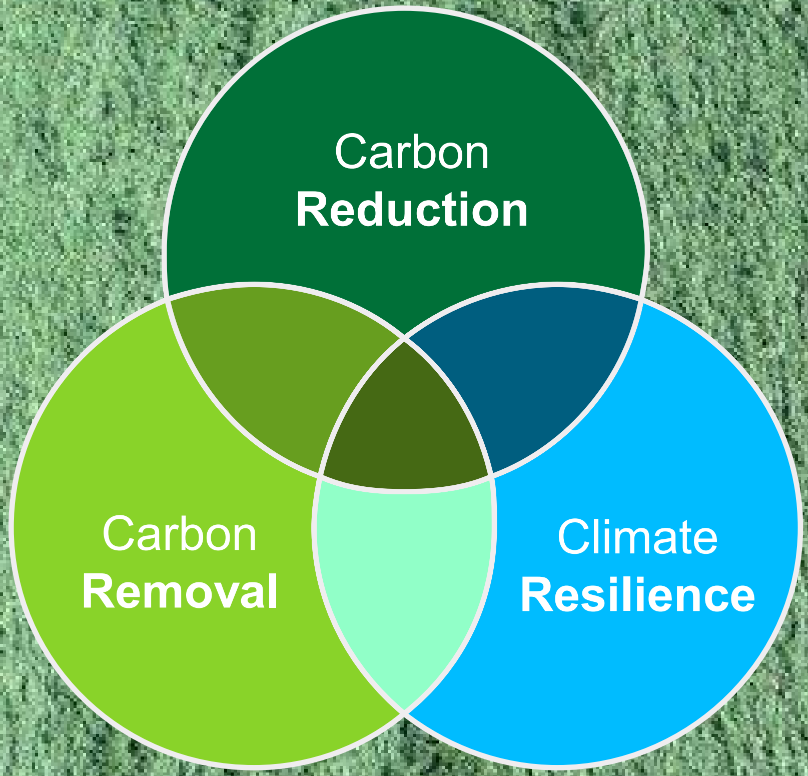
**Gender parity** at all leadership levels & targets for further diversity dimensions

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

[1] By 2029 from a 2019 base year is in line with limiting global warming to 1.5 C°
[2] By 2029 from a 2019 base year is in line with limiting global warming to below 2 C°

[3] LMIC: low and middle income countries - all countries included in the World Bank list as per 1 July 2019
[4] Underserved: economically or medically
For more info here: https://www.bayer.com/en/sustainability/targets

# We Take Broad Climate Action Along the Value Chain




**Reduce Emissions**

- **42% less $CO_2$** in our own operations[1] by 2029
- **12.3% less $CO_2$** in the value chain[2] by 2029
- **30% less greenhouse gas emissions[3]** by 2030
- **Net Zero** by 2050

**Offsetting & Carbon Assets**

- **Offset** remaining emissions with increasing share of **removals**
- Generate certified digitally-enabled **carbon assets**[4] with farmers

**Support Resilience**

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

[1]Scope 1+2 [2]Scope 3 [3]30% 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
[4]Offsets and in-sets
Find more info here: https://www.bayer.com/en/sustainability/climate-protection

# We Are on Track in our Decarbonization Journey

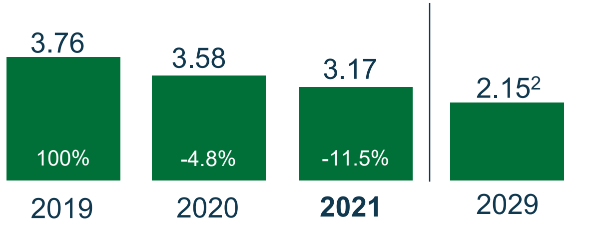
13 CLIMATE ACTION

## Scope 1&2

SCIENCE BASED TARGETS

**42% less $CO_2$** in our own operations by 2029 & **Net Zero** by 2050

- **Reduced emissions by 11.5%** or around 410,000 tons compared to 2020
- Reduction mostly due to **increase of renewable energy share to approx. 25%** of total purchased energy
- Additionally, offsetting of 300,000 metric tons of greenhouse gas emissions[1]



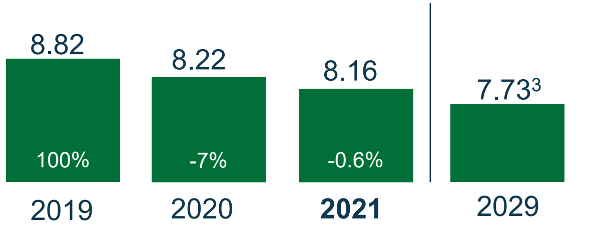

[2]equivalent to 42% reduction

## Scope 3

SCIENCE BASED TARGETS

**12.3% less $CO_2$** in the value chain by 2029

- Reduced emissions by 0.6% or 50,000 tons vs. prior year
- Collaboration with CDP Supply Chain Initiative, TfS and WBCSD to standardize calculation for product-related carbon footprint




[3]equivalent to 12.3% reduction

## On the Field

**30% less greenhouse gas emissions** by 2030[6]

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

[1]Find our offsetting approach here; find more info here: https://www.bayer.com/en/sustainability/climate-protection; [4]TfS: Together for Sustainability; [5]WBCSD: World Business Council for Sustainable Development
[6]30% less in our farming customers' in-field GHG emissions per kg of crop yield in the most emitting cropping systems in the regions we serve; baseline calculated based on 2020 data

# Support 100m Smallholder Farmers

## Accessing smallholders improves lives and creates business opportunities

### Challenges

~550 M Smallholder Farmers worldwide

Lack of access to new technologies

Limited access to knowledge

Limited productivity of their crops

Climate change

Feed **>50%** of population in developing countries

Exposed to the markets; price volatility and fluctuations

Lack of access to markets and capital

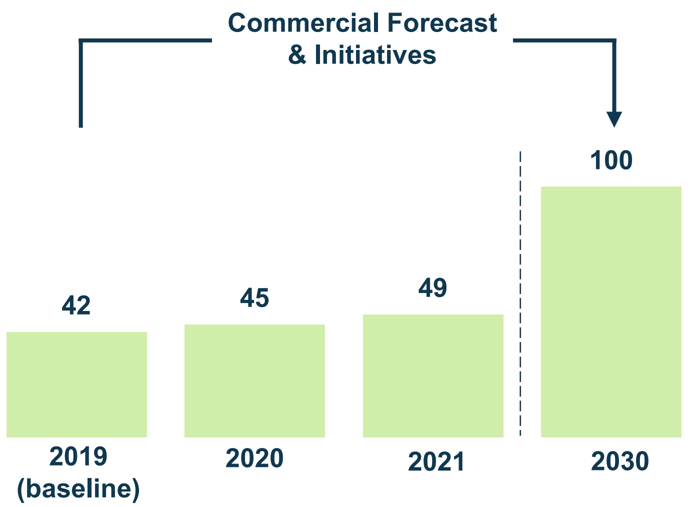
Hunger & malnutrition

Additional challenges caused by Covid-19

### How to get there

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

## Progress




**Progress in 2021:**

// Strong business expansion in regions

// Key initiatives continued (e.g. partnerships, rapid Better-Life-Farming expansion, piloting of new digital ventures)

Numbers reflect people (millions)

# Access for 100m Women to Family Planning

## Catalyst for important societal and economic impact

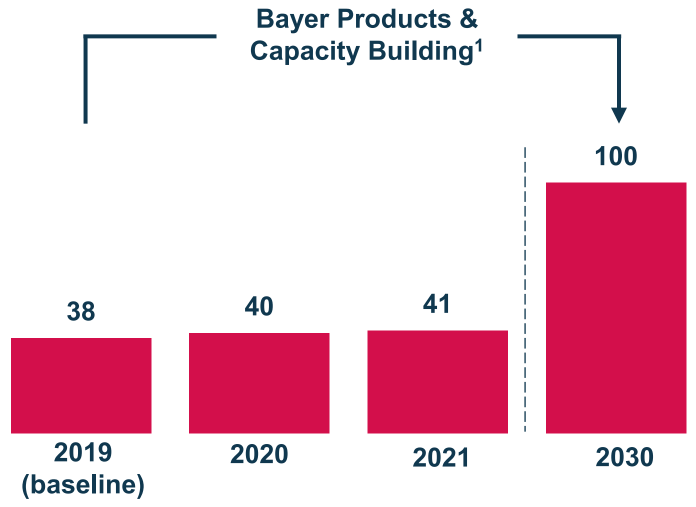
### Challenges

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

### How to get there

- **Additional supply capacity**, most importantly for long-acting contraceptives: >400m€ investment into Costa Rica and Finland facilities
- **Capacity building**[1], e.g. cooperation with urban health project 'The Challenge Initiative' (TCI)
- Route to women in rural areas and humanitarian settings in **cooperation with partners** (e.g. UNFPA)
- Long-term: **Innovation**, e.g. non-hormonal contraceptive technologies

### Progress




**Progress in 2021:**

// Two partnerships integrated: TCI & UNFPA Egypt

// Major funding cut by UK government to UNFPA's supplies partnership

Numbers reflect women using modern contraception (millions)

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

# Access to Self-Care for 100m People in Underserved Communities

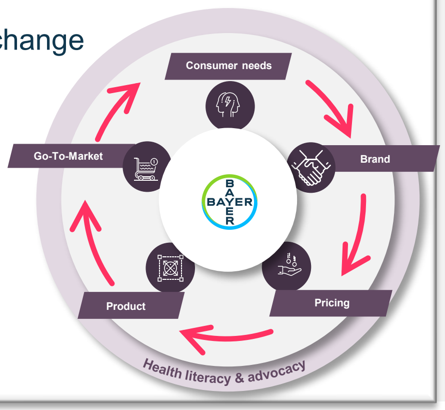
## Everyday health as the first and last line of care

### Challenges

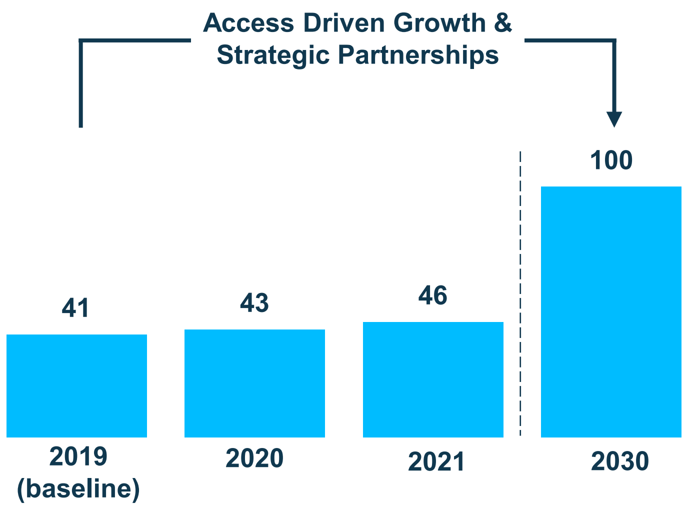
- **Ageing population,** a rise in **lifestyle related diseases** and a constantly increasing level of healthcare costs
- Expanding access to self-care solutions helps with **early intervention and lowers healthcare costs** for society
- Consumers are **4-6 times more likely** to purchase, protect, champion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

### How to get there

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




### Progress




**Progress in 2021:**

// Growth driven by partnership initiative

// 13 million additional people were already reached in India[1]

Numbers reflect people (millions)

[1] We successfully integrated the consumer business in India, which was previously managed by a third party. India is reported separately and will be included in 2024.

# Strong Governance Measures Accompany our Strategy

## Our CEO is Chief Sustainability Officer

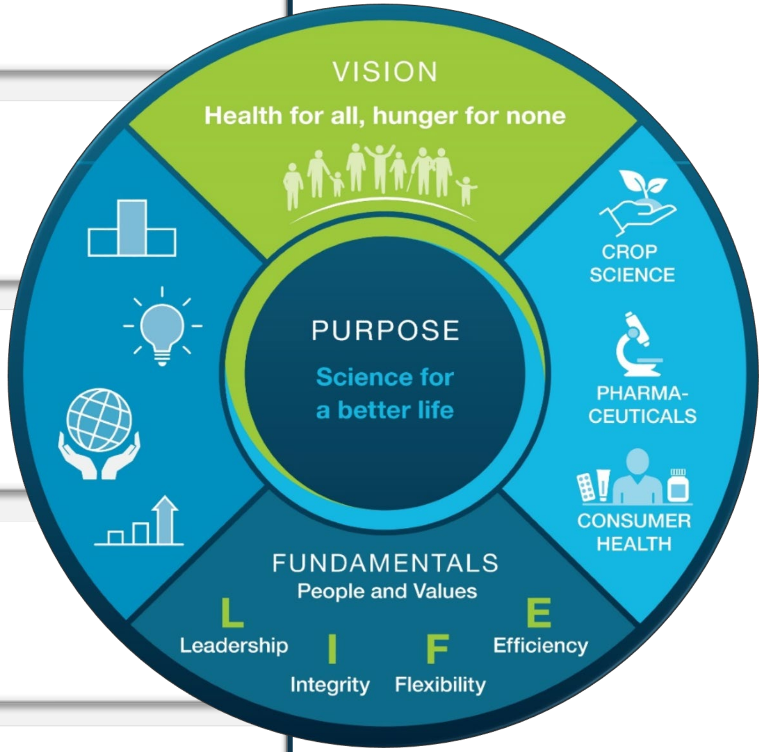
**Established Governance Bodies**
- Supervisory Board ESG Committee advises & monitors management, systematically assesses contribution to SDGs
- External Sustainability Council[1] as institutionally anchored independent expert advisory

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

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

**Group-Wide Regulations as Mandatory Framework**
- BASE[1] principles guide our interactions with all stakeholders

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




[1] https://www.bayer.com/en/sustainability/sustainability-council
[2] https://www.bayer.com/en/sustainability/transparency-builds-trust
[3] https://www.bayer.com/en/sustainability/position-biodiversity
[4] https://www.bayer.com/en/sustainability/base

# Investment Thesis

## Key Takeaways

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

Science for a Better Life

# A Global Leader in Health & Nutrition

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## Investment Case

August 2022 / Bayer AG