



# *Software Development in a large Life Science Company*



**Dr. Bernd Lohmann**

SVP & CTO

Bayer AG  
IT Infrastructure & Operations

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**Bayer is a life science company and a global leader in health care and nutrition.** Our innovative products support efforts to overcome the major challenges presented by a growing and aging global population.

*Health for all, Hunger for none*





# Bayer at a glance

## Group key data



*Health for all,  
Hunger for none*

**3** divisions

- // Crop Science
- // Pharmaceuticals
- // Consumer Health

Represented by  
**354 consolidated  
companies** in

**83**  
countries

**99.7k**  
employees worldwide  
in 2023\*

**€5.4bn**

investment in R&D  
in 2023

**€47.6bn**

sales  
in FY2023



Tackling two of the most  
pressing challenges of our time:  
**health & nutrition**



Diverse, international focus  
with cross-border and cross-  
division **people development**

\* As of December 31, 2023; employees in full-time equivalents



# Bayer is a life science company with three divisions



**Crop Science**



**Pharmaceuticals**



**Consumer Health**

## /// **Crop Science**

Innovative cropping systems, seed and trait technologies, sustainable crop protection, new fertilizers, carbon farming, data and digital solutions

## /// **Pharmaceuticals**

Prescription products for cardiology, women's healthcare, oncology, hematology, ophthalmology, radiology and other areas

## /// **Consumer Health**

Non-prescription medicine in the categories of nutritional supplements, allergy, cough and cold, dermatology, pain and cardiovascular risk prevention, and digestive health

## /// **Enabling Functions**

Support the operational business

## **Enabling Functions**





# Advancing digital at Bayer for better solutions in health and nutrition

We leverage data and technology to develop better solutions for a growing and aging population

## Digital farming

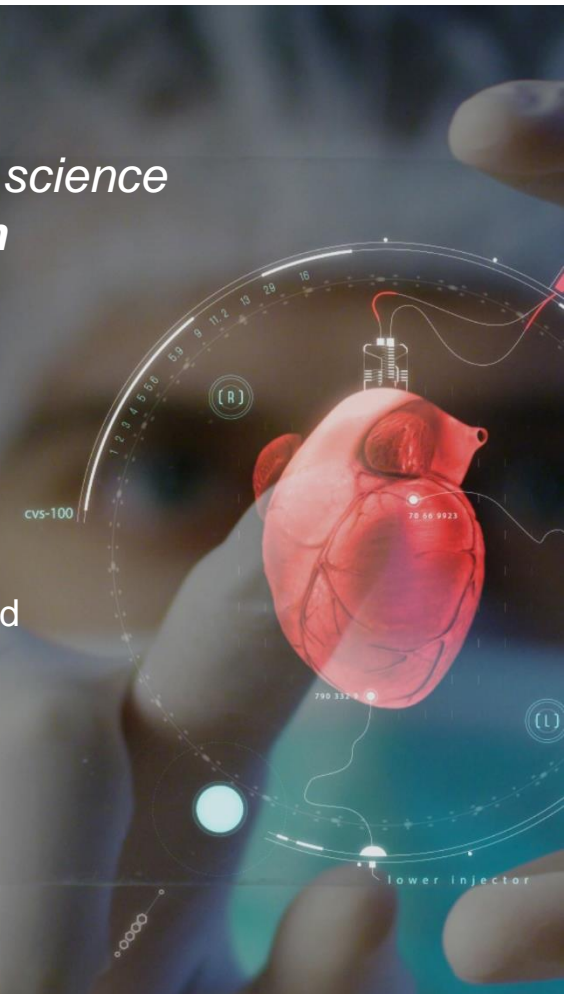
*Enabling data-driven precision and decision making*

- // Powering tools, solutions and systems to create value for farmers and generate positive outcomes for nature
- // Platforms like Climate FieldView™ bring a new level of precision to every on-farm decision
- // Driving transparency by connecting farmers, agribusiness and consumers with data and insights
- // Unprecedented speed and precision in trait design, breeding new crops, and developing the next generation of crop protection

## Digital health

*We are embracing data and science to transform patient health*

- // Earlier diagnosis of diseases
- // Precision health: medicine, treatments and self-care solutions tailored to individual needs
- // Faster and more efficient development of new medicines and self-care products and services
- // Better access and information, especially for lower-income communities





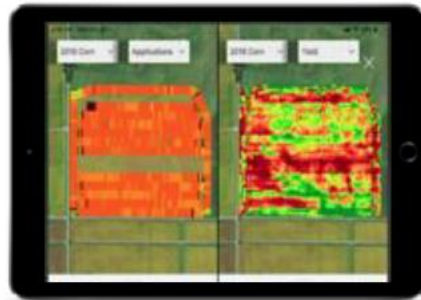
# Farmers choose Climate FieldView™ for easy insights & analysis

*Centralized field  
data management*



***In-cab visualization***

*Visualization & reporting that  
create actionable insights*



***Performance  
Visualization***



***Performance  
Evaluation***

*Data-driven seed, crop protection & fertility  
subfield insights*



***Field health images***



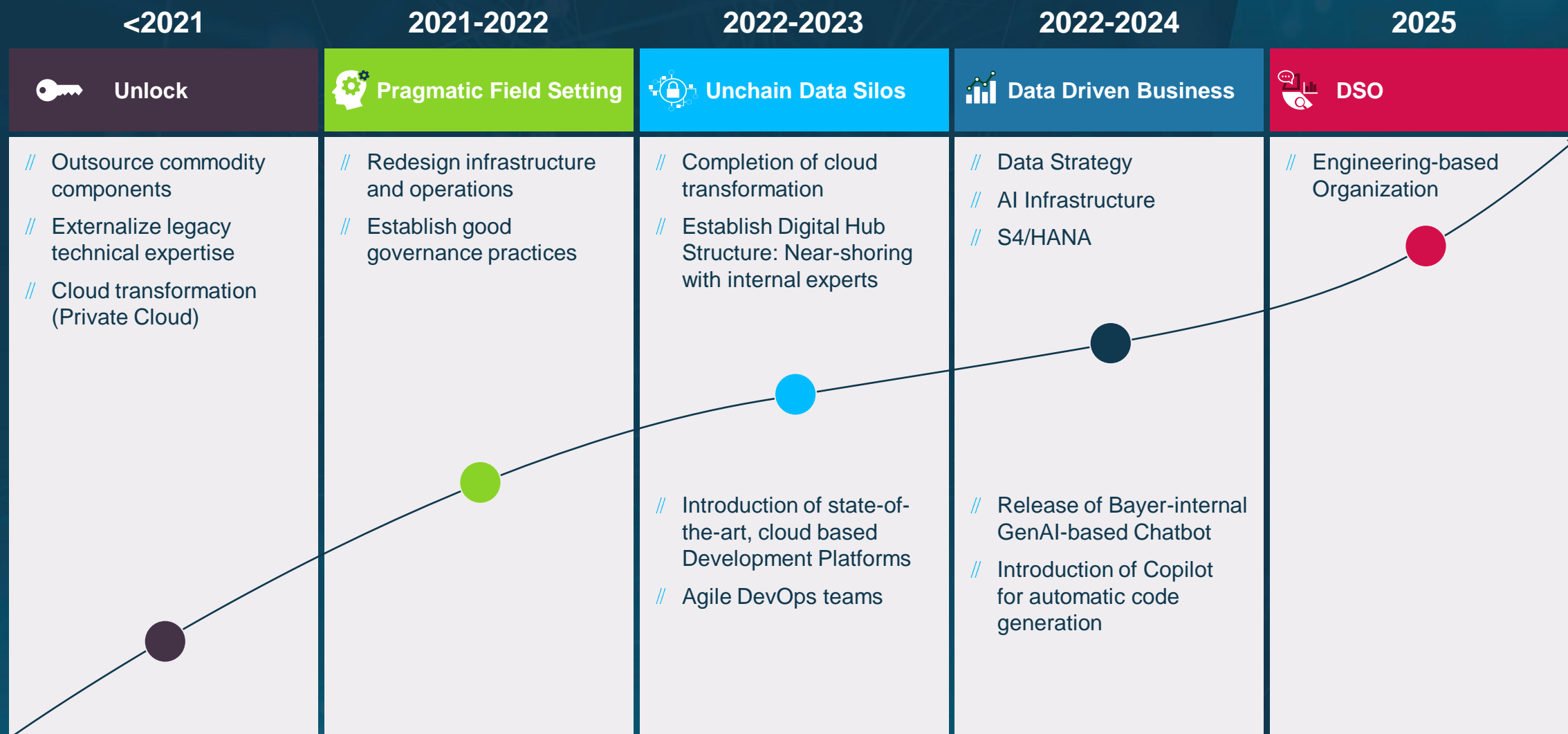
***Prescription  
Delivery***







# Selected Steps of Bayer's Digital Transformation Journey



# Cost-efficient Software Development requires provisioning of different Development and Operations Models and Platforms

## Classical Development or Enhancement of Standard Software

Legacy Applications  
Commodity Tools  
Waterfall  
Cost-Efficiency  
Standard Features

vs.

## Individual Development w/ Smart DevOps Platform

Agile  
Differentiating / Disruptive  
Time-to-Market  
Customer-Centric  
Innovation







# GenAI helps us to boost productivity but broad use requires a high-performance Infrastructure

- // Promising GenAI features are being integrated into many systems and applications in these days including AI-based code generators (e.g. Copilot)
- // Developers must be well-trained to make efficient and effective use of costly GenAI features for code generation
- // Comprehensive guardrails for the use of sensitive data such as research results, internal information etc. in large language models are of high importance
- // Adoption of AI places substantial extra demand on computing resources and the supporting infrastructure



**Significant risk on infrastructure performance, security and cost!**





Thank  
you



**Dr. Bernd Lohmann**

SVP & CTO, Head of IT Infrastructure & Operations

Email: [bernd.lohmann@bayer.com](mailto:bernd.lohmann@bayer.com)

[LinkedIn](#)





# Forward-Looking Statements

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