Strategic Subgroups of the Bayer Group

Holding

Holding Board

Bayer AG

Corporate Center

Subgroups

Bayer Healthcare

Bayer CropScience

Bayer MaterialScience

Service Companies

Bayer Business Services (BBS)

Bayer Technology Services (BTS)

Bayer Industry Services (BIS)
Business Groups of Bayer CropScience

- **Crop Protection**
  - Insecticides
  - Fungicides
  - Herbicides
  - Seed Treatment

- **Environmental Science**
  - Professional
  - Consumer

- **BioScience**
  - Nunhems
  - Crop Improvement
Research and Development
A Global Facility and Competence Network

- An extensive network of R&D facilities spanning the entire globe
- A strong R&D team with 3,700 scientific staff worldwide
- 9 key R&D sites on 3 continents supplemented by numerous field testing stations
Global Headquarters at Monheim

**Size of site:** about 60 hectares; surrounding Bayer-area: 200 hectares arable farm land

**Employees:** approx. 1,800

**Building:** 10 building-complexes with institutes and administration-buildings

**Main Focus:** Research, Development, Marketing, Administration
Phases of Product Development

Key decisions are the pre-project and project decision, since they are commitments to significant expenditures. The shown years represent the shortest reasonable time.

- Discovery decision points 1-5:
  - <4 years
- Pre-project decision:
  - 1 year
- Project decision:
  - 3.5 years
- Submission:
  - 1.5 years
- Production investment:
  - 3 years
- Launch:
  - >10 years

Early Phase

Project Phase

Business Phase
The Role of Research in A.I. Innovation

Identification of lead structures
- High throughput chemistry
- Compound acquisition
- High throughput screening platforms
- Cross-indication approach

Optimization of lead structures to development candidates
- Targeted chemistry approaches
- In depth biological & biochemical characterisation
- Profiling with regard to economics, safety and registerability in cross functional teams
- Steered by Indication Committees

A fully integrated innovation process delivering 1-2 development projects per year
Responsibilities of Development

The global responsibility of Development starts with the field testing of new Active Ingredients having shown promising activity in the glasshouse screens through the registration of new AI’s.

It continues with the support of the product life cycle management (regulatory defense, label extension, innovative uses, formulations and applications).
Product Development: Activities, Time and Cost

- **CHEMISTRY**
  - Active ingredient
  - Formulation

- **BIOLOGY**
  - Research
  - Development

- **TOXICOLOGY**
  - Mammals
  - Ecosystems

- **ENVIRONMENT**
  - Metabolism
  - Residues

**Discovery: Phase 0-2**

- **Realization: Phase 3**

**Official Evaluation**

- Production
- Official evaluation
- Optimisation application

**Year**

0 1 2 3 4 5 6 7 8 9

**Submission**

- 50 mio €
- 50 mio €
- 50 mio €
- 150 mio €

**Activities**

- Synthesis
- Process development
- Pilot plant production
- Formulation / Packaging
- Laboratory / greenhouse
- Pilot trials
- Field trials for development (AD) and registration (ROCS)
- Acute, sub-chronic, chronic toxicity
- Mutagenicity, carcinogenicity, teratogenicity, reproduction
- Algae, daphnia, fish, birds, microorganisms, bees, non-target organisms
- Soil, water, plants, animals, air
- Plants, animals, soil, water
The Role of Project Management in A.I. Innovation

Optimize value creation by driving projects successfully to market and to peak sales in the quickest time possible at optimized cost. Improve the quality and transparency of decision making in the product life-cycle.

- Reduce time to market and time to peak sales
- Ensure resources and budgets are available in due time for success
- To have a marketing strategy that maximizes project potential and project value

- Fulfill customer and market demands
- Align project portfolio with market demands and strategic goals
- Balance resource-allocation and risk-value profile of project pipeline

Are we doing the projects right? Are we doing the right projects?
Wir danken Ihnen für Ihre Aufmerksamkeit und wünschen Ihnen eine erfolgreiche Tagung