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**Open Innovation & IP:
Views from the Pharmaceutical
Innovative Industry**

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Agenda

- 1/ An Evolving Economic Environment
- 2/ Challenges & Opportunities for Pharma
- 3/ Some Initiatives at Boehringer Ingelheim
- 4/ Specific IP Aspect of Open Innovation

01

An Evolving Economic Environment for the Pharma Business

The open innovation business model is a new trend in the knowledge based economy which affects the pharma business

- Tangible assets economy was the model until the '90ies
- Knowledge based economy followed
- Open innovation model is a new trend
 - Crowd Sourcing
 - Crowd Funding

Pharma / Health Care is characterized by:

- Discrete technology and core competences
- Acknowledges also importance of intangibles, e.g. IP
- Highly regulated market, strong interplay between regulatory and patent exclusivities
- Long development times
- Unpredictability, high costs, limited profitability
- Specific IP rules related to ethical aspects, market access for medicine, SPC/PTE, Bolar exemption
- No market for patent trolls

02 Challenges & Opportunities for Pharma

Open innovation trend brings as well business as IP challenges and opportunities for the Pharmaceutical Industry

Challenges for Pharma:

- Profitability needed for further investments in R&D, costs have increased due to global economic situation with a higher market entry bar, tighter regulations, WW-competition and threats, fragmentation of market, health care systems under financial pressure
- Strong RoI regime is pre-requisite for success, mainly achieved via exclusivity on the market
- Increased external complexity, also IP laws
- Adapted IP strategies due to early publication and openness
- Reducing internal complexity and administration

Opportunities for Pharma:

- Enhanced access to knowledge and science, since space limitation disappears
- Enhanced diversity of talents, from different cultures and different origins
- Enhanced entrepreneurial culture
- Generation of new IP, from which all actors may profit

03

Some Initiatives at Boehringer Ingelheim

Open innovation initiatives based on bi- or multi-lateral agreements, public-private partnerships, crowdsourcing, venture capital

11 billion Euros invested in the next 5 years in R&D, amongst which 1.5 billion for collaborations

- Leverage emerging science and the company's core expertise and capabilities for the discovery of new medicines in its core therapeutic areas
- Emerging science access via more extensive, faster and more flexible collaborations with academia in biomedical research, to expand opportunities in new indications and new technologies

- Bilateral collaboration agreements on target and biomarkers discovery for the Inflammatory Bowel Disease, with the Icahn School of Medicine at Mount Sinai, Massachusetts General Hospital, Scripps Research Institute and Weill Cornell Medicine (US)
- Exclusive agreements with Hanmi Pharmaceuticals (Korea) on EGFR-targeted therapy for lung cancer and with Circuit Therapeutics (US) on the technique of optogenetics for psychiatric disorders and cardiometabolic diseases

- Joining of public-private partnerships, such as the Structural Genomics Consortium (WW), the Innovative Medicines Initiative (EU) and the G-Protein Coupled Receptor Consortium (WW)
- Crowdsourcing initiatives (WW) with organisations such as InnoCentive (web-based) and the BioMed X Innovation Center (academia)

- Investments in the Institute for Molecular Pathology in Vienna to support basic research, and a global network of scientists
- Boehringer Ingelheim Venture Fund, founded in 2010 with an initial financial commitment of 100 million euro, is currently investing in a portfolio of 13 different start-up companies

04 Specific IP Aspect of Open Innovation

Need for more extensive fast and flexible
agreements

Prerequisite for success in collaboration:

- Understand and align on the business
- Adapt the agreement to the business case
- Importance of communication skills, intra- and inter-cultural
- Sound understanding of the use of all IP in the business case and its limits

New IP regimes?

- The open innovation business model can benefit from the existing IP regimes, provided the IP tools are used properly
- Reducing overall complexity may be achieved by harmonizing IP laws around the world, but it remains a challenge to not concentrate the risks at the same time

Thank you!