

INTELLECTUAL PROPERTY: ENABLING TECHNOLOGY TRANSFER IN THE PHARMACEUTICAL INDUSTRY

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AGREEMENT ON TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS (TRIPS AGREEMENT)

TRIPS Article 7: Objectives

*The protection and enforcement of intellectual property rights should contribute to the **promotion** of technological innovation and to the transfer and dissemination of technology, to the **mutual advantage** of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a **balance of rights and obligations**.*

TRIPS Article 66.2: Least Developed Country Members

*Developed country Members shall **provide incentives to enterprises and institutions** in their territories for the purpose of promoting and encouraging technology transfer to **least-developed country Members** in order to enable them to create a sound and viable technological base.*



TRIPS AGREEMENT

- Articles 7 and 66.2 promote the practice of technology transfer.
 - Creation of a favorable environment for **investing and transferring technology**.
 - Common **baseline understanding** of IP rights.
 - An IP regime provides trading partners with protections and certainties to **ensure fair competition**.



DEFINITION OF TECHNOLOGY TRANSFER

- There is **no universally recognized definition** – leaving a lot to legal and policy interpretation.
- Although, generally speaking, technology transfer is the process by which technology or knowledge developed in one place or for one purpose is applied and used in another.



WHAT CAN BE TRANSFERRED?

- **Physical objects:** equipment for use in research laboratories and manufacturing sites.
- **Knowledge-sharing:** capability building and training programs.
- **Techniques:** transfer of 'know-how' and other techniques related to information and technology.
- **Organizational skills:** organizational and procedural knowledge required to operate technology for a chemical or biological compound.



HOW INFORMATION/TECHNOLOGY MOVES FROM ONE SOURCE TO ANOTHER

- Imports/exports
- Scientific collaborations
- Knowledge-sharing ventures
- Capacity building / training programs
- Licensing agreements
- Joint ventures
- Mobility of human resources
- Foreign Direct Investment



THE IMPORTANCE OF IP IN TRANSFERRING TECHNOLOGY

- Effective IP protection and enforcement provides **transparency, predictability and reassurance** to companies considering investing in a country.
- Allows for the creation of strong alliances and collaborations which can **strengthen local R&D**.
- Supportive IP environments **ensures long-term foreign investor commitment** to the local market and incentivizes **foreign direct investment (FDI)**.
- A strong IP system helps **justify investments** in the inherently risky, costly, complex and lengthy R&D and regulatory process in the pharmaceutical sector.
- Companies are generally **less inclined** to transfer advanced technology or invest in facilities in countries where they are likely to have their products copied or technology stolen.



IP creates a framework for rapid distribution of ideas and efficient technology transfer

CONDITIONS FOR PHARMACEUTICAL TECHNOLOGY TRANSFER

Conditions for technology transfer include, but are not limited to:

- **Effective Intellectual Property and Enforcement Regime**
- **Supportive Government:** governments must be ready to invest in the support of their technology development goals.
- **Political and Economic Stability:** predictability and sustainability encourages partnerships.
- **Regulatory Standards:** ability to meet international regulatory standards on quality, safety, and efficacy.
- **Educated Workforce:** it is important for workers to have the necessary skills and competencies to develop, apply, and utilize the new technology.
- **Market Size:** normally, the larger the country the greater the investment appeal and market potential.



LEAST DEVELOPED COUNTRIES

- Countries are not equally prepared to integrate complex technology into their production.
- Lesser developed countries may find it difficult to provide the enabling conditions for technology transfer.
- The most basic form of technology transfer = capacity building and knowledge/skills training.
- Therefore, the international community should be encouraged to assist in these types of programs.

EXAMPLES OF TECHNOLOGY TRANSFER



FOSTERING INNOVATIVE RESEARCH IN S. AFRICA

- Pfizer and South Africa's North-West University recently signed a Memorandum of Understanding for potential **collaboration** on preclinical research and development.
- The partnership will include the potential use of Pfizer's genetically modified animal models, for the evaluation of the safety and efficacy profile of therapeutic molecules in oncology, inflammation, immunology, central nervous system and cardiovascular system disorders.
- This partnership will increase Pfizer's ability to access innovation and new molecules globally, while **positively impacting** South Africa's public R&D capabilities and overall healthcare innovation competencies.
- The program at NWU was initiated and is largely financed by the South African government's Department of Science and Technology.



*“We salute the S. African government for fostering an environment that encourages and rewards investments in innovative research” –
Mikael Dolsten, President of Worldwide R&D at Pfizer*

INTERNATIONAL CENTERS OF EXCELLENCE (ICE) LATIN AMERICA

- This project aims to develop and deploy state-of-the-art science and talent development in Latin America to validate molecular diagnostics applicable to oncology and other targeted therapies, drug discovery and development.
- Collaboration with CORFO (Chile Economic Development Agency), clinical research centers in Chile and Brazil and multinational technology partners.
- Involves deployment of next generation genetic sequencing (NGS) and blood-based (non-invasive) diagnostic tools for oncology screening.



WIPO RE:SEARCH

SHARING INNOVATION IN THE FIGHT AGAINST NEGLECTED TROPICAL DISEASES

- WIPO Re:search was established in 2011 through the efforts of WIPO, BioVentures for Global Health, and global pharmaceutical companies - including Pfizer.
- Mission: Promote the **transfer of knowledge** on neglected tropical diseases through the facilitation of non-traditional **partnerships** and by encouraging organizations to **publicly share** proprietary information.
- Allows expertise to be leveraged to develop new products and technologies, improves research productivity, makes efficient use of research investments, and allows monetization of technologies and IP assets that would otherwise go unused in an organization's own business.
- The structure of the consortium demonstrates that solutions to societal issues can be solved through partnerships, **without undermining intellectual property**.



Statistics

of Members: 86

of Agreements: 66

PFIZER'S GLOBAL HEALTH FELLOWS

- The Global Health Fellows Program (GHF) is an international **corporate volunteer program** that places Pfizer colleagues and teams in short term assignments with leading international development organizations in key emerging markets
- During assignments, Fellows **transfer their professional medical and business expertise** in ways that promote access, quality and efficiency of health services for people in greatest need.
- Since 2003, over **300 Pfizer colleagues** from offices around the world have participated in the program, working in **45 countries**.



CONCLUDING REMARKS

- Although an effective IP regime is one of many factors that go into a decision to transfer technology, it is often a **prerequisite** for any out-licensing or joint venture decision.
- IP provides a framework for technology transfer that can help move emerging economies to the **next level of economic development**.
- As countries begin to develop their own IP assets, an effective IP framework will be necessary to **protect local innovation**.
- Building local capacity and transferring sophisticated technology, with the assurance that IP is protected, will help **curtail 'brain drain'** - qualified and technically advanced labor force will be motivated to **remain in their home country**



THANK YOU



At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives.

We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products.

Our global portfolio includes medicines and vaccines as well as many of the world's best-known consumer health care products.

Every day, Pfizer colleagues work across developed and emerging markets to advance wellness, prevention, treatments and cures that challenge the most feared diseases of our time.

Consistent with our responsibility as one of the world's premier innovative biopharmaceutical companies, we collaborate with health care providers, governments and local communities to support and expand access to reliable, affordable health care around the world.

For more than 150 years, Pfizer has worked to make a difference for all who rely on us.

