



WIPO Project on the Establishment of Technology and Innovation Support Centers (TISCs)

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Gaborone – March 10, 2016

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I. Historical Background: The “TISC Project” in the 18th Century

- From the middle of the 18th Century (1760) : The Agricultural/Industrial Revolution broke out in England; this country began to export increasing quantities of wheat and barley - 200,000 tons per year - up to earn the adjective "breadbasket of the Europe"
- Such excess from a sparsely populated country at that time aroused the astonishment of all Europe since England in 1750 numbered only 4% of the European population (against 7% a century later)
- Therefore, France first and then other European countries thereafter strived to provide to their populations non ONLY THEORETICAL but PRACTICAL answers, putting in place mechanisms that had to promote and accelerate the transfer of agro-industrial revolution in their respective territories

-TISC Mechanisms in the 18th Century

- Due to the fact that England had become " Mecca " of agronomists, **huge information campaigns and PRACTICAL training events** were often organized all across Europe by central authorities followed by publications of articles, magazines and newspapers in growing numbers all focused on "modern" agriculture
- **Creation of various forms of associations** throughout Europe (initiated or not by central governments) **which all focused on disseminating and encouraging the NATIONAL use of new farming techniques, improved seeds, new and more productive races of domestic animals as well as more sophisticated tools**

-TISC Mechanisms in the 18th Century

- **Creation**, throughout European, of **INNOVATION CENTERS** in the agricultural field which gradually imposed the extensive use of new techniques on a major part of European farmers
- Creation of a **strong communications network** which dealt with information exchanges between the various European countries
- Proliferation of **reverse engineering** (the new techniques were bought in England and shipped to Europe where they were exhibited and studied; the same thing was done in Japan)
- Reproduction of British drawings and designs
- **Technology Transfer** (European countries hired technicians from other European countries to come and teach and train in practice their populations)

-Consequences

- The rate of the dissemination of technical progress was measured in Europe **in decades**, not **in centuries**
- The most striking example is in the field of transportation, very important for the rapid flow of agricultural products : Thus, when the first rail was introduced in England in 1825 after the invention of the steam engine by James Watt in 1783, it took only **five years** for the United States to replicate locally the technique in 1830, **seven years** for France (1832), **ten years** for Belgium (1835), **eleven years** for Germany and Canada (1836) and **twelve years** for Russia (1837) and, between 1838 and 1848, thirteen countries were added to this list including Austria and Italy (as a matter of public interest, the development of means of transportation proceeded from a very strong political will all over Europe, USA and Japan)

II. The TISC Project Today: Objective

WIPO Development Agenda adopted in September 2007, please see Recommendation 8, the basis of the TISC Project

The objective is to *reduce the technical and scientific gap between Developing Countries and Least-Developed Countries and industrialized countries in WIPO*

Therefore, WIPO establishes TISCs in its member states in order to reach the above-mentioned goal

III. TISC Resources: A. 90 Million Technologies

- *Described in patent documents and generally classified as follows :*
 - **SECTION A — HUMAN NECESSITIES** (agriculture, foodstuffs, pharmaceuticals, cosmetics, tobacco, etc.)
 - **SECTION B — PERFORMING OPERATIONS; TRANSPORTING** (vehicles, boats, airplanes, roads, houses, machine tools, grinding, polishing, hand tools, hand cutting tools, etc.)
 - **SECTION C — CHEMISTRY; METALLURGY** (treatment of water, waste water, glass, mineral or slag wool, cements, concrete, artificial stone, ceramics, refractories, fertilizers, petroleum, gas, sugar industries, etc.)
 - **SECTION D — TEXTILES; PAPER** (natural or artificial threads, spinning, weaving, ropes, paper-making, treatment of textile, lace-making, knitting, sewing, etc.)
 - **SECTION E — FIXED CONSTRUCTIONS** (building, construction of roads, railways or bridges, hydraulic engineering, foundations, soil-shifting, water supply, locks, keys, window or door, etc.)
 - **SECTION F — MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING**
 - **SECTION G — PHYSICS**
 - **SECTION H — ELECTRICITY**

B. 40 000 Scientific Publications

■ HINARI (WHO)



■ AGORA (FAO)



■ OARE (UNEP)



■ ARDI (WIPO)



C. WIPO Publications

- Upon request, a TISC network can receive free-of-charge any WIPO publication

D. Social Forum: powered by WIPO

- Communication tool to facilitate exchange between TISCs and participants
- Launched in November 2012 (currently more than 1200 participants from more than 100 countries; 45% of participants are Africans)

- Main features:
 - ▶ discussion forums
 - ▶ e-groups
 - ▶ webinars
 - ▶ e-tutorial
 - ▶ helpdesk and more

IV. Role of the TISC

- *A Digital Library.* The local TISC will manage an on-line collection of over 90 million technologies and 40 000 scientific publications (more than 15 000 papers and 22 000 e-books), and distribute them to **all local users** (Technical Schools, SMEs, inventors, universities, research centers, etc.)
- *A Technical and Scientific Support Provider.* By providing the above-mentioned information *to local stakeholders*, the local TISC will play an important role for the establishment of a sound and viable technological base from which all sciences could be effectively “mastered” (primarily those mentioned in the national development objectives)
- *A Training Center.* The local TISC will provide training to individuals and groups *on searching technologies and scientific publications*

-TISC as a Digital Library

Physical Library



Digital Library



-TISC Possible Locations

- Ministries (appropriate)
- Industrial/Intellectual Property Offices
- Scientific Information Centers
- Libraries
- Research Centers
- Science and Technology Parks
- Chambers of commerce
- Universities/Institutions of Higher Education
- Specialized Training Schools or Colleges
- Technology, Innovation and/or Business Incubators
- Inventors' associations, etc.

-TISC Networks

■ *National Network*

- Central Focal Point: Ministry of Trade and Industry (just as an example)

- Peripheral Focal Points: Institutions coordinated by the Ministry

■ *Regional Network*

- Designated National Institutions of the region coordinated by WIPO

■ *WIPO Network*

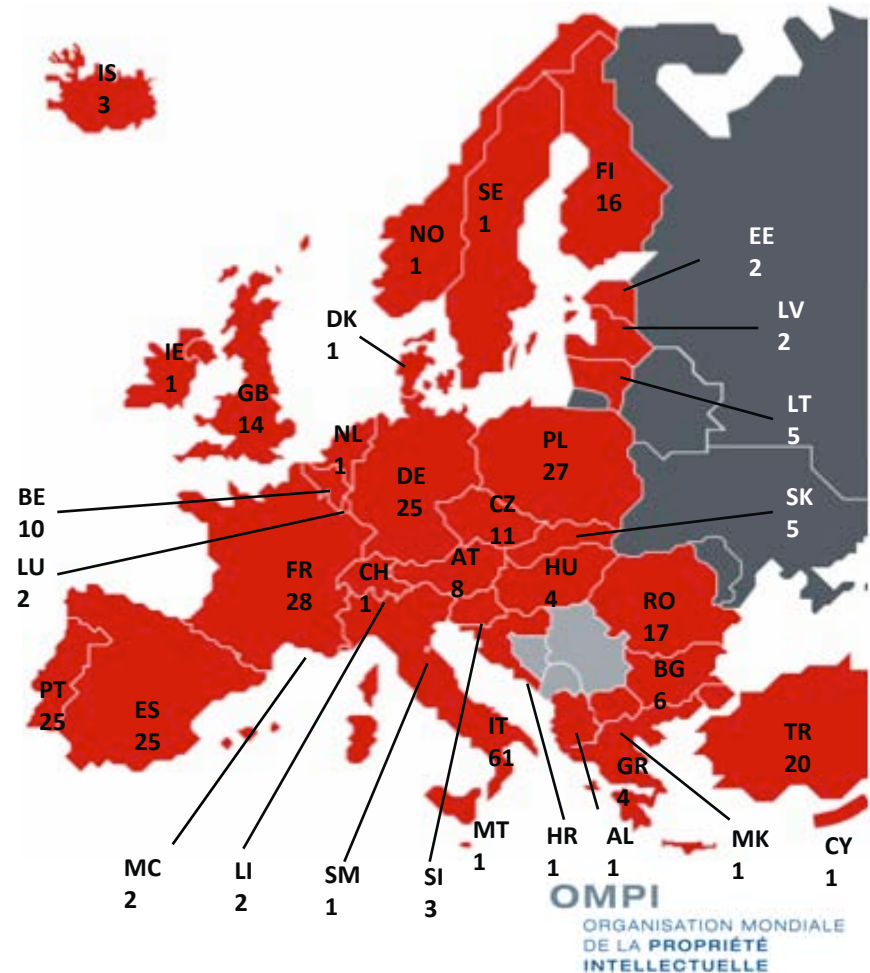
- WIPO and other organizations in the world

V. WIPO Support

- While a member state is requested to ONLY provide *staff and facilities*, WIPO's support will be the following:
 - Facilitating access to databases
 - Providing training of trainers and of local users
 - Supporting awareness-raising activities
 - Organizing sub-regional and regional conferences as experience-sharing platforms
 - Providing Distance Learning Courses (WIPO Academy)
 - Providing IP materials
 - Providing other resources (mentioned above)

VI. TISCs in Europe : Location

- 340 centers (including patent information units in national offices) in 37 member states of the European Patent Office (EPO)



VII. TISCs in the Sub-Saharan Africa

- **Mozambique** (July 2011): National focal point: *Ministério da Ciência e Tecnologia* (Ministry of Science and Technology)
- **Madagascar** (May 2012): National focal point: Ministry of Higher Education and Scientific Research
- **Togo** (August 2012): National focal point: Ministry of Industry, of the Free Zone and of the Technological Innovation
- **Niger** (November 2012): National focal point: Ministry of Mining and Industrial Development
- **Nigeria** (December 2012): National focal point: Ministry of Trade & Investment
- **Cameroon** (January 2013): National Focal Point: Ministry of Scientific Research and Innovation
- **Rwanda** (March 2013): National Focal Point: Ministry of Trade and Investment
- TISCs were also launched in 2013 in **Uganda, Zambia, Sao Tomé and Tanzania**

-TISCs in the Sub-Saharan Africa

- **Mali and Guinea** (October 2015)...

VIII. Conclusion

- Through the TISC Project, technical and scientific gaps between industrialized countries and DCs as well as LDCs *have already been considerably reduced in theory* since the latter countries, in particular Botswana, *have gained free access to 90 million technologies in all fields, and to 40 000 scientific publications (R4L programs among which ARDI for a low cost access)*
- In this regard, TISC places DCs and LDCs, particularly Botswana, on more equal footing (at least as regards access to technical and scientific information) with industrialized and emerging countries
- Through the TISC Project, DCs and LDCs, in particular Botswana, *will not need to reinvent the wheel* in that they will **ONLY** use and adapt existing technical solutions **to solve local problems**; this will enable them, little by little, to **concretely** reduce gaps between them and industrialized countries and to ensure **their effective takeoff in all fields** (technical, scientific, economic, social, etc.)

...their effective takeoff...



...and their landing on their national objective regardless of turbulence zones crossed



Thank you for your attention!

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