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Effective Use of the Resources of the WIPO Project on the Establishment of Technology and Innovation Support Centers (TISCs): A Key to a Further Technical and Scientific Development

Elangi Botoy Ituku

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I. The TISC Project: Objective

The objective is to *increase the level of technical and scientific knowledge* in Developing and Least-Developed Country members of WIPO in order to enable them to reduce the *existing gaps in the fields* between them and *industrialized* countries

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

Example of Technical and Scientific Gaps in 1990

- USA, Europe and Japan (20% of the world population)
- 90% of researchers and engineers
- 97% of computers
- 220 billion U$ per year for R&D
- 90% of patent applications

Source: Global Outlook 2000, an economic, social and environmental perspective, New York, Nations Unies, 1990, p. 139

- Third World (80% of the world population)
- 10% of researchers and engineers (Asia: 7%, Latin America: 1, 8%, Arab Countries: 0, 9%, Africa: 0,3%)
- 3% of computers
- 3 billion U$ per year for R&D
- 10% of patent applications

Example of Reduction of Gaps: 2006-2012

- 2012: Patent Applications: USA, Europe, Japan (*end of 100 year monopoly*)
- 2009: *1.43 million researchers* (USA), *1.36 million* (European Union)
- 330 billion U$ for R&D (USA, 2006)
- 2008: 70 000 *Engineers*/year (USA)
- 2012: China (Patent Applications: Number 1 in the world)
- 2009: *1.74 million de researchers* (China)
- 198 *billion* U$ in 2012 for R&D and 136 *billion* U$ in 2006 (China)
- 2008: 214 000 *Engineers*/year (China)

II. TISC Resources: A. 80 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)

HINARI
Research in Health

AGORA
Research in Agriculture

OARE
Research in the Environment

ARDI
ACCESS TO RESEARCH FOR DEVELOPMENT AND INNOVATION

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Cont'd: ARDI: Journal list (20 000 publications: cost about 1 million U$ per year; Ghana has free access)

C. Social Forum: eTISC powered by WIPO

- Communication tool to facilitate exchange between TISCs and participants
- Launched in November 2012 (currently more than 1120 participants from more than 80 countries; 45% of participants are Africans)

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

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D. e-Tutorial - Frontpage

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E. Distance Learning Courses

- **General Courses**
  - DL-001 Introduction on Intellectual Property
  - DL-101 General Course on Intellectual Property
  - PCT Distance Learning Course: Introduction to the Patent Cooperation Treaty
- **Advanced Courses**
  - DL-202 Electronic Commerce and Intellectual Property
  - DL-204 Biotechnology and Intellectual Property
  - DL-301 Patents
  - DL-302 Trademarks, Industrial Designs and Geographical Indications
  - DL-318 Patent Information Search
  - DL-320 Basics of Patent Drafting
  - DL-401 Managing Intellectual Property in the Book Publishing Industry
  - DL-450 Intellectual Property Management

F. WIPO Publications

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

III. Effective Use of TISC Resources

- TISC trainings and seminars should go beyond mere awareness-raising activities
- Awareness-raising activities should increase the *number of participants (attention: please do not to change participants in every activity)*
- Participants should practice *the acquired knowledge in their fields (e.g. SMEs should practice technology found in patent documents; practice acquired also through incubators and offset legislation/regulations)*
- The *practice of acquired knowledge in each field* would generate personal and institutional/behavioral change
- Personal and institutional change would *produce big impacts on the lives of people (for instance, technical, economic and social change)*
- *The above-mentioned is a key to a further development*

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IV. Role of the TISC

- *A Digital Library*: The local TISC will manage an on-line collection of over 80 million technologies and 40 000 scientific publications (more than 15 000 papers and 22 000 e-books), and distribute them to all local users (SMEs, inventors, universities, research centers, NGOs, etc.)
- *A Technical and Scientific Support*: 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 to provide training to individuals and groups *on searching technologies and scientific publications*

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TISC as a Digital Library

Physical Library

Digital Library

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(Cont'd)

- To enable Ghana to create a sound and a viable technological base, the local TISC should organize *periodically* training events in specific technical areas (health, agriculture, trade, traditional knowledge, etc.) involving several government ministries and civil society in order to promote innovation in those sectors

- In coordination with different ministries, the local TISC should organize, for instance in the IP Day (April 26), exhibitions and shows in order to facilitate networking (e.g. an agricultural show, an exhibition of local inventions, an exhibition of traditional medicine, an exhibition of SMEs, a Book Fair particularly on university theses on sciences, etc.) so as to bring together local producers and users of technology and scientific knowledge; this could also foster private initiatives throughout the country

- The TISC Ghana could also become a National Center for Technology Acquisition and Promotion (case of NOTAP in Nigeria)

(Cont'd)

- For the sake of awareness, the TISC Ghana could organize *periodically* programs on radio and television, if possible, in the national language, and can also arrange publication of articles in local newspapers (at least once per month) on the importance of the use of patent information to encourage innovation at the national level

- The TISC Ghana can also organize, in cooperation with the Ministry of Education, periodic projections of documentaries explaining inventions in technical schools in order to stimulate creativity

TISC as a Business-Support Center

- Assist local users in searching patent and NPL
- Monitor technologies and competitors (*economic intelligence*)
- Search for business partners and essential know-how
- Analyze market (size, share, trends, imports & exports, industry and product forecasts, price trends, etc.) and assess the competition
- Evaluate viability and patentability of ideas, and advice on other possibilities of protection (utility models, industrial designs, trademarks, and assist in drafting applications
- Provide general information on IP laws

TISC Possible Locations

- Ministries (appropriate)
- Industrial/Intellectual Property Offices
- Scientific Information Centers
- Librairies
- 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 Industry and Trade (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

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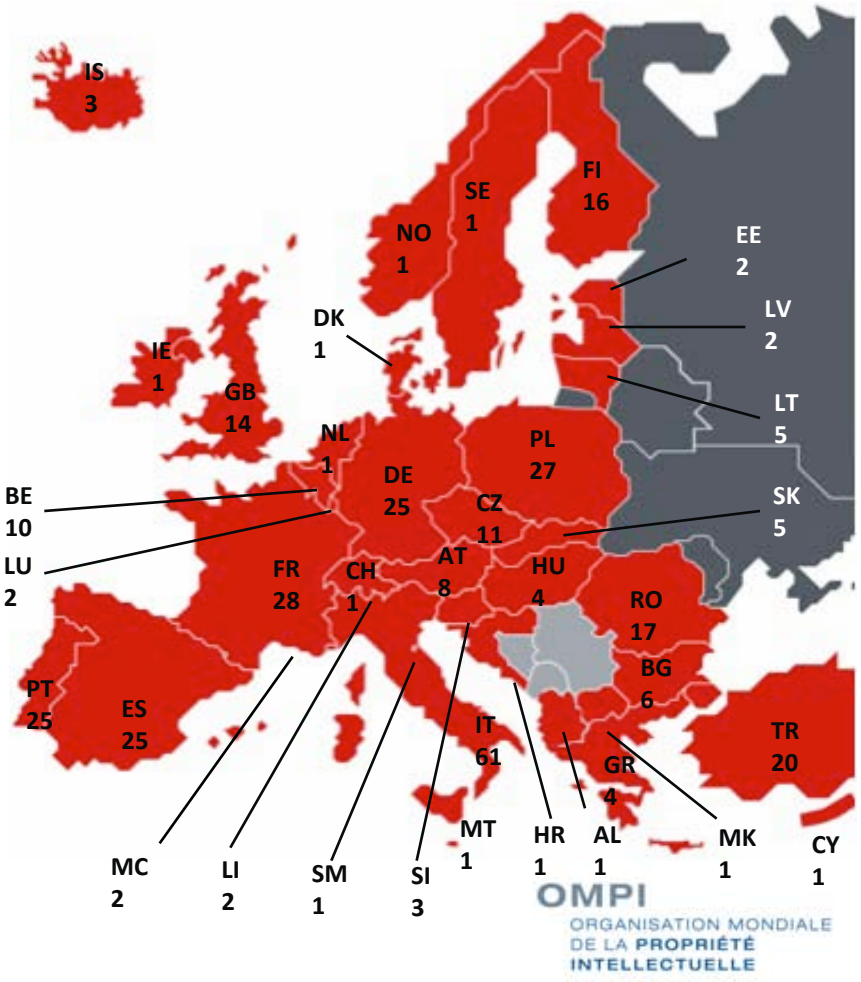
V. WIPO Support

- 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 ressources (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 Developement
- **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**

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 Ghana, *have gained free access to 80 million technologies in all fields, and to 40 000 scientific publications (R4L programs among which ARDI)*

- In this regard, TISC places DCs and LDCs, particularly Ghana, 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 Ghana, *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!

Ituku.elangibotoy@wipo.int

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