

Lysenko¹, V.S., Yehorov², S.O., and Pokshevnitskaya³, T.V.

¹ V.E. Lashkaryov Institute of Semiconductor Physics, the NAS of Ukraine, Kyiv

² Center of Technology Transfer, Academy of Technological Sciences of Ukraine, Kyiv

³ National Transport University, Kyiv

DEVELOPMENT OF TECHNOLOGY PROFILES FOR THE TRANSFER OF ENERGY- AND RESOURCE SAVING TECHNOLOGIES



The article deals with methodological framework for the development of technology profiles for the System of Energy- and Resource Saving Technology Transfer. The compliance with the methodology and standards of the European Innovation Relay Centers (the IRC network; since 2008, the EEN), the Russian Technology Transfer Network (RTTN), and Ukrainian Technology Transfer Network UTTN has been established to be the main principle of the development of technology requests and offers.

Keywords: transfer technology network, transfer technology system, technology profile, technology requests, and technology offers.

The development of road transport complex of Ukraine is impossible without the use of energy-saving technologies that have significant economic impact. There is a need to establish a system to collect information on completed research work and technologies that can be helpful for addressing the issues related to saving of energy and resource in the road transport industry of Ukraine. This system will facilitate the technology transfer and the further research, development, and application of new energy solutions for the road transport sector. Also, there is a need to actively cooperate with domestic and international research organizations to exchange technological information and best practice. Today, the technology transfer, as well as the scientific and technical cooperation, including the international one, have a significant impact on the economies inasmuch as they shape both the competitiveness of the economy and the opportunities for the further technological progress. In the developed co-

untries, the universities are powerful generators of ideas for the creation of new technologies. The Ukrainian universities also have to consolidate their intellectual capacity for the sake of competitiveness and business development. Therefore, it is necessary to establish appropriate innovation infrastructure links and effective mechanisms for the commercialization of completed R&D projects in the universities.

To solve these problems, the National Transport University and the Ministry of Education and Science of Ukraine are implementing the project on *the creation and implementation of transfer of energy saving technologies for the development of road transport complex of Ukraine* using the experience of the National Technology Transfer Network. This project will facilitate the exchange of experience and the technological cooperation among universities, research and educational institutions, and corporations of the road transport industry.

The information and software complex of the system of energy-saving technology transfer for the development of road transport sector of Ukraine is a tool for collecting and systematizing in-

formation about the members and respective innovative infrastructure subsystems developed by them. It is the cornerstone of marketing research. The software complex has to address the following issues:

- ✦ To identify demand for professionals among the enterprises in the industry;
- ✦ To identify technology needs of corporations;
- ✦ To search for new applications of R&D results;
- ✦ To identify the most effective markets for goods, services, and technologies;
- ✦ To develop a set of measures to promote new developments and technologies;
- ✦ To identify potential customers and direct technology;
- ✦ To study the existing competition in the market; and
- ✦ To offer additional competitive advantages for the customers of new technologies.

The effective mechanisms for commercialization of R&D projects of higher education institutions can be elaborated by introducing a unified methodology for technology transfer based on characteristics of the industry and needs of the market, as well as by computerizing the operation of members of technology transfer systems as part of Ukraine's innovation infrastructure and NTTN industrial segments [1].

A limited number of publications on the development of technology profiles highlights the relevance of this paper.

The exchange of technological information in technology transfer networks is realized by placing technology profiles in network's electronic platform. This profile discloses its scientific and technical capabilities, economic aspects, business interests, and control mechanisms. The technology profiles can be presented in the form of technical offers and requests, i.e. commercial descriptions of technologies ensuring their promotion to the consumer market. The structure of technology profiles provides the amount of information required for the first acquaintance with proposed or requested technology. Therefore, the probability to find a right partner and to convince it of the

necessity to establish direct contacts and further cooperation depends not only on the viability and long-term benefits of a particular technology, but also on the quality of its profile.

In order to prepare the technology profile for technology transfer network, the methodology, standards, and models of the European Innovation Relay Centers (since 2008, the EEN) [2], the Russian Technology Transfer Network (RTTN) [3], and the Ukrainian Technology Transfer Network (UTTN) [4] apply. It is necessary to use guidelines for the preparation of technology offers [5]. This will help to provide information about the development in a way intelligible for the consumer, without disclosing the know-how, instead of doing this in the form of scientific report.

The structure of technology profile consists of basic blocks that fully reflect such important aspects as technical information, intellectual property, and proposed form of cooperation.

The purpose of the form of technology request is to show how the company is ready to accept the technology it asks for. The purpose of technology offer form is to disclose the essence of technology so as to show its relevance and importance to potential users and/or investors.

The technology request (Fig. 1) shall contain the following information:

- 1) The title of technology request;
- 2) Summary and description of the current technological process;
- 3) Detailed description of existing problems to be addressed;
- 4) Information on the benefits the corporation/entity expects to derive from the use of technology requested;
- 5) Keywords that describe the technology requested;
- 6) Clear information on what the potential partners have to offer; and
- 7) Information on the corporation/organization that requests the technology.

The technology offer (Fig. 2) shall contain the following information:

- 1) The title of technology offer;

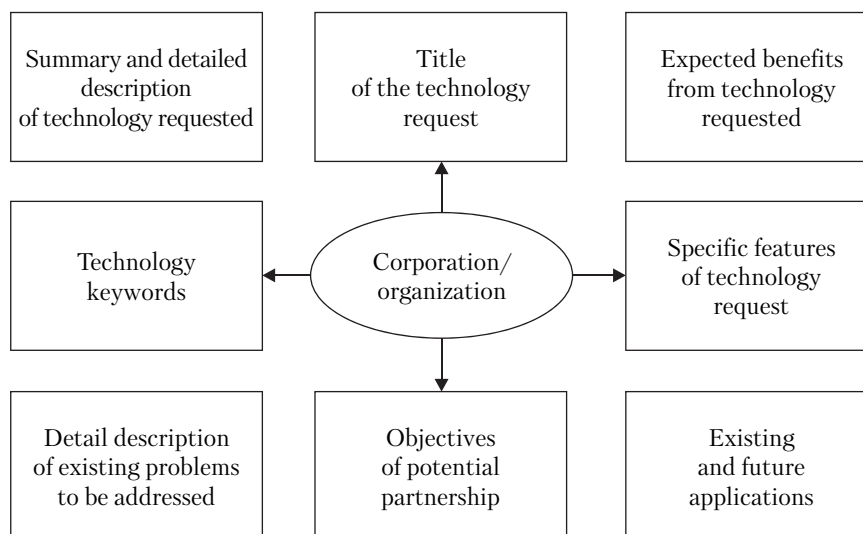


Fig.1. The structure of technology request

- 2) Brief and detailed description of the technology offered;
- 3) Benefits from the use of this technology;
- 4) Keywords that describe the technology offered;
- 5) The current stage of development of the technology;
- 6) Market segments where the technology can apply;
- 7) Information on the status of intellectual property rights to the technology;
- 8) Clearly defined objectives of potential partnership and desired type of transaction; and
- 9) Information on the organization/institution that offers the technology.

The technology profile is neither a scientific report, nor an application for a grant, nor an investment project. This is an offer of technological cooperation. While developing the technology profile, it is necessary to focus on the potential reader who is not necessarily a specialist in the field of technology described. Therefore, the information must be clear and understandable. Each section should contain information and data for which it is intended.

Let us consider an example of technology offer.

1. **TITLE.** The title is the name of technology offered or one of its components for which potential partners and/or investors are searched.

2. **SUMMARY OF THE OFFER.** A brief description of the technology that has to answer the following questions: a) Where does the offer come from (geographically)?; b) What kind of organization offers it?; c) What is proposed?; d) How is it used?; d) What are the main benefits from the technology offered?; g) Which kind of cooperation does the offering organization prefer?

3. **DESCRIPTION OF THE OFFER.** The detailed information on the technology offered should be given in order to attract potential partners.

4. **INNOVATIVE ASPECTS OF THE OFFER.** Major benefits of the offer should be described in detail.

5. **TECHNOLOGY KEYWORDS.** They should be chosen from the classifier of technology keywords).

6. **TECHNICAL DETAILS.** To give the potential partners a better idea of the proposed technology (or technological equipment) it is recommended to present its technical characteristics (e.g. tables, graphs, text description, etc.).

7. **CURRENT STAGE OF DEVELOPMENT.** It is necessary to choose one of the options proposed.

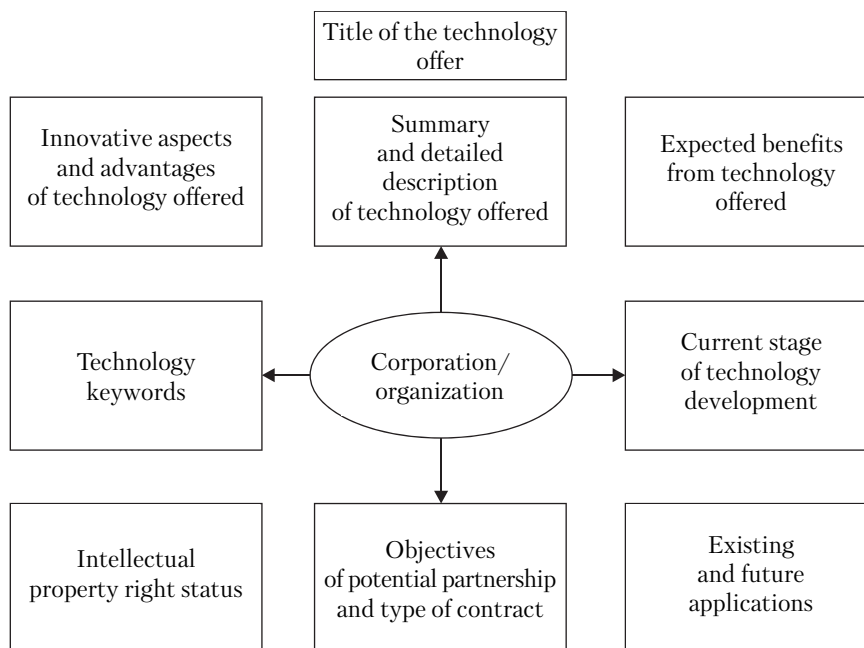


Fig.2. The structure of technology offer

8. INTELLECTUAL PROPERTY RIGHTS. It is necessary to choose one of the options proposed.

9. APPLICATION CODES. It is necessary to choose out of the list, at most, 5 market segments for which the technology is intended or can be used.

10. EXISTING AND POTENTIAL APPLICATIONS. The technology applications should be chosen on the basis of domestic and international experience in using similar technologies and/or on expert opinions.

11. TYPE OF COOPERATION/PARTNERSHIP. The type should be selected from the list of options. It is mandatory to fill «Comments» field: to specify the role and profile of desired potential partners and the problem and tasks they should address. It is necessary to specify:

- ✦ Type of desired partner (e.g. industrial, educational, or research organization);
- ✦ Sphere of activities of the partner (for example: manufacturer, distributor, user or waste recycler of plastic wrap, etc.); and
- ✦ Tasks and problems the potential partner should address.

12. INFORMATION ABOUT YOUR ORGANIZATION. It is necessary to provide information on type, size, and structure of organization that offers the technology.

13. CONTACT INFORMATION. When completing the technology profile for NTTN it is necessary to specify a *technology manager* certified in this network, who prepared and submitted the profile (not to be confused with technology brokers). This technology manager acts as contact and authorized person who deals with the technology profile and represents it to third parties. *The technology manager* is a specialist suitably qualified for the administration and management of technical, scientific, and organizational activities of enterprises, institutions, and organizations in the view of planning, developing, and commercializing the innovations and, consequently, raising the competitiveness of enterprises. *The technology broker* is a mediator in technology transfer, who works on a regular and/or professional basis.

14. POWERS. The authorized person specified in the profile should be a *technology manager*.

He/she shall be responsible for the accuracy of information given in the technology offer.

Recommendations for the development of technology request are similar to those for the development of technology offer. The main difference is the field «SUMMARY OF PROPOSAL REQUESTED» where the requesting organization should specify: geographical origin of requested proposal; required type of organization of the offering institution; main features of requested technology; intended application of requested technology; and stage of development of requested technology.

In the «DESCRIPTION OF PROPOSAL REQUESTED» field, it is necessary to specify basic parameters or characteristics of the requested technology, to describe the problem to be addressed, to provide information about the current process or products to be improved. It is useful to describe the activities of the organization requesting the technology.

The innovative development is a major factor of the economic growth. In Ukraine, the universities are constantly conducting R&D works to create new technologies. One of the key challenges for the universities in Ukraine is to sell the developed technologies in the market, as a result of underdeveloped innovative infrastructure and system for technological information exchange (technology requests/offers). The system for energy- and resource saving technology transfer in the road transport sector as a segment of the National Technology Transfer Network will facilitate the dissemination of information on completed R&D works among the road transport corporations and organizations. The technology offers and requests placed in the electronic platform created according to the methodology and standards of the European Relay Center Network, the Russian Technology Transfer Network, and the Ukrainian Technology Transfer Network (according to the NTTN guidelines for the preparation

of technology profiles will contribute to the commercialization of R&D works of higher educational institutions of Ukraine and to the development of innovation infrastructure in general.

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V.C. Лисенко¹, С.О. Єгоров², Т.В. Покшевицька³

¹ Інститут фізики напівпровідників імені В.Є. Лашкарьова НАН України, Київ

² Центр трансферу технологій Академії технологічних наук України, Київ

³ Національний транспортний університет, Київ

РОЗРОБКА ТЕХНОЛОГІЧНИХ ПРОФІЛІВ ДЛЯ СИСТЕМИ ТРАНСФЕРУ ЕНЕРГО-ТА РЕСУРСОЗБЕРІГАЮЧИХ ТЕХНОЛОГІЙ

Розглянуто методологічні засади розробки технологічних профілів для «Системи трансферу енерго- та ресурсозберігаючих технологій». Визначено, що головним принципом розробки технологічних запитів та пропозицій є дотримання методології та стандартів Європейської мережі «релей-центрів» (Innovation Relay Centers – IRC network, з 2008 року – EEN), Російської мережі трансферу технологій RTTN та Української мережі трансферу технологій UTTN.

Ключові слова: мережа трансферу технологій, система трансферу технологій, технологічний профіль, технологічний запит, технологічна пропозиція.

В.С. Лысенко¹, С.А. Егоров², Т.В. Покишевницкая³

¹ Институт физики полупроводников
им. В.Е. Лашкарьова НАН Украины, Киев

² Центр трансфера технологий

Академии технологических наук Украины, Киев

³ Национальный транспортный университет, Киев

**РАЗРАБОТКА ТЕХНОЛОГИЧЕСКИХ ПРОФИЛЕЙ
ДЛЯ СИСТЕМЫ ТРАНСФЕРА ЭНЕРГО-
И РЕСУРСОСБЕРЕГАЮЩИХ ТЕХНОЛОГИЙ**

Рассмотрены методологические основы разработки технологических профилей для «Системы трансфера энер-

го- и ресурсосберегающих технологий». Установлено, что главным принципом разработки технологических запросов и предложений является соблюдение методологии и стандартов Европейской сети «релей-центров» (Innovation Relay Centers – IRC network, з 2008 року – EEN), Российской сети трансфера технологий RTTN и Украинской сети трансфера технологий UTTN.

Ключевые слова: сеть трансфера технологий, система трансфера технологий, технологический профиль, технологический запрос, технологическое предложение.

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