

**PA8: To support the competitiveness of enterprises**

**- Roadmap for an action of Subgroup "Innovation and Technology Transfer"**

**A systematic approach**

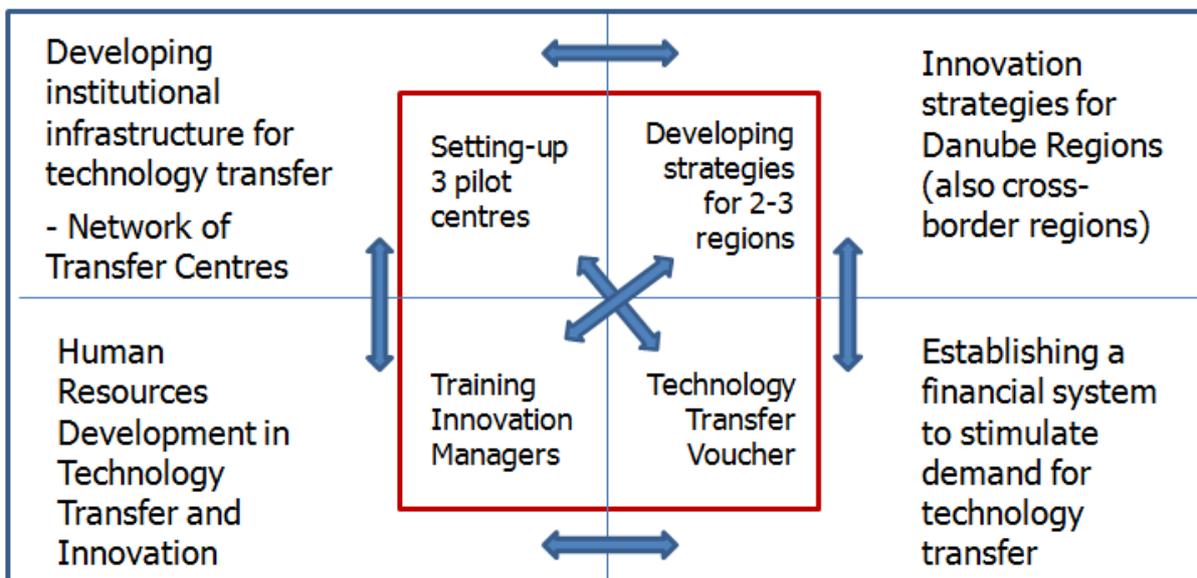
Initial situation and needs of most regions are described in document "Developing and Ensuring Sustainable Competitiveness of Enterprises in Danube Region by Fostering Innovation and Technology Transfer". There is also shown what measures in field of innovation and technology transfer are necessary to strengthening sustainable competitiveness of enterprises in Danube Region. On this basis some major actions are developed and presented below. Described actions are not complete. Priority is given to those actions that allow to improving the situation highly effective.

Individual actions are prepared in a way that they are interconnected and linked (see "Overview"). Their implementation as a whole leads to significant synergies and great success. Nevertheless each action is individually feasible.

Implementation of pilot projects will show in what way innovation and technology transfer contributes to competitiveness in Danube region. Methodology and results must be analysed at end of each project and build basis to large scale actions that should follow immediately. Therefore any pilot project is developed in a way that it is a model and benchmark.

Mentioned roadmap shows actions in brief. A detailed description with milestones and work packages has to be elaborated in close partnership with PAC8.

Overview: Main action and pilot projects to strengthen competitiveness by fostering innovation



To benefit in best way from pilot projects, their implementation should be carried out in countries and regions where stage of development is below level of innovation driven economies (categories according Global Competitiveness Report). Main objective is to speed-up transition. Economies that are not even yet on efficiency driven stage need a special support that has to be discussed in close relationship with representatives of those countries. Below actions address mainly to following countries:

- Economies in transition from efficiency driven to innovation driven:  
Hungary, Slovakia, Croatia
- Efficiency driven economies:  
Bulgaria, Montenegro, Romania, Serbia, Bosnia&Herzegovina

## **Major measures**

### **1. Developing institutional infrastructure for technology transfer**

Enterprises need access to latest technologies. Those exist, among others, at universities – or could be developed there. Currently it is very difficult for a company to identify a suitable provider of technical solutions in none innovation driven economies. Therefore it is necessary to following European best practice in setting-up network of intermediaries that link industrial system and research system. A highly efficient tool is to establishing transfer centres at the place where R&D is done. Within implementation of Danube Strategy one major action is to strengthen the interaction between research and industry by developing a market oriented transfer infrastructure. A basic model of technology transfer infrastructure is attached to this document.

Various types of transfer centres exist in Danube Region. Most of them have been set-up to supporting the work of researchers in commercialising an invention, in marketing, in patenting, in licensing, etc. Setting-up new networks of transfer centres should focus on transferring results of R&D that are initiated by an industrial enterprise that place order to a R&D institution or to its transfer institution. Success of transfer centres and finally success of technology transfer depends on the framework conditions. Every action must be accompanied by measures to improve framework conditions for innovation and technology transfer.

Roadmap:

Short-term measures

- Setting-up 3 pilot centres
- Coaching transfer centres in establishing links with industry (executing need analysis, presenting services, generating ideas for innovation in industry, ...)

Medium- to long-term measures

- Expanding network of transfer centres to other regions
- Specializing transfer centres on certain technologies
- Setting-up additional centres for supporting industry and research in subjects like intellectual property rights, standards and norms, etc.

## **2. Human Resources Development in Technology Transfer and Innovation**

Enterprises must develop individual innovation strategies. Those require knowledge and experience in product development and related subject. Basis is a fundamental understanding that innovation is a important success factor of companies. Competences and awareness have to be strengthened in industry.

Product development requires ability to work on complex subjects and not only on a specific field of research. For instance expertise in hydraulics must be combined with expertise of electronics. Beside this, ability to work in teams with engineers and economists is a must. Product development can require knowledge of materials, processes of logistics, maintenance,....., but also e.g. of costs, design, marketing.

Steinbeis, together with national partners, has implemented 2 successful projects for training of innovation managers in Romania. A number of 500 managers or Romanian companies benefit from this training that can be understood as a pilot project.

Roadmap:

Short-term measures

- Adapting training program for innovation managers that is successfully established in Romania to needs of other regions and starting training courses for innovation managers in industry
- Establishing training program about technology transfer for professors of universities
- Training of trainers in innovation management

Medium- to long-term measures

- Integrating training curricula into permanent offer of training institutions in the regions.

## **3. Elaborating innovation strategies for regions (also cross-border regions)**

Innovation and Technology Transfer requires a functioning support infrastructure as well as complementary policies. Prosperity in regions grows when business entities, legal entities conducting research and regional/local authorities act like partners. This so called "triple helix" has to focus on promoting innovation in the region. Therefore a strategy must be developed that takes into account the strength of the region, the needs of its major industrial sector, its specialisation on technologies if any or in general any potential for future economic growth.

Technology transfer must be applied in every industrial sector that is relevant in a countries economy. It is necessary to find out if there exist a gap between fields of R&D and existing industry. In general applied research does not make sense if there is no industry that could make use of its results.

R&D must focus on the industrial sectors a country or a region is specialised on. Same fact is valid for institutions of higher education that must teach their students according the needs of the industry. Countries with success in technology transfer are applying a market oriented system. The fields of application are determined by the market.

Each strategy must relate to a specific geographical area, but it takes full account in its definition of the national and international context in which it is operating.

Roadmap:

Short-term measures

- Selecting 2-3 pilot regions for developing innovation strategy
- Organising and performing a series of workshops in highly industrialised regions with participants from universities and other technology providers and with industry (technology consumers) as well as with relevant administration bodies

Medium- to long-term measures

- Making available experiences from pilot regions to other regions
- Linking institutions, programs and projects of pilot regions with regions that want to follow this new best practice

#### **4. Establishing a financial system to stimulate demand for technology transfer**

Absorption capacities of enterprises are limited. Readiness to implement a new technology depends in many cases from ability to financing R&D and all the measures that have to follow after a new technology is available. European programs exist and need to be used much more by the enterprises. Additional incentives have to be developed according the needs of the business sector.

Roadmap:

Short-term measures

- Providing strong assistance for SME in participating in European Programs, e.g. FP7
- Teaching staff of banks and financing institutions in evaluation innovation projects in order to increase chances of SME to get private financing for projects
- Establishing a close partnership with PAC 10 for creating funding schemes for innovation projects with focus on strengthening absorption capacity of industry for receiving technologies and to put them into large scale production

Medium- to long-term measures

- Implementing a transnational technology transfer voucher system that is supposed to support small and medium sized companies in the countries of the Danube Strategy to finance small activities of their company, like a technology research for innovation or research and development activities regarding innovative products.