

OP 3.4.1

Regional development plans

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Summary	To ensure sustainability of the project each partner will develop a Regional development plan in order to show how the project can get access to the target groups (see 2.1 Relevance) of the regions.

Regional Development Plan

Introduction of Region Észak-Alföld

Észak-Alföld Region has **significant research and development capacities** that promote intensive development of innovation-oriented technologies in the region. The region provides a solid R&D base, concentrated in Debrecen, Szolnok and Nyíregyháza, which attracts companies with high quality requirements. At a national level the region holds the second position regarding R&D expenditure and it is the third concerning the number of R&D personnel.

University of Debrecen is the major and dynamically developing university center of the region. The importance of research and development is also reflected in the Regional Innovation Strategy (RIS), identifying three main focus areas for RTD activities: health, ICT and agriculture. The University of Debrecen (UD) plays a significant role in the everyday life of the Észak-Alföld Region. It is the biggest higher educational institution in Eastern-Hungary and its **Medical and Health Science Center (UD MHSC) is one of the largest clinics in Hungary.** The 15 faculties of the University of Debrecen form 3 centers - those of medical sciences, agricultural sciences, and arts and natural sciences. The centers also comprise research institutes, research groups and other auxiliary units aiding education.

Innovation and technology transfer has recently been in the focus of the most significant Hungarian universities' innovation strategy. The University of Debrecen actively supports the utilization of the innovative ideas, products and services developed by the researchers of the university since 2005, by setting up the **Knowledge and Technology Transfer Office (UD TTO)** of the University. The mission of the UD TTO is to **facilitate the transfer of research results** achieved at higher education institutions into business and industry, as well as to **disseminate innovation culture** among the citizens of the University.

Clinics and hospitals in the region

Altogether **there are twelve hospitals in the Region Észak-Alföld**, 5 in Szabolcs-Szatmár-Bereg County, 5 in Jász-Nagykun-Szolnok County and 2 in Hajdú-Bihar County. **In Debrecen there is one university hospital with 18 clinical departments.** Usually there are no research and innovation/motivation schemes or systems at the hospitals. The main activity of traditional hospitals is patient care and there is no time, budget and capacity for executing R&D&I projects. However, University of Debrecen is a rapidly developing knowledge center of the region. The University's mission is to become a research university with entrepreneurship, to support innovation based on market needs and to play a key role in the economic growth of the region.

County	Number of hospitals	Number of clinics/clinical departments
Hajdú-Bihar County (county seat: Debrecen)	2	1 university hospital with 18 clinical departments
Szabolcs-Szatmár-Bereg County (county seat: Nyíregyháza)	5	-
Jász-Nagykun-Szolnok County (county seat: Szolnok)	5	-
Total	12	1

Summary chart of hospitals and clinics of Észak-Alföld Region

Medical and Health Science Center of the University of Debrecen

The **Medical and Health Science Center of the University of Debrecen (UD MHSC)** is dedicated to serving the health care needs of the population of Eastern-Hungary and to providing research and teaching programs that ensure delivery of the highest quality health care to our community. UD MHSC is also **one of the largest hospitals in Hungary**. There are 49 departments, among those 18 different clinical departments with more than 1800 beds serving 62 000 inpatients and 670 000 outpatients yearly. It is not only the best-equipped institution in the area, but also represents the most important health care facility for day-to-day medical care in this region. This includes, beside other services, an adult haemodialysis center, open-heart surgery facilities and a kidney transplantation unit. The Department of Obstetrics and Gynecology of UD MHSC has been an official reference center of the WHO for many years.

Kenézy Gyula county hospital

The Kenézy Gyula county hospital (with approx. 1400 beds) is strongly affiliated with the UD MHSC and plays an important role in teaching the practical aspects of medicine.

Summary of the SWOT analysis of the region

Strengths:

- Significant research and development capacities are available in the region
- The UD provides high quality education (24 doctorate schools, strong medical education). Highly qualified researchers/clinicians are working at the UD and at the clinics and hospitals of the region
- UD MHSC is one of the biggest university hospitals of Hungary and UD is second most famous university of Hungary and provides high quality medical services for patients
- Innovation and technology transfer is in the focus of the university and the TTO of UD is focusing on the utilization of research results of the clinics of the university
- The number of new and quickly developing enterprises in the region is increasing
- Three accredited innovative clusters of the region are strongly focusing on the development of health care sector

Weaknesses:

- There is a lack of innovative accredited clusters in the region (there are only three health-related accredited clusters) and there is a lack of specialized incubator houses in the region
- The number of innovation mediator organizations are low
- Lack of time and energy of the clinical staff to seek for potential SME's to launch cooperation with them
- There is a low number of grant application opportunities for which research institutions and SME's can apply together
- Most of the clinics and SME's do not have budget for R&D activities

Opportunities:

- UD is very successful in preparing grant applications and in obtaining grants
- Initiation of workshop based meetings between SME's and clinics (according to our survey SME's showed high interest in participating on these kind of meetings)
- Participation in the three health care related accredited clusters of the region (innovative pharmaceutical cluster, health care cluster, innovative functional food cluster)
- New, entrepreneurship-oriented generation have been appeared in the region

Threats:

- Low salaries of the medical staff (clinicians, nurses), researchers, technicians and R&D staff
- Young, well-educated people are very mobile (threat of brain-drain)
- Slow decision-making procedures at university departments and clinics
- The "cluster culture" is not well-developed

Summary of the analysis of key players of the region

UD TTO initiated a market research project to examine the innovation activity of the Region Észak-Alföld, as well as the cooperation between clinics, hospitals, SME's of the health care sector and other actors of health-care business sector. The aim was to survey the innovation activity of the region and the opportunities of utilizing these innovations.

During the project, we examined four groups that are active in the healthcare sector:

- clinical and hospital decision-makers (20 people)
- small and medium enterprises in the healthcare sector (SMEs) (20 people)
- independent research institutes (3 people)
- clusters (2 people).

During the survey about innovation transfer, we came to a conclusion that respondents are basically interested in research and development activities, but they still run into several difficulties that entirely or partially upset the establishment of such cooperation. It is especially important to clarify the main areas which they focus on during their innovation activities and to get to know how typical it is that these innovations are utilized. Of innovation activities, special emphasis was laid on **trying out and testing medical instruments** (44%).

In addition, providing innovative services and the development of new procedures and examination processes were also frequently mentioned. Mentions focused on these three areas in the case of all four groups. **More than 60% of those who perform innovation activities also utilize their own innovations.** Clusters did not market innovations at all, whereas research institutes utilized half of their innovations.

During the analysis of cooperation, we strived to dig deep and touch upon the exploration of motives, obstacles and solutions in addition to partners themselves. Altogether, it can be stated that the aims of cooperation between hospitals and the SME's of the health care sector are the **utilization of professional knowledge (64%), common problem solution (60%) and the integration of knowledge and technologies (51%)**. It is rather meaningful that when we asked respondents to specify one factor that motivates them the most, the most frequently mentioned aspect was the utilization of financial resources.

During the **cooperation** of clinical and hospital decision-makers **with the business sector**, the most frequently mentioned problem was the lack of financial resources (77%). In addition, the insufficient number of project/tender application opportunities (59%) and the fact that there is not enough time and energy to explore existing opportunities (55%) were also "popular". As for **cooperation in the clinical sector**, the most expressed obstacle was also the lack of financial resources (65%), but the fact that the range of potential cooperative partners is unknown (65%) also has a significant role in hindering cooperation.

The solution of problems that arose was considered to be the increase of the number of project/tender application opportunities and employees. In addition, there were several proposals in relation to the establishment of a specific forum or an intermediate organization that could provide help in informing parties and exploring opportunities. Creation of financial resources, **organization of conferences, workshops and improvement of communication** were all **possible solutions** that were brought up in relation to the cooperation with the clinical sector.

Our research results showed that healthcare actors are open and they show interest in innovative activities and the utilization of these activities, but there are still numerous obstacles in the way of implementation. The most important thing would be to inform the affected parties in the proper way and to hire employees or operate an intermediate organization which helps the sector's players in making contact and finding unexploited opportunities. It is important to emphasize that researchers do not necessarily access information related to cooperation and the utilization of research results; therefore, providing such information would definitely help them in their work. In addition, the increase of market sector activity would also be of great help for such investments.

Access ways to the target groups

UD TTO was set up in 2005. At the beginning of its operation the office was dealing with technology transfer only in the fields of biotechnology, nanotechnology, innovative drug development and functional food development. For now it **provides innovation and technology transfer services** as well as **IP rights-related services** in every substantial scientific field which are in focus of the research activity of University of Debrecen. At present **UD TTO has active relationship with over 40 medical SMEs** of the region. The TTO has

direct contact to the management and R&D staff of these companies, which are ready to exploit or transfer new technologies and execute medical projects. UD MHSC has numerous clinical departments. The most innovative ones were identified based on research project involvements and generated IP. The TTO has good relation with the management of UD MHSC and it is seated on the campus of the UD MHSC which is in the direct neighborhood of clinical buildings. This is favorable because it is very essential to be near to the clinical staff and to encourage them to develop, innovate and communicate. Based on the experiences of the TTO it was found out that most of the innovative project ideas and new product or service development proposals originate from the Medical and Health Science Center of the university and its clinical departments. From nine spin-off companies five were established to develop medical project ideas. 80% of the patent applications managed by the UD TTO cover medical inventions. Overall, **there is a high innovation potential in the clinics of UD MHSC which can be exploited by strengthening cooperation between the medical stakeholders of the region.** The University is linked to all of the relevant **national research institutes** through which direct access is provided to the management and R&D personnel of these institutions.

Regional workshop experiences

The first IntraMed C2C regional workshop organized by Project Partner 11 (University of Debrecen) was held on the 28th of September, 2010 at the Knowledge and Technology Transfer Office of the University of Debrecen. We invited the most relevant stakeholders as follows: representative of the Medical and Health Science Center of the University of Debrecen (UD MHSC), representative of clinic with research facilities, representative of R&D&I related small and medium size companies involved in joint research and development projects with clinics, and representative of a mediator organization dealing with innovation transfer. The participants found that taking part in the IntraMed C2C project and the execution of the project activities (implementation of a European wide tool for innovation transfer from clinics to companies) might be useful for them to strengthen cooperation with other organizations.

Expectations of the participants from the project:

- ✓ To initiate cooperation not only between clinics and companies but between the several clinics of the UD MHSC as well. According to the management of the clinics of UD MHSC there are numerous ongoing research projects on the campus dealing with the same topic, so we should identify those projects and try to link them. Afterwards we can look for other partners like external companies.
- ✓ It would be favourable to become member of some international health care clusters and networks.
- ✓ To have adequate tool for the transfer of research results from clinics to companies.
- ✓ To use a standardized innovation transfer system on the campus of UD MHSC.
- ✓ To create a partner list including R&D&I related companies (SME's) institutions and other relevant stakeholders.

According to the participants of the workshop the following tools can help to reach the goals:

- ✓ Organizing workshops is very essential and useful because during personal (face to face) meetings people can easily identify their needs and partners can directly reflect on it.
- ✓ The most useful tools are the thematic workshops where the researchers (clinical staff) can meet the representatives of R&D&I companies dealing with the same topics so it is easy to launch cooperation.
- ✓ Speed dating is also a useful tool for finding a cooperating partner. The participants have two minutes to present their needs (demand) and or supply. The speed dating must be thematic as well.
- ✓ Being a member of health care related clusters and networks is also a good opportunity to get to know the relevant actors of the health care industry and to start to look for cooperation opportunities.
- ✓ National and international thematic conferences are also good for this purpose. The participants can learn about the state of the art techniques, the latest methods and can find cooperating partners (companies) at the exhibition hall.
- ✓ The best practice examples of the project partners can be very useful for the others. The benchmarking of these best practices would be very helpful.
- ✓ The guideline and toolkit might be an important tool.
- ✓ It is favorable to have a regional action plan at the end.

Conclusion of the workshop: Relevant regional stakeholders were identified and invited to the first regional workshop of IntraMed C2C project. The participants showed considerable interest on the project and their expectations were identified as well. According to the stakeholders the most useful tools for reaching the main purpose of the project are regional thematic workshops, speed dating and benchmarking of best practices of the project partners.