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Summary

A remarkable schedule of interviews and visits to various innovation actors operating at different stages of the innovation process in Maramures county, allowed the group of peer reviewers to reflect on the current situation of the area and to agree on a set of recommendations to be considered in the economic development strategic paths of the county. Starting from a self assessment of the main strengths and weaknesses and reasoning together with the people met, the group comes out with a proposal of interventions preliminarily discussed with the representatives of the county and deepened in the pages below.

The Peer Team saw various signs of reinforcement of the Maramures regional economy, for example in infrastructure, but also saw that in some ways it is a true struggle. For example the unemployment rate in Maramures county, although having had a growing tendency during the years of the economic fallback of recent years, is still rather advantageous compared to many other European regions. Therefore, the peer team recommends to develop an overall strategy on job creation and innovation, to focus more on existing companies and also to develop strategies to attract and support new companies.

The Peer Team has seen interesting examples of cooperation within the business circle in Maramures. The Peer Team also found some very good practises of cooperation between the technical faculty of the university and (bigger) companies. However, within the framework of the peer visit is was hard to find more structural cooperation between authority levels and companies. Therefore, the peer team recommends the county council to communicate actively about strategies, programs and instruments, to invest more in vocational training matching companies needs and to strengthen co-operation between institutions of higher education and companies.

The lack of an incubator linked to the North University Centre of Baia Mare can be defined as a major flaw in order to stimulate an innovative environment. Therefore, the peer team recommends to redefine the position of an incubator: connect it to the university and provide full services, to create instruments to stimulate and disseminate innovation: vouchers, awards, etc and to take better care of your intellectual property.

Within the EU it is always rather difficult to find financial support for the development of new products, especially for SME’s. The Peer Team found sad examples of well worked out plans of entrepreneurs for the investment in new, innovative machinery, but in the end they failed to obtain EU Funds due to bureaucracy and lack of (financial) support from the local, regional an national government. Therefore, the peer team recommends to work on cluster development and invest in partnerships with financial institutions.
The Peer Team identified two strong drivers in the Maramures region that can significantly contribute to create new jobs in the innovative sector: the relatively low labor costs (compared to the western European region) and the good mentality of the work force. However, the peer team also noted that a quite large percentage of the workforce has left the region, especially the relatively young workers. Based on the interviews the Peer Team concluded that several workers with a high educational degree left the region. This braindrain makes it even more difficult for the region to be creative and successful in creating innovative jobs. Therefore, the peer team recommends to raise awareness for in house innovation and to brand the region.
SECTION 0: INTRODUCTION

(a) Short introduction to the SMART Europe Project

SMART Europe is based on the concept that smart and targeted regional policies and interventions can be designed to boost the employment directly in the regional innovation-based sectors.

With this aim, a consortium of 13 partners, representing 11 EU regions, will exchange policies and instruments for identifying and supporting the main regional economic actors that can generate job opportunities in the innovation based sectors of their economy.

SMART Europe will support decision makers to improve their strategies with the aim of incorporating the creation of employment as an additional key feature of their activities.

Figure 1: The SMART EUROPE regions

(b) Short introduction to the Peer Review methodology

SMART Europe Peer Review Methodology helps regions to improve their policies in boosting employment in the sector of their “innovation anchor”.

The SMART Europe Peer Review Methodology is an adaptation of the peer review methodology of the Assembly of European Regions (AER), developed directly to use it during the SMART Europe project, when assessing different regions’ innovation anchors. The methodology standardises the relevant aspects that need to be measured, in order to enable experts with different background, to assess the regional situation in an objective way. By this, they will be able to give appropriate recommendations on the field of innovation-based job creation in the host region. The other important advantage of peer reviews is the selection of experts, who are practitioners in the field of the assessment, which means that the recommendations given by them after the review will be practical and realistic.
 SECTION 1: OVERVIEW

(a) Short description of the Host Region, general overview, economic profile.

The county of Maramures is located in the North Western part of Romania, bordering Ukraine and covers an area of 6304.4 km² that represents 2.6% of the country’s territory, being a medium size county. In 2011, the population decreased to 478,000 inhabitants (representative minorities: Hungarian and Ukrainian).

Maramureș is known for its pastoral and agricultural traditions, largely unscathed by the industrialization campaign that had been carried on during Romania’s communist period. Ploughing, planting, harvesting, and hay making and handling are mostly done through manual labor. The county is also home to a strong mining industry of extraction of metals other than iron.

Overall, the region of Maramures can be described as mainly being composed of SME's, mostly active in the service sector. Maramures is on the other hand characterised by a number of big companies, active in the fields of furniture construction, industrial equipment construction and metal processing (for the aircraft industry).

The regional unemployment rate has increased over the last few years. In 2007 the unemployment rate was 3.4% and below the national average, in 2011 it was 8.4% and above the national average. The highest unemployment is among people between 26 and 45 years old. The GDP per capita in Maramures has decreased over the last few years and is below the national average.
In 2011, 3281 new companies and 5344 new jobs were created, especially in the service sector. On the other hand, 5120 jobs were lost, which brings the total natural increment to +224 new jobs. The Baia Mare Municipality offers a reduction on local taxes on assets for companies with major investments and a high number of new jobs created.

With regards to the Region’s innovation and employment policy, there is no allocated budget at this moment at Maramures County level, but the Maramures County Council was partner in two Interreg IV C projects related to innovation: Mini Europe and Smart Europe.

(b) Description of Peer Review focus (why it was chosen, specific questions and expected outputs of the Host Region)

Hypothesis
In SMART Europe, the Peer Review process kicks off through the establishment by the host region of its main innovation drivers: Maramures consulted various stakeholders, among others in a special meeting on 14-06-2012. In this meeting was stated that the innovative anchor of the Maramures county is represented by a combination of companies from the processing industry, the university and organizations that sustain the development of SME’s. To this, the potential new investments that are expected to be set up in the county in metal processing, automotive industry, tourism and entertainment, logistic point, printing house, etc. can be added.

Maramures has chosen to evaluate the innovation potential in the region in order to create jobs out of it. At this moment low and late investments in infrastructure, the so called braindrain, high bureaucracy and the high level of taxes do hinder job creation in the region. On the other hand, the region has a tradition in university activity and research, thanks to the strong universities in the region. However, a closer link between education and the labour market within the region are necessary.

Focus of the Peer Review
In line with the overall objective of the SMART Europe project, the key focus of the Maramures county during the Peer Review was to assess and boost its policies with regards to employment and innovation, in order to create new jobs and opportunities for this sector.

More specifically, the region wished to address some of the particularities, issues and weaknesses it had identified with regard to its innovation potential, to create new jobs at different levels, to improve the positioning of the local knowledge based institutions and to better connect and match education and the job market within the region.
Questions

In order to answer the overall question of how to evaluate the innovation potential and how to optimise the regional policy in this respect and boost innovation based jobs, the following sub-questions were drafted:

1. How could Maramures County Council boost start-ups and job creation in the innovative sector, taking into account its limited legal competences in supporting the economic development?

2. What methods would you suggest to stimulate the regional decision-makers to assume and support the regional innovation strategy and initiate an action plan?

3. What kind of financial instruments could the Maramures County Council use to support innovative companies?

4. How can the regional administration intervene so that innovative clusters be initiated and developed in the region?

5. Based on your own regional expertise, are there any recommendations you can make so that Maramureș region attracts appropriate complementary actors with the aim of supporting business start-ups or even the further development of a growing enterprise?

The focus and the sub-questions developed by the Host Region were used by the Peer Review Team as a starting point in their analysis and guided research, in order to develop tailor made recommendations.
SECTION 2: SWOT ANALYSIS

Based on the presentations and field visits, the Peer Team drew up the following SWOT analysis.

(a) Strengths
- Positive mentality of the workforce
- Low production costs
- Strong manufacturing sector
- Strong drive of entrepreneurs to build up and let grow a private company
- Strong drive of the authorities to further develop the county economically
- Entrepreneurs are willingly to invest in their workforce by training their own employees
- Mutual private partnerships are well developed
- Presence of higher education
- Connection between the technical department of North University center and local businesses

(b) Weaknesses
- Low level of cooperation between the public and the private sector
- Not enough services for the private sector, especially for SME’s
- The vocational education is not matching the needs of the companies
- Lack of investors (e.g. banks, venture capitalists) in private companies
- Entrepreneurs find it very hard to get access to EU funds
- Low level of involvement in the planning of the next period (2014 - 2020) of EU structural funds
- Lack of a strategy to commercialize intellectual property

(c) Opportunities
- Creative potential of the workforce
- Start of a new EU program period
- Early stage of cluster development (wood industry)
- Cross border cooperation
- International funding to stimulate innovation and cooperation is available
- Skills and knowledge of remigrating Romanians
- Strong EU focus on innovation
(d) Threats

- (National) bureaucracy
- Not accessing all the available EU funding
- Braindrain because of a lack of possibilities
- Exodus of labour force
- Changes in the political climate
SECTION 3: REGIONAL STRATEGY

(a) Key Findings
Based on the information provided in the field visits, the various presentations and the discussions with entrepreneurs the Peer Team would like to highlight the following:

- Rebuilding the Romanian economy
The Peer Team saw various signs of reinforcement of the Maramures regional economy. The roads system was significantly improved over the past decade, new comers like the United Alloy Compagny found in Maramures county their home and existing companies like the Ramira Compagny made significant improvements in its operational management, with help from EU funding. This was also the case for the ADISS Company, specialized in waste water treatment. It was clear to the Peer Team that the membership of the European Union created new opportunities to Maramures county and its inhabitants.

The Peer Team at the other hand also concluded that rebuilding the regional economy in Maramures is a true struggle, most clearly seen during the visit of the Galactic company in Baia Mare. A large part of the labor force left the region, hoping to built a better future in other parts of Europe. The structure for innovation support of SME’s is poorly developed and there is a limited trust in governmental organizations. The Peer Team also saw that European funding is often unreachable for entrepreneurs and knowledge institutions, due to difficult procedures and bureaucracy.

- Innovation County Action Plan 2011 - 2020
The Peer Team was impressed by the work of the Development centre for SME’s in Maramures (CDIMM). The presented long term strategy in order to create a Centre for Education, research and technology transfer, with a total investment of 150 million euros, is challenging and ambitious. In this centre various organizations work closely together in order to create a district office for technology with ‘a critical mass of at least 500 people’. The Peer team also noted that the strategy lacks acceptance by the municipality and there is no sight on funding.

- Coordination
The Peer Team concluded that in Maramures county the governmental organizations and agencies work together in a limited way. The Peer team also concluded that the county puts great importance on the cooperation with its partners and wants to play a coordination role. This role, however, is not visible and questioned by its partners.
(b) Recommendations

- Develop an overall strategy on job creation and innovation
On county level an overall strategy on job creation and innovation is needed. The Peer Team saw that various initiatives and actions were taken by governmental organizations, but there is no overall strategy, a very limited harmonization and lack of cooperation. The Peer Team therefore suggests that the county should take the lead in bringing the various actors (municipalities, agencies, universities) together in order to define an overall strategy for the Maramures county. This strategy should also include the set up of an Innovation Support System. In this Innovation Support System the different roles and responsibilities of governmental organizations and agencies are described and respected.

- Focus more on existing companies
In order to develop the regional economy of Maramures County, it is essential to strengthen the SME sector. The SME's are the backbone of your regional economy. In general, the authorities should play a more proactive role in the support of entrepreneurs. The municipalities and the county do have a shared responsibility in this. To this aim, it is advised to organize meetings for entrepreneurs on a regular bases. These meetings should be informal and should focus on sharing visions and meeting challenges. Sharing success stories, for example from the Ramira company of the ARCE company, can inspire other entrepreneurs in the Maramures County to cooperate and to innovate.

- Develop strategies to attract and support new companies
It's the strong believe of the Peer Team that Maramures County can put more effort in attracting foreign investors. As in Romania as in Maramures County the production costs are relatively low and the infrastructure has been significantly improved. These factors are key elements in attracting foreign investors like for example the United Alloy Company. A strategic plan to attract foreign investors should be developed, with a clear focus on place branding and the manufacturing industry and based on the building of long term international relationships.

- Communicate actively your strategies, programs and instruments
The Peer Team concluded that the programs and instruments available to foster innovation and job creation are often not known by the entrepreneurs we spoke to. Therefore we would kindly suggest to the regional authorities, both the county and the municipalities, to communicate actively about your strategies, programs and instruments.

- Be flexible
The Peer Team would like to stress the importance to be flexible in the execution of developed strategic plans like for example the Innovation County Action Plan 2011 - 2020. Cooperation and support of various stakeholders are key elements in order to make progress. Investigate therefore together with the stakeholders which elements should have priority, and start from there. Take little steps at a time, and work on the development of the CDIMM on a year to year bases.
SECTION 4: EDUCATION AND HUMAN RESOURCES

(a) Key Findings

The unemployment rate in Maramures county, although having had a growing tendency during the years of the economic fallback of recent years, is still rather advantageous compared to eg. the bordering Hungarian region, Észak-Alfold and many other European regions. Especially so, as the most recent data of the County Agency For Employment show that during present year - 2013 - the number of people unemployed and the unemployment rate as well are lower than in 20121.

Although the region has a long history of focusing on the mining industry, the human capital resources seem to have adapted to the changing economical characteristics of the county by now. Qualification-wise the highest number of people without a job are not those having an education related to the mining industry, but interestingly those qualified as technicians/operators in the field of information and communication2, and among those with a higher education the ones with a degree in economics. Accordingly, there seems to be no significant need to re-train a high number of people, thus the Maramures strategic development plan for the 2014-2020 period defines the goal for human resource development as “continuous training of the employees, promoting social cohesion, social inclusion of disadvantaged people, promoting gender equality in all social and economic areas”.

The peer team had to note though, that a relatively low level of unemployment can lead to tensions on the labour market, as the available workforce - as it seems to be the case in Maramures - might not be able to fulfil the needs of the local economy, thus the county is forced to attract people from other regions of the country as well as in some cases from other European countries. The local universities could be of a significant asset to this task, attracting young people from all of Romania. The 4 (private and public) institutions are offering a wide range of study fields, and especially the private institutions seem to be able to use their flexibility to a significant extent when it comes to reacting to the needs of the local labour market, offering courses matching the local demand.

During the peer review visit, the peer team had the opportunity to learn of the important and proactive role the local institutions of education, especially the North University, are taking. The level of cooperation between the public institutions, the enterprises of the region and the administrative bodies of the county is strong, although the peer team had the feeling that it is not exploited enough. Unfortunately, during the peer visit the peer team did not see an example for triple helix cooperation, which could be direction for further development of this cooperation, in which the University might take the leading role.

1 According to the data provided by the Maramures Agency for Employment on the number of registered unemployed people
2 Based on the statistics provided by the Maramures Agency for Employment
One possible field of such cooperation - in the peer teams’ opinion - could be built on the fact that the local enterprises are also open to be involved in the training of the local workforce. The peer team’s viewpoint is that synchronizing and structuring the educational and training services different actors are providing in the county could lead not only to direct financial benefits, but would have positive effects on the labour market as well. Such positive effects are needed, as the peer team found that finding the proper workforce - with appropriate educational background and skills - is a problem for many of the local businesses.

This is - on one hand - due to the fact that the county feels the effect of the outward migration of the local workforce in case of the highly qualified people as well as those of a secondary educational level. But on the other hand the peer team also had the feeling that there is a slight mismatch between training facilities and services offered in the county and the needs of the local enterprises. One of the indicators of this not sufficient level of synchronizing is the number of companies feeling the need to set up their own training programs and even facilities, but another could be the fact that the active measures the Agency for Employment is offering are not fully utilized.

The knowledge and skills of the human capital of the county is impressive even at the moment, but the peer team had the feeling that intellectual property and securing this property is not given appropriate priority and importance. Although technology transfer is never an easy process as bringing innovative ideas to the market successfully demand significant resources, the lack of these investments should not lead to giving these away freely.

The peer team also had the feeling, that the county should focus more on, and take better care of its entrepreneurs as resources for future developments. Many of the companies the peer team had the opportunity to visit reported and showed a level of disappointment and “burn-out” that might pose the threat of these entrepreneurs (and their know-how) leaving the county or giving up their enterprises.

(b) Recommendations

1. **Active labour market policies** offered by the County Agency for Employment be synchronized with local needs on a higher level

According to the information provided by the Maramures Agency for Emloyment, a number of active measures are not used to their full extent, thus leaving some of the allocated budget unused. Active labour market policies could provide a valuable tool to boost employment, and in many cases ease the financial burden on companies facing the need to train employees for their (specific) needs. However, to fulfil such functions, these should be developed in accordance to the capacities and demands of the private sector. Measures introduced to boost employment are often based on statistical analysis of the labour market of a given area, but a direct involvement of the target

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3 http://en.wikipedia.org/wiki/Active_labour_market_policies
groups (e.g: enterprises) in planning these measures could lead to a higher level of utilization. Furthermore, measures and resources not fully exploited should be reviewed in order to specify the background for the lack of interest from the private sector for the given opportunities. The County Agency for Employment should focus more on analysing local needs and results of introduced measures in order to bring the active measures more in line with the company needs.


2. **Communicate the existing instruments**

During the peer review visit, most of the companies visited by the peer team reported that they did not have sufficient information on the active labor policies and measures they could use to e.g. train their workforce. Human resource development tools and instruments should not only be in line with the needs of the labour market, but actors of the local economy should have sufficient knowledge of the opportunities offered by different service providers. Creating two way communicating channels between service providers and the target groups of these services could not only ensure a higher level of utilization, but could contribute to the development and fine tuning of the services as well. Also, setting up communication channels between service providers could eliminate overlapping services and roles.

3. **Invest more in vocational training matching company needs and use (science) communication tools to promote technical / scientific professions**

Many of the companies visited by the peer team draw the auditors attention to the lack or insufficient level of vocational education as one of the main cause for their problem of finding the appropriate workforce. While there have been constant talks and warnings about the highly qualified workforce migrating to the developed countries, many member states are forced to realize that diminishing the number of blue collar professionals/skilled workforce can have negative effects of a similar level on the local, regional and even national economy. Investing in vocational education should be prioritized accordingly, however, it is also important to steer carrier choices of the new generations towards these professions. Admittedly, labor market prognoses have a limited reliability, however educational and human resource strategies based on economy development program-documents could provide a vision and forecast on the future need for skills and professions, according to and around which the vocational education system can be re-organised and invested in. As the peer team also experienced, there are many companies in Maramures willing to invest in and cooperate with the institutions of vocational education. Such cooperation should be supported and nurtured.
Good practice suggestion: Technocentre Flevoland (www.tc-flevoland.nl, in Dutch)
Technocentrum Flevoland cooperates with schools and private companies in projects to interest young people for technical professions. This is done by realising an increasing awareness of the technical sector in lower business education, creating enough possibilities of higher business education and by increasing the average education level in the province. By doing this, Technocentrum Flevoland is improving the skills of employees with a technical profession, in order to strengthen business in Flevoland and to contribute to an attractive environment for new and existing companies. In practice, Technocentrum Flevoland organises cooperation between schools and companies, by establishing common projects in order to:
- create networks between education and business in the region;
- stimulate knowledge exchange and innovation;
- offer an attractive orientation on profession and company to young people, so they can make a good choice taking into account their interests and talents;
- offer attractive and challenging up-to-standard education that is very well connected to business in practice in Flevoland;
- create jobs that offer a long term perspective.

Good practice suggestion: National instruments in Hungary are running a number of different programs to support teachers and students of vocational education as part of the CSR activities of the company. Thus it provides specific trainings for teachers, organises competition for students, donates infrastructure to institutions, cooperates with them on tenders.

4. Strengthen co-operation between institutions of higher education and actors of the local economy
A strong cooperation between universities and the local economy is advantageous for all the participating parties. On one hand, universities and colleges open to such cooperation can offer a more in depth education for their students and a better prospect of employment after graduation through the factory/site based educational content and the infrastructure the enterprise is providing. On the other hand enterprises not only can benefit from the ready-to-use workforce made available by the education they contribute to, but can gather useful, in-operation information on them, thus reducing the cost of hiring.

Good practice suggestion: In Észak-Alföld region the University of Debrecen has an active cooperation with companies. One good example is the cooperation with the IT Services Hungary Kft. Also departments operated as joint ventures of companies and the university of Debrecen: http://tek.unideb.hu/kihelyezett-tanszekek.html (Annex 1)

A stronger cooperation could also lead to more focused research activities at the universities, which could cover the gap - financial, technological, ect. - between research results and market introduction. It is a core suggestion of the peer team that intellectual properties should be handled with more care. Good practice suggestion: Technology transfer office of the University of Debrecen (Annex 2)
SECTION 5: INNOVATIVE ENVIRONMENT

(a) Key Findings
This section has evaluated the innovation environment and innovation support system with focus on cluster development and innovation centers. After a week in Baia Mare with company visits and meetings with the public and university, the Peer Team found shortcomings in the natural innovative environment.

Incubator / university
The lack of incubators linked to the North University Centre of Baia Mare can be defined as a major flaw in order to stimulate an innovative environment where meetings between SMEs, academia and the public in an organized fashion meet and collaborate. The Peer Team also noted that Baia Mare did not house a Science Park where spin-off companies and other high-tech and growth companies can work together.

During our visits to the companies, it was quite clear that the natural link between companies and university and its higher education was not natural! The companies were in need of highly trained professionals. However, these professionals were hard to find. This Peer Team also concluded that staff was quite often trained and recruited from the already existing workforce.

Intellectual Property Rights
When we came in contact with entrepreneurs who had had various intellectual property rights, there was not really any strategy of holding such patents. The patents were most often used as a trophy for the entrepreneur and not as a way to monetize its exclusive rights to the product.

Cooperation and networking
Based on the field visits the Peer Team did not see any cooperation between companies in the same industry at local or regional level. However, we did see a collaboration on a internationally level. This was at chocolate factory where the CEO sent staff abroad for training.

During our field visits the Peer Team did not see any active networks between companies regardless of industry. Unlike other European regions there were no networks such as Rotary and Odd Fellows in Maramures region. During the draft of this report however representatives of the Maramures County informed us that the Maramures Chamber of Commerce and Industry is very active in promoting networks among companies/entrepreneurs from Maramures and other regions, both at national and international level. The Chamber of Commerce for example is currently implementing a cross border project with Ukraine and Hungary aiming to support the development of the economy of culture and creativity in the cross-border region Hungary-Romania-Ukraine.
(b) Recommendations

Organize informal meetings for entrepreneurs, researchers and others to share vision and innovation themes

There is a connection between the technical department of North University center of Baia Mare and local businesses. This is a good platform to create a forum for cooperation. The peer team could see a will from the entrepreneurs to create an even closer cooperation. By organizing more informal meetings for entrepreneurs, researchers and others of the academia, the benefits of taking part of new technology and latest research in the area can be shown to the entrepreneurs and could be a way of being in the forefront of their business area. If the entrepreneurs can take part of research to develop their business it could attract more companies to participate in these meetings and to network. The benefit for the researchers could be a way of finding new application areas for their research and to realize research. Informal meetings is then being a mutual way of transferring knowledge. Kreativ24 is an example of an event where students, entrepreneurs and researchers work together for 24 hours to solve real cases from industry, municipalities and researchers. The participants are divided into teams and then work together to solve the assignments. Another example is from Stanford University where they offer lectures and practical discussion from faculty and outside experts (see http://biodesign.stanford.edu/bdn/courses/bioe374.jsp).

Develop a strategic plan for international acquisition

The Municipality has shown a great will to assist companies from outside the region and the country to establish their business in the region. The Peer Team advises to try to attract more companies like the United Alloy Company to Maramures County. In order to do so, we kindly suggest to work out a strategic plan for international acquisition with a vision of being an attractive choice for foreign investors. Employers like United Alloy, with an international ownership, can attract younger people to stay in the region and can also lead way for other companies to invest and establish in the county. If you manage to tie in more high-tech companies as United Alloy Company in Maramures, there will come out several spin-off companies from ideas that employees and management to come on during the daily operations. Especially if it will be given opportunities to develop these ideas in working on a science park (see http://viavasterbotten.se/).

Redefine the position of an incubator: connect to the university and provide full services

The idea of an incubator is an organization dedicated to promote and facilitate the start-up company's path to growth and profitability. The incubator's primary mission is to provide qualified business or business coaching, and networking to facilitate communication with customers, partners and investors. In many cases the business development assistance is combined with support services such as rental of office space, telephone and IT networks. In addition, the incubator is often partnering with service providers accounting and financial management, business law, marketing and recruitment. Often the incubator owners and stakeholders set goals to promote entrepreneurship and business creation, create sustainable and profitable businesses and raise ambition in terms of growth in business turnover. Another goal might be to promote the
commercialization of research discoveries, particularly if the incubator has connections to a university or college. In Sweden there are both public and private incubators. Many incubators began as a university affiliated entities with a focus on commercialization of research discoveries, but opened later their admission to entrepreneurs of various kinds and even spin-offs from established companies in some cases. The purpose of an incubator is to diversify the economy and to increase the tax base, to strengthen the private sector, to create a decentralized and local development, to change the attitude facing entrepreneurship, to stimulate innovation and risk taking to create jobs, to increase the chance of survival of the company, to promote development and to transfer technology.

Companies or individuals may apply for participation in the incubator's business development programs. After an evaluation of business ideas potential for growth and profitability, feasibility and risks they incubator may decide to allow participation in the program. Often concluded with an agreement between the parties governing commitments and obligations. An incubator program often lasts between 1.5 and 3 years and can be divided into phases or sub-programs. Recently, new and faster incubator programs are developed and implemented with the aim of providing adequate support to entrepreneurs with IT, internet or media ideas. Such business ideas must often be quickly tested in the market. Companies leave the incubator when it has had enough business development support to cope with product development, marketing on their own.

**Start a feasibility study to develop a Science Park**

Science parks are stimulating and rewarding environments that offer knowledge-intensive growth infrastructure, networking and business development. A science park can be described as a meeting point between people, ideas, knowledge and creativity and is often a platform for greater innovation and development projects. A science park is often closely related to a nearby university or college and often research institutes. It evolves and makes grow innovation and knowledge-based companies. Science park company size ranges from start-ups to multinational groups but most commonly established SMEs. The companies are offered a creative and stimulating environment with access to venues, networking activities, conference facilities as well as service facilities. Many science parks also offer various types of business networking, development, clustering and access to development environments such as laboratories and test and demonstration environments. Often they also offer application services, funding or support to reach the international market. The target group for these services varies but generally include from new innovation companies, SMEs to multinationals. A science park is a dynamic and changing environment, as well as the companies they harbor or have in their network. Conditions for today's business world is changing rapidly and all efforts corporate stakeholders, society and institutions jointly do to stimulate enterprise development must of course be proactive. The node in such regional innovation system is often a science park and the park's activity should be seen as an open platform for major projects for business development, regional appeal and contribution to growth and prosperity. Consequently, both individuals and businesses in and outside the park are welcome to utilize its services.
Create instruments to stimulate and disseminate innovation

One of the companies that Peer Team visited was the Electro System Company. This company had an embryo of an internal reward system for improved ideas or processes and developed business. This could be developed into a larger regional perspective. You could take the ideas and the idea holders and put these people in processes to develop ideas or to be a spin off company. In Sweden advisors work the NABC model (elevator pitch) and BMC model. Both models are explained here.

<table>
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<th>NABC</th>
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<tr>
<td><strong>Need:</strong> What are our client’s needs? A need should relate to an important and specific client or market opportunity, with market size and end customers clearly stated.</td>
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<tr>
<td><strong>Approach:</strong> What is our compelling solution to the specific client need? Draw it, simulate it or make a mockup to help convey your vision. As the approach develops through iterations, it becomes a full proposal or business plan, which can include market positioning, cost, staffing, partnering, deliverables, a timetable and intellectual property (IP) protection.</td>
</tr>
<tr>
<td><strong>Benefits:</strong> What are the client benefits of our approach? Each approach to a client’s need results in unique client benefits, such as low cost, high performance or quick response. Success requires that the benefits be quantitative and substantially better - not just different. Why must we win?</td>
</tr>
<tr>
<td><strong>Competition/alternatives:</strong> Why are our benefits significantly better than the competition? Everyone has alternatives. We must be able to tell our client or partner why our solution represents the best value. To do this, we must clearly understand our competition and our client’s alternatives. For a commercial customer, access to important IP is often a persuasive reason to work with us.</td>
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<th>BMC</th>
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<td>Your business model - on one page! The Business Model Canvas, is a strategic management and entrepreneurial tool. It allows you to describe, design, challenge, invent, and pivot your business model in one page (see <a href="http://www.businessmodelgeneration.com">www.businessmodelgeneration.com</a>).</td>
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Take better care of your intellectual property

One of the companies the Peer Team met, the Helcor Company, held many patents historically and had live patents today. However, there was no strategy on how to use the IP and how to make use of living patent commercially. Helcor Company found that the patent was like a fine distinction, a diploma on the wall. For most people, it is of course the commercial benefits that are most important. By being able to take out a patent, and thus have the opportunity, through its exclusive recoup invested development money and a virtue beyond, is the spur that drives technological evolution. Without the opportunity to at least get back the money for development and investment costs would probably stagnate the progress. The patent holder, the “inventor”, does not commercialize their invention itself but may sell the patent to someone else. Another way is to use a license allowing anyone to use the invention for consideration. The patent gives its holder an edge in the market. Competitors may be forced to use costly techniques giving the patent owner a
competitive edge. Acquiring interesting partners, perhaps in other countries, may be easier when the company holds an attractive patent.

Patents are, as mentioned earlier, to protect inventions and technical solutions. Please note that the technical solutions. That means that even methods, applications and system combinations can be patented. It is the idea's design and use to protect by patent. For you to be able to get a patent, the invention must satisfy the following criteria:

1. The idea must be capable of industrial.
2. The idea must be new.
3. The idea must involve an inventive step.

The invention must be capable of industrial means. It should have:

- Technical character, that palpable as an object or a method of making something on.
- Technical effect, that the invention must have a technical function and in a technical way to solve a problem.
- Be reproducible, that is, that every time you use the invention, the technical result to be the same.

Being new means that the invention must not be known to anyone anywhere in the world before you filed your patent application. Inventive step means that there must be a substantial difference between your invention and the inventions that are already known.

**Give support to SME’s**

Public player’s responsibility can be, through seminars and trainings, to educate SMEs on these issues. In Sweden, there are such agreements with various patent attorneys, where governments go in as public actor and pay an initial search and examination of the idea. Where they find out if the idea is infringing on existing patents. The inventor may also find out if there is any patentability of the idea! Then they get a good foundation for how we will advise further in the process. Almi Företagspartner in Sweden has been running a pilot project with the Patent and Trademark Office which consists of different following items. Pilot initiative is part of a government commission that aims to improve and develop small SMEs business strategic management of intangible assets.
(a) Key Findings

Partnership in general is an essential condition for realising innovation and economic growth. The Peer Team has seen interesting examples of cooperation within the business circle in Maramures, such as in sharing transport facilities, the exchange of personnel, the use of buildings etc. The Peer Team also found some very good practises of cooperation between the technical faculty of the university and (bigger) companies. And as far as the peer team understood the already existing Development Centre for SME’s Maramures (CDIMM) is also practically developed by several county parties from both official and business level, including banks. However, within the framework of the peer visit is was hard to find more structural cooperation between authority levels and companies, SME’s in particular. This type of cooperation is essential to be successful in a common effort to bring more economic growth to regions with a structural lack of (technical) employment.

Financial support (loans, investments) is a basic condition to create economical growth, innovation and job increase. New products have to be brought to the market in order to make companies grow. Within the EU it is always rather difficult to find financial support for the development of new products, especially for SME’s. The Peer Team noted that is a real challenge for the entrepreneurs we spoke to. The Peer Team found sad examples of well worked out plans of entrepreneurs for the investment in new, innovative machinery, but in the end they failed to obtain EU Funds due to bureaucracy and lack of (financial) support from the local, regional an national government.

(b) Recommendations

- Organise meetings on a regular bases between entrepreneurs and authorities

A fine example on the level of policy making can be found in The Netherlands by looking at the so called “polder model”: regular talks between representatives of (local and / or regional and / or national level), business circles, trade unions and the responsible authorities have shown to be very useful for both making structural plans as well as for the implementation of these plans. Under independent chairmanship these three partite talks take place several times a year and are meant to coordinate plans and actions. For those meetings universities should be invited as well. By acting this way from the beginning all stakeholders are given the opportunity to participate actively in both the planning stage as well as in the implementation stage.

- Work actively on cluster development

Sustainable coalitions between relevant parties (e.g. a few companies, the county, knowledge / research and education institutes) can play a very important role in stimulation innovation and in creating innovation based jobs. Sustainable clusters quite often find their origin in ‘round table meetings’. These meetings can initially be organised by the local or regional government.
Stimulated by the authorities such clusters can be made responsible for the planning and implementation of strategic and master plans. This planning should be based on the needs of companies and entrepreneurs. In organising these round table sessions the pharmaceutical and touristic sector should not be forgotten. A good practice of how these round table meetings can be organised can be found in the Economical Development Board Almere (EDBA).

- Be clear in your position and communicate actively about it
The position, role and responsibilities of all political levels should be clear as from the beginning. Instead of competition there should be a clear picture of cooperation and fine tuning between cities, counties, metropolitan areas and regions. More specific: It is the strong believe of the Peer team that the county and the metropolitan area Baia Mare should intensify their cooperation and synchronise their strategies and activities and communicate about all economic plans, financial (European) incentives etc.. Entrepreneurs have to know to whom they have to address their questions and needs. Each strategic plan should have a communication paragraph, concerning how all stakeholders will be involved in the implementation and evaluation of the plan.

- Invest in partnership with financial institutions
The Peer Team would kindly suggest the county to investigate the possibilities to cooperate with the local and national financial institutions and to investigate how the various instruments can be improved in order to fill the needs of entrepreneurs. Venture capitalists should also be invited to participate in this discussion. An example of this type of cooperation can be found at the Development Agency in Flevoland.
SECTION 7: SUSTAINABILITY OF THE JOBS CREATED BY THE INNOVATIVE SECTORS

(a) Key Findings

The Peer Team identified two strong drivers in the Maramures region that can significantly contribute to create new jobs in the innovative sector: the relatively low labor costs (compared to the western European region) and the good mentality of the work force. These strong drivers make Maramures an attractive region for foreign investors. These strong points could be defined as unique selling points of the region, in combination with the relatively low costs of building plots.

We also noted that a quite large percentage of the workforce has left the region, especially the relatively young workers. There also seems to be a limited connection between educational institutions and the skills required by the companies in Maramures. This seems especially the case in the technical sector. This lack of labor force might cause serious problems in the future.

Based on the interviews the Peer Team concluded that several workers with a high educational degree left the region. This braindrain makes it even more difficult for the region to be creative and successful in creating innovative jobs.

(b) Recommendations

- Raise awareness for in house innovation
  The Peer Team kindly suggests the Maramures County to raise awareness for in house innovation. In general employees hesitate to share their innovative ideas for further improvement of the manufacturing process. These ideas however can significantly contribute to the success of the enterprise. It is therefore essential to challenge employees to come with new ideas, especially in the manufacturing sector. This can be done in various ways. An “Idea Box” and the “Election of the employee of the year” are practices that are implemented in many enterprises all over Europe. In addition: Flevoland organizes the annual election of the ‘most innovative enterprise’. The Peer Team kindly advises the Maramures region to compose a Port Folio of practices that are used in Europe in order to stimulate in house innovation and to distribute this Port Folio amongst the CEO’s of the companies in Maramures county.

- Branding your region
  As stated above, the Peer Team identified two strong drivers: relatively low labor costs and a good mentality of the work force. The Peer Team is convinced that these strong drivers are key in the international acquisition policy of Maramures region. We therefore strongly advice to put much emphasis on these drivers in your branding policy. We also recommend to use success stories like the United Alloy Company to take aboard in your international acquisition strategy (story telling).
- **Data collection**

The development of a strategy to create innovative jobs should be based on actual and accurate information. It is essential to know your current economical situation, and what trends are. Statistical analysis is key to this. We recommend that the Maramures county puts more emphasis on statistical and data analysis to show greater understanding of future trends across all sectors. This will be critical to effectively achieving any outputs outlined in regional and sub-regional strategies and action plans.
Section 8: Conclusions

The Peer Team had a marvellous and well organised week in Baia Mare. We met highly motivated and skilled people, both entrepreneurs and representatives of governmental organisations. The peer team was impressed by the positive mentality of the work force in the region and the strong companies that found in Maramures county there home.

The Peer Team saw the struggle of the inhabitants of Baia Mare and Sighetu Marmatiei in order to built a society based on democratic and free market principles. We do realise that the revolution in Romania took place less then 25 years ago and that it takes time and effort to rebuilt an economy based on free trade and competition. We are impressed of what the Romanian people have achieved so far. The Peer Team saw various signs of reinforcement of Maramures regional economy. The infrastructure for example has been improved significantly. Foreign investors came to your region and the skills of the entrepreneurs have been improved. This is something to be proud of! We kindly advice you to take small steps ahead and celebrate your success stories, both on municipality and county level. Do not compare yourself with the Western Europe countries, but built your own region based on your own strengths and in your own pace. Seek active support from the European Union and seek, as an county, active cooperation with municipalities.

The Peer Team also concluded that the Innovation system in Maramures county shows several shortcomings that need to be filled in in order to boost the creation of innovation based jobs. The three most important shortcomings are:

1. An overall innovation strategy is missing. We kindly advise the county to take the lead in bringing representatives of the regional authorities, the North University Center of Baia Mare and intermediary organisations together to develop an overall strategy to boost innovation.

2. There is a lack of cooperation on various levels. Cooperation is key for realising innovation and economic growth. It is essential to bring entrepreneurs, governmental organisations and representatives from knowledge institutes together in order to share information, to sharpen ideas and to create mutual understanding and consensus. The Peer Team strongly believes that the county can play an significant role in this.

3. The innovation support system is poorly developed. The Peer team did not see an innovation infrastructure where (starting) entrepreneurs are supported to further develop their new business ideas. The region does not house an incubator although the CDIMM would like to for fill this gap. The Peer Team recommends the authorities to reconsider the position of the CDIMM, because we think the CDIMM can play an important role in supporting innovative SME’s.
Referring to the questions asked (see also page 8), the Peer Team would like to advice the following:

1. **How could Maramures County Council boost start-ups and job creation in the innovative sector, taking into account its limited legal competences in supporting the economic development?**

   **Answer**
   
   The Peer Team does recognize the limited legal competences of the Maramures County Council. We also think that legal competences are not the main driver in the creation of innovation based jobs. Key in this the creation of partnerships, in creating networks and in building an innovation infrastructure. We think that the Maramures County Council can play a significant role in this by stimulating cooperation and giving political support.

2. **What methods would you suggest to stimulate the regional decision-makers to assume and support the regional innovation strategy and initiate an action plan?**

   **Answer**
   
   As states previously in this report it is essential to develop an innovation strategy is supported broadly by entrepreneurs, knowledge institutes and authorities. Front runners are key in preparing this innovation strategy. Therefore, we would kindly suggest to identify the front runners in your region and put them in the driver seat. These front runners should take the lead in preparing the innovation strategy. Regional decision makers should take a facilitating role.

3. **What kind of financial instruments could the Maramures County Council use to support innovative companies?**

   **Answer**
   
   The Peer Team does understand the importance of financial support in order to boost the creation of innovation based jobs. It is a very strong driver. In general, EU funding should play an important role in this. From the discussions during the peer week however we concluded that the excess to funding, the bureaucracy, is the main bottleneck. This is the main challenge that has to be faced. This challenge is a responsibility of the authorities of all levels, including the national and EU level.

4. **How can the regional administration intervene so that innovative clusters be initiated and developed in the region?**

   **Answer**
   
   Cluster development is a long term investment. It takes much time and effort to gain trust and mutual understanding. We think that the role of regional government should be in creating the proper setting for entrepreneurs to share their innovative ideas. The only way to initiate innovative clusters is to organize meetings and make these meetings attractive for entrepreneurs.
5. Based on your own regional expertise, are there any recommendations you can make so that Maramures region attracts appropriate complementary actors with the aim of supporting business start-ups or even the further development of a growing enterprise?

Answer

As stated in section 7, the Peer team identified two strong drivers: the relatively low labor costs and a good mentality of the work force. The Peer Team is convinced that these strong drivers are key in the international acquisition policy of the Maramures region. We also recommend to use success stories like the United Alloy Company to take aboard in your international acquisition strategy (story telling).
Annexes

Annex 1

Title: External Faculty of Chemists and Pharmacists

Main focus: Human Capital

General description:

The External Faculty of Chemists/Pharmacists of University of Debrecen provides market oriented education to university students supported by TEVA Pharmaceutical Ltd.

TEVA is a capital-intensive multinational company with a stable financial background and more than 111 years professional experience. It is the world’s largest generic pharmaceutical manufacturing company; its global product portfolio (which includes more than 1000 molecules) is comprehensive, strong and robust. It is directly present in more than 60 countries worldwide.

The pharmaceutical company and the University of Debrecen have been working in collaboration for several decades. They are working together successfully in several fields, one of the most important is the issue of recruitment of new professionals.

Within the External Faculty both the theoretical lectures and the practical classes are held by TEVA employees, so the students can obtain first-hand information on drug manufacturing.

The main success factor of this faculty is meeting the supply of students and the demand of a market oriented industrial company. The university teachers cannot provide that kind of practice oriented education that is needed by a company.

Activities:

TEVA organizes regular company visits, and during these visits all students can familiarize with TEVA Pharmaceuticals Ltd. via a company presentation prepared by the HR Management, and then they can get an insight into the activities of the Fermentation Plant and the Biotechnological Laboratory.

The chemist students can gain comprehensive knowledge on the application of biotechnological procedures in the pharmaceutical industry, as well as the extraction of active pharmaceutical ingredients. The bio-engineer students can hear a presentation on the importance of biotechnology and fermentation. After a presentation on the Sewage Plant, they can view the Biotechnological R&D Laboratory, the Sewage Plant, the Fermentation Pilot - and the Fermentation Plant.

TEVA provides an opportunity for summer practice for more and more university students over the years.

Currently BSc and MSc chemical engineers (the latter from the Budapest University of Technology), BSc and MSc chemists as well as bioengineers are preparing their graduation theses at TEVA, and several students are also involved in our TEVA Scholarship Program. The member of students within the Faculty who intend to write their graduation theses at TEVA Pharmaceuticals Ltd. has been increasing exponentially over the years, and TEVA helps approx. 320 students’ education per year.
TEVA helps in Bioanalytical Summer School:
- Presentation of the bioanalytical laboratory
- Presentation of drug manufacturing (visit to the plants)

Results:

20 TEVA employees participate in holding lectures and conducting practical classes. Approx. 80 students are participated already at the summer practice. Altogether approx. 70 students are preparing their graduation thesis at TEVA. More than 320 students have already gained expertise from a multinational pharmaceutical company.

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Photos:
Annex 2

The University of Debrecen (UD) plays a significant role in the everyday life of the Region Észak-Alföld. It is the biggest higher educational institution in Eastern-Hungary.

Innovation and technology transfer is in the focus of the universities innovation strategy since 2005. The leadership of the University of Debrecen supports the utilization of the innovative ideas, products or services developed by the researchers of the university. This is the main goal of the Knowledge and Technology Transfer Office (UD TTO) as well. The office was set up in 2005 under the umbrella of the so called Regional Knowledge Center (RKC) project which was supported by the National Office for Research and Technologies of Hungary.

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.

UD TTO undertakes the utilization of R&D results and technologies developed at University of Debrecen. As a non-profit transfer organization, UD TTO plays a mediator role between the university, companies and investors.

Main activities:

- Supporting innovative ideas and projects
- Developing and maintaining partnership between researchers and enterprises
- Managing the knowledge map of the University of Debrecen
- Providing online technology search service
- Full management of intellectual property
- Transfer of research results into business and industry
- Consultancy on funding R&D projects
- Supporting spin-off foundations
- Investment promotion and business development services

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