



Synergy and Empowerment Concept

Based on good practices shared and implemented in
the Interreg BSR project EmplInno

ICT

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Synergy and Empowerment Concept – ICT

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EmplInno – S3-Empowering for Innovation and Growth in Medium-Sized Cities and Regions

To turn the Baltic Sea Region (BSR) into Europe's most dynamic, innovative and competitive economy of the continent, the regions need to apply and constantly improve their Research and Innovation Strategies for Smart Specialisation (RIS3). Since 2016 the Interreg BSR project EmplInno supported partner organisations from twelve regions in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden to foster the implementation and improvement of RIS3. The project provided strategy owners, strategy implementers and other innovation actors with resources to better work with the RIS3 approach and boosted cooperation and knowledge exchange between stakeholders within and beyond the partner regions.

The partners developed and implemented numerous R&D transfer workshops, matchmaking and networking events as well as training formats. By doing so they provided companies, universities and other actors with knowledge and resources to implement innovative and competitive ideas. Furthermore, EmplInno helped to improve and update regional smart specialisation strategies by transferring experiences and recommendations to regional authorities as well as strategy implementers to adapt and use the RIS3 for the benefit and growth of the region.

Further information: www.empinno.eu

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Introduction: methodological approach for the development of the S&E concept

Rationale and the Aim of the Document

The document is developed as a part of EmplInno project (emplinno.eu) – an EU-Interreg project aiming at fostering the implementation and improvement of RIS3 in medium sized cities and regions in the Baltic Sea Region (BSR). The project includes twelve partner regions in Germany, Denmark, Poland, Lithuania, Latvia, Estonia, Finland and Sweden to support innovation intermediaries (i.e. business support organisations, science parks and universities) with tools and formats to work with the RIS3 approach and to boost cooperation with SMEs within and beyond the partner regions.

Information and Communication Technologies (ICT) as well as five other thematic priorities were chosen to produce project results for developing synergy and empowerment tools which could be adapted by innovation intermediaries to develop resources which are in line with “Research and Innovation Strategies for Smart Specialisation” (RIS3¹) to:

- enhance R+D transfer to/between SMEs to build a knowledge-based sustainable economy,

- promote cross-sectoral knowledge exchange to identify future markets,
- offer matchmaking opportunities to/between SMEs to make use of existing capacities and strengthen regional competitiveness,
- offer capacity building for more knowledge-based economies,
- foster cooperation between regional/transnational stakeholders to enhance global competition,
- and thus, capture opportunities and implement innovation projects in the BSR.

Moreover, the EU Strategy for Baltic Sea Region was adopted in 2009. The Strategy is an agreement between the Member States of the EU and the European Commission to strengthen cooperation between the countries bordering the Baltic Sea in order to meet the common challenges facing these countries today. The objective of connecting the region is one of the three main objectives of the Strategy aiming at bringing people closer to each other so that they can benefit from exchanging knowledge and ideas and doing business with each other. This objective can be reached through student and research exchange, for instance, or via business contacts. It is also about ensuring

Partner	Region
PP3. South Denmark European Office PP17. D2i Design to Innovate	Denmark
PP4. Business Support Organization KiWi GmbH	Germany
PP8. Kaunas Science and Technology Park (group leader)	Lithuania
PP9. Riga Planning Region	Latvia
PP10. Tartu Science Park Foundation PP11. Tartu City Government	Estonia
PP13. Prizztech Ltd. PP18. South-Eastern Finland University of Applied Sciences (XAMK)	Finland
PP15. Östergötland County Council PP16. Gävleborg County Council	Sweden

¹ To boost innovation and growth and to encourage cooperation between local authorities, academia and business, the European Commission started an initiative to encourage EU-regions to develop their own Research and Innovation Strategies for Smart Specialisation (RIS3). A RIS3 prioritises domains, areas and economic activities where regions have (or will have) a competitive advantage. Thus, these priorities vary from region to region. For more information please visit the website: <http://s3platform.jrc.ec.europa.eu/s3-platform>.

communications and the Internet as basis for seamless flow of information and closer, more instantaneous cooperation and exchange.

The **aim of the current document** is to present the concept as the guidelines for the decision-makers in the agencies mediating between the science institutions and start-ups/ mature businesses as well as between B2B on the facilitation of the flow and implementation of technology transfer and innovation ideas and thus, increasing innovation capacity as well as empowering SMEs and facilitating their outward orientation.

Strategically crafted cooperation in the Baltic Sea Region has many advantages that include smarter problem solving with better opportunities for solving common challenges that require efforts from all involved parties as well as better approaches and methods with access to more skills and sustainability.

The document is built on expert insights, good practices and the knowledge of project partners. It describes practical implementation challenges for regions with ICT as a priority in Smart Specialisation Strategy (RIS3), and provides a model for moving forward.

The group consisting of following partners have contributed for their respective regions to support the whole analysis and development of Synergy and Empowerment Concept:

Problem-solving approach to innovation transfer in the ICT sector

Often concepts for synergies and empowerment which can be facilitated by the innovation intermediaries are developed based on the problem-solving approach. Thus, the problems faced by the ICT companies in innovation transfer first need to be identified and then solved by the innovation intermediaries. The more specific the problems identified, the better suited the solutions provided.

Multiple documents and expert insights indicate an array of problems hindering the innovation transfer processes in the ICT sector. We indicate some of the core problems in the current document, yet we acknowledge that despite the “born-global” nature of the ICT sector part of the problems in the sector are contextual. They depend on the national business eco-systems and are sector-specific, yet in order to be applicable on a wider scale they need to be generalized to some core problems faced by the exponentially growing ICT sector in the Baltic Sea Region (BSR).

To identify the core problems, we have investigated some key policy and policy implementation review documents and have conducted in-depth interviews with 8 experts in the ICT science and business sectors.

Good practices in ICT science & business synergy and empowerment facilitation

Good practices’ analysis on which the theory is built (the theory-building approach) is often a parallel track to problem solving in concept development.

Multiple functional tools in innovation mediation, both synergy and empowerment, have been developed so far. Some of them have been tried out and have become examples of good practices. Some of the most widespread concepts and tools include (but are not limited to) lunch/ breakfast for innovators, in-house mentorship programmes (Alumni, industry experts, etc.), agile/ scrum start-up workshops, design-thinking laboratories, hackathons, etc. The dominant unifying approaches between those practices and instruments are two: networking facilitation and mentorship/ coaching.

In the current document we take some core elements from each of the success tools and combine them into the good practices for ICT synergy and empowerment concept in innovation facilitation.

Final concept development

At a final stage of the current document the sector-specific problems/ challenges and good practices are merged into a concept best applicable in the Baltic Sea Region. The final concept is thus made of good practices enriched with sector-specific core problems to be solved and hinders on the concept of *business networkability*. The proposed concept is based on the tools that are using networking facilitation approach such as “*Breakfast for Innovators*” (a concept adopted by Kaunas Science and Technology Park, Lithuania from Prizztech Ltd. in Finland as an outcome of R+D Transfer and SME Empowerment Tool) and is adapted to encompass good practices and a better ICT-specific problem-solving approach. This in turn, means that the final concept is comprised of 3 stages and offers networking facilitation by information brokerage at an initial networking stage (synergy), a networking event management (synergy), and mentoring program at a later stage that is based on design thinking processes (empowerment).

1. Challenges in ICT sector with respect to synergy and empowerment of innovation transfer

1.1. General challenges of ICT sector

“We cannot allow that wages and salaries in our economies (Poland, Lithuania, Latvia, and Estonia) would raise at a higher speed than labour productivity”, said Polish Professor Leszek Balcerowicz in an interview to a Lithuanian business magazine in 2012 [1]. “The development of the competitiveness of Lithuanian industry in the BSR is related to result-driven technology transfer, implementation of technological innovations in local industry and the creation of value-added based on those innovations. The processes we need are too slow, though”, said Associate professor L. Užienė, the Head of the Knowledge and Innovation Management study program at Kaunas University of Technology [2].

In the context of economy ICT is seen as a core means of generating value-added, especially in other business sectors than the ICT itself, and thus the sector is always expected to contribute more to the national economies of the BSR. The most cost-efficient added-value generation means is the innovation stemming from ICT as it is considered to require least investment and the results are tangible quicker. This way in the countries of BSR ICT is regarded one of the core drivers in Smart Specialisation processes. Despite the recognition of the importance of ICT to the breakthrough in value-added generation on national levels and despite high hopes related to ICT contribution to the overall industry development in BSR, the sector is confined to relatively small advancements in robotics, AI, cloud computing, fintech technologies and big data.

Sept. 2018 issue of *The Economist* magazine was devoted to discussing the challenges faced by The Silicon Valley, the cradle of ICT innovations [3]. The magazine states that some of the core issues related to the decline of the competitiveness of this cluster are related to the issues of banning immigration (foreign entrepreneurs create around 25% of new companies in America); decrease of Government funding for sciences (state spending on public universities throughout America and Europe has fallen since the financial crisis of 2007-08); rise of a global web of thriving rival tech hubs in different countries of the world.

As innovation is developed by people and for people soft skills are essential to innovation. Based on West Monroe study, T. Buus Madsen [4] concludes that at present HR and recruiting professionals emphasize

the importance of soft skills for hiring technology employees. The study results identified three main issues that are preventing technology projects from having a bigger business impact: collaboration-based issues; under-developed leadership potential; lack of training in soft-skills.

Ineffective collaboration impacts projects' efficiency resulting in delays and poorer quality of the project outcome. Clear communications, time management, people and conflict management are all critical factors to any project.

Leadership potential among ICT project managers and employees is not being emphasized sufficiently as HR professionals see leadership as the least important soft skill for technology candidates. This means that leadership skills among ICT employees are generally less developed and that they are often not involved in decision making processes. Technology has become one of the most important areas of competitive advantage of any organization so making sure an organization has technologists that can take up leadership roles will become ever more crucial for business success.

Lack of soft skills' development in many ICT businesses is the third challenge. Even though majority of contemporary businesses include soft skills in the performance review of their IT employees, yet few of them provide any form of training. With soft skills being acknowledged as a critical success factor for innovation projects, businesses need to invest more in soft skills training for employees in all teams, from IT to administration. Synergy empowering innovation intermediaries can be very helpful in this pursuit.

Another soft skill in need in the ICT sector is the ability to enter and develop *strategic networks* with the companies from other industries than ICT as well as being able to design *strategic growth* in relation to the large ICT players. According to *The Economist* [3], big ICT firms can seize on novelty as quickly as start-ups do and with a lot more energy. That has made it harder for young start-ups to grow into big companies themselves. “They are imitated, stamped out or acquired while they are still young”, states *The Economist*. Some talk of “kill zone” around big companies, where it is impossible for start-ups to operate, and thus innovation is hindered. Innovation transfer intermediaries' interference is much needed in tackling this challenge so as the

synergy between large and small companies is met and innovation creation and flow is empowered.

1.2. Challenges in Baltic Sea Region ICT eco-system

Key challenges faced by ICT sector in BSR in terms of new product development, B2B cooperation and innovation dissemination are the following²:

Signs of the very advanced yet slightly overheated ICT sector.

- ICT is one of the areas among smart specialisation priorities as a boosting number of FDI has been directed into the ICT sector both, world-wide, and specifically to Lithuania, Latvia and Estonia which have been known for high quality and high number of skilled work force in the ICT sector. Local investors and start-ups have also followed this trend thus raising the number of new start-ups working in the area of ICT. Those trends have influenced the demand for the skilled ICT employees and local universities have increased the numbers of entering students. Currently the lack of skilled ICT work force is starting to show, the increased demand has influenced the raise of the salaries of the skilled work force and thus many ICT companies must rethink their strategies both, in the area of attracting talents, as well as in the area of the value added of their ICT products/ services. At present ICT companies in Lithuania, for example, put more emphasis on the need of skilled yet low-paid ICT employees rather than on the search for new value-added product/ service ideas.
- In Latvia, for example, ICT is not considered strong in fundamental/ embedded research, but there are many joint initiatives between ICT and medical, pharmaceuticals industries, organic and synthetic chemistry, yet in most of those cases ICT is in the role of facilitating rather than push-through technologies. And the lack of employees is estimated at roughly additional 200-300 specialists in demand at any current moment.
- In Denmark, for example, the IT sector is experiencing growth as never before but challenges like lack of specialized labour risk minimizes opportunities. Also, customers tend to buy IT to save money and become more effective, and not as part of an innovation drive. The Danish government expects a lack of 19.000 IT specialists in Denmark in the future. In order to address this challenge, the Danish government launched a plan in spring 2018 supporting a 'Coding Class' initiative at primary and secondary school levels.
- Sweden has been and is considered on top regarding ICT. The innovations in the area have been and is important and has contributed to the innovation landscape. For the same reasons it is also visible on national scale as digitization of industry is the priority of national government and ample funding is provided to promote ICT innovation. Positive ICT sector feature is the available competence (universities, research), and as Sweden is geographically large country with a relatively small number of inhabitant and a pretty demanding climate, those "natural factors" generate demand for efficient communication, cooperation and digitization. Negative feature related to ICT in Sweden is lack of knowledgeable and experienced employees and entrepreneurs. It is identified that employees to some extent are and will be a growing concern/problem. Sweden is better at engineering than selling.
- ICT sector innovations are very visible in Estonia, both in public and private sector. ICT is regarded as one of the most important areas enhancing innovativeness in the government and in companies (also in non-profit organisations) in Estonia. ICT is also one of the Smart Specialisation areas in Estonia. Estonia has gained worldwide recognition being leading innovator in e-governance and digital services. Notable examples from public sector involve e-residency, e-voting, X-Road digital infrastructure, digital education platform, digital tax declarations etc.

² Key references:

Smart Specialization implementation monitoring, 2-nd report, 2018, MOSTA and Ministry of Economy of the Republic of Lithuania [5]

Interviews with experts (conducted in summer/ fall 2018): Armantas Ostreika (www.linkedin.com/in/armantas/), Tomas Krilavičius (www.linkedin.com/in/krilavicius/), Vytautas Barzdaitis (www.linkedin.com/in/vbarzdaitis/), Tomas Černevičius (www.linkedin.com/in/tomas-černevicius-73808a19/), Ints Viksna (<https://www.linkedin.com/in/ints-viksna-31ba4019/>), Siim Espenberg (<https://www.linkedin.com/in/siim-espenberg/>), Aase Højlund Nielsen (<https://www.linkedin.com/in/aase-h%C3%B8jlund-nielsen-a210559/>), Peter Larsson – Senior advisor at Innovation and Business Development, Region Ostergotland

- Some positive conditions for innovation flow in Estonia include: strong ecosystem of ICT companies and support organisations (good level of collaboration between different actors in ICT field, not only public-private partnerships, but also B2B (corporate-start-up, joint corporate ventures abroad etc.) and B2G (business to government); support measures from the government; ICT related high-level solutions procured by the public sector; gained know-how and long-time expertise on implementing ICT solutions on different levels (local, regional, national, global); attractiveness of the sector for young people.
- Some negative conditions preventing innovations in ICT in Estonia are: challenges in finding more work force from Estonia and abroad (with necessary knowledge and skills) (it has been estimated that Estonia is lacking around 7000 employees in ICT sector as of end of 2018; tax policy – Estonia does not have most unfavourable tax policy, but neither it has the most competitive one in attracting and keeping quality labour workforce; access to financing could be improved and public funding for innovation and research is scarce (especially concerning early stage research-intensive (university) spin-offs).
- In Denmark, the public sector has undergone an immense digital transformation in recent years, driven by political objectives and supportive legislative frameworks. In 2007, the Danish government, and the associations Local Government Denmark and Danish Regions presented a digital strategy aiming at creating better digital services, increased efficiency and stronger cooperation between public and private sectors. Today, Denmark is considered as front-runner internationally when it concerns digitalization of the public sector. The ICT sector's role in this transformation is significant; private enterprises have for instance been involved in developing and providing digital solutions used by everyone today when dealing with the public sector (Nem-ID, NemHandel, NemKonto, MobilePay). Digitalisation has also moved to the top of the political agenda, most significantly expressed in large national initiatives supporting the uptake of digital solutions in SMEs, based on a national 'Strategy for Digital Growth in Denmark'. In Denmark, 17.130 enterprises were registered within the group 'Information and communication' in 2016, employing a bit more than 90.000 people on full time. Searching for enterprises producing computers and other products related to communication and electronic devices, produced the total number of 570 enterprises in 2016.
- Main positive condition for ICT in Denmark is a general high level of IT-readiness in the society –

more than 85 % of citizens (ages 16-74) access the internet regularly (based on 2017 data). This makes it realistic to presume a relatively high uptake and implementation of new digital solutions. Negative conditions are a lower level of people graduated with IT and communication skills in Denmark compared to countries that Denmark compete and compare themselves with, and a general lack of qualified employees for SMEs working with IT based innovation; also, national regulation is not yet adequately fitted to a society with fast-changing developments in technology requiring changes in the regulatory set-up for enterprises to benefit from putting new digital solutions, products or applications to the market. This means that enterprises may have to wait longer for necessary changes in regulations than enterprises in other countries.

Sound talent management system in ICT sector is not available.

Talents skilled in ICT research and application “sink” in the university spin-offs and do not reach other business sectors. Science and business in ICT are intertwined mostly via the fact of university professors managing their academic, research and private business engagements in parallel. This way the seamless connection of science, development and business application of ICT is achieved, yet science often becomes limited to research in the application of ICT and talented students often settle in professor-run companies thus making very little overflow into the market of other ICT companies or other business sectors and thus not contributing to the overall growth of the value added in other business that are not based on the ICT but rather need ICT solutions to increase their value added (mostly companies in production, transportation and other “traditional” business sectors).

Talented young graduates are scarce as talents are sought after and employed even before they graduate and many of them pursue the establishment of their own start-ups rather than choosing to work for an organization which does not provide enough challenge for them. Some local talents are looking for challenging employment abroad. On the other hand, there is little opportunity that the talents would become aware of the locally present challenges that could motivate them as there is no proper dissemination of information on the available opportunities. The ICT talents are recruited primarily via recommendations and if the head-hunters are not available to find a perfect match, the talents end up in companies which cannot fully capitalize on the talents available.

In June 2018, one of the Danish national newspapers wrote about increasing problems in attracting specialized labour in Danish IT-companies. This has led some of the larger IT-companies to start training newly employed themselves.

Search of trustworthy work force with niche skills for temporary projects is chaotic, yet those processes need to be smoothed out once the ICT sector is to embrace contemporary work organization forms like, for example, virtual teams/ companies. The multidisciplinary nature and diversity of current ICT qualifications makes it difficult to find talents with niche skills that are much needed in developing higher value added of the ICT products/ services. The ICT companies that get engaged in temporary projects in developing new products/ services (very often virtual and global) find it difficult to find skilled and trustworthy work force quickly and thus base the search primarily on their social contacts which quite often fail in catching up with the dynamics of new employee emergence on the market and new skills origination among dispersed individuals. ICT head-hunting companies are mostly oriented towards providing their services to foreign employers.

Export structure in Estonia, Latvia, Lithuania and Poland is at large dominated by the low-added value products and services.

The biggest part of Estonian, Latvian and Lithuanian export is attributed to manufacturing industries, and innovation in agro and food sectors are dominant in the overall low added value export structure in Lithuania. ICT sector could be a prime driver of the increase of the added value both, in the manufacturing, and agro- and food sectors.

ICT in Estonia as a standalone sector is strong and growing giving today ca 7% from national GDP. Throughout recent years ICT sector has been one of key contributors to economic growth. Starting from 2015 there has been an increased focus on ICT services running horizontally through “classical” business sectors. Digitalization of manufacturing companies/processes has reached concrete national measures worked out by Ministry of Economic and Communication Affairs by end 2018. This indicates that Estonia is treating ICT as a useful tool in a broader way to boost innovation in other sectors as well.

Traditional companies do not invest in themselves and the ICT sufficiently, and thus do not create innovation in the higher value-added areas. Even though a significant progress in a number of companies implementing product or process innovation in

Lithuania had been observed in 2010-2016, Lithuania is still far behind the EU average on this indicator. The sales of innovation new to the market and new to the company had decreased by 10% in the period of 2010-2016. With cloud computing, big data, AIS and other ICT technologies on the rise, local companies do not grab the opportunities for growth and innovation available in the local ICT sector.

However, an analysis conducted by the Confederation of Danish Industry presented in January 2018 indicates an increased interest among enterprises in the investment in IT. Every second enterprise plans to invest in IT during 2018. It is particularly software and hardware which is on demand. The trend is that IT forms an ever-larger part of the investments. Robots and automatization are increasingly among the investment priorities chosen by the enterprises. In particular, large enterprises plan investment in these types of technologies, whereas SMEs still lack behind.

For SMEs in particular, it relates to uncertainty, risks and high costs to invest in automatization and robots. A continued challenge is accessing to venture capital. Enterprises with a digital vision tend to invest more in digital solutions. During the last couple of years, enterprises with a digital vision has almost doubled in many countries of BSR.

Foreign companies in Lithuania, Latvia and Estonia mostly employ IT administration staff rather than developers of ICT innovation. Lack of Government financing of innovative ICT projects is apparent in almost all BSR countries.

In Sweden universities, research institutes and industry interrelate, it is the combined strength that generates innovation. It can be difficult to trace the origin of an innovation, yet clear multi-actor innovation projects originate and become available mainly under EU financed schemes.

Science - business cooperation easiest achieved with student Final Thesis development process. In Lithuania, for example, most popular way for Universities to achieve close co-operation with ICT sector companies is through the process of Final Thesis development as students are encouraged to solve “real-life” problems in their research on the one hand, and ICT companies in the market are head-hunting for talents. It is very rare, though, to engage non-ICT sector companies in this process, and in specialized scientific conferences aimed at ICT issues it is very rare to see the non-science, or non-ICT company presence both, among the presenters, and among the audience.

Based on digitalization as a national focus area, ICT innovation in Denmark is generated as an integrated part of business development in many different sectors. Strong clusters and innovation environments support the development of IT businesses – for instance, BrainsBusiness in Aalborg, and the Innovation network Infinit at Alexandra Institute, Aarhus. Still, other sectors like for instance robotics may produce innovative ICT products, although no product or enterprise is able to exist without a market and this indicate the importance of integrating IT product development within other sectors and as part of their value chains. Infinit Innovation network at Alexandra Institute in Aarhus, and BrainsBusiness in Aalborg as well as the IT University and other clusters/innovation networks are important organisations and institutions for supporting private companies in their ICT innovation and product and service development, though.

No meaningful dialogue in some BSR countries between traditional industries with a need for ICT solutions for the higher value-added of their products and ICT- based solution developers.

(So called) traditional industries of manufacturing, logistics, food and even education produce very little added value in Lithuania and Latvia. Among many reasons for that is the low productivity of the local labour force, and this in turn is (partly) influenced by the low application of ICT in the production and process management of the traditional industries.

Some of the main reasons for that are:

- Low knowledge of available ICT solutions that can be applied in such industries;
- Lack of knowledge among ICT companies of problems and challenges faced by traditional industries;
- Lack of skilled ICT engineers within the “traditional” industries who could formulate the problems within the companies and could look for relevant solutions in the market;
- Lack of promotional activities among specialized ICT companies in the presentation of their skills and abilities in solving the business problems (which they are not fully aware of as well and have little understanding of the production systems and processes in most of the traditional industries);

- High salaries of ICT labour force deter companies from other industries to employ ICT specialist or to buy ICT solutions from the development companies;
- Lack of financial incentives for the companies in search of ICT solution development that would be geared to solving an individual specific problem rather than buying a turn-key solution which does not fit all.

Thus, all in all, the ICT companies mostly sell products rather than solutions, the foreign capital companies within traditional industries bring in their own technologies, local traditional industries lack knowledge of how ICT solutions could increase their value-added, very little outreach from ICT developers towards traditional business and vice-versa, local ICT companies are developing solutions for either state-financed public sector projects or foreign partners.

As far as Estonia, for example, is regarded it is hard to tell but most probably more ICT innovation is being developed in companies rather than research institutions or universities. There are also a lot of initiatives ongoing in universities (especially in the University of Tartu and in Tallinn University of Technology). Relatively few of innovations born in RDI institutions are commercialized since there are few instruments available to bridge the gap from science to business. Innovations born at companies generally reach to market and therefore gain more recognition. However, above mentioned universities are well known and recognized globally.

Too little synergy between the resource “holders” and lack of empowerment of the potential agents of the synergies.

According to world innovation index Lithuania is ranked high in the attraction of foreign capital and the availability of risk capital to finance innovation, yet most of its ICT services are being exported. Thus, local companies have both, the ICT know-how, and the capital available locally, yet there is no relevant intercourse between the resources to achieve the needed synergy and empowerment. In Latvia, for example, multiple hackathons and creative “jam sessions” generate good ideas for star-up companies, yet nearly none of those are being further developed despite the available infrastructure (like business incubators or science parks). Most of those new ideas either “die-off” or are being “exported” together with the emigrating developers. This raises a serious concern related to the lack of proper mentoring/ coaching for the ideas generated.

In recent years there have been several scandals in Latvia related to the misuse of state money on overpriced ICT projects in health-care like e-medicine and some others, and this had resulted in fallen reputation of ICT sector as such.

The lack of local labour force and low number of new start-ups in ICT had been partly solved in Lithuania by granting innovator residence visas to start-up owners from countries like Belarus, Russia and other CIS countries, yet this policy is constantly hindered by the immigration bodies which still have bureaucratic procedures which take too much time in filling out the needed documents, especially when solving visa extension questions. The intermediaries like start-up hubs, start-up incubators and the like are always raising the issue and demand the ease of immigration policies.

There are several organisations in Sweden which have a purpose to support the development of companies and some of them have innovation and ICT as one of several focuses. National and European funding for research and development is one branch, clusters, incubators are another. The Swedish agency for IT development and security holds some popular yearly conferences called “IT-dagarna” (IT-days).

Everyone seems to know everyone (as the BSR countries are all relatively small), and most participants at local business events complain about the lack of new companies, new ideas, new entrants, etc. They argue that there is little sense in going to such-like events, as they already “know everyone on the market” (again, lack of social skills in recognizing the value of networking for new idea development).

On the other hand, though, the same event participants (company owners mostly) complain that they would not know whom to address should they encounter an ICT related problem to solve, or a vacancy to fill, and should they need to find a reliable, trustworthy solution *quickly*. On the other hand, as most job vacancies in the sector are filled with skilled individuals with recommendations, each “holder of the contacts” is limited to only a small number of known actors and would not enlarge/ enrich one’s social network unless confronted with new challenging situations, new people, new business venture, etc. This means that despite “everybody knows everyone” mentality there is always a need for new contacts, new skills, new ideas, etc. and information brokerage along the development of soft-skills is very needed in the ICT sector.

Different events, yet same presentations and same presenters; no follow-up in support for the development of the ideas.

It is often a case for a company (talking of its achievements, problems, etc.), or a start-up (having developed a pitch presentation for investors), or a scientist (all overexcited with a scientific finding) to keep repeating the same presentation wherever they go, despite of the nature of an event, or the problems being discussed. The organizers/ intermediaries in the networking events should take into consideration the fact, that such behaviour is very discouraging for the listeners and potential networkers. On the other hand, in Latvia, for example, the experts note the fact, that multiple hackathons and start-up idea generation workshops produce a lot of potential new ventures, yet nearly none of them is being further developed in Latvia (the winning start-up ideas either “die-off” or are being developed abroad with the emigrating developers). The experts see a clear need for closer empowerment efforts from innovation intermediaries (mostly in the form of mentoring/ coaching).

Despite huge imbalances in the regional ICT innovation development and transfer status quo and practices in the BSR countries, there are several common features that can be tackled using similar synergy and empowerment approach. From the previous overview of key challenges in selected partner regions of the EmpInno project, we draw conclusion that the synergy and empowerment in ICT can be achieved between science, business and in B2B relations with some significant networking and mediating facilitation, which would cater to, first, the need for free circulation of ideas, contacts, work force, second, the need for energizing dynamic exchanges, third, the need for acceleration of new business ideas needs to be supported by mentoring of the initial contacts so that they are grown into tangible projects and yield higher value-added outcomes.

2. Good practice overview in the facilitation of synergy and empowerment of innovation transfer

2.1. Common features among different approaches

Even though most programs and tools in synergy and empowerment are held in different national ecosystems and are run by both, the public, not-for-profit or private sector intermediaries, the dominant approach among them is the facilitation of networking³.

Good practice from Germany highlights benefits of **DevOpsDays** Conference (www.devopsdays.org) which is an open conference that emphasizes the collaboration and communication of both software developers and other information-technology (IT) professionals while automating the process of software delivery and infrastructure changes. It aims at establishing a culture and environment where building, testing, and releasing software can happen rapidly, frequently, and more reliably.

Estonia's good practice is built upon a Finnish good practice "**Mobile Monday**" and is run in Tartu since 2012. The event facilitates networking between small and large companies, and also between local and foreign talent. It emphasizes the collaboration and communication of both software developers and other IT professionals. During Mobile Monday events, attendees present innovative visions, trends, studies and forecasts from the mobile marketplace. Mobile Monday also provides an opportunity to contribute to the education of the broader public through its publications, online presence and media partnerships.

Open format of both **DevOpsDays** and **Mobile Mondays** facilitates outreach to a broad spectrum of experts from academia to business. On the other hand, it could be regarded as an annual community event for a region or specific sector and you can attract outstanding international researchers and business specialists by inviting them as key note speakers. A call for proposals allows one to select the most interesting speakers, themes and examples.

Another good practice identified and implemented in the framework of EmplInno project in Estonia and then shared between partners is **ICT Work Group**. The aim of the group was to intensify:

- discussions on possible directions of the development of ICT industry in Tartu and other project partner regions and how it will affect the implementation of the smart specialisation strategy;
- contributions to enhancing the implementation and improvement of the ICT smart specialisation strategies;
- sharing the knowledge on the future role of ICT in Tartu and South Estonia as well as in partner regions.

The project has set a list of requirements and competences for participation in ICT Work Group:

- doing business in the ICT industry;
- experience in collaboration with other stakeholders (representatives of companies, universities, research institutes, business environment organizations);
- experience in international cooperation in the ICT industry (participation in fairs, exhibitions, business missions, business meetings, conferences, export activities);
- knowledge of the ICT industry in Tartu and South Estonia;
- active members of ICT and/or business support ecosystem.

Number of experts were selected in partner regions to participate in the ICT Work Group by publicly announced selection procedure and clear statement of the role and tasks to be realized by experts. The tasks included participation in the work group of the ICT within the framework of the EmplInno project and participation in study visits and matchmaking events organized by the ICT Group of Activity as well as a participation in the R+D workshops organized by the project partners and presentation of the knowledge and experience gained during study visits or matchmaking events.

As one of the outcomes of the activity of ICT Work Group was a transnational delegation trip, organized on 21st March 2017 by Kiel Business Development Agency, Germany, to CeBIT fair in Hannover, Germany for more than 20 ICT Work Group members from Denmark,

³ A multitude of Startup Guides published by *Starups Everywhere* (2015-2017)

Estonia, Germany, Latvia and Lithuania where experts exchanged their insights regarding ICT related smart specialisation strategies in their respective regions.

In Latvia ICT cluster is very active in the implementation of different ICT sector support initiatives, Government is allocating money for the companies to participate in exhibitions, research financing program Horizon 2020 is widely used, and local chambers of industry are active in the dissemination of ideas, yet there is a lack of functional business/ start-up acceleration initiatives.

Business support organisations (like Tartu Science Park) and companies organising hackathons, meet-ups, etc., Institute of Computer Studies at the University of Tartu and Tallinn University of Technology and its Centre for Digital Forensics and Cyber Security have significant influence on innovation in ICT in Estonia. Notable is also the role of:

- STACC (Software Technology and Applications Competence Center) which is a research and development organization established in 2009 with the mission to conduct high-level applied research in the field of data science and machine learning in cooperation with a consortium of scientific and industrial partners.
- Estonian Association of Information Technology and Telecommunications (officially abbreviated as ITL) is a non-profit association uniting information and communication technology (ICT) companies and organizations. ITL is also leading Estonian ICT Cluster.
- The Information System Authority (RIA) coordinates the development and administration of information systems ensuring the interoperability of the state's information system, organizes activities related to information security, and handles security incidents in Estonian computer networks.
- The NATO Cooperative Cyber Defence Centre of Excellence.
- European Agency for the operational management of large-scale IT systems (LISA).

Some of the most popular events in ICT landscape In Estonia are: Mobile Monday (MoMo), Tartu Software Development Guild, TechSisters events, Google Developers Group events (GDG), UX/UI meetups, Saleslab. Mostly these events are run by industry itself or at least in cooperation with the industry.

Infinet, the Danish innovation network focusing on innovation through ICT and gathering strong IT knowledge institutions and clusters in Denmark. As an Innovation Network (a Danish concept for a national network of clusters and knowledge institutions financed by the Danish state), they are obliged to organize and conduct seminars, conferences and meetings, develop projects and activities targeting the ICT sector. On the other hand, the private organization InsightEvents organizes IT events that seem to be positively perceived by participants – they are a private organization collaborating with, among others, the IT sector (IT Branchen in Danish) on organizing events and seminars targeting ICT professionals.

In Lithuania, some of the best-known business networking events include: Business Breakfast (Kaunas STP, not-for-profit, partly specialized), Business Lunch (BNI, pro-profit business club), The Afternoon of the Entrepreneurial Women (Women's Occupational Centre, not-for-profit, specialized), Entrepreneurial Business Breakfast (EBWC, private, non-specialized), Leader's Club (VGTU Science Park, not-for profit, non-specialized), Business BBQ (bznstart.lt with GLL – Global Lithuanian Leaders, for-profit, non-specialized) and many more.

Predominantly the events are non-specialized. Despite an extensive scientific discussion on which is better for idea and cooperation generation – a specialized event, or a non-specialized one – it is a common feature for most specialists to get involved into a professional discussion first, and only then to look for some alternative themes of interest. Thus, a carefully balanced list of attendants would guarantee an easier intercourse and exchange of contacts, information, etc.

All present networking events have no or very few requirements for the preparation for the event. Among the ones used are often the presentation of the program (if it differs and the event has no set format) and the presentation of the “guest” – either a company presenting its case or a lecturer delivering a lecture. This information is sent out to the potential sector/ industry participants without the guidelines for any additional preparation required of the event participants. This way the participants come unprepared and neither have a session of self-presentation (of some sort), nor a demonstration of products/ skills, or even the visiting cards. An instructive approach from organizers towards participants could indicate how the participants should come prepared so that the event is more productive in terms of contacts, idea exchanges, or even co-operative agreements.

Even though some events have preceding stages, most events do not offer a clear event program or limit it to the presentation of the invited company and/or lecturer, offer a coffee and a little snack and then leave everything to the socialization skills and networking competences of the participants. A well-managed synergy and empowerment event could have a more instructive approach and more things happening in a managed way rather than leaving everything to the disposition of the participants. The present event formats resemble clubs (like the very popular BNI format) rather than events aimed at specific concrete co-operational agreements.

Most of the present events have little follow-up or no follow-up of any kind at all. This way most of the events present the participants with new contacts and do not take any more action towards the facilitation of more fruitful information brokerage or even joint project. An event with the follow-up meeting with, perhaps, some more coaching, mentoring and such-like activities would result in a more fruitful outcome in terms of synergy and empowerment.

Even though there are many different formats of synergy and empowerment events, most of them hinder on the idea of self-presentation and social networking, and both of those key elements can be improved for better co-operative and creative outcomes.

2.2. Success criteria for synergy and empowerment in ICT

Both, industry problems/ challenges, and good practice overviews, indicate that synergy and empowerment is potentially best achieved through the instruments of networking facilitation and mentoring. Even though networking is a well-established concept in management of organizational growth, in practice networking is rather a skill which still needs to be trained, nurtured and monetized. As our problem overview, based on expert insights, shows, this is especially true in case of ICT sector innovation transfer and B2B synergy and empowerment.

We draw conclusion that the synergy and empowerment in ICT can be achieved between science, business and in B2B relations with some significant mediating facilitation, which would cater to, first, the need for free circulation of ideas, contacts, work force, second, the need for energizing dynamic exchanges, third, the need for mentoring of the initial contacts so that they are grown into tangible projects and yield higher value outcomes.

That is why we think that the synergy and empowerment concept should be based on an extended networking event which would have clearly defined stages of pre-event, during the event, and the post-event.

The first stage of the synergy and empowerment concept should be based on attracting a set of carefully mixed event participants. Preferably they should come from the companies or science laboratories with a networking culture and design thinking mentality. Maybe in some cases the mentoring in nurturing of soft networking skills and design thinking amongst IT professionals by providing training in collaboration and technology leadership could also be a part of such extended synergy and empowerment concept. If not that, the participants should be clearly instructed on how they should prepare for an event and come with a presentation of a company/ problem/ challenge/ core skills on offer, etc. prepared.

The extended networking event should have a rich program to facilitate as much self-presentation and meet-up of event participants as possible. It should be full of happenings and things to do to keep the participants interested and engaged, and to motivate the participants to participate. It should be seen not as a mere time pass-over, but rather an event which is opening new strategic horizons for the participants. Productive information brokerage rather than solely the opportunity to enter new contacts should be on the focus of the event organizers (synergy and empowerment intermediaries).

The mentoring after the event including the processing of the contacts, dealing with the contacts and initiating further potential “project” ideas is essential. An ideal outcome could be a mentored follow-up event in which the same participants would be brought back together to work on consumer-centred new product/ service design, consumer value creation, or even a business model canvas so as the new contacts are materialized into viable new products, services, new projects or even new start-ups. A meaningful follow up of an event could be a workshop designated to new product development such as the one which was organized by D2i – Design to Innovate, Denmark for startups at Kaunas Science and Technology Park, Lithuania in June 2018. More about the workshop in the chapter **“Design Your Way to Business Development – SMEs Empowerment and Technology Transfer”**.

Another follow-up methodology could be the one developed in Denmark. In Denmark, for instance, in early spring of 2018, the Danish government launched a digital strategy focusing on digitalization of SMEs.

In this regard, design thinking forms an effective and fast method for SMEs to identify what the right digital solution may be. Danish partners developed a tool to help SMEs to address the issues of digitalization, Sprint:Digital, which aims at providing SMEs with proof of concepts regarding which path to take when it concerns choice of IT solutions. The method applied is design thinking leading SMEs through a process with design consultants and digital experts.

The method is performed through Sprints, where SMEs run through five stages of research, ideation, prototyping, testing and scaling. Before being involved in the sprint-process, an SME goes through a scoping meeting with a designer to identify and clarify which challenge it would give sense to be working on during the sprinting sessions. After having finished the sprinting session, the SME is offered support and advice in carrying out the concepts and intentions identified through the sprint session.

Then, of course, basic aspects should be considered to ensure the success of different SME empowerment tools or activation channels as well. This include:

- Selecting at least medium-sized or bigger cities for events to make sure that one can reach a „critical mass“ of participants;
- Venue space considerations: A (big) room where everybody can sit comfortably and listen to the talks and several break-out rooms for follow-up discussions;
- Avoid overlapping dates with other similar regional or sectoral events;
- Use the branding and settings.

The following chapter of the document highlights the final synergy and empowerment concept for the ICT sector and is a product of EmplInno project partner experience exchange and cooperation.

3. Synergy and empowerment concept for the ICT sector

3.1. “Innovation Breakfast” – a three stage networking proceeding

Kaunas Science and Technology Park (Kaunas STP) has organized an R+D Transfer Workshop. The format of the event was based on a good practice of project partner from Finland Prizztech Ltd. which they shared as a good practice exchange workshop with project partners. The good practice Techno lunch “MatchIndustry LAB” or MI LAB aims at connecting large corporates with start-ups and researchers where corporates open up their processes to solve problems, develop processes as well as utilize new technologies & applications. Innovative SMEs, start-ups and researchers present their ideas and solutions to meet the challenges.

To tackle the identified challenges in the ICT sector and following the good practice of dominant business networking events, we suggest a concept of a better managed science and business networking event, a networking proceeding called “Innovation Breakfast”.

Rather than a standalone event, we offer the concept of an event which should be managed in stages and should have a continuum as part of the overall event. The event is not to be a regular type of an event when anyone would get an invitation, come non-prepared, spend some time socializing or non-socializing at all, and then leave without any tangible outcome. The event is to be managed in all the event stages. The stages should include the:

- Preparatory stage for the event
- A well-managed event
- Post-event mentoring meet-up(s)



Each of the stages of an event needs to be carefully and strategically thought of. Below we present core recommendations for each of the stages of an “Innovation Breakfast” based on the problems in the ICT sector and the good practices of the similar events.

3.2. Pre-event stage for networking event participants

Readiness of an organization to network. Business networking is essentially marketing a company, a skill, or even a problem to the professional community. The companies and scientific communities which have nurtured a networking attitude within their organizations have become networkable and thus are more prone to entering cooperative strategic projects on all organizations levels than organizations which leave networking to random coincidental happenings [6].

Organizational networkability is defined as the skill and the ability of an organization to identify and enter beneficial strategic networking arrangements quickly and effectively for an organization. Thus, organizational networkability is both, a skill and ability, and an attitude of an organization. There is a lot of room for the synergy and empowerment mediators in developing soft skills of organizations’ networkability so that they can engage in efficient strategic networking. Besides, if an organization commits at least a few hours a week for social networking of its employees, potentially they would be able to capture strategic networking opportunities during the synergy and empowerment event and processes.

Careful and strategic selection of event participants. Most of the networking events are non-specialized. As it is a common behavioural feature for most specialists to get involved into a professional discussion first, and only then to look for some alternative themes of interest, a carefully balanced list of attendants would guarantee an easier intercourse and exchange of contacts, information, etc. Networking and information brokerage events should be specialized, but there should also be a well-thought of mix of participants which would include the non-industry participants at a certain percentage (1:3) of attendees who would expand the professional horizons of the specialized event (into related or even non-related areas). This way the potential for generating creative product/service ideas is expected to increase. It is believed that variety sparks interest in both, the participants, and the intermediaries. Much attention should be devoted to the internationalization of the event, thus the

participants should be invited from foreign countries as well.

Event participants should prepare well-structured presentations. The event organizers should develop a structure for the presentations of the event participants so as the participants devote time and effort to prepare for a specific event (rather than keep going around with an old investor pitch). The participants then should be required to follow the structure and the presentations should be allotted some time. We mean the presentations of the carefully selected potential networkers.

The presentations should be adequate to the main theme of the event (as designed by the keynote speakers – either a business company, a scientist, and/or industry outsider). Presentations could outline problems, work on progress, open-ended questions, skills, and the goals of the participants for the event, so that finally each participant would articulate what she/he is looking for and how others can help the presenter. Such presentations should provide an impetus for further contacts and discussions during the private encounters. The organizers and mediators in such events should avoid the situations when the same presenters using the same presentation “tour” around different events.

3.3. During the event

The careful and creative planning of the program of the event should make the event a “must go” happening. The event should aim at building a trend – setting identity and should work on promoting its international image of a prestigious and, mostly, productive event.

Design an interesting and unique happening. In order to be tempting to visit, the synergy and empowerment event should be full of happenings and things to do to keep the participants interested and engaged. The presentations, information brokerage activities and small snacks are not sufficient to keep attendants interested and engaged. Each event should be one-of-a-kind, and this uniqueness should be circumstanced by either the theme of the event, the key-note speaker, the challenge, etc. A branded event would also yield higher interest in participants.

Add more activities. Organize theme discussions in small groups, provide tool testing seminars, ideation hackathons and suchlike events. To keep the participants engaged try to find some non-traditional activities including interesting games and call to action

(like collecting the largest number of visiting cards, finding at least 5 partners who agree to meet once again in the after-the-event mentored activities, etc.).

Do not ignore the importance of snacks. Food, light snacks and drinks are not merely the usual addition to an event, they are there to keep the participants interacting for longer. Just like carefully designed and specific layout, music and merchandising in the supermarket, the snacks should be “creative” so as to keep participants interested and engaged and thus more prone to stay at an event than rush away. Snacks and drinks present a cosy, relaxing and adventurous atmosphere which favours longer interactions and potentially leads to more fruitful contacts. Look for innovative and discussion attracting snacks, involve food creatives and designers.

Provide cosy environment for participants to meet and mingle. People are more relaxed in social settings which increase chances to strike up a conversation. Provide spaces for retreat to have personal conversations and networking encounters, and do not make the event in big empty spaces so that participants would get dispersed into remote corners.

Present the post-event meeting option and draw the attention of the participants that they are **expected to meet again in the post-event workshops** which are going to be mentored. The mentoring using management instruments after the event should not be limited to processing of the contacts. It should be aimed at the facilitation of the synergy between the prospective partners and empowerment of the potential partners with decisions that mentors help to achieve in a post-event meeting up.

3.4. Post networking event activities

A common advice of networking consultants is *never leaving an event without a second meeting date*. The event participants should understand the terms of participation at this exclusive and rare event include a repeated meeting with a mentoring/ coaching session of empowerment activities. Provide motivational means for the participants to enhance their further involvement into the post-vent activities.

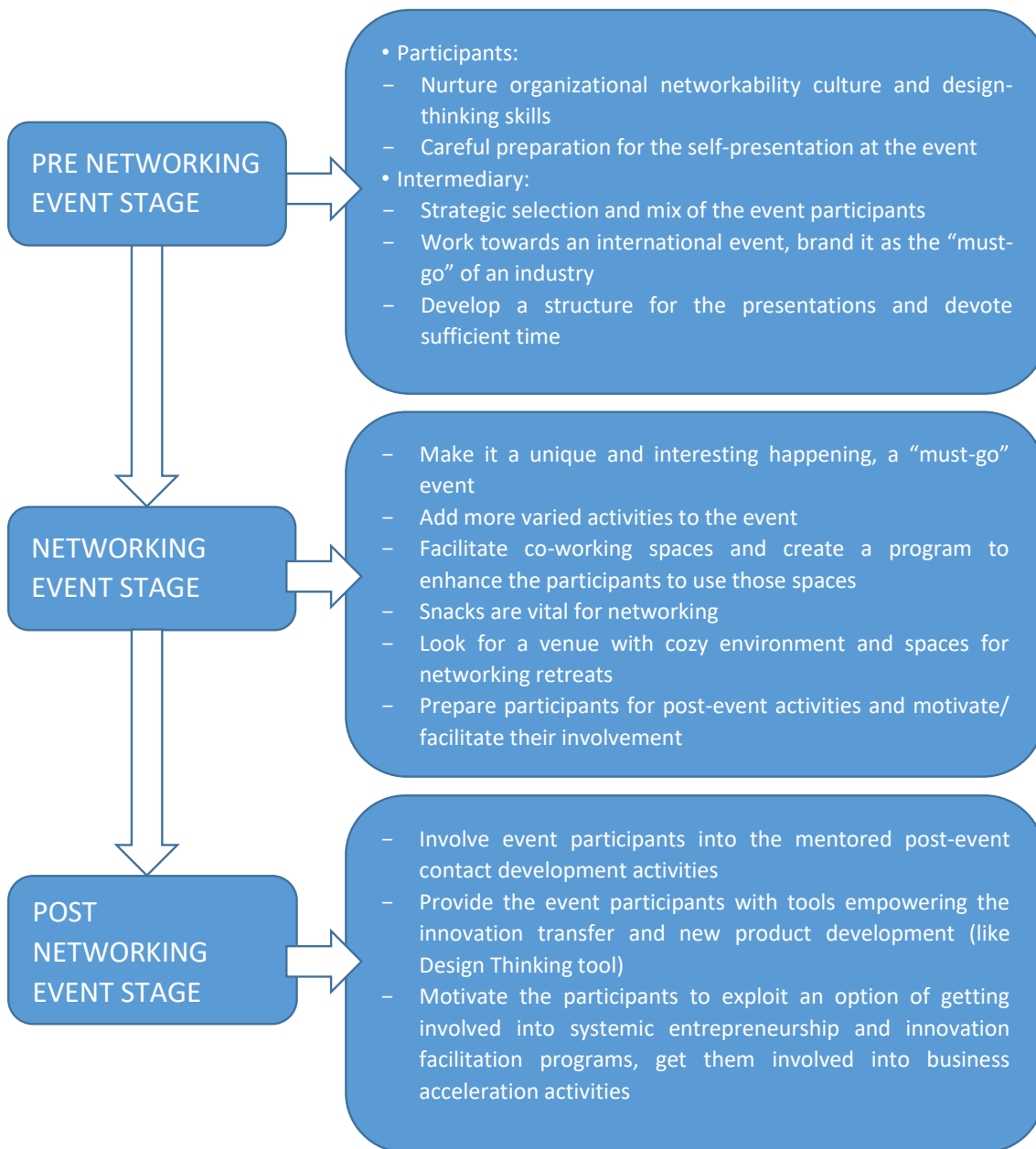
Do not limit post-event activities to a brief follow up note after an event is not enough neither from the organizers, nor the participants' side. The event participants should be aware that they are expected to commit a few hours a week for social networking and that the intermediaries (mentors, coaches, etc.)

are there to help them start becoming a networkable organization. A networkable organization is the one which has skills, abilities and resources to take advantage of strategic networking opportunities [3]. This includes capturing information, processing, and acting upon it. Networkability can be trained like any other social skill and the event participants should be made aware that by taking part in an event they are also entering a path towards involvement in the synergy and empowerment pursuit. This does not necessarily mean that every event participant shall be obliged to formally take part in some sort of program, yet they should be aware that there are huge benefits in pursuing the contacts they have entered during the event.

Participants need to be taught to nurture only strategic relationships which should be prioritized among the entered relationships (networking consultant Moatti suggests nurturing 5-10 strategic relations [7]). What matters most in building relationship is the frequency and quality of the interaction, not the length of time spent, thus the time for nurturing relationships and turning them into beneficial win-win projects takes time and time is limited (it should be devoted to strategic partnerships only).

Idea is not a business. Each idea (product, service, research, innovation, etc. idea) becomes of value when it is materialized into a project, a business model, a value proposition to a client, a new start-up or a spin-off, etc. Reaching such tangible outcomes might be difficult for event participants (as they might lack the knowledge and social skills needed), thus there is room for mentoring and coaching in a post-event meet-up. The process of further empowerment of fresh relationships could follow the design thinking or problem solving “logic”, where initial stage of problem finding is emphasized. Problem finding can be trained just like any other skill but is essential to understand that the more problems one finds, the more one can see. This requires frequent “exercising” in networking events, as problems are always “outside the office”. As Steve Blank has put it [8] “customer development is the process to organize the search for the business model” and as each networking event participants knows a bit of customer needs, the pool of customer knowledge can yield grand results in new higher value products and business based on ICT.

The synergy and empowerment concept is further depicted in the generalised drawing.



3.5. Design Your Way to Business Development – SMEs Empowerment and Technology Transfer

As a good practice for post networking event stage was tested by D2i – Design to Innovate, Denmark and Kaunas Science and Technology Park, Lithuania in June 2018. D2i oversaw a design thinking workshop, targeting start-ups and entrepreneurs within ICT. The workshop introduced for the Lithuanian start-ups and entrepreneurs how the application of design methods can support them in taking the right decisions for the

further development of their business. The following text presents a short description of what design can do and how design methods can support business development.

Design is a range of methods and ways of working with an issue that generates new insights and can help us find new, innovative solutions that in turn can result in e.g. business growth. Companies that use design in their business development do significantly better than other companies. The annual DMI Design Value Index shows that design-driven companies outperform other

companies by more than 200% (DMI Design Value Index, 2016 and previous 3 years).

Some of the relevant tools are described beneath. The tools can be used as they are by any enterprise to develop new products, new services or to improve the business models. However, involving a designer to facilitate the process will create substantial benefits as the designer will be able to pose the right questions, pinpoint the main issues and drive the process forward in an effective and productive way.

There are two key issues when using design methods for business development. One is user or customer involvement. The user is always at the centre of any design-driven process, and understanding the user requires awareness about the context in which the product, service or business model is developed. The other is aesthetics. Aesthetics is not about art but about increasing the value of the product, service or business model by defining the right level of beauty for the product, service or business model to be functional, attractive, safe, and interesting for the business or customer. Aesthetics is about using principles connected with beauty to create products, services or businesses that 'speak' to customers in the same way as art and beauty speaks to people.

When working with enterprises in creating growth and innovation, the designer will use different methods and tools to create a dialogue about how the enterprises sees the product, service or business model to be developed or improved. The designer will typically use a double-diamond approach, starting with an observation process defined by openness and no clear direction. Based on the challenges or opportunities defined during this initial stage, brainstorming or IDEA Cube as described below support the ideation process, where ideas are developed to address the identified needs or challenges. Next step is working on a prototype of the best idea and testing it on users or customers to evaluate its functionality and value. Finally, if the testing turns out successfully, the enterprise can scale up the production of the product or set up the service. However, in many cases the enterprises will have to do more re-iterations of the process and its different stages before they reach the outcome that creates value and help them grow and increase their turnover.

Both, participants and facilitators of the workshop have appreciated the ease of **transferability** of the tool:

- The methods used by designers are available and easily accessible – after a few training sessions, any

enterprise will be able to use them on their own for further business development

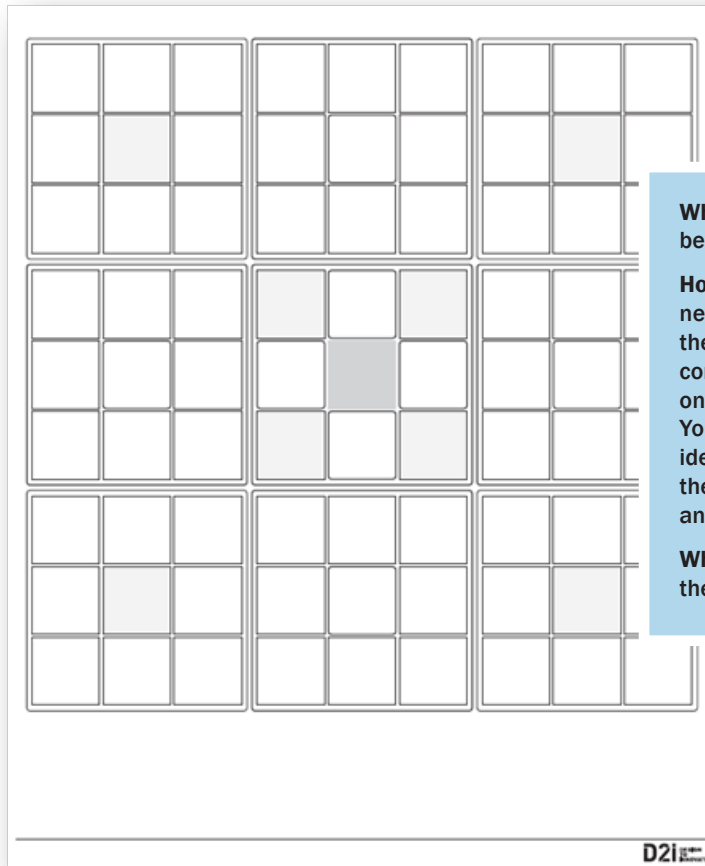
- Design is an international language, and designers all over the world will be able to facilitate design processes involving enterprises
- There are no expenses for material or specific set-up – requirements concern openness towards the process and the time invested in using the tools and methods

Several **success factors** were identified during the testing of the tool:

- Liaison/collaboration with an educated designer will improve significantly the outcome of the design workshop
- Enterprises need to understand and accept that design processes are not linear processes, starting by defining a clear outcome and then move towards it in clearly defined steps. Design processes are open-ended and about working with the unknown to create the unknown
- To benefit from design processes, it is important for an enterprise to engage with more than 1 or 2 employees. At best, an enterprise should involve representatives from all departments to reach an overall and cross-organisational outcome of the process, and to create lasting effects within the enterprise.

Tested design thinking inventory is defined in few examples below.

The IDEA Cube

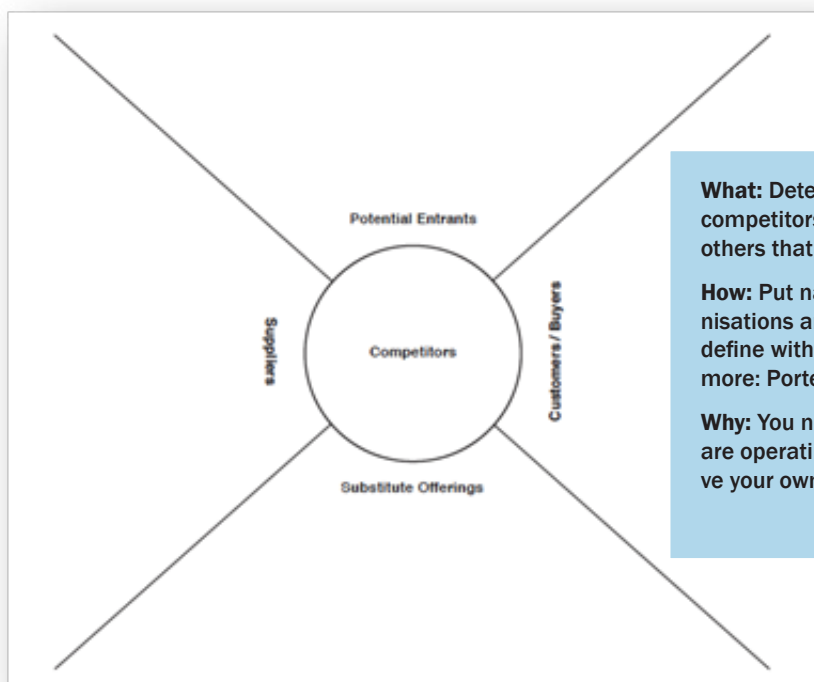


What: Challenge your ideas to get the best idea out of it

How: Your idea (for a new product, a new service) is placed at the center of the IDEA Cube. Any associated idea connecting to the core idea are placed on the fields surrounding the core idea. You may now challenge each of these ideas by moving them to the center of the field adjacent to where it is placed and do the process once more.

Why: The first idea is not necessarily the best idea.

The Industry Map



What: Determine the landscape of competitors, suppliers, customers and others that you depend on.

How: Put names on companies, organisations and customers that you can define within each of the fields. Read more: Porter's Five Forces

Why: You need to know the context you are operating within to be able to improve your own position.

Persona

Name: _____

Age: _____

Status: _____

Current / previous employment:

Life story:

Hobbies:

Family relationships and activities:

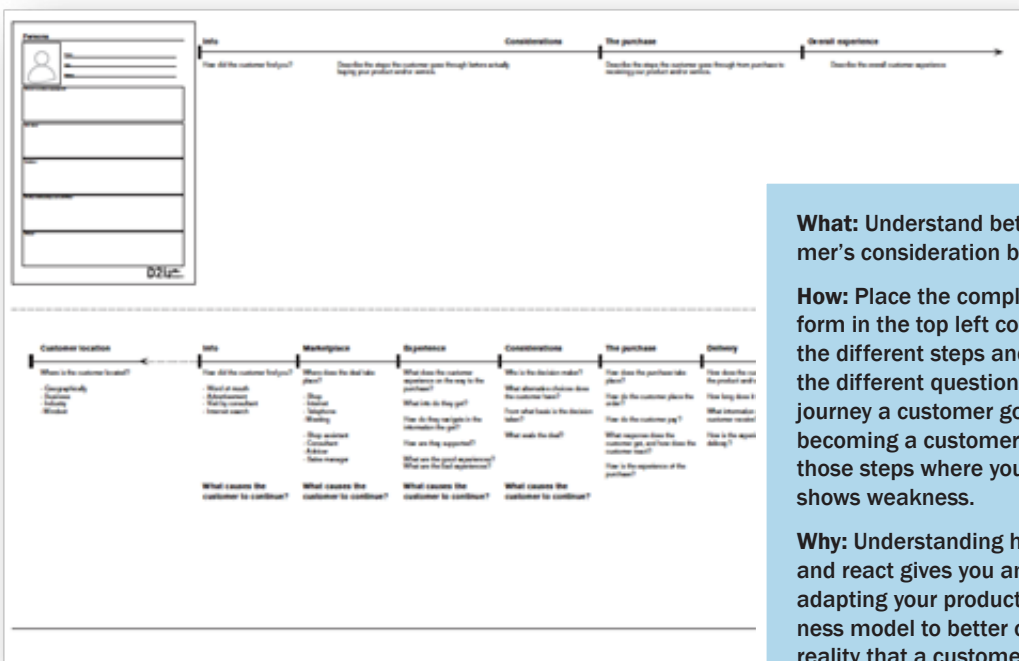
Values:

What: Get to know your customer/end user

How: Create fictional persons and fill in the description. The trick is to create the personas with a realistic personality, not just a superficial appearance. Fill in more persona forms to get a broader picture of your target group, both those you consider in scope of your product/service and those beyond. You may eventually qualify your perceptions of reality by conducting interviews with real, concrete persons.

Why: By getting to know your end user or customer, you will be better suited for developing a product or service that is of interest and relevance. Personas resemble real persons and provide you with more useful data than statistics.

Customer Journey



What: Understand better your customer's consideration before a purchase.

How: Place the completed 'Persona' form in the top left corner. Go through the different steps and give answers to the different questions concerning the journey a customer goes through before becoming a customer. Put a remark at those steps where your business model shows weakness.

Why: Understanding how customers act and react gives you an opportunity for adapting your product, service or business model to better comply with the reality that a customer represents.

4. Summary

Following the overview of key challenges faced by ICT sector and the problems related to innovation development and transfer both, in the ICT sector, and into other business sectors, we draw conclusion that the synergy and empowerment in ICT can be achieved between science, business and in B2B relations with some significant networking and mediating facilitation, which would cater to, first, the need for free circulation of ideas, contacts, work force, second, the need for energizing dynamic exchanges, third, the need for mentoring of the initial contacts so that they are grown into tangible projects and yield higher value-added outcomes. The event and activities surrounding it should present an option of out-of-the-ordinary, out-of-the-box experience.

Even though the concept of networking based on soft skills development and facilitation is not new and our overview of key success criteria derived from good practices indicates that most available synergy and empowerment concepts are primarily based on networking, there is still much room in furthering the concept in the ICT sector, especially with regards to the cross-sectional co-operation enhancement and mentoring/ coaching of the idea implementation efforts. A full concept with its benefits can be implemented only by the strong intermediary, rich in social contacts, business mentoring and acceleration

skills, infrastructural and financial resources or with an access to them.

Based on those insights we propose an upgraded three – stage networking event concept named “Innovation Breakfast”. The concept hinders on the three stages which include the networking event’s pre-stage, the event, and the post-event activities. The latter would include mentoring of the contacts, entered during the event, the pre-event stage should emphasize a more strategic selection of event participants and the guidelines for the participants in the preparation for the event, and the event itself should facilitate a much better networking environment in which every activity, space and provisions should be taken care of. All of this requires a more devoted involvement of the intermediaries in the proposed synergy and empowerment processes.

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Synergy and Empowerment Concept

Based on good practices shared and implemented in
the Interreg BSR project EmplInno

ICT