

WP 3 Implementation and realization of Skills Alliance and establishment of Center of Competence

EXTENSION OF THE SKILLS ALLIANCE AND CENTER OF COMPETENCE “ECO INNOVATION”

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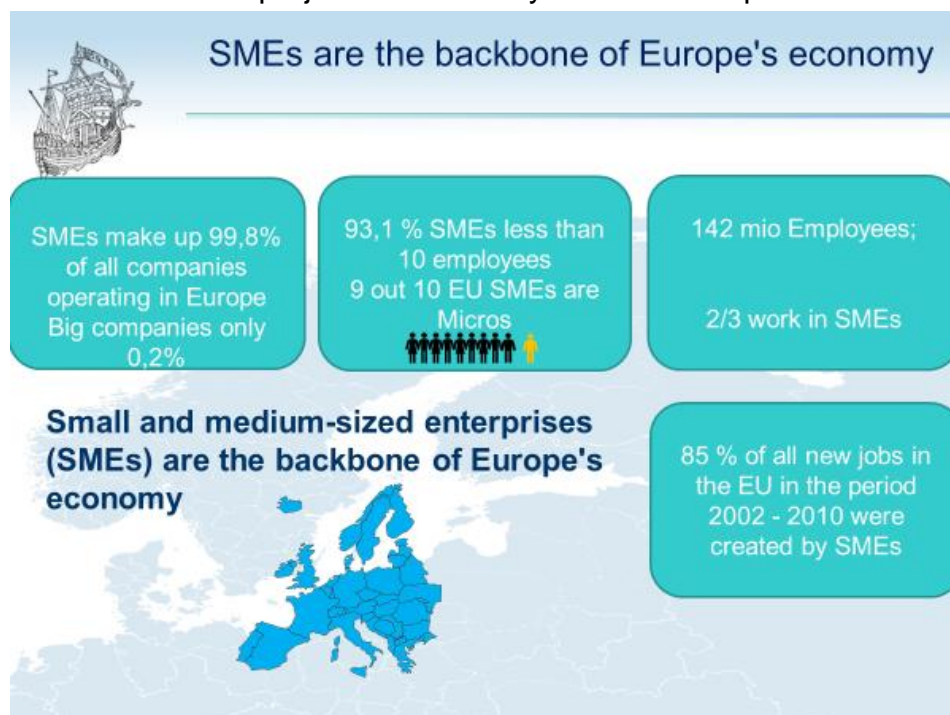
1. Summary of the Project

Around 99 % of all EU companies are SMEs providing up to 70 % of all jobs. Generally, SMEs have good future growth prospects, however they are specifically well placed to solve environmental problems, hence grow in the green economy. Nowadays the biggest bottleneck is the significant skills shortage in most economic sectors while job vacancies in SMEs and overall unemployment, in particular youth unemployment, is steadily growing. Through cooperation between educational institutions and industry, work-based learning is a prominent tool to eliminate bottlenecks and create conditions for further growth in innovative market segments.

To continuously coordinate education and skills requirements, and address skills shortages higher education institutions, education and training providers, and economic chambers from 6 countries build up and establish an alliance for the sectors "Water, Wastewater, Waste and Circular Economy". This alliance is then extended to 13 countries with 68 education and labour market actors and continues to perform its duties as a centre of competence "Eco Innovation" in the long term.

The partnership develops tools according to work-based learning principles that are piloted and evaluated: a training programme for strong learners in the initial vocational training, a program with six further vocational training courses, a train the trainer programme, an integration programme for the unemployed and a bachelor's degree programme with four modules. These programmes teach sector-specific skills in both environmental technologies and management. Furthermore, in three countries with predominantly school-based vocational training, dual education systems are introduced in initial, continuing and higher education.

All qualifications will be transferred to 11 project and 68 associated partners from 13 countries, who receive implementation advice. Extensive dissemination activities are carried out for free use of project outcomes by all interested parties.



2. Extension of the Skills Alliance

The establishment of a Skills Alliance "WWW&CE" with the eleven project partners from Austria, Finland, Germany, Hungary, Lithuania and Poland and with relevant actors, for example, economic chambers, vocational education and training institutions, universities, public institutions, etc. is part of the project WWW&CE. The alliance is founded during the project, expanded to include other relevant institutions, systematically built up and further developed.

The Alliance, which started its work in the first months of the project, focuses on cooperation in two areas. On the one hand, through R&D work at universities, SME-specific methods and instruments are developed, tested and implemented that create innovations in areas such as water, wastewater, waste and circular economy. On the other hand, initial and further vocational training education and modules for study programs will strengthen awareness and competence for this new area of innovation promotion for current and future SMEs.



The Knowledge Alliance was founded by eleven project partners involved in the project work from Austria, Finland, Germany, Hungary, Lithuania and Poland. The aim is to extend the Knowledge Alliance to all Baltic Sea countries. This requires the acquisition of additional partners from the other Baltic Sea countries:

a) Higher Education Institution:

They are central partners of the Alliance, cooperate with each other across the Baltic Sea region, exchange experiences, implement joint development projects and carry out the following work at the local and regional level:

- Promotion of innovation and realization of R&D tasks with and for SMEs.
- Development of curricula for initial and further vocational training of owners, managers, skilled workers of SMEs and young people.
- Development of curricula for the permanent implementation of (dual) study programs.
- Development and permanent implementation of Train the Trainer programs for
 - Teachers and counsellors of chambers and other VET providers.
 - Managers of SMEs who are involved in dual study programs as training partners and also teach at the university.
 - Own lecturers for the realization of dual study programs.

This will provide a sufficient number of qualified teachers at all participating institutions in all Baltic Sea countries.

Provision of lecturers and consultants for the implementation of educational and counselling programs by chambers and other educational institutions.

b) SME promoters, economic chambers and other educational institutions:

The large and colorful diversity of SMEs is contrasted by only a few higher education institutions which are concentrated in a few central locations. The higher education institutions have only limited capacity to establish contacts and exchange information with SMEs. Moreover, their workflows do not match the conditions of SMEs, which have minimal management capacities. On both sides, there is a fear of contact, speechlessness and lack of understanding. For this reason, the Alliance must include supporters of SMEs (in particular chambers and SME associations) who facilitate connections with SMEs on a needs-oriented basis, consult SMEs, provide SMEs with specific advice and further training, encourage SMEs to take part in dual study programs and participate in the implementation of teaching and development tasks.

Through the participation of the SME promoters, SMEs - also from rural regions - are involved in a large scale and connected to the higher education institutions. Also, the chambers are officially represented in political bodies at the regional and national level, so that they can achieve reform processes very well.

The chambers carry out the following work at the local and regional level:

- mediation between SMEs and universities
- advice and support for SMEs in the implementation of dual study programs
- Participation in R&D tasks in SMEs

- organizing initial vocational training and conducting courses on new technologies
- Implementation of further vocational training for SMEs and their employees
- acceptance of all examinations in vocational education and training
- advising and supporting SMEs on all relevant issues
- representing the interests of SMEs vis-à-vis all social groups

To cover all sub-regions, the Skills Alliance is to be expanded to include

- 50 economic chambers, SME associations, VET providers and other SME supporters (seven of them are involved as project partners),
- 18 higher education institutions (three of them are involved as project partners) from 14 countries (see overview below).



Partner of the extended Skills Alliance

	Partner organization	Country	Type of organization
1	IPOSZ - Hungarian Association of Crafts- men's Corporations	Hungary	SME Support Institution
2	KONTIKI School	Hungary	VET Provider
3	Chamber of Craft Region Kaliningrad	Russia	Economic Chamber
4	Small Business Chamber Warsaw	Poland	Economic Chamber
5	Chamber of Crafts and SME in Szczecin	Poland	Economic Chamber
6	Chamber of Crafts in Opole	Poland	Economic Chamber
7	St. Petersburg Foundation for SME Develop- ment	Russia	SME Support Institution
8	Baltic Sea Forum e.V.	Germany	Regional Support Institution
9	Initiative Wirtschaft Mittel- und Osteuropa	Germany	SME Association
10	Craft Chamber in Rzeszów	Poland	Economic Chamber
11	Panevėžys Chamber of Commerce, Industry and Crafts	Lithuania	Economic Chamber
12	Dresden Chamber of Skilled Crafts and Small Businesses	Germany	Economic Chamber
13	Eastern Mecklenburg-Western Pomerania Chamber of Handicraft	Germany	Economic Chamber
14	Vilnius Builder Trainings Center	Lithuania	VET Provider
15	Estonian Chamber of Commerce, Industry and Crafts	Estonia	Economic Chamber
16	Chamber of Craftmanship and Enterprise in Białystok	Poland	Economic Chamber
17	Hamburg Chamber of Skilled Crafts and Small Businesses	Germany	Economic Chamber

18	Handicraft and Small Business Chamber Lublin	Poland	Economic Chamber
19	Handicraft Chamber Leningrad Region	Russia	Economic Chamber
20	Handicraft Chamber of Ukraine	Ukraine	Economic Chamber
21	Innovation Factory	Denmark	VET Provider
22	Kaliningrad Chamber of Commerce and Industry	Russia	Economic Chamber
23	Kyiv Chamber of Commerce and Industry	Ukraine	Economic Chamber
24	Kujawsko-Pomorska Chamber of Craft and SME's	Poland	Economic Chamber
25	Latvian Chamber of Crafts	Latvia	Economic Chamber
26	Latvian Chamber of Commerce and Industry	Latvia	Economic Chamber
27	Lower Silesian Chamber of Craft and Small and Medium-sized Businesses	Poland	Economic Chamber
28	Master Craftsman Committee Norway	Norway	SME Association
29	Nordic Forum of Crafts	Norway	SME Association
30	Organisation of Handicraft Businesses in Trondheim	Norway	Economic Chamber
31	Osteuropaverein der deutschen Wirtschaft	Germany	Business Association
32	Pomeranian Chamber of Handicrafts for SME's	Poland	Economic Chamber
33	Chamber of Crafts and SME in Katowice	Poland	Economic Chamber
34	Russian Chamber of Crafts	Russia	Economic Chamber
35	Schwerin Chamber of Skilled Crafts	Germany	Economic Chamber
36	Vilnius Chamber of Commerce, Industry and Crafts	Lithuania	Economic Chamber

37	Warmialand and Mazury Chamber of Crafts and Small Business	Poland	Economic Chamber
38	Wielkopolska Craft Chamber in Poznan	Poland	Economic Chamber
39	Hanse e. V.	Germany	Business Association
40	Belarusian Chamber of Commerce and Industry	Belarus	Economic Chamber
41	Schwerin Chamber of Skilled Crafts	Germany	Economic Chamber
42	Võru County Vocational Training Centre	Estonia	VET Provider
43	The Baltic Institute of Finland	Finland	Consultation Institution
44	Haus Rissen	Germany	Educational Institution
45	Arbeit und Zukunft	Germany	Consultation Institution
47	Wirtschafts-Förderungs-Institut Steiermark	Österreich	Economic Chamber and VET Provider
48	Marshal's Office of the Pomorskie Voivodship	Poland	Public Promotion Institution
49	Białystok Foundation of Professional Training	Poland	Educational Institution
50	Hanseatic Institute for Support of Small and Medium Enterprises	Poland	Consultation Institution
51	Hamburg University of Corporate Education	Germany	University of Applied Sciences
52	University 21	Germany	University of Applied Sciences
53	Hamburger Weltwirtschaftsinstitut	Germany	Research Institution
54	University of Latvia	Latvia	University
55	Centre for European and Transition Studies	Latvia	Research Institution
56	Brest State Technical University	Belarus	University
57	Saint-Petersburg State University of Service and Economics	Russia	University

58	VIA University College	Denmark	University of Applied Sciences
59	Tampere University of Technology	Finland	University
60	University of Lund	Sweden	University
61	University in Bialystok	Poland	University
62	Vytautas Magnus University	Lithuania	University
63	Panevezys University of Applied Sciences	Lithuania	University of Applied Sciences
64	International Business Academy	Denmark	University of Applied Sciences
65	Vilnius Gediminas Technical University	Lithuania	University
66	Gdańsk University of Technology	Poland	University
67	Satakunta University	Finland	University
68	University of Warsaw	Poland	University

Project Partners

The institutions of the extended Skills Alliance are involved in the project work as associated partners and participate in individual project activities (e.g. participation in workshops, train the trainer programs, etc.). They will receive all project results and personalized implementation advice.

The cooperation and operation of the Skills Alliance will be evaluated by Satakunta University. The evaluation results will be continuously fed into the further work of the Skills Alliance, resulting in a continuous improvement process. In addition, the experience and evaluation results of the Skills Alliance are also incorporated into the development and creation of an Centre of Competence "Eco Innovation".

The expansion of the Skills Alliance will be completed by formal resolutions of the 50 chambers and 18 universities/universities of applied sciences. The 68 partners from 14 countries manage the extended Skills Alliance and will jointly establish a Baltic Sea-wide Center of Competence "Eco Innovation", which will continue the work of the Skills Alliance permanently after the end of the project.

3. Survey on the development of Centers of Competence

For the foundation and expansion of the Knowledge Alliance, the cooperation between universities, SMEs and chambers was examined. As a Center of Competence will be established in the course of the project which the members of the Knowledge Alliance will join, a study on Centers of Competence is included in this document.¹

3.1 Cooperation between universities and chambers/SMEs

SMEs often lag behind large enterprises regarding innovation. Large enterprises generally have their own research departments while SMEs are often too small to finance their own and suffer from limited access to research institutions (financial and non-financial barriers). Although there are a lot of activities and programs provided by the EU aiming at improving the cooperation between SMEs and universities, the success is still low. The application procedures for many programs are too complicated and time-intensive for the enterprises. And often, entrepreneurs do not even know about these programs.

A successful way of improving the cooperation between universities and SMEs is to start on the ground, i.e. at the level of the SMEs and universities. The present study follows this approach. First, the current situation, including the problems and good practices of cooperation between SMEs and universities, has been evaluated. Second, the aims and the next steps are elaborated.

This study does not only consider the cooperation between SMEs and universities but also between economic chambers and universities. Since the capacities are deficient in SMEs for communication and building up business contacts to universities, first contacts between universities and SMEs via chambers, which closely work together with SMEs in their daily work, are more practical. However, it has to be taken into account that membership in chambers is not mandatory in most of the BSR countries. Therefore, the role of the chambers differs accordingly.

3.11 Status quo: cooperation between universities and chambers/SMEs

What are the current problems of the collaboration between universities and chambers/SMEs?

Persons and Institution

There are huge differences between universities, SMEs and chambers concerning cooperation. The level of commitment varies widely, even within one group. When talking about improving collaboration among these institutions, one has to

¹ The surveys are based on the results of the project „Qualification, Innovation, Cooperation and Keybusiness for Small and Medium Enterprises in the Baltic Sea Region – QUICK“. Hanse-Parlament, Hamburg, Center of Competence for Innovation Support of SMEs in the Baltic Sea Region

concentrate on the committed organizations instead of trying to get every institution on board.

Cooperation depends highly on the persons involved and is rarely institutionalized. Often, one very committed and motivated person in each institution keeps cooperation going. If this person leaves the organization (for example a professor retires), the partnership needs to be redefined by the successor. Furthermore, the cooperation between a university and an SME/chamber is highly related to one topic or research area. Therefore, several people in one organization might be involved in different forms of cooperation. But there is hardly one person or one department, which is responsible for the coordination of all existing cooperation of the organization and, thus, no single contact person is responsible for cooperation in general. This lack of structure creates a problematic situation, especially for outsiders who want to initiate collaboration with an organization but do not know who to contact. Some universities are establishing project coordination departments, which are responsible for gathering information about new research programs and share this information with the different departments. However, even those structures are missing in most chambers and SMEs.

The financial structure differs among universities, chambers and SMEs, and so does the wish to start cooperation. While universities mainly try to get funding for existing or new researchers, SMEs are interested in new products or outcomes, which increase the profit of the enterprise. These differences are also reflected in the preferred duration of projects. While universities try to get funding for projects with a longer duration, SMEs favor shorter projects with a fast delivery of results and outputs, which can then be capitalized. SMEs and even chambers have little experience and resources for complex project applications.

Universities, on the one hand, and SMEs and chambers, on the other hand, often talk in different languages. In the world of universities, project results are measured in number and quality of research papers published in various scientific journals. These research papers include a description of the theoretical background and the chosen approach as well as a detailed analysis. In contrast, SMEs and chambers need the results to be written in an understandable language. They prefer short reports instead of theoretical research papers. It must be possible to easily transfer the written results into action (improved processes, new products, etc.).

Both universities and chambers, offer seminars and other courses for SMEs. There is no coordination between the institutions so that it might happen that a university and a chamber in the same town offer very similar seminars. In doing so, they compete with each other.

Process

There is little communication between universities, chambers and SMEs. There are few possibilities where representatives of universities, chambers and SMEs meet by chance. Few universities take part in vision-processes of SMEs. Then again, SMEs

and chambers also hardly take part in curriculum development of new study programs at universities. The interaction between universities and SMEs is low even though both institutions could contribute to the success of the respective other. Due to a lack of possibilities for representatives of the different institutions to meet each other and thus to come in contact, it is increasingly difficult to start cooperation as meetings, and face-to-face communications are essential for it.

3.12 Future aims

Persons and Institutions

The future objective is to share responsibilities among chambers and universities, to overcome the overlapping offers of universities and chambers, particularly seminars for SMEs but also consultation services. The two institutions should agree in advance on their offers for SMEs. That way offers become more attractive which is especially beneficial for chambers without mandatory membership. One possibility might be a division of the offers for SMEs according to the target group: universities provide seminars for the management level, chambers for the skilled workers. Another possibility is that the seminar offers can be divided according to content (management skills by chambers, technical skills by universities) or according to the degree/certificate that will be obtained.

It is desired that every institution has one post (or department) who is responsible for external communication, particularly for the cooperation with other institutions and SMEs. This does not only enable coordination of responsibilities between universities and chambers but also provides external institutions or SMEs with a central contact person to turn to. That way communication processes are institutionalized. This primary contact person can then pass on information internally. The name and contact details of this person must be available publicly, e.g. on the institution's website or newsletter. Internally, all employees need to support the communication manager, i.e. sharing cooperation activities of staff, relationships and contacts with other institutions and SMEs, as well as thematic orientation.

A second aim is aligning the interests of chambers, universities and SMEs to receive funding and make a profit. Currently, universities are looking for funding for research projects to finance present and additional employees. SMEs are looking for solutions which quickly result in additional profits. While universities generally look for longer research projects, SMEs prefer to have shorter projects with fast delivery of results.

Last but not least, research should be adapted better to work on the ground. This includes practice-oriented research topics. One way to better understand the problems of SMEs and to detect possible gaps for research is to send students in the enterprises (e.g. via an internship or for a bachelor or master thesis). Besides the main task of getting practical training, the students can act as intermediary between the enterprise and the university. This has already been carried out successfully by German

universities, which provide dual study programs. Students are employed in an enterprise and concurrently study at a university. In doing so, they can apply their practical experience at the university and their theoretical knowledge to the company.

Processes

The face-to-face communication between universities, chambers and SMEs should be improved and institutionalized. Only face-to-face contacts can create a basis for sustainable cooperation. Conferences, workshops, fairs, etc. are places where universities, chambers and SMEs meet. However, it must be secured, that different institutions talk to each other instead of only being in the same room (e.g. round tables at conferences, etc.). Therefore, special side-events during larger events must be organized for craftsmen and professionals. Special forums are another possibility to bring together universities, chambers and SMEs. In these forums, the different institutions can exchange ideas, problems and experiences.

As mentioned before students can act as an intermediary in enterprises to transfer experiences from one institution to the other. However, it must also be possible for SME employees to gain experience at universities, e.g. through practical training or an internship at a university lab.

Especially cross-border cooperation requires good language skills, which is often a problem, particularly for smaller SMEs. It must be possible that SMEs can ask questions in their native language and not in English.

There are some excellent examples where universities support SMEs, e.g. via students working on specific tasks for the companies. The opposite, SMEs and chambers supporting universities, is rather uncommon. Because most students end up working in an enterprise, the qualification needs and wishes of enterprises must be considered in the curricula of universities. SMEs could, therefore, be included in the development of new or the adaption of existing curricula.

3.13 First cooperation concepts for universities and chambers/ SMEs

1) The most important vision is close cooperation between universities and SMEs including

- Research that is more oriented towards the practice and needs of SMEs
- SMEs influencing activities of universities, e.g. development of curricula.

Particularly in Eastern European countries, systematic and closer cooperation between universities and SMEs must be initiated from the top, e.g. through political decisions or lobbying. Good PR could sensitize the relevant institutions to rapprochement and cooperation. In addition, round tables must be organized with representatives from all three institutions to elaborate on curricula or other study-relevant topics.

As mentioned above, joint conferences can bring together representatives from universities, chambers, and SMEs. In order to make them talk to each other, these conferences must include sessions with smaller working groups where the representatives of different institutions can exchange knowledge and experiences, and they can start to get to know each other.

Since there are some good examples for fruitful cooperation between universities, chambers and SMEs, an international exchange of these good practices is required. This exchange must not only be on the level of institutions (universities exchange with universities, chambers with chambers, etc.) but must go beyond. However, one has to consider that especially smaller SMEs have difficulties in freeing up employees (for practical training or even to knowledge transfer exchange events) since they need every single employee to cover daily work.

Last but not least, universities need to transfer scientific results in a more practical format for the enterprises (results written in an easy language on 1 to 2 pages maximum).

2) To improve the cooperation between universities, chambers and SMEs, every institution needs one central contact person.

First of all, the information about the right contact person must be available for external parties. This requires that there is a central contact person or department in each institution in the first place. If an institution has agreed upon one central contact person, the institution must build up awareness within the institution. All employees must know about this position and have to use it. An organigram must be developed with relevant information about the positions, names of the contact persons and their responsibilities. This organigram can be used both, for internal and external parties.

Round tables can be organized for persons with the same tasks or working area. These round tables can improve the cooperation between universities, chambers and SMEs on working level.

3) In order to intensify the cooperation between universities and SMEs, students must be more involved in the practical work of enterprises.

A stronger inclusion of practical work into the curricula must fit in the overall legal framework of the countries. For example, in Germany, dual study courses are permitted by law, which allows students to work and study concurrently. Another good example is the Satakunta University: here, the curricula include practical work in enterprises as part of the study courses.

4) Particularly in cross-border-cooperation, command of English is essential - not only for students but also for teachers.

In order to improve the knowledge of English of employees, English courses must be offered. At universities, participation in English courses should be accredited with credit points. In addition, it is not only necessary to talk about language courses, but also professional courses can be taught in English. Another possibility to improve English

skills at university level is an exchange of teachers and the employment of foreign, English speaking teachers in the courses.

3.14 Conclusion

Although cooperation between universities and SMEs is a major concern of the EU, it still lacks behind set goals. A successful way of improving the collaboration between universities and SMEs is to start at the basis, i.e. at the level of the SMEs and universities. The present study followed this approach. A small group of representatives of universities and chambers from countries around the Baltic Sea elaborated in a workshop (future workshop) existing problems of the cooperation between universities, chambers and SMEs, future aims (how would the cooperation look like) and first action concepts for the realization of the most critical objectives. In continuation of this work, the Hanseatic Parliament, which has been successfully promoting SMEs in the entire Baltic Sea region for many years, founded the Baltic Sea Academy, which currently comprises 18 colleges and universities from 9 Baltic Sea countries.



The Baltic Sea Academy promotes cooperation between universities, chambers and SMEs. In this respect, the most important problems that need to be addressed have been identified:

- lack of a central person/department, who/which is responsible for the cooperation with other institutions,

- different financial structures in universities, chambers, and SMEs,
- different aims of the institutions (research papers versus increasing profit),
- same offers for SMEs by universities and chambers without coordination between the institutions,
- little communication between universities, chambers and SMEs,
- little interaction between universities and SMEs,
- few possibilities for representatives of the different institutions to meet each other (little face-to-face-contact.)

Future aims for cooperation between universities, chambers, and SMEs:

- sharing responsibilities among chambers and universities (reduction of overlapping offers for SMEs),
- central contact person for external communication and the development of co-operation,
- mutual interest to get funding and profit,
- research should be adapted better to practice,
- improved face-to-face-communication between universities, chambers and SMEs,
- exchange of students and staff among universities and SMEs (in both directions),
- no language barriers (particularly for cross-border-cooperation),
- participation of SMEs in the development of curricula.

First activities were elaborated for the four most essential visions. The cooperation between universities, chambers, and SMEs through practical research and SME influence on university activities can be reached by:

- political decisions and lobbying,
- round tables for representatives of all three institutions to draw up curricula,
- joint conferences with smaller working groups,
- international exchange of good practice,
- scientific results in a short, understandable written form.

There is a need for a central person in each institution, who is responsible for cooperation and external communication. This person (or department) must be visible for staff members as well as for external parties (e.g. through an organigram). Round tables for persons in different institutions with the same working areas can improve the collaboration on working level.

In order to intensify the cooperation between universities and SMEs, students must be more involved in the practical work of enterprises, e.g. through a stronger inclusion of practical work in the curricula.

3.2 Survey on the development of Centers of Competence²

3.21 Introduction

Starting from the '90s in Europe, many Centers of Excellence (CoE)³, practically in all areas and disciplines, have been created. Although the concept of a Center of Excellence is often used, it is still somewhat ambiguous. Intuitively, each organization may be recognized as a "Center of Excellence", when it comprises and attracts excellent actors (ex. researchers, companies or others), earning a reputation as a significant resource for the progress of science and technology and the spread of innovation. In literature, the most basic definition of Centers of Excellence is "CoE is a team of people that promote collaboration and use best practices around a specific focus area to drive business result"⁴. A Center of Excellence is defined more broadly as "a premier organization providing an exceptional product or service in an assigned sphere of expertise and within a specific field of technology, business, or government, consistent with the unique requirements and capabilities of the CoE organization".

In literature, we can find a list of some key features which are part of the CoE concept. Each Center of Excellence should be characterized by:⁵

- a "critical mass" of high-level scientists and/or technology developers,
- a well-identified structure (mostly based on existing structures) with its own research agenda,
- an ability to integrate related disciplines or complementary skills, necessary to achieve strategic goals
- a capability of maintaining a high rate of exchange of qualified human resources
- a dynamic role in the surrounding innovation system (adding value to knowledge)
- high levels of international visibility and scientific and/or industrial connectivity,
- adequate stability of financing and operating conditions over time (the basis for investing in people and building partnerships) and, eventually, sources of finance that are not dependent on public funding over time.

CoE's activities include mainly conducting basic and applied research, implementation of projects and research programs and conducting educational activities, service and training.

Depending on the scope of activities, there are different types of Centers of Excellence: i.e. conducting research in a specific area, conducting broad interdisciplinary

² Prepared by: Marzena Grzesiak, Gdańsk, Magdalena Olczyk and Marzena Starnawska, Gdańsk University of Technology

³ The term "Center of Competence" is hereinafter used to mean the name "Center of Excellence"

⁴ <https://agileelements.wordpress.com/2008/10/29/what-is-a-center-of-excellence/>

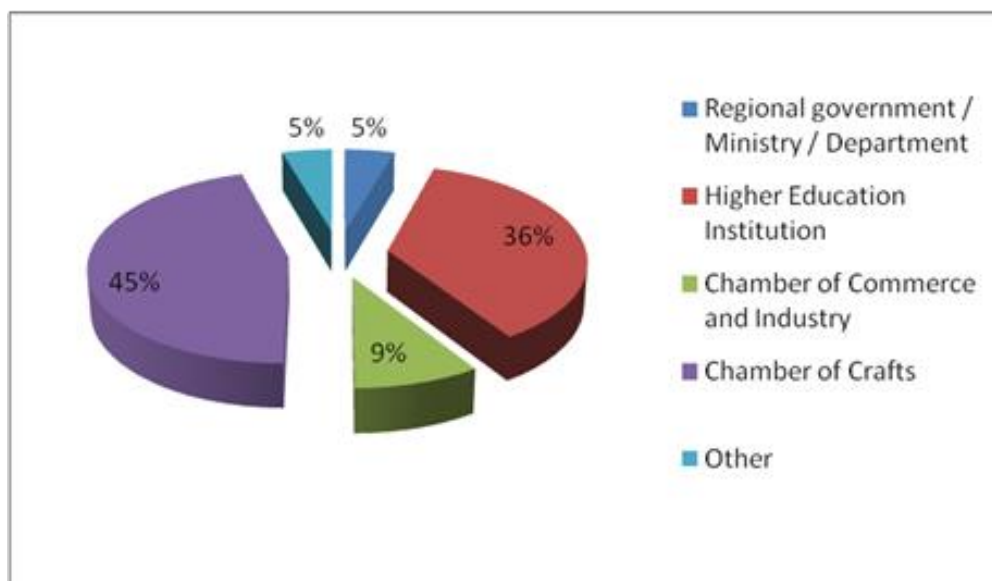
⁵ http://www.kpk.gov.pl/centra_doskonosci/index.html

cooperation, engaged in research, based on research infrastructures, involving academic-industrial collaboration or developing the industrial implementation of R&D.

3.22 Centers of Excellence –survey results analysis

A written survey of all project and associated partners was conducted. As far as the organizations that responded to the Center of Excellence's survey are concerned, there have been three main groups. Almost 45% of the respondents classified themselves as Chambers of Crafts, and only 9% as Chambers of Commerce and Industry. Slightly more than one-third of respondents were Higher Education Institutions. As a result, the opinions and interest in participation in different forms of CoEs are mainly based on the Chamber of Crafts and Higher Education Institutions.

Figure 1. Answers to the question: What kind of institution/organization do you represent?



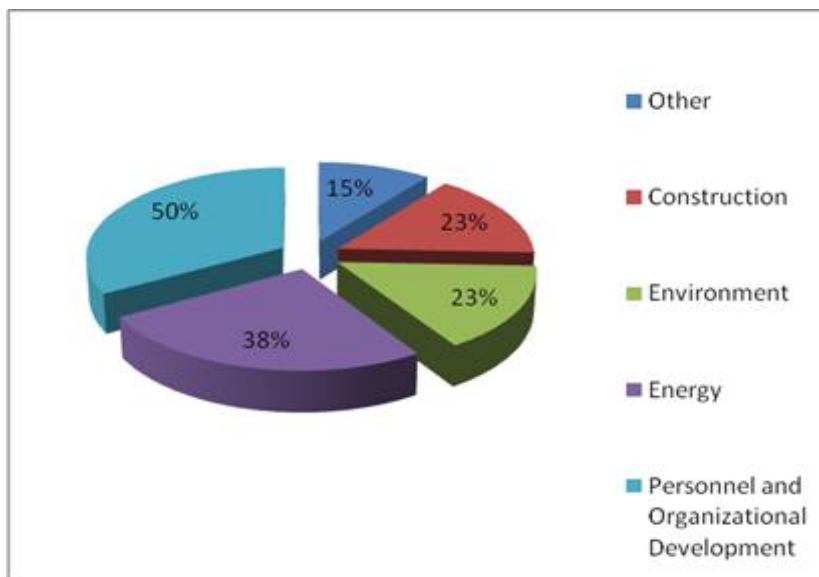
NB: Percentage of answers (one respondent indicated two organizations)

Respondents were asked what kind of CoE they would be interested and able to participate in. In the survey, they had a choice between five categories of CoE's:

- "Environment",
- "Energy",
- "Personnel and organizational development",
- "Construction"
- as well as "Other".

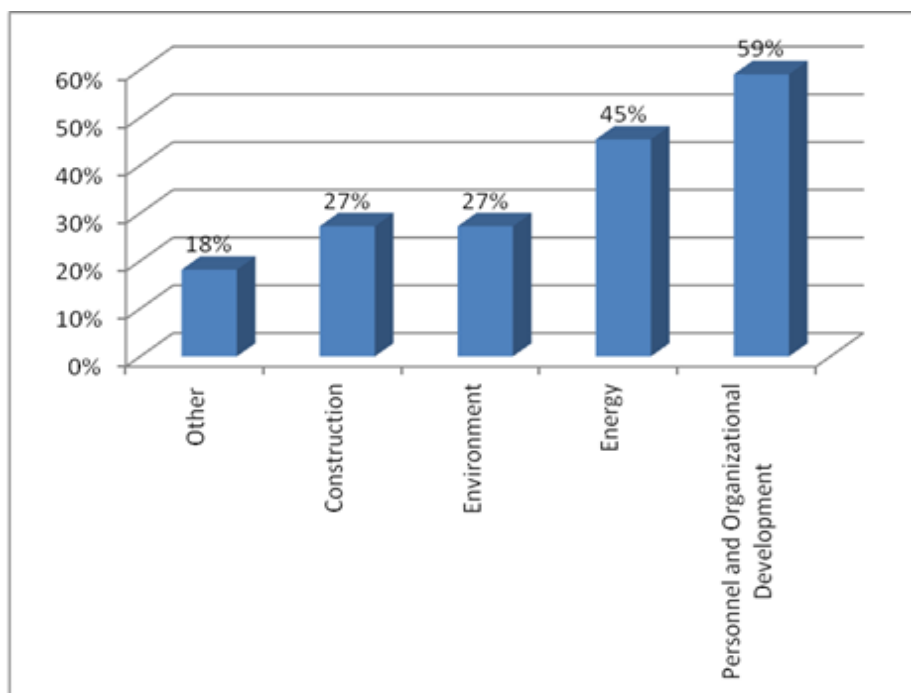
The option "Personnel and organizational development" is represented in 50% of all answers given to this question. "Energy" is the second most frequent answer – 38% of all responses. "Environment" just like "construction" constitutes 23% of all answers. "Other" includes "vocational training (for SMEs)", "SME management and financing", "promotion of craft sector and entrepreneurship", "service quality management".

Figure 2. Answers to the question: What kind of CoE could you participate in?
Percentage of answers



Almost 60% of all respondents are interested in the participation in “Personnel and Organizational Development”. As for “Energy” – 45% of them choose it, and 27% of organizations can participate in “Construction”, as well as “Environment” CoEs.

Figure 3. Answers to the question: What kind of CoE could you participate in?



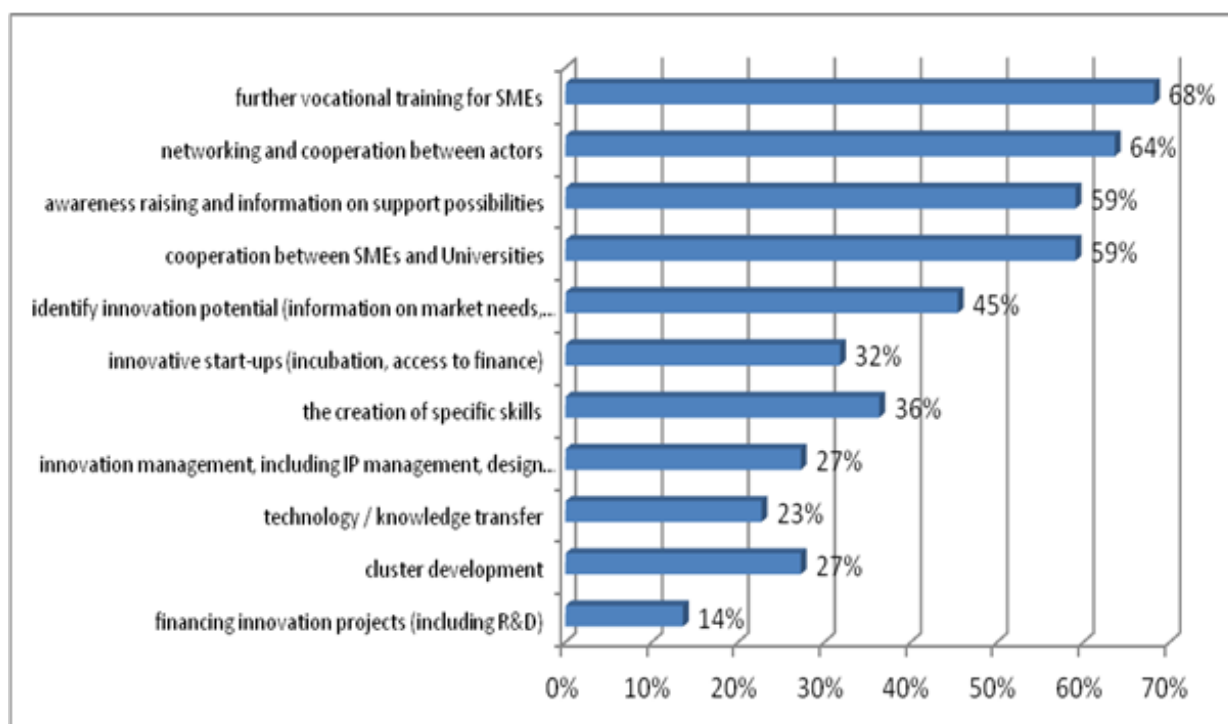
Percentage of respondents; Please mind respondents could choose more than one answers. Therefore, answers do not sum up to 100%.

We also asked what type of innovation support respondents' institutions/organizations could be involved in (Figure 4). Almost seventy percent of respondents (68%), indicate that they can be involved in support of further vocational training for SMEs whereas

64% of organizations can be involved in support of networking and cooperation between actors. Almost 60% of the surveyed institutions can be involved in support of raising awareness and information on support possibilities and in support of collaboration between SMEs and universities. Around 45% can do so in terms of supporting the identification of innovation potential. It is interesting to see that 27% can be involved in support of cluster development and innovation management issues, including IP management and design. Respondents display relatively high interest (36%) in their organizations supporting the creation of specific skills (Figure 4).

Similarly, the most frequent option chosen by respondents is the interest in “support for vocational training for SMEs” (15%), and “support for cooperation and networking between actors” (14%). Thirteen percent of all answers refer to “support for cooperation between SMEs and universities” and also “support for raising awareness and information on support possibilities” (Table 1).

Figure 4. Answers to the question: In the Center of Excellence, what type of innovation support could be your institution/organization involved in?



Percentage of respondents

Table 1. Answers to question: In the Center of Excellence, what type of innovation support could be your institution/organization involved in?

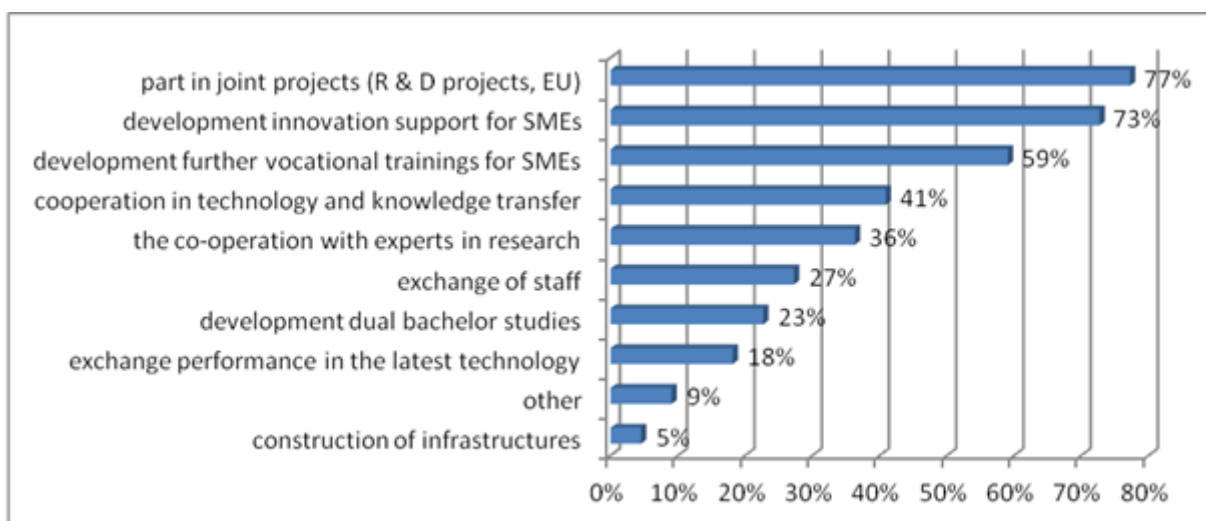
Involvement of the institution in the type of innovation support	Percentage of answers
further vocational training for SMEs	15%
networking and cooperation between actors	14%

cooperation between SMEs and Universities	13%
awareness-raising and information on support possibilities	13%
identify innovation potential (information on market needs, market conditions, new regulations, new technology, etc.)	10%
the creation of specific skills	8%
innovative start-ups (incubation, access to finance)	7%
cluster development	6%
innovation management, including IP management, design management and organizational innovation	6%
technology / knowledge transfer	5%
financing innovation projects (including R&D)	3%

Percentage of answers

Respondents were asked what benefits they expect from CoE participation. It is interesting to see that 77% of them expect participation in joint projects (e.g. R&D, other EU projects). Also, a little more than 70% expect the development of innovation support for SMEs. Almost 60% look forward to benefiting from the development of further vocational training for SMEs. Approximately 40% of surveyed institutions expect benefits such as cooperation in technology and knowledge transfer, whereas 36% of them would expect benefits in terms of cooperation with research experts. Only 23% would envision a benefit from the development of dual bachelor courses (Figure 5).

Figure 5. Answers to the question: What benefits do you expect in connection with participation in a Center of Excellence?



Percentage of answers

Similarly, the most frequent option, chosen as a benefit out of CoE is participation in joint projects (27% of responses), development of innovation support for SMEs (25%), development of further educational training (20%). Some respondents mention the exchange of contacts as well as international networking opportunities for cooperation in other markets (Table 2).

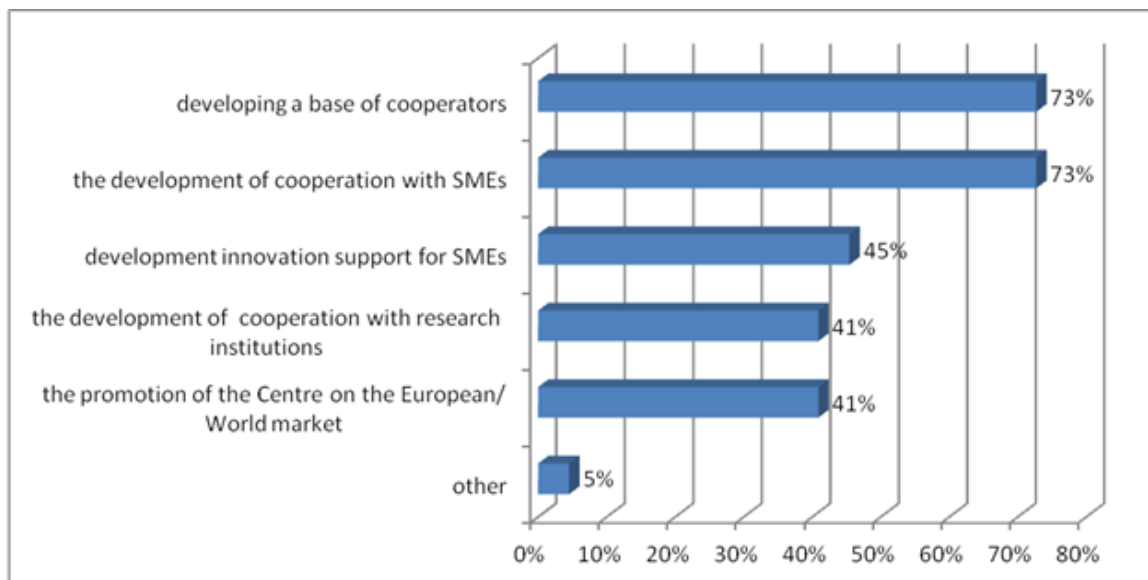
Table 2. Answers to the question: What benefits do you expect in connection with participation in a Center of Excellence?

Benefits expected by institution	Percentage of answers
part in joint projects (R & D projects, EU)	27%
development innovation support for SMEs	25%
development further vocational training for SMEs	20%
cooperation in technology and knowledge transfer	14%
the co-operation with experts in research	13%
exchange of staff	9%
development of dual bachelor studies	8%
exchange performance in the latest technology	6%
other	3%
construction of infrastructures	2%

Percentage of answers

Respondents prompted about actions that should be taken by members of CoE for their development acknowledge that “development of the base of cooperators” and also “development of cooperation with SMEs” is required (by more than 70% of organizations). 45% of organizations believe that CoE members should “develop innovation support for SMEs” as part of CoE activity. A little more than 40% of organizations believe that CoE members should “develop cooperation with research institutions” and “promote CoE on the European/World market” (Figure 6).

Figure 6. Answers to the question: What actions should be taken by the members for the development of Centers of Excellence? *Percentage of respondents*



Likewise, 36% of answers given to this question, stand for “developing a base of co-operators” and “development of cooperation with SMEs” (Figure 7).

One respondent indicates that members should make attempts at acquiring funds for CoE operation and promotion of CoEs.

For the surveyed institutions and organizations, “further vocational training” as a measure for promotion of innovations in SMEs is especially important – almost 70% of respondents acknowledge this. Nearly 60% find “cooperation between SMEs and universities” as important, and between 50-55% of them regard “technology and knowledge transfer”, “training and provision of management and professionals”, “information and exchange of experiences” together with “R&D for SMEs” as especially important.

Figure 7. Answers to the question: What actions should be taken by the members for the development of Centers of Excellence? *Percentage of answers*

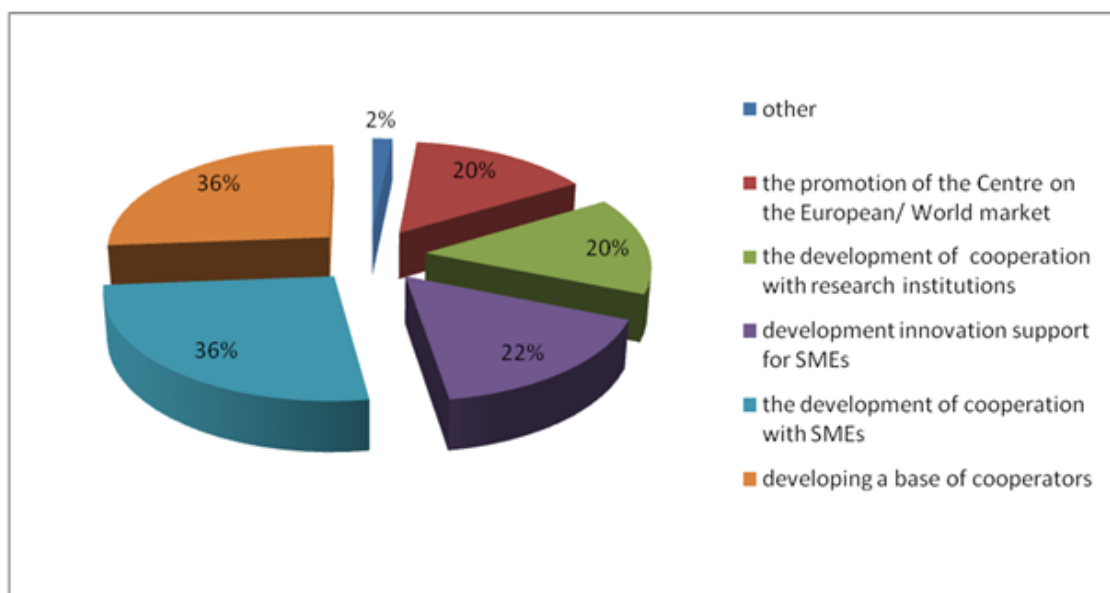
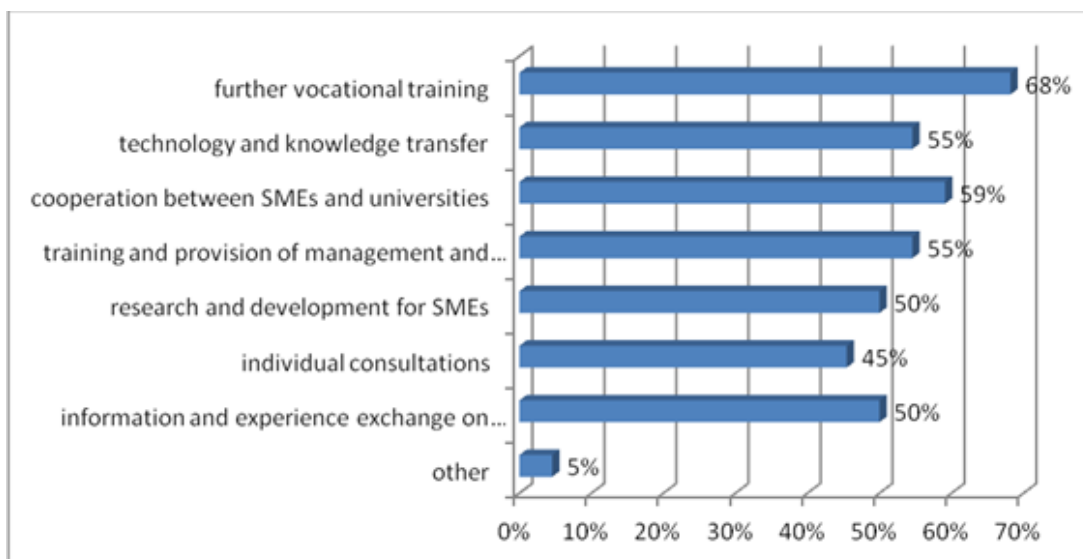
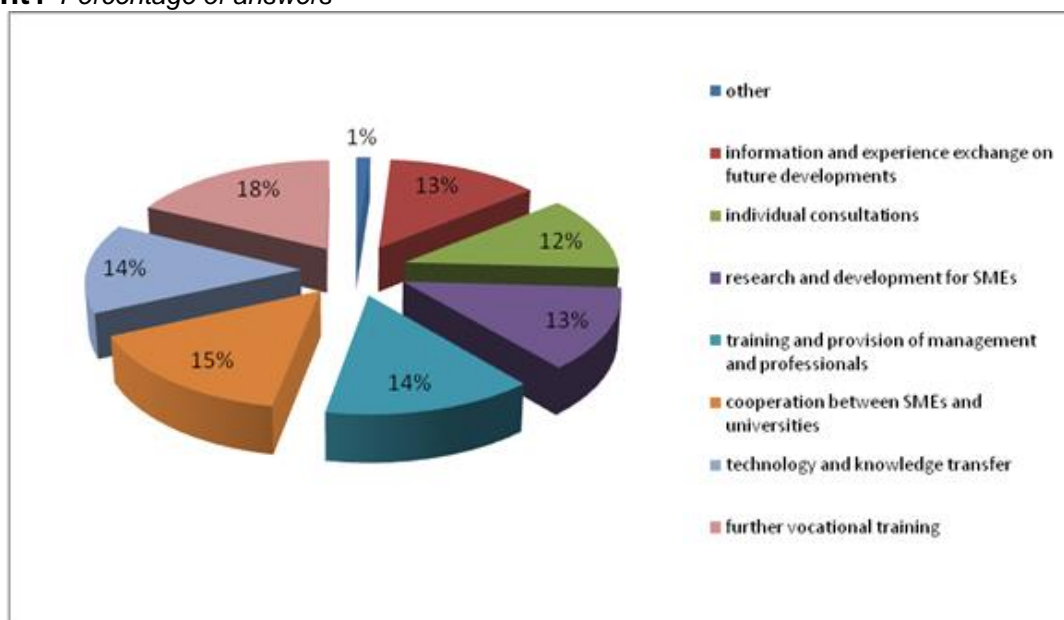


Figure 8. Responses to the question: What measures to promote innovations in SMEs, that should be realized by Centers of Excellence, are especially important? *Percentage of respondents*



Similarly, (Figure 9) the most frequent answer signifies the importance of “further vocational training” (18% of all answers), “cooperation between SMEs and universities” (25% of all answers), “technology and knowledge transfer” (14% of all answers) and “training and provision of management and professionals” for CoEs’ tasks and activities. One organization recognizes the importance of starting contacts between actors from different systems – there should be a body/person responsible for networking and cooperation for finding business partners and investors for universities. There should also be a larger emphasis on making bodies responsible for sustainable relationships between business and universities more visible and recognizable.

Figure 9. Answers to the question: What measures to promote innovations in SMEs, that should be realized by Centers of Excellence, are especially important? *Percentage of answers*



4. Concept for Center of Competence “Eco Innovation”

The international organisation Hanseatic Parliament comprises:

- Baltic Sea Chambers: An association of fifty chambers of commerce, SME associations and vocational training institutions from thirteen countries, committed to promote SME, in particular, the implementation of dual vocational training and further education, as well as to strengthening innovations.
- Baltic Sea Academy: An association of eighteen colleges and universities from nine countries implementing dual bachelor's degree programs and promoting vocational training and innovation in SME.

Over twenty years of experience of the Hanseatic Parliament have shown that measures on promotion of innovation in SME should be broadly defined, and they should cover all relevant areas, such as,

- ✓ implementation of research and development projects
- ✓ knowledge and technology transfer
- ✓ qualification of management and employees
- ✓ internal and inter-company, and international cooperation
- ✓ group and individual business consultation.

It is key for small and medium-sized companies that they receive funding and services from a single source, precisely, and just in time. Chambers are tasked to accomplish these key goals, for they are a regular point of contact of choice for businesses. Chambers entertain and develop support networks for SME, joining their forces and systematically aligning them to the SME needs. Chambers assume a lead role, serving as an initiative, coordinating hub and point of contact. Chambers are also key partner for further funding structures, especially universities and colleges, and, in their role as a single point of contact, they enable SME to draw upon a region's entire potential.

Within such networks, it is the function of chambers to ongoingly advocate specific SME interests vis-à-vis politics, administrations, universities, colleges, etc.

Baltic Sea Chambers of the Hanseatic Parliament supports chambers as a pan-Baltic Sea network, in executing these essential promotional activities for SME, assuming key development tasks, funding innovations and inviting further institutions, mainly colleges and universities, to a cooperative provision of the support measures.

Colleges and universities are indispensable institutions as to qualification measures and innovation funding in SME. Consequently, a second pan-Baltic Sea innovation support network for SME was set up, comprising eighteen colleges and universities - the Baltic Sea Academy.

United in “Baltic Sea Chambers”, an innovation support structure, chambers are the point of contact of choice for businesses, closely collaborating with high schools and

universities of the Baltic Sea Academy, involving them in development and support tasks, thus allowing SME, within the framework of the Hanseatic Parliament to,

- tap on funding support by their local chambers via “Baltic Sea Chambers”, as well as on best practice, expertise and resources of all other partner chambers in the BSR,
- to draw upon knowledge, resources, etc. of all involved colleges and universities of the entire Baltic Sea Region, via the Baltic Sea Academy.

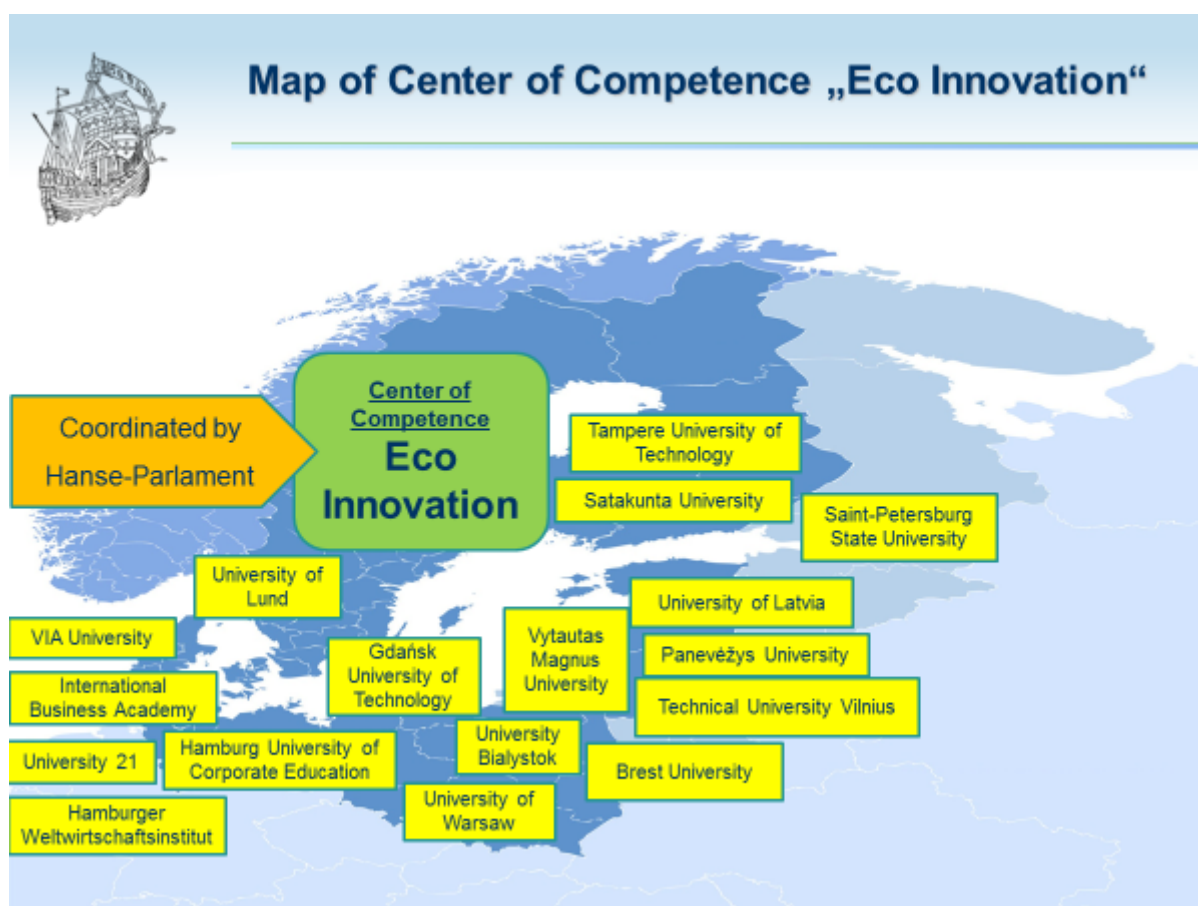
A compact network of chambers and colleges/universities, cooperating within the Hanseatic Parliament, reaching businesses across all countries and most regions of the Baltic Sea Region, thus enabling SME, irrespective of their location, to draw via their respective local chambers on knowledge and funding resources of the entire BSR.



This existing, long-running and successful SME funding network is used for the establishment of a pan-Baltic Sea Centre of Competence called “Eco Innovation”, a hub of qualification and innovation for SME in the areas of water, wastewater, waste technologies and circular economy. “Eco Innovation” develops and implements educational measures, secures knowledge and technology transfer and carries out R&D tasks.

“Eco Innovation” evolves in cooperation of colleges and universities from various Baltic Sea countries, united in the Baltic Sea Academy. The participating colleges and universities have agreed on division of tasks among themselves so that each partner can

specialise in certain areas of responsibility, whilst covering all relevant topics and issues regarding water, wastewater, waste, circular economy management and technologies. The Centre of Competence is coordinated by the Hanseatic Parliament, functioning as a control centre, ensuring cooperation between partners and acting as a driving force, coordinator, think tank and service provider for the ongoing implementation of qualification and innovation strategies for SME.



Fifty chambers of commerce, SME associations and further vocational training institutions, united in “Baltic Sea Chambers”, are associated partners of this Centre of Competence. They are a hub between SME and the CoC, ongoingly advocating concerns and needs of SME vis-à-vis colleges and universities, they transfer results to SME and they advise on implementations, participating in development tasks in SME, and they are continuously conducting qualification tasks for SME, also participating in the implementation of dual bachelor’s degree courses. Under the guidance of the Hanseatic Parliament, this joint work ensures smooth cooperation between chambers and colleges/universities.

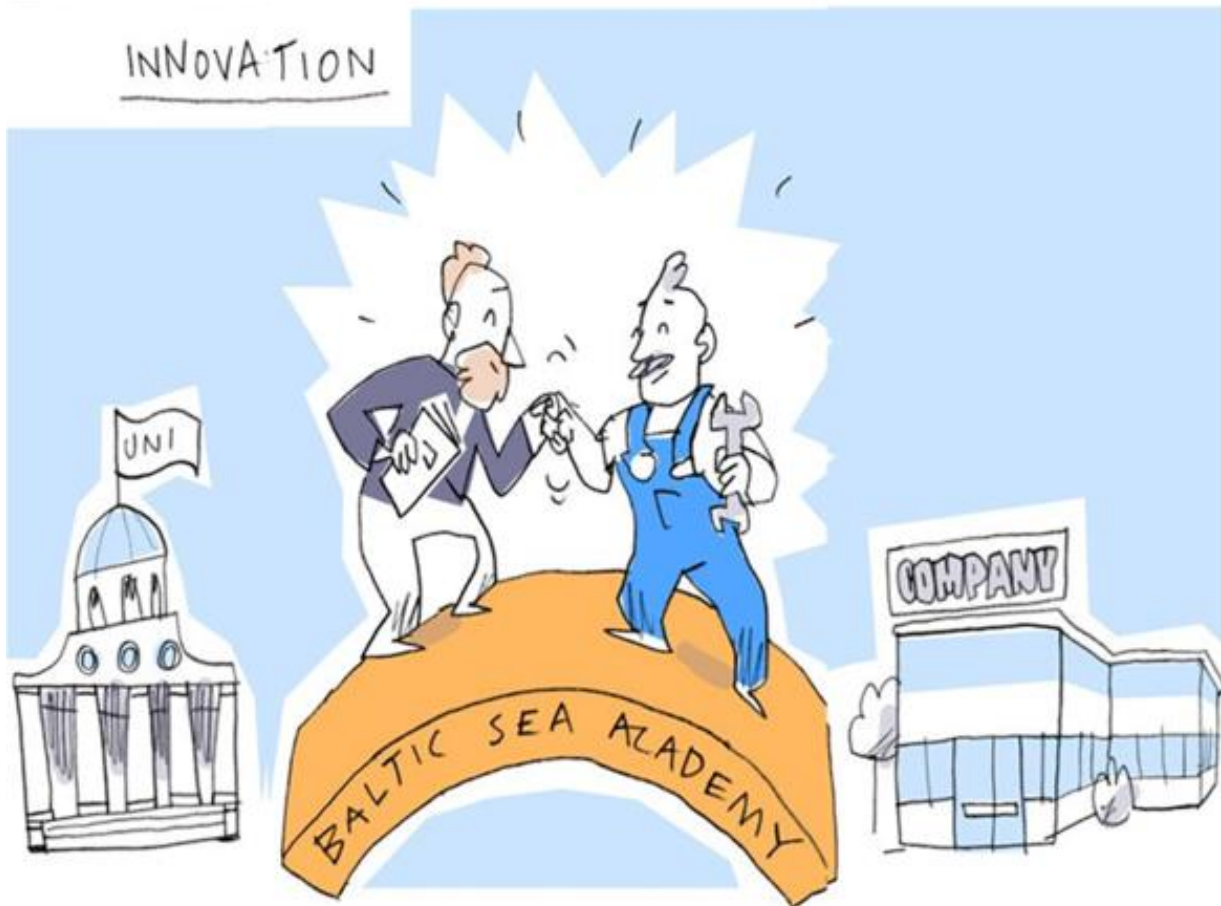


Associated colleges/universities of the CoC are directly engaged for the benefit of SME across the entire Baltic Sea Region. They also carry out R&D and development tasks, e.g. by developing curricula or new tools promoting innovations. They support implementation of their results via train-the-trainer programs and individual implementation advice. All CoC services, funding, results, etc. are available free of charge to all chambers and colleges/universities of the Hanseatic Parliament group, which, in its turn, is executing innovation funding for small and mid-cap businesses in the BSR. By an all-out cooperation among partners and chambers, the CoC can draft ready-made offers, including transfer, advice, R&D, further education etc., thus providing from a single source all needed services required by SME.

The approach regarding further development of the CoC “Eco Innovation” allows for

- developing of an excellence-driven CoC in the field of education, R&D promoting water, wastewater, waste and circular economy management, and technologies for individual SME.
- effective coordinated collaboration within a dense network of SME supporters, under guidance of the Hanseatic Parliament, serving as an effective one-stop innovation promotion for SME for all countries and almost all regions of the Baltic Sea Area.

- area-wide and methodical provision of innovation funding and access to innovative funding of peripheral regions, covering all SME, regardless of their location.



The Centre of Competence “ECO Innovation” is being developed as a pan-Baltic-Sea network under the project “Management and Technologies of Water, Wastewater, Waste and Circular Economy”. It will commence its work right upon completion of the project, and continue all project activities, focusing and further developing the following measures elaborated in the project,

- Train-the-trainer program for qualification of teachers and consultants from chambers and colleges/universities, to ensure an always-available pool of well-qualified staff, carrying out support measures across all BSR countries.
- Ongoing conducting of training courses to impart supplementary qualifications as part of initial VET of young people, managed by chambers and further youth VET institutions, for,
 - a) water supply technologies
 - b) water saving technologies
 - c) greywater and rainwater utilisation technologies
 - d) decentralised wastewater treatment technologies
 - e) fundamentals of the circular economy
 - f) systemic solution-oriented consulting

- Ongoing further training carried out by chambers for SME and their employees
 - a) preparation and management of SME to get fit for the Green Economy
 - b) waste reduction and recycling management
 - c) wastewater, treatment and recycling management
 - d) water supply and saving technologies
 - e) cradle-to-cradle in SME
 - f) energy production from wastewater and waste
- Related universities
 - a) implementation of the dual bachelor's study program "Renewable Energy Management in Building Technology (Bachelor of Engineering)", supported by respective regional chambers,
 - b) integration of the study modules into existing degree courses
 - I: Management & Technologies in the Water and Wastewater industry
 - II. Waste Management & Technologies
 - III. Management & Technologies in Circular Economy
 - IV. Management of sustainable economic activity

Apart from continuing all project activities, the Competence Centre "Eco Innovation" assumes lighthouse functions for the entire BSR, implementing joint development projects. Within this scope, universities are assuming the following tasks:

- implementation of complex R&D tasks
- ensuring transfer of best practices, knowledge and technology
- R&D tasks for individual SME/SME groups, e.g. in collaborative projects
- development of curricula and implementations for related dual bachelor's courses
- development of further training courses and support in implementation by providing lecturers
- implementation advice and train-the-trainer seminars for all members of the Hanseatic Parliament
- establishing proper capacities and providing experts and lecturers for tasks of chambers and colleges/universities
- carrying out development tasks for individual chambers and colleges/universities

Chambers, SME associations and VET institutions as associated cooperation partners of the CoC, carry out the following tasks, in particular,

- matchmaking with SME and colleges/universities
- transfer of best practices, new technologies, etc. to SME and implementation support
- participation in R&D tasks in SME
- advice and support for SME as training partners in implementation of dual study programs
- organisation of initial VET and implementation of courses on new technologies as well as provision of supplementary qualifications
- implementation of further vocational trainings for SME and their employees

- examinations in vocational education and (further)training
- advising and rendering support to SME in all relevant matters
- representing SME interests vis-à-vis any social partners

During the project term, based on the above concept, work and business plans on commencing activities, and implementation of complex tasks are drafted, coordinated and adopted for the CoC “Eco Innovation”.

5. Work and Business Plan of the Center of Competence

5.1 Continuation of Project Activities

According to the concept (See Ch. 4), the centre of competence “Eco Innovation” will commence its work on January 1, 2022. The following activities will be carried out, as continuation of the project “Management & Water, Wastewater, Waste Technologies and Circular Economy”.

- a) Hanseatic Parliament
 - coordination of all activities
 - partner support on implementations
- b) Colleges and universities
 - further development of curricula for further training and support on implementations via provision of lecturers
 - implementation of the train-the-trainer program for teachers and advisors of chambers and universities
 - implementation of four study modules in existing study programs
- c) Chambers and SME associations
 - implementation of six training programs on additional qualifications for youth in vocational training
 - implementation of six training programs for SME and their employees
 - participation in development projects for SME
 - best practice transfer, support for implementations and consultation services for SME.

5.2 Further Development and Expanding the Center of Competence

As part of further development and opening up of the pan-Baltic-Sea CoC “Eco Innovation”, the following four key goals were set for the project,

- backing international cooperation and regular, all-out exchange of experience and transparent transfer of information to third parties (e.g. to companies, administrations, interested public stakeholders etc.).
- implementation of new cooperation formulas between universities and SME, implementation of research and development tasks for/with SME.
- development and implementation of innovative qualifications in vocational training, further education and higher education as well as customised securing of future entrepreneurs and skilled workers by means of work-based learning.
- implementation of R&D and other relevant funding projects for the development and implementation of new qualification and innovation backing measures.

The strategy for achieving these goals is based on the following main items in the area of management & water, wastewater, waste Technologies and Circular Economy:

- a) Hanseatic Parliament, Baltic Sea Chambers & Baltic Sea Academy

- management and coordination of the Centre of Competence,
- ensuring cooperation with Chambers and coordinating cooperation with Baltic Sea Chambers,
- joint consultations, regular exchange of information and mutual exchange of experience at general meetings and at working sessions of the HP,
- providing information as part of the daily management, as well as consultations and provision of documents for various target groups, e.g. for companies, educational institutions, politics, public administrations etc.,
- transfer of developed funding concepts, curricula, and best practice examples to related funding institutions and educational institutions,
- demand-oriented application of process consulting and support during implementations,
- In-depth exchange of experience, advocacy and broad communication of information on needs, concepts and implementation options for dual vocational and higher education.

All general meetings and working sessions of the Hanseatic Parliament are dedicated to joint consultation, feedback, further development of existing and drafting of new additional educational and support measures. Mastering of such exhaustive tasks needs activation of further relevant funding projects.

b) Colleges and universities

- execution of complex research and development tasks
- ensuring best practice, knowledge and technology transfer
- carrying out R&D tasks for individual SME or SME groups, e.g. industry-related projects
- drafting of curricula for relevant dual-bachelor's degree courses and implementations
- development of further training courses and support of implementations via provision of lecturers
- implementation advice and train-the-trainer seminars for all members of the Hanseatic Parliament.

c) Chambers, other SME sponsors and vocational training institutions

- communication between SME and colleges/universities
- best practice, new technologies transfer to SME, implementation support
- participation in R&D tasks in SME
- consultation and support of SME as training partner in implementation of dual study programs
- organising initial VET and implementation of courses on new technologies, as well as provision of additional qualifications for youth in vocational training
- conducting professional trainings for SME and their employees
- consultation and support for SME in all relevant matters.

5.3 Business Model for Future Work

As part of the day-to-day business, the Hanseatic Parliament is coordinating the ongoing implementation of the above tasks, providing joint consultations, regular information exchange and mutual sharing of experiences. Keeping results of such debates in view, under the management of the Hanseatic Parliament, decisions are taken on further development of existing and on new additional measures, and tasks are assigned to the partners.

Regular exchange of information and experience, as well as manageable tasks are financed by the Hanse Parliament and its members, whereas more complex work and development jobs are subject to execution as part of existing or in new funding projects.

Ongoing implementations of educational measures are financed from diverse sources:

a) Professional training

As with any other recognised professional training courses, all measures are financed from national funds.

b) Professional development

Participants are charged cost-covering fees for the ongoing implementation of professional training programs. If possible, existing financial grants are tapped to reduce course fees, e.g. funding from local employment services or other regional/national funding programs.

c) Universities

Implementations of dual bachelor's degree programs are financed by public colleges/universities from national funds. Private universities are charging attendance fees that are usually paid either in full by the involved companies or in equal proportions, by the students and by the participating companies.

Funding of innovations and development projects is linked to implementation of further training and university degree programs. Accordingly, they are financed from sources described under b) and c).

Implementation of more complex events, development work or R&D tasks, is secured by projects developed with funding from national and EU funds. Such tasks are applied for and carried out by the Hanseatic Parliament, together with individual colleges/universities and chambers of commerce from various countries.

Based on previous experience and available results, it was agreed upon that major relevant funding projects will be developed and applied for under the lead role of the Hanseatic Parliament, in particular,

- three-level centres of professional excellence: qualification, entrepreneurship and innovation in Green Economy
- recruiting Young Generation Workforce: innovative HR management
- customer-oriented innovations in SME
- Knowledge Alliance: animating entrepreneurship and training for entrepreneurs

5.4 Recommendation for a Vote

The present concept on the extension of the “WWW & CE” Skills Alliance, on the development and on a long-term activity of the Baltic Sea-wide Centre of Competence “Eco Innovation” was developed under the project “Management & Water, Waste Water and Waste Technologies and Circular Economy”. Together with partners of the Hanseatic Parliament, the concept was comprehensively debated and adopted. Further consultations and coordination took place at a conference, involving all Centre-of-Competence partners and representatives from companies, politics and administrations. On June 8, 2021, upon thorough debates, the members of the Hanseatic Parliament have accordingly decided to implement the present concept.