TOWARDS A RESILIENT NORTH SEA REGION

NEW BUSINESS MODELS FOR SKILLS

Interreg North Sea Region RIGHT
European Regional Development Fund
EUROPEAN UNION

RIGHT
RIGHT SKILLS FOR THE RIGHT FUTURE

New Business Models for Skills

An Interreg North Sea Region Project

RIGHT Project

RIGHT SKILLS FOR THE RIGHT FUTURE

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Contributions from the RIGHT Partners

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Table of Contents

Introduction 6
Vordingborg 7
Groningen 9
Antwerp 12
Skåne 14
Vestland 16
Ghent 18
Fife 19
Discussion 21

Introduction

This document describes new models related to skills and training activities and of more traditional business development support models uncovered during the pilots of the RIGHT project activities. The pilot work needs to be placed within the context of urgent capacity building needs of the partner regions in the face of global competition, disruptive technologies, and the need for new governance structures. Skills anticipation intelligence and developing infrastructure for lifelong learning are part of the future of regions that intend to thrive according to the European Centre for the Development of Vocational Training (CEDEFOP) in its 2018 forecasts.

The RIGHT pilots, as described in this document, capture an urgent need to address the skills gap in times of radical disruptive innovation. New disruptive technologies require new educational platforms, more diversified education systems, as well as new business models. These developments will require new skills and a need to adapt to ongoing transitions to a greener society, with increased renewable energy, global markets and value chains, and new business models. SMEs in particular need to be facilitated in such transitions and are a key target group of many of the pilots and business models in this report. In this report, we discuss the business models implemented by the pilots implemented in order to enhance skills in the workforce through education and training.

Vordingborg, Denmark is a municipality facing many development challenges in part due to a lack of qualified labour. The region has fewer people with higher technical and university level education and more unskilled labour in relation to the rest of the country. In addition, there is a very low-tech orientation with a limited number of companies in the field of IT. There is also a somewhat narrow focus on attracting technical and engineering profiles and the proximity to Copenhagen does not help in attracting potential highly technical employees to its region. There is a real need for "Right Skills" in the short to medium term, due to the municipality´s ambitions and developments taking place offshore in the surrounding areas.

Skill Mill

Gaps and Challenges: The skills and competency analysis showed that there was a major gap between local competences and those required in the offshore sector. A large majority of the local SMEs lack the required mandatory education and training which is required of service providers. There is an urgent need for trainings in the areas of renewables, blue energy, and offshore wind.

Pilot: The purpose of the pilot was to attract an offshore training operator in Vordingborg to cater for burgeoning offshore wind service industry; to get as many SMEs to take the occupational safety courses as possible; education and training of current and new employees for the blue energy sector and to upskill local SMEs for the offshore service industry.

Results: Business Vordingborg was able to offer 30 offshore certificates to 3 companies and attract RelyOn Nutec sire, the world's leasing training provider in the offshore safety industry to the region.

Business Model: The partner saw a need to build a knowledge base on the future requirements for SMEs and windmill operators in the short to medium term with the ambition of creating a regional knowledge hub. The model is primarily based on field research within the region through interaction with local experts in order to learn more about the region and municipality as a whole. Thus, the analysis of available training schools and institutes, as well as the identification of the potential training providers to operate a training facility in Vordingborg, became the final step in the process of creating a knowledge base on how

a region can transition into service provision for the offshore wind electricity production.

Transferability: The model used in the pilot is easily transferable and simple to implement to areas having similar offshore activities as in the Vordingborg area.

iBOSS

Gaps and Challenges: SMEs often lack information and competences for internationalization. Not all businesses are aware of what it takes to undertake international activities. In order to support SMEs, knowledge gaps needed to be filled. However, SMEs find it difficult to connect to educational institutions for support. SMEs are often unaware of the need for innovation to keep a competitive advantage due to pervasive global value chains and e-commerce. Furthermore, various challenges also exist such as trying to match education programmes to business practice; matching the needs and capacities of SMEs with that of curriculum/student participants; and with issues of managing expectations of participating SME whilst holding them accountable to their commitment of active participation.

Pilot: iBOSS aims to help SMEs focus on exploring international markets, innovation, and value chains by creating a "helpdesk" manned by students from Hanze UAS and other educational institutions. Having the helpdesk in the region, close to SMEs is an important element of the initiative.

Results: The concept of the iBOSS (using students as innovation drivers based on an underlying regional innovation framework concept) has been expanded to include start-ups and other intermediaries like Enterprise Europe Networks to make matchmaking with other businesses more assessable. The iBOSS concept is being transferred to other areas in the region in the short term.

Business Model: The iBOSS business model facilitates new innovation ecosystems of students, SMEs, start-ups, intermediaries, etc. Students are taken off campus to be close to businesses and to create low thresholds for getting knowledge inputs and multidisciplinary solutions. In the process, business competences are improved, and students are exposed to job and start-up opportunities in the region. This model keeps students in this region by creating an attractive ecosystem, including support for start-ups.

Transferability: This pilot can be easily replicated in other regions. The concept of the area cooperation and Innovation Workplaces and the overarching Regional Innovation Framework is a good practice for other regions to consider that facilitates local and regional agenda-setting and cross-sectoral business developments. It makes international markets more assessable to SMEs through student support.

GAS 2.0

Gaps and Challenges: The need to create new jobs and a skills base to replace current 'gas' jobs is at the heart of Gas 2.0. There is a gap in the level of education regarding energy transition, including teachers. In the pilot project, however teachers were given a limited number of hours to fulfil their tasks and had insufficient knowledge of the project and its objectives. There were also cultural differences between education and business.

Pilot: Gas 2.0 is a public-private partnership for future-proofing vocational education for the Northern Netherlands' energy sector, sponsored by the Dutch Regional Innovation Fund (RIF). The RIF GAS 2.0 programme combines seven vocational colleges; three provinces; four municipalities; and 47 SMEs.

Results: A learning module on hydrogen has been developed.

Business Model: RIF Gas 2.0 creates connectedness through public-private partnerships and contributes to the ambitions of sustainable energy generation in the North. The Energy College wants to establish itself as the place where VET (Dutch MBO) energy education is developed, shared, and disseminated, so that students and professionals can increase their knowledge and skills online and offline. The business model is to develop energy education for MBO students and incumbent staff through public-private cooperation and to share this knowledge widely to promote the energy transition. A programmatic approach is the underlying innovation in developing training for new value chains.

Transferability: Although each country has its own education systems and subsidy regulations, the basic principles of this pilot can also be applied in other regions.

Green Hydrogen Booster

Gaps and Challenges: There is a need to speed up development of a new and green hydrogen value chain and a need for facilitation and connecting SMEs in the emerging landscape of green hydrogen sector that includes cross-sectoral connections. There is also a lack of a measurement tool on regional and sustainable impacts for the open innovation centre and its participating organizations.

Pilot: The pilot allows SMEs and other parties to collaborate in an open innovation environment to accelerate Green Hydrogen production, distribution, storage and various applications for

homes, industry and mobility, grid balancing and related infrastructures. A second part of the pilot is to develop KPIs to reflect impact of business performance to include regional and sustainability impacts.

Results: The pilot connected SMEs to the emerging green hydrogen value chain and provided innovation support where needed, with knowledge vouchers and networking sessions**.** Developing KPIs to reflect regional and sustainability impacts were also proposed for EnTranCe, the Open Innovation centre for energy transition at Hanze University of Applied Sciences.

Business Model: The pilot supports SMEs in exploring the possibility to develop new business models in green hydrogen chains. Students are also involved in assignments for SMEs and other organizations on green hydrogen challenges, thus introducing them to the potential of this sector for future careers, increasing the potential labour force. Developing KPIs for performance measurement that includes sustainability and regional impact measures were initiated and adopted by EnTranCe in its strategic plans.

Transferability: This approach is transferable.

Port Chances

Gaps and Challenges: There is a need to speed up development of a new and green hydrogen value chain and a need for facilitation and connecting SMEs in the emerging landscape of green hydrogen sector that includes cross-sectoral connections. There is also a lack of a measurement tool on regional and sustainable impacts for the open innovation centre and its participating organizations.

Pilot: The purpose of the pilot was to raise the awareness of the youngsters about their competencies, the possible study fields and job opportunities, and company culture and specific needs.

Results: The pilot resulted in new ways to examine job opportunities in logistical port companies, connecting in-company learning experiences to insights on interests/competencies and then courses/jobs by creation of an original competence game, Port Chances.

Business Model: The project managed to present a method that contextualized learning for students with links to the company and its specific activities. Applying games as a method managed to raise awareness among students about necessary competences, different study fields, and future job opportunities. The business model innovates the learning process and gives a novel way to learn about a company and its activities.

Transferability: Because the content within the game mechanics is so easily adjustable, the business model can be transferred to other regions.

Port Pro/Academy

Pilot: To raise awareness amongst young people about the different sectors in the port and its impact on their daily lives to show them possible study fields and job opportunities.

Results: Creation of a tailor-made educational program consisting of a game to create awareness and a themed excursion based on what young people think is important.

Business Model: The business model innovates the learning process and how one gets to know the port area as a whole, a specific sector, a specific company, its activities, and the jobs on site. The model combines an in-company visit tailored to young people with an immersive activity through usage of job speed-dating to trigger them to reflect on jobs and possible opportunities.

Transferability: The game, as well as the structure of the excursion are very much transferable to other regions. Content like products, activities and jobs must be adjusted to the local situation, but structure and method are perfectly transferable to every region.

Antwerp (Triple E)

Gaps and Challenges: In the Antwerp region, there is a mismatch between the competences learned in the regular educational trajectory and the competences needed by companies. There is also a need for an inflow of suitably technically skilled personnel with good work ethos and a real interest in the companies, a need for the retention of qualified technical staff, and a need for the creation of a tailor-made trajectory based on the needs of the workflow.

Pilot: To skill, upskill and reskill technical (potential) employees in adult education and fill the skills gap between education and the market in the Antwerp port area particularly to reduce the bottlenecks for electro mechanic.

Results: The pilot resulted in creation of an original trajectory electro mechanic in adult education (in hybrid learning) and with additional certificates needed on the work floor.

Business Model: CVO Vitant developed a flexible module-based trajectory in adult education for the bottleneck profession of electro mechanic, to provide participants with the competences and additional certificates needed on the work floor. The trajectory is tailor-made and adapted to the needs of the learners and the companies. It was created in collaboration with the relevant sectors, industries, and companies.

Transferability: The business model is transferable to other sectors and regions in Belgium and certainly to other countries.

The business support ecosystem in Skåne works quite well in general. There is, however, a gap between SMEs and the existing system of education and training. For various reasons, SMEs in Skåne often find it difficult to find the right skills for future needs. There has been a lack of structured cooperation between businesses and business support actors on the one hand, and education and training actors on the other hand, as well as tools that could connect the different actors.

Throughout participation in the Interreg project, the region Skåne has worked with two closely connected pilots, that had the potential of narrowing the gap between SMEs and the existing system of education and training.

Inventory of competence

Gap and Challenges: There is a shortage of technical skills in the industrial sector of Skåne, SME sub-contractors.

Pilot: To be able to optimize the usage of existing resources employers are given the possibility to conduct an inventory of competences of their staff through validation (baseline measurement). Once the employer knows the existing level of skills, they can initiate the planning process of defining the needs for tomorrow. Education of the existing labour force, recruitment of new skills and hiring of consultants will put the SME in a better position to become competitive.

Results: A new value chain of actors has been created through the pilot, which has contributed to new ways of working with inventory of competence through validation in Skåne.

Mind the Gap

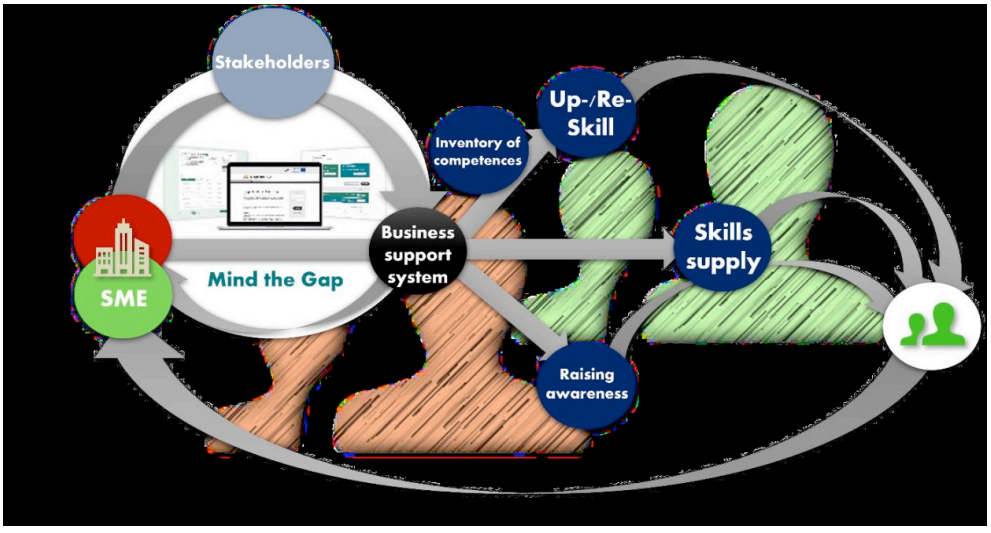
Gaps and Challenges: To grow and evolve, many small and medium-sized business have a tough time finding the right competence.

Pilot: Mind the Gap helps companies that want to develop their business to get a clearer picture of what skills are needed along the way.

Results: A digital tool that clarifies and connects the company's business strategy with the need for the right skills in the short and long term has been developed. With the help of two workshops, they determine what development the company wants to achieve and what skills they need to achieve this. The

workshops can be run either digitally or in person and can be run by the SME itself or with facilitation help.

Business Model: The pilots Mind the Gap and Inventory of Competences have been merged into a new business model. They developed a partnership (set up in the Inventory of Competences pilot) and put in the context of the Mind the Gap pilot. Mind the Gap gives support for companies that want to develop their business and get a clearer picture of what skills are needed along the way. Through the Mind the Gap process a facilitator can help companies understand the future skills gap in relation to their business models. The facilitator is a key competence in the business model. A new regional partnership has been created within the framework of the Inventory of Competences pilot. The partnership consists of business support, organizations, and educators in the region. The business support organizations identify SMEs with skills needs and the educators set up matching education and training, while working with attractiveness and readiness for future education and work. To be able to optimize the usage of existing resources employers are given the possibility to conduct an inventory of competences of their staff. Once the employer knows the existing level of skills, they can initiate the planning process for defining the needs for tomorrow.



Transferability: The business model is transferable. The use of a partnership is generic in a regional setting. The Mind the Gap tool is transferable, and has been translated and tested in Norway, Scotland and to some extent in Belgium.

In the Vestland region, businesses have a clear need for skills update within areas of innovation and entrepreneurship, digitalization and ICT, RAS, and aquaculture technology for cross sector transfer. There is also a need for employees who can master a combination of skills required by the companies; and a potential to close parts of the skills gap through the sharing of knowledge and experiences within the clusters. Most SMEs lack structures for innovation processes. Companies also do not have sufficient capacity and knowledge to be able to use existing support instruments correctly and are unable to find the right instrument for their current development phase. There are two pilots in the region:

RAS

Gaps and challenges: SMEs lack the capacity to send employees to courses for further education and therefore need module-based courses either with an industry-wide approach or with a specific subject/field approach. Therefore, Vestland Higher Professional College developed a short, modular training programme for the seafood industry. The programme is a part-time study, specially designed for SMEs, and allows the participants to combine work and education.

Pilot: The purpose of the pilot is to meet the need for further education for SMEs in relation to new technology, develop short courses which enable participants to combine work and training, and develop short courses which enables SMEs to facilitate for upskilling of employees.

Results: SMEs find it difficult to facilitate further education for employees, and the pilot made it possible for SMEs to upskill employees in combination with work.

Business model: RAS developed a flexible module-based education to provide participants with higher and multi-level set of skills for necessary technologies. The model can offer a tailor-made education programme to solve the RAS related skills gap in collaboration with the relevant clusters, companies, and other stakeholders.

Transferability: The business model is transferable to other sectors in Norway and possibly other regions.

Mongstad

Gaps and challenges: Businesses have a clear need for skills update within the areas of innovation and entrepreneurship, digitalization and ICT and they need employees who can master the skills required by the companies. There is a lack of a culture for entrepreneurship. Competence will be a key factor in the green transition process.

Pilot: The purpose of the pilot has been to map adaptability and motivation skills of employees and management in SMEs in the oil and gas sector in the green transition process.

Results: The analysis shows at a general level that the management will need to strengthen the adjustment and innovation competence in order to be able to better meet external and internal requirements when adjusting to the green shift. In several of the companies, employees show clearer qualities and motivation in these areas than the management team does in the same company.

Business model: In Mongstad the business model is based on emphasizing mapping adaptability and motivation skills of employees and management in the oil and gas sector in the green transition process. Companies must ensure that they keep hold of the employees in the team by giving them competence development, security, and trust. In the work with the Alver municipality pilot, Vestland county has brought with it new perspectives and lessons that have meant that in the new Smart Specialization Strategy, a new cooperation model will be tested and developed to use career guidance centres and business actors, with a focus on the transition to a green future.

Pilot: The purpose pf the pilot is mapping training opportunities in the blue and energy sector in the RIGHT partner regions. By collecting these trainings on a single platform, people who are interested in working in the blue and energy sector or are already working in one of these sectors and want to expand their knowledge, can find the courses that suit their needs. In addition, the collection of many courses on a single platform allows for easy evaluation of the skills gap in the sector.

Results: There is a searchable catalogue that can be accessed via the MarineTraining platform: Advanced search | Marinetraining Besides the catalogue on MarineTraining, UGent also developed an interactive map that gives an overview of the existing courses in the RIGHT partner regions: StoryMap

Business Model: Marine Training pilot developed a business model to make a searchable catalogue and gives an overview of existing courses in the region. The pilot started by defining the course providers in the RIGHT regions (with the help of the local partners). It first focused on Belgium (East Flanders, Antwerp), the Netherlands (Province of Groningen) and Scotland (Fife region), then in a second phase course providers in the other regions were also defined. By using the standardized marine training template, the partners collected courses and transferred them to the marine training platform.ISCED(skills that can be acquired during the course) categories were defined for each course. In last step, a Story Map was created to visualize the available courses in the RIGHT partner regions.

Transferability: The business model is transferable.

The Blue Consortium Fife

Gaps and challenges: An overall Lack of collaboration amongst partners in the triple helix (business, education, and government) was apparent. Building and strengthening of clusters and bringing a coordinated approached to improving innovation and skills shortages was needed. The intention was to build linkages across the various sectors within the Blue and Energy economies.

Pilot: This pilot used a quadruple helix model (an ecosystem approach focusing on four aspects of the surrounding environment of firms: Civil society, academia, other firms in the industry and government and the public sector) to develop the "system" for skills upgrading and job development.

Results: CESSCON skills Academy was to be initiated in November 2021 and aimed to bring low skilled or unemployed individuals to an academy to gain skills for decommissioning contracts. Skills Development Scotland had a meeting with Oceaneering to discuss a Modern Apprenticeship programme. St Andrews University Research grants will enable students and businesses to link for Student Research.

Business model: Four of the five key sectors as described by InvestFife: Food and drink, Tourism, Energy Industry and Manufacturing and Engineering are relevant to the overall economy of the region and is the reason to initiate a cross sectoral approach within the blue consortium. The aim is to enhance the overall Innovation ecosystem by improving the relationships and interactions within the system. The pilot developed a more coordinated and cohesive circular economy approach amongst the various institutions, authorities, and blue sector companies towards developing skills and where possible, in order to develop circular business models.

The partnerships between Fife and other partners, in this case Ghent University have been strengthened through the pilot work and could lead to stronger structures for educational solutions in the future for companies and individuals in Fife. There is a discussion about how to implement a platform to make education visible and at the same time connect with solutions such as Mind the Gap (one of the Swedish pilots) to build a new offer to companies (SMEs) that need to adapt to meet future demands and business opportunities. A completely new consortium and a centre of excellence will be created as a result of the Right project. This can be the driver for development, transition, and the opportunity to create more jobs in the region. New business models can and will be created as a result of this grouping and the centre.

Fife

Transferability: The business model is transferable to other countries, sectors, and occupations.

“Race to Zero” Innovation Game

Pilot: The Race to Zero pilot aimed to facilitate zero greenhouse gas emissions within the Blue Economy. In this context, a game application was introduced to high school students between 12-16 years. The game highlights innovation and achieving net zero by focusing on enterprise skills, net zero and renewable energy sources.

Business model: There are major barriers to entrepreneurship in Fife, and a game/app like this can create interest in entrepreneurship in the future in areas such as new energy, entrepreneurship, and innovation. The business model developed – with the help of the teachers – allows the inclusion of entrepreneurship in the classroom through gamification, in order to increase interest in entrepreneurship into new and future industries. The game/app is/will be available on various platforms such as Appstore etc.

Transferability: The game/app is transferable to other regions.

At the start of the project, two shared challenges were identified:

Challenge 1: lack of knowledge about long-term growth potential in the partner regions and a need to ensure innovation capacity is developed accordingly.

Challenge 2: existing skills gaps are a barrier to innovation and growth in the chosen blue and energy sectors and related fields.

A regional innovation ecosystem audit of each region to identify growth potential and barriers was carried out to map these challenges. Based on the analysis and in engagement with local stakeholders, pilots were identified, facilitated, and monitored. This report describes how skills gaps and barriers to innovation were explored through the pilot initiatives. Successful business models and models of skills and training delivery have been presented. Most of the partner regions have been included to illustrate the range of solutions and new business models that emerged specific to the challenges of the regional context. Fortunately, most of the business models are transferable through adaptations if needed.

The business models described include developing and testing new educational or training programmes, be it in educational institutions, in SMEs of clusters member. Others included creating business models to bridge specific skills gaps in partner regions. Some pilots offered new curriculum that needed evaluation and approval at national level before being implemented and learning materials produced. Accreditation, of course, carries value for participants but also acknowledges the specific industrial driven training need. The business models included possibilities for SMEs to upskill employees in combination with work.

Mismatches between skills of the workforce and industrial needs are a key gap for partner regions. The Port of Antwerp has created business models of youth and adult education engagement and immersion to attract potential talent to their workforces. The dire need for technical staff, common to many European regions, is part of the driving force behind the models of engagement, recruitment, and training in the port area. Experimenting with different types of training offered for different target groups by the vocational higher educational institute (University of Applied Sciences) is another attempt to create different models of training delivery and funding. Businesses are also invited to use its facilities and infrastructure to fund new students.

Business models that bring SMEs and quadruple helix partnerships into business development and skills anticipation

planning and creation of new value for individuals, businesses or sectors are all examples of the range of models described in this report. Bringing industry and education closer is a key element in skills development and the project pilots have shown new models of skills and innovation. Details of pilots and other aspects of their impacts are found on the project website and in other reports related to the project.

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