POMORSKIE CENTRUM KOMPETENCJI
MORSKIEJ ENERGETYKI ODNAWIALNEJ

Pomeranian Competence Center for Maritime Renewable Energy

The project involves the construction of an education and training center and a research and implementation laboratory base, which will allow for effective and professional research and development and will have a direct impact on the intensification of cooperation between the education, research and science spheres and enterprises.

POMORSKA PLATFORMA ROZWOJU
MORSKIEJ ENERGETYKI WIATROWEJ
NA BAŁTYKU

PURPOSE AND JUSTIFICATION OF THE PROJECT

Rumia Invest Park, together with other regional, national and international partners, is implementing the project "Pomeranian Maritime Renewable Energy Competence Center" (PCK MEO).

The activities of the project consist in creating and developing a cooperation network between secondary schools, universities, training companies and suppliers of innovations and technologies, and their recipients - enterprises, in order to increase the level of innovation and competitiveness of the Pomeranian region by educating future employees of the renewable energy industry. The project provides for the establishment of the Pomeranian Competence Center for Maritime Renewable Energy.

Development of offshore wind Energy projects in the Pomeranian Voivodeship and the creation of a new initiative called "Pomeranian Platform for the Development of Offshore Wind Energy in the Baltic Sea" opened up new opportunities. The Pomeranian MEO Competence Center will be the coordinator of several industries of strategic importance for the construction of the Polish offshore wind energy industry (operating, among others, in the steel, shipbuilding, electricity and energy, IT and construction industries), which are interdisciplinary teaching, scientific and research platforms. These platforms focus on the development of new joint solutions for enterprises operating in the province. Pomeranian region, thus supporting them in achieving and consolidating a competitive position on the national and international arena.

Thanks to joining forces of leading research teams and experts from the world of science and economy around key competences in narrow areas, the Center will be the right partner for enterprises by offering them solutions at the level of the best available techniques for preparing future staff, as well as developing the young generation's approach to innovative perception of support for climate.

Ultimately, PCK MEO will operate based on strategic programs prepared and co-financed by the local government and entrepreneurs operating in the province Pomorskie (Development Strategy of the Pomorskie Voivodeship 2030). PCK MEO in Rumia was indicated by the Board of the Pomeranian Voivodeship as a strategic undertaking for the Pomeranian region.

Thanks to this, enterprises will gain time, will have faster access to solutions tailored to their needs and will be able to more effectively translate the acquired knowledge into market values. Based on flexible forms of cooperation in various configurations, the processes from generating ideas, through the preparation of research works, their implementation, and then testing and implementation of new solutions, will be able to run more efficiently in the future.

PURPOSE AND JUSTIFICATION OF THE PROJECT

Mission

The Pomeranian Maritime Renewable Energy Competence Center (PCK MEO) will be an organization where practical training for youth and adult training will be conducted, tailored to the needs of the labor market.

Vision

PCK MEO for the offshore wind energy industry, acting as a Human Resource Building Center for the potential in the Baltic Sea Region.

- ✓ PCK MEO provides human resources, research and infrastructure (service) facilities for enterprises operating in the industry, as well as other entities interested in its development.
- ✓ The main goal of PCK MEO's activity is to support entities related to the industry in the preparation of staff and its training, training and continuous supply with modern techniques.
- ✓ PCK MEO is a place where various actors of the development, testing and implementation of the production technology of components for renewable energy take place at the regional, national and international level.
- ✓ PCK MEO is a place of first contact - a source of information (about the latest trends, apprenticeship programs, norms, innovations and standards) in the field of scientific and research cooperation and the possibility of establishing cooperation between the industry and the world of science.
- ✓ PCK MEO raises the qualifications of residents by disseminating the ideas and benefits of lifelong learning, using innovative technologies, allowing for flexible adaptation to changing trends and the socio-economic situation, as well as supporting the development of lifelong learning adapted to the needs of the modern economy of the region - in particular in the field of PSI and key industries for the economy and the needs of investors.

PURPOSE AND JUSTIFICATION OF THE PROJECT

The possibility of implementing the vision and mission of the Pomeranian Maritime Renewable Energy Competence Center can be achieved through the definition and subsequent implementation of the strategic goal: Building a strong competitive position of the Pomeranian MEO Competence Center on the regional and external markets. The following group of specific goals was subordinated to the strategic goal formulated in this way:

1) Increasing the number of secondary technical school graduates in professions dedicated to renewable energy.
2) Integration and consolidation of secondary technical schools and universities in the Pomeranian Region for the benefit of offshore wind energy.
3) Increased innovation of companies from the offshore wind energy supply chain.
4) Education of entrepreneurs and employees of companies from the offshore wind energy supply chain.
5) Increased activity of companies from the supply chain for offshore wind energy in the country and abroad.
6) Respect for the equal opportunities policy (promoting an increase in the share of female employment in the energy sector).

Diagnosis of educational institutions in poviats around PCK MEO Analytics

SCHOOL TYPE	TOTAL NUMBER OF SCHOOLS	TOTAL NUMBER OF STUDENTS
PRIMARY SCHOOL	386	134 300
COMPREHENSIVE SECONDARY SCHOOL	76	26 734
VOCATIONAL SCHOOL	50	6 824
TECHNIQUE	54	23 633
	566	191 491

Primary schools vs. secondary schools

The complex of 8 districts in the context of public education of primary and secondary school students looks quite substantial. In 566 educational units, a total of about 191,491 students receive education.

Of these, 134,300 students in primary school and the remaining 57,191 in secondary schools. 23 633 students are educated in Technical Schools and 26 734 in Secondary Schools.

The least number of students decide to choose a trade school – an estimated 6,824 are there.

Average number of pupils per institution

Number of pupils in primary schools

134 300

Number of pupils in secondary schools

57 191

one Primary School

347

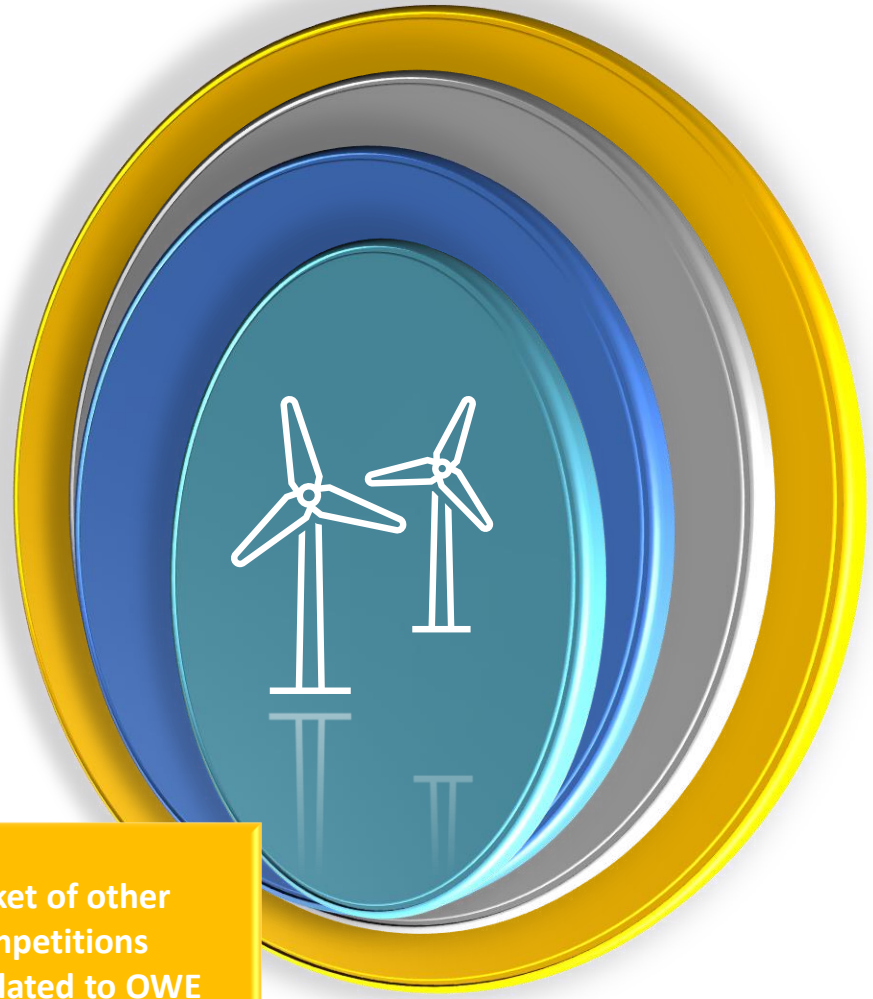
one Secondary School

317

*Data from the register of educational institutions

Occupations – Classification methodology

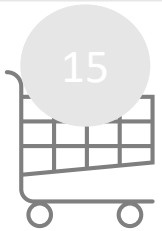
For the purpose of preparing a business model of the Offshore Wind Energy Competence Center in Rumia, 4 professional groups have been defined due to the usefulness of investments in offshore wind energy throughout the life cycle. The adopted classification methodology will be used in the analysis of professional groups of the center's stakeholders – educational institutions of 6 voivodships and their students.

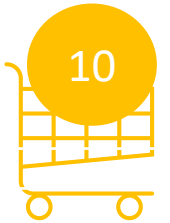


1. **Basket of professions directly related to OWE**
2. **Basket professions with training potential to work in OWE**
3. **Basket of intermediate and induced related professions with the development of OWE**
4. **Basket of other competitions not related to OWE**

Technical directions aggregated to individual baskets

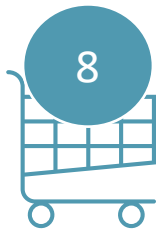
Direct profession related to OWE	A profession with training potential to work in OWE	Induced profession Related to the development of OWE	Occupation other not related to OWE
Automation Technician	Construction technician	Analyst Technician	Agribusiness technician
Port and terminal operation technician	Refrigeration and air conditioning technician	Landscape architecture technician	Graphic and digital printing technician
Electronics technician	IT Technician	Economist technician	Forester technician
Electrical Technician	Environmental engineering and drainage technician	Pharmaceutical technician	Fashion Industry Technician
Energy technician	Agricultural mechanization technician and agrotronics	Sales Technician	Advertising technician
Surveyor Technician	Environmental Technician	Hospitality Technician	Farmer technician
Logistic technician	Motor vehicle technician	Technician Cook	Chemical Technology Technician
Mechanic technician	Programmer Technician	Massage technician	Wood technology technician
Aerospace Mechanic Technician	Architectural restoration technician	Tourism organization technician	Cosmetic service technician
Mechatronics Technician	Finishing technician in construction	Accounting technician	Veterinary technician
Forwarding Technician	Broadband electronic communication technician	Food Technology Technician	
Crane equipment technician	ICT technician	Rail transport technician	
Technician of renewable energy equipment and systems		Hairdressing service technician	
		Waiter Service Technician	
		Food and catering technician	

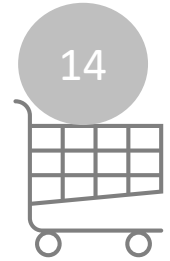




Industry professions aggregated to individual baskets

Profession directly related of OWE	A profession with the potential to train to work in OWE	Induced profession related with the development of OWE	Occupation other not related to OWE
Elektromechanicy	Tinsmith	Confectioner	Stonemason
Electronics Engineering	Car tinsmith	Hairdresser	Bricklayer-plasterer
Electrician	Carpenter	Dental Hygienist	Gardener
Mechanic-assembler of machines and devices	Roofer	Waiter	Farmer
Mechatronics	Motor vehicle electromechanic	Tailor	Joiner
Machine tool operator	Mechanic driver	Cook	Upholsterer
Locksmith support worker	Blacksmith	Glass Industry Equipment Operator	Goldsmith-jeweler
Locksmith	Car refinisher	Babysitter	
	Warehouseman-logistician	Baker	
	Motorcycle Mechanic	Hotel service employee	
	Motor Vehicle Mechanic	Catering assistant	
	Mechanic-operator of agricultural vehicles and machinery	Hotel Support Staff	
	Building structure fitter	Meat processor	
	Fitter of networks and sanitary installations	Salesperson	
	Fitter of buildings and finishing works in construction		





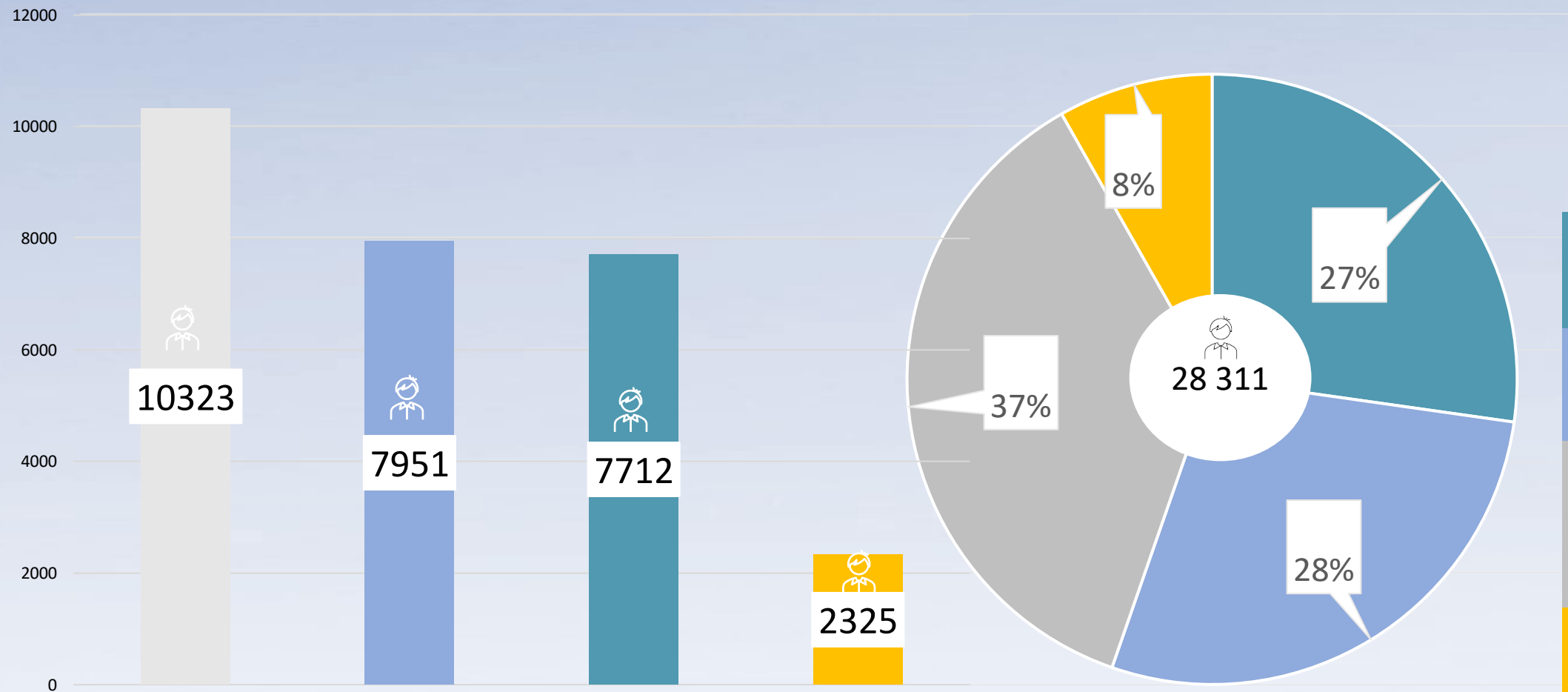
Profession directly Related to OWE

A profession with the potential to train to work in OWE

Basket of intermediate and induced related professions with the development of OWE

Occupation other Not related to OWE

Summary:
Student volumes in individual baskets
(Total number of students in technical schools and vocational schools from all 8 districts)



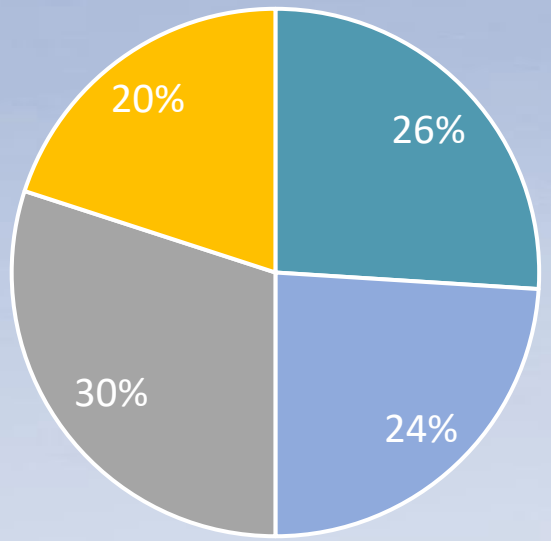
Competitions directly Related to OWE

Professions with the potential to train to work in OWE

Basket of intermediate and induced related professions with the development of OWE

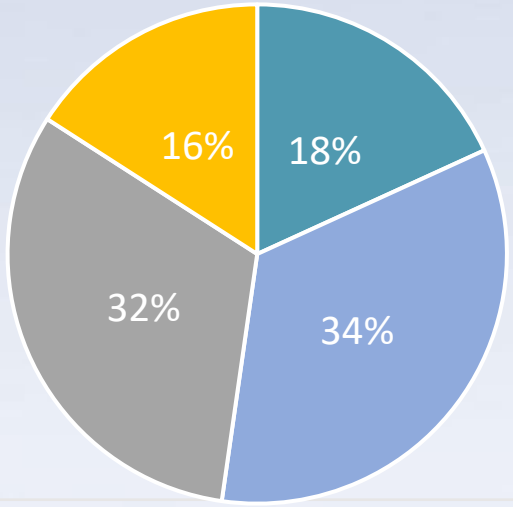
Other competitions Not related to OWE

Competitions in techniques - aggregated to individual baskets



Of all the technical faculties in which technical schools educate: 50% are directions related to the direction of development with OWE Or the potential of training in this direction.
30% are professions induced in connection with the development of OWE in the Baltic Sea, and for 20% there may be a lack of work at OWE.

Industry professions - aggregated to individual baskets



Of all the industry directions in which industry schools educate: 52% are directions related to the direction of development with OWE Or the potential of learning in this direction.
32% are professions induced in connection with the development of OWE in the Baltic Sea, and for 16% they may not be able to work at OWE.

Profession directly Related to OWE

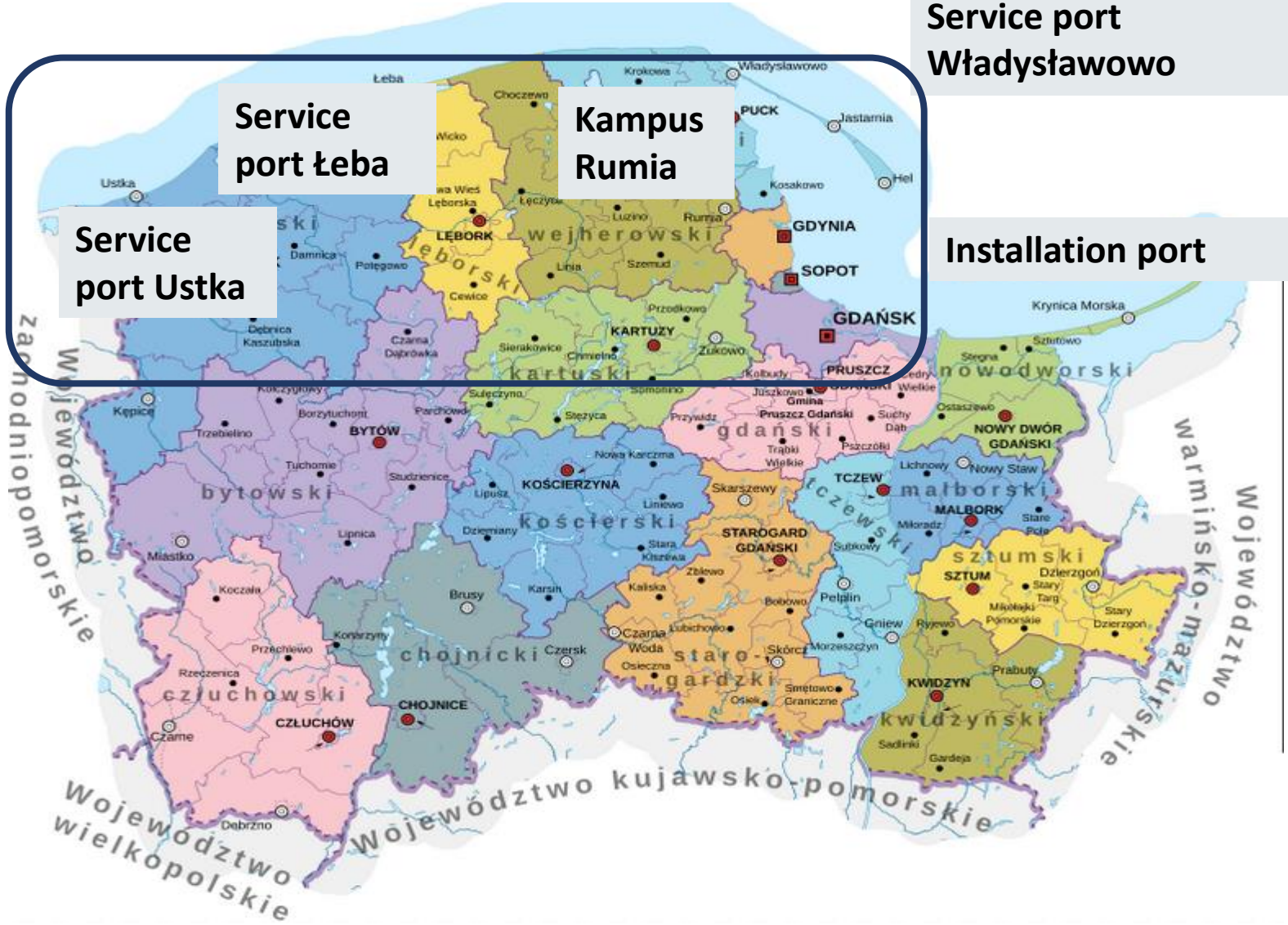
A profession with the potential to train to work in OWE

Basket of intermediate and induced related professions with the development of OWE

Occupation other Not related to OWE

Diagnosis of the labor market in the MEO sector

Assumptions for calculations



Nationwide:

Estimated new jobs
60 - 77 thousand

Estimated number of trainings
25 - 35 thousand

On the scale of the Pomeranian Region:

30 thousand new jobs

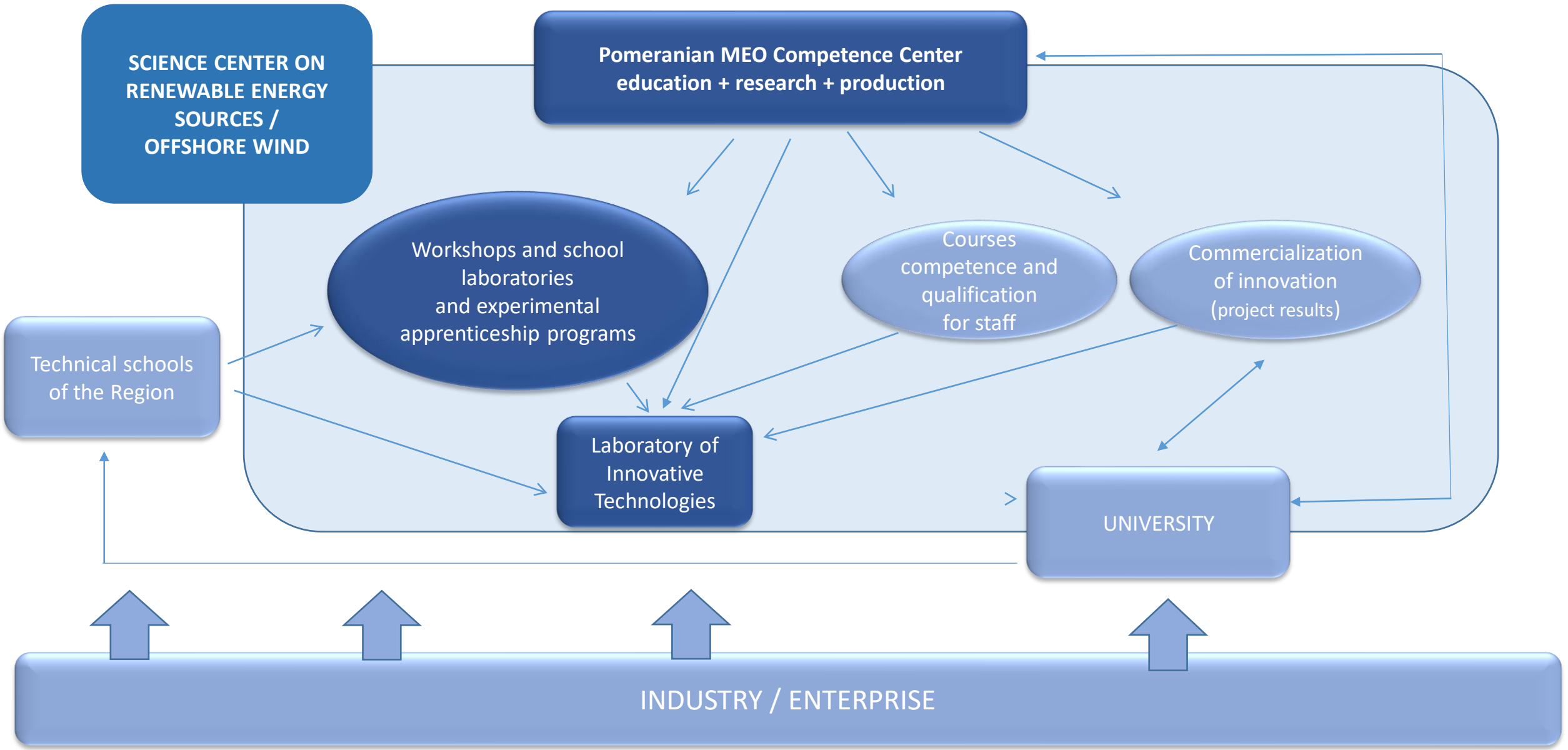
20 thousand training

Model of the functioning of PCK MEO

Building industrial supply chains within enterprises in Poland

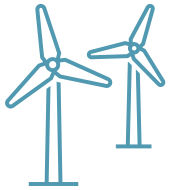
- **Wind farms in the Baltic Sea are an opportunity for the Polish industry to create competence, supply and service centers.**
- **The installation port in Gdynia as a direct neighbor for the Competence Center.**
- **The supply chain for investments in offshore wind farms is an opportunity, in particular for centers with shipbuilding traditions.**
- **According to independent reports, the construction of wind farms in the Baltic Sea will be a significant development impulse for Polish ports, from which Gdańsk, Gdynia, Szczecin and Świnoujście may become the main construction centers for offshore energy in the South Baltic Sea, and Łeba, Ustka, Władysławowo and Darłowo important service centers and maintenance services for Polish offshore wind farms.**

Pomeranian Competence Center for Maritime Renewable Energy



Model of the functioning of PCK MEO

The concept of PCK MEO significantly differs from the implementation of professional and technical education in Poland so far.



The idea of PCK MEO assumes the integration of educational and research goals of the offshore renewable energy industry, including offshore winds, in the joint action of students, teachers, employees, employers, students and scientists of the offshore wind energy industry. The implementation of this idea consists of two parallel areas:

- **Formal education provided in schools locally,**
- **Workshops and school laboratories as well as experimental vocational training programs tailored to the needs of offshore wind energy as part of PCK MEO in Rumia + training + innovation.**

The PCK MEO project is unique. It will provide real support for offshore wind energy and it will become a place where technical education related to the demand for professions and competences for offshore renewable energy will be conducted as part of the infrastructure in Rumia for technical schools in the Pomeranian Region.

At the same time, research communities will meet to discuss scientific and technical problems, working on support not only for industry or enterprises, but also state institutions such as schools, universities, and other research institutes. As part of its structure, the infrastructure for building offshore wind competences will be developed.

Laboratories and workshops area will be equipped with modern machines and devices, thus ensuring access to solutions at the highest level. PCK MEO will provide a professional didactic base for students and people raising their qualifications, through which it will provide services of the highest world standard.

Renewable Energy Science Center (dummy windmill, VR turbines, experiments)

EXHIBITION

In the case of science centers, an interactive exhibition that engages the recipient in a multi-sensory manner is a proven and popular way of disseminating scientific content. Such cognition is more effective in terms of the effectiveness of the message and the durability of remembering than static exposure, because it includes an element of experience and action. The variety of exhibition solutions and technologies used makes it possible to construct exhibits that involve a group of people at the same time, enabling personalization or collection of data by visitors and visitors. Among the exhibitions, we can distinguish permanent exhibitions as well as temporary and mobile (traveling) exhibitions.

LABORATORY / WORKSHOPS

Workshops have a one-time impact on a smaller group than the exhibition, but have a very strong impact on changing attitudes, increasing the knowledge and skills of users.
This form can be applied to any group of recipients after properly selecting the topic and techniques of action.

ROOM CINEMA

WIND MODEL

Among the program forms traditionally present in the offer of science centers are: popular science shows, lectures and discussion panels.
They are characterized by a one-way flow of information from the presenter (lecturer) to the audience.

VR TURBINA

WIND FARM IN THE GARDEN

The spaces of the center (conference rooms, hall) and the external area adjacent to the center allow the organization of both professional conferences and fairs, as well as educational and entertainment events: picnics and festivals

Pomeranian Competence Center for Maritime Renewable Energy

- The main objective of the project is to eliminate the competency gap in the regional labor market, which may constitute a barrier to the development of offshore renewable energy (MEO) in the Pomeranian Voivodeship.

- The pattern of regional development of competences will include models for estimating the competency gap and the organizational model, and it will also indicate the professions of the future. This system will be based on the creation of the organizational structure of the regional competence center, allowing for a quick response in the form of continuous adaptation of human resources competences to the needs of the new sector, key for the region's development, in symbiosis with the existing CKZ (Vocational Training Center).

- The project will enable the creation of a model that will become a flexible and quick response tool to market changes and adjust qualifications to current needs in the face of high volatility and ambiguity of signals from the environment.

- It is assumed that the prepared model will be able to be adopted and used also by other regions in Poland as a benchmarking. The project is in line with the assumptions of the National Reconstruction Plan, which emphasizes activities aimed at effective cooperation of secondary schools, including industry schools, universities, employers, R&D centers and other economic environment institutions. (industry centers).

POMORSKIE CENTRUM KOMPETENCJI
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- As part of the project, research will be carried out, including concerning the construction of a dynamic model of the demand for competences at two levels of education, both at the levels of secondary and higher schools.

- The project will support the elimination of significant development barriers, including: inequalities in access to knowledge, directing the development of human capital only to the current market needs, insufficient coordination of pro-development activities. The project will be based on the region's achievements in the field of a consistent network of cooperation between education, the labor market and entrepreneurs, which has been built for years. So far, the implementation of strategic assumptions of the Voivodeship has built strong ties between partners, including as part of the implementation of the cluster policy and Pomeranian Smart Specializations (in particular, two specializations, i.e .:

    - ISP1: Offshore and port and logistics technologies and

    - ISP3: Eco-efficient technologies in the production, transmission, storage, distribution and consumption of energy and fuels, also in construction).

POMORSKIE CENTRUM KOMPETENCJI
MORSKIEJ ENERGETYKI ODNAWIALNEJ

FOR THE COMPETITIVENESS OF THE POLISH ECONOMY

The strategic goal of the planned research, development and scientific infrastructure created in cooperation with the scientific community is to prepare the staff for the supply chain for Offshore Wind Energy

PCK MEO is to use science in the field of offshore lifts to increase the competitiveness of Polish companies on the European and global market and to create a center for Polish zero-emission energy, a place where research, scientific and industry-related communities will meet.

The basis for the implementation of such a goal is to adapt the national database of enterprises in the supply chain to today's conditions and requirements of the Polish economy.

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THANK YOU FOR YOUR ATTENTION!