

POMORSKIE SMART SPECIALISATIONS





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Department of Economic Development

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<https://drg.pomorskie.eu>



OFFICE OF THE MARSHAL
OF THE POMORSKIE VOIVODESHIP

European Union
European Regional
Development Fund



Ladies and Gentlemen



This publication has been designed as a Pomorskie Smart Specialisations guide and a compendium of knowledge for all organisations considering innovation and research and development projects (R&D).

Pomorskie Smart Specialisations (PSSs) set the direction for Pomorskie's innovation and economic development. As well as tapping into the region's unique research and development resources and advantages, they bring together a variety of industries and technologies, build active platforms of cooperation between different partners and stakeholders and, in particular, help to build links between business and academia and engage non-governmental organisations. Thanks to smart specialisation actions, Pomorskie's businesses, universities and research centres gain access to additional funding sources while employers can make more informed choices about creating attractive and modern jobs. Specialisations have their own Councils which liaise between those interested and regional government. Thematic groups take initiatives to respond to market needs and global trends.



The Self-Government of the Pomorskie Region understands its role as a Leader and coordinator in helping to build the region's competitive advantage and innovation. In an effort to strengthen the research and development potential of Pomorskie's organisations, including entrepreneurs and start-ups, the Self-Government of the Pomorskie Region has launched 'Smart Progress', a project funded under the Regional Operational Programme for the Pomorskie Voivodeship for the years 2014 - 2020 (ROP PV). The main objective of the project is to increase the number and quality of R&D activities by supporting the competences of organisations which are part of the smart specialisations. The project provides access to specialist knowledge and expert support through PSSs Leaders, as an example. Designed to provide top quality innovation services and proof-of-concept micro grants, the project 'Spektrum' is also part of the comprehensive innovation support system.

With rapidly changing global trends, lack of clear market signals and complex processes, digitisation combined with automation, artificial intelligence, 4.0 industry and energy efficiency may be the next panacea for more than the consequences of the coronavirus. They may also help to mitigate the negative impact of people on the planet. This is an unparalleled situation and modern technologies may be the key to the further development of many countries and regions. These enormous challenges can only be addressed through cooperation and dialogue.

One of the cross-cutting principles of the new Pomorskie Development Strategy 2030 is our focus on innovation. It means that the regional government is committed to a continued policy of innovation and to supporting research and development in selected sectors and fields. The principle applies to innovation in business processes and promoting new technological, organisational and social solutions.



All innovators are invited to develop and deliver research and development projects in our region. I hope you will be inspired by this publication designed to create many interesting ideas.

Mieczysław Struk

Marshal of the Pomorskie Region

Introduction

As recommended by the European Commission each region should have its own smart specialisation strategy. It is a condition of access to funding for research, development and innovation. Regions should focus on a selected and limited number of priorities (economic specialisations) with a significant innovation potential where they have the competence and resources and can achieve excellence and competitiveness on a global scale. Specialisations are region-specific and national, known as the National Smart Specialisations (NSS).

National Smart Specialisations include industries which if developed will help Poland to create innovative social and economic solutions, increase the economy's value added and improve its competitiveness internationally (for details please go to: <https://smart.gov.pl>).

Pomorskie Smart Specialisations are those fields of the economy that are strong on development and innovation potential, that are key to Pomorskie's competitiveness and draw on the region's unique resources and their innovative combinations and plan to carry out research and development work to boost competitive products and services nationally and internationally (for details please go to: <https://inteligentnespecjalizacje.pomorskie.eu>).

The region of Pomorskie opted for a bottom-up process for defining its smart specialisations. As a result, PSSs were selected through dialogue and partnership, all part of the Call for proposals for the selection of Pomorskie Smart Specialisations. The regional authorities selected those entries that had the highest development potential. The details of each specialisation were defined in PSSs Agreements. Each PSS has its own PSS Council. Their task is to ensure smooth communications and determine how the specialisation should develop by setting up thematic groups around the subjects pursued by PSS. Today thanks to the project Smart Progress, the work of the Councils and of everyone involved in innovation in the broad sense is supported by PSSs Leaders who ensure access to expert knowledge and organisational help.



To ensure the success of the Pomorskie Development Strategy 2030, it is important to identify and boost PSSs areas. The specialisations are also an indispensable part of the Regional Strategic Programme for Economic Development which acts as the Regional Innovation Strategy. The role and importance of the PSSs have also been recognised in the Regional Strategic Programme Economy 2030.

PSSs were identified in six steps:

- 1 **Review and complement** analyses on the region's economic profile to identify its specific (endogenous) resources, advantages and barriers to growth, and areas of high growth business.
- 2 **Invite stakeholders** who operate within the above areas of economic activity to present preliminary proposals of smart specialisations and actions to strengthen their potential and improve the region's competitiveness (stage 1 of the Call for Proposals).
- 3 **Present the concepts** that have been submitted and discuss them (analysis) with the Selection Board.
- 4 **Invite Partnerships** who have prepared applications to present their final concepts for smart specialisations (stage 2 of the Call for Proposals).
- 5 **Negotiations** between The Board of the Pomorskie Region and PSSs Partnerships.
- 6 **Enter into Agreements on Pomorskie Smart Specialisations** between the Partnerships and the Pomorskie Region Executive Board.

By the end of September 2020:

67 entrepreneurs received innovation grants worth PLN 183.8 million

3 research organisations received support to develop research and development infrastructure worth PLN 103.9 million

PLN 123.2 million will be provided to entrepreneurs as grants and venture capital

9 entrepreneurs received R&D loans worth PLN 28.2 million



Pomorskie Smart Specialisations:

- unique potential of the region for R&D;
- many industries and technologies coming together (innovative hybrids);
- based on modern ICT;
- priority access to EU funding for innovation and R&D projects;
- 430 regional organisations involved in the discovery process;
- 275 organisations have joined PSSs Agreements II.



Agreements on Pomorskie Smart Specialisations

define PSSs development goals and the scope

identify priority research areas related to the specialisation's research problems to be solved

set out the principles and areas of PSS support which uses public funds

the first one was signed in 2016 for a period of three years

the second one was signed in 2019 for an indefinite period of time

open to new organisations that identify with PSS areas and would like to join the Agreements



Councils of Pomorskie Smart Specialisations

a channel of communications between business and academia with administration

set out how the specialisation should develop

work to strengthen PSS areas

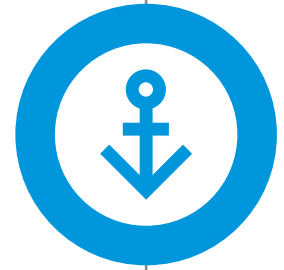
a body selected for each specialisation from among PSS Agreement signatories

include a maximum of fifteen members

the overwhelming majority are represented by business representatives

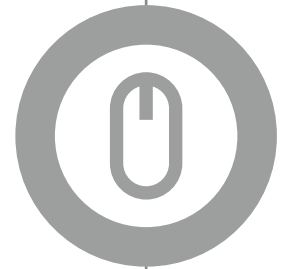
PSS 1

OFFSHORE, PORT AND LOGISTICS TECHNOLOGIES



PSS 2

INTERACTIVE TECHNOLOGIES IN AN INFORMATION-SATURATED ENVIRONMENT



PSS 3

ECO-EFFECTIVE TECHNOLOGIES IN THE GENERATION, TRANSMISSION, DISTRIBUTION AND CONSUMPTION OF ENERGY AND FUELS AND IN CONSTRUCTION



PSS 4

MEDICAL TECHNOLOGIES IN THE AREA OF CIVILISATION AND AGING-ASSOCIATED DISEASES



PSS 1

OFFSHORE, PORT
AND LOGISTICS TECHNOLOGIES

OBJECTIVE

Significantly strengthen international competitiveness and accelerate the rate of growth of maritime economy enterprises in Pomorskie through research and development work and the resulting innovative products, services and technologies in the area of environmentally sound exploration and use of marine resources.

LEADER

Gdańsk Entrepreneurship Foundation
STARTER Gdańsk Business Incubator
isp1.inkubatorstarter.pl



THEMATIC GROUPS

Trade education
Energy mix
New technologies



SCOPE

UNIVERSAL SOLUTIONS
AND TECHNOLOGIES
TO EXPLORE MARINE
RESOURCES



VEHICLES AND VESSELS
USED IN THE MARINE
AND COASTAL
ENVIRONMENT



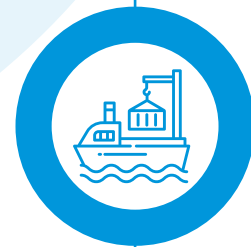
DEVICES, TECHNIQUES
AND SYSTEMS FOR MONITORING
AND CLEARING UP THE MARINE
ENVIRONMENT AND ITS
HINTERLAND



INNOVATIVE WAYS
AND TECHNOLOGIES
FOR UTILISING UNIQUE
NATURAL COMPOUNDS
PRODUCED BY MARINE ORGANISMS



TECHNOLOGIES, DEVICES
AND PROCESSES TO IMPROVE
THE SAFETY AND EFFICIENCY
OF TRANSPORT AND LOGISTICS
SERVICES IN PORTS, THEIR
HINTERLANDS AND FORELANDS





PRIORITY RESEARCH AREAS

innovative specialist, manned and unmanned vessels, vehicles and transport devices to support the economic use of the sea and coastal areas and technical devices that are part of their specialist equipment

innovative technologies and structures together with technical devices that are part of their specialist equipment for the exploration of the resources of the sea and its hinterland

studying and monitoring the marine environment for the purposes of a sustainable and environmentally sound use of marine resources

technologies to clean the marine environment and reduce and eliminate pollution generated in the process of economic exploitation of marine resources

technologies and devices for the exploration of marine resources, including minerals and unique biological substances, innovative methods for farming biological organisms in the marine environment and for economic exploitation

innovative solutions and technologies to improve effectiveness and safety and reduce energy consumption in logistics processes related to sea transport

technologies supporting innovative solutions which make active, health and spa tourism more attractive and unique, in particular if it comes with a strong export potential, using floating vehicles and all types of structures that use the region's coastal location

PSS 2

INTERACTIVE TECHNOLOGIES
IN AN INFORMATION-SATURATED
ENVIRONMENT

OBJECTIVE

Build and strengthen the international competitiveness and accelerate the growth rate of ICT sector enterprises in the Pomorskie Region thanks to R&D work and build an intellectual potential for creating innovative products and services in the area of interactive technologies in an information-saturated environment.

LEADER

INTERIZON Foundation
interizon.pl/pl/o-nas/inteligentne-specjalizacje



THEMATIC GROUPS

Working Group on Autonomous Vehicles
Solutions for Industry 4.0
Solutions for PSS 1 – Port 4.0
Solutions for PSS 4

SCOPE

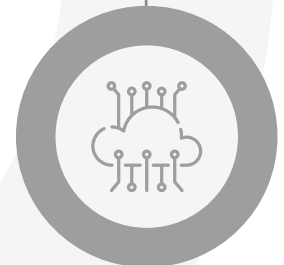
MULTIMODAL
MAN-MACHINE
INTERFACES



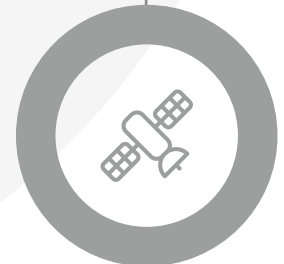
EMBEDDED SYSTEMS
FOR SMART SPACES,
INTERNET OF THINGS



DATA TRANSMISSION,
DATABASES,
DATA SECURITY,
BIG DATA PROCESSING



SPACE
AND SATELLITE
ENGINEERING





➤ PRIORITY RESEARCH AREAS

man-machine technologies and interfaces for communication using speech, gestures, emotions and thoughts, including in: medicine, prophylaxis, rehabilitation and diagnostics

systems and elements of wearable electronics

embedded systems including the Internet of thing for smart urban spaces

technologies and methods for analysing, collecting, processing and securing data including with data processing centres and advanced virtual databases

methods of artificial intelligence and machine learning including the use of distributed systems, parallel processing and virtualisation

development and use of satellite techniques for monitoring and security

PSS 3

ECO-EFFECTIVE TECHNOLOGIES
IN THE GENERATION, TRANSMISSION,
DISTRIBUTION AND CONSUMPTION
OF ENERGY AND FUELS AND IN CONSTRUCTION

OBJECTIVE

Build and strengthen the competitiveness of businesses which concentrate on creating new products and services based on the results of research and development and implementation work, including an increase in the efficiency of distribution, generation and consumption of energy, extracting raw materials and processing of fuels and reducing the environmental impacts.

LEADER

Regional Pomeranian Chamber of Commerce
rigp.pl/isp-3



REGIONAL
POMERANIAN
CHAMBER
OF COMMERCE

THEMATIC GROUPS

Energy islands and circular economy
Low-energy buildings and prefabricated structures
Vocational education
Hydrogen technologies
Low-carbon transport
Offshore wind energy

SCOPE

IMPROVED ENERGY
EFFICIENCY IN CONSTRUCTION
AND INDUSTRY



RENEWABLE
ENERGY SOURCES (RES),
DISTRIBUTED GENERATION
AND PROSUMER ENERGY



'SMART GRID' TECHNOLOGIES
FOR ENERGY DISTRIBUTION



ENERGY
STORAGE



ALTERNATIVELY
POWERED
MEANS OF TRANSPORT



EXPLORATION, PRODUCTION
AND PROCESSING
OF ENERGY RAW MATERIALS





PRIORITY RESEARCH AREAS

materials and technologies to reduce demand for heat in construction and industry

new technologies and systems for the generation, storage and consumption of electricity, heat or cool in RES (including the use of waste heat)

solutions to improve the reliability of supply, flexibility and security of the distribution network, solutions to ensure an efficient use of RES generation capacity (including energy management systems and technologies in the area of so called 'energy islands') and technologies for the automation and control of voltage in medium and low voltage networks (SN and nn)

new materials and technologies for energy storage systems (including the use of construction infrastructure) and systems for energy storage management, including charging points and mobile storage and systems and devices for two way flow of energy between electrical vehicles and power network

production of refinery products which feature better quality and are niche and environmentally-friendly products and improve the efficiency of hydrocarbon processing and energy generation while reducing the effects of these processes on the natural and social environment (including the use of waste or side products and waste heat)

PSS 4

MEDICAL TECHNOLOGIES IN THE AREA OF CIVILISATION- AND AGING-ASSOCIATED DISEASES

OBJECTIVE

Build an international health competence centre in Pomorskie to strengthen the competitiveness and attractiveness of companies through investments in research and development, competence building and development of innovative products and technologies.

LEADER

Regional Pomeranian Chamber of Commerce
rigp.pl/isp-4



REGIONAL
POMERANIAN
CHAMBER
OF COMMERCE

THEMATIC GROUPS

Health spa
Dentistry cluster
Genetic diagnostics
Detection of spine diseases in children
Research and development works

SCOPE

MODERN SOLUTIONS
IN PREVENTING LIFESTYLE
AND AGING-ASSOCIATED
DISEASES



MODERN SOLUTIONS
IN DIAGNOSING LIFESTYLE
AND AGING-ASSOCIATED
DISEASES



MODERN SOLUTIONS
IN TREATING LIFESTYLE
AND AGING-ASSOCIATED
DISEASES



SYSTEMS
TO SUPPORT PEOPLE
WITH DISABILITIES





PRIORITY RESEARCH AREAS

development of products, services and technology solutions to support prophylaxis such as:

- innovative product and process solutions to support preventive healthcare and primary and secondary prevention
 - innovative foods
-

comprehensive patient diagnostics aimed at early disease detection and start of therapy to reduce patient indisposition and social costs, in particular by developing ways, tests, tools and equipment for diagnostics

development of modern and innovative therapies thanks to:

- new technology and product solutions that help to reduce side effects
- new technology, process and product solutions that support the introduction of innovative therapies
- new production technologies
- new therapeutic and rehabilitation products and services, including those using regional resources

SMART PROGRESS

SMART PROGRESS

THE EMPHASIS IS ON DEVELOPMENT AND INNOVATION

PROJECT

Smart Progress - animation of the development of areas of Pomorskie Smart Specialisations as an element of the Entrepreneurial Discovery Process:

designed to support organisations across all PSSs areas

targets companies, educational and research centres, universities, clusters, business support organisations

responds to the needs which companies and institutions have identified in the area of a support system for regional innovation

budget: over PLN 2 million

implementation period: 2019 - 2021

EXPECTED RESULTS

clarity of the benefits - better understanding of the benefits of innovation

cooperation - close cooperation between companies, universities, research centres

awareness - education and promotion of enterprise among students

consortia - increase the involvement of PSSs organisations in joint R&D projects and in building consortia

quality - improved quality of R&D projects and reducing their risks

ANIMATION ACTIVITIES

ENTREPRENEURIAL DISCOVERY PROCESS - VERIFY THE POTENTIAL OF A SPECIALISATION AND LOOK FOR NEW SUPPORT NICHES, ORGANISE INSPIRING THEMATIC MEETINGS, SEMINARS, EXPERT PANELS, CARRY OUT PSSs LEADERS ACTIVITIES

INTERNATIONALISATION OF PSSs FIELDS - CREATE LINKS BETWEEN REGIONS IN DIFFERENT COUNTRIES, ENCOURAGE PSSs ORGANISATIONS TO ENGAGE IN NEW MARKET ACTIVITIES

DEVELOPMENT OF PSSs STAFF- DIAGNOSE AND DEVELOP COMPETENCES IN RESPONSE TO MARKET NEEDS INVOLVED IN PSSs OPERATION

PSSs MONITORING - SUPPLY THE NECESSARY INFORMATION TO ASSESS THE DYNAMICS OF DEVELOPMENT, INNOVATION AND PSSs EFFECT ON POMORSKIE ECONOMY

MANAGEMENT OF THE ENTREPRENEURIAL DISCOVERY PROCESS - BUILD A STRONG PSSs BRAND, PSSs TO BE IDENTIFIED WITH TOP QUALITY DEBATES AND DIALOGUE

PROJECT MANAGEMENT - CORRECT AND TIMELY PROJECT DELIVERY AND PROMOTION



Leaders of Pomorskie Smart Specialisations:

provide knowledge and organisational support for PSS | identify the thematic potential of a specialisation | organise the work of thematic groups
diagnose the needs of organisations within a specialisation | coordinate the work within a specialisation | organise expert meetings and workshops
work to address areas where several specialisations come together | carry out regular monitoring of indicators and technology trends
look after PSS external image and promotion | build relations with external organisations considering working with PSS



PSS 1

OFFSHORE, PORT
AND LOGISTICS TECHNOLOGIES

GDAŃSK ENTREPRENEURSHIP
FOUNDATION
STARTER GDAŃSK BUSINESS
INCUBATOR

inkubatorstarter.pl



PSS 2

INTERACTIVE TECHNOLOGIES
IN AN INFORMATION-SATURATED
ENVIRONMENT

INTERIZON FOUNDATION

interizon.pl

LEADER PROFILE

home to start-ups, firms and innovators

combines and inspires business and education

experienced in providing business advice
and organising creative workshops
and specialist training

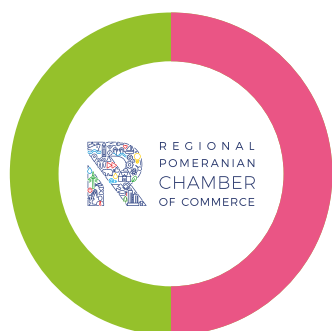
LEADER PROFILE

Coordinator of the Pomeranian ICT Cluster - Interizon
(The status of National Key Cluster)

support for the development of ICT companies

development of advanced IT products

delivery of R&D ICT projects



PSS 3

ECO-EFFECTIVE TECHNOLOGIES
IN THE GENERATION, TRANSMISSION,
DISTRIBUTION AND CONSUMPTION
OF ENERGY AND FUELS
AND IN CONSTRUCTION

PSS 4

MEDICAL TECHNOLOGIES IN THE
AREA OF CIVILISATION- AND
AGING-ASSOCIATED DISEASES

REGIONAL POMERANIAN
CHAMBER OF COMMERCE
rigp.pl

LEADER PROFILE

engagement in stimulating and developing
the region's entrepreneurship

activities to promote exports

qualified specialist staff, including inventors and National
Centre for Research and Development experts

interesting activities such as Club Link, Cluster of Hydrogen
Technologies and Clean Carbon Technologies, Pomeranian
Export Broker, Pomeranian Centre for Arbitration and Mediation

SELECTED PROJECTS AND PROGRAMMES FUNDED UNDER THE REGIONAL OPERATIONAL PROGRAMME FOR THE POMORSKIE VOIVODESHIP FOR THE YEARS 2014 - 2020

A comprehensive system to support investments in R&D and their commercialisation which includes:

Project SPEKTRUM

Pomorskie's system for supplying specialist advice for SMEs designed to improve the competitiveness of the region's micro, small and medium-sized enterprises.

Operator

Pomerania Development Agency (PDA)

Contact

spektrum.arp.gda.pl

What does SPEKTRUM have to offer to business?

a free study of development needs carried out by experienced consultant using professional business modelling tools

access to a wide range of specialist services available from the catalogue of PDA accredited consultancies (Business Support Organisations)

grant at 50% of the price of specialist advice

How are grants awarded in the SPEKTRUM system

have your advice needs examined and select a specialist service from an PDA accredited consultancy

to ensure a better match for your advice needs you can use a free in-depth examination of your development needs (pre-audit)

funded specialist advice covers areas such as finance, management and organisation, exports, law and taxation, marketing, IT and technical and environmental topics

the catalogue of specialist advisory services is open-ended and companies may ask for the services they need to be added to it

each company which meets SPEKTRUM eligibility conditions may apply for a grant to buy specialist advisory services multiple times

the total value of all advisory services awarded to a single company cannot exceed the limit of EUR 200.000

R&D µGrants for Enterprises

designed to strengthen Pomorskie's economy thanks to the implementation of a system of effective cooperation in a triangle of business, academia and local government.

Operator

Excento Sp. z o.o. - a special purpose company of the Gdansk University of Technology in a consortium with special purpose companies of the Medical University of Gdańsk and University of Gdańsk and Regional Pomeranian Chamber of Commerce

Contact

excento.pl

funding programme for R&D services inviting Pomorskie's entrepreneurs to apply for grants to buy research and development services up to PLN 200.000

simple rules on how to apply and report back, quick funding decisions and support with defining the research agenda

the programme's grants help companies to validate their innovative concepts quickly and get ready to apply for national and EU funding

a good opportunity to start cooperation between companies and universities, to tap into the potential of research infrastructure and work with the researchers of Pomorskie's three top universities

the total value of grants for entrepreneurs: PLN 15 million

implementation period: mid 2023

We care for the future growth of companies

Thanks to the R&D service funded from the grant and with the additional support from system operator and partners, entrepreneurs will be able to take the next step and carry out their full R&D work using their own funds or other sources of funding, including those available from EU funds in the years 2021 - 2027.

SELECTED PROJECTS AND PROGRAMMES FUNDED UNDER THE REGIONAL OPERATIONAL PROGRAMME FOR THE POMORSKIE VOIVODESHIP FOR THE YEARS 2014 - 2020

A comprehensive system to support investments in R&D and their commercialisation which includes:

Loan for Innovation

is a financial support scheme to help entrepreneurs deliver out-of-the-box ideas. Its major advantage is that it is readily available because there are no calls for proposals; instead the money is part of a regular offer for companies considering R&D investments across the region of Pomorskie.

Operator

Social and Economic Investment Company TISE

Contact

tise.pl/offers/pomorze-przyszlosci

Loan for Innovation:

for companies to fund research and development-based growth

exclusively addressed to projects which fit in with the Pomorskie Smart Specialisations delivered in Pomorskie

for enterprises in the early stages of development, i.e.:
before they make their first commercial sale on any market
or
which have been in operation on any market for less than seven years since their first commercial sale

funding available: from PLN 200.000 to PLN 5 million

on market conditions or better than market conditions

interest from 0.50% p.a.

repayment period: up to ten years with a possible repayment holiday which will extend the length of the loan

repayment grace period: up to two years

Supports R&D projects of companies which are in the early stages of the technology readiness level and projects designed to develop new or significantly improved products and production processes and implement the results of research and development work into the business. In the case of SMEs, as well as helping with research and development, the support includes implementation of the results.

Capital entry

is an equity instrument where entrepreneurs use external financing in return for shares in their companies.

Operator

Netrix Ventures Sp. z o.o.

Contact

netrix.ventures

Capital entry

The offer is addressed to entrepreneurs in the early stages of development who run companies or plan to run a business in the region of Pomorskie in areas of Pomorskie Smart Specialisations. The money funds research and development projects, in principle, if their technology readiness level is from VI to IX TRL. Projects at earlier stages of technology readiness can also apply after they have gone through a review of the project's potential for commercialisation.

In addition, in the case of SMEs, as well as helping with research and development, the support includes implementation of the results.

dedicated to promising projects designed to develop new or significantly improved products and production processes and implement the results of research and development work into the business

value of a single capital entry: from PLN 200.000 to PLN 5 million

maximum period of capital entry, in principle does not exceed 120 months from effective date

offer available until mid 2023 or until all funds have been used