OP Smart Growth 2014-2020

Submeasure 1.1.2

R&D related to construction of pilot/demonstration installation

Implementing Authority:
The National Center for Research and Development

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Core Sp. z o.o.
ul. Królewska 16 - Saski Crescent - 00-103 Warsaw, Poland
Tel. +48 22 586 33 00 - Fax. +48 22 825 22 22

DEFINITIONS *(1)*

experimental development works - means acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills for developing new products, processes or services. These may also include, for instance, other activities aiming at the conceptual definition, planning and documentation of new products, processes or services. Those activities may comprise:
producing drafts, drawings, plans and other documentation, provided that they are not intended for commercial use. Development works may include:

- development of prototypes, demonstration, development of pilot projects, testing and validation of new or improved products, processes or services in actual operation model environment, in order to achieve further technical improvement of products, processes or services whose final shape is generally not yet determined
- development of prototypes and pilot projects that can be used for commercial purposes, where the prototype or pilot project is necessarily the final product to be used for commercial purposes, and its production is too expensive only for demonstration and validation purposes.

Experimental development works **does not include** routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if such changes may represent improvements.

Core Sp. z o.o.
ul. Królewska 16 - Saski Crescent - 00-103 Warsaw, Poland
Tel. +48 22 586 33 00 - Fax. +48 22 825 22 22

DEFINITIONS *(2)*

Technology readiness levels (TRL)

TRL 1 - Basic principles observed and reported: Transition from scientific research to applied research. Essential characteristic and behaviors of systems and architectures. Descriptive tools are mathematical formulations or algorithms

TRL 2 - Technology concept and/or application formulated: Applied research. Theory and scientific principles are focused on specific application area to define the concept. Characteristics of the application are described. Analytical tools are developed for simulation or analysis of the application

TRL 3 - Analytical and experimental critical function and/or characteristic proof-of-concept: Proof of concept validation. Active Research and Development (R&D) is initiated with analytical and laboratory studies. Demonstration of technical feasibility using breadboard or brassboard implementations that are exercised with representative data

TRL 4 – Component/subsystem validation in laboratory environment: Standalone prototyping implementation and test. Integration of technology elements. Experiments with full-scale problems or data sets

TRL 5 - System/subsystem/component validation in relevant environment: Thorough testing of prototyping in representative environment. Basic technology elements integrated with reasonably realistic supporting elements. Prototyping implementations conform to target environment and interfaces

Core Sp. z o.o.
ul. Królewska 16 - Saski Crescent - 00-103 Warsaw, Poland
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DEFINITIONS *(3)*

Technology readiness levels (TRL) - cont

TRL 6 - System/subsystem model or prototyping demonstration in a relevant end-to-end environment (ground or space): Prototyping implementations on full-scale realistic problems. Partially integrated with existing systems. Limited documentation available. Engineering feasibility fully demonstrated in actual system application

TRL 7 - System prototyping demonstration in an operational environment (ground or space): System prototyping demonstration in operational environment. System is at or near scale of the operational system, with most functions available for demonstration and test. Well integrated with collateral and ancillary systems. Limited documentation available

TRL 8 - Actual system completed and "mission qualified" through test and demonstration in an operational environment (ground or space): End of system development Fully integrated with operational hardware and software systems. Most user documentation, training documentation, and maintenance documentation completed. All functionality tested in simulated and operational scenarios. Verification and Validation (V&V) completed

TRL 9 - Actual system "mission proven" through successful mission operations (ground or space): Fully integrated with operational hardware/software systems. Actual system has been thoroughly demonstrated and tested in its operational environment. All documentation completed. Successful operational experience. Sustaining engineering support in place

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Submeasure 1.1.2 R&D related to construction *(…)*

List of National Smart Specializations

HEALTHY SOCIETY: **1)** Medical engineering technologies, including medical biotechnology **2)** Diagnosis and treatment of diseases of civilization and personalized medicine **3)** Preparation of medicinal products

AGRI-FOOD, FORESTRY-WOOD AND ENVIRONMENTAL BIO-ECONOMY: **4)** Innovative technologies, processes and products of the agri-food and forestry-timber industry **5)** High quality food **6)** Biotechnological processes and specialty chemicals and environmental engineering

SUSTAINABLE ENERGY: **7)** High efficiency, low carbon and integrated manufacturing systems, storage, transmission and distribution of energy **8)** Smart and energy efficient construction **9)** Environmentally friendly transport solutions

NATURAL RESOURCES AND WASTE MANAGEMENT: **10)** Modern technology sourcing, processing and use of natural raw materials resources and the production of their substitutes **11)** Minimization of waste generation, including those unsuitable for processing and material and energy use of waste (recycling and other recovery methods) **12)** Innovative technologies of water processing and recovery and reducing usage of water

INNOVATIVE TECHNOLOGIES AND INDUSTRIAL PROCESSES (HORIZONTAL): **13)** The multifunctional materials and composites with advanced features, including nano-processes and nano-products **14)** Sensors (including biosensors) and smart sensor networks **15)** Smart grids and geo-information technologies **16)** Electronics based on conducting polymers **17)** Automation and Robotics processes **18)** Optoelectronic systems and materials **19)** Creative technologies (computer games, multimedia, industrial design) **20)** Innovative technologies in the field of specialized marine vessels, marine and coastal structures and logistics based on maritime transport and inland waterways

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Submeasure 1.1.2 R&D related to construction *(…)*

Eligible projects:

- research projects involving development works, suited to the ***National Smart Specialization*** (including new specializations resulting from the process of entrepreneurial discovering), including construction of demonstration installation
- condition for obtaining the grant is commercialization of R&D results, defined as:
  - implementation of the project's results in applicant's own business or
  - licensing or sale of the project's results for introduction to the business of another entrepreneur
- the project must relate to ***product*** or ***process innovation***
- funding may be granted only to projects which provide for testing technologies under realistic conditions
- projects with ***at least TRL 6 level*** are eligible, in which there's already a functional prototype, and the project is expected to ***achieve TRL 9 level***

Beneficiaries: large enterpreneurs

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Submeasure 1.1.2 R&D related to construction *(…)*

Form of support: grant

Minimum value of project's eligible costs:

- PLN 20 million

Maximum grant value: EUR 15 million

Total value of eligible costs: no more than EUR 50 million

Call for proposals:

- call announcement: June 6th 2016, start of the call: July 6th 2016, end of the call: August 12th 2016, call's budget: PLN 500 million

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Primary public aid intensity:

- 25% for experimental development works

The intensity of support may be increased by 15 percentage points (up to **40% of eligible costs**), if the applicant demonstrates in the application, that in a period of 3 years from the completion of the project the results of the project:

- will be presented at at least 3 scientific and technical conferences, including at least one of the national rank ***or***
- will be published in at least two scientific or technical journals included in the list drawn up by Ministry of Science and Higher Education (this list will be contained in the call documentation) or in publicly available databases which provide free access to the obtained results (raw research data), ***or***
- will be distributed in full through free software or open access license

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Submeasure 1.1.2 R&D related to construction *(…)*

Eligible costs

1) Direct costs:

- **Wages** along with non-wage labor costs, including social security contributions and health contributions of persons employed to conduct the industrial research or development work, in part in which the above mentioned costs are directly linked to the implementation of the aided project (employment contracts, job order contracts)
- **Subcontracting costs** resulting from comissioning to a third party a part of the substantive work of the project, that is not made on the premises and under the direct supervision of the beneficiary, together with costs of resources made available by third party, at the following conditions:
  - part of the substantive work of the project can be commissioned only to a public university, a government research institute, the Institute of Sciences, or other organization which is a scientific institution conducting research and disseminating knowledge (to other entities- only with the written consent of the Intermediate Authority)
  - above mentioned limitation does not apply to orders in the form of specific-task contracts (NOTE: all specific-task contracts under the project should be treated as subcontracting)
  - the total amount of the eligible costs for subcontracting may not exceed 50% of the total eligible project costs

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Eligible costs (cont.)

- Other direct costs:
  - The costs of research equipment and intangible assets:
    - **depreciation costs or costs resulting from the paid use** (financial or operational leasing, rental) of research equipment used for the aided project
    - **depreciation costs or costs resulting from the paid use** (licence fees) of technical knowledge and patents purchased or used under license, obtained from third parties on market conditions, ie. intangible assets in the form of patents, licenses, know-how, technical knowledge, expertise, analysis and research reports, etc. *(intangible assets can be purchased only from a public university, a government research institute, the Institute of Sciences, or other organization which is a scientific institution conducting research and disseminating knowledge; from other entities- only with the written consent of the Intermediate Authority)*

    to the extent and for the period in which they are used for the aided project
  - **The costs of buildings and structures** (land lease, perpetual usufruct of land, depreciation of buildings) - to the extent and for the period necessary to complete the project, up to 10% of the total eligible project costs
  - **Other operating expenses**, i.a.: materials, eg. raw materials, intermediates, reagents; laboratory equipment (which is not fixed asset); costs of maintaining lines, experimental installations, etc. in the period and the proportion of use in the project; rental of laboratory space; construction components and components permanently installed in the prototype, pilot or demonstration installation; project promotion costs (publications, website, etc. cost. - no travel costs, which are indirect costs) up to 1% of eligible costs of the project; the cost of external audit

2) Indirect costs (up to **17%** of the remaining eligible costs, excluding the eligible costs of subcontracting)

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Submeasure 1.1.2 R&D related to construction *(…)*

Project selection criteria

1. Substantive criteria in the science and technology evaluation:

a) access criteria (YES/NO evaluation):

- The project includes exclusively development works and concerns product or process innovation
- The project is in line with the National Smart Specialization

b) Point criteria:

- The planned R&D works are relevant and necessary to achieve the objective of the project, and the risks associated with them have been defined (from 0 to 5 points)
- The research team and technical resources of the applicant shall ensure proper implementation of R&D works planned in the project (from 0 to 5 points)

2. Substantive criteria in the economic and business evaluation:

a) access criteria (YES/NO evaluation):

- The issue of intellectual property is not a barrier to the implementation of the project results
- Managers and the management of the project allows its proper execution

b) Point criteria:

- Novelty of the project results (from 0 to 5 points)
- Market demand and profitability of implementation (from 0 to 5 points)
- the implementation of the project results is planned on territory of the Republic of Poland:
  - the project does not imply the implementation of its results on the territory of the Republic of Poland: 0 points
  - the project implies the implementation of its results on the territory of the Republic of Poland: 3 points

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Contact information

President: Donato DI GILIO

Email:	**digilio@investmentsgroup.net**
Tel:	**+48 22 586 33 00**
Mobile:	**+48 608 000 510**

Dorota WAWRZYNIAK

Email:	**dwawrzyniak@investmentsgroup.net**
Tel:	**+48 22 586 33 31**
Mobile:	**+48 608 000 512**

Rafał KUBROWSKI

Email:	**rkubrowski@investmentsgroup.net**
Tel:	**+48 22 586 33 14**
Mobile:	**+48 608 000 527**

Stefano BARBIERI

Email:	**barbieri@investmentsgroup.net**
Tel:	**+39 02 39 19 82 80**
Mobile:	**+39 334 64 00 903**

Core Sp. z o.o

address	**ul. Królewska 16, 00-103 Warsaw, PL**
Tel:	**+48 22 586 33 00**
Fax:	**+48 22 825 22 22**

http://www.investmentsgroup.net