

Estimating the value of the contract entitled “Development of a methodology for creating technology roadmaps in the area of National Smart Specialisation and conducting a pilot project for three specific technological areas”

I. General provisions

The Ministry of Economic Development and Technology (MRIT), Department of Innovation and Industrial Policy, with registered office at Pl. Trzech Krzyży 3/5, 00-507 Warsaw, invites to submit an offer of an estimated price for the development of a methodology for creating technology roadmaps in the area of National Smart Specialisation (NSS) and conducting a pilot project for three specific technological areas.

This notice does not constitute an offer within the meaning of the provisions of the Act of 23 April 1964 Civil Code (Journal of Laws of 2014, item 121, as amended), nor is it a notice within the meaning of the Public Procurement Law.

The contract is financed -by the Smart Growth Operational Programme (SG OP) under the European Regional Development Fund for the period 2014-2020.

Questions regarding the notice can be sent to robert.blaszcykowski@mrit.gov.pl and justyna.gorzoch@mrit.gov.pl

II. Subject of the contract

1. Subject of the contract:

The subject of the contract is:

- 1) **development and testing of a methodology for technology roadmaps** as a tool for pursuing the technology policy of the country,
- 2) **development**, in cooperation with the relevant Working Groups for NSS (WG NSS), **of three roadmaps** for selected technologies essential for the development: circular economy (CE), industry 4.0 and modern agriculture (to be clarified at the stage of implementing the contract with the Contractor);

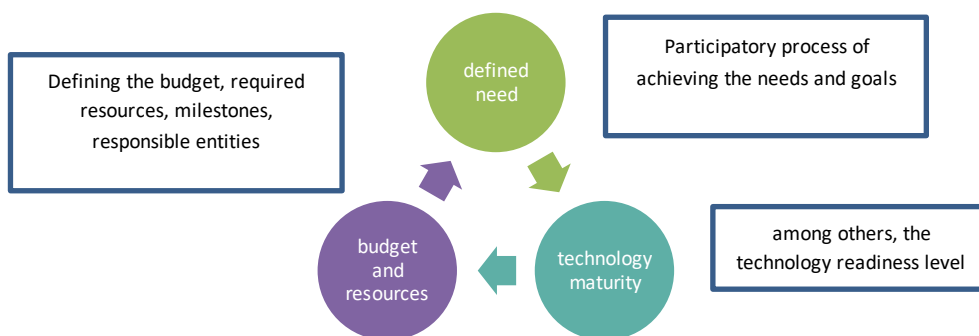
Implementation of the contract will allow to develop a methodology of work adapted to the needs of the Employer, conduct a pilot project of the developed methodology in selected 3 technological areas and present conclusions and recommendations to be used in developing maps in other technological areas.

The three technological areas indicated in the contract are compliant with the socio-economic priorities of Poland with regard to research, development and innovation, hereinafter referred to as national smart specialisations (NSS).

Technology roadmaps (TRs) will be an action plan for the development of technologies essential for the socio-economic development of the country, taking into account national and international strategic goals and development trends indicating the directions in which technologies will develop, as well as products resulting from the applications of these technologies, potential markets of applications for existing or new products.

The decision on developing the roadmaps for selected specialisations (technologies/groups of technologies) results from a need of public administration for **a tool for strategic decision-making with regard to technological development** based on data analysis and measurable indicators, assuming the participatory nature of this process.

Undertaking the work on the roadmaps also results from a need to develop an integrated and coherent plan for the technological development of the country, as well as a coordinated approach to the development of individual technologies which will build the competitive advantages of the country and respond to socio-economic and environmental challenges.



The beneficiaries of the roadmaps will be mainly representatives of public administration at the central level (among others, the Ministry of Economic Development and Technology, the Ministry of Education and Science, the Ministry of Funds and Regional Policy, the ministries thematically related to the NSS areas, Intermediate Bodies of the SG OP/FENG, National Contact Point of the Horizon 2020/Europe Programme), at the regional level (Marshal's Offices), representatives of Working Groups for national smart specialisations, responsible for identifying priorities in the area of research, development and innovation, as well as monitoring their development.

2. Goals and assumptions for technology roadmaps:

The development of a methodology for creating roadmaps is to define a set of measures and methods that will allow to develop technology roadmaps for technologies included in national smart specialisations.

The developed methodology will address mainly the needs of public administration, related to determining the direction for the development of technologies essential for the country under the development policies pursued, and will also support their development. The developed roadmaps will allow economic operators to prepare for the development of future technologies in the ever-changing reality and to support the development of innovative technologies and related products with which they will be able to compete in global markets. The maps **will constitute a kind of action plan** for the development of a given technology, with particular consideration given to the competence needs of economic operators.

Identifying the needs and development barriers of strategic technologies common from the perspective of decision-makers, innovation creators and users, gives an opportunity to take more effective measures and to focus resources on the areas being important from the point of view of the economy, society or the environment.

3. Planned benefits of roadmaps

The roadmaps can be an effective tool to:

- **identify development gaps and barriers** in knowledge, technologies, market, regulations, determining the technological development, also with reference to the position of Poland to foreign markets,
- **indicate a relationship between the assumed goals and planned activities as well as necessary resources** to achieve them,
- verify key and critical technologies responding to the socio-economic and environmental needs,
- plan long-term development activities, allowing for the adaptation of the developed roadmaps to the development policies/strategies of the country being in the competence of the relevant ministries (dealing with, among others, economic development, energy, environmental and climate policies, staff training, regional policy, structural funds management).
- **plan development activities for key technologies**, taking into account global challenges and development trends, as well as competitiveness in foreign markets,
- **identify key competences addressing the demand and competence gaps** with regard to the technological development,
- **coordinate and target activities in the field of the technological policy** of the country, taking into account the distribution of public funds to priority areas in the field of research, development and innovation.

4. Structure of roadmaps:

Visualisation in the form of a technology roadmap should make it possible to access information regarding five areas (market, products, technology, process, people). The technology roadmap is a document presenting **layers** having various levels of detail and should include the following elements:

BUDGET	<ul style="list-style-type: none"> • determining the budget necessary for implementing the planned activities
GOALS AND RESOURCES	<ul style="list-style-type: none"> • set of goals the achievement of which determines the completion of the assumed vision of development • resources available for implementing the vision
MILESTONES	<ul style="list-style-type: none"> • interim goals at a specified point in time, determining the achievement of the final goal
GAPS AND BARRIERS	<ul style="list-style-type: none"> • list of potential gaps and barriers in knowledge, technologies, market, regulations, social acceptance determining the achievement of milestones and the main goal
ACTIVITIES ADDRESSING GAPS AND BARRIERS	<ul style="list-style-type: none"> • list of the most important activities to be taken with regard to identified gaps and barriers along with indicating the role of stakeholders in removing these gaps and barriers
PRIORITIES AND TIME HORIZON	<ul style="list-style-type: none"> • R&D projects, demonstrations (support for investing in R&D by means of a coordinated, system process) • regulatory changes, adaptation of policies, strategies, EU and national programmes) • financial instrument + budget • identified entities to cooperate, implement, monitor and evaluate

The roadmap in the area of technology should also be implemented according to the following activities and seek to answer the questions¹:

- determining the **current state of technological development, with particular consideration given to NSS** (where are we now?) (stage I – planning)
- developing a **vision of development along with scenarios** (where are we going?) (stage II – vision)
- identifying **development factors (external and internal) and development trends – know-why** (why do we take activities?) (stage II – creating a map)
- identifying necessary **activities and procedures, support instruments, indicators –know-what** (what must be done to achieve the goal in the short, medium and long term?) (stage II – creating a map)
- identifying necessary **resources, technologies, involved entities and budget – know-how** (how should we manage activities?) (stage II – creating a map)
- indicating a **time horizon, schedule and milestones (time frame) – know-when** (how to locate specific activities in time and when to expect effects?) (stage II – creating a map)

Code of contracts (CPV):

73200000-4 Research and development consultancy services

73210000-7 Research consultancy services

73220000-0 Development consultancy services

III. Implementation date of the contract

Required implementation dates of the subject of the contract:

1. The works will be commenced upon signing the Agreement.
2. The subject of the contract should be implemented within 6 months of signing the agreement with the Contractor, no later than **by 8 December 2023**.
3. Each stage will end with the transfer to the Employer of the completed works provided for in a given stage by official acceptance of each stage. The Employer reserves the right to submit modifications and complements to the works provided by the Contractor. In such case, the Contractor introduces modifications and complements according to the Employer's guidelines within the time limit indicated by the Employer.

Work schedule, indicating the framework scope of works, not exhaustive as to activities and methods necessary for the implementation of the contract:

Stage	General scope of the stage	Maximum time of completion
PROCESS PLANNING and DEVELOPING THE METHODOLOGY		
I	1. Defining technologies covering the three technological areas indicated in the contract, for which appropriate roadmaps can be prepared	Stage I of the contract will be accepted within 2

¹ Questions and activities indicated in this document do not constitute an exhaustive catalogue, they refer only to their minimum scope.

	<ol style="list-style-type: none"> 2. Selecting technologies/groups of technologies, with an indication of the goals we want to achieve by creating individual roadmaps, as well as clarifying the structure of the maps 3. Indicating potential participants in the process, including determining the profiles of experts taking part in the process of developing roadmaps (representatives of public administration, business, science, NGOs) and the scope of their involvement in the process 4. Proposing and selecting the methodology of work on the roadmap, taking into account the Employer's needs (roadmap developed for the needs of technological development in the development policies and strategies of the country) and the specific nature of selected technological areas 5. Drawing up a preliminary methodological report 	months from the date of signing the agreement.
CREATING 3 ROADMAPS		
II	<ol style="list-style-type: none"> 1. Developing roadmaps for three selected groups of technologies in a participatory model, with the involvement of the WG NSS experts and other industry/market experts 2. Drawing up a final methodological report and indicating conclusions and recommendations for the development conditions of selected technologies/groups. 	Stage II of the contract will be accepted within 4 months from the date of acceptance of the preliminary methodological report, no later than by 8 December 2023.

IV. Conditions for participation in the procedure

Contractors considered by the Employer as meeting the conditions for participation in the procedure are those who demonstrate that:

- a) have experience, in the period of the last five years prior to the offer submission deadline, in the implementation of at least **two projects** regarding **roadmaps devoted to technologies and have a potential for implementation in other countries**, including:
 - at least one of those services was **provided upon request of a public sector institution**,
 - at least one of these services was **worth not less than PLN 300 thousand net**,
 - **the methodology, based on which at least one of these projects was prepared, has been implemented/tested in at least two different countries in the form of a roadmap prepared with regard to the technological development;**

The Contractor will present the developed results of the work under the services referred to as part of condition IV a).

- b) provide a project team consisting of at least **three experts**, each of whom has knowledge and experience in at least one of the three mentioned subjects in the field of **Industry 4.0 technologies, circular economy, modern agriculture** (at least 1 expert for each of the 3 areas);

provide a project team consisting of at least **two experts** having experience in providing services consisting in **creating technology roadmaps**, - in the period of the last five years prior to the offer submission deadline each expert participated in providing two services consisting in developing a roadmap in the area of technology.

V. Description of the method of preparing the offers

1. The estimated offer should be prepared in Polish, on the attached form of estimated value of the contract, constituting Annex No. 1, which includes:
 - data of the contractor: first and last name/name of the offeror, address, e-mail address and telephone number;
 - date on which the offer has been prepared;
 - net price and gross price in PLN for the entire service being the subject of the contract;
 - signature of a person authorised to submit the offer.
2. The form of the estimated value of the contract must be signed by a person or persons authorised to act in legal transactions on behalf of the Contractor, whereby the signature should be legible or marked with personal stamps. If the authorisation to sign the offer does not result directly from the copy of the relevant register, an appropriate power of attorney must be attached to the offer.

VI. Date and place of submitting the estimated offer

The estimated offer should be sent by **3 March 2023** to the following address: robert.blaszcykowski@mrit.gov.pl and justyna.gorzoch@mrit.gov.pl with an annotation: "Price estimation – technology roadmaps".