

**THE NATIONAL PLAN FOR RESEARCH, DEVELOPMENT AND
INNOVATION 2022-2027, NP IV**

**Partnerships for Innovation Program,
Partnerships for competitiveness subprogramme**

**Experimental Demonstrative Project
2026 Call for proposals**

Evaluator's Guide

<https://uefiscdi.gov.ro>

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The State Research Authority and its Executive Agency, UEFISCDI, welcome you as a scientific evaluator for the Experimental Demonstrative Project Call 2026 (PED 2026). This document specifies in detail the evaluation process, its inputs and outputs, and defines the responsibilities of the participants in the process.

1. General Information of the call

The major goal of this call is to support the development and testing of demonstrative models (functional/experimental) for new or significantly improved products, technologies, methods, systems or services in national smart specialization fields or addressing challenges from the Strategic Research Agenda (see Annex 1).

The national intelligent specialization fields (DSIN) or targeting challenges from the Strategic Research Agenda (ASC) are:

1. *Digitization, Industry and Space (ASC); Digital Economy and Space Technologies (DSIN); Advanced Functional Materials (DSIN); Advanced Manufacturing (DSIN)*
2. *Climate, energy and mobility (ASC); Energy and Mobility (DSIN)*
3. *Food, bioeconomy, natural resources, biodiversity, agriculture and environment (ASC); Bioeconomy (DSIN); Environment and Eco-technologies (DSIN)*
4. *Health (ASC); Health - prevention, diagnosis and advanced treatment (DSIN)*
5. *Culture, creativity and inclusive society (ASC)*
6. *Civil security for society (ASC).*

Details of

- ✓ The maximum funding granted for a project, with duration between 12 - 24 months, is 750.000 lei (about 150 K EUR).
- ✓ The budget allocated to this call for proposals, for the entire implementation period, is 67.220.000 lei (about 13.44 million EUR).

The selection of the project proposals for funding is based strictly on their merits, assessed through peer review evaluation performed by experts in the field, with excellence as the sole criterion.

2. Estimated results

By financing this type of projects, the following aspects are pursued:

- using of knowledge generated by basic research for developing a higher level of technological maturity (demonstrator, laboratory-validated technology);
- increasing the research organizations capacity to generate laboratory-validated solutions for new or significantly improved products/technologies/services and to provide them to the enterprises.

3. Project proposals

Project proposals should address one of the following situations (please see Chapter 9 of this document for the definitions related to “Technology Readiness Level – TRL”):

- start from a TRL 2/3 (concept formulated by technology / laboratory experimental demonstrator) and focus on TRL 3/TRL4 (laboratory experimental demonstrator/ laboratory validated technology);
- ✓ The project proposals are submitted by a research organization (public or private), project coordinator, in partnership with an enterprise with research - development as part of their activity.

4. Governance of the call

Advisory Board for Research-Development and Innovation (CCCDI) is an advisory body of The State Research Authority. The CCCDI consists of representatives of national RDI system (academia, national research institutes, Romanian Academy, private sector), having a scientific profile internationally recognized. The CCCDI is the scientific coordinator of the call.

The Executive Agency for Higher Education, Research, Development and Innovation Funding, UEFISCDI, is the main research public funding agency. It organizes project calls and subsequently monitors the implementation of research projects accepted for funding.

The expert evaluators are internationally recognized independent experts who meet the selection criteria according to the call document. They are responsible for the scientific evaluation of the submitted proposals according to the evaluation criteria.

The experts perform the work in a personal capacity and must not represent any organization.

During the evaluation process an expert could receive the task of **Rapporteur** (may act as both evaluator and Rapporteur for a number of allocated projects), having the mission to facilitate and mediate the achievement of consensus between the individual evaluations of the experts and may participate in the panel meetings.

Each expert evaluator involved in the evaluation process will receive a user name and an individual access password via e-mail which can *authenticate/Log in* on the on-line evaluation platform, <https://uefiscdi-direct.ro>. A guideline for using evaluation platform PED 2026 is available in the "Useful docs" section.

5. Conflict of Interest

Any details of the evaluation process and its outcomes, or about any proposals submitted for evaluation **must be treated as confidential and must not be disclosed**. Experts indicate electronically, during the evaluation process, that confidentiality of any documents or electronic files provided to them is maintained. All confidential documents or files must be returned, erased or destroyed upon completion of the evaluation, unless otherwise instructed. The online discussions or from the panel meetings must be kept confidential.

Experts must declare that they can carry out the evaluation of a proposal with total confidentiality, impartiality and competence. They must not find themselves in situations where their impartiality might be questioned, or that could raise suspicion on their recommendations being affected by elements that lie outside the scope of the evaluation.

A conflict of interest exists if an evaluator:

- was involved in the preparation of the proposal;

- is involved as principal investigator or as member of research team in the current call (PED 2026);
- stands to benefit directly should the proposal be accepted;
- has a close family relationship with principal investigator;
- is a director, trustee or partner of an applicant organizations (Project Coordinator or Project Partner);
- is employed by one of the applicant organizations (Project Coordinator or Project Partner) in a proposal or had been so in the previous 3 years;
- is involved in a research collaboration or contract of principal investigator, or had been so in the previous 3 years;
- is in any other situation that compromises his or her ability to evaluate the proposal impartially, or that could reasonably appear to do so in the eyes of the external third party.

Expert evaluators are obliged at any time during the process to immediately notify UEFISCDI (by any means) if they find that one of the a forementioned conditions is no longer met. UEFISCDI will analyze the circumstances of the case and decide, based on the objective elements of the information at its disposal, the existence of an actual conflict of interest. If such a conflict is established, the expert evaluator will be disqualified in the same manner as in the case of an obvious conflict and will not be paid for the performed evaluation.

Expert evaluators will not reveal to the applicants or to other persons except for the ones who are officially involved in the selection of the project proposals, any information related to the analysis, clarification, evaluation and comparison of the project proposals and of the recommendations regarding the assignment of funding contracts;

By the information obtained as Expert-Evaluator/Rapporteur, he/she will not breach in any way the intellectual or industrial property rights deriving from any of the project proposals.

Before starting the assessment of proposals allocated to them, the evaluators will need to login at the Evaluation platform, <https://uefiscdi-direct.ro>. Upon login, the evaluators get access to the Consortium information and the proposal's summary of the respective allocated proposals. This will allow the experts to check their potential conflict of interest and directly inform the UEFISCDI staff if such conflicts are identified. Full access to the proposal is given after the expert has confirmed that there is no conflict of interest.

The experts must notify UEFISCDI, via email/in writing, at any moment during the evaluation process, if they become aware that either one of these conditions is not satisfied or that they are in conflict of interest. When a potential conflict of interest is reported by an expert or brought to the attention of UEFISCDI by other means, UEFISCDI will analyse the circumstances and decide on a case-by-case basis whether the conflict is real. In the latter case, the expert will be excluded from the evaluation of the respective proposal.

Once an expert has confirmed that he/she does not have a conflict of interest, they are given full access to proposals.

6. Contractual agreement

The relationship between UEFISCDI and the expert evaluators is defined by a contractual agreement written and signed by both parties. By signing this agreement, the expert evaluators accept the conditions regarding the evaluation tasks, the confidentiality, the conflict of interest, and the use of personal data by UEFISCDI, according to the provisions of the Regulation (EU) 2016/679 (GDPR) and to

the Law 190/2018 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. UEFISCDI cannot allocate proposals to an expert who has not been officially appointed (i.e., the expert has signed the contractual agreement and, in doing so, has agreed to the terms laid down in it, including, in particular, confidentiality and conflict of interest aspects).

An expert must sign the “Contractual Agreement” with all its appendixes, and uploads these documents on the evaluation platform (in the dedicated section).

Omission to upload the „Contractual Agreement” and its appendixes, in due time, to the dedicated section of the online evaluation platform, will lead to delay of payment for the activity as expert evaluator/Rapporteur!

The following expenses will be covered by the call:

- 60 € (54 € net amount) evaluation fee per one individual evaluation;
- 60 € (54 € net amount) additional fee per Consensus Report made by Rapporteur;
- 295 € (265.5 € net amount) fee per day for participation in panel meeting.

The evaluators will be remunerated for their activities after the finalization of the evaluation process.

7. Evaluation process

The evaluation process is described in the Call Document available here:

https://uefiscdi.gov.ro/resource-832429-PED_EN_2026.pdf

The evaluation process consists of following steps:

- **Step 1 - The eligibility check** is made by UEFISCDI staff. If, during or after completion of the evaluation phase, a non-compliance with any of eligibility criteria is found, the project proposal will be declared ineligible and will be excluded from the competition.
- **Step 2 - The individual evaluation**
Each project proposal declared eligible is evaluated, from the quality point of view, independently, online, by three expert evaluators. Each expert prepares an Individual Evaluation Report (IER).
- **Step 3 – Intermediate consensus**
The Intermediary Consensus Report (ICR) is elaborated by the rapporteur based on the IER, on discussions between the experts.
- **Step 4 – Rebuttal**
The applicants receive the invitation to submit a rebuttal on the comments expressed in the Intermediary Consensus Report. This step is not mandatory and the absence of rebuttal must not affect the evaluation of the project.
- **Step 5 - Reaching consensus (after Rebuttal)** - The Consensus Report (CR) is elaborated by the rapporteur, based on the ICR, on discussions between the experts and the rebuttal (if any).
- **Step 6 - Evaluation Panel Meeting** – The proposals without consensus are discussed in the panel meeting (one for each scientific domain).

7.1. General principles of evaluation (for individual/consensus/panel steps)

- ✓ The experts must assess the proposals by themselves – do not delegate this task to anybody else.
- ✓ The expert should evaluate the proposal as it is, not as it could be or as the expert would like it to be, and without giving any recommendations or suggestions.
- ✓ Each criterion/sub criterion must contain the Strengths/Weaknesses of the respective criterion/sub criterion. General comments or comments that describe parts of the proposal are not acceptable.
- ✓ Each argument should be placed under the specific criterion, with great care of not mixing criteria (e.g., comments about the activities and deliverables will not be placed under “Project objectives and scope” or comments about the state of the art should not be placed under “Project implementation”).
- ✓ All comments should be clear statements, based on facts presented in the proposal and not on opinions of the experts (e.g. comments as *“I think that”, “My impression is”, “It seems that”, “The applicant should”, “It may be better”,* etc. must be avoided).
- ✓ All facts relevant to the current proposal should be accounted for, regardless of the section of the proposal where these are presented.
- ✓ Any comment referring to inexistent or irrelevant criteria for the present competition is considered a procedural mistake which may lead to a successful redress and justify a re-evaluation of the proposal. Never penalize a proposal based on information that the applicant was not expected to provide.
- ✓ The comments should assess the quality of the described criterion under evaluation and not summarise it or suggest improvements.
- ✓ A weakness should be addressed only once so that double penalization does not occur.
- ✓ The expert must treat all proposals equally and evaluate them impartially on their merits. Comments that hint, indicate or refer to names, numbers, gender, institutions, nationality, and age are strictly forbidden.
- ✓ Scores must reflect the overall assessment of a criterion and the experts must use the full range of scores to appropriately highlight the quality of the proposal (*E.g., it is not correct to have a score of 4.5 for a criterion where only positive comments are listed, without any shortcomings; equally wrong is to find a major weakness, as, e.g.: The methodology does not support the proposed solution and scoring it with 4.0*);
- ✓ The panel members will analyse with objectivity the proposals (with no consensus reached) and will carefully prepare the final report which will be sent to the Principal Investigator. The report should be based on facts and solely on proposal content.
- ✓ The experts should keep in mind that they are evaluating a project proposal and not a research paper. The comments should assess the quality of the described criterion under evaluation and not summarise it or suggest improvements.

A personal touch: Please, **evaluate the proposal as you would like it to be evaluated if it were yours: be objective, dispassionate, unbiased, fair and polite.**

7.2 Proposal evaluation stages

7.2.1. Individual Evaluation

Each eligible proposal is evaluated independently, online, by 3 experts, using the platform <https://uefiscdi-direct.ro>.

Each of the three evaluators prepares an Individual Evaluation Report (**IER**), awarding individual scores for each criterion according to the evaluation criteria. Given scores for each criterion are necessarily to be justified by comments. The comments must be accurate, complete and consistent, highlighting strengths and weaknesses.

When all IERs have been submitted for a proposal, the experts will have access to each other's scores and comments and may adjust their own scores/remarks.

7.2.2. The Intermediate Consensus Report (ICR)

Each project proposal will have an appointed rapporteur, randomly selected from among the three experts. The role of rapporteur is to prepare the Intermediary Consensus Report (ICR), based on individual assessments and discussions with the other two evaluators, through the 'forum' interface available in the evaluation platform.

The other two reviewers are invited to express their opinion on the ICR (vote "agree" or vote "disagree").

If the ICR has a unanimous "I agree" vote, consensus is considered to have been reached.

No consensus is considered to have been reached if there is a "disagree" vote.

In this situation, an online meeting of the three experts is organized for discussions and final decision. Following this meeting, for the project proposals for which consensus is not reached, will be evaluated by a fourth evaluator who completes the individual evaluation sheet. After the additional evaluator has individually assessed and given his own score, he will have access to the comments and scores originally given by the first three experts and will be able to adjust own comments and scores given. After the completion of the individual evaluation, the additional evaluator takes over the role of rapporteur and will draw up another Intermediary Consensus Report, following discussions with the other evaluators. The report will be made available to the principal investigator for the formulation of a point of view.

7.2.3. Rebuttal

The ICR is sent to the principal investigators, with the invitation to submit a rebuttal on the evaluation within 3 working days. The rebuttal written in English is limited to 4.000 characters (including spaces) and consists in counterarguments strictly regarding the criticism formulated in ICR. The principal investigator should not include in the rebuttal any supplementary information. ***New facts or information that appear in the rebuttal but have not been described in the proposal shall be disregarded.*** The experts should carefully read the responses of the applicant and assess whether, after checking with the proposal, they maintain their opinion.

The answer of the principal investigator (rebuttal) is not compulsory, and its absence will not affect the next stage of the evaluation process.

7.2.4. The Consensus Report (CR)

After rebuttals are received from the applicants, the evaluation process enters the consensus phase, under the coordination of the Rapporteur.

The rapporteur may modify the Intermediary Consensus Report by drafting the Consensus Report. Afterwards, the other evaluators will be asked through the platform to express their opinion on the Consensus Report (vote "agree" or "disagree"). If the Consensus Report has unanimous "I agree" vote, it is considered that the consensus has been reached, and it becomes the Final Evaluation Report.

The rapporteur, by completing the Consensus Report and submitting it to the vote, implicitly gives a positive vote to the report.

If one of the evaluators votes "disagree" or does not express own vote on the Intermediary Consensus Report, for the project in question it is considered that consensus has not been reached.

If the consensus is not reached, the expert(s) who has (have) voted “disagree” will be asked to detail the reasons for disagreeing with the CR for any particular criterion.

7.2.5 Evaluation Panel Meeting

Proposals for which no consensus has been reached will be analysed/discussed in the panel meetings. At the level of the competition, 6 panels will be constituted, each panel covering a main research area, according to Annex I.

The research area panel is constituted of rapporteurs and evaluators. The size of each panel will be correlated with the number of projects without consensus reached. Depending on the size of the panel, more plenary sessions can be organized.

Each panel member, prior to the panel meeting, will have access to the project proposals, the IERs, CRs and the rebuttals (if any) for all projects allocated to the panel.

Within the panel meetings, every project proposal which has at least a “disagree” vote or lacks a vote to CR is presented and analysed in the panel. For each project, the panel establishes the final score and writes the Final evaluation report.

The panel meetings are coordinated by a chair /co-chair. These are chosen from the call data base and they will moderate the panel discussion, without interfering in decision making.

The final score will be decided by the present majority and will take into account the scores and comments from previous evaluation stages and also the discussions from the panel. The major changes of scores will be motivated for each modified criterion.

After the discussions, for each proposal, a member of panel will be appointed by chair/co-chair and will prepare the Final Report, in accordance with those established during the panel meeting.

The Final Report may contain parts from the IER or the CR, agreed by the panel.

7.3 Tasks of expert evaluators

The expert evaluators are required to:

- read the “Call document” and the “Guide for Experts”;
- inform UEFISCDI about a disqualifying or a potential conflict of interest;
- read and objectively evaluate the assigned project proposals;
- meet all deadlines of the evaluation process;
- fill in and submit the evaluation sheet for each assigned project proposal, providing comprehensive comments that evaluate the proposal in a critical way, addressing all the evaluation criteria for each point, avoiding summarizing and advising on improvements, clearly highlighting the strengths and weaknesses of the proposal as it was submitted by the applicant and not its potential;
- read the rebuttal (if any);
- actively participating in consensus discussions regarding all assigned project proposals, by using the "forum" type interface available on the online evaluation platform; comments at the consensus stage are compulsory; express the agreement or disagreement (vote) for the consensus report;
- express the agreement/disagreement (vote) for the ICR and CR;
- participate in online meetings for the project proposals where the consensus is not reached, organized between the rapporteur and the expert evaluators, to discuss and reach a final decision;
- not disclose the proposals assigned to third parties;
- communicate with the assigned Technical Officer from UEFISCDI for any issue that might appear during the evaluation process.

7.4 Tasks of Rapporteurs

- read the Individual Evaluation Reports and draw the expert evaluators' attention to: possible contradictions (e.g. the same aspect is considered both a weakness and a strength); inadequate comments (e.g., comments placed under the wrong criterion or comments about irrelevant issues which are not required by the call; comments referring to other complex project proposal); any comments which are not subject of the criteria from the evaluation sheet; possible non-compliance with the Individual Evaluation Reports format, which must contain the comments organized in the form of "strengths" and "weaknesses" and not "copy-paste" type information taken from projects;
- elaborate the ICR based on the individual evaluations and the discussions with expert evaluators and ultimately agree on the scores for each evaluation criterion that fully reflects the agreed comments; may contact the experts to ask for clarifications, to highlight/identify potential conflicting statements or inappropriate/incorrect statements. All such communication will be carried out exclusively in the online evaluation platform.
- participate in online meetings where consensus is not reached, organized between the rapporteur and the expert evaluators, to discuss and reach a final decision;
- elaborate the CR based on the discussions with expert evaluators and on Rebuttal (if any).
- not disclose the assigned/evaluated proposals to third parties;

- communicate with the assigned contact from UEFISCDI about issues that might appear during the evaluation process;
- participate in the panel meeting and draw the Final Evaluation Report (if is case).

7.5 Evaluation Sheet

Make your judgment against the official evaluation criteria, as stated in the Evaluation Sheet, and nothing else. For all the projects accepted for evaluation, the evaluator has to be sure that the whole rating scale is used for each criterion.

The comments must be in accordance with the scores and be accurate, complete and consistent.

Organizing comments on each criterion:

Comments should take the form of a statement reflecting the overall quality of the proposal, in the light of the above-mentioned criteria. In particular, the following guidelines should be followed:

- make sure that the TRL is clearly argued at the beginning of the project and the TRL reached after the project implementation is well determined on TRL scale;
- make sure that each argument is put under the right criterion and comments are confined only to the criterion concerned;
- make sure that you reach all the aspects raised by the questions listed under each criterion;
- give comments and scores for all evaluation criteria; the scores must match the comments;
- make sure that the level of criticism in the comments agrees with the score that is provide (e.g., do not give low score and the comments are only appreciative);
- do not apply a penalty twice to a proposal for the same weak point; a basic underlying fault in a proposal could impact more than one criterion, make clear that these are different and distinct problems;
- never apply a penalty to a proposal based on information that the applicant was not expected to provide;
- avoid references to the applicant age, nationality, gender, or personal matters;
- avoid making references to scores in the comments;
- avoid any direct comparison with any other proposals under current call;
- critical comments should be constructive and not offensive.

Structure of evaluation sheet:

I. Project objectives and scope (30%)

The criterion relates to Project Application Form – Part B.2.1

Evaluate to what extent:

- *The project scope is clearly presented, describing explicitly the demonstration model (product, technology, method, system or service) to be developed and tested/ validated?*
- *Are the results innovative and relevant in relation to the national and international state of the art?*
- *Are the project objectives correlated with the outcome of the project?*

II. Presentation of the technology / product concept or the existing lab product (30%)

The criterion relates to Project Application Form – Part B.2.2

Evaluate to what extent:

- *Is the TRL level clearly argued at beginning of the project, and is the level reached after project implementation well determined on the TRL scale?*
- *Are the preliminary results significant on the date of submitting the proposal: publications, patents and research projects that led to basic concept of the project?*

III. Project implementation (40%)

The criterion relates to Project Application Form – Part B.2.3

Evaluate to what extent:

- *Is the expertise level of experienced researchers and postdoctoral researchers nominated in the project team at high quality? Are their expertise and results well-correlated with their contribution in the project and appropriate for the project implementation?*
- *Are the research results relevant for the economic player (partner)?*
- *Are the proposed activities and deliverables well structured? Are the deliverables well-correlated to the proposed activities?*
- *Is the budget and timetable of the project well justified (resources / time / results)?*
- *Is the research infrastructure adequate for the project implementation?*
- *Is each team member's role and team project partner well described?*
- *Is the impact and dissemination of project results well described? Is the sharing of project intellectual property rights between partners clearly addressed?*
- *Are the risks associated with project implementation activities identified and their mitigation measures well described?*
- *Is the project plan effective in reaching the TRL level required at the end of the project?*

NOTES:

1. *Each Criterion will be scored from 0 to 5. Scores with a resolution of decimal place may be awarded.*
2. *The final score will be calculated as a sum of the marks for each criterion multiplied by the appropriate percentage and multiplied by 20 (final score is between 0 and 100).*
*Final grade = (s.1*30/100 + s.2*30/100 + s.3*40/100)*20, where s.i is the score for criterion i.*
3. *Experts should make sure that their comments on each criterion are:*
 - *Concrete i.e., they are explicitly referring to the information in the proposal*
 - *Complete i.e., they address all the facets specified by the criterion*
 - *Consistent i.e., they match the score, according to the scoring table and are not contradictory*
 - *Inoffensive i.e., they do not contain discriminatory, offensive statements or adjectives*
 - *Explanatory i.e., it is clear what makes a comment a weakness or a strength. Examples of poor comments "The methodology is described" (is it enough? insufficient? excellent? new? obsolete?), "The novelty is not good" (why? what is missing?) "The team is not appropriate" (what competency is missing?), etc.*
4. *The project proposals under the score of 80 points will not be considered for funding.*

7.6 Assessment against the Evaluation Criteria

The Evaluators/Rapporteurs propose a score **only after written comments** (**accurate, concrete, complete** (i.e., address all questions) and **consistent** with the semantics of each score, namely:

0	Insufficient	The proposal does not address this criterion, thus it cannot be assessed due to missing or incomplete information
1	Poor	Addressing criterion is done improperly, or there are <i>serious weaknesses</i>
2	Fair	The proposal <i>broadly addresses</i> the criterion, but there are <i>significant weaknesses</i>
3	GOOD	The proposal addresses the criterion <i>well</i> , although <i>improvements would be necessary</i> .
4	VERY GOOD	The proposal addresses the criterion very well, although <i>certain improvements are still possible</i> .
5	EXCELLENT	The proposal successfully addresses all relevant aspects of the criterion. <i>Any shortcomings are minor appeared</i> .

The scores must reflect the strengths and weaknesses and they must be in line with the comments. **Scores below 5 (i.e., also 4 or 4.5) must fully reflect the identified shortcomings/weaknesses, which should be clearly indicated** in the Consensus Report.

8. Transparency

The list of the expert evaluators who participated in the evaluation process will be published on the UEFISCDI's website, after the end of the competition. The list will not identify the expert evaluators assigned for each project proposal.

9. TRL Definition

All the TRL definitions are presented below, but **the project proposals must start from a TRL 2/3 (concept formulated by technology / laboratory experimental demonstrator) and focus on TRL 3/TRL4 (laboratory experimental demonstrator/ laboratory validated technology);**

TRL Definition & Description¹:

Technology Readiness Level	TRL Definition	Description
TRL 1	Initial scientific research begins. Examples include studies on basic material properties. Principles are qualitatively postulated and observed.	Basic principles are observed. Focus is on fundamental understanding of a material or process.
TRL 2	Technology concept and/or application formulated. Initial practical applications are identified. Potential of material or process to satisfy a technology need is confirmed.	Once basic principles are observed, practical applications can be identified. Applications are speculative, and there may be no proof or detailed analysis to support the assumptions. Examples are still limited to analytic studies. Supporting information includes publications or other references that outline the application being considered and that provide analysis to support the concept. The step up from TRL 1 to TRL 2 moves the ideas from basic to applied research. Most of the work is analytical or paper studies with the emphasis on understanding the science better. Experimental work is designed to corroborate the basic scientific observations made during TRL 1 work.
TRL 3	Analytical and experimental critical function and/or characteristic proof of concept. Applied research continues and early-stage development begins. Includes studies and initial laboratory measurements to validate analytical predictions of separate elements of the technology.	Analytical studies and laboratory-scale studies are designed to physically validate the predictions of separate elements of the technology. Supporting information includes results of laboratory tests performed to measure parameters of interest and comparison to analytical predictions for critical components. At TRL 3 experimental work is intended to verify that the concept works as expected. Components of the technology are validated, but there is no strong attempt to integrate the components into a complete system. Modelling and simulation may be used to complement physical experiments.
TRL 4	Laboratory Testing/Validation of Alpha Prototype	The basic technological components are integrated to establish that the pieces will work together. This is

¹ H2020 – Work Programme 2018-2020, General Annexes – pg. 27

http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2018-2020/annexes/h2020-wp1820-annex-ga_en.pdf

Technology Readiness Assessment Guide - Department of Energy, U.S, pg. 9-10/34

<https://www.directives.doe.gov/directives-documents/400-series/0413.3-EGuide-04/@@images/file;>

Technology Readiness Levels definitions and descriptions

https://www.dst.defence.gov.au/sites/default/files/basic_pages/documents/TRL%20Explanations_1.pdf

Technology Readiness Level	TRL Definition	Description
	Component/Process. Design, development and lab testing of technological components are performed. Results provide evidence that applicable component/process performance targets may be attainable based on projected or modelled systems.	relatively "low fidelity" compared with the eventual system. Supporting information includes the results of the integrated experiments and estimates of how the experimental components and experimental test results differ from the expected system performance goals. TRL 4-6 represent the bridge from scientific research to engineering, from development to demonstration. TRL 4 is the first step in determining whether the individual components will work together as a system. The goal of TRL 4 should be the narrowing of possible options in the complete system.
TRL 5	Laboratory Testing of Integrated/Semi-Integrated System. Component and/or process validation in relevant environment- (Beta prototype component level).	The basic technological components are integrated so that the system configuration is similar to (matches) the final application in almost all respects. Supporting information includes results from the laboratory scale testing, analysis of the differences between the laboratory and eventual operating system/environment, and analysis of what the experimental results mean for the eventual operating system/environment. The major difference between TRL 4 and 5 is the increase in the fidelity of the system and environment to the actual application. The system tested is almost prototypical. Scientific risk should be retired at the end of TRL 5. Results presented should be statistically relevant.
TRL 6	Prototype System Verified. System/process prototype demonstration in an operational environment- (Beta prototype system level).	Engineering-scale models or prototypes are tested in a relevant environment. This represents a major step up in a technology's demonstrated readiness. Examples include fabrication of the device on an engineering pilot line. Supporting information includes results from the engineering scale testing and analysis of the differences between the engineering scale, prototypical system/environment, and analysis of what the experimental results mean for the eventual operating system/environment. TRL 6 begins true engineering development of the technology as an operational system. The major difference between TRL 5 and 6 is the step up from laboratory scale to engineering scale and the determination of scaling factors that will enable design of the final system. The engineering pilot scale demonstration should be capable of performing all the functions that will be required of a full manufacturing system. The operating environment for the testing should closely represent the actual operating

Technology Readiness Level	TRL Definition	Description
		environment. Refinement of the cost model is expected at this stage based on new learning from the pilot line. The goal while in TRL 6 is to reduce engineering risk. Results presented should be statistically relevant.
TRL 7	Integrated Pilot System Demonstrated. System/process prototype demonstration in an operational environment- (integrated pilot system level).	This represents a major step up from TRL 6, requiring demonstration of an actual system prototype in a relevant environment. Final design is virtually complete. The goal of this stage is to retire engineering and manufacturing risk. To credibly achieve this goal and exit TRL 7, scale is required as many significant engineering and manufacturing issues can surface during the transition between TRL 6 and 7.
TRL 8	System Incorporated in Commercial Design. Actual system/process completed and qualified through test and demonstration (pre-commercial demonstration).	The technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development. Examples include full scale volume manufacturing of commercial end product. True manufacturing costs will be determined and deltas to models will need to be highlighted and plans developed to address them. Product performance delta to plan needs to be highlighted and plans to close the gap will need to be developed.
TRL 9	System Proven and Ready for Full Commercial Deployment. Actual system proven through successful operations in operating environment, and ready for full commercial deployment.	The technology is in its final form and operated under the full range of operating conditions. Examples include steady state 24/7 manufacturing meeting cost, yield, and output targets. Emphasis shifts toward statistical process control.

10. References:

In creating this guide, we adopted several guidelines and principles from the following sources:

1. H2020-MSCA, EJD Manual for experts, 2019
2. ESF - *European Peer Review Guide. Integrating Policies and Practices into Coherent Procedures*, 2011: <http://www.esf.org/activities/mo-fora/publications.html>
3. ERC - *ERC Grant Schemes Guide for Peer Reviewers*, 2011: http://erc.europa.eu/sites/default/files/document/file/GuideForERCPeerReviewers_2012%2020092011.pdf
4. http://ec.europa.eu/research/pdf/workshop_igb/rtd_evaluation_process.pdf

No. domain/ Thematic area	Name of domain/thematic area
1	Digitilisation, Industry and Space (ASC); Digital Economy and Space Technologies (DSIN); Advanced Functional Materials (DSIN); Advanced Manufacturing (DSIN)
1.1	Open strategic autonomy in digital and emerging technologies with a Human-Centric Focus
1.2	An Attractive, Secure, Dynamic, Data-Agile, Regional and Global Economy
1.3	Clean industry, circular economy, and guaranteed supply of raw materials
1.4	Strategic autonomy in the development, deployment and use of global space infrastructures, services, applications, and data
2	Climate, energy and mobility (ASC); Energy and Mobility (DSIN)
2.1	Transition of the energy sector towards climate neutrality and resilience
2.2	Accessibility, supply and efficient use of energy
2.3	Towards a neutral, climate-resilient and environment friendly mobility
2.4	Systems for smart mobility
2.5	Behavioral transformations to reduce climate footprint
3	Food, bioeconomy, natural resources, biodiversity, agriculture and environment (ASC); Bioeconomy (DSIN); Environment and Eco-technologies (DSIN)
3.1	Increasing the relevance of forests in reducing pollution
3.2	Agriculture's contribution to climate neutrality and resilience
3.3	Biodiversity recovery, conservation and sustainable restoration of ecosystems and ecosystem services
3.4	Circular bioeconomy
3.5	Water resource management and sustainable development of fisheries and aquaculture
3.6	Food and nutritional security
3.7	Sustainable, balanced and inclusive development of urban, rural and coastal areas
3.8	Innovative governance models that foster sustainability and resilience
4	Health (ASC); Health - prevention, diagnosis, and advanced treatment (DSIN)
4.1	A healthy life in a rapidly changing society
4.2	Living and working in a health-promoting environment
4.3	Managing disease and reducing its burden
4.4	Access to innovative, sustainable and high-quality healthcare
4.5	New tools, technologies and digital solutions for a healthy society
4.6	Developing an innovative, sustainable and competitive healthcare industry
5	Culture, creativity, and inclusive society (ASC)
5.1	Consolidated democratic governance
5.2	Development of cultural heritage, arts and cultural and creative sectors
5.3	Social and economic resilience
5.4	Inclusive growth and reducing vulnerabilities
6	Civil security for society (ASC)
6.1	Reducing losses caused by natural, accidental and man-made calamities
6.2	Facilitating the mobility of passengers and the legal transport of goods, as well as the prevention of illicit trade, piracy and other criminal acts
6.3	Managing crime and terrorism more effectively and improving the resilience and autonomy of physical and digital infrastructures
6.4	Increasing cyber security and maintaining a safer online environment

1 Domain: Digitalization, Industry and Space (ASC); Digital Economy and Space Technologies (DSIN); Advanced Functional Materials (DSIN); Advanced Manufacturing (DSIN)

1.1 *Open strategic autonomy in digital and emerging technologies with a human-centric focus:*

AI with human-level performance, scalable and secure; The involvement of the human factor in the analysis and validation of the results generated by the automatic systems; Collaborative robotics for an agile and resilient economy, in support of society; Next generation computing (edge, neuromorphic, bioinspired, nano, quantum, photonic, HPC); Additive manufacturing (3D printing); Advanced materials, nanomaterials; New materials for strategic sectors, resilient to extreme operating environment conditions; Sensors and biosensors; Biotechnologies with industrial or environmental applications; Mentally and physically non-invasive technologies in industry, health, education, communications and housing; Increased safety and intuitiveness in human-machine interaction; Deep immersion to enable extensive experience in human interaction with advanced technologies and ecosystems.

1.2 *An attractive, secure, dynamic, data-agile, regional and global economy:*

Increased cyber security; Integration of clean digital technologies; Smart data for smart communities; Safe, ethical, and human-centered data management; Digitally assisted open innovation ecosystems; Lifetime traceability of social services, industrial and food products; Creating, accessing and operating in open data ecosystems; Product customization through data-driven manufacturing ecosystems; Language technologies for the Romanian language.

1.3 *Clean industry, circular economy, and guaranteed supply of raw materials*

Greening of highly polluting economic sectors; Decarbonization of production processes; Development of cost-effective green manufacturing technologies; Industrial value chains based on local resources, including on opportunity niches generated by climate change; curtailment and diversification of supply chains including the use of 4R solutions; New business models in the circular economy; Product life cycle management; Products/technologies with time of high validity life and high recycling rate; Servitization of business models and systems; Advanced recycling of end-of-life materials; Sourcing raw materials from natural residues; Non-polluting industrial processes for obtaining raw materials from various sources; New energy efficient economic processes; Sustainability of critical material supply; Transparent and consolidated value chains.

1.4 *Strategic autonomy in the development, deployment and use of global space infrastructures, services, applications, and data:*

Enhancing the quality of life and safety of citizens through space technologies; New materials and advanced technologies applicable to the space domain; Space technologies for optimising the activity of the institutions and public authorities; New advanced equipment and materials for future space missions; Contributing with niche technological advantages to the development of autonomous EU space systems and infrastructures; National capabilities for space robotics; National capabilities for satellite positioning and navigation (EGNOS/Galileo, PRS); Development of complex mechanical systems for space applications; Access to space through satellite platforms; Autonomous access to space.

2 Domain: Climate, energy and mobility (ASC); Energy and Mobility (DSIN)

2.1 *Transition of the energy sector towards climate neutrality and resilience:*

Development of environmentally friendly technologies in obtaining new energy storage solutions; New methods and technologies for producing energy from renewable resources with a low carbon footprint and their large-scale implementation; The development of efficient technologies for the production of hydrogen from abundant, renewable sources; Innovative methods and technologies for reducing the carbon footprint in energy production systems; The development of cross-sectoral energy efficiency solutions; Use of offshore wind and wave energy; Alternatives for the production of clean electricity using nuclear technologies; Climate services for the energy sector; Capture and storage of greenhouse gases.

2.2 *Accessibility, supply and efficient use of energy:*

Integration of renewable energy sources in heating and cooling systems; Modernization of network of energy transport and distribution; Development of solutions for thermic insulation and storage of the thermal energy; Ensuring the necessary raw materials for the expansion of clean energy technologies; Increasing energy storage capacity (Power-to-X Technologies); Rationing energy consumption; Energetically sustainable human communities; Energy-efficient and interactive buildings connected to the grid; Efficient and advantageous solutions for assuming the role of prosumers for buildings; Digitalisation of the energy system; Promotion and utilization of decarbonized energy vectors; Urban space architecture oriented towards creating energetically autonomous micro spaces.

2.3 *Towards a neutral, climate-resilient and environment friendly mobility:*

Decarbonisation of the transport sector through the use of electrification and other energy vectors with low carbon footprint (hydrogen, fuels from renewable sources, etc.); Development of production systems and supply networks for alternative fuels; applications for hydrogen-based energy storage for transport; Recyclability of materials used in transport systems; Development of zero emission technologies for mobility; Methods for storing energy on board vehicles; Electrification and use of the railway in freight transport; Changing travelling behaviour; Increasing the capacity of cities to implement climate neutral mobility systems; Climate services for the transport sector.

2.4 *Systems for smart mobility:*

Connected, automated and cooperative mobility; Big Data and artificial intelligence for smart mobility; Smart transport systems to increase the safety and resilience of the transport infrastructure; Open data platforms for mobility; Promoting mobility as a service; Optimization of multimodal and modular transport systems, including with the help of artificial intelligence; Use of drones for food and/or convenience delivery services.

2.5 *Behavioural transformations to reduce the climate footprint:*

Reducing the impact of human activities, including food waste, on greenhouse gas emissions; Mitigating climate and water crises through change and diversification of dietary habits; Sustainable methods of living in harmony with the environment and supporting ecosystems; Understanding and promoting the effects of climate change at the national level; Developing education regarding the human impact on the environment.

3 Domain: Food, bioeconomy, natural resources, biodiversity, agriculture and environment (ASC); Bioeconomy (DSIN); Environment and Eco-technologies (DSIN)

3.1 *Increasing the relevance of forests in reducing pollution:*

Compensation for massive deforestation and degraded and desertified soils; Reduction of wood consumption; The gradual removal of forests from the forestry circuit; Sustainable Forest management in the context of climate change.

3.2 *Agriculture's contribution to climate neutrality and resilience:*

Implementation of agricultural systems that contribute to climate neutrality and biodiversity; Reducing the carbon footprint through innovative agricultural technologies; Conservation and restoration of natural resources used in agriculture (soil, water, biodiversity); Reduction of greenhouse gas emissions generated by animal husbandry; Estimation of emissions/absorptions from land use, forestry, and agriculture; Climate services for the agricultural sector.

3.3 *Biodiversity recovery, conservation and sustainable restoration of ecosystems and ecosystem services:*

Conservation and restoration of affected ecosystems and those at risk; Conservation of species, connectivity of habitats and safeguarding ecosystems integrity; Ensuring the efficiency of production systems favorable to biodiversity (low input, ecological); Increasing biodiversity in agri-food systems; Management of genetic resources (animals, plants) in order to maintain biodiversity; Management of insufficiently exploited natural resources (spontaneous flora, old crops, microorganisms); Changing people's attitude towards nature and ecology; Control of invasive species; Ensuring coexistence between local communities and fauna; Evaluation and valorisation of ecosystem services with nature conservation; Preventing and combating eutrophication; Restoring wetlands as complex carbon storage areas providing ecosystem services; Development and provision of knowledge resources regarding the management of protected natural areas; Public awareness and citizen involvement in science.

3.4 *Circular bioeconomy:*

Reducing the consumption of plastic packaging and microplastic pollution; Integrated exploitation, in cascade, of natural resources; Valorisation of by-products and waste from the agri-food and non-food industrial sector; Combating environmental pollution with heavy and/or radioactive metals; Climate-resilient agricultural and livestock production systems; Sustainable assurance of plant health and modernization of the phytosanitary sector; Reducing the environmental footprint of activities in the bioeconomic sector; Reducing nutrient losses along the food chain; Prevention and combating offshore and onshore oil pollution; Superior utilization of vegetable residues - circular bioeconomy; Management of water and aquatic resources considering quality water as a hard-to-renewable resource; Superior utilization of natural resources.

3.5 *Water resource management and sustainable development of fisheries and aquaculture:*

Integrated management of water resources; Ensure access to drinking water resources; Development of aquaculture and sustainable fishing; development of aquaculture in recirculating systems, with the development of the complex roles of microorganisms; Aquaponics development; Sustainable development of irrigation systems; Climate services for the water resources management sector.

3.6 Food and nutritional security:

Reduction of chemical synthesis inputs in the bioeconomy; Safety and traceability of products in the food chain; Reducing the phenomenon of food fraud; Resilient and sustainable agri-food system to ensure food and nutritional security; Prevention of infectious agents that pass from one species to another and can cross environmental barriers; Foods with superior nutritional characteristics for healthy/ personalized diets; Reduction of poor eating behaviours; Ensuring protein independence, diversifying protein sources and increasing the efficiency of their use; Precision nutrition along the food chain; Development and support of urban and peri-urban agriculture; Development of the agro-food industry in the rural area.

3.7 Sustainable, balanced and inclusive development of urban, rural and coastal areas:

Integrated solutions for smart cities; Reduction, recycling and recovery of municipal waste; Development of green infrastructure in the urban environment; Sustainable and smart rural development; Smart lifestyle, friendly to nature and adaptable to changes; Efficiency of energy use and integration of renewable resources in the built environment; Agroecology for sustainable, balanced and inclusive development; Reducing the impact of extreme events on the built environment in rural, coastal and urban areas using dedicated climate services. Sustainable development by integrating digitization and artificial intelligence in the built environment; The development of high-performance agriculture to the detriment of subsistence.

3.8 Innovative governance models that foster sustainability and resilience:

Solutions for involving society and multiple stakeholders in policy decision-making; Innovative models of governance through modelling and forecasting; Increasing the resilience of critical infrastructure, through monitoring, modelling, alarming and control; New business and consumption models, through innovation and digitization for sustainability and resilience; Decision support tools for SMEs in the agri-food sector; Supporting the integration of enterprises in global value chains, including through clusters; Assessing the extent to which current policies promote sustainability and resilience; Modelling the programming of local and regional development by operating at the territory scale.

4 Domain: Health (ASC); Health - prevention, diagnosis, and advanced treatment (DSIN)

4.1 A healthy life in rapidly changing society:

Proactive, predictive, personalized and participatory prevention (P4) in health; Prevention and rapid detection of emerging infectious diseases with pandemic potential; Knowing the causes of illness and the factors that influence health; Identifying the underlying mechanisms of mental disorders; Increasing the chances of a healthy life for children; Adopting a healthy lifestyle through education and modifying behavioural risk factors; Healthy and active aging.

4.2 Living and working in a health-promoting environment:

Ensuring optimal performance at work, in an ergonomic and stress-free context; Understanding the effects of telecommuting on productivity, monotony and employee health; Understanding the benefits of reorganizing the work schedule and reducing monotony at work; Identifying new ways to promote health and safety at work; Understanding and reducing the impact of air, water, soil and noise pollution; Understanding the impact of climate change on health and developing climate services dedicated to public health; Reduction of diseases among vulnerable populations due to favorable living environment; Access to adapted health services for those living/working in hazardous environments; Awareness of the importance of periodic health testing and new population health screening solutions;

Understanding the effects of moral stress at work on health; Identifying the health risks associated with emerging professions.

4.3 Managing disease and reducing its burden:

Prevention, early detection, treatment and maintenance of quality of life in cancer; Reducing the burden of cardio- and cerebrovascular diseases and their long-term implications; Surveillance of communicable diseases with high national incidence and nosocomial diseases; Prevention, early detection, treatment and maintenance of quality of life in chronic non-communicable diseases, including early prediction with the help of biomarkers; Promoting mental health, preventing and reducing the impact of neurodegenerative pathology, accompanied by cognitive decline; Reducing the burden of disease for the chronically ill and those on long-term treatment; Understanding the pathogenic mechanisms of diseases; Management of large volumes of diversified, quality clinical and biological data (with "data sharing"); Interoperability and standardization in the use of new technologies/methodologies.

4.4 Access to innovative, sustainable and high-quality healthcare:

Increasing the quality of medical services, through personalized medicine; Patient-centered medical system; Access to regenerative medicine services; Digital transformation of health and healthcare services; Ensuring access to health services for vulnerable people and those with special needs; Evaluating health costs and adopting an efficient financing system; Innovative solutions to improve health system resilience, including adaptation to climate change and extreme weather events; Validating and supporting the introduction of new therapeutic approaches into health services.

4.5 New tools, technologies and digital solutions for a healthy society:

New preventive health monitoring technologies; Development of medical bioengineering applications; Development of telemedicine; The use of artificial intelligence in medicine; Precision medicine; Personalized medicine; Regenerative medicine; Effective use of medical and molecular data in the system Romanian medical; Assistive technologies for people with vulnerabilities or special requirements; Increasing interoperability and economies of scale in the healthcare system.

4.6 Developing an innovative, sustainable and competitive healthcare industry:

Research, development and innovation will aim at: Ensuring a strategic autonomy in the field of essential medicines and local production of vaccines; Cost-effective solutions for the biomedical industry, integrating emerging technologies such as nanotechnologies, customized prostheses, bioinformatics, sensors and wearables; Development of medical technologies for active life; The ability to fight microorganisms with multiple drug resistance; Solutions for spa and medical recovery services; Solutions for the functional food and personalized nutrition services industry; Solutions for the development of medical tourism in Romania.

5 Domain: Culture, creativity, and inclusive society (ASC)

5.1 Consolidated democratic governance:

Increasing the transparency of public institutions and public administration in general; Increasing the understanding of governance, including at the level of vulnerable groups; Digital citizenship - the competent use of new technologies in the context of democratic citizenship; New approaches to generate and collect data on community issues; Development of functional mechanisms and tools for involvement, consultation of citizens; Improving participatory mechanisms by adopting some characteristics specific to games ("gamification"); Increasing civic participation in decision-making, with

a focus on vulnerable communities; Development of functional governance systems at the level of public services and processes; Reducing extremist attitude and radicalization directed against minorities; Knowledge of the contribution of national minorities to the development of Romanian society; Promotion of science in society; Promoting the role of science in the foundation of public policies; The development of a political class motivated by convictions.

5.2 Development of cultural heritage, arts and cultural and creative sectors:

New forms of education through culture; New transdisciplinary, integrative/holistic approaches to support the sustainable management of cultural heritage, the creation of new cultural products and tools for cultural management and entrepreneurship; Reducing the gap between artistic creativity and the socio-economic environment; Stimulating the development of language skills both in the mother tongue and in foreign languages; Increasing the understanding of common values for the mix: culture, heritage, tourism, economic development; Developing the sense of European identity and belonging; Maintaining cultural diversity; Development of art, design and intangible national heritage; Reducing the illicit traffic of cultural goods and risk management in cases of force majeure; The development of solutions regarding the integration of populations that do not keep up with the pace of technological changes; Recognition and development of heritage in transition; Realizing the connection between technical and artistic innovation, respectively social innovation.

5.3 Social and economic resilience:

Eradication of learning poverty, the major cause of underdevelopment of human capital; Identifying and creating effective tools in the development of disadvantaged young people; Creating a resilient society by combating the phenomena of "fake news" and pseudoscience; Basing decisions for solving transdisciplinary societal problems; Evaluation of the perspectives of social protection systems through the lens of demographic decline; Assessment of the long-term impact of fiscal policies and macroprudential analysis of systemic risks associated with climate change; Economic and social adaptation to the phenomena associated with globalization; Increasing economic and social resilience to random exogenous, disruptive; Adaptation of educational standards to the accelerated dynamics of the labour market; Understanding the impact of migration and labour mobility on economic and social resilience; Cultivating national identity and values in a European and universal context; Meritocratic system in the public sector.

5.4 Inclusive growth and reduction of vulnerabilities:

Increasing the quality of education and lifelong learning opportunities; Reducing poverty: Reducing social polarization (with all associated reasons: standard of living, education, health); Combating discrimination; Increasing equality of opportunity and treatment, including the gender dimension; Social integration of vulnerable people and children with special needs; Exploring / understanding the factors that contribute to citizens' well-being, such as social relationships, lifestyle, resilience under stress, physical and emotional health, work-life balance, connecting with nature, spirituality; Increasing employment, ensuring decent jobs for all; Access to culture and science; Development of tools and availability of evidence collection in relation to the implementation of public policies; New ways of developing entrepreneurial culture.

6 Domain: Civil security for society (ASC)

6.1 *Reducing losses caused by natural, accidental and man-made calamities:*

Increasing community resilience through information, education and engagement; Risk management associated with technological disasters; Preparation for multi-hazard events under conditions of accelerated climate change; Limiting the impact of extreme weather phenomena (storms, blizzards, tornadoes, extreme temperatures), by developing specific climate services; Reducing the impact of strong earthquakes, through correctly informed decisions, based on science; Reducing CBRNE (chemical, biological, radiological, nuclear and explosive) threats; Development of the flood risk management system; Prevention of laboratory accidents generating major biological risks; Combating the effects of drought periods and reducing desertification; Prevention and limitation of forest fires.

6.2 *Facilitating the mobility of passengers and the legal transport of goods, as well as the prevention of illicit trade, piracy and other criminal acts:*

Reducing the incidence of major road accidents; Limitation of illegal waste traffic; Early detection and stopping of human trafficking; Reducing the risk of a terrorist attack on passengers and in public spaces; Reduction of illegal traffic (including transit) of goods and raw materials; Limiting migrant smuggling and illegal immigration; Changing perceptions of immigration; Increasing the safety of modular transport; Optimizing road traffic.

6.3 *Managing crime and terrorism more effectively and improving the resilience and autonomy of physical and digital infrastructures:*

Reducing corruption in the public sector; Combating organized crime networks; Urban regeneration solutions to increase citizens' safety; Increasing the degree of trust of the population in law enforcement; Combating discrimination in law enforcement; Adapting society to the new hybrid security challenges; Evaluation of the impact of the use of artificial intelligence in collective security maintenance systems.

6.4 *Increasing cyber security and maintaining a safer online environment:*

Developing cyber security culture at individual and institutional level; Identifying inciting content from the online environment; Preparing for asymmetric cyber threats; Innovative models for attracting and training specialists in the field of cyber security; Development of cyber security standards in the public sector; Combating cyberbullying; Accountability of suppliers of digital products from the perspective of cyber security; Increasing the population's confidence in the security of data exchanges via the Internet; Reducing the impact of computer attacks on critical infrastructures; New methods to reduce online fraud.