Dutch Kidney Foundation
Call for Pre-proposals
Dutch Kidney Foundation – Health~Holland PPP Call 2024

Information Sheet 17 April 2024

Disclaimer
The execution of a DKF Call for proposals, selection of pre-proposals for full application and positive DKF grant award decisions are conditional on DKF revenues and budgetary means. DKF explicitly reserves the right to cancel an initiated Call for proposals, to suspend a running procedure or to lower a grant amount in relation to earlier statements.

This Call for pre-proposals is an initiative of the team Research, Innovation & Financing (OI&F) of the Dutch Kidney Foundation (DKF) and Health~Holland (Top Sector Life Sciences & Health). The advisory boards for this call are the International Scientific Advisory Board (ISAB) and Patiëntadviesraad Wetenschappelijk Onderzoek (PARWO). The DKF Program Committee (PC) is responsible for awarding decisions, Health~Holland will evaluate compliance with the PPP Innovation Subsidy regulation (part of the *Regeling nationale EZK- en LNV-subsidies*; see chapter 3 '*Innovatie en Ondernemerschap*' and title 3.2 *'PPS-innovatie'*).

1. Grant

The total available budget for the Dutch Kidney Foundation – Health~Holland PPP Call 2024 is **€1.400.000**. This amount consists of **€1.000.000 PPP Subsidy** that was granted to Health~Holland by the ministry of Economic Affairs and Climate, for the stimulation of Public-Private Partnerships, and **€400.000 in cash contribution** by the Dutch Kidney Foundation.

In this call for proposals **two** projects will be funded. Maximum available subsidy per application is:

- PPP Subsidy: €500.000
- In cash contribution (DKF): €200.000

To optimize the utilization of the available PPP Subsidy each project must use €500.000 PPP Subsidy.

Intended timeline	
Deadline Pre-proposals	12 June 2024
Invitation Full Proposals	July 2024
Deadline Full Proposals	1 November 2024
Presentation/Interview Assessment Committee	February 2025
Award or rejection letter	1 March 2025

2. Aim of the Dutch Kidney Foundation – Health~Holland PPP Call 2024

The Netherlands is among the top countries in the world in terms of scientific output and ratings of renal disease related research. The purpose of this call for proposals is to initiate new collaborations in the renal disease domain between leading scientists, upcoming talents, patients, care-professionals and private enterprises. These collaborations must be aimed at the exploitation of the available scientific excellence in developing specific solutions and products that impact the lives of (future) kidney patients or prevent kidney damage and disease. These collaborations will increase innovation and economic activity in the Netherlands thereby contributing to the aims of Health~Holland as formulated in the Knowledge & Innovation Agenda (KIA) 2024-2027 Health and Care.

The DKF supports innovation aimed at prevention of chronic kidney disease, including early detection and changes in lifestyle, and improved treatment of kidney patients that matches their personal situation (KIA Mission I). In addition, we strive for innovations that improve care in the personal living environment, enabling and improving participation of kidney patients, and their relatives, in society (KIA Missions II and III). The COVID-19 pandemic has shown that preparation for new, major healthcare threats is of the highest importance for kidney patients, namely those with a weakened immune system (KIA Mission V).

The Dutch Kidney Foundation – Health~Holland PPP Call 2024 aims at, but is not limited to, project proposals that involve the following key enabling technologies: *Life Science and Biotechnologies*, *Digital and Information Technologies (e.g. AI, Data science, data analytics and data spaces)*, *Engineering and fabrication technologies, and Chemical Technologies (e.g. separation technologies).*

3. Scope and grant conditions

The scope of this call for proposals should fit the following criteria:

- The topic of research fits within the social theme 'Health & Care', the central mission and at least one of the five focused missions that contribute to the central mission of this theme, as concretized in the Knowledge & Innovation Agenda (KIA) 2024-2027 Health and Care, and the objectives of the regulation.
- The goal of the Dutch Kidney Foundation – Health~Holland PPP Call 2024 is the acceleration of the translation of knowledge in the renal field towards relevant applications for kidney patients, their relatives, and risk groups for developing chronic kidney disease. For this reason the PPP-call is open to proposals that involve development starting at **Technology Readiness Level 4 (TRL4, Appendix A)**.

Grant conditions are non-negotiable. The DKF Grant Conditions (*Grant Conditions 1 January 2017*) apply to this call for proposals. In addition, the following special conditions for the PPP Innovation Subsidy regulation, apply:

- The main applicant is based in the Netherlands.
- The consortium consists of at least one for-profit enterprise and one research organization.[1] Foreign for-profit enterprises and research organizations are encouraged to participate in the consortium; as long as the results of the research project benefit the Dutch knowledge infrastructure and economy.

[1] Definition of research organization according to the Framework for State aid for research and development and innovation: 'research organization' means an entity (such as universities or research institutes, technology transfer agencies, innovation intermediaries, research-oriented physical or virtual collaborative entities), irrespective of its legal status (organized under public or private law) or way of financing, whose primary goal is to independently conduct fundamental research, industrial research or experimental development or to widely disseminate the results of such activities by way of teaching, publication or knowledge transfer. Where such entity also pursues economic activities, the financing, the costs and the revenues of those economic activities must be accounted for separately. Undertakings that can exert a decisive influence upon such an entity, for example in the quality of shareholders or members, may not enjoy a preferential access to the results generated by it.

- Effective collaboration takes place.[2] This means, among other things, that the project is carried out at joint cost and risk and that all consortium partners make a substantive contribution to the project.
- The project consists of fundamental research, industrial research or experimental development, or a combination thereof.[3] A description of the three types of research is given in section 8 of this document and in the application forms.
- The research is of high scientific quality.
- The project deliverables are innovative products and services that add social and economic value.
- All consortium partners should make an in kind contribution. This means, for example, that all consortium partners must incur payroll costs and that these costs are visible in the budget form (Excel, see also section 8.1).
- In addition to the aforementioned in kind contribution, it is possible to contribute in cash. If an enterprise contributes in cash, it is required to be an in cash contribution owed to the research organization in the Netherlands (and not to the project concerned).
- Consortium partners may not hire or compensate each other for services or products within the project. Consequently, consortium partners may not invoice each other. Third parties may be hired for services; they are not consortium partners.
- In principle, it is up to the enterprise(s) how they finance their own contribution. However, we strongly advise against creative constructions; improper use of PPP Subsidy by consortia must be prevented at all times, e.g. using PPP Subsidy and making an in cash contribution by the same party.
- If the consortium has received or will receive other public grants for the submitted project, for example from NWO, ZonMw, TNO, TTW or Health~Holland, the regulation regarding cumulation of different grants applies.[4]
- The project starts no later than 1 May 2025
- The project has a maximum duration of 48 months.
- Public-Private Projects must be new projects that have not been initiated before approval by DKF.

4. Deadline

The deadline for this call for pre-proposals is **Wednesday 12 June 2024**, 23:59h (submission in our grant management system MIDAS). The deadline for full applications is expected on Friday **1 November 2024**, 23:59h.

5. Who can apply?

PPP Subsidy applicants compose a consortium in which research organizations and for-profit enterprises, and preferably also relevant public organizations, while retaining their own identity and responsibility, jointly realize a project based on a clear and optimal division of tasks and risks. All consortium partners make an equitable financial and substantive contribution to the project. The consortium will provide a project coordinator (main applicant), who will be the contact person for the DKF and Health~Holland throughout the entire project.

All Public-Private Project consortia have to at least involve end-users, consisting of for example future development partners, nephrology experts and kidney patients, to ensure optimal alignment of the development and the envisaged end-product. Involvement can be as participant or as

[2] Definition of 'effective collaboration' according to the Framework for State aid for research and development and innovation: 'effective collaboration' means collaboration between at least two independent parties to exchange knowledge or technology, or to achieve a common objective based on the division of labor where the parties jointly define the scope of the collaborative project, contribute to its implementation and share its risks, as well as its results. One or several parties may bear the full costs of the project and thus relieve other parties of its financial risks. Contract research and provision of research services are not considered forms of collaboration.

[3] In case of drug development, pre-clinical research in animals falls within the research category 'industrial research'. In principle, clinical phases 1 and 2 fall within the research category 'experimental development'. Phase 3 clinical trials (and beyond) are seen as competitive development and fall outside the scope of the PPP Subsidy Regulation.

[4] The accumulation provisions are stated in Section 2, article 6, of the Framework Decision National Grants of the Ministry of Economic Affairs. The support limits with respect to the acquisition of PPP Subsidy are stated in article 3.2.5 of the Regulation National Grants of the Ministry of Economic Affairs and Climate Policy and Ministry of Agriculture, Nature and Food Quality

advisors to the consortium. The intended end-user involvement needs to be indicated in the pre-proposal. The involvement needs to be formalized at the full application.

The main applicant is a research organization. Any other party within the consortium is a co-applicant. The regulation is open to co-applicants from the Netherlands and abroad, including research organizations, for-profit enterprises and other private or public parties, as long as the research contributes to the Dutch knowledge infrastructure. Multiple companies, research organizations and additional parties may be affiliated with the consortium.

Since high potential to achieve impact on kidney disease lies in technological innovation, Dutch technical universities are encouraged to submit or collaborate in proposals.

We are well aware of the innovative potential that is vested in the early career scientists in the field. Therefore, we also specifically invite ambitious early career investigators to act as PI and submit a proposal. In that case the required experience to successfully lead a public-private collaboration has to be embedded in the project team and project advisors.

6. Priorities & Assessment

The Public-Private Project is relevant within the framework of missions and roadmaps of 'Beating Kidney Disease', the joint Dutch renal strategic agenda for research and innovation (developed by the DKF, Nierpatiënten Vereniging Nederland (NVN) and Nederlandse Federatie voor Nefrologie (NFN)), the Health~Holland Knowledge and Innovation Agenda 2024-2027 and the Nationale WetenschapsAgenda.

Applications will be evaluated by independent international reviewers, the International Scientific Advisory Board (ISAB) of the DKF and the Patientadviesraad Wetenschappelijk Onderzoek (PARWO) of the Dutch Kidney Patient Association (NVN). The advisory boards evaluate applications on scientific quality (1), impact and relevance (2), and feasibility (3) using the criteria listed below:

1. *Scientific quality criteria*

- The research is well described, and the goals of the project are clear;
- The work plan is worked out in sufficient detail, including timeline, milestones and deliverables. The work packages are clearly linked and well aligned with each other.
- It is clear when the project can be labeled "successful" and what criteria are used to do so.
- The planned activities to further develop, disseminate and implement the results from the proposed research (TRL9) are well thought out and described for the partners.
- If applicable, the number of subjects and/or laboratory animals are realistic and adequate.
- Data are properly handled within the project. Where possible, data is reused and new data is made reusable at the end of the project.

2. *Impact and relevance criteria*

- The project is innovative and provides new scientific insights.
- The project meets societal needs, and the societal importance is well substantiated.
- The economic impact and importance of the project is well described and this impact is of value to the Netherlands.
- The economic impact of the project for each consortium partner is well substantiated.
- The project aligns well with the Knowledge and Innovation Agenda 2024-2027 of the Top Sector Life Sciences & Health and herewith the contributions to the missions are well substantiated.
- Sufficient and proper attention has been paid to reducing health disparities as part of the central mission of the Dutch Ministry of Health, Welfare and Sport.
- Patients and/or end-users are sufficiently involved in the project and possible inclusion in any follow-up projects is also considered.

3. *Feasibility criteria*

- The consortium has the appropriate expertise, network, manpower, facilities and resources to ensure a successful outcome of the project. The different roles of the consortium partners are complementary and well defined and effective collaboration takes place.
- The risks of the project have been properly assessed and adequate consideration has been given to how these risks will be dealt with.
- The intended methods, with respect to feasibility, have been properly chosen and substantiated;
- The project's time schedule is realistic.
- The project's budget is realistic (including number of person-hours per organization, realistic costs of materials and equipment and realistic "costs due to third parties").

7. Agreements, Data sharing, Intellectual Property Rights and publication

To prevent unwanted surprises during the writing of the full proposal or drafting the consortium agreement, make sure that all participants are aware of the conditions related to this grant. This prevents situations like companies not willing to comply with the conditions regarding intellectual property. Therefore, it is highly recommended that section 7, describing the conditions for the Agreements, Data Sharing and IPR, is shared with all consortium partners at the pre-proposal stage.

Concerning agreements, data sharing and intellectual property rights, the following criteria apply:

- After a Public-Private Project Grant has been awarded, the participants must sign a Consortium Agreement between themselves. Use of the templates for the model Consortium Agreement, provided by the DKF, is mandatory. Any modifications in the model must be immediately recognizable.
- Public-Private Project participants must comply with the DKF Data Sharing Policy and FAIR data principles. Participants must strive for rapid and wide availability without restrictions of research data resulting from research funded by the Dutch Kidney Foundation – Health~Holland PPP Call 2024. Data availability may be delayed as a consequence of procedures for protection of intellectual property rights (IPR). A Data Management Plan is part of the Consortium Agreement, a template Data Management Plan will be made available.
- The consortium must reach agreements on the intellectual property (IP) related to the products and services developed in the project. These agreements are recorded in the Consortium Agreement. A 'first option right' is among the possibilities. Agreements on IP follow the Framework Regulation on State Aid for Research, Development and Innovation (specifically article 2.2.2.) and the PPP Innovation Regulation (Staatscourant October 20, 2023, 28651). These state, amongst other matters, that enterprises and other private partners that participate in the project may acquire the IP from the research organization for a market-based fee (minus the amount already invested by them) and that results from which no intellectual property rights can or will be derived may be widely disseminated.
- IPR protection is handled using ownership follows inventorship principles.
- Transfer of ownership of IPR has to take place according to market conditions and must be in compliance with the EU Framework for State aid for research and development and innovation and the PPP Innovation Subsidy regulation.
- Opportunities and plans for IPR protection resulting from the Public-Private Project research must be reported to the DKF.
- IPR management must be conducted in collaboration with the DKF and the IPR departments of the participating research institutes.
- The DKF will not develop an IPR portfolio.
- The DKF aims at maximizing the return to renal research from the revenues from IPR protection.
- The DKF may challenge planned IPR protection or patent usage that it considers to be inhibiting or restraining scientific endeavour, renal research or advances in renal patient care.
- Data and IPR management plans must be specified in the full grant application.

With respect to publication of results, the following guidelines apply:

- Consortium participants must timely report to the DKF any results that are of value for the communication of results of DKF projects: e.g. forthcoming publication in a prominent scientific journal, forthcoming publication of research results that have a high impact on patient care, etc.

- DKF encourages research groups to implement and follow the ARRIVE (Animal Research: Reporting of In Vivo Experiments) guidelines in the design and reporting of animal research to increase its reproducibility and quality.
- Open Access publishing is mandatory, preferably via the Gold Route which makes the final version of an article freely and permanently accessible for everyone, immediately after publication. More information can be found on openaccess.nl.

8. Budget requirements

The amount of PPP Subsidy that can be used to fund a specific activity depends on the research type of that activity:

> Fundamental research means experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any direct commercial application or use in view.
>
> Industrial research means the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes or services. It comprises the creation of components parts of complex systems, and may include the construction of prototypes in a laboratory environment or in an environment with simulated interfaces to existing systems as well as of pilot lines, when necessary for the industrial research and notably for generic technology validation.
>
> Experimental development means acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills with the aim of developing new or improved products, processes or services. This may also include, for example, activities aiming at the conceptual definition, planning and documentation of new products, processes or services. Experimental development may comprise prototyping, demonstrating, piloting, testing and validation of new or improved products, processes or services in environments representative of real life operating conditions where the primary objective is to make further technical improvements on products, processes or services that are not substantially set. This may include the development of a commercially usable prototype or pilot which is necessarily the final commercial product and which is too expensive to produce for it to be used only for demonstration and validation purposes. Experimental development does not include routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if those changes may represent improvements.

Research organizations, such as universities, UMCs, universities of applied sciences, TO2s, KNAW institutes and other organizations that meet the definition of research organization, may fund up to 70% of their own costs[5] with PPP Subsidy in the case of fundamental and industrial research. Research organizations may fund up to 60% of their own costs with PPP Subsidy in the case of experimental development. Dutch SMEs (for-profit and not-for-profit enterprises) may fund up to 60% of their own costs using PPP Subsidy to conduct fundamental and industrial research. Dutch SMEs may finance up to 40% of their own costs with PPP Subsidy to conduct experimental development.

Table 1A shows these maximums in more detail. A project can consist of a combination of the three types of research. Consortia are encouraged to jointly organize the activities and budget within the project, with both research organizations and enterprises contributing equally in terms of content to the project. In addition, Dutch SMEs are given an equal opportunity to apply for PPP funding for their R&D activities. Large enterprises (Dutch and foreign), foreign SMEs and Dutch and foreign other parties are not permitted to apply for PPP Subsidy; the expenses they incur should be equal to the in-kind contribution they provide.

[5] All eligible costs incurred by that particular partner, except any in-cash contributions.

Table 1A: Funding by type of research (Partner level)

Max % PPP Subsidy based on eligible costs partner	Fundamental and Industrial Research	Experimental development
Research organization	***70%***	***60%***
Dutch SME	***60%***	***40%***
Large enterprise, non-Dutch SME, Dutch and non-Dutch other parties	***0%***	***0%***

The percentages listed in Table 1A are percentages taken over the total costs of the organization in question.

Table 1B shows the minimum percentage of the **total project costs** that must be contributed by the research organization(s) and enterprise(s) in the project.

Table 1B: Minimal contributions (Project level)

Minimal contribution based on total project cost	Fundamental and Industrial Research	Experimental development
Research organization(s)	***Minimal 10%***	***Minimal 10%***
For profit and not-for-profit enterprises	***Minimal 15%***	***Minimal 30%***

The percentages listed in table 1B are percentages taken over the total project costs.

The research phase of each individual work package (WP) must be indicated in the proposal and in the budget sheet (full application). If a WP, in your opinion, contains several research phases, we advise to make a sub-division of the types of research in the WP (e.g. WP1a, 1b, etc.).

8.1. Calculating project costs

The total available budget for the Dutch Kidney Foundation – Health~Holland PPP Call 2024 is €1.400.000, consisting of €1.000.000 PPP Subsidy and €400.000 in cash contribution by the DKF. In this call for proposals two projects will be funded.

Maximum available grant per application:

- PPP Subsidy: €500.000
- In cash contribution (DKF): €200.000

To optimize the utilization of the available PPP Subsidy each project must use €500.000 PPP Subsidy.

The use of the specific budget form is mandatory for full applications in the Dutch Kidney Foundation – Health~Holland PPP Call 2024. We advise to use the budget form as a calculation tool for the pre-application. The budget form uses multiple built-in functions and redirects. Therefore, it is important to follow the instructions of the budget form (see the “Instructies” tab).

Eligible costs
Only those costs that are directly related to the R&D activities within the project (eligible costs) can be entered on the budget form. Examples include: scientific staff, technicians, support staff, consumables and the use of equipment specifically required for the project (depreciation system). Historical cost should be used when entering the cost of consumables. Entering commercial rates is not permitted.
For an explanation of the (calculation of) eligible costs see the Commission Regulation (EU) No. 651/2014 of June 17, 2014, Article 25 and the Framework Decision National EZK and LNV Grants, Chapter 4, Article 10-14.

Parties that do not use PPP Subsidy are not required to use one of the payroll costing systems prescribed by the Framework Decision on National EZK and LNV Grants. These parties may also use their own hourly rate. A condition is that the calculation of the costs takes place on the basis of a customary and verifiable method and is based on business principles and standards that are considered acceptable in society and that the participants in a collaborative project apply systematically. On the budget form, these parties should choose "fixed hourly rate" and adjust the standard hourly rate of EUR 60 to an hourly rate that is customary and verifiable for them.

Examples of ineligible costs
The following are examples of ineligible costs. Therefore, these costs should not be entered on the budget form*:*

- Applying for and maintaining patents (costs for patents purchased on arm's length terms from or licensed from outside sources are eligible);
- Auditor's statement;
- Benchfee (note: costs for consumables are eligible);
- Travel within the Netherlands;
- Support staff, not directly related to the R&D activities, such as: project controller, business developer, administrative officer;
- Preparation of a business case;
- Costs related to implementation of the developed innovation;
- Carrying out effectiveness studies (Health Technology Assessment, HTA);
- Overhead;
- Non-scientific dissemination. However, scientific dissemination, including attending a scientific congress or publishing a scientific article, is eligible*;*
- Project management tasks, not directly related to the specific R&D activities, such as: escalation to a steering committee, preparing a risk management model, preparing reports to meet funding obligations, administrative accountability. Project management tasks that do relate directly to the R&D activities (e.g. discussions with staff, analyzing technical risks, preparing research reports, preparing specifications) are eligible.

Costs attributable to third parties.
If some of the activities are subcontracted, those costs due to third parties can be allocated to the project and entered on the budget form. Care should be taken to ensure that the costs due to third parties are in proportion to the rest of the budget. Should this cost category be particularly high, this could influence and become part of the evaluation committee's assessment.

8.2. NOT permissible as co-funding

- Co-funding from direct or indirect (NWO, KNAW) government funding ('subsidiestapeling') is not allowed.
- Grants from other DKF calls for proposals cannot be used as cofunding.
- Discounts on (commercial) rates for materials, equipment and/or services, for example do not count as co-funding.
- Costs relating to overheads and/or participation in a user or advisory committee cannot be regarded as co-funding.

8.3. Letters of commitment (Only required with the full proposal!)

All participants must sign the pre-proposal before submission. Not fully-signed pre-proposals will not be considered eligible. If a pre-proposal is selected for full submission the consortium must supply letters of commitment of all participants with the full proposal. A template letter of commitment will be made available through the call website after invitations for full proposals have been sent out. Letters of commitment must be printed on the letter paper of the participant and signed by an authorized signatory.

9. Application and Assessment Procedure

The application and assessment procedure is as follows:

- The Dutch Kidney Foundation – Health~Holland PPP Call 2024 has a call for pre-proposals followed by full application upon invitation. Full application without pre-application is not admitted.
- Pre-proposals are assessed by the DKF on complying with the aims and conditions of the Dutch Kidney Foundation – Health~Holland PPP Call 2024.
- The ISAB advises the DKF on selecting pre-proposals for full application.
- The Program Committee (PC) of the DKF decides on the selection of preproposals to be invited for full application. Pre-proposals are either accepted for full application or rejected.
- Full proposals are reviewed by at least two scientific reviewers. The DKF strives to avoid any form of conflicts of interest in appointing reviewers.

- ISAB members will assess the application, and will prepare questions for rebuttal. *N.B.: There will be no written rebuttal. Replies to the reviewers comments and questions are expected to be provided during a presentation/interview session.*
- The review process of full applications includes a presentation by the applicant, followed by an interview session with the ISAB and patient representatives (PARWO). The ISAB assessment and questions raised in the reviews will be shared with applicants well in advance of the presentation/interview session.
- The ISAB provides a final advice with priority ranking to the DKF.
- The grant award decision by the DKF is communicated to the main applicant on **1 March 2025**.
- Pre-proposals and full proposals are written in English. The application form contains a section in Dutch for patient representatives. The presentation/interview session will be held in English.
- The deadline for this call for pre-proposals is **Wednesday 12 June 2024**, 23:59h (digital version only)
- Pre-application for the Dutch Kidney Foundation – Health~Holland PPP Call 2024 will take place via our grant management system MIDAS. Call documents necessary for the pre-application and a MIDAS user manual can be accessed through our website.

10. Monitoring and evaluation

Public-Private Projects are monitored by the ISAB and the DKF by means of annual progress reports and review meetings. In consultation with the consortium, the DKF schedules at least a mid-term and final review meeting during the project. Part of the annual progress report is a financial report in Health~Holland format. A positive decision by the DKF after the Midterm Review is explicitly required for continuation of the project.

The final report is accompanied by an auditor's report. The relevant forms and auditor's instructions will be distributed in a timely manner by the DKF. The cost of the auditor's report is non-fundable and will be borne by the organization the main applicant is affiliated to.

11. Information

More information can be found on our website. Considering the complexities of the PPP Subsidy regulations, we invite applicants to contact DKF Program and Project Support in case of any questions via research@nierstichting.nl or phone +31(0)35 697 8011.

Appendix A: Technology Readiness Levels

TRL	Definition
TRL 1	Basic principles observed
TRL 2	Technology concept formulated
TRL 3	Experimental proof of concept
TRL 4	Technology validated in lab
TRL 5	Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
TRL 6	Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
TRL 7	System prototype demonstration in operational environment
TRL 8	System complete and qualified
TRL 9	Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)