

TKI Life Sciences & Health

TKI LSH Organ-on-Chip Call for public private partnerships in 2025

Call for applications for PPP Innovation subsidy at the Top Sector Life Sciences & Health

1. Summary

The Top Sector Life Sciences & Health (LSH) promotes innovative research by (financially) supporting public-private partnerships (PPPs) in the LSH sector. With this Call, research organizations and companies are encouraged to collectively invest in research & development (R&D) with the aim of developing sustainable innovative products and services within the LSH sector. The Top Consortium Knowledge and Innovation (TKI) office is the executive body of the Top Sector LSH and can financially support a collaborative project by awarding PPP Subsidy.

For 2025, the Top Sector LSH has allocated a total of **€4.000.000 PPP Subsidy** for the **Organ-on-Chip Call**. This initiative is designed to further strengthen the Dutch innovation ecosystem in Organ-on-Chip (OoC) technology and promote the future implementation of OoC, with the aim of enhancing the Netherlands' economic competitiveness and delivering societal impact.

This call focuses on interdisciplinary public-private partnerships that build upon existing OoC models, with a primary focus on further development, validation and future application. Eligible OoC-technologies must be at a Technology Readiness Level (TRL) between 4 and 7. An interdisciplinary approach, integrating biological components (including human cells and tissues) with technological elements such as advanced chip platforms, microfluidics, photonics, automation and AI, is a key requirement.

To address the systematic under-representation of women in biomedical research, this call will place explicit emphasis on the applicability of the OoC models under development to female physiology. Currently, there is a prevailing tendency to employ male cells more frequently than female cells in organoid and OoC models¹. Although sex is a critical biological variable, many studies fail to report the sex of their cells or use exclusively male cells. Without correction, this practice perpetuates the systematic under-representation of women. Accordingly, projects funded under this call must be aimed at developing OoC models that demonstrably perform equally well and are representative of both male and female physiology, or models specifically tailored to female biology.

With a view to the future implementation of OoC technology, alignment with existing international standards (under development), such as relevant ISO norms or qualification methods², is a key principle within the OoC field. In instances where such standards have not yet been established, consortia are expected to contribute proactively to the development of qualification methods (including context of use) of their models (e.g. via NEN or EMA) in preparation for future adoption. A specific emphasis on early-stage collaboration with end users (including, but not limited to, pharmaceutical companies and CROs) is strongly encouraged, as this sector plays a pivotal role in the acceptance and scale-up of OoC models within industrial development pipelines. International collaboration, where appropriate and value-adding, is also permitted in this call.

The submission process of the Organ-on-Chip Call consist of the following two steps:

- **Step 1:** Submission of a pre-application (deadline **Friday, October 20, 2025**, CET 17:00) via tki@health-holland.com
- **Step 2:** Submission of a full application (deadline **Friday, November 28, 2025**, CET 17:00) via tki@health-holland.com

¹ Kouthouridis, S., Robson, E., Hartung, A., Raha, S., & Zhang, B. (2022). Se(XY) matters: The importance of incorporating sex in microphysiological models. *Trends in Biotechnology*, 40(11), 1284–1298.

² <https://www.cencenelec.eu/media/publication-july-2024-fg-ooc-roadmap.pdf>

Key requirements:

- The project's deliverables consist of innovative Organ-on-Chip products that deliver both societal and economic added value and contribute to the Netherlands' economic earning capacity. This will be accomplished through the further development of existing models, by means of substantial improvement and/or integration.
- The project will employ an interdisciplinary approach aimed at integrating biological components, including human cells and tissues, with technological elements such as advanced chip platforms, microfluidics, photonics, automation, and AI.
- The project focuses on the development of Organ-on-Chip models that demonstrably perform equally well for both male and female physiology, or that are specifically designed for female physiology. The model must not be exclusively or predominantly representative of male biological characteristics.
- The consortium consists of at least one for-profit enterprise and one research organization.
- The main applicant is a for-profit enterprise or research organization based in the Netherlands.
- The project is executed at joint cost and risk and all consortium partners contribute to the project substantially.
- The maximum duration of the project is **3,5 years (42 months)**.
- The project may apply for a minimum of **€500.000** and a maximum of **€1.000.000 PPP Subsidy**.
- The project consists of industrial research or experimental development, or a combination thereof.
- The research fits within the central mission and one of the five focused missions that contribute to the central mission as described in the [Knowledge and Innovation Agenda \(KIA\) 2024-2027](#) of Top Sector LSH.

It is mandatory to submit a pre-application by the deadline of Friday, **October 24, 2025 (CET 17:00)**. Only projects that have submitted such a pre-application are eligible to submit a full-application within this call.

The deadline for full applications is **November 28, 2025 (CET 17:00)**. Grants will be based on the following criteria in the application form

- Appropriateness within the PPP Innovation Regulation;
- Scientific quality;
- Feasibility;
- Added economic value;
- Societal Impact and relevance;
- Added value to the strategy of the Top Sector LSH.

In addition, leading up to the deadlines, consortia may request a personal meeting with a Health~Holland representative in order to solve consortium or application specific questions. These requests can be made up to three weeks prior to the deadline (November 28, 2025) by sending an email to tki@health-holland.com. Please include: "Request **Organ-on-Chip** Call application advice" in the subject line.

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2. Background information

2.1 Background Top Sector LSH

In 2011, the Dutch Cabinet at the time reformed business policy by launching the top sectors policy. The success of the top sector policy led the Rutte III administration to decide that the top sectors should act as a “tool” in the mission-driven top sector and innovation policy. Herein, four societal themes are defined, and consideration is given to key technologies and key methodologies, and societal earning potential. One of the societal themes is “Health & Care”.

Top Sector LSH promotes and facilitates public-private partnerships. The interdisciplinary collaboration from top scientific expertise is, after all, essential to achieve socially relevant and economically efficient innovations. To stimulate valorisation and talent development, the **Organ-on-Chip** Call was created. This call is executed by the Top Consortium Knowledge and Innovation (TKI) of the Top Sector LSH: TKI-LSH. TKI-LSH is registered at the Chamber of Commerce under the name ‘Stichting LSH-TKI’, but is better known as [Health~Holland](#) (branding name). The aforementioned arrangement falls within the framework of the PPP Innovation Regulation of the Ministry of Economic Affairs.

2.2 Background Organ-on-Chip and Health~Holland

Organ-on-Chip (OoC) is a highly promising technology with the potential to substantially contribute toward addressing global societal challenges. It is hypothesized that OoC-technology will significantly improve the predictive value of human responses. The technology is poised to play a central role in transforming the life sciences & health (LSH) sector and is expected to drive sustainable economic growth. Commissioned by the Dutch Ministry of Economic Affairs, a strategic partnership in the field of OoC has been established among Health~Holland, the Netherlands Enterprise Agency (RVO), and the Dutch embassy in Switzerland.

Within this collaboration, efforts are focused on:

- Accelerating innovation and implementation of OoC technologies.
- Improved and accelerated preclinical testing that will lead to cost reduction of medicines and minimizing animal studies.
- Improved therapeutic efficacy and patients’ quality of life.
- Economic growth via public-private partnerships and internationalisation.
- Strengthening the Netherlands’ geopolitical position as a pioneer in OoC (by creating synergies between Dutch and Swiss stakeholders).

The ultimate aim of this partnership is to position the Netherlands as an international **control point** for OoC technology. By forging bilateral, sustainable collaborations with Switzerland, the initiative will both improve the international competitive position as well as expand access to the Swiss and global pharmaceutical markets.

This specific PPP call, however, is primarily directed at the Dutch OoC-field, although international collaboration, with either Swiss or other foreign partners, to connect with international ecosystems and standards is permitted.

2.3 Context LSH-TKI Organ-on-Chip Call

Organ-on-Chip (OoC) is an advanced technology in which human cells are cultured *in vitro* on a micro-engineered chip to replicate the architecture and function of human tissues and organs at the micro-scale. These chips typically feature microfluidic channels through which culture medium flows continuously, thereby simulating blood or lymph circulation and providing a realistic physiological environment. The chip’s design and choice of materials enable three-dimensional cell growth, including multiple two-dimensional layers in separate compartments, and expose cells to mechanical and biochemical stimuli similar to those encountered *in vivo*.

OoC systems can also be equipped with supplementary modalities such as mechanical stretch, electrical stimulation via integrated electrodes, and embedded sensors that allow real-time monitoring of cellular behaviour. As a result, OoC offers a powerful platform for investigating disease mechanisms, assessing toxicity, and testing novel therapeutics in a human-specific model.

Considerable progress has already been made in developing liver, cardiac and vascular OoC models, and additional systems are currently under active development. OoC technology is expected to markedly enhance the predictive validity of human responses, leading to (1) faster and more efficient preclinical testing with associated cost savings, (2) improved therapeutic efficacy, thereby enhancing patients' quality of life, (3) a substantial reduction in the use of animal models, and (4) economic growth by facilitating accelerated innovation and valorisation of therapies. OoC is explicitly mentioned in the Netherlands' National Technology Strategy as a promising technology within the priority key-technology area 'Biomolecular and Cell Technologies'.

Standardisation and implementation of Organ-on-Chip

Despite the Netherlands' technological leadership, implementation of OoC remains behind, in part owing to the absence of a coordinated strategy for its efficient and accelerated deployment. Several initiatives are currently underway to standardise and validate OoC, among which the joint development of ISO standards, standard test-sets of reference compounds, and EMA approval are essential. To advance this standardisation, CEN-CENELEC's Organ-on-Chip Focus Group published an European roadmap in 2024 outlining the strategic steps toward harmonised OoC standards³. That roadmap surveys existing initiatives (such as ISO/TC 276, ASTM and NEN) and calls for collaboration among industry, academia, regulators and standardisation bodies. Likewise, the Netherlands Standardisation Institute (NEN) has, since 2022, been developing a national approach to OoC standards, working toward formal NEN specifications and pre-norms that can feed into broader European or ISO frameworks⁴.

The objective of the Organ-on-Chip Call 2025 is the translation of existing OoC models into practical applications. Emphasis is therefore placed on further development (TRL 4 to 7), with a focus on standardisation and validation against international benchmarks and future implementation, particularly within the pharmaceutical sector.

Interdisciplinary approach

By definition, Organ-on-Chip systems integrate biological and technological elements. Integration of biological components, such as human cells and tissues, with technological components, such as advanced chip technology, microfluidics, photonics, automation and AI is an important starting point in this⁵. Moreover, OoC systems hold considerable promise for application beyond the life sciences and health sector, extending into the food, cosmetics, and environmental industries. To successfully develop and implement these innovations in the various sectors, an intensive, interdisciplinary collaboration between different areas of expertise is crucial. In practice, however, such collaboration is not guaranteed and presents significant challenges, particularly because establishing a "common language" among different disciplines often proves to be a substantial barrier. Nonetheless, interdisciplinary cooperation is indispensable for effectively bringing OoC technologies to market. Furthermore, the active engagement of regulatory and standardisation bodies, such as the CBG, EMA, and normalisation-institutes such as NEN, is critically important to the pursuit of harmonised standards and the acceptance of these systems for preclinical applications^{6,7}.

Equal use of female and male cell models

To address the systematic under-representation of woman in biomedical research, there is explicit emphasis within this call on the applicability of the OoC models under development to female physiology. In preclinical research, it is common practice of employing male cells more frequently than female cells for organoids and OoC models⁸. Although sex is a critical biological variable, many studies either fail to report the sex of their cells or use exclusively male cells. This preference for male cells results in a limited representation of female physiology

³ <https://www.cencenelec.eu/media/publication-july-2024-fg-ooc-roadmap.pdf>

⁴ <https://www.nen.nl/nieuws/publicatie-organ-on-chip-roadmap-eerste-stap-op-weg-naar-iso-norm/>

⁵ Zhao, Y., Wang, E. Y., Lai, F. B. L., Cheung, K., & Radisic, M. (2023). Organs-on-a-chip: A union of tissue engineering and microfabrication. *Trends in Biotechnology*, 41(3), 410–424.

<https://doi.org/10.1016/j.tibtech.2022.12.018>

⁶ [Oprichting expertgroep Organ-on-Chip](#)

⁷ Edwards, M., Blanquie, O., & Ehmann, F. (2025). Insights into new approach methodology innovation: an EMA perspective. *Nature Reviews Drug Discovery*. <https://doi.org/10.1038/d41573-025-00052-8>

⁸ Kouthouridis, S., Robson, E., Hartung, A., Raha, S., & Zhang, B. (2022). Se(XY) matters: The importance of incorporating sex in microphysiological models. *Trends in Biotechnology*, 40(11), 1284–1298.

in research and carries significant implications for the development of therapies that are effective for both men and women and that are women specific. Ignoring these biological differences may lead to suboptimal treatments and increased risks for certain patient groups⁹. Unless corrective measures are taken, the systematic under-representation of women in medical research will persist.

Accordingly, projects funded under this call must aim to develop OoC-models that demonstrably perform equally well and are representative of both male and female physiology, or models specifically focused on female physiology. The models may not be designed to represent only, or predominantly male physiology; rather, they must be developed and validated in such a way that female biological characteristics are fully incorporated. This includes explicit consideration of sex-specific cellular responses, physiological variation, and differences in disease processes, in order to ensure the applicability and effectiveness of the model for both sexes.

2.4 Social theme 'Health & Care'

In the spring of 2019, the Ministry of Health, Welfare and Sport (VWS) established five missions for the social theme Health & Care. One central mission and four focused missions. The central mission focuses on living in good health longer, while reducing health disparities between people of high and low socioeconomic status. The other four missions contribute to this central mission through changes in the living environment, providing more care in the right place and better prospects for people with chronic diseases and dementia. The missions have a time horizon extending to 2040. In the fall of 2023, a fifth focused mission was added aimed at societally disruptive health threats. The [Knowledge and Innovation Agenda 2024-2027 \(KIA\)](#) describes the ambitions and goals on the health and care missions within the field of public-private partnerships. As lead party, the Top Sector LSH has prepared this KIA together with many public and private stakeholders. The process involves building on a powerful ecosystem of public-private partnerships that has been established in recent years. A large number of these stakeholders have committed themselves to the objectives of the KIA by means of in mind, in kind and in cash contributions to the Knowledge and Innovation Covenant (KIC).

2.5 Growth Markets for the Netherlands

In late 2023, Dialogic and SEO conducted a comprehensive analysis of promising growth markets for the Netherlands, commissioned by the Ministry of Economic Affairs. According to the Ministry, strategic investment in growth markets with significant future potential is crucial for fostering an innovative, sustainable, and robust Dutch economy. These targeted investments aim to strengthen the Netherlands' competitive advantages and economic resilience. Within the Life Sciences & Health (LSH) sector, specifically identified promising growth markets include medical technology and innovative, high-performance biotech molecules.

2.6 National Technology Strategy (NTS)

The National Technology Strategy (Ministry of Economic Affairs, 2024)¹⁰ outlines key elements of strategic technology policy, identifying ten priority key technologies in which Dutch academia and industry can significantly contribute and which are crucial for future developments. Medical applications are pivotal in advancing and commercializing nearly all these technologies. Within the Life Sciences & Health (LSH) sector, particularly relevant examples are:

- Biomolecular and Cell Technologies',
- Imaging Technologies;
- Artificial Intelligence and Data Science;

Although the additional seven key technologies are of value for the LSH-sector as well. Consequently, all public-private collaboration projects must align with and generate value for at least one prioritized key technology defined by the NTS. The additional seven key technologies are as followed:

⁹ Lee, S.K. (2018). Sex as an important biological variable in biomedical research. *BMB Reports*, 51(4), 167–173
en Westerlind, K.C. (2021). Sex differences in organ-on-a-chip studies. *Trends in Molecular Medicine*. [DOI: 10.1016/j.molmed.2021.07.004]

¹⁰ <https://www.rijksoverheid.nl/documenten/beleidsnotas/2024/01/19/de-nationale-technologiestrategie>

- Optical systems and integrated photonics;
- Quantum technologies;
- Process technology, including process intensification;
- Mechatronics and optomechatronics;
- Energy materials;
- Semiconductor technologies;
- Cybersecurity technologies;

2.7 Evaluation of health and care innovations.

This option is only applicable if the innovation falls under the MDR/IVDR and it is likely that the innovator/consortium will apply for CE marking in the future or already has CE marking.

Collaboration Health~Holland and Health Innovation Netherlands

Health~Holland believes it is vital to analyse the actual impact and possibilities for implementation of innovations, i.e. while these are still in the R&D phase. Performing such an analysis for MedTech innovations is complex and involves many stakeholders. Therefore, Health~Holland collaborates with [Health Innovation Netherlands](#) (HI-NL). HI-NL is an interdisciplinary infrastructure initiated by several prominent parties, including The National Health Care Institute, The Netherlands Federation of University Medical Centres, Health~Holland, and The Ministry of Health, Welfare and Sport. Through its activities, HI-NL facilitates an early, tailor-made dialogue ([Animation](#)) between innovators/entrepreneurs and all relevant stakeholders in the healthcare system, supporting and directing the development, evaluation, implementation, upscaling and reimbursement of promising and sustainable (health)care innovations for patients and citizens.

Insight into the innovation development path

The HI-NL innovation procedure provides innovators/entrepreneurs with expert support and multistakeholder advice about the development path of their specific innovation, tailored to the innovation type and development phase. The aim is to give innovators/entrepreneurs insight as early as possible into how their innovation will fit into the healthcare or prevention landscape and to provide them with concrete next steps for the further development path of their innovation. The HI-NL innovation procedure consists of four consecutive tailor-made phases:

- **The intake**, in which the fit, scope, direction and timing of the HI-NL innovation procedure is discussed. For scope and direction, examples are (not exhaustive): the intended claims, the target population, the strength of the current evidence and the required evidence, the comparison with the current standard in healthcare, the application and integration in the current healthcare context, CE, reimbursement, implementation and upscaling.
- Extensive **scoping & synthesis** of the innovation and its targeted context and setting by a team of health(care) innovation experts (a so-called case team) in collaboration with the innovator. This phase requires about 4 meetings (over a period of 8 weeks) between the case team and the innovator, which may also require some preparation time from the innovator/entrepreneur.
- A **Round Table session** with all relevant stakeholders (e.g. patient, medical specialist, health insurer, CE expert, policy makers etc.). In this phase, all relevant stakeholders in the healthcare domain that may play a role in the specific innovation are selected and brought together in the Round Table session to provide innovators with consensus advice about their innovation and necessary follow-up steps.
- Innovation guide; The gathered knowledge from the scoping & synthesis phase together with the multistakeholder advice is then compiled into a final comprehensive Innovation Guide and delivered to the innovator. The Innovation Guide is discussed through a close-out call and is a confidential document and the property of the innovator.

Which steps should the consortium undertake?

If the consortium is interested in learning more about HI-NL and the HI-NL innovation procedure and is considering including it as part of the project application, the consortium can contact [HI-NL](#) no later than three

weeks before the closing of the Call deadline. An intake interview will then be scheduled, in which HI-NL will explain the innovation procedure in more detail and how it could serve the innovation/project. Before the intake takes place, the consortium is requested to complete the [intake form](#), so that HI-NL will get insight into the current status of the innovation and its development (also in the context of the project application) and questions / desired topics. If, after contact with HI-NL, it appears that a HI-NL innovation procedure is of added value, this may be indicated on the Organ-on-Chip call application form. In addition, the IP holder may include an earmarked budget of € 32.275 (incl. VAT), covering the costs of the entire HI-NL innovation procedure, on the budget as part of the total requested PPP subsidy. This amount can be included under the heading “costs owed to third parties” together with the specification “HI-NL Innovation procedure”.

The evaluation committee will independently assess whether the HI-NL innovation procedure will be of value to the success of the application. After the application for PPP funding has been (conditionally) awarded the consortium will be asked to elaborate on the plans related to the HI-NL Innovation procedure in the application. The details of this elaboration will be included in the award letter.

Contact person HI-NL

HI-NL can be reached via the following e-mail address: info@healthinnovation.nl. More information about HI-NL can be found at www.healthinnovation.nl.

2.8 End user participation

Health~Holland encourages equitable collaboration with end users. For OoC-technology, this includes CRO's and biotech- and pharmaceutical companies. Therefore, it is important that equitable co-creation takes place during the project. Optimal co-creation occurs when a safe collaboration with the end user is achieved in which they are able to contribute to the project in an open, vulnerable, creative and solution-oriented manner. In doing so, researchers must be able to apply participation methods that establish this equitable and safe collaboration. To encourage equitable collaboration with end-users, specific questions regarding end-user participation are included in the application form (Section C.1 Societal Context and C.2 Participation of the end-user in development process).

3. Terms and conditions

3.1 Terms and conditions for the collaborative project

The application must meet a number of conditions. The terms and conditions for a collaborative project in this Organ-on-Chip Call are:

- The project's deliverables consist of innovative Organ-on-Chip products that deliver both societal and economic added value and contribute to the Netherlands' economic earning capacity. This will be accomplished through the further development of existing models, by means of substantial improvement and/or integration.
- The project will employ an interdisciplinary approach aimed at integrating biological components, including human cells and tissues, with technological elements such as advanced chip platforms, microfluidics, photonics, automation, and AI.
- The main applicant is a for-profit enterprise or research organization based in the Netherlands
- The consortium consists of at least one for-profit enterprise and one research organization¹¹. It is possible for foreign enterprises and research organisations to participate in the consortium, provided that the results of the research project benefit the Dutch knowledge infrastructure and economy.
- The project consists of industrial research or experimental development, or a combination thereof¹² with a TRL level between 4 and 7. A description of the type of research can be found in Appendix D of the application form. A more elaborate definition of the Technology Readiness Levels in OoC-research can be found in Appendix A of this document.
- The project focuses on the development of Organ-on-Chip models that demonstrably perform equally well for both male and female physiology, or that are specifically designed for female physiology. The model must not be exclusively or predominantly representative of male biological characteristics.
- The project contributes to one or more of ten priority key technologies from the National Technology Strategy (see section 2.6 or 5.2 of this document or Appendix F of the application form for more information).¹³
- The maximum duration of the project is **3,5 years (42 months)**.
- The project starts between **April 1st and August 1st, 2026**.
- The project may apply for a minimum of **€500.000** and a maximum of **€1.000.000 PPP Subsidy**.
- **Organ-on-Chip Call** specific versions of the application form, budget form and consortium agreement have been used. Outdated or other versions of these documents will not be accepted.

Additionally, the following general preconditions for PPP-projects apply:

- Effective collaboration takes place¹⁴. 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 research fits within the central mission and one of the five focused missions that contribute to the central mission as described in the [Knowledge and Innovation Agenda \(KIA\) 2024-2027](#) of Top Sector LSH.
- The project aligns closely with one or more of the Growth Markets¹⁵. Specific Growth Markets of focus are:
 - Medical technology;
 - Innovative and high value molecules in the Biotech sector.
- All consortium partners should make an *in kind* contribution. This means, for example, that all consortium partners must incur payroll costs and an *in kind* contribution and that these costs and contributions are visible in the budget form (Excel).

¹¹ For the definition of research organization, see Section 1.3 Definitions, Article (ff) of the [Framework on State Aid for Research, Development and Innovation](#).

¹² In the case of clinical drug research, preclinical research in animals is included in industrial research. Clinical phases 1 to 2 are covered by experimental development. Phase 3 (and beyond) clinical studies are considered competitive development and therefore not possible within the framework of the PPP Innovation.

¹³ <https://www.rijksoverheid.nl/documenten/beleidsnotas/2024/01/19/de-nationale-technologiestrategie>

¹⁴ For the definition of effective collaboration, see Section 1.3 Definitions, Article (h) of the [Framework on State Aid for Research, Development and Innovation](#).

¹⁵ <https://www.rijksoverheid.nl/documenten/rapporten/2023/12/05/dialogic-seo-groeimarkten-voor-nederland>

- In addition to the 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).
- Applying for PPP-Subsidy and making an in cash contribution by the same party is not permitted.
- 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 applies¹⁶.

3.2 Consortium composition

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 (also the main applicant), who will be Health~Holland's contact person throughout the entire project. The main applicant can either be a Dutch for-profit enterprise or research organisation. Any other party within the consortium is co-applicant. The regulation is open to research organizations, for-profit enterprises and other private or public parties as co-applicants. It's possible that multiple companies, research organizations and additional parties may be affiliated with the consortium.

It is also possible for foreign (non) for profit enterprises and research organisations to participate in the consortium, as long as the research contributes to the Dutch knowledge infrastructure and economy. In addition, it is important that the international cooperation has a clear added value. For example: when a foreign party is involved, it must be clear why the required knowledge and expertise is not available in the Netherlands.

3.3 Intellectual property policy

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 for State Aid for Research, Development and Innovation](#) (specifically article 2.2.2.) and the PPP Innovation Regulation ([Staatscourant October 20, 2023, 28651](#)). For this purpose, Health~Holland provides a model consortium agreement under with the consortium may choose from the following options:

Option A: Allocation of IP based on partner contribution

Under this option, the IP rights arising from the project ("Foreground") shall be allocated proportionately among the consortium members on the basis of:

- The substantive contribution of each partner (for example, which work package each partner undertakes);
- The financial contribution of each partner.

The consortium can adhere to this by using Article 8.4 of the consortium agreement template. This requires:

¹⁶ 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](#).

- A clear delineation of each partner's role, activities and contributed resources to be provided, ensuring the allocation of the Foreground is demonstrably proportional.
- If applicable, a parallel research agreement to be formulated conform Article 8.10 of the consortium agreement.

Option B: Market price for IP-rights

This option allows participating companies within the consortium to receive either a license or ownership on the research organisation's Foreground against a 'market price' (minus the amount already invested by them). Results from which no IP rights can be derived may be widely disseminated. Article 8.6, 8.7, 8.8 of the consortium agreement describe the right of the Industrial private partners to use their Option Right for:

- A license on the Foreground as held by the research organization(s);
- Ownership of the Foreground, in such event where allocation of such Foreground to the private company would not represent an adequate reflection of the contribution(s) made by such private company.

The model consortium agreement specific for the Organ-on-Chip Call has been made available via the website. In case the consortium uses an existing agreement, or a parallel research agreement drafted specifically for this project, the agreement should be included with the full application, deadline November 28th, 2025.

*Note: Use of the model consortium agreement made available for the **Organ-on-Chip** Call is mandatory. Only minor modifications to this template may be applied. Any modifications in the model must be immediately recognizable to Health~Holland.*

3.4 What amount of funding can be applied for?

The amount of funding that can be applied for is between €500.000,- and €1.000.000,- PPP-Subsidy. Within this call, Dutch research organisations and Dutch SME's are eligible to apply for funding. Details conditions for the allocation and use of the PPP subsidy vary according to the type of organization and are outlined below.

Dutch research organizations

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**¹⁷ with PPP subsidy in the case of industrial research. Research organizations may fund up to 60% of their **own costs** with PPP subsidy in the case of experimental development.

Dutch SMEs

Dutch SMEs (for-profit and not-for-profit enterprises¹⁸) may fund up to 60% of their **own costs** using PPP subsidy to conduct industrial research. Dutch SMEs may finance up to 40% of their **own costs** with PPP subsidy to conduct experimental development. If a Dutch SME wants to apply for the PPS subsidy, they must submit a signed '[verklaring geen onderneming in moeijkheden](#)' when submitting the application.

Other parties

Dutch large enterprises, Dutch *Ondernemingen in Moeijkheden (OIM)*¹⁹, Dutch other parties and all foreign parties are not eligible for PPP-funding.

Table 1.A shows these maximums in more detail. A project can consist of a combination of industrial research or experimental development. Health~Holland encourages consortia to jointly organize the activities and budget

¹⁷ All eligible costs incurred by that particular partner, except any in-cash contributions.

¹⁸ Each unit, irrespective of its legal form or manner of funding, that carries out an economic activity. See **Appendix A**: Definition of enterprise in the application form.

¹⁹ For the definition of *onderneming in moeijkheden* see Algemene Groepsvrijstellingsverordening (EG) nr. 651/2014, Pb L187/1 (hierna AGVV).

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.

Table 1.B shows the minimum percentage of the **total project costs** that must be contributed by the research organization(s) and enterprise(s) in the project. Section 5.1 provides two calculation examples applying the funding requirements to two different types of consortia.

Table 1.A: Funding by type of research

Partner level

Max % PPP subsidy based on eligible costs partner	Industrial research	Experimental development	Additional information
Dutch research Organisation	70%	60%	
Dutch SME*	60%	40%	'Verklaring geen onderneming in moeilijkheden' mandatory
Large enterprises, foreign SMEs, Dutch and foreign other parties	0%	0%	

**Enterprises in difficulties cannot apply for PPP Subsidy*

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

Table 1.B: Minimal contributions

Project level

Minimal contribution based on total project cost	Industrial research	Experimental development
Research organization(s)	min. 10%	min. 10%
For-profit and not-for-profit enterprise(s)	min. 15%	min. 30%

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

3.5 Calculating project costs

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 use PPP subsidy are obliged to use one of the payroll costing systems prescribed by the [Framework Decision on National EZK and LNV Grants](#). Parties that do not use PPP subsidy are not required to use one of the payroll costing systems prescribed by [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 €60 to an hourly rate that is customary and verifiable for them. Detachment of staff should be included in 'costs to third parties'.

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, analysing 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.

Subsidy stacking

If the consortium already receives or will receive other public subsidies for the project in question—such as from NWO, ZonMw, TNO, SIA, Health~Holland or other Top Sectors—the rules on the cumulation of aid measures shall apply. These are set forth in Paragraph 2, Article 6 of the *Framework Decision on National EZK and LNV Subsidies*. The maximum permissible aid when combining PPP funding is defined in Article 3.2 of the *National EZK and LNV Subsidy Regulation*. When multiple subsidies are used, care must always be taken not to exceed the allowable aid thresholds. If other funds have been applied for or granted for the same activities as those covered by the Organ-on-Chip application, this must be described under Question A.15 of the application form.

Instructions Budget Form

A specific budget form will be used within this **Organ-on-Chip** Call. The budget form uses multiple built-in functions and redirects, which should not be modified. Therefore, it is important to follow the instructions of the budget form (see the "Instructions" tab of the budget form).

3.7 Data management

Open access

Health~Holland believes that research results that are (partially) funded with PPP subsidy (public funds) should be freely accessible worldwide. All scientific publications of research funded by PPP subsidy should therefore immediately (at the time of publication) be freely accessible worldwide (open access). Via the website <http://www.openaccess.nl/nl/node/644> you can check whether your organization has made agreements with traditional publishers regarding open access. Among other things, this website provides an overview of over 8,000 journals in which corresponding authors from Dutch universities and UMCs can publish in open access for free or at a discount. Costs associated with open access publishing fall under eligible project costs.

FAIR

Health~Holland encourages optimal use of research data and therefore requires this data to be stored according to the [FAIR principles](#): findable, accessible, interoperable and reusable. This means that the data generated in the projects can be found, understood and used by both humans and machines. The process of making data FAIR is explained by the GoFAIR foundation in the [three-point FAIRification framework](#). Health~Holland plans to expand its policy regarding FAIR data management in the future and will increasingly monitor the FAIRness of data.

Data management plan

Health~Holland also wants to raise awareness among researchers about the importance of responsible data management. Applicants should therefore answer a number of questions on data management in the application form. After final approval of an application, applicants need to prepare a data management plan, using Health~Holland's template. Approval of the data management plan by Health~Holland is a condition for the provision of PPP subsidy.

4. Procedure

The submission process of the Organ-on-Chip Call consist of the following two steps:

- **Step 1:** Submission of a mandatory pre-application
- **Step 2:** Submission of a full application by invitation

4.1 Application procedure

4.1.1 mandatory pre-application – deadline **24 October 2025, CET 17:00**

The deadline for submitting a pre-application is **Friday, October 24th, 2025**, CET 17:00. Pre-registrations must be sent to tki@health-holland.com. The pre-registration will be used solely for administrative purposes and will not undergo substantive evaluation. Only the completeness of the submission, specifically the consortium composition and the amount of PPP-subsidy will be verified.

Please note: submission of a pre-application is mandatory to qualify for submitting a full application.

4.1.2 Full application – deadline **28 November 2025, CET 17:00**

The deadline for submitting the full application of **Friday, November 28th, 2025**, CET 17:00. Only PPP-Subsidy applications submitted using the TKI-LSH Organ-on-Chip application form will be considered. This form and all additional relevant documents are available for download via our [website](#). In addition to completing the application form, the project coordinator should include at least the following attachments:

- Specified Budget.
- Letters of commitment confirming per participant the commitment of co-financing and the amount of the in-kind and/or in-cash contribution by the parties, signed by an authorized person. The main applicant/project coordinator is not required to provide a letter of commitment. Letters of intent will not be accepted.
- Consortium Agreement. This should be an unsigned draft version, a blank format is not sufficient. The consortium is required to use the model consortium agreement made available by Health~Holland²⁰. Only non-essential changes and modifications that do not conflict with the Framework should be made to this model. When in doubt about changes, the consortium should consult an expert: e.g. the technology transfer office (TTO) of the research organization or a lawyer. If the project is awarded the signed consortium agreement should be submitted as soon as possible, but no later than 6 weeks after the grant letter.
- A signed 'Verklaring geen onderneming in moeilijkheden' for every company that applies for PPP Subsidy. Template to be downloaded [here](#).

Please note that outdated versions of the documents below will not be considered.

4.1.3 Eligibility of application.

Upon receipt of the application, it will be reviewed for eligibility by Health~Holland within two working days. This eligibility check will verify that the application meets the prerequisites according to Appendix I of the application form.

If the application is incomplete, the consortium will be given one working day to make the necessary adjustments and provide the requested information. If the application proves ineligible, this will be communicated to the applicants within two working days.

4.1.4 Evaluation of PPP subsidy applications

Eligible applications will be assessed by Health~Holland in accordance with the conditions as stated in Chapter 3. *Terms and conditions*. Applications that meet these conditions will, in addition, be assessed for content by an expert and independent evaluation committee. The evaluation committee may, if desired, engage one or more

²⁰ Please contact Health~Holland when an existing consortium agreement is already in place

independent referees. Both the evaluation committee members and referees must sign a confidentiality agreement before they are allowed to evaluate a PPP subsidy application.

The evaluation committee will advise the Board of Health~Holland on the appropriateness of the application within the PPP-Innovation regulation. The application will be assessed on:

- Appropriateness within the PPP-Innovation regulation
- Scientific quality
- Feasibility
- Economic impact
- Societal impact

The assessment weighs each criterion proportionately. Only the most relevant and most promising applications will be awarded.

The board will ultimately decide whether or not to award the application and the amount of PPP subsidy for the collaborative project in question. The applicant will receive the decision by letter no later than **March 1st**.

NOTE: When both necessary and desirable, applicants may request Health~Holland to sign a non-disclosure agreement.

4.1.5. Assessment criteria

The evaluation committee evaluates project applications on the content criteria listed below. The content criteria are divided into criteria on scientific quality, feasibility, economical value and societal impact.

1. Scientific quality criteria

- a) The research is well described, and the goals of the project are clear.
- b) The project is innovative and yields new insights that lead to significant improvements of an OoC-product (TRL 4-7). In doing so, the OoC-product must demonstrably distinguish itself from existing OoC-products.
- c) 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.
- d) It is clear when the project can be labelled 'successful' and what criteria are used to do so.

2. Feasibility criteria

- a) The project's risks have been thoroughly assessed, and appropriate strategies for managing and mitigation these risks have been defined.
- b) The intended methods, with respect to feasibility, have been properly chosen and substantiated.
- c) The project's time schedule is realistic and takes into account possible iterations and adjustments based on interim findings.
- d) The organ-on-chip model is design to be applicable to both male and female physiology or specifically to female physiology. Sex differences have been specifically addressed in the design, execution and validation, with due consideration for known technical challenges, including those associated with female hiPSC-lines.
- e) The project's budget is realistic (including number of man-hours per organization, realistic costs of materials and equipment and realistic "costs due to third parties").
- f) The consortium has the appropriate expertise, network, manpower, facilities and resources to ensure a successful outcome of the project.
- g) The different roles of the consortium partners are complementary and well defined and effective collaboration takes place.

3. Economic value criteria

- a) The economic value of the project for the Netherlands, as well as the project's significance in realising this economical value, are clearly described
- b) The market has been accurately addressed with respect to size, access, risks and competitors.

- c) The value creation for every partner and the project as a whole are clearly described.
- d) The project's competitive advantages are clearly described.
- e) The steps for advancing development towards market introduction (TRL 9) are sufficiently detailed and realistic, with due alignment to the OoC standards under development.

4. *Societal impact criteria*

- a) The project meets societal needs, and the societal importance is well substantiated.
- b) The end-user of the innovation is clearly described and this end-user is sufficiently involved in the planning and execution of the project.
- c) The target group of the innovation is clearly described and this end-user is sufficiently involved in the planning and execution of the project.
- d) The planned activities to disseminate the results are well thought out and described.
- e) 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.

4.2 Award procedure, monitoring and payments

4.2.1 After a PPP subsidy application has been awarded.

- The project coordinator/main applicant must deliver the Excel document "Sjabloon" no later than **6 weeks after the grant letter**.
- The project coordinator/main applicant must deliver an unsigned final consortium agreement agreed upon by all partners to Health~Holland for review no later than **6 weeks after the grant letter**.
- After Health~Holland approves the consortium agreement, the consortium will be given two weeks to have it signed by all partners.
- When the consortium agreement is fully signed and approved, Health~Holland drafts an implementation agreement (PPP Subsidy Agreement). The PPP Subsidy Agreement is a contract between Health~Holland and all consortium partners that defines, among other things, the rights and obligations as well as (financial) contributions of the various partners. This agreement is drawn up by Health~Holland and must be signed by all partners within four weeks.
- Together with the signed version of the PPP Subsidy Agreement a data management plan must be submitted. Health~Holland will review the data management plan as quickly as possible.
- Health~Holland publishes information of all awarded projects on the projects page of its website (<http://www.health-holland.com/project>). Together with the signed version of the PPP Subsidy Agreement, a completed project profile of the project according to Health~Holland's format must also be submitted.

Once Health~Holland has received and approved the signed PPP Subsidy Agreement, data management plan and project profile for the Health~Holland projects page, the first instalment of PPP subsidy will be paid. The subsequent payments will be made annually upon receipt and approval of a progress report and in the end a final report. Disbursements will be made to the institution where the project coordinator is employed; the project coordinator is responsible for any further financial distribution to the other consortium partners as well as the collective accountability for the utilization of the funding.

4.2.2 During the course of the project

- During the entire project period, a record of each employee's working hours should be kept.
- It is expected that RVO will request progress information of all ongoing PPP subsidy projects every calendar year. For this purpose, the project coordinator will receive an Excel form "request for information about project efforts" at the beginning of each calendar year. The primary purpose of this request is to inform the House of Representatives and the general public annually about the progress of the top sector policy within the area the TKIs are responsible for. This form will be completed in advance by Health~Holland and must be checked and completed by the consortium (costs realized over the previous calendar year). This may be subject to change.

- Within six weeks after each project year, the project coordinator needs to submit a progress report. The format for this will be provided by Health~Holland. If the project has a duration of less than 18 months, only a final report is required.
- The consortium is required to arrange a steering committee meeting each year. The project coordinator is required to notify Health~Holland of these meetings in order for a Health~Holland delegate to attend the meetings.

4.2.3 After the end date of a project

Within eight weeks after the end date of the project, the project coordinator must submit the following documents to Health~Holland:

- A final report (the format of this will be provided by Health~Holland).
- If a consortium partner has used no PPP subsidy or less than €125,000 PPP subsidy, a board statement must be submitted regarding the total project costs of that consortium partner.
- If a consortium partner has used €125,000 or more of PPP subsidy, an auditor's statement must be submitted regarding the total project costs of that consortium partner.
- An updated project profile including the results of the completed project.

The final PPP subsidy payment will take place when the aforementioned documents are received and approved by Health~Holland²¹.

4.3 Intended timeline

Publication Organ-on-Chip Call	Thursday June 26, 2025
Deadline mandatory pre-application	Friday October 24, 2025, CET 17:00
Deadline full application	Friday November 28, 2025, CET 17:00
Eligibility check	Within two weeks after the deadline of the pre-application
Assessment by the LSH Evaluation Committee	November 2025 – February 2026
Decision Board of Health~Holland	February 2026
Award or rejection letter	At last March 1 st , 2026
Submit final unsigned Consortium Agreement.	Within 6 weeks after the grant letter
Submit signed Consortium Agreement.	Within 2 weeks after approval final version by Health~Holland
Submit signed version PPP Subsidy Agreement	Within 4 weeks of receipt PPP Subsidy Agreement.
Latest start date project	August 1 st 2026

Please note that this schedule is subjected to change.

²¹ Please note that the documents required for the final report may be subject to change depending on any new requirements of RVO

5. More information

5.1 Calculation examples

Calculation example 1 – Research organisation and Dutch SME

This calculation example assumes a project consisting of industrial research

Consortium partners	Costs
Research organisation X	€ 600.000
Dutch SME Y	€ 400.000
Total	€ 1.000.000

Consortium partners	Max. % PPS-Subsidy	Max. € PPS-Subsidy
Research organisation X	70%	€ 420.000
Dutch SME Y	60%	€ 240.000
Total	66%	€ 660.000

*Percentage PPS-Subsidy is calculated over the total costs of the partners in question

Minimal required contributions	% of total cost*	Minimal contribution (€)
Research organization(s)	10%	€ 100.000
Enterprises (for-profit and non-profit).	15%	€ 150.000
Open amount to be freely funded based on cost and minimum required contribution	= €1.000.000 (cost) - €660.000 (max. PPS-subsidy) - €250.000 (min. contributions)	€ 90.000

* Percentages for minimal required contributions are calculated over the total cost of the project.

Financiering per partner

Consortium partners	Total cost	In kind	In cash	PPP subsidy
Research organisation X	€ 600.000	€ 180.000	€ 0	€ 420.000
Dutch SME Y	€ 400.000	€ 160.000	€ 0	€ 240.000
Totaal	€ 1.000.000	€ 340.000	€ 0	€ 660.000

In this example, the open amount to be freely funded is divided between the research organisation and SME, with both parties applying for the maximum amount of PPP-Subsidy.

Calculation example 2 - Consortium consisting of four parties

The calculation example assumes a project consisting entirely of industrial research.

Consortium partners	Costs
Research Organisation X	€ 500.000
Dutch SME Y	€ 250.000
Large Enterprise Z	€ 200.000
Hospital A	€ 50.000
Total	€ 1.000.000

Consortium partners	Max. % PPS-Subsidy*	Max. € PPS-Subsidy
Research Organisation X	70%	€ 350.000
Dutch SME Y	60%	€ 150.000
Large Enterprise Z	0%	€ 0
Hospital A	0%	€ 0
Total	50%	€ 500.000

*Percentage PPS-Subsidy is calculated over the total costs of the partners in question

Minimal required contributions	% of total cost*	Minimal contribution (€)
Research organisation	10%	€ 100.000
Enterprises (for-profit and non-profit)	15%	€ 150.000
Open amount to be freely funded based on cost and minimum required contribution	= €1.000.000 (costs) - €500.000 (max. PPS-Subsidy) - €250.000 (min. contribution)	€ 250.000

* Percentages for minimal required contributions are calculated over the total cost of the project.

Funding per partner

Consortium partners	Total costs	In kind	In cash	PPS-Subsidy
Research organisation X	€ 500.000	€ 125.000	(€ 25.000)*	€ 350.000
Dutch SME Y	€ 250.000	€ 100.000	€ 0	€ 150.000
Large enterprise Z	€ 200.000	€ 150.000	€ 50.000	€ 0
Hospital A	€ 50.000	€ 25.000	(€ 25.000)*	€ 0
Total	€ 1.000.000	€ 510.000	€ 50.000	€ 500.000

*The numbers in brackets mean that the partners receive private cash and use this cash to fund a part of their total costs. In this example, the in cash contribution by Large enterprise Z is divided between the research organisation and the hospital.

5.2 Nationale Technologie Strategie: Definitions key-technologies²²

Key technology	Definition (NTS)
Biomolecular & cell technologies	<i>Biomolecular and cell technologies</i> fall within the broader field of biotechnology, with a specific focus on molecules and cells. This key technology encompasses the mapping, measurement and utilisation of molecules such as DNA, RNA and proteins/metabolites. Sub-technologies include omics, gene editing, stem-cell technology and synthetic cell technology.
Imaging Technology	<i>Imaging technologies</i> involve the generation, acquisition, duplication, analysis, modification and visualisation of images (optical and non-optical). They encompass the entire imaging chain—requiring both hardware and software—and are widely applied in the medical sector, semiconductor industry, security domain, agriculture, manufacturing, transportation and aerospace.
Artificial Intelligence & Data	<i>Artificial Intelligence (AI)</i> is a systems technology aimed at enabling machine behaviour that resembles natural intelligence. <i>Data Science, Data Analytics & Data Spaces</i> encompasses all aspects of collecting, managing, unlocking, sharing, processing and analysing data using data-processing technologies to create value.
Optical Systems & integrated photonics	<i>Optical systems</i> are engineered systems designed to refract, reflect or manipulate light to fulfil specific optical functions (e.g., photon-based communications). <i>Integrated Photonics</i> is a technology that integrates multiple photonic functions—generation, modulation, detection, etc.—onto a single functional photonic chip.
Mechatronics & opto-mechatronics	<i>Mechatronics</i> concern the integrated design of mechanical systems and their control and regulation systems, combining mechanical engineering, physics, electrical engineering and ICT. <i>Opto-mechatronics</i> is described as the integration of optical technology into mechatronic systems. Opto-mechatronic solutions play a key role in semiconductor manufacturing, scientific instrumentation, 3D printing, medical devices, aerospace and robotics.
Semiconductor technologies (Microelectronics)	<i>Semiconductor technologies</i> cover semiconductor components and/or highly miniaturised electronic subsystems, and their integration into larger products and systems. This includes the fabrication, design, packaging and testing of semiconductor components, systems-on-chip that integrate multiple functions, and the development and construction of the machines required for these processes.
Quantum technologies	<i>Quantum technologies</i> exploit the dual nature of the smallest particles we know—such as photons, atoms and electrons—as well as analogous systems exhibiting quantum properties. They enable quantum computing, quantum communication and quantum sensing, providing solutions to complex challenges.
Cybersecurity technologies	<i>Cybersecurity technologies</i> focus on reducing digital risks and encompass measures to prevent damage or failure of digital systems, safeguarding the availability, integrity and confidentiality of data. They aim to prevent and detect cyber incidents, mitigate harm and facilitate recovery.
Process technologies, including process intensification	This key technology focuses on the optimal, stable and safe design of (green) chemical production processes. It covers scalability, heat integration, safety, optimal downstream processing, footprint minimisation and cost efficiency. Emphasis is placed on using sustainable feedstocks, reducing by-products and waste streams, and maximising their reuse.
Energy materials	<i>Energy materials</i> comprise all materials that enable the storage, transport, efficient capture and conversion of (sustainably generated) energy into other forms or carriers. They make an essential contribution to the energy and climate transition—for example, in wind turbines, batteries and electrolyzers

²² <https://www.kia-st.nl/kia-sleuteltechnologieen/nationale-technologiestrategie-nts>

5.3 Downloads

Documents to be completed can be found at [the website](#)

- Pre-application form Organ-on-Chip Health~Holland
- Application form Organ-on-Chip Health~Holland
- Budget form Organ-on-Chip Health~Holland
- Consortium Agreement – Standard
- Consortium Agreement – Clinical Studies
- [RVO - verklaring geen onderneming in moeilijkheden](#)
- Letter of Commitment – Dutch
- Letter of Commitment – English

Other necessary documents:

- [Mission document 2024-2027](#)
- [Knowledge and Innovation Agenda 2024-2027](#)
- [Knowledge and Innovation Covenant 2024-2027](#)
- [National Technology Strategy](#)
- [Growth Markets](#)

Relevant laws and regulations:

- [Definitions research and development from the EU Support Framework](#)
- [Framework for State aid for research and development and innovation](#)
- [Regulation National Grants of the Ministry of Economic Affairs and Climate Policy and Ministry of Agriculture, Nature and Food Quality](#)
- [Framework Decision National Grants of Ministry of Economic Affairs and Climate Policy and Ministry of Agriculture, Nature and Food Quality](#)
- [PPP-Innovation Regulation Government Gazette 20 October 2023](#)
- [Commission Regulation \(EU\) nr. 651/2014 of 17 June 2014](#)

5.4 Questions

For questions regarding the **Organ-on-Chip** call please contact tki@health-holland.com

5.5 Submission

Applications must be submitted to Health~Holland via tki@health-holland.com.

Appendix A: Guidelines Technology Readiness Levels in relation to type of research

Please note: The guidelines below are intended solely to support the determination of the research type associated with the application. Each application will be assessed individually to determine whether the proposed activities fall within the scope of industrial research and/or experimental development. The definitions of research types provided by RVO in Appendix D of the application form are decisive in the assessment.

Appendix A: Guidance on Technology Readiness Levels in relation to type of research				
Phase	TRL	Meaning	Phase within PPP-I regulation	Organ-on-Chip research - <u>per example</u>
Discovery phase	1	Fundamental research/concept and design	Fundamental research	Specification micro-environment, cell types, microfluidic layout
	2			Initial CAD-design
	3	Evaluation – <i>proof-of-concept</i>		Basic <i>in vitro</i> Proof-of-Concept setup to verify barrier functions and transport processes
Development phase	4	Implementation/ testing prototype	Industrial research	Prototype fabrication: Physical prototype with integrated basic sensors
	5	Validating prototype		Laboratory validation: Multiple cell donors; measurement of physiological parameters under flow conditions
	6	Demonstration in a relevant test environment		Optimisation: Refinement of extracellular matrix coatings and flow parameters; improved longevity and reproducibility
Demonstration phase	7	Demonstration in an operational environment	Experimental development	Preclinical evaluation: Validation using test-set reference compounds (and relevant human cells); simulation of pathological conditions
	8	Product is complete and operational	Outside of PPP-I regulation	Scale-up: Reproducibility testing across multiple laboratories; Development of standardised testing protocols
Deployment phase	9	Market introduction		Commercial scale-up and implementation