



Strategic Focus Area

**Personalized Health
and Related Technologies**

7th Call for Proposals for PHRT Projects: Technology Translation Projects (TechTrans Project)

January 15, 2022

In its strategic plan for the ETH Domain, the ETH Board defined “[Personalized Health and Related Technologies](#)” (PHRT) as one of its Strategic Focus Areas (SFA). PHRT is focused on core contributions by the ETH Domain institutions in the field of personalized health and personalized health technologies that are complementary to the efforts undertaken by other initiatives within the ETH Domain such as the SFA [Swiss Data Science Center \(SDSC\)](#) and programs outside the ETH Domain such as the [Swiss Personalized Health Network \(SPHN\)](#). An essential goal of PHRT is to put ETH Domain institutions in a position to most fruitfully collaborate with clinical (research) partners, including those from SPHN and from leading international programs. In addition, the PHRT aims to develop synergies with the SFA SDSC, e.g., through the development of computing infrastructure for managing and analyzing the large amounts of data required in personalized health or by the development of high-performance computing/data science technologies focused on health-related problems. The [Overview document](#) is an integral part of this call for proposals.

All faculty members and senior scientists employed at an institution of the ETH Domain, i.e., at Empa, EPFL, ETHZ, PSI, Eawag, or WSL, are eligible for PHRT funding. He/she will act as principal investigator (PI) and coordinate the consortium (if there is one).

Collaboration with “non-ETH Domain” scientists is highly recommended and desired, especially with clinical groups from universities, university hospitals, and clinical institutions. However, the ETH Board has ruled that PHRT funds can only be received from researchers of the ETH Domain and must be spent within ETH Domain institutions with a few well-defined exceptions. A contract must be set up to regulate the service for each exception. Therefore, such proposals must submit a total cost budget indicating which parts (research groups and activities) are funded from various funding sources (PHRT - ETH Domain, SPHN - universities, university hospitals, clinical institutions, own contributions, [IICT](#) of the SNSF, etc.). In particular cases, e.g. access to -omics or clinical data can be organized **as a clinical service** via the cost category “consumables” in the PHRT budget. Note: clinical services should be maximal 20% of the total PHRT budget. If they exceed 20%, a sound justification must be given.

Applicants are encouraged to submit project proposals that collaborate with the [Swiss Data Science Center \(SDSC\)](#).

PHRT intends to close the patient-research-patient cycle and show how ETH technologies/algorithms can be leveraged to support clinical decision-making. Therefore, the PHRT EC and international reviewing committee will emphasize the decision-making process for project funding on project plans, which go beyond the publication of the research results. Please describe in detail how your research plan and expected results can be leveraged together with clinicians at the interface to the clinic and patients. In case the project is designed and not yet at the level of making the transition to the clinic, the apparent path towards clinical implementation, including clinical partners for implementation must be described.

Furthermore, the generated data must follow [the FAIR principle](#), e.g., the data must be findable, accessible, interoperable, and re-usable with none or minimal human intervention. Here, PHRT expects an effort beyond the typical requirements of publication. Data lineage tracking, using community accepted data exchange formats, and the inclusion of meta-information for export/import into PHRT/SPHN data centers is expected. Please visit the PHRT website and/or contact the PHRT office for further information and guidance.

Typically, PH/PM research projects require various approvals (e.g., ethics) and/or **agreements** (e.g., Data Transfer and Use Agreement (DTUA)). To successfully continue the projects and receive continued funding from PHRT, all necessary documents **must be available and signed three months after the project start, and a copy must be submitted to the PHRT office**. In the case of missing permissions/documents, the project will be put on hold. An overview and templates for various agreements can be found on the [SPHN-DCC website](#). Please do not hesitate to contact the PHRT office for further guidance and clarifications.

1 Description of TechTrans Projects

Personalized medicine is evolving rapidly and depends heavily on technological developments. Research within the institutions of the ETH Domain presents a rich and diverse source of technological innovation with potential applications for personalized health. The application of emerging **technologies to support clinical decision-making, better diagnosis, or other means of advancing the translation of PM to the clinic** presents substantial hurdles in terms of robustness, performance benchmarking, scalability, validation in independent sample cohorts, and more. Frequently, emerging technologies show great potential for personalized health/medicine research, but their performance is not sufficiently tested or documented to allow application in a clinical setting. To harvest the richness of technological innovation in the ETH Domain institutions and to accelerate the development of selected technologies towards and into the clinical utility in the field of personalized health, PHRT is issuing a call for Technology Translation Projects (TechTrans Projects). In this context, the term “technology” is used broadly and is not limited to specific laboratory techniques or instruments. Examples include technical advances for the collection of quantitative phenotypic, clinical, or lifestyle data from populations or clinical cohorts; computational technologies for the integration of diverse data types; or technologies for the preservation of clinical samples for experimentation in the laboratory (iPS cells, organoids, etc.) – as long as their direct relevance for personalized medicine is demonstrated.

This call for proposals for PHRT TechTrans Projects is, therefore, aimed at bringing technologies developed in the institutions of the ETH Domain in the field of personalized health to direct clinical utility within the duration of the project period. It is expected that such “translation projects” build on substantial prior work, including proof-of-principle for the technological base of the project. Fundamentally new technologies are out of scope for this project category. Successful projects will need to demonstrate that the translated technology is capable of generating research results that have the properties (robustness, scalability, reproducibility) that make them directly relevant for clinical applications, that they provide clinical information, performance or solution previously not attainable, and that they are conceived to operate in the personalized medicine domain.

It is expected that after 3-4 years of successful Technology Translation Projects will have shown sufficient evidence that the technology and the resulting data could have an impact on clinical decision-making which, in turn, could trigger the decision to evaluate the technology/data within a formal clinical trial. In this respect, ETH Zurich just launched a new technology platform for clinical trials ([dTip](#)). Technology Translation Projects, which do not reach this maturity within the project duration, should evaluate to merge or contribute to ETH domain technology platforms, including the PHRT [technology platforms](#), in order to ensure the further development and sustainability of the technologies.

Technicalities:

Project duration	24 months PHRT funds must be used until December 31, 2025
PHRT funding (max.)	CHF 375'000 per year for personnel, equipment, consumables.
Principal investigator (PI)	Faculty members and senior scientists employed at an ETH Domain institution
Consortium	It is up to the PI to compose a consortium, its size, and composition. However, participation in a clinical group is mandatory.
Number of approved projects with this call	approx. 5
Letters of intent:	statements from clinicians and/or future customers (in the broader sense) are to be added

2 Documentation to be submitted

The TechTrans Project proposals are to be submitted using the official templates, which are available on the [PHRT website](#), consisting of three parts:

Part 1: **General** information

Part 2: **Scientific and technical** information

- a) Abstract (1 page)
 - b) International standing of applicants in their field of research (1 page)
 - c) Technology development plan: state of the art, description of prototype, key questions, methods, cooperation with clinics, and milestones (max 10 pages);
 - d) Data management (integration / implementation) plan, in particular explaining how to implement the FAIR principle (max 3 pages);
 - e) Clinical importance: explain the path to clinical implementation, intended use, possible hurdles, etc. (max 2 pages);
 - f) Description of expected outcome (specifically how and when the technology will be applicable in a clinical setting and how this will be demonstrated).
- Attachments:
 - CV and publication list for the past 5 years of the PI and all co-PIs
 - Letter(s) of intent
 - Potential reviewer (positive and negative list)
 - Relation to SPHN or PHRT projects approved in the first phase 2017-2020: please explain the relation of the proposal to approved projects if there are any.

Part 3: **Full cost budget** (using the PHRT financial form)

Submission Deadline

The deadline for the submission of PHRT TechTrans Project proposals in PDF format is **April 17, 2022**.

3 Selection criteria

The review board will evaluate the proposals according to the following criteria:

- Contribution to the progress of personalized medicine, including interoperability of generated data;
- Added technological and scientific value due to the interdisciplinarity of the proposal;
- Potential of the technology to be deployable in the clinic for the benefit of patients;
- Potential to learn new skills and methods for the postdoc fellow.

In addition to these criteria, the following standard scientific criteria will apply:

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| <ul style="list-style-type: none">• Feasibility of technology for personalized health/medicine• Scientific relevance of the proposal• Originality of the questions• Adequacy of the methodology• Scientific and technological track record of the applicants• Expertise of the applicants concerning the proposal | <ul style="list-style-type: none">• Excellence in personalized health/medicine• Suitability of the technology• Clinical implementation plan• Data integration plan• Cooperation with clinics/patients
• Expected outcome |
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