Institute for a Circular Society (i4CS)
Alliance TU/e, WUR, UU and UMCU

i4CS Seed Fund Call
Submission deadline October 15th, 2023, 6 PM CET

Terms and Conditions

Digital twinning, decision support systems and/or serious gaming for Circular Safe Hospitals (CSH)

With this seed call, the Institute for a Circular Society (i4CS) aims to facilitate cooperations between EWUU partners for developing digital twinning, decision support systems and/or serious gaming that can enhance circularity in hospital settings. We have reserved **€ 60.000,-** for **one seed project** to be granted.

Digital twinning, decision support systems and/or serious gaming hold particular significance in the context of circularity research. They provide powerful tools for simulating and optimizing processes and cycles where people use products, disposables, hardware components, food, water, materials and energy. By virtually modeling circular systems, digital twins can contribute to more informed decision-making, democratisation of access to knowledge, and using results in living labs or serious games with stakeholders and patients.

For this seed call, we ask applicants to submit a proposal that adresses research into digital twinning, decision support systems and/or serious gaming for enhancing circularity for at least one of the four lines of research we have defined within CSH, being:

- Circular alternatives for medical disposables
- Medication without harm – preventing waste and pollution
- Circular strategies for medical devices & procedures
- Future-proof patient diets: balancing nutrition and circularity

> ➔ *See https://circularsociety.ewuu.nl/research/circular-safe-hospitals/ for more information on these lines of research and the CSH seed money projects granted earlier.*

The seed call is designed to catalyze collaboration, foster interdisciplinary interactions, amplify transdisciplinary research for societal impact, and enhance the likelihood of success for EWUU partnering in (national and international) subsidy endeavors with often larger consortia. More specifically, the grant (seed fund) can be used for the following activities:

1. To support the **actual preparation of a larger grant application** related to Circular Safe Hospitals in the near future, typically within 1 year after start of your seed grant project, such as for NWO, NWA, Horizon Europe, LIFE or ZonMW.

2. Conducting necessary **research to perform the necessary groundwork for a larger grant application** at a later stage, typically within 2 years after start of your seed grant project.

In both cases, we expect your project team to **actively seek cooperation with relevant projects where EWUU partners already work together**. Most specifically, we expect your team to bridge to researchers involved in our recently granted 5 million euro NWO-NWA project [ESCH-R: Evidence-based Strategies to create Circular Hospitals: Applying the 10-Rs framework to healthcare](#), which has a work package on the simulation of material flows of consumables. Also, the project [REWIRE: Leveraging new collaborations for circular agriculture missions - a multilevel ecosystem approach](#) might offer interesting cooperation options, for instance concerning the topic of future-proof patient diets. Another meaningful interaction lies with our EWUU student assistants that are currently carrying out an inventarisation for developing a living-lab setting within UMC Utrecht. Furthermore, we expect you to present your plans and (intermediate) results at a number of relevant EWUU gatherings.

Background of this call

The i4CS is part of the strategic EWUU alliance that brings together the unique expertise of Eindhoven University of Technology, Wageningen University & Research, Utrecht University and the University Medical Centre Utrecht. This collaboration is unique in its approach to circular knowledge & innovation. i4CS serves as a navigator to scalable circular systems.

We promote research on two themes: Circular Safe Hospitals (CSH) and Urban-Rural Circularity (URC). This seed call falls onder the CSH theme, which explores how hospitals can become circular by 2050. The Dutch healthcare sector is responsible for 13% of the national footprint of material extraction and for 7% of the national emissions. As such, it is a major contributor to climate change, loss of biodiversity and pollution of water, air, and land which, controversially, all negatively impact human health and wellbeing. Also, the current dependency of health care on (critical) raw materials and complex and increasingly vulnerable supply chains is an increasing risk to the continuation of daily operations.

The Green Deal Sustainable Healthcare 3.0, signed in November 2022 by the national government and relevant parties in the health care sector, contains about 50 ambitions which aim to reduce to overall environmental impact of the health care sector and make it sustainable for the future. The overall goal of CSH is to make relevant and meaningful contributions towards reaching (some) of these goals. CSH aims to become an (inter)nationally recognized and leading collaboration in accelerating the transition to circular hospitals in 2050.

i4CS aims to work on digital twinning, decision support systems and/or serious gaming for both of its themes: Urban-Rural Circularity (URC) and Circular Safe Hospitals (CSH) . This seed call is devoted to accelerating such research for CSH. We plan to have a next seed grant round next year, with a deadline of 15 April 2024, with a larger overall budget where more seed projects in a broader range of topics can be granted.

Who can submit for the current seed call

- **Tenured or tenure track staff** of one of our EWUU home institutes can act as main applicant
- **At least three EWUU home institutes** have to be involved in the proposal. Tenured, tenure track and temporary staff (including post-docs) can act as co-applicant
- Staff members can be involved in a **maximum of 2 proposals** for this seed call, of which only one as main applicant.

What can the money be used for

The maximum duration of your seed grant project is 12 months. Your project should end no later than 31 December 2024.

Our basic line of thought is that the seed grant can be used for anything that helps your EWUU team in working towards a successful larger external grant proposal where the topic of digital

twinning, decision support systems and serious gaming for circular safe hospitals is addressed. The points below show usual kind of expenditures, but other, well motivated investments that are more creative or experimental are also possible.

To support the **actual preparation of a larger grant application,** what our seed fund can subsidize typically includes:
- Costs for consortium building and organizing stakeholder events
- Financing of grant writing support – either by compensating internal (support) staff for substantial writing activities that clearly go beyond regular duties, and/or by hiring an external consultant.

In case your project is about conducting necessary **preliminary research to perform the necessary groundwork for a later larger grant application,** what can be subsided typically includes:

- Salary of a postdoc, a (junior) researcher, student assistants, lab personnel
- Costs for materials, hardware or software directly needed in the project which cannot easily be already obtained through the regular (decentralized) support services of our home institutions
- Travel and accommodation costs directly associated with the proposed activity (for example, travel to match-making events as to pave the way for your later grant application).

The seed fund grant may, however, not be used for:
- Matching of funds in an external grant application
- Financing the extension of the contract of a PhD student

Review of proposals and next steps

All proposals will be review against the following three criteria, which have an equal weight:

Criterium 1: The **clarity on and potential for improvement of circularity** in and beyond a hospital setting that the development of the proposed innovation for digital twinning, decision support systems and serious gaming may bring about

> ➔ *See* https://circularsociety.ewuu.nl/about-us/vision/ *for examples of relevant frameworks and perspectives on circularity*

Criterium 2: the extent to which your seed grant project promotes a **unique, synergistic effort of scientific collaboration** across the EWUU institutions

Criterium 3: the **clarity, specificity and feasibility of your work plan and deliverables**

In case you go for the actual preparation of a larger grant application**,** this includes, but is not necessarily limited to:

- Your internal workflow in the team for timely preparation of draft (pre-) proposals
- The organization of an internal review process before submission. *If desirable, i4CS can help in finding relevant internal reviewers within EWUU right after the start of your seed money project*
- Your safeguarding of easily overlooked call-specific peculiarities, e.g. the early yet obligatory one page notification for NWO-KIC, months before the submission of the actual multi-page pre-proposal (and later full proposal)

In case your seed fund project entails research to perform the necessary groundwork for a later larger grant application this includes, but is not necessary limited to:

- How you will organize fruitful scientific cooperation between different disciplines within EWUU (you may find inspiration from https://ewuu.nl/en/research/unusual-collaborations/)
- Deliverables that show results on both content (lessons learnt about circularity in relation to digital twinning, decision support systems and/or serious gaming, especially for hospital settings) and process (lessons learnt about often new ways of scientific cooperations, which can inspire others). Types of deliverables are free (video, conference proceedings, social media, opinion piece in newspaper, master theses etc.) but should be specified
- A brief prospect on how you will reach out to societal partners and external funding schemes at a (probably but not necessarily) later stage

Review of proposals will be done by i4CS' steering group and staff (https://circularsociety.ewuu.nl/about-us/our-team/). We aim to finalize the review process within three weeks after the call deadline.

Contact

For questions concerning this Call for Proposals, please contact Sacha Tensen (S.Tensen@umcutrecht.nl) or Jurgen Ganzevles (j.h.ganzevles@tue.nl)