

InnoSuper

Innovation by Supervising

A Helmholtz Transfer Academy

Vanessa Leffler^{1,2}, Leonie Riemann^{1,2}, Jörn Krupa³, Schadi Neumann⁴, Anne Richter⁵ and Christian Cremer².

¹ these authors contributed equally to this work

² Forschungszentrum Jülich GmbH, 52425 Jülich

³ Helmholtz-Zentrum für Geoforschung, 14473 Potsdam

⁴ Karlsruher Institut für Technologie, 76131 Karlsruhe

⁵ Helmholtz-Zentrum Dresden-Rossendorf, 01328 Dresden

1. Introduction

InnoSuper – short for Innovation by Supervising – is a training program for supervisors. It aims to convey theoretical and practical knowledge on transfer and innovation, enabling supervisors to identify and support innovation-oriented activities within their research groups.

In 2022, the Helmholtz Association launched the Helmholtz Transfer Academies call to establish and expand innovation programmes and entrepreneurship education initiatives at the Helmholtz centres. The consortium – Forschungszentrum Jülich (FZJ), Helmholtz-Zentrum für Geoforschung (GFZ), Karlsruher Institut für Technologie (KIT) and Helmholtz-Zentrum Dresden-Rossendorf (HZDR) – saw this as an opportunity to turn the concept of InnoSuper into a fully developed program and pilot it. Following a successful proposal and grant approval, InnoSuper began in January 2023 with a one-year conceptual design phase. Two cycles – one in German and one in English – have since been completed and it is now time to share InnoSuper with all Helmholtz Centres.

This concept paper summarises the elements of InnoSuper, their content, the lessons learned from two successful cycles and how other centres can benefit from the InnoSuper concept.

2. Vision

The vision of InnoSuper is simple: empower supervisors¹ at the centres in the areas of innovation and transfer.

Innovation programs and entrepreneurship education initiatives typically focus on young scientists, such as PhD students and postdocs or researchers with a concrete project idea. Supervisors are – most of the time – neither. Their positions and experience range from late-stage postdocs to group leaders and their role in an innovation project is often advisory or supportive rather than direct contribution. And this is exactly why supervisors are so important for the innovation culture at the centres. They act as multipliers who encourage and empower their supervisees to engage in innovation-oriented activities. Moreover, due to their close connection with research projects, they are often best positioned to identify innovation potential. Supervisors are therefore essential in enhancing the transfer and innovation output of the centres.

InnoSuper is the tool designed to leverage this potential.

¹ Supervisors - as defined in InnoSuper - are researchers and other specialists that supervise e.g. young scientists or technicians. They can have a lateral or disciplinary leadership role. InnoSuper focus especially on day-to-day supervisors.

3. Supervisors: Challenges and Benefits

The first step in InnoSuper was to take a close look at the people who should ultimately participate in and benefit from the program: the supervisors. To develop the content and create the materials for the different elements of InnoSuper, the challenges and needs of the supervisors had to be identified and taken into consideration. A key element in this were the Stakeholder Workshops that the participating centres conducted with their supervisors, along with the development of personas and a user journey to optimize the user experience, as well as an in-depth look at possible incentives.

It quickly became clear that the motivation and interest in innovation and transfer, as well as in providing good supervision, are high. However, most supervisors have little to no knowledge or skills in the areas of innovation and transfer. The knowledge and skills they have are often self-taught, as training in many science fields only slowly starts to integrate the topics of innovation and transfer. This means that especially dealing with specialist terms in innovation and transfer is challenging. Furthermore, empowering their supervisees is difficult under these circumstances.

The second major challenge for supervisors is time. Their to-do lists are already tightly packed with research, supervision and teaching. Engaging in innovation-related activities or acquiring necessary knowledge and skills adds an extra burden. This is especially critical as the demand for innovation and transfer from outside the centres and therefore also from the management level increases – for both the supervisors and their supervisees. This demand also includes the increase of innovation-related questions and paragraphs in scientific proposals.

InnoSuper was designed with exactly these challenges in mind and the following learning goals and benefits have been integrated to address them:

- **Expand and build knowledge:** One of the main goals of InnoSuper is to equip the participants with solid knowledge about the terms and concepts of innovation and transfer. This enables them to navigate relevant sections and questions in scientific proposals more easily. A skill that extends to all other forms of innovation and transfer-related communication. The obtained knowledge makes in-depth research about topics easier and helps form arguments in discussions within the research group or with superiors.
- **Hands-on tools and methods:** Tools and methods are essential for the supervisors to integrate innovation and transfer into their own research activity but, more importantly, into their supervision. The tools and methods introduced in InnoSuper were chosen to empower supervisors to identify opportunities and foster innovation-oriented activities. Additionally, they can be easily applied by the participants after exploring them in the program.
- **Individual support:** The Stakeholder Workshops demonstrated that many supervisors already have concrete challenges and questions concerning innovation and transfer and that in many cases they are unaware of the support available from the innovation management at their centre. Therefore, InnoSuper includes a dedicated element where these questions and challenges can be discussed in a safe environment (ideally one-on-one) and participants receive initial guidance on possible solutions and next steps. This includes a subsequent contact with the innovation management. In addition, the offers of the innovation

management are introduced in the very first workshop to create a good knowledge basis of the support offers for the workshops.

- **Innovation and supervision:** The supervisors are motivated and ambitious when it comes to their supervision role. Demonstrating how innovation and transfer can benefit their supervisees and how innovation-oriented activities can be integrated into supervision, is a central part of InnoSuper. Another important aspect is equipping them with knowledge and arguments to convince their supervisees that innovation and transfer are beneficial for both a career outside and within academia.
- **Network:** Knowledge and experience have the most value when shared. InnoSuper integrates opportunities for the participants to grow their network, exchange challenges and learn from one another. This creates space for new ideas and strengthens an additional support system.
- **Time efficiency:** To account for the time constraints of supervisors, all elements of InnoSuper are designed to minimize the time needed for the program while still getting the maximum benefit. One of the main goals of InnoSuper is to combine knowledge with tools and methods to enable supervisors to integrate innovation and transfer into their daily work and supervision – saving time and easing their tight schedule a bit.

The consortium also identified helpful add-ons that were integrated into InnoSuper:

- *Clear communication:* the marketing of the program, as well as distributed information material, should be clear and precise. Short-term changes to dates should be avoided. Additionally, the material should clearly answer the question of “Why join InnoSuper?” and explain both what is expected from participants and what they can expect in return. This allows participants to plan ahead and manages expectations.
- *Funding opportunities:* an overview of the funding opportunities in innovation and transfer was compiled to make it easier for supervisors to navigate and gain orientation.
- *Factsheets:* Additional compact information and fact sheets were developed to provide key information, e.g. about intellectual property, making it easy to look up relevant details after the program. In the second cycle, one-pagers describing the methods introduced in the workshops were added.

4. Elements and Structure

InnoSuper consists of three main, complementary elements: E-Learning, Workshops and Coaching. The idea is to start with the fundamental terms and concepts of transfer and innovation (E-Learning), then proceed to the practical methods and tools to identify and start innovation projects (Workshops) before addressing individual challenges of the participants (Coaching). The program stretches over several weeks or months to give the participants time to reflect between the single components. An exemplary timeline for 2025 is shown in Figure 1.

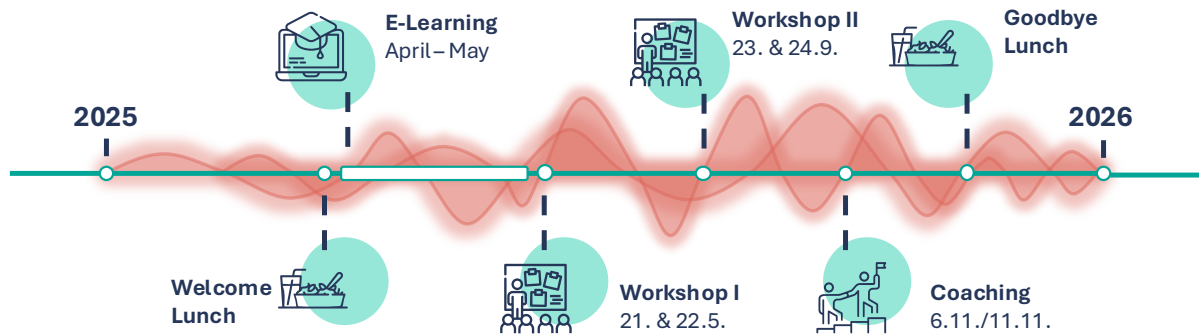


Figure 1: Exemplary timeline for the InnoSuper cycle in 2025.

Each cycle starts with a Welcome Lunch and ends with a Goodbye Lunch. These two elements are meant for networking and collecting expectations as well as feedback.

All elements are designed to work within a program implemented by four different Helmholtz Centers. Therefore, some components are individual for each participant, some elements are for all participants from one centre, and the workshops are for the participants of all centres. However, in a steady state, all elements can be easily implemented by a single centre.

4.1. Welcome Lunch

The Welcome Lunch is the soft start to the program. All participants of one centre meet in person and get to know each other and the coaches of their centre. This event aims to introduce the steps of InnoSuper, answer open questions and collect expectations.

4.2. E-Learning

The E-Learning aims to create a starting basis for the workshops. Participants who already have experience in innovation and transfer can refresh their knowledge and discover new terms and concepts, while participants with little to no experience receive an easy introduction. This ensures that all participants share a common understanding and wording for the workshops. Therefore, the E-learning aims to create an understanding of what innovation and transfer are and what is important to consider.

The E-Learning contains four case studies, with each highlighting a different innovation pathway. They are designed as different types of conversations between a supervisor and e.g. a founder or a radio announcer. The conversations include the most important facts and terms of innovation and transfer. The participants get to know these terms and concepts while at the same time getting an impression of what context they might be relevant in for them. Furthermore, the

E-Learning contains a more in-depth excursus on the different innovation pathways and comes with a glossary of the most important terms in innovation and transfer.

The participants can complete the E-Learning over the course of several weeks, location independent and at their own pace. It takes no longer than one or two hours, depending on prior experience in transfer and innovation and the participant's pace. The E-Learning is modular, so the participants can complete each module separately, which makes for further flexibility.

4.3. Workshops

The workshops aim to provide participants with a starting point for integrating innovation and transfer into their supervision and daily work. The workshops introduce the methods and tools needed for that and the participants gain first-hand experience with them immediately. Furthermore, the tools and methods introduced in the workshops are designed in such a way that participants can use them to reflect on themselves, but also to reflect together with their supervisees. All elements during the workshops refer to the supervision role of the participants. The methodologies are easy to "take away" and integrate into everyday work and supervision.

The first workshop includes the so-called Innovator's DNA, which encourages reflection on what participants want to achieve with transfer activities. To support this, a role model can be invited to the first day of the first workshop to give the participants a better insight into what innovation and transfer as a supervisor could look like. The second day of the first workshop focuses on innovation pathways. Here, the participants reflect on what types of innovation-oriented activities would be interesting and doable for them and their supervisees. At the end, the content of the workshop is recapped through a case study.

The second workshop consists of a simulation game in which participants develop a first draft for an innovation project based on the research of their supervisees. In groups, they address various elements of an innovation project, such as product, USP and target group. On the second day, the focus shifts to defining next steps. Participants create an action plan for one of their supervisees based on the supervisee's research, character and affinity for innovation and transfer. This serves as the starting point for actively incorporating innovation and transfer into their group.

The workshops are offered in a lunch-to-lunch format and a one-and-a-half-day format. To give participants time to reflect between the workshops, the program allows for an interval of several days or weeks. The workshops are held in person and bring together all participants from the centres, which adds an additional networking component.

4.4. Coaching

The third main element of InnoSuper is coaching. It takes place one-on-one between a participant and a coach of the innovation management of the respective centre and is scheduled for one hour.

The coaching aims to address open questions from the workshops and the E-Learning. Furthermore, it provides an opportunity to discuss individual challenges and projects of each participant. As E-Learning and the workshops are designed to be more general, the Coaching is also a good opportunity to dive into centre-specific information and offers.

4.5. Goodbye Lunch

Analogous to the Welcome Lunch, the Goodbye Lunch marks the soft end of the program. The participants of one centre, as well as the coaches, meet and reflect on the program. This event is particularly suitable for direct feedback.

5. Evaluation

For the duration of the funded project, InnoSuper was evaluated intensively to gather feedback on the individual components, their interactions and the program as a whole. The collected information was necessary to improve the elements and fine-tune the program. After the two cycles were completed in 2024 and 2025 and after the integration of the feedback, the evaluation was reduced to the most essential points. This allows the centres to still receive feedback and adjust if necessary without overburdening the participants.

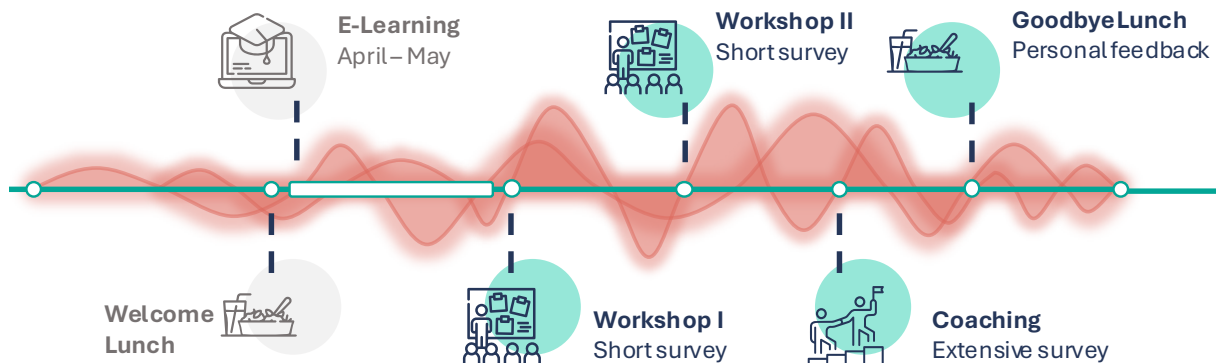


Figure 2: Evaluation concept for steady state.

Figure 2 shows an overview of the evaluation concept. There are three points at which the program is evaluated: after each workshop and after the last element of the entire program.

The evaluation after the workshops is very short and can be done at the end of the workshop. The aim here is to get direct feedback on how participants liked the workshop, what they appreciated and what they would like to see improved. Furthermore, the trainers should be briefly evaluated. In this way, the content of the workshops and the suitability for the supervisors can be tracked very well.

The evaluation of the entire program is longer and additionally contains marketing-relevant questions, feedback on the organization and questions focusing on the supervision role of the participants.

The Goodbye Lunch is a great opportunity to get personal feedback and collect testimonials.

6. Lessons learned from 2023 to 2025

The duration of the project was three years. The first year was dedicated to fine-tuning the concept and developing the contents for the different elements of InnoSuper in close consultation with supervisors. The first cycle was conducted in 2024 in German. The cycle held entirely in English followed in 2025. Thus, the participating centres look back on many lessons learned in InnoSuper. These are shared in the following.

- **Highly motivated participants:** The level of motivation and commitment throughout both cycles and the Stakeholder Workshops was very high. This resulted in lively discussions during the workshops, both in the working phases and in the input phases. The schedule was adjusted to accommodate this, meaning that more time is calculated for discussions.
- **Clear definition of supervisors:** Understanding the supervisors at one's own centre is essential for a successful implementation of InnoSuper and for a successful acquisition of participants. Each centre in the project first analysed who exactly is part of their supervisors and how they can be reached. It became clear that sometimes writing e-mails is a good way of communication, while directly addressing individuals was more suitable for other centres. Working with clear descriptions of the supervisor role, as well as the use of personas, proved immensely beneficial for marketing and reaching potential participants.
- **Diverse Innovation Pathways:** The participants showed great interest in the different opportunities within transfer and innovation. Many supervisors reported that only during the program they realized that innovation is about more than start-ups and that some of them are already doing transfer.
- **Importance of supervision:** The participants stressed that their role as supervisors is very important to them and that innovation and transfer should have a benefit for their supervisees. The program was adapted to further highlight the connection between innovation and supervision, and the work phases were developed so that the methods could be practiced directly in the role of supervisor for everyday work. In addition, supporting materials were developed for participants to use after the workshops.
- **Networking:** Participants reported that networking with other supervisors was a great benefit. The steady-state of InnoSuper was designed to continue providing ample opportunities for networking.
- **Advantages of the English implementation:** After one cycle each in English and German, it became clear that conducting the program in English is the better choice. It enables more scientists to participate as the scientific community in most Helmholtz centres is international. Many supervisors stated that even though they speak German, they feel more comfortable with an English program.
- **Evaluation:** It is important to evaluate new formats to optimize them and adapt them to the participants' needs during implementation. However, extensive evaluation questionnaires and effectiveness tests are strenuous for participants and very time-consuming to carry out and evaluate. Thus, for the steady-state, timely evaluations using the easily comparable NPS score, supplemented by optional free-text responses, are recommended.
- **Introduction of innovation management offers:** To give the participants a good overview of the available support offers at their centres, the coaches briefly introduced their innovation

departments at the beginning of one of the workshops. This was well received and greatly enhanced the visibility of the contact persons and the services in general.

- **Learning from each other:** The centres participating in the project all brought in different strengths for designing and developing InnoSuper. This was of great value for the program. Thus, a continued exchange after the program has been planned.

7. How to get started with InnoSuper

The last step of the HGF-funded project that brought InnoSuper to life is to make the program available to all Helmholtz centres. To achieve this, the participating centres have developed a set of materials (including this concept paper) that all other Helmholtz centres are welcome to use. The contact information for this is available on the website (www.innosuper.de). Furthermore, the concept for the steady-state contains two general options for how to implement InnoSuper at your own centre: start a cycle yourself or join another centre's cycle.

The materials

- The concept paper
- A SCORM file of the E-Learning module, which can easily be integrated into any learning management system
- The slides for both workshops
- Guiding questions for the coaching
- One-pagers describing the workshop methods
- Materials for recruiting participants
- Evaluation questions

Starting a cycle at a Helmholtz centre

Using the materials, each Helmholtz centre can start its own InnoSuper cycle. The contacts listed on the website can help with any questions about InnoSuper, the materials or lessons learned from the cycles of (at least) 2024 and 2025.

Joining the cycle of another centre

FZJ, GFZ, KIT and HZDR plan to continue InnoSuper in their centres. Other Helmholtz centres are welcome to send participants to join the program at these centres. The contacts listed on the website provide more information about the conditions at each centre.

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