

DCitizens Fostering Digital Civics Research and Innovation in Lisbon

DELIVERABLE 3.1: ESR Training Programme

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D3.1: ESR Training Programme

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Executive Summary

The DCitizens project strives to make scientific research and knowledge fruitful for the development of municipal and local citizen projects. A central aspect of this is the training of early stage researchers (ESR). In Lisbon in particular, the project aims to enable these ESRs to organise future municipal exchange projects between universities and civil society.

In DCitizens, several work packages are interlinked: staff exchange and transfer, summer schools and lecture series, project management trainings, and this ESR training programme.

This report presents the training measures envisaged in work package 3 over the duration of the project. The focus is not on individual training for basic academic skills and personal career planning, but instead on in-depth, practice-oriented experiences of cooperation between higher education and local communities. The challenge here is to transfer knowledge gained in the local context to other local contexts.

Work package 3 aims to provide very practice-oriented and methodological basic knowledge based on local, successful examples that help to build local research and development infrastructures for municipal communities and civil society.

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1 Introduction

This document presents the Early Stage Researcher (ESR) Training Programme as part of WP3: Enhancing the scientific profile of ESR include scientific internships, short-term exchanges, support for conference participation, and training courses.

It is specifically targeted at (mainly Portuguese) ESR, and its goal is to promote the research potential of PhD students and final-year MSc students. DCitizens will support participation in international conferences, networking activities, and training to create opportunities for external mentoring/co-supervising activities and international collaborations.

Moreover, the training programme aims to enhance and facilitate ESRs' methodological and conceptual skills to set up and provide participatory, local community projects in Lisbon. Based on experiences with well-established local community projects in Germany, the University of Siegen will open local Labs and research infrastructures for ESR to transfer good practice examples to the community of Lisbon.

The University of Siegen is a leading research institution on community-based research, particularly in conducting research embedded within real-world communities through participatory design and action research methods.

The training programme for ESR comprises interlinked and interrelated measures at all four partners: summer School, lecture series (WP2, UNorthumbria), management training (WP5, IIT), and the training programme for ESR are interlinked and complement each other. Learning objectives and measures are coordinated and increasingly detailed. The entire training programme is built on two pillars: locally conducted, physical on-campus measures as well as ongoing online teaching and learning opportunities.

1.1 Training Objectives

In cooperation with the other partners, the ESR training aims to harnessing local knowledge for transfer to other community contexts, following a socio-technical development perspective. The international academic partners are understood not primarily as service providers but more as empowerment facilitators by opening opportunities and give access to co-designing socio-technical, enabling infrastructures and good practice examples (PraxLabs, FabLab and computer clubs) – for transfer of methods and experiences.

Besides basic academic skills (e.g., how to write a paper, how to publish in international conferences/journals, how to polish CHI submissions, how to do successful PhD research, how to write funding proposals, how to do a good presentation etc.), the ESR training programme focuses on very practice-based,

hands-on training measures for transfer of methodological, conceptual and theoretical basics (e.g., grounded design, Design Case Studies, (Participatory) Action Research, Participatory design etc.).

2 Schedule of Training Measures

The ESR training programme is aligned to other project activities and work packages: the staff exchange programme (WP1), we will invite ESR to visit the Twinning partners for up to 3 weeks. The goal is mainly two-fold: first, an opportunity for ESR to share their work and network with an international audience; second, promote joint projects between ESR and other researchers that can impact ITI. ESR will also participate in DCitizens activities, such as project meetings and lab retreats, and contribute to joint events.

During the exchange programme (WP1) and lab retreats, we will offer short courses for ESRs covering a wide range of non-scientific topics but critical to ESR careers. The topics will include soft-skills and career development (USiegen, IIT); Scientific writing and communication (USiegen, ITI); Intellectual property (ITI). Furthermore, the ESR training focuses on practice-based, hands-on training measures for transfer of methodological, conceptual and theoretical basics for cooperation projects and mutual learning infrastructures between academic research institutions and local civil society.

Whenever possible, all materials will be made available.

2.1 On-Campus Events

In July 2023, a Summer School for Early Stage Researchers will take place in Lisbon (organized by UNorthumbria and IST-ID). This event will also be used to gather detailed requirements for the training programme. The insights gained here will be used as needs assessment for the detailed planning of the training measures for the upcoming seminar and training offers. Furthermore, it is planned to set up ESR projects during the summer school, which will be worked on in teams and the results of which will be taken up in the further training measures.

Within the framework of the local project offers of the University of Siegen, methodological and organisational knowledge is to be imparted, which will enable Portuguese ESRs in particular to realise similar offers for local communities in Lisbon. Participants will gain insights into the daily research and development practice, structures, management, processes and organisation of these projects, which are designed as local enabling infrastructures.

Further ESR training events will take place at the partner universities in Newcastle and Genova during the project period. Three condensed on-campus trainings are planned

over the project duration, which build on each other. In the course of these training measures, needs assessment and requirements analyses will take place on an ongoing basis, which will be used for the detailed partial planning of the further training measures.

July 2023	Lisbon Summer School – needs assessment: Structured enquiry in advance about concrete needs, detailed planning of the ESR training programme following up, based on the results
Oct/Nov 2023	ESR Training Siegen: Homework for preparation, practical group work with Siegen students, site visits in local community projects (PraxLabs, FabLab, Come_In computer club), workshops
Oct/Nov 2024	ESR Training ITI – Follow-up training, academic skills, R&D management, career planning and technical skills
Oct/Nov 2025	ESR Training UNorthumbria – Continuing training measures and project/team work, local community projects, site visits and workshops

Table 1. ESR training events.

In addition to the exchange programme and the on-campus training events, it is planned to offer online training and online seminars on an ongoing basis.

2.2 Online-Lectures and Training

At the University of Siegen, training programmes for ESR are offered, organised by the House on Young Talents (HYT) to train scientific soft skills: scientific writing, proposal writing, project management publications and scientific presentation. In close coordination with the project partner IIT, which also offers soft skills training, an ongoing training programme is organised here. This can be conducted offline on campus (2 to 3 days) or online as a series of training events (half or full day).

In addition, it is planned to make training materials continuously available online. These materials can be made available by all participating universities and enable intensive self-learning phases. The teaching and online presentation of these materials is based on the requirements analysis and the teaching and learning objectives, which have become increasingly precise over the course of the project.

2.3 Related Deliverables

In WP3 there are three deliverables projected:

Deliverable	Month	Content
ESR Programme	6	Planning report on ESR activities
Activities for ESR and joint events organisation - first part	18	Mid-term report on ESR activities
Activities for ESR and joint events organisation - second part	36	Final report on ESR activities and news on the website

Table 2. ESR training deliverables.

3 ESR Training Measures and Modules

As already mentioned, the exchange, transfer, and training programmes in the DCitizens project interlock. In close coordination with work packages 2 and 5, the ESR training programme offers modules for basic academics and soft skills as well as specialised learning modules for the transfer of experiences from local, community-oriented projects.

3.1 Basics: Scientific Skills and Transfer/Exchange

In Siegen, the House of Young Talents (HYT) offers ongoing training in academic and soft skills and career planning for young scientists. These training modules can be used in close coordination with the other project partners to complement their offers. The training modules are available both on-campus and online as teleteaching offers.

The HYT modules include basic scientific skills like Publication and Communication Skills, Project and Proposal Management, Career Planning for young (esp. female) Scientists and more – on demand. These modules must be very closely coordinated with the course modules and seminars of other partners: scientific writing, publishing, and communication capabilities, project and proposal management skills (cf. WP5, Deliverable 5.1).

3.2 Lab Site Visits and Local Participatory Community Projects

One main goal of the ESR training programme is to improve methodological and conceptual skills to set up and provide participatory, local community projects in Lisbon. Based on experiences with well-established local community projects in Germany, the University of Siegen will open local Labs and research infrastructures for ESR to transfer good practice examples to the community of Lisbon.

Come_IN Computer Clubs

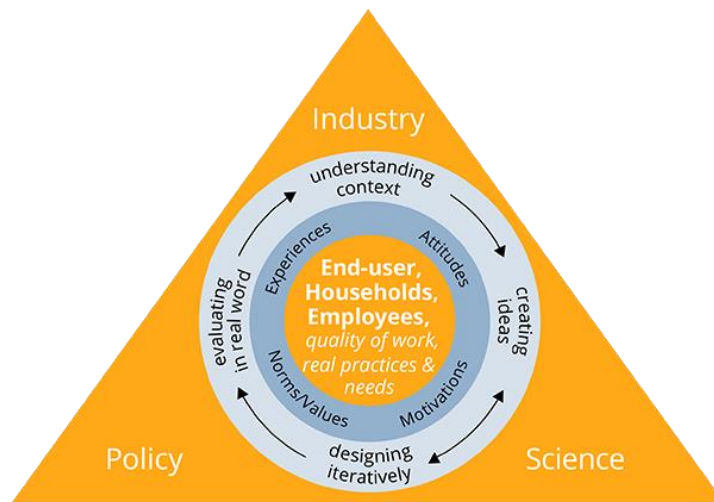
The come_IN project investigates the joint learning of different cultures and generations. As a particularly active and conscious form of learning, this can be supported through the use of modern information and communication technology. The opportunity to learn, play and work together on and with computers encourages children and adults in the computer club in their creative use of modern media. The clubs are located at elementary schools and after-school places. Participants are supported by teachers from the schools, district helpers and tutors from the come_IN team. Projects developed jointly by children and adults in the weekly meetings help bridge linguistic differences and actively and consciously address cultural differences and commonalities in the district. The goal is to create an inspiring, open, and safe environment to work together on technological inspired projects.

Since the launch of the first club in 2004, a network has emerged in which several neighbourhoods are involved to date. In addition to the existing clubs in Germany, another club was opened in a Palestinian refugee camp in cooperation with Birzeit University. And two computer clubs in Morocco were opened in 2017 and 2022 in close collaboration with local NGOs. Here the goal is to provide a space to explore technology.

The ESR training programme offers the opportunity for young researchers to visit come_IN clubs and learn about intercultural and intergenerational research, co-creation and transfer practices within local communities (incl. refugee communities). Hands-on experiences with good-practice examples in local, participatory projects are offered: organisation and processes in communal enabling infrastructures.

PraxLabs

Since 2009 there have been PRAXLABS as network of research and excellence in the wider area of Siegen and Dortmund, Germany. They are composed of a network of regional research, industry, and application partners, and of different settings – for instance domestic environments and public places where everyday life is encountered, virtual communities or working environments. Researchers, industrial companies, public institutions, and users/consumers can participate and collaborate in these settings.



The participatory inclusion of users adopts a special focus in this context. Appropriate to the demand of the research project, PraxLabs involve interested users who can participate actively in the different development and design stages. Right now, over 100 users of our steadily growing panel are participating in current research projects. Arising concepts of this method as well as early prototypes can be investigated in long-term evaluations in the field. In addition, they also can be discussed, tested, and developed in a lab setting at the university. The iterative research and development process is widened by the early exploration of the appropriation and usage behaviour in the actual application field. The advantage of this step is that the integration of ICT solutions into everyday life will uncover context-specific problems or unintended usage faster. The information gained can be inserted immediately into improving users' acceptance as well as improving usability and the further development of ICT solutions.

Both PRAXLABS infrastructure and the connected collaboration approach should be accessible for participants of the ESR programme and providing practice-based insights into:

- Improved comprehension of the context and applied technology in use
- Identification of habitual use and behaviour patterns
- Improved identification of application gaps and needs
- Figuring out future usage practices and trends
- Building of trust relationships between users, developers, designers, and researchers
- Creating ideas, developing new concepts, and improving concept ideas in the discourse between users, developers, designers and researchers
- Activating users to generate ideas and as a source of innovation

- Improved technology development and quality enhancement through iterative development and evaluation stages in the interaction with users under controlled circumstances and in everyday life
- Early analysis of functionalities and acceptance as well as identification of problems
- Early identification of usage problems in everyday life (private and work context)
- Providing ideas and suggestions for improvements through in-situ feedback
- Long-term evaluation on the appropriateness of new applications and technologies
- Minimizing the acceptance risk in future marketing implementation
- Identification of future usage trends

ReSi's MitWelt (roughly translated: "Residents' CoWorld")

Local grassroots movements consider local needs and shape the immediate context of daily life, opening spaces where everyone is invited to participate and contribute. They are a source of innovation and have the power to mobilize the resources needed for change towards sustainability. Actions of grassroots movements are rarely centrally managed but emerge within a community. They strive to achieve local impact through community-based social action with a bottom-up approach.

ReSi's MitWelt developed since September 2019, showing an increased potential of resilient practices in Siegen (grassroots movements of a culture of sharing). It further emerged in March 2020 through personal contacts of citizens from Siegen with members of the University of Siegen.

Main goals are the rethinking and implementing "supply in community" for and with the Siegen region (culture of sharing) and participative development, testing and implementation of sustainable forms of distributing, producing, repairing, and forming. Site visits in the ESR programme can include: a network of projects (3 real laboratories, civil society, and university), a store in the heart of Siegen, from where the project network is supported, inter- and transdisciplinary research in Reallaboren (Living Labs, PraxLabs) Siegen.

FabLab

Short for "fabrication laboratory," a FabLab is a unique workspace that combines digital fabrication tools with a collaborative environment, enabling individuals to turn their ideas into tangible creations – thus project-based learning. The FabLab movement originated in the early 2000s at the Massachusetts Institute of Technology

(MIT), under the guidance of Prof. Neil Gershenfeld. It aimed to democratize access to digital fabrication technologies that were previously restricted to industrial settings. By making these tools available to individuals from diverse backgrounds, FabLabs sought to foster innovation, entrepreneurship, and social development on a global scale, with a special focus on knowledge sharing and open-source principles.

FabLab Siegen is one of many interdisciplinary (creative) workshops open to all, where the focus is on collaborative work and experimentation with the fabrication of (almost) anything. Fab Lab Siegen provides tools such as 3D printers, laser cutters, CNC machines, and electronics components. These tools, coupled with computer-aided design (CAD) software, allow users to transform their ideas into physical objects, whether it's a prototype for a new product, a personalized piece of art, or even a functional prosthetic limb.

FabLab Siegen goes beyond providing access to equipment, it fosters a collaborative and inclusive environment, where individuals from various backgrounds, such as engineers, designers, artists, scientists, and entrepreneurs, can converge and share their expertise. This interdisciplinary approach nurtures the exchange of ideas, encourages experimentation, and fuels innovation. Fab Lab Siegen often organizes workshops, seminars, and community events to further promote knowledge sharing and skills development.

Opening the FabLab for participants of the DCitizens ESR training programme contributes to the gain of first-hand experiences with local co-creation spaces and transfer infrastructures between academics and civil society.

4 Conclusion

Deliverable 3.1 presents the training programme for ESR in the DCitizens project over the next 3 years. This training programme is preliminary in the sense that the learning needs and learning objectives will further emerge in the course of the project and the programme will then have to be specified according to the learners needs and requirements.

It has been documented how the individual training modules will be structured, also in coordination with other work packages, and how the focus on exchange of experience between local projects will be organised. Civil society and participation-oriented measures require a practice-oriented perspective that takes socio-technical aspects into account and builds on good examples.

In interaction with the other project partners involved, this work package will contribute to train the potentials of Portuguese ESR to build up corresponding civil society-oriented projects.