European Digital UniverCity WIDE

Knowledge Exchange Scheme
Final report

Cooperation area: Demography and Sociology

Applicant

Working e-mail: kreidlm@fss.muni.cz

Lead university: *Masaryk University*

Lead Facility + Person: *Generations and Gender Programme (ESFRI Research infrastructure), Professor Martin Kreidl (https://educ.openup.education/facilities/details/663a3fcfcdac2c499006bae4)*

Final report (max 2 A4 pages)

List the participating facilities (incl. hyperlink to OpenUp), including their respective universities and main contact persons:

University of Pécs: GGP Facility, Professor Zsolt Spéder, Doctoral School of Demography and Sociology, Department of Sociology, https://educ.openup.education/facilities/details/671fafd4c381a318f9624b59

University Cagliari: GGP Facility, Professor Ester Cois, CEING - Interdisciplinary Research and Gender Studies Centre, https://en.unica.it/en/node/456

Overview of all activities conducted (e.g., workshops, staff exchanges…): two one-day **workshops** were organized. The first workshop was held **in Brno on April 11, 2025** (at Masaryk University). With contributions from all three participating facilities, the workshop focused on the topics of functioning, management and outreach of the respective GGP facilities, methodological research, and GGP data integration into teaching. The second workshop was held **in Pécs on May 16, 2025** (at University of Pécs) and mainly aimed at sharing and discussing the use of the GGP datasets in research and teaching. In particular, the respective workshop programmes were as follows:

Workshop 1 (Masaryk University)

Session 1 (Functioning, management, and outreach of GGP facilities): **M. Kreidl** (Masaryk University) – GGP CZ: Functioning, financing, out-reach, and methodological improvements; **E. Cois** (University of Cagliari) – Functioning, management, and outreach of GGP facilities in Italy; **Z. Spéder** (University Pécs) – Functioning, management, and outreach of GGP facilities in Hungary

Co-funded by the European Union

Session 2 (Methodological research to improve survey quality): **D. Kmentová** (Masaryk University) – Developing country-specific questionnaire items: An example of the module on first reproductive experiences; **D. Dvořák** (Masaryk University) – Using survey para-data to improve questionnaire design: An Application to the Module on First Reproductive Experiences

Session 3 (GGP data integration into teaching): **D. Perdoch Sladká** (Masaryk University) – Teaching quantitative research using GGS at Masaryk University; **J. Slabá** (Charles University) - Supporting demography students in working with GGS data at Charles University; **Z. Spéder** (University Pécs) – GGP data integration into teaching at University Pécs: current situation, future plans; **E. Cois** (University of Cagliari) – GGP data integration into teaching at University of Cagliari: current situation, future plans

Workshop 2 (University of Pécs)

Session 1 (GGP methodology and the use of data in teaching): **Z. Makay** (Hungarian Demographic Research Institute) – The GGS Teaching data set, features and opportunities; **D. Erát** (University of Pécs) – GGS in undergraduate education: experiences from thesis projects; **A. Ľudmová** (Masaryk University) – Online opt-in panel data might be cheaper and easier to obtain, but how does it compare to a probabilistic sample? The case of the Czech GGS II.

Session 2 (GGP data in research): **D. Kmentová** (Masaryk university) – Socioeconomic Insecurity and Fertility Intentions: Findings from the Czech GGS-II; **A. Glázer-Kniesz** (Doctoral School of Demography and Sociology) and **Z. Makay** (Hungarian Demographic Research Institute) – Gender roles and the division of household labour by family type in three different welfare states; **E. Waldaufová** and **J. Slabá** (Charles University) – Short-Term Fertility Intentions and Their Realization in Central Europe: A Comparative Analysis; **D. Erát** and **Z. Spéder** (University Pécs) – Contrasting destinations? Emerging intention trajectories of latent family size

Results of the cooperation: Participants shared experiences, insights, examples of best practices, and research findings, opening a forum for discussion, consultations, and opportunities for implementation across GGP facilities to enhance their management and help in their future development.

Feedback and recommendations: all three participating facilities would benefit from repeated knowledge-exchange co-operation in the near future.

Co-funded by the European Union

European Digital UniverCity WIDE

Knowledge Exchange Scheme
Final report

Cooperation area: Nanotechnology

Applicant

Working e-mail:	mary.anderson-glenna@usn.no
Lead university:	University of South-Eastern Norway
Lead Facility + Person:	NorFab (USN), Mary A-G and Ole Henrik Gusland

Final report (max 2 A4 pages)

Explore Research Facilities Linked to Micro- and Nanotechnology in EDUC-WIDE:

- **USN:** Flexible cleanroom for fabrication and processing at micro- and nanoscale, and laboratories for Bio-MEMS and material characterization + USN MST-Lab – NorFab (norfab.no) Geir Bjørnsen and Ole Henrik Gusland
- **MUNI:** R&D centre for plasma and nanotechnology surface modifications - CEPLANT (EDUC@OpenUp) + CEPLANT (ceplant.cz) Dušan Kováčik
- **UNICA:** Department of Mechanical, Chemical and Materials Engineering (unica.it) Manuela Schirru
- **UJI:** The Central Scientific Istrumentation Service (uji.es) Lourdes Chiva
    - Transmission Electron Microscopy (TEM) (EDUC@OpenUp)
    - Inductively Coupled Plasma Mass Spectrometry (ICP-MS) (EDUC@Openup)
    - Elemental analysis (EDUC@Openup)
    - Scanning electron microscopy (SEM) (EDUC@Openup)
    - Wavelength dispersive x ray Fluorescence Spectrometry (WXRF) (EDUC@Openup)
    - Liquid Mass Spectrometry (EDUC@Openup)
    - Single crystal X-ray diffraction (EDUC@Openup)
    - X-Ray Powder Diffaction (DRX) (EDUC@Openup)
    - Fourier Transform Infrared Spectroscopy (FTIR) (EDUC@Openup)
    - Raman Spectroscopy (Raman) (EDUC@Openup)
    - Pulsed Lasers (PL) (EDUC@Openup)
    - Thermogravimetric Analysis (TGA) simultaneously with DSC (EDUC@Openup)
    - Nuclear Magnetic Resonance Spectroscopy (NMR) (EDUC@Openup)
    - Circular Dichroism (EDUC@Openup)
    - Differential Scanning Calorimetry (DSC) (EDUC@Openup)
- **PNU:** Nanotechnology lab for materials science, energy and medicine + PNU-NANOLAB (pnu.edu.ua)

Participants:

USN: Geir Bjørnsen, Karoline Krogstad, Ole Henrik Gusland, Knut Eilif Aasmundtveit, Merete Hovet, Mary Anderson-Glenna, Silje Skøien, Marius Stian Tannum, Einar Halvorsen, Lars Eric Roseng, Pai Lu, Kaiying Wang
Electronic Coast (associated partner EDUC-WIDE): Linn Fagerberg
MUNI: Dušan Kováčik, Adéla Šafaříková
UJI: Lourdes Chiva, Maruxa Peiró, José Miguel Pedra
PNU: Liliia Turovska
UNICA: Manuela Schirru
Comprehensive overview of all activities carried out (e.g., workshops, staff exchanges, etc.).

The main activity for knowledge exchange was the workshop over two days hosted by the University of South-Eastern Norway (please see attached program from the workshop).

A planning meeting occurred online to look at and select the topics for the workshop that were of interest to all parties.

The topics covered were:

– Getting to each other, university and research infrastructure
– Safe handling of nanomaterials, sharing University's practices and comparing them with protocols used at USN and partner universities.
– Characterization techniques, with an exchange of tools, methods, and best approaches across institutions.
– Opportunities for further cooperation and joint research initiatives

Results of the cooperation:

The workshop resulted in progress in fostering collaboration among EDUC-WIDE research infrastructures. The physical event over two days enabled us to get to know each other and enable easier contact in the future. Personnel connections should not be underestimated in the digital world we live in today. Additionally, it provided all with an understanding of the university environment each of us operates in and the challenges and opportunities for future collaboration.
Participants identified immediate actions to maintain contact through email and a common Temas room, share best practices and up to date information e.g. related to health and safety and building management, share samples for characterization (can result in short reports), and conduct joint training sessions. Longer-term goals were set, including the exchange of PhD students, joint grant proposals involving the facilities users (and thereby increasing funding for use of the infrastructures), and enhanced research group collaborations. Some actions, such as overcoming administrative hurdles and facilitating technical staff mobility, were recognized as requiring additional support. Overall, the

cooperation resulted in valuable knowledge exchange, networking opportunities, and the establishment of new research initiatives e.g. between PNU and USN and Jaume I and USN.

Feedback and recommendations:

At the end of the workshop a workshop debrief was conducted and focused on what participants had found most valuable with the event and what immediate, medium term and long term actions could be feasible.

- Participants learned new techniques and ideas, working with a new group of people brings different perspectives to lab engineers and managers daily job and can result in value added for other lab staff and researchers alike (not many opportunities where the focus is on research infrastructure staff)
- Networking opportunities, hands-on case studies, and knowledge sharing were highly valued.
- Visits to new labs provided insights into lab construction and health and safety practices.
- The workshop reinforced the value of participants' work and provided a human touch.
- Discussions on nanomaterials and health and safety were particularly beneficial as this is a common challenge across all labs. Discussions lead to that lab engineers would request more information about micro and nanomaterial samples before processing/receiving in to the lab.
- Presentations reassured participants about their own uncertainties regarding nanomaterials.
- Presentation formats of research infrastructures from different partners, infrastructure websites and also the USN lab entrance hall with examples from technology developed in the lab to use as props for site visits were inspiration
- The event facilitated discussions on EDUC alliance and potential collaborations ahead. EDUC can not develop optimally if the core staff are not engaged and build the alliance from the operative level too
- In-person meetings and lab visits were seen as highly beneficial.
- The workshop was well-organized, interesting, and beneficial

Recommendations for future collaboration possibly funded by EDUC:

- Mobility schemes for research infrastructure staff to train in techniques / instruments
- Further training and knowledge sharing on relevant topics, also possible to have some online webinars together
- Stimulate to use of the lab facilities through connecting researchers for projects

•Research infrastructure access schemes

•Cooperation at a smaller scale e.g. sending samples for analysis within EDUC research infrastructure preferentially

•Enable contact between researchers connected / users of the facilities for future research collaboration

European Digital UniverCity WIDE

Knowledge Exchange Scheme
Final report

Cooperation area: Digital Humanities

Applicant

Working e-mail: lorenz@mail.muni.cz

Lead university: Masaryk university

Lead Facility + Person: Digitalia MUNI ARTS + PhDr. Michal Lorenz, Ph.D.

Final report (max 2 A4 pages)

List the participating facilities (incl. hyperlink to OpenUp), including their respective universities and main contact persons:

- Digitalia MUNI ARTS (LINDAT/CLARIAH-CZ) (https://digitalia.phil.muni.cz/en), Masaryk Univesrity, Michal Lorenz
- Theodor Fontane Archive https://www.fontanearchiv.de/, Network Digital Humanities https://www.uni-potsdam.de/en/digital-humanities/, University of Potsdam, Peer Trilcke

Comprehensive overview of all activities carried out (e.g., workshops, staff exchanges, etc.). You may attach the official program or agenda of the events in a separate file.

The joint cooperation started with a short coordination teleconference on November 4. Of the four partners indicating interest in cooperation, only two - Masaryk University and the University of Potsdam - actually joined the cooperation.

The schedule of activities was as follows:

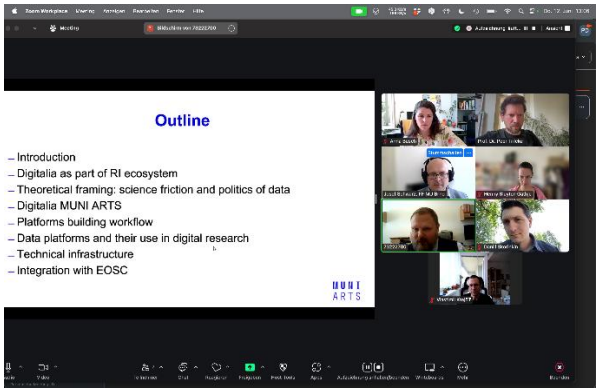
12.6. **Workshop** for Digital Humanities Network participants

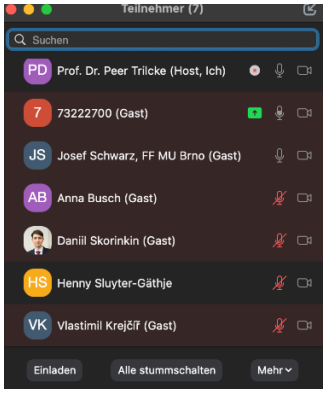
20. – 27. 6. **Knowledge exchange:** 23. 6. M. Lorenz with P. Trickle meeting at the Theodor Fontane Archive; 25. 6. meeting with the head of Digital Bildung Katharina Scheiter; 26. 6. meeting with Network Digital Humanities researchers Luca Giovannini and Daniil Skorinkin

- **Workshop report:** From Curation to Integration: Digitalia MUNI ARTS within LINDAT/CLARIAH and EOSC

On June 12, 2025, a workshop was held via Zoom to present the development of Digitalia MUNI ARTS, the local node of LINDAT/CLARIAH-CZ, and its integration into the European Open Science Cloud (EOSC). Presenters included Michal Lorenz, Josef Schwarz, and Vlastimil Křejčíř. The workshop introduced the conceptual framework grounded in science friction and data friction, addressing challenges in metadata interoperability and interdisciplinary collaboration. It also described the technical infrastructure based on Islandora, integration with GitHub,

Ansible, OAI-PMH, Matomo, and Kubernetes, and highlighted user-centered design, FAIR data, and open science practices. Pilot projects such as ArchaeoVault and ontology-based FAIRification were demonstrated, showing how infrastructure supports data workflows, service provisioning, and long-term preservation.





- **Report from the Meeting with Prof. Peer Trilcke, Theodor Fontane Archive, 23 June 2025**

On June 23, 2025, a professional meeting took place between Michal Lorenz and Prof. Peer Trilcke. The discussion covered infrastructure design, API development, and research strategies at the Theodor Fontane Archive, including the Model Context Protocol (MCP). Community-building strategies and data management planning were compared with practices at Masaryk University.
Collaboration opportunities include integration of DAN data with DraCor tools and involvement of Czech literary and theatre scholars in the DraCor community.

- **Report from the Meeting with Prof. Katharina Scheiter, University of Potsdam – Digitale Bildung department**

This meeting focused on aligning EdTech and digital humanities education. The Digitale Bildung department, founded in 2022, emphasizes empirical research on digital learning and cognitive processes, supported by the Hasso Plattner Foundation. Areas of emphasis include VR, AR, robotics, and LLMs. An agreement was reached on Erasmus+ student exchange, especially for EdTech master's thesis projects.

- **Meeting with representatives of the Network Digital Humanities and the DraCor platform at the University of Potsdam**

The final meeting involved Luca Giovannini and Daniil Skorokin. The Network Digital Humanities operates university-wide without a central facility, focusing on Digital Literary Computing, Environmental DH, and Media/Interface DH. Activities include the “Text as Data” spring school, Code and Culture lectures, DIY Archive workshops, and hackathons.
The DraCor platform enables computational analysis of dramatic texts in over 20 languages using TEI P5, with support for network analysis, API access, and integration with research tools. DraCor is built on open software and supports reproducible research. Educational resources include notebooks, tutorials, and training in R, Python, and Haskell.

Co-funded by the European Union

The upcoming DraCor Summit (Sept 1–5, 2025) in Berlin targets researchers in computational drama and corpus studies. Masaryk University researchers are encouraged to participate.

Results of the cooperation:

- Initiated integration of DAN data into DraCor analytical tools.
- Discussed development of a connector between Digitalia and DraCor.
- Identified common research goals in theatre studies for future grant collaboration.
- Opened dialogue on including Czech drama in DraCor corpora and on methodological exchange in programmable corpora.
- Agreed on Erasmus+ student exchange linking EdTech and digital humanities.
- Invitation extended to Masaryk University researchers for the "Text as Data" spring school & DraCor Summit 2025 invitation to be disseminated among relevant departments at MU.

Feedback and recommendations:

- Although Digitalia and DraCor differ structurally, both face similar challenges: community engagement, advocacy, reporting usage, and education in digital methods. Comparing strategies across institutions provided valuable insights for infrastructure development and revealed potential for deeper user-level cooperation.

Recommendations for the Digitalia MUNI ARTS infrastructure:

- **Diversification of infrastructure roles**
  Establish a dedicated software developer position focused on implementing and supporting computational methods in the humanities, thereby strengthening research problem solving capacity within the infrastructure team.
- **Strategic integration with academic research**
  Enhance top-down community building by linking the infrastructure more closely with professorships and research agendas in digital humanities, for example, through the creation of research grant–funded positions.
- **Engagement through hackathons**
  Organize hackathons to activate a broader students and scholarly community, and enable crowdsourcing of time-intensive tasks related to research agenda (e.g. annotating texts).
- **Development of targeted API interfaces**
  Invest not only to standard APIs creation, but in the creation of domain-specific APIs as a strategic means of engaging research communities, strengthening ties with academic users, encouraging deeper involvement, and improving the traceability and visibility of infrastructure usage.

Co-funded by the European Union

European Digital UniverCity WIDE

Knowledge Exchange Scheme
Final report

Cooperation area: Molecular analysis

Applicant

Working e-mail: julie-anne.newton@univ-rennes.fr

Lead university: University of Rennes (UnivRen)

Lead Facility + Person: BIOSIT – Yannick ARLOT, KES Project Lead, Research director PI (Molecular and Cellular Biology), Institute Genetics & Development of Rennes

Final report (max 2 A4 pages)

List the participating facilities (incl. hyperlink to OpenUp), including their respective universities and main contact persons:

University of Rennes:

1) **SSIM** (Spectroscopy: Molecular Interactions and structure, Circular Dichroism – Fluorescence - MicroscaleThermophoresis) ((Formally known as CDTP in OpenUp)

Contact: Soizic CHEVANCE, Assistant Professor – Scientific manager of BioNMR (PRISM platform) and Sandrine POTTIER, Technical manager

2) **PRISM** (Bio-SCANs: life imaging and Bio-RMN: characterization of biomolecules (peptides, proteins, sugars, natural polymers) and their interactome)

Contact: Pierre-Antoine ELIAT, Research Engineer (PRISM) and Soizic CHEVANCHE, Assistant Professor – Scientific manager of BioNMR

3) **PROTIM** (proteomic analysis – MALDI imaging (non-targeted molecular visualisation))

Contact: Emmanuelle COM, IR Platform manager RMQ

4) **TEM2C** (Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins)

Contact: Denis CHRETIEN, Head of Core Facility, CNRS Researcher, Romain GIBEAUX, Co-Head of Core Facility, CNRS Researcher, Aurélien DUPONT, Core Facility Technician

5) **BIM3D** (Bio-Impression and Microfluidic)

Contact: Laurent GRISCOM, Research Engineer at CNRS

Masaryk University:

1) **Biomolecular Interactions and Crystallography**, Josef Houser, Head of Core Facility

Co-funded by the European Union

2) Cryo-electron Microscopy and Tomography, Jiří Nováček, Deputy director for research infrastructure

3) Genomics, Boris Tichý, Head of Core Facility (online)

4) Nanobiotechnology, Jan Přibyl, Head of Core Facility

5) Proteomics, Zbyněk Zdráhal, Research Group Leader Senior, Head of Core Facility (online) and Ondrej Sedo, Senior Staff Scientist

In addition, attended the event as organizers and participants:

- Yannick ARLOT, KES Project Lead, Research director PI (Molecular and Cellular Biology), Institute Genetics & Development of Rennes
- Ondrej HRADIL, Research infrastructure manager
- Julie NEWTON, EDUC-WIDE Project Manager

Comprehensive overview of all activities carried out (e.g., workshops, staff exchanges, etc.). You may attach the official program or agenda of the events in a separate file.

Programme overview:

28-29 April 2025
BIOSIT - University of Rennes

Day 1: The workshop began with presentations from each of the Consortium's platforms. These presentations focused on the technical and scientific aspects, emphasizing the unique features and requirements for scientific projects.
The subsequent session was dedicated to discussions and exchanges aimed at developing a set of techniques that addressed the needs of scientific challenges. Collaborative opportunities were proposed for interactions between students, post-doctoral fellows, researchers, and platform engineers.
The day concluded with a visit to the PROTIM Platform.

Social event: Dinner in Rennes city centre.

Day 2 (morning): The first half of the day was focused on visits to the platforms (PRISM, SSIM, TEM2C).

Results of the cooperation:

The workshop concluded with a session dedicated to identifying future collaboration opportunities:

Co-funded by the European Union

1) Objectives Identified by the Molecular Analysis Working Group for future Research Infrastructure collaborations

- Increase capacity
- Enhance competencies
- Improve access to research infrastructure (RI)
- Facilitate knowledge exchange
- Strengthen quality control
- Boost international visibility through joint publications

2) Proposed Collaborative Actions

To achieve these objectives, participants proposed the following forms of collaboration

a. Establishing Scientific Partnerships

- **BIM3D (UnivRen) / Nanotechnologies (MUNI):** CEITEC has expressed a need for expertise in BIM3D encapsulation techniques. A potential collaboration could involve Laurent Griscom visiting MUNI to tour the facilities and consult with research teams on technical challenges.
  - @UNivRen: Laurent Griscom, Research Engineer at CNRS, Institut de Génétique & Développement de Rennes IGDR – UMR 6290 CNRS, BIM3D – Bio-Impression and Microfluidic (BIOSIT)
  - @MUNI: Jan Přibyl, Head of Core Facility, Nanobiotechnology

- **Biotechnology / Nanotechnology / Cryo-EM:** These platforms could collaborate around microfluidics, cryo-EM, and AFM. The University of Potsdam may also join this initiative (CEITEC to contact Potsdam to further discuss this).
  - @UnivRen: Denis CHRETIEN, Head of Core Facility, CNRS Researcher, Institut de Génétique & Développement de Rennes UMR CNRS 6290 IGDR, équipe MiToS, TEM2C - Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins (BIOSIT), Co-Head of Core Facility, CNRS Researcher
  - @UnivRen: Romain Gibeaux, Institut de Génétique & Développement de Rennes UMR CNRS 6290 IGDR, équipe MiToS, TEM2C - Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins (BIOSIT)
  - @UnivRen: Aurélien Dupont, Core Facility Technician, Université de Rennes, TEM2C - Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins (BIOSIT)
  - @MUNI: Jan Přibyl, Head of Core Facility, Nanobiotechnology
  - @MUNI: Jiri Novacek, Deputy director for research infrastructure, Cryo-electron Microscopy and Tomography

- **Proteomics:** Establishing a sample exchange system and conducting duplicate analyses to strengthen quality control and methodological validation. These efforts could yield joint scientific publications.

Co-funded by the European Union

- @UnivRen: Emmanuelle COM, IR Platform manager RMQ, PROTIM -Proteomic analysis – MALDI imaging (non-targeted molecular visualisation) (BIOSIT), Inserm, Université de Rennes

These scientific collaborations are expected to contribute to increased international visibility through co-authored research outputs.

b. Developing Industrial Collaborations

- Strengthen engagement with industry by improving service offerings, facility management practices, and institutional partnerships.
  - @MUNI: Jiri Novacek, Deputy director for research infrastructure, Cryo-electron Microscopy and Tomography
  - @MUNI: Ondřej HRADIL, Core facility coordinator CEITEC, EDUC-WIDE project manager at MUNI
  - @UnivRen: Yannick ARLOT, Project Lead for Molecular Analysis, CNRS Research Director, Institut de Génétique & Développement de Rennes CNRS Research Director

c. Enhancing Scientific and Technical Capacity

- **Internships:** Create doctoral internships enabling students to gain hands-on training at partner facilities (e.g., MUNI).
- **International Master's Programme in Microscopy (MUNI):** Leverage this programme to support platform recruitment through joint promotion, internship opportunities, and shared lectures. Develop a network of specialised expertise.
  - @MUNI: Jiri Novacek, Deputy director for research infrastructure, Cryo-electron Microscopy and Tomography
  - @UnivRen: Julie Newton, EDUC-WIDE PM, to identify teachers.
- **Exchange of Lecturers:** Organize short teaching exchanges (e.g., 2-day lecture blocks) at partner institutions. Courses delivered in English would promote collaboration and connect teaching staff across institutions.
  - @MUNI: Ondrej Sedo, Senior Staff Scientist, Proteomics, CEITEC
- **Short-Term Technician Employment:** Hire Master's-level technicians for up to 3 months as a stepping-stone toward PhD training or research roles.

d. Organising a Joint Workshop

Host a collaborative workshop to bring together stakeholders for networking, experience-sharing, and the development of new collaborative opportunities.

Co-funded by the European Union

On top of this programme, a special meeting took place at the University of Rennes Thabor Building on 29/04/2025 between 8 a.m. and 9 a.m. to **discuss strategic collaboration opportunities** within EDUC-WIDE and EDUC-WIDE 2 for research infrastructures.

Participants:

- Muriel Hissler, VP for Research, UnivRen
- Sébastien Le Picard, VP of European and International Strategy, UnivRen
- Yannick Arlot, KES Project Lead, Research director PI (Molecular and Cellular Biology), Institute Genetics & Development of Rennes, UnivRen
- Jiri Novacek, Deputy director for research infrastructure, MUNI
- Ondrej Hradil, Research infrastructure manager, EDUC-WIDE project manager at MUNI
- Julie Newton, EDUC-WIDE European Project Manager, UnvRen

Feedback and recommendations:

- A repository was created to bring together all the presentations given during the workshop.
- At the time of this report, a news article was under development to share the initiative. It was planned to be published on the University of Rennes and EDUC websites.
- Very positive feedback was received from the participants. Getting to know each other's facilities was a first step, and clear collaboration opportunities were identified. "*Everything went smoothly, and I think we found many common points for further cooperation. Next week we will welcome Romain Gibeaux and start working on preliminary experiments.*" — Jan Pribyl, Head of the Core Facility Nanobiotechnology on 06/05/2025 (email addressed to Julie Newton, EDUC-WIDE PM manager).
- Romain Gibeaux, Co-Head of Core Facility at the University of Rennes and CNRS Researcher at TEM2C (Transmission Electron Microscopy, Cryo-EM, and CLEM approaches for structural characterization of proteins), used the opportunity of meeting the Czech delegation to plan his visit to the CEITEC facilities the following month. His visit took place from 24/05 to 30/05.
  "*Visiting CEITEC and Masaryk University was a blast. Science is really at the heart of this University. CEITEC is an incredible core facilities hub, with top-notch equipment and scientists.* ***My visit was an opportunity to collaborate with Jiri Novacek and his EM facility on an EDUC INFRA project and get hands on technologies we want to develop in Rennes. An Instruct application was sent to move the project forward together****. It was also a wonderful* ***opportunity to start initial AFM experiments*** *with Jan Pribyl. The very promising results convinced us* ***to file another Instruct application*** *to move this forward.*" — Romain Gibeaux, Institut de Génétique & Développement de Rennes UMR CNRS 6290 IGDR, équipe MiToS, TEM2C - Transmission Electron

Co-funded by the European Union

Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins (BIOSIT).

- Further actions are planned to explore collaboration opportunities linked to the creation of the International Master's Programme in Microscopy during the Summer and Fall 2025.
- Further actions are planned to explore collaboration opportunities between BIM3D (UnivRen) / Nanotechnologies (MUNI) over the coming year.
- Based on the cooperation opportunities identified, priorities have to be defined. Coordination follow-up by the programme manager is deemed essential to sustain the collaboration initiatives, given the demanding schedules of the researchers.

Attached:

- Workshop photos
- Workshop programme

Workshop photos:

Co-funded by the European Union

European Digital UniverCity WIDE

Workshop Programme

Knowledge Exchange Scheme
Molecular analysis

28-29 April 2025

BIOSIT - University of Rennes

- **Participants**

University	Contact	Facility	Job position
UnivRen	Yannick ARLOT	BIOSIT	Project Lead for Molecular Analysis
UnivRen	Julie NEWTON	NA	EDUC-WIDE project manager at UnivRen
UnivRen	Denis CHRETIEN	TEM2C - Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins	Head of Core Facility
UnivRen	Romain Gibeaux	TEM2C - Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins	Co-Head of Core Facility
UnivRen	Aurélien Dupont	TEM2C - Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins	Core Facility Technician
UnivRen	Soizic CHEVANCE	SSIM - Spectroscopy: Molecular Interactions and Structure, Circular Dichroism – Fluorescence - Microscale Thermophoresis PRISM - Bio-RMN: characterization of biomolecules (peptides, proteins, sugars, natural polymers) and their interactome	Scientific Head
UnivRen	Sandrine POTTIER	SSIM - Spectroscopy: Molecular Interactions and Structure, Circular Dichroism – Fluorescence - Microscale Thermophoresis	Technical manager
UnivRen	Pierre-Antoine ELIAT	PRISM - Bio-SCANs: life imaging	Research Engineer
UnivRen	Emmanuelle COM	PROTIM -Proteomic analysis – MALDI imaging (non-targeted molecular visualisation)	IR Platform manager RMQ

Co-funded by the European Union

MUNI	Jiri NOVACEK	Cryo-electron Microscopy and Tomography	Deputy director for research infrastructure
MUNI	Ondřej HRADIL	CEITEC	Core facility coordinator, EDUC-WIDE project manager at MUNI
MUNI	Boris TICHY (online)	Genomics	Head of Core Facility
MUNI	Josef HOUSER	Biomolecular Interactions and Crystallography	Head of Core Facility
MUNI	Jan PRIBYL	Nanobiotechnology	Head of Core Facility
MUNI	Zbyněk ZDRAHAL (online)	Proteomics	Research Group Leader Senior, Head of Core Facility
MUNI	Ondrej SEDO	Proteomics	Senior Staff Scientist

- **VENUE**

Address: BIOSIT, Villejean Campus, Building 8, 2 Av. du Professeur Léon Bernard, 35000 Rennes
Google maps: Link to venue
Meeting room: Room BIOSIT
Zoom Link for Hybrid format:
EDUC-WIDE - Molecular analysis Knowledge Exchange Scheme
Heure: 28 Apr. 2025 09:00 AM Paris
https://univ-rennes1-fr.zoom.us/j/63941588294

- **PROGRAMME**

Day 1: The workshop will begin with presentations from each of the Consortium's platforms. These presentations will focus on the technical and scientific aspects, emphasizing the unique features and requirements for scientific projects.
The subsequent session will be dedicated to discussions and exchanges aimed at developing a set of techniques that address the needs of scientific challenges. Collaborative opportunities will be proposed for interactions between students, post-doctoral fellows, researchers, and platform engineers.
The day will conclude with a visit to the PROTIM Platform.

Social event: Dinner in Rennes city Centre

Day 2 (morning): The first half of the day will be focused on visits to the platforms (PRISM, SSIM, TEM2C).

Co-funded by the European Union

European Digital UniverCity WIDE

- **DETAILLED PROGRAMME**

DAY 1: 28 APRIL 2025

9:15	**Arrival & welcome coffee**
9:30	**Welcome Address** by Yannick Arlot, Julie Newton and Ondrej Hradil
9:35	**Introduction by Jiří Nováček on EM facility** to give a brief overview of all facilities available at CEITEC and the context to large research infrastructures we are running the facilities under.
9:40-10:00 **10:00-10:20** **10:20-10:40** **10:40-11:00**	**Platform presentation by thematic areas:** **1) a) Cryo-electron Microscopy and Tomography** *Jiří Nováček* **b) TEM2C** - Transmission Electron Microscopy, Cryo-EM and CLEM approaches for structural characterization of proteins *Denis Chrétien and Romain Gibeaux* **2) a) Biomolecular Interactions and Crystallography** *Josef Houser* **b) PRISM** - **Bio-SCANs**: life imaging, **Bio-RMN/SSIM**: characterisation of biomolecules and their interactome *Pierre-Antoine ELIAT* and *Soizic CHEVANCE* **20 min per platform (15min presentation followed by 5min Q&A)**
11:00	Coffee break
11:10	**1) a) Proteomics** *Ondrej Sedo and Zbynek Zdrahal* **b) PROTIM** - proteomic analysis – MALDI imaging (non-targeted molecular visualisation) *Emmanuelle COM* **2) a) Nanobiotechnology** *Jan Přibyl* **b) BIM3D** - Bio-Impression and 3D Microfluidic *Laurent Griscom*
12:30	Lunch Restaurant La Reine de Cœur
14:00	Discussion: • Developing a set of techniques that address the needs of scientific challenges. • Collaborative opportunities for interactions between students, post-doctoral fellows, researchers, and platform engineers.

Co-funded by the European Union

	EDUC-WIDE 2: Future collaboration, i.e. what actions supported by Rennes and MUNI shall be part of the EDUC-WIDE 2 proposal for RIs?
16:00	Visit of PROTIM Research infrastructure

19:00	Diner Restaurant Bretone

DAY 2: 29 APRIL 2025

9:00-12:00	Welcome coffee Visit of PRISM, SSIM, TEM2C research infrastructure
12:00	Lunch (on-site) & networking
14:00	Closing address & Departure

End of document.

Co-funded by the European Union

European Digital UniverCity WIDE

Knowledge Exchange Scheme
Final report

Cooperation area: Genomics & Bioinformatics

Applicant

Working e-mail: marta.costa@unica.it

Lead university: University of Cagliari

Lead Facility + Person: Genomics Facility (Marta Costa)

Final report (max 2 A4 pages)

List the participating facilities (incl. hyperlink to OpenUp):

- *University of Cagliari: CeSAR - Genomics Core Facility, Marta Costa, Ph.D. marta.costa@unica.it*
- *University of Pécs: Hungarian Centre for Genomics and Bioinformatics, Attila Gyenesei, Ph.D., gyenesei.attila@pte.hu*
- *University of Masaryk: Core Facility Genomics CEITEC, Boris Tichý, Ph.D., boris.tichy@ceitec.muni.cz*
- *University of Masaryk: Bioinformatics Core Facility (BioIT), Vojtěch Bystrý, Ph.D., vojtech.bystry@ceitec.muni.cz*
- *Vasyl Stefanyk Precarpathian National University (PNU): Laboratory of Animal Metabolism, Volodymyr Shvadchak, Ph.D., volodymyr.shvadchak@pnu.edu.ua*
- *University of South-Eastern Norway (USN): Molecular Ecology - Universitetet i Sørøst-Norge , Jørn Henrik Sønstebø Ph.D., Jorn.H.Sonstebo@usn.no*

Comprehensive overview of all activities carried out (e.g., workshops, staff exchanges, etc.). You may attach the official program or agenda of the events in a separate file.

The Knowledge Exchange Scheme in Genomics & Bioinformatics, structured as a two-day on-site meeting, was designed to promote clinical and operational advancements through the exchange of expertise in next-generation sequencing (NGS), bioinformatics workflows, and data management strategies. Participants, through interactive and thematic sessions explored challenges related to sequencing technologies, data interpretation, laboratory information management systems (LIMS), and harmonization of standard operating procedures. The initiative aimed to foster a collaborative network that supports both scientific research and translational applications in clinical and environmental genomics.

Results of the cooperation:

a. Institutional knowledge exchange

During the on-site sessions, each institution presented their core expertise, infrastructure, and operational constraints, providing a comparative view of their models:

Co-funded by the European Union

- The University of Pécs combines a dual diagnostic and research mission, supported by large-scale sequencing platforms such as NovaSeq and Genesis, and manages sample and data flows through a custom internal LIMS.
- The University of Cagliari operates on a smaller scale, with predominantly manual workflows and no dedicated internal bioinformatics unit, which makes external collaborations particularly relevant.
- Masaryk University stands out for its advanced infrastructure, including NovaSeq 6000 and Element Aviti platforms, and for its institutional focus on data protection and cybersecurity, adhering to ISO 27000 standards.
- At the University of South-Eastern Norway (USN), the focus lies on ecology-driven research, combining Ion S5 and Nanopore technologies to support biodiversity and environmental studies.
- Despite limited sequencing infrastructure, the Precarpathian National University (PNU) is highly active in omics-based research and has developed strong expertise in bioinformatics, becoming a key partner for collaborative data analysis.

b. Thematic highlights and shared priorities

The roundtable discussions highlighted common strategic and technical challenges across institutions. In particular, the following themes emerged as shared priorities, especially for Masaryk, Pècs and Cagliari universities:

- The need for GDPR-compliant, modular, and scalable LIMS that can support clinical, research, and cross-border data flows.
- Persistent challenges in automating laboratory processes, reagent procurement, and workflow harmonization across institutions of different sizes and scopes.
- A collective interest in integrating and benchmarking bioinformatics pipelines, as well as sharing validated best practices and SOPs.

c. Preliminary collaboration outputs

- Commitment to exchange documentation on diagnostics, funding, and SOPs
- Agreement to coordinate on upcoming EU-level projects, such as Genome Europe (especially Masaryk, Pècs and Cagliari universities)
- Proposal for a joint roundtable on bioinformatics pipeline optimization

Feedback and recommendations:

The diversity of participants — ranging from research- and diagnostic-oriented facilities to ecology-focused research groups — enriched the discussion, but also meant that some of the topics addressed were not entirely relevant to all groups.

Co-funded by the European Union