

TFK programme, funded projects 2024

Project title: Community communication networks to bridge the digital gap	
Coordinator Aalto-korkeakoulusäätiö sr Alexis Dowhuszko, alexis.dowhuszko@aalto.fi	About one third of the world's population (~2.6 billion people) remains offline. Although the access to Internet is showing steady progress, disparities in the growth rate of new connections vary notably in different regions of the World. In fact, only 1% of the people in low-income countries have a fixed broadband subscription due to high prices and/or lack of a suitable telecommunications infrastructure. Community networks (CNs), which are local community-led initiatives in which the users jointly manage its installation and operation, have been identified as a relevant building block to bridge this digital gap that otherwise would likely continue to grow. The activities of CommuNets project are divided into three phases, namely: 1) Development of existing courses lectured in the partner Higher Educational Institutions (HEIs), focusing on knowledge and comprehension of the new challenges that CNs will introduce into the disciplines of wireless communications (Wi-Fi & SatCom), mesh networking of nodes (IP routing protocols), radio antenna design and high-frequency electronics, off-the-grid sources of sustainable energy, user-centric design of new digital services, and regulations and social aspects of CNs ; 2) Creation of new teaching modules for two intensive seasonal schools with 40 hours of contact teaching, to be given as a multi-disciplinary content-variable project-based elective course that puts emphasis on the competences of Phase 1 that must be acquired by students for the implementation of CNs; 3) Planning of a Collaborative Online International Learning (COIL) course, based on the new teaching modules developed in the seasonal schools (Phase 2), in which students and teachers of partner HEIs would continue to interact in such international and intercultural setting after the CommuNets project is over. A key part of CommuNets will be the preparation of two seasonal schools, to be held in Buenos Aires (June 2025) and Espoo (June 2026). During these events, the Finnish participants will learn specific principles for the implementation of CNs in isolated, low-income, and scarcely populated areas, thanks to the knowledge of expert trainers from Argentina. Similarly, Argentine audience will learn about the last trends in ICT tools to provide Internet connectivity in remote areas, as well as to design, prototype and pilot new digital services to open new business opportunities once the Internet connectivity is available. Participants will also benefit from a wide range of complementary non-technical training activities, such as entrepreneurship, dissemination, and commercialization.
Partners Instituto Tecnológico de Buenos Aires (ITBA), Universidad de Buenos Aires, Facultad de Ingeniería (UBA-FI), Universidad Nacional del Sur (UNS)	

	CommuNets will promote collaboration between one HEI in Finland (Aalto) and three HEIs in Argentina (ITBA, UBA-FI, UNS), as well as non-academic collaborators that will give a pragmatic view to the activities of the project. The members of the consortium have complementary expertise in the know-how that is needed for the implementation and exploitation of CNs.
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