



FINNISH NATIONAL
AGENCY FOR EDUCATION

HEI ICI

Higher Education Institutions Institutional Cooperation Instrument

GeolCT4e

Social innovations in Geo-ICT education at Tanzanian HEIs for improved employability

Academic Disciplines

Geography, Geoinformatics, Information and Communication Technology, Planning, Forestry, Environmental Sciences

Project theme:

Innovations

Countries

Finland and Tanzania

Project Budget (MFA Funding and Total)

Approved MFA Funding is 1 923 365 euros and total budget is 2 404 206 euros.

Project Duration

1.9.2020-31.8.2024

Coordinating Institution

University of Turku (UTU)

Responsible Coordinator(s) and Contact Details

University of Turku (UTU)

Niina Käyhkö

PhD, Associate Professor

Department of Geography and Geology

University of Turku

20014 Turku, FINLAND

niina.kayhko@utu.fi



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University of Dar es Salaam (UDSM)

Mercy Mbise

PhD, Lecturer

mercymbise@gmail.com, mmbise@udsm.ac.tz

Department of Computer Science and Engineering
College of Information and Communication Technologies
University of Dar es Salaam
P.O. BOX 33335, Dar es Salaam, TANZANIA

Ardhi University (ARU)

Zakaria Ngereja

PhD, Lecturer

Department of Geospatial Sciences and Technology

P.O. Box 35176, Dar es Salaam, TANZANIA

ngereja@gmail.com; zakaria.ngereja@aru.ac.tz

Sokoine University of Agriculture (SUA)

Ernest Mauya

PhD, Senior Lecturer

College of Forestry, Wildlife and Tourism,
Department of Forest Engineering and Wood Science
Sokoine University of Agriculture
P.O. Box 3012, Morogoro, TANZANIA
ernestmauya@gmail.com; mauya@sua.ac.tz

State University of Zanzibar (SUZA)

Makame O. Makame

PhD, Senior Lecturer

Department of Social Sciences

State University of Zanzibar

P.O. Box 146, Zanzibar, Tanzania

maqam04@gmail.com; makame.makame@suza.ac.tz

Moshi Co-Operative University (MoCU)

George Matto

PhD, Head of the Department

ICT Department



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Moshi Co-operative University
P. O. Box 474, Sokoine Road, Moshi, TANZANIA
gmatto2004@yahoo.co.uk; george.matto@mocu.ac.tz

Turku University of Applied Sciences (TUAS)

Eeva Timonen-Kallio

PhD, Principal Lecturer, Research Group Leader
Master School / Health and Well-being
Joukahaisenkatu 3, C-siipi
20520 Turku, Finland
Eeva.Timonen-Kallio@turkuamk.fi

Novia University of Applied Sciences (NoviaUAS)

Romi Rancken

MSc, Senior Lecturer
Department of Bioeconomy
Raseborgsvägen 9
10600 Ekenäs, Finland
romi.rancken@novia.fi

Partner Institutions

University of Turku (UTU, www.utu.fi/en) is the coordinating expert of GeoICT4e and key institution to develop open geospatial, data science and ICT learning innovations and institutional solutions for scalability, with key experts from two academic departments (**Geography and Geology, and Future Technologies**) and two service units (**IT Research Services and Library**).

University of Dar es Salaam (UDSM, www.udsm.ac.tz) is the oldest and largest public university in Tanzania with a vision to be a leading centre of intellectual wealth spearheading the quest for sustainable and inclusive development. In this project, **College of ICT, Department of Geography, the Centre for Entrepreneurship and Innovation, the Centre for Virtual Learning, the Centre for Continuing Education, and the Centre for Climate Change** are cooperating.

Ardhi University (ARU, <http://www.aru.ac.tz/>) is a public university in Dar es Salaam, Tanzania with the mission to provide integrated teaching, research, and public services that are focused towards achieving sustainable social-economic development of Tanzania. In this project, **The Department of**



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Geospatial Sciences and Technology in SERBI, The Department of Urban and Regional Planning in SSPSS, The Department of Computer Systems and Mathematics in SERBI, Department of Links and International Collaboration and Center for Information and Communication Technology are cooperating.

Sokoine University of Agriculture (SUA) (<https://www.sua.ac.tz/>) is among the highly recognized universities in Africa in agriculture and management of natural resources. In this project, **The College of Forestry Wildlife and Tourism (CFWT), The Centre for Information and Communication Technology (CICT), Sokoine National Agricultural Library (SNAL), Department of Knowledge** are cooperating.

State University of Zanzibar (SUZA), (<https://www.suza.ac.tz/>) is a relatively young University with rapid growth in the sectors of ICT and Geospatial applications. In this project **Department of Computer Science, Department of Social Science and SUZA Center for Digital Learning and ICT Service** are cooperating.

Moshi Co-operative University (MoCU), (<https://mocu.ac.tz/>) is a public fully-fledged university since 2014. MoCU offers teaching, research and consultancy on all matters relating to co-operative development, rural transformation, business studies, information and communication technology through thirteen regional centers scattered all over the country. In this project **Department of Information and Communication Technology (ICT), and Department of Marketing, Procurement and Supply Management (MPSM)** are collaborating.

TUAS (<https://www.tuas.fi/en/>) TUAS is one of the leading universities of applied sciences in Finland emphasizing RDI and working life skills. TUAS brings to this project **the collaborative network-based innovation pedagogy approach** and competences in online learning. The TUAS team consists of key experts in **community involvement, sustainable development and climate change** as well as **digital transformation** corresponding to its impact on business models and entrepreneurship.

Novia UAS (<https://www.novia.fi/novia-uas/>) has a strong emphasis on **environmental sustainability and bioeconomy**, with competences in **online learning materials and field training pedagogy** in geospatial and natural resources sectors. In this project, Novia UAS offers their expertise in **forestry and agriculture, sustainable coastal management and study counselling and career planning**.



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Associate partners

Funzi is (<https://www.funzi.fi/>) a provider of a mobile learning service (<https://www.funzi.mobi/>) that allows for easy, fast, and efficient delivery of learning services to all mobile users. Funzi has successfully used in both mobile-only learning or as the backbone for blended learning programs. Use of Funzi enables cost-effective scaling of training, capacity-building, and outreach projects and it is supported by clients and partners like EU, IFC, UNA Tanzania, UNDP, UNOPS, UNSA, Harambee, and other NGOs, public sector organizations such as Ministry of Foreign Affairs of Finland, and private corporations such as Bidvest and Facebook. GeolCT4e is seeking partnership with Funzi to enable wider accessibility and a greater learning impact for the education content provided by the HEIs. The sub-contracting aims to develop a cooperation model between HEIs and Funzi for this education delivery with a pilot to be executed in Tanzania. Contact: Aape Pohjavirta (aape@funzi.fi).

Sahara Ventures (<https://saharaventures.com>) has a mission to build a stable innovation, technology and entrepreneurship ecosystem in Africa through consultancy and investment. Sahara Ventures is well connected to the Tanzanian innovation ecosystem reaching over 400 startups and 4000 entrepreneurs. Sahara Ventures is involved in networking and liaison as well as organizing and executing MCL challenge campaigns together with HEIs and various innovation ecosystem actors. Together with Sahara Ventures, HEIs build viable and sustained cooperation model(s) and practices between HEIs and key external actors/institutes to execute and integrate education events. Contact: Jumanne Mtambalike (jumanne@saharaventures.com).

dLab (dlab.or.tz) is a Tanzanian NGO where data revolution is harnessed through community engagement, capacity development, data science services, and research and innovation. dLab will team up with HEIs in planning organizing and implementing joint data related/innovation related events, which reach for the community engagement and women participation to data science related learning events. dLab will also review HEIs teaching content to ensure that education cooperation model is sustainable in a sense that it culminates in collaboration with local communities and turns theory into impacts in practice. Contact: Stephen Chacha (stephen@dlab.or.tz).

Studio19 is a creative media company focused on telling African stories. They make documentaries, films, photography and multimedia contents and offer their media services as a full package from script design to final material production and dissemination. UTU has been cooperating with Studio19 in previous projects to make dissemination videos on geospatial innovations in Tanzania (<https://www.youtube.com/channel/UC5bk8KMXzvRqF16KziQUNoQ/videos>). For GeolCT4e, we engage Studio19 to make short stories with videos about our events and results. Contact: Brian Paul (brian@studio19.co.tz)



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Description of the Project

The main outcome of 'GeoICT4e' is that the Tanzanian universities have improved management and teaching capacities in the impact-driven and socially innovative geospatial and ICT education, leading to graduates' better employment. Geospatial-ICT technologies are making an impact leap due to globally accessible solutions. We are witnessing a massive growth of innovations built on open digital geospatial data through affordable mobile technologies, and these are tackling major challenges, such as rapid urbanization, degradation of marine and land environments, and humanitarian crises. The number of experts needed is growing, but also the required skills, capabilities and attitudes are changing. New generation HEI graduates need to be competent with the novel technologies, but equally they need to master the interface between technologies' potential and societies' emerging needs, working in a multi-stakeholder environment creating innovative and impact-based solutions.

GeoICT4e achieves this transformation by focusing on critical elements of the HEIs education capacities. Firstly, we improve the HEIs and their staff's capacities and skills to plan and implement multi-competence learning (MCL) solutions in their teaching. Secondly, we improve open access and wider usage of digital e-learning assets in the Tanzanian HEIs for the students and thirdly, we improve students' digital skills and multi-competences in Tanzania. We advance the HEIs institutional uptake and management capacities related to the aforementioned outputs, and especially HEIs ability to reach wider audience with the Geospatial-ICT education. The central vehicle for education transformation in GeoICT4e is the students' multicompetence learning (MCL) process, which happens via co-creative challenge campaigns organized in close cooperation with the innovation ecosystem actors and problem owners. This methodology enables the HEIs to catalyze a change, which we identify as 'socially innovative geospatial and ICT education transformation'.

GeoICT4e is grounded on the long-term and well-established cooperation between University of Turku (UTU) and the four Tanzanian HEIs (UDSM, ARU, SUA, SUZA). It focuses on expanding the teaching and learning impacts from the previous institutional cooperation together with three added partners: TUAS and Novia UAS from Finland, and MoCU from Tanzania. Our large eight-university consortium enables development and institutional delivery of innovative and scalable geospatial and ICT e-learning services for Tanzanian HEI students, and beyond. Since our consortium goals are targeting for substantially broader learning impacts than before, we work in close cooperation with the local innovation and entrepreneur ecosystem and government sector actors, and the World Bank -funded by Tanzania Resilience Academy. We participate local communities through citizen panels to our challenge campaigns and create public awareness for inclusive and informed decision-making in Tanzania.



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Key results to be achieved:

1. HEIs and their staff have improved capacities and skills to plan and implement multi-competence learning (MCL) solutions in their teaching
2. Students have open access and wider usage of digital e-learning assets in the Tanzanian HEIs
3. Tanzanian Geospatial and ICT students have improved digital skills and multi-competences at undergraduate (BA, BSc) and postgraduate level (MSc)

Project Website

<https://www.geoict.org/>

Geo-ICT Project

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