

BUILDING GEOSPATIAL COMPETENCES IN TANZANIAN UNIVERSITIES WITH OPEN SOURCE SOLUTIONS

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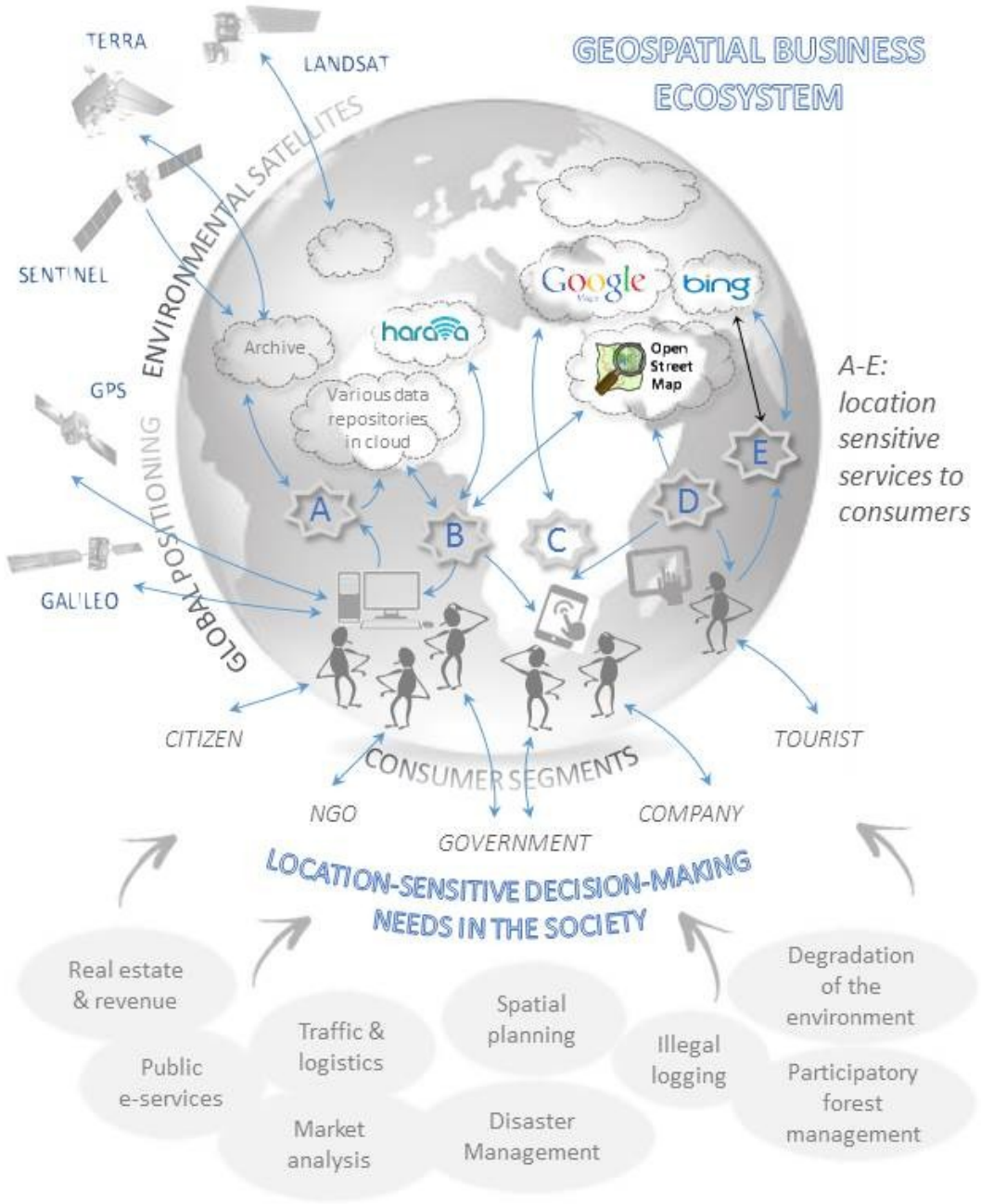

Global accessibility of open digital geospatial technology

location-based – geospatial - solutions are shifting to core strategical role all over the world

Possibility for local life-quality improving impacts

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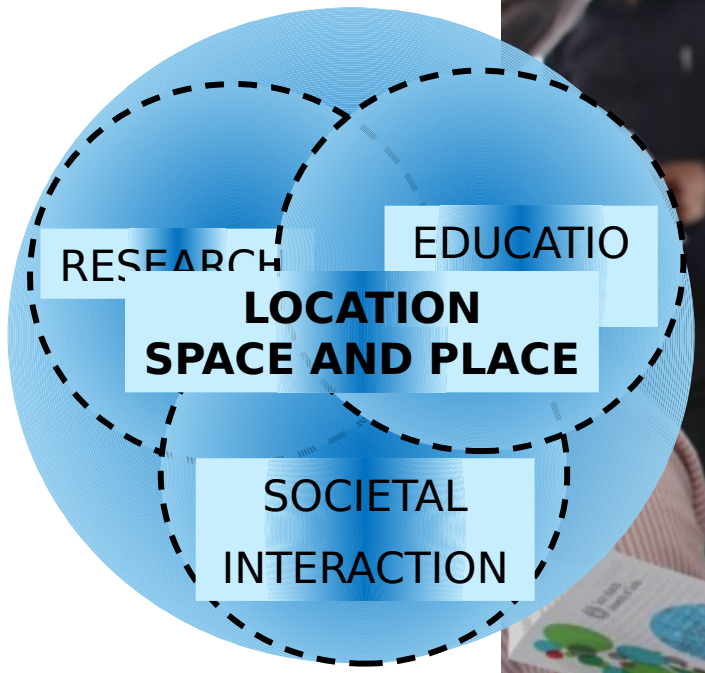
Tanzania is currently one of the most rapidly growing nations in population and economy with **high development potential** **economically and socially**

A **large number of** **location-related problems** in the society need development of **sustainable solutions**

Long term commitment for academic cooperation

University of Turku (UTU) and Tanzanian universities have been cooperating **since 2003** in **geospatial research, education and societal applications**

- *Geographical/environmental/ geospatial research*
- *Geospatial education/ professional training*
- *Developing geospatial solutions for societal needs*



OS solutions have been a cross-cutting element of the cooperati

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Geo-ICT Project

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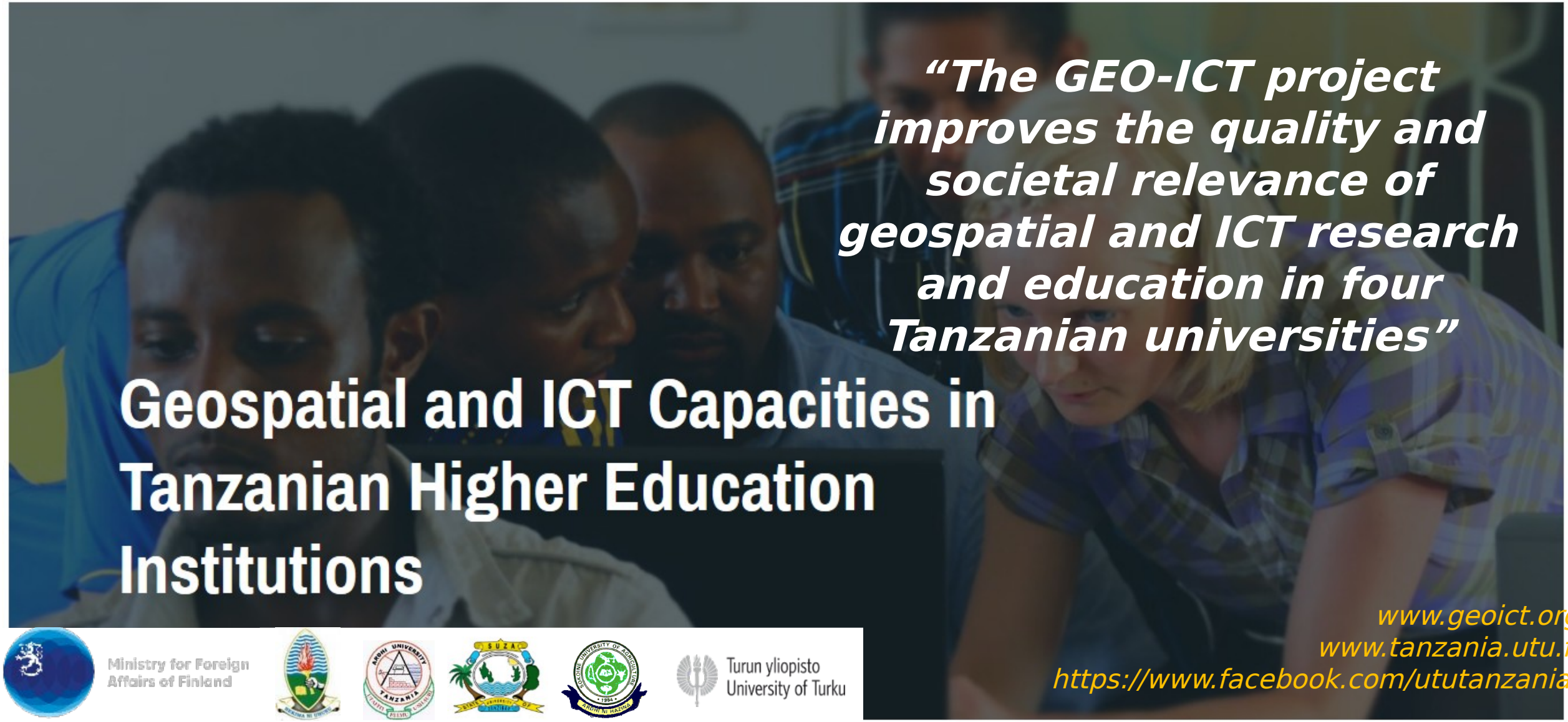

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www.geoict.org
www.tanzania.utu.fi
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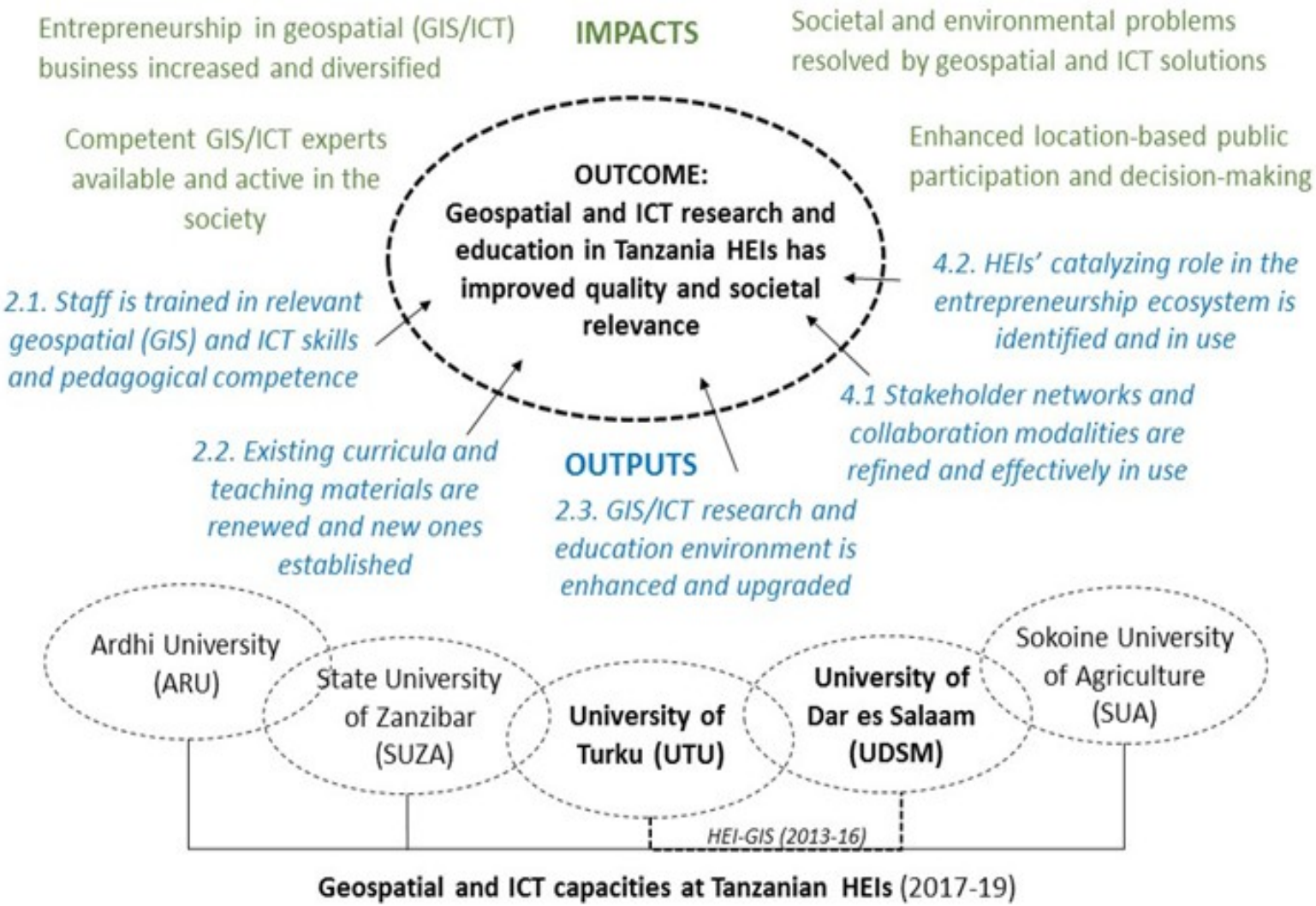
*"The **GEO-ICT project aims to improve the quality and societal relevance** of **geospatial and ICT research and education** in four Tanzanian universities"*



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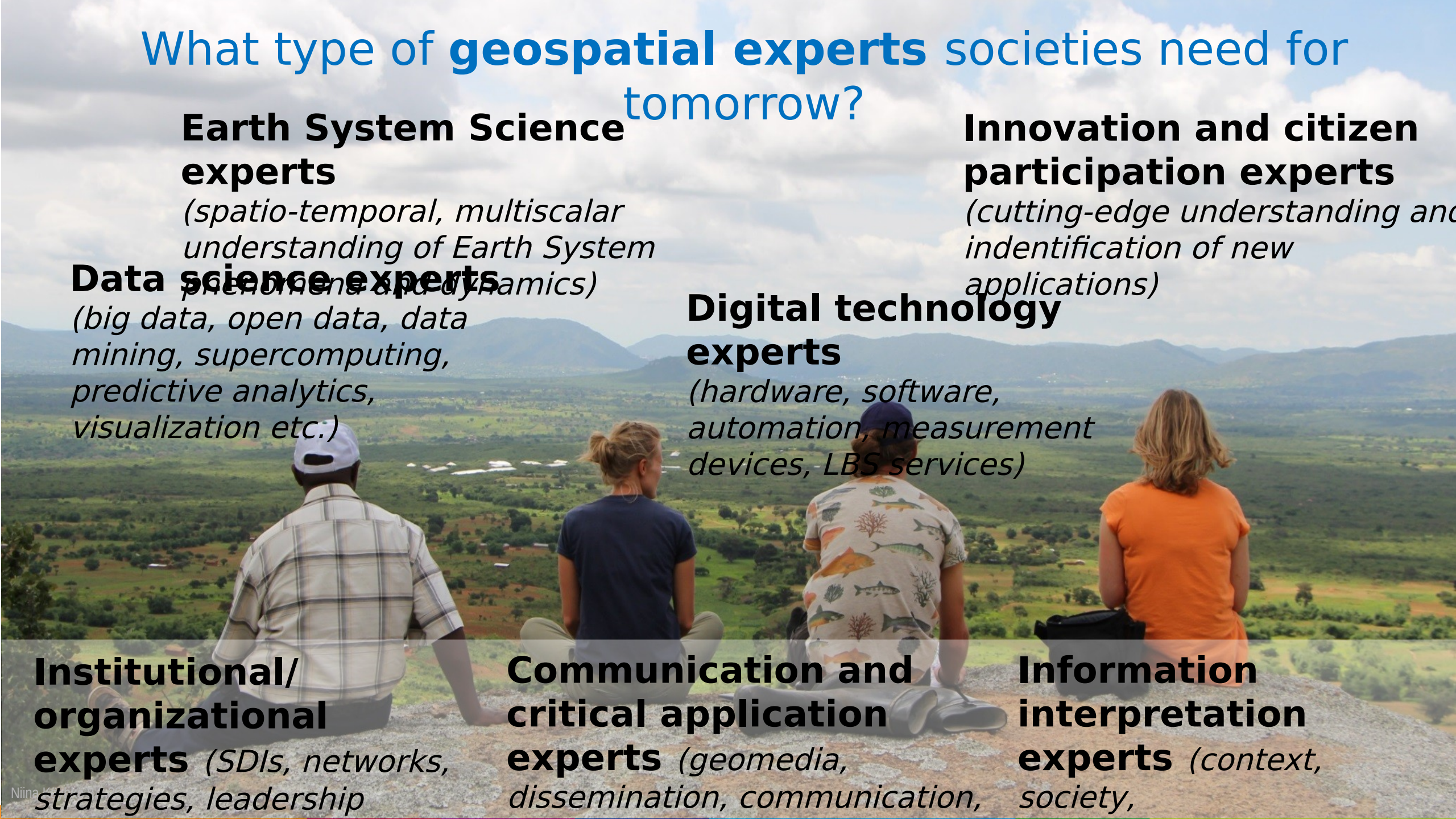
What type of **geospatial experts** societies need for tomorrow?

Earth System Science experts
(spatio-temporal, multiscalar understanding of Earth System phenomena and dynamics)

Innovation and citizen participation experts
(cutting-edge understanding and indentification of new applications)

Data science experts
(big data, open data, data mining, supercomputing, predictive analytics, visualization etc.)

Digital technology experts
(hardware, software, automation, measurement devices, LBS services)



Institutional/ organizational experts *(SDIs, networks, strategies, leadership*

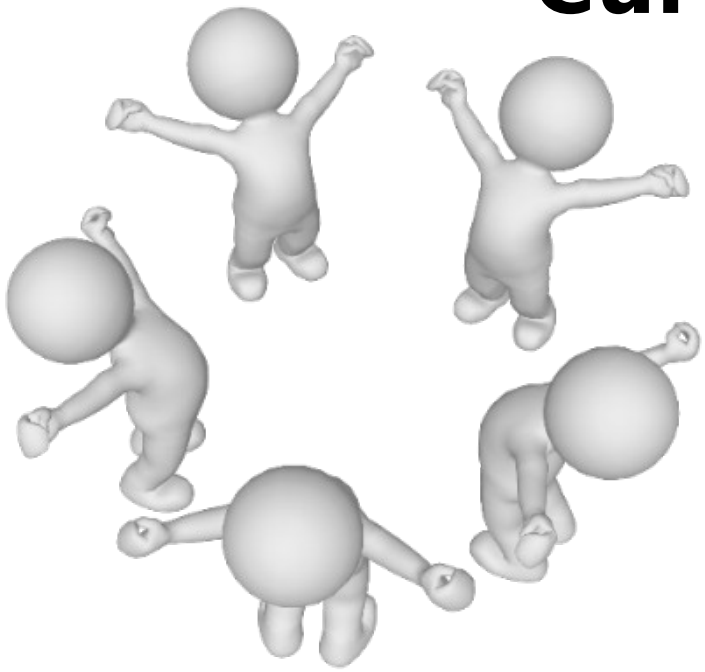
Communication and critical application experts *(geomedia, dissemination, communication,*

Information interpretation experts *(context, society,*

How do we cooperate in Geo-ICT?

Strategical level planning

Curricula development work



Co-creative participatory workshops with stakeholders

Skills and competence training

Informal **team-building** events

Dissemination events

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Strategical level planning → **Curricula** development work → **Skills** and competence training

- Anticipate **future development trends**
- Provides food for though and **motivation for long-term development work**
- Identify universities' strengths, development goals and **complementary roles**

Open source solutions allow stronger complementarities between ICT and geospatial skills to be identified and used for innovation development

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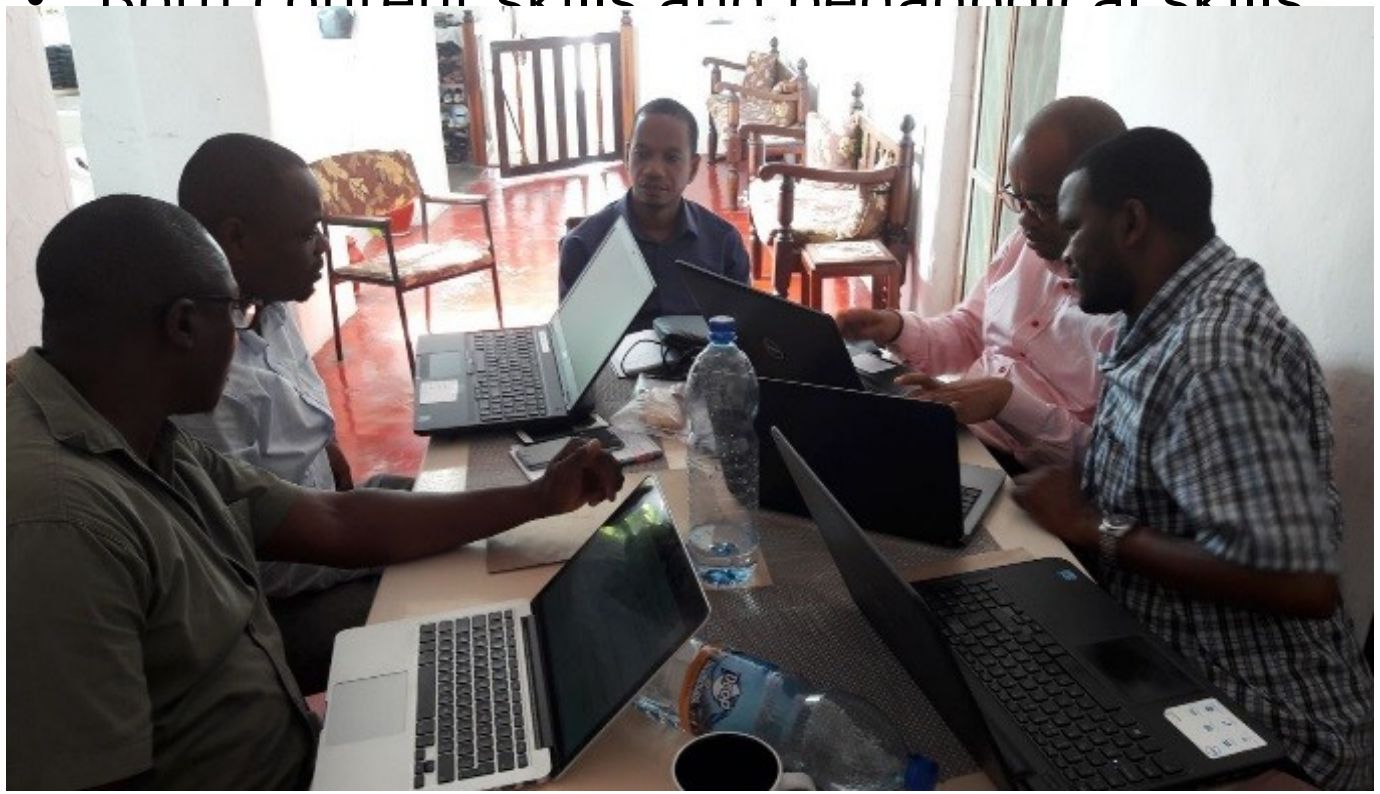
Strategical level planning → **Curricula** development work → **Skills** and competence training

- revision of existing and development of new curricula
- '*training of the trainers*' –approach
- Both content skills and pedagogical skills



Skills using open access data and open-source software linked with novel business possibilities are fuel for the learning motivation

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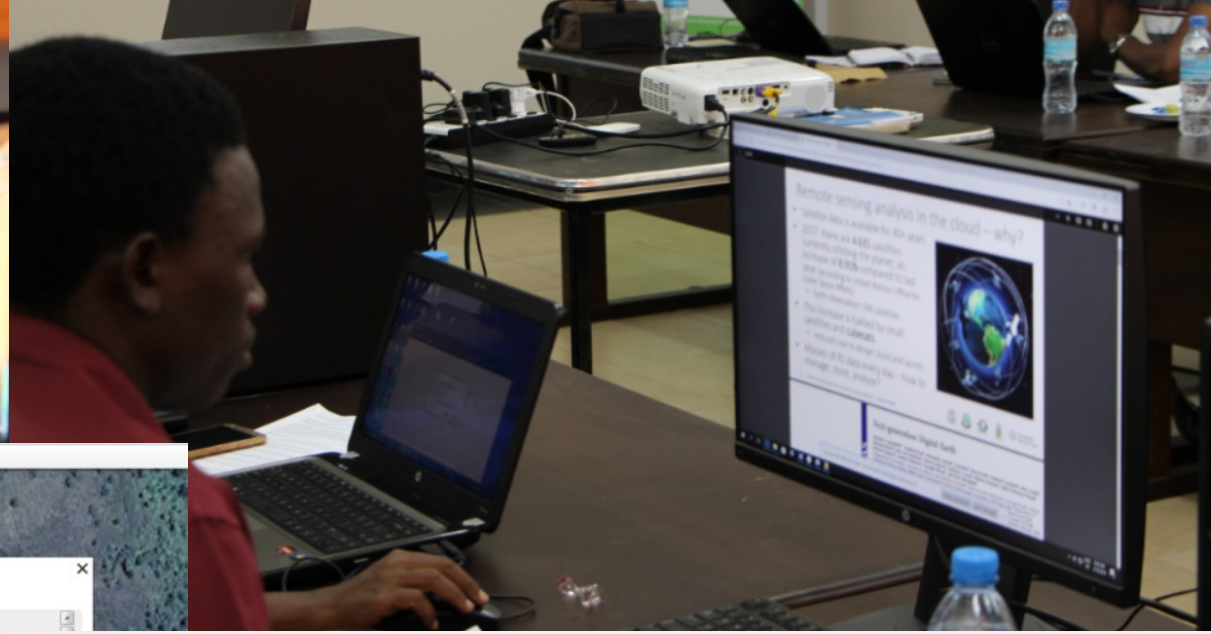
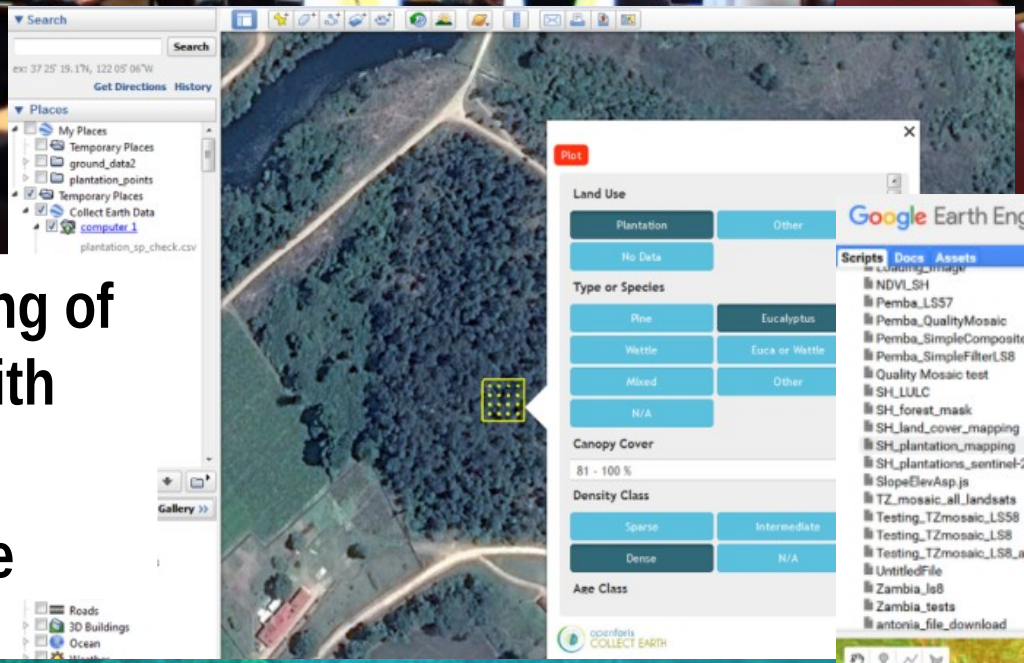
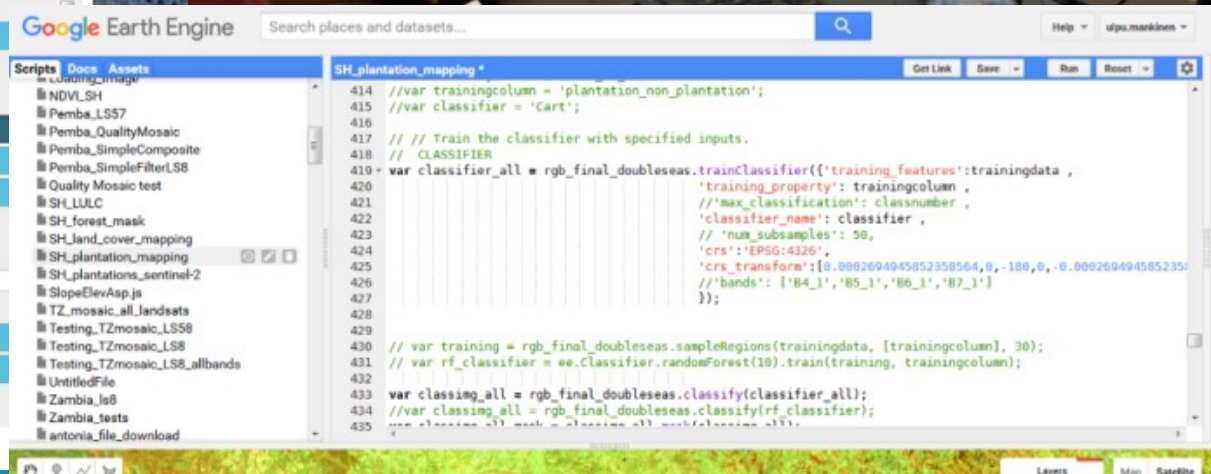
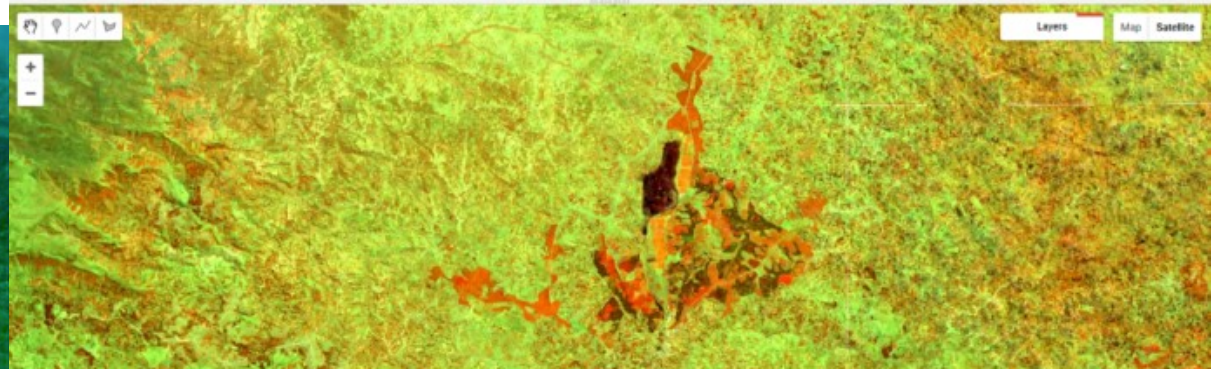




Participatory mapping of forest plantations with **Open Foris** and **Google Earth Engine**



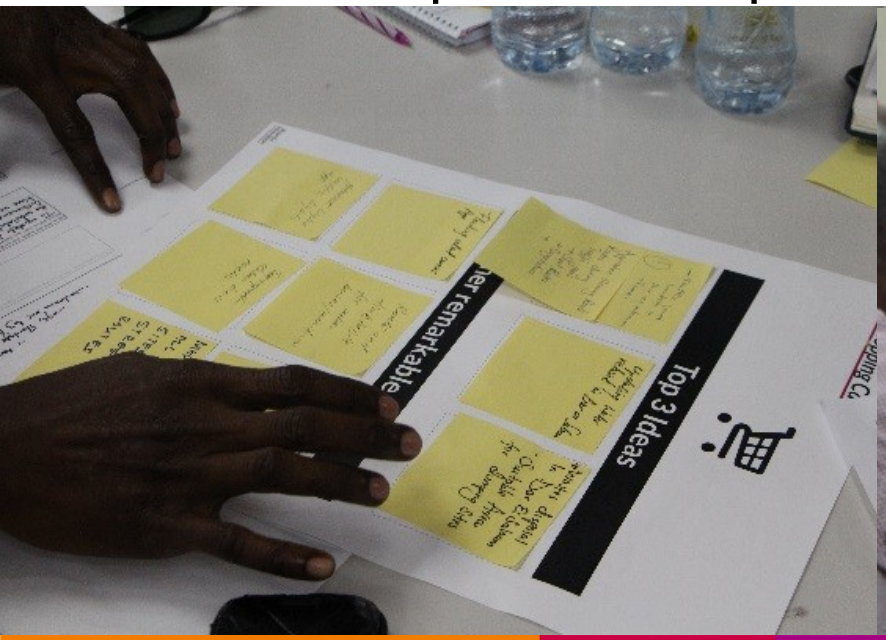


Co-creative participatory workshops with stakeholders

Curricula development work

Skills and competence training

- joint innovation brainstorming work with stakeholders
- Problem-solving solutions around real world local needs
- Embedding these practices into courses, internships and cooperation structures of



User-centred design and prototyping methods bring local contextual knowledge in the innovation process and OS technologies allow their implementation

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Dissemination Events

Different community building efforts invite stakeholders for shared development work and discussion about the future geospatial and ICT possibilities

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Informal team-building

“Umoja ni nguvu, utengano ni udhaifu”

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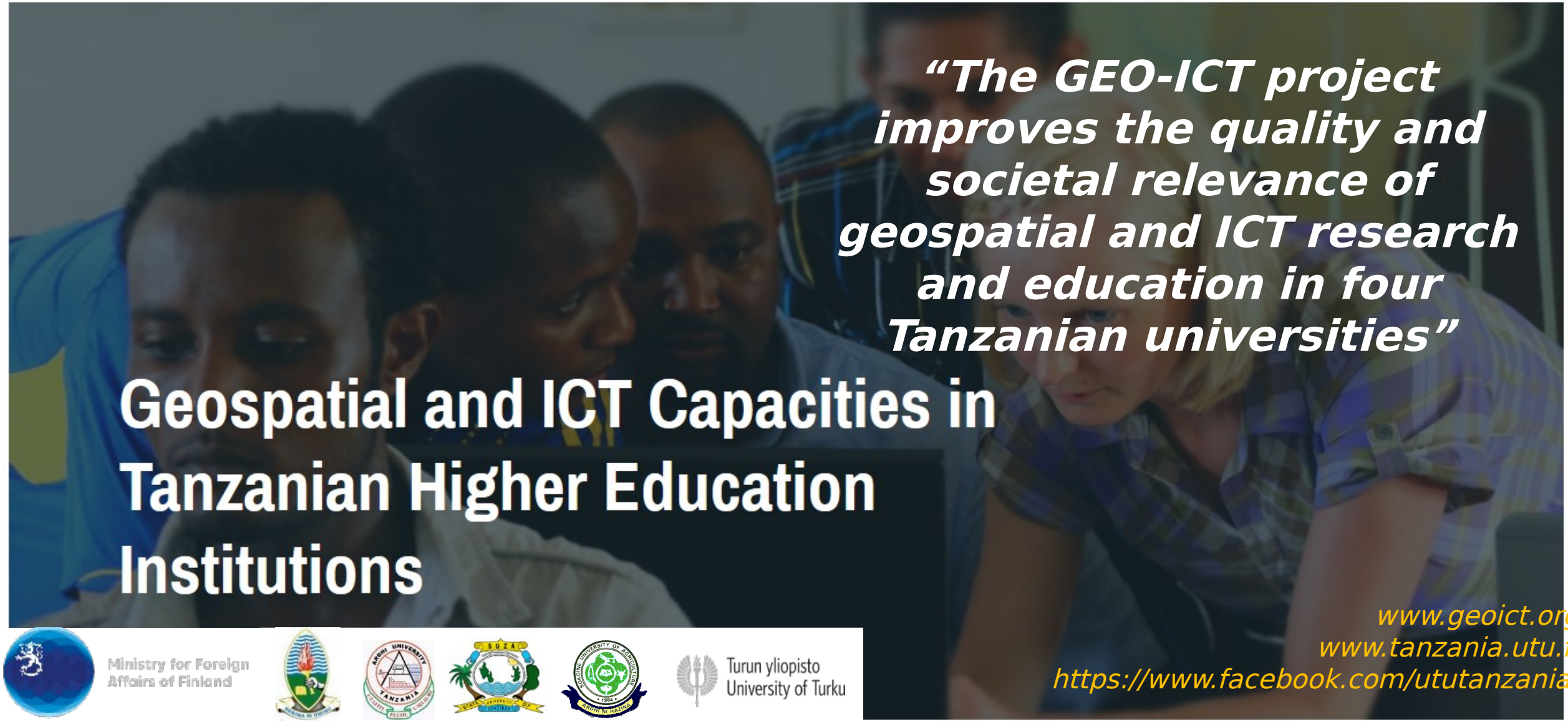

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Research and education cooperation of the University of Turku in Tanzania

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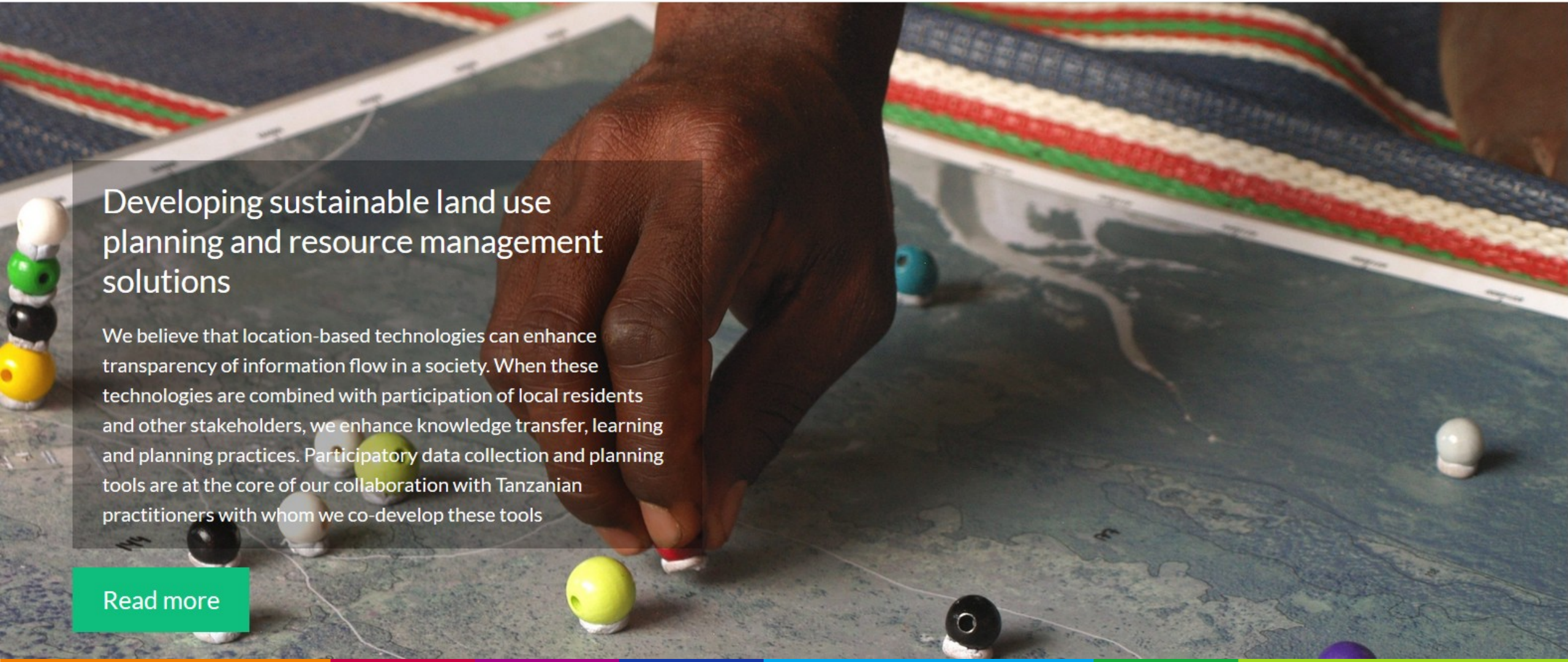

Developing sustainable land use planning and resource management solutions

We believe that location-based technologies can enhance transparency of information flow in a society. When these technologies are combined with participation of local residents and other stakeholders, we enhance knowledge transfer, learning and planning practices. Participatory data collection and planning tools are at the core of our collaboration with Tanzanian practitioners with whom we co-develop these tools

Read more

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