

UNIVERSITY OF TWENTE.



COLLABORATIVE CAPACITY BUILDING IN GEOSPATIAL SCIENCE TO SUPPORT SOCIO- ECONOMIC DEVELOPMENT IN ETHIOPIA

Towards a broker role

Tom Veldkamp



FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

ITC 2020: Vision and Goal



- Our *vision* is that spatial solutions will play an increasingly important role in meeting many of mankind's complex challenges (often wicked problems), such as climate change, population growth, and related claims for sufficient and secure food, water, energy, health, land and housing provision.
- Therefore, our *goal* is to enhance our standing as an internationally recognized knowledge hub in the spatial domain, renowned for its **collaborative** educational and research activities, particularly in the global South.

UN GLOBAL GOALS: LET'S MAKE A BETTER WORLD



Capacity Development in GIS & Earth Observation

- For ITC, capacity development implies building capacity in domain-specific knowledge, skills and attitude at the **individual** and **institutional/societal** levels.
- ITC therefore aims to achieve both individual and collaborative capacity building. This development reflects what happens in modern societies with a strong private sector.

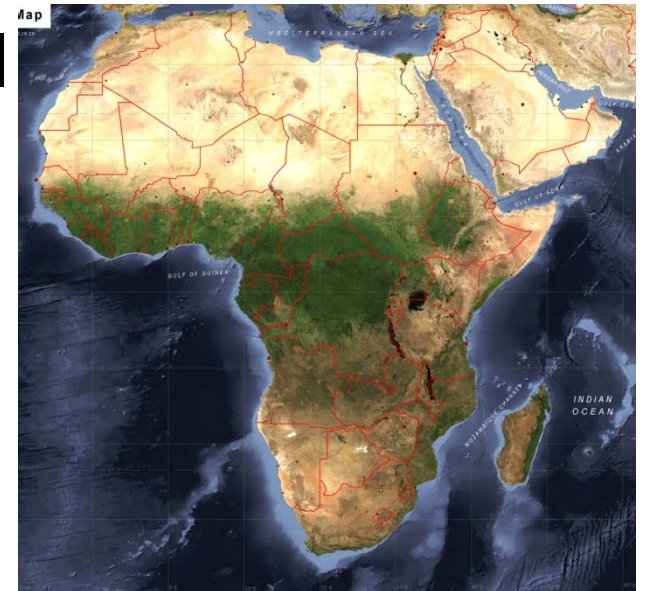


UNIVERSITY OF TWENTE.



Collaborative capacity building

- The ambition of ITC is *to become a knowledge exchange hub in its knowledge domain*. This requires ITC to play an internationally recognized leading and coordinating (knowledge broker) role both globally and regionally.
- Our intention is to organize this together with other supra-national regional partners in Africa



Collaborative capacity building: actions

Actions based on new vision:

- We consider it relevant to align our activities with those of other main players in our field.
- Active engagement with our Alumni network



**11TH INTERNATIONAL
CONFERENCE OF THE AFRICAN
ASSOCIATION OF REMOTE
SENSING OF THE ENVIRONMENT**

**OCTOBER
24 - 28TH
KAMPALA
UGANDA**

UNIVERSITY OF TWENTE.

Collaborative capacity building: actions

Actions based on new vision:

- ITC is currently discussing improving collaboration with regional centers such as NASA-Servir, RCMRD, RECTAS, SANSA and other interested parties.
- Development of new modes of interactions. Education – Research and entrepreneurial activities
- EENSAT a collaborative project with contributions from NUFFIC and Min of Education

Our Earth Observation Knowledge domain Is getting connected to society and other Geo technologies

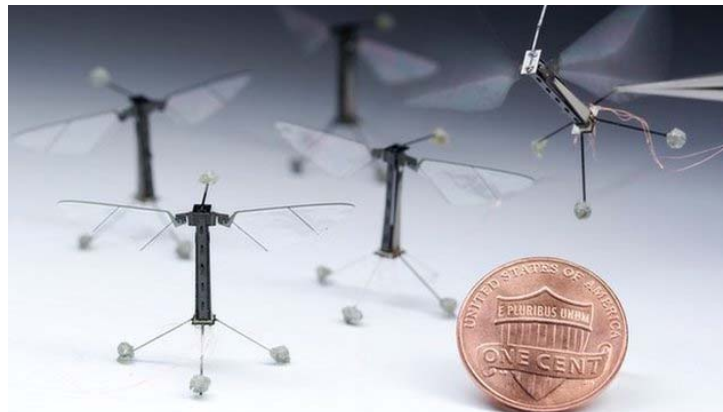


Rapid acceptance and users
Of geospatial data applications
and technologies
Bring it closer to users

Crowd sourcing
UAV



UNIVERSITY OF TWENTE.



Individual capacity building

Education is changing

- more long life oriented
- more student (skill) focused, less content oriented
- more room for individual development
- more self reliance and self learning
- more E-learning
- Shift towards blended learning

Core of GEO MSc ITC is now available
As distance course



UNIVERSITY OF TWENTE.



Individual capacity building

New societal demands

Therefore new MSc program at ITC with:
focus on broad multi-disciplinary skill development

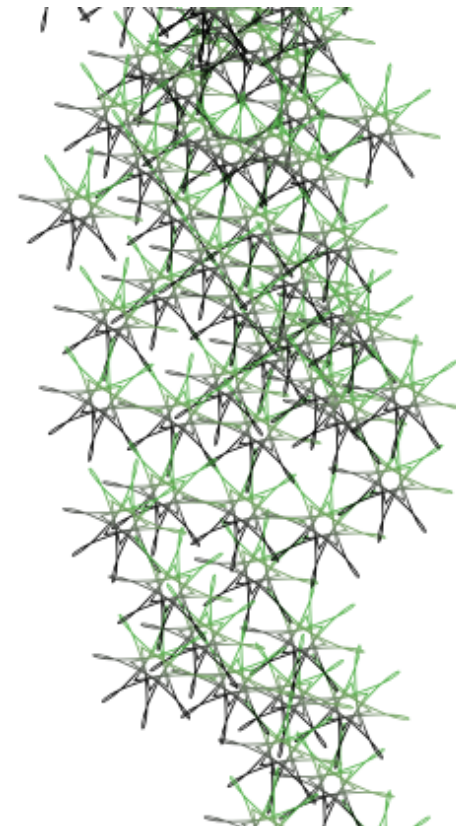


Spatial Engineering a new MSc programme

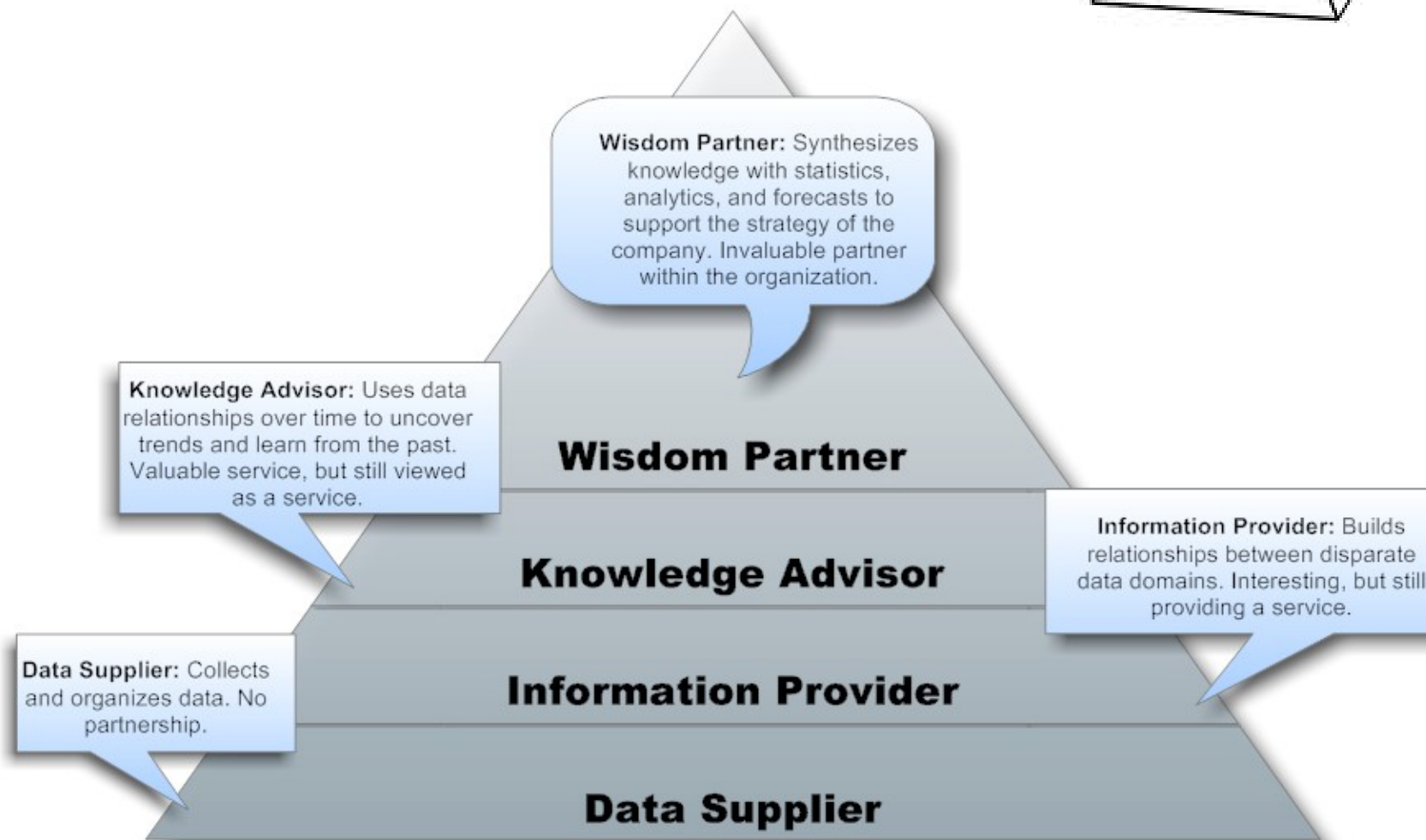
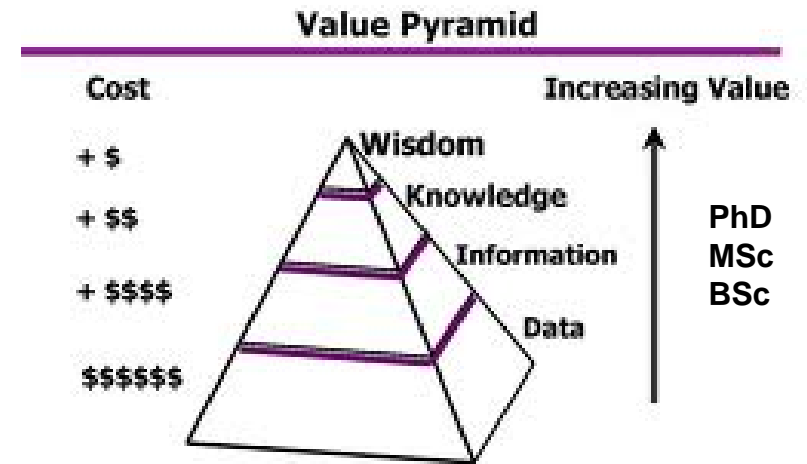
The MSc in Spatial Engineering builds upon the expertise of the University of Twente in fields like civil and geo-engineering, computer science, geo-information science and earth observation, and public administration. This new master programme is planned to start in September 2016.

Hands-on, international and high-tech

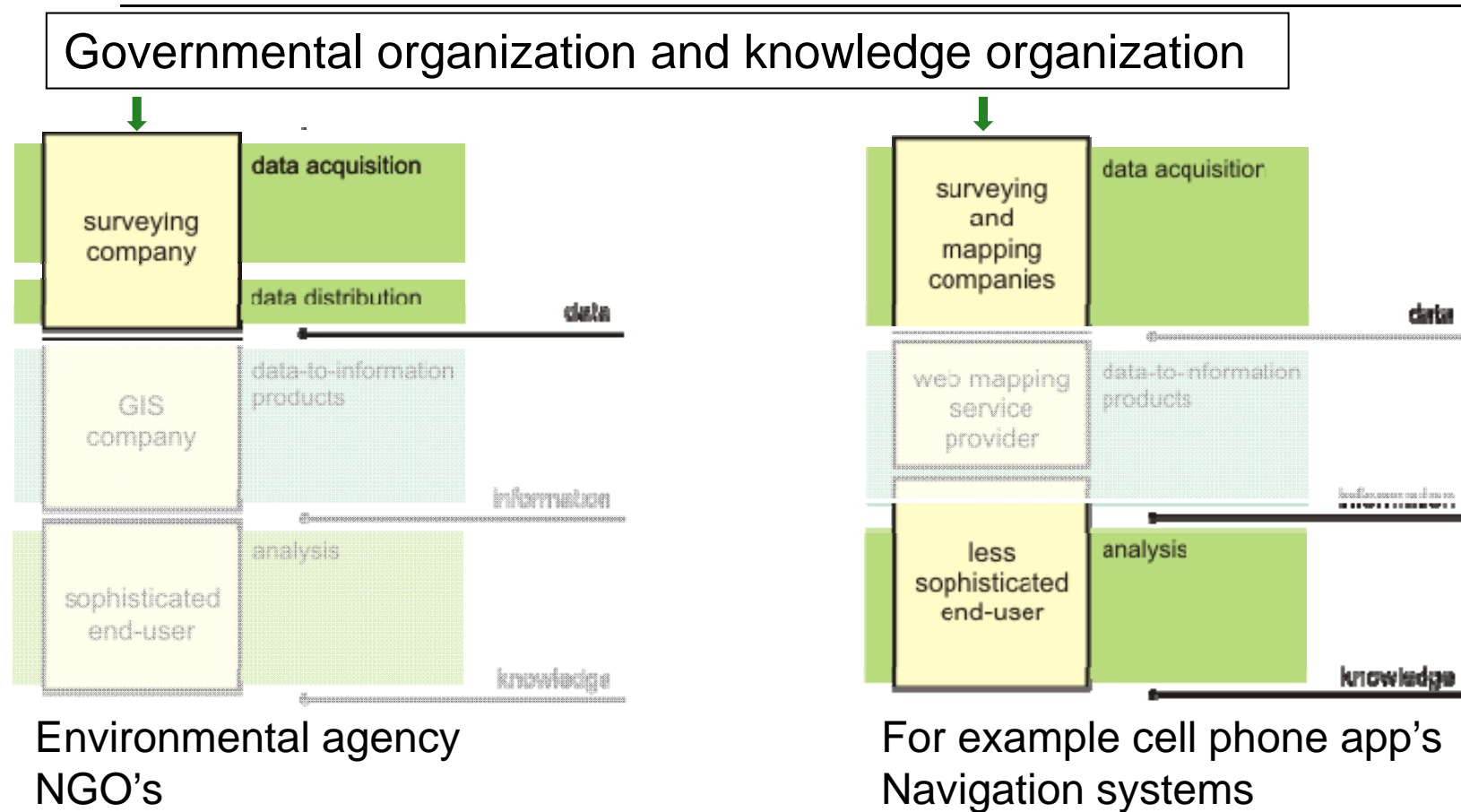
Powerful forces, such as climate change and population pressure, pose huge challenges to governments. Spatial Engineering is a new two-year MSc programme that will equip you to make a contribution in this international arena. Working with the latest high-resolution satellite imagery and drone-based field observations of ongoing projects, you will become an expert in spatial modelling techniques for flooding, drought and earthquakes. You will work in a team to design engineering and planning solutions. During a visit to an international project area in Africa or Asia you will discuss your team results with local institutions. The feedback you receive from consultancy and government professionals will increase your awareness and prepare you further for your career. Throughout the programme you will benefit from our expertise in civil and geo-engineering, computer science, geo-information science and earth observation, and public administration.



The GeolCT (RS) value pyramid

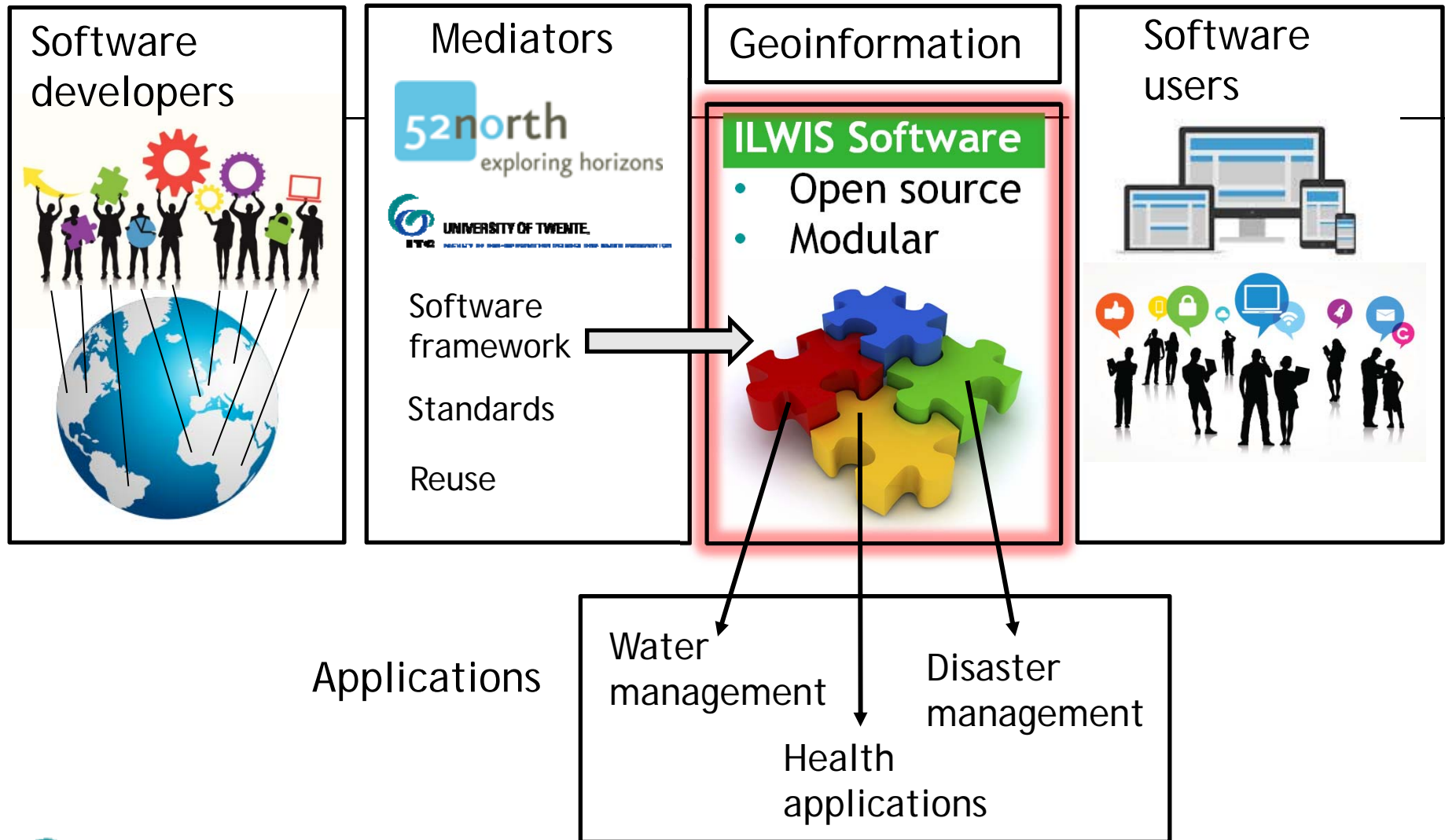


Geospatial value chains



UNIVERSITY OF TWENTE. We often lack companies to effectively fill in the gaps!!
The need for open data and source code policy!!

Modern Software Environment



Software development & activities

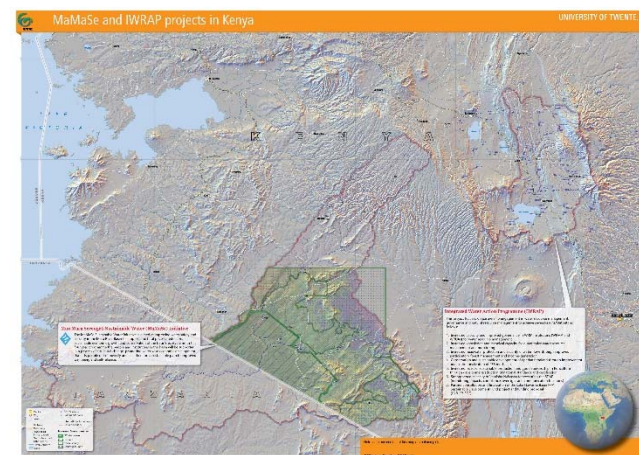
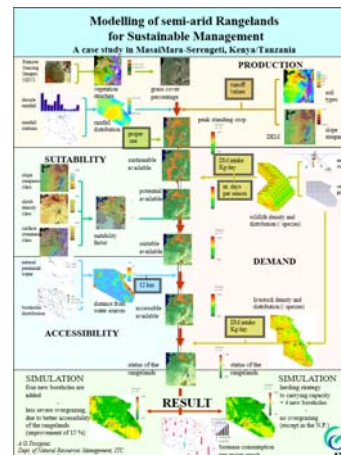
Education, Research, Projects



Collaboration platform for research-oriented open source software development



UNIVERSITY OF TWENTE.



Three steps towards entrepreneurship

Advisory service
for farm
management

Need actual meteo
and soil geodata
and agronomic
knowledge and skills

Sell a cell phone
app. to farmers using
cooperative network.

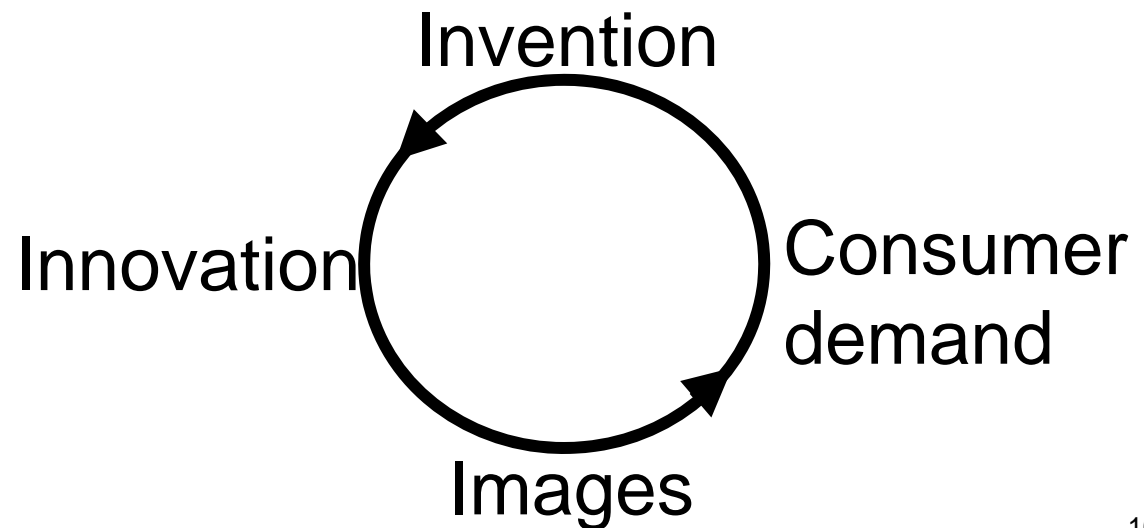


Business is marketing and delivering expected quality
and being a reliable partner
Sometime certification systems help



INNOVATION LEADING TO BUSINESS

- Invention
- Innovation
- Visions/Images
- Consumer demand





INVENTIONS

- Ownership (IP of components and/or final product)
- Hardware: the material invention (e.g. cell phone, UAV GIS software, (geo)-data, satellite data)
- Software: skills and knowledge to use and implement the invention
- Orgware: organizational and institutional conditions influencing development and functioning of innovation. For both product and people (laws, infrastructure etc)
- Entrepreneurship requires effectively combining these three 'ware' types.



INNOVATIONS

- Organizing a successful and effective implementation of an invention
- Critical issues:
 - Access to consumer markets
 - Institutional space for new things (laws and regulations do not hamper implementation: maps a military sensitive info).
 - A formalized and recognized network of professionals

Analyze obstructions and allow time to learn how to adapt



THE ROLE OF IMAGES/VISIONS

- Images can make or break a new invention.
- New inventions/markets require new mobilizing visions (GMO discussions)
- You not only sell a product but also an image (importance of marketing)
- Images can be managed and but do require participation of all potential stakeholders in order to prevent 'propaganda'.



MOBILIZING CONSUMER DEMAND

- When a product appeals to the general social norm this will facilitate marketing
- The value chain has to be identified and organized
- Marketed image should match with original image
- Consumer behavior does not equal citizen request

- Key components for buying are: motivation, opportunity and ability



WHAT COULD ITC'S NEW ROLE ENCOMPASS FOR ETHIOPIA?

WE NEED A HIGHLY DIVERSE GROUP OF STAKEHOLDERS

- Aim is to stimulate large multi-disciplinary projects/programs with potentially high societal impact
- By co-development ITC wants to push towards new and relevant science
- ITC will not do consultancy type of activities
- Main role of ITC is knowledge and network broker
- Role of alumni and other network partners is to define need and identify opportunity's
- Project development requires a pro-active role (not waiting for new calls but initiating them.
- All will be done in equal partnership approaches like EENSAT
- ITC aims for more public private partnerships

UNIVERSITY OF TWENTE.

THANK YOU



FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

WWW.UTWENTE.NL/ITC

ITC 2020:
MORE SPACE FOR
GLOBAL DEVELOPMENT

UNIVERSITY OF TWENTE.

