# IST-AFRICA 2012 – 2013
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D3.2 Joint IST-Africa CAAST-Net Plus Horizon 2020 Workshop, Dar es Salaam, 20 January 2014

Workshop Report prepared by IIMC, Ireland and Tanzania Commission for Science and Technology

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# 1. Workshop Context

Horizon 2020 commenced in January 2014 as the new Framework Programme to implement research and innovation with funds of €80 billion from 2014 - 2020.

Horizon 2020 (H2020) addresses all research and innovation funding that was previously provided through the Framework Programmes for Research and Technical Development (e.g. FP7), Competitiveness and Innovation Programme (CIP) and European Institute of Innovation and Technology.

Three main priorities:

➢ **Excellence Science** – Research Infrastructures, Marie Curie (Mobility Grants)

➢ **Leadership in Enabling and Industrial Technologies** (LEIT) – Components & Systems, Advanced Computing, Future Internet, Content Technologies and Information Management, Robotics, Micro and Nano-electronics and photonics

➢ **Societal Challenges** – Health, Food Security & Agriculture, Energy, Transport, Climate action and Environment, Innovation and reflective Societies and Secure Societies

Tanzania Commission for Science and Technology (COSTECH) as the IST-Africa partner in Tanzania organised the Joint IST-Africa CAAST-Net Plus Horizon 2020 Workshop in Dar es Salaam on 20 January 2014. All relevant stakeholders were invited to participate to raise awareness of the opportunity for research cooperation at international level.

The workshop was well attended with over 48 participants from CIVE, University of Dodoma; College of ICT, University of Dar es Salaam; MUCE, University of Dar es Salaam; COSTECH; CSE Dept, University of Dar es Salaam; Dar es Salaam Institute of Technology (DIT); Eastern Africa Statistical Training Centre (EASTC); EU Delegation Tanzania; Ifakara Health Institute - IHI; Moshi University College of Co-operative and Business Studies (MUCCOBS); Muhimbili University of Health and Allied Sciences; National Institute for Medical Research (NIMR); School of Journalism and Mass Communication (SJMC); Sudan University of Science and Technology; The Nelson Mandela African Institution of Science and Technology (NM-AIST); The Southern and Eastern African Mineral Centre (SEAMIC) and The State University of Zanzibar (SUZA).

IST-Africa and CAAST-Net Plus collaborated with Dr Stéphane Hogan, Counsellor for Research & Innovation, Delegation of the European Union to the African Union in relation to this Horizon 2020 workshop in a context of four joint H2020 Workshop organised in East Africa during the week of 20 January 2014.

## 2. Workshop Report

### 2.1 Introduction



The workshop was officially opened by Dr Hassan Mshinda, Director General of Tanzania Commission for Science and Technology (COSTECH). Dr Mshinda welcomed Dr Stéphane Hogan, Counsellor for Research & Innovation, Delegation of the European Union to the African Union, the participants, and colleagues from IST-Africa Initiative (Paul Cunningham, Miriam Cunningham, IIMC, Ireland) and CAAST-Net Plus (Melissa Plath,

UniPID, University of Jyväskylä, Finland; George Essegbey, CSIR, Science and Technology Policy Research Institute, Ghana and Constantine Vaitsas, FORTH, Greece).

Dr Mshinda provided some background in relation to COSTECH, which was established by an Act of Parliament as an agency with an advisory role on Science Technology and Innovation matters. COSTECH is responsible for coordinating research across all sectors, technology transfer and dissemination of scientific results. COSTECH is the custodian for the national fund for Innovation. COSTECH has a focal point for each research cluster to support coordination of research - Research areas are divided into clusters - Life Sciences, Physical Sciences, Social Sciences, Innovation and Entrepreneurship and Knowledge Management. Technology and Innovation is relevant across all sectors.

Dr Mshinda highlighted the importance of having this workshop to raise awareness of opportunities in Horizon 2020. COSTECH aims to appoint one person as a focal point to deal with cooperation under Horizon 2020.

In terms of supporting Research & Innovation, over the past three to four years the Government of Tanzania has increased the allocation of resources in this area - COSTECH is supporting 400 Masters and PhD candidates, assisting institutions with research infrastructure in the areas of Agriculture, Fisheries, Livestock and funding in the region of 150 research projects based on national priorities. These projects are now showing results.

In relation to International Cooperation, COSTECH has partnered with SIDA (Sweden) and Dutch Research Council to support Post Docs. To date 5 - 6 projects have been supported.

Dr Mshinda acknowledged the active involvement and commitment of the European Commission encouraging African participants to cooperate with their European peers to address relevant challenges focused on societal problems. The IST-Africa Initiative and CAAST-Net Plus will provide insight into programme opportunities under Horizon 2020.

Dr Mshinda thanked Paul and Miriam from IST-Africa Initiative for ongoing support to develop the Information Society in Tanzania and thanked the CAAST-Net Plus Team (Melissa, George and Constantine) for providing support to Tanzanian researchers in the context of this joint H2020 workshop.

Paul Cunningham, IIMC / IST-Africa Initiative, Ireland thanked Dr Mshinda for opening the Horizon 2020 workshop and COSTECH for hosting the workshop and mobilising the national research community.

Paul then provided an overview of the **IST-Africa Initiative,** which was founded in 2002 by IIMC, Ireland and has now grown to a partnership with Ministries and National Council responsible for Information Society, ICT and/or Innovation in18 African Member States[1]. The IST-Africa is supported by the European Commission and African Union Commission with co-funding under FP7.

The IST-Africa Initiative facilitates and supports:

➢ International Innovation, Policy and Research Cooperation;

➢ Knowledge sharing and Skills Transfer between IST-Africa partners;

➢ Collaborative Innovation, Entrepreneurship and Adoption of Living Labs Methodologies;

➢ Information Society, ICT and Innovation Aspects of the Africa-EU Strategic Partnership;

➢ Awareness of African Research Capacity, cross-border cooperation and participation in Horizon 2020

➢ Establishment of National Contact Points in IST-Africa partner countries

COSTECH leverages the IST-Africa Initiative to actively promote the national research community by

➢ Presentations at International events

➢ Chapter on Tanzania as part of the overall IST-Africa Study on ICT Initiatives and Research capacity

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[1] IST-Africa partners: IIMC International Information Management Corporation Limited ("IIMC", Ireland); Ministry of Transport and Communications ("MTC", Botswana); Ministere de l'Enseignement Superieur et de la Recherche Scientifique ("MESRS", Burundi); Agence Nationale des Technologies de l'Information et de la Communication ("ANTIC", Cameroon); Ministry of Communications and Information Technology ("MCIT", Egypt); Ministry of Communication and Information Technology ("MCIT", Ethiopia); Ministry of Environment, Science and Technology (Ghana); Ministry of Education, Science and Technology ("MOEST", Kenya); Ministry of Communications, Science and Technology ("MCST-L", Lesotho); National Commission for Science and Technology ("NCST", Malawi); National Computer Board ("NCB", Mauritius); Instituto Nacional de Tecnologias de Informacao e Comunicacao ("INTIC", Mozambique); National Commission on Research, Science and Technology ("NCRST", Namibia); Ministère de l'Enseignement Supérieur et de la Recherche ("MESR", Senegal); Department of Science and Technology ("DST", South Africa); Ministry of Information Communication Technology ("MICT-S", Swaziland); Tanzania Commission for Science and Technology ("COSTECH", Tanzania); Ministere de l'Enseignement Superieur et de la Recherche Scientifique ("MHESR", Tunisia) and Uganda National Council for Science and Technology ("UNCST", Uganda).

➢ Publishing articles on ongoing and emerging ICT and Innovation activities in Tanzania on the IST-Africa portal and in the Newsletter

➢ Raising awareness of upcoming Calls for Proposals and international funding opportunities

➢ Assists institutions in preparing for new opportunities such as Horizon 2020

➢ Raises awareness of activities being undertaken in other African countries

➢ Supporting the publishing of Organisational profiles on IST-Africa portal to raise awareness of activities in wider community

➢ Has access to IST-Africa Network including Ministries and National Councils in 17 African Countries to share knowledge, experiences and success stories

➢ Has first-hand experience of what is involved in being part of International funded activities under the European Framework Programme

Participants were encouraged to visit the IST-Africa portal[2] and download relevant papers and reports.

Melissa Plath, UniPID, University of Jyväskylä, Finland provided an introduction to **CAAST-Net Plus**, a Coordination Action supported by the European Commission under FP7 with 25 partners. CN+ has a focus on Advancing Sub-Saharan Africa-European Union research and Innovation Cooperation. It is focused on supporting cooperation in Research and Innovation between Africa and Europe in particular on Health, Food Security and Climate change, which are multidisciplinary areas with good potential. CN+ objectives including:

➢ To encourage new and diverse multi-stakeholder partnerships that through research and innovation tackle global challenges in health, food security and climate change that affect African and Europe

➢ To enable better understanding between the public and private sector in Africa and Europe of the link between research and innovation and to identify and share opportunities for cooperation through networking and communication

➢ To facilitate exchanges that result in learning that support formal policy dialogues

CN+ organises Information Sessions to raise awareness of opportunities under H2020 in the Sciences area, undertakes mapping of activities, setting up researchers platform and policy dialogue to support EU/Africa cooperation. Objectives include encouraging new and diverse multi-stakeholders partnerships through research and innovation.

George Essegbey, CSIR, Science and Technology Policy Research Institute, Ghana provided an overview of activities under WP5 focused on Strengthening Africa-EU Research Cooperation Partnerships - three of the CN+ partners are actively involved in this - CSIR-STREP, Ghana, UniPID, University of Jyväskylä, Finland and FORTH, Greece. The objectives include awareness raising of Horizon 2020 among African and European STI research

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[2] http://www.ist-africa.org/home/default.asp?page=reports

community and supporting the enlargement of National Contact Points in African Member States, conduct analysis and monitoring of activities in Health, Food Security and Climate Change.

## 2.2    Tanzanian Success Stories in FP7

Constantine Vaitsas, FORTH, Greece provided an overview of Tanzanian participation in FP7: 45 participations in 39 EU-funded projects with €12 million in research funding, making Tanzania the 8th most successful African country in FP7 in terms of participation. Tanzania has a high success rate in terms of the number of projects funded compared with overall submissions. Most prominent participants from Tanzania include: COSTECH, Sokoine University of Agriculture, Ifakara Health Institute, National Institute for Medical Research and Muhimbili University of Health and Applied Sciences. European Coordinators with most projects in Tanzania include IIMC (Ireland), London School of Hygiene and Tropical Medicine, Liverpool School of Tropical Medicine (UK), Karolinska Institutet (Sweden)

Constantine briefly presented two funded projects including: ICONZ - Integrated Control of Neglected Zoonoses and AvecNet - African Vector Control: New Tools.

Dr Amos Nungu, Dar es Salaam Institute of Technology presented the eI4Africa eInfrasturcture project, which runs from November 2012 - 2014. DIT were involved in a number of proposals submitted under FP7 of which this proposal was successfully launched. The project objectives were summarised. DIT got involved through cooperation with KTH and Karolinska Institute (Sweden) as they work with them in other projects (ICT for Rural Development). DIT's visability was raised by virtue of hosting the National High Performance Computing Centre in Tanzania. DIT has strong research capacity in ICT, Energy and Environment. Two other research projects that DIT are currently involved in included "WIMEA ICT" sponsored by NORAD with Makerere Univeristy, Juba University and University of Bergen and "Developing a Living Lab framework for co-creation of Innovation between South Africa and Tanzania" as joint Research grant under the South African / Tanzania Research Partnership Program bilateral Agreement

## 2.3   African Participation in FP7

Stéphane Hogan, Counsellor for Research & Innovation, Delegation of the European Union to the African Union presented African participation in FP7, which has grown steadily over the past seven years. As at September 2013 there were 1315 participations from 45 African countries in 565 projects with a total grant funding of 178 million euro from the European Commission going into African institutions. 82% of the projects funded were mainly in the Cooperation Programme - Health, Agro-Food, Environment.

Stéphane highlighted a number of funded projects with Tanzanian participation including AvecNet, ICONZ, CLUVA and IST-Africa. Stéphane outlined the importance to delivery tangible results during participation in a running project to maintain a good reputation.

The table below provides an overview of the number of projects[3] secured in each IST-Africa partner country as at November 2013:

| Country | Thematic areas |
|---|---|
| Botswana | 9 FP7 projects - ICT (4), INCO (1), Environment (1), Health (2) and Food, Agriculture and Biotechnology KBBE (1) |
| Burundi | 3 FP7-ICT projects |
| Cameroon | 23 FP7 projects - ICT (4), INCO (1), Environment (4), Health (7), Infrastructures (1), Food Agriculture and Biotechnology KBBE (1), NMP (1), Science in Society (1), Space (1), SSH (2) |
| Egypt | 96 FP7 projects - ICT (9), INCO (19), Environment (12), Health (6), Space (3), Social Sciences (7), Energy (4), INFRA (4), NMP (1), People (7), Science in Society (2), Food Agriculture and Biotechnology (KBBE) (17), Regpot (2), SEC (1), Transport (2) |
| Ethiopia | 23 FP7 projects - ICT- (2), Environment (8), Health (5), Food Agriculture and Biotechnology KBBE (3), Space (2), Social Sciences (3) |
| Ghana | 43 FP7 projects - ICT (3), Environment (6), Health (17), IDEAS (1), INCO (2), Food Agriculture and Biotechnology KBBE (6), NMP (1), People (1), Space (2), SSH (4). |
| Kenya | 67 FP7 projects - ICT (4), INCO (4), Environment (18), IDEAS - ERC (2), Health (14), Food, Agriculture and Biotechnology KBBE (13), INFRA (3), People (3), Science in Society (2), Space (2), Social Sciences (1). |
| Lesotho | 4 FP7-ICT projects |
| Malawi | 20 FP7 projects - ICT (2); INCO (1), Infrastructure (5), Environment (2), Health (8), Food, Agriculture and Biotechnology KBBE (1), Science in Society (1). |
| Mauritius | 6 FP7 projects - ICT (3), Infrastructure (2), Health (1). |
| Mozambique | 20 FP7 projects - ICT (4), Environment (3), Health (6), Food, Agriculture and Biotechnology KBBE (2), Space (4). |
| Namibia | 11 FP7 projects - ICT (4), INCO (1); Health (1), Infrastructure (1), Food, Agriculture and Biotechnology KBBE (2), Science in Society (1). |
| Senegal | 40 FP7 projects - ICT (6), INCO (3) Environment (9), Health (5), |

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[3] Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries, January 2014, ISBN: 978-1-905824-41-0. Download from http://www.ist-africa.org/home/default.asp?page=reports

| | |
|---|---|
| | Food, Agriculture and Biotechnology KBBE (9), IDEAS (1), People (1), Space (1), Social Sciences (4). |
| South Africa | 189 FP7 projects - ICT (19), INCO (11), Energy (5), Environment (28), Health (30), Infrastructure (11), Food, Agriculture and Biotechnology KBBE (32), NMP (3), People (8), Security (2), Science in Society (5), SME (3), Space (9), Social Sciences (12), SSH (12), Transport (7). |
| Swaziland | 3 FP7 projects – 2 ICT, 1 Space |
| Tanzania | 39 FP7 projects - ICT (5), Environment (4), Health (19), Infrastructure (1), Food, Agriculture and Biotechnology KBBE (5), SME (1), Space (1), Social Sciences (2), Transport (1) |
| Tunisia | 88 FP7 projects - ICT (5), INCO (17), Environment (13), Energy (2), Health (10), Infrastructure (1), Food, Agriculture and Biotechnology KBBE (19), NMP (3), People (2), REGPOT (6), Science in Society (2), SME (1), Space (1), Transport (2), Social Sciences (3), Security (1) |
| Uganda | 41 FP7 projects - ICT (6), INCO (2), Environment (6), Health (16), Infrastructure (1), Food, Agriculture and Biotechnology KBBE (6), People (3), Social Sciences (1) |

## 2.4    Introduction to Horizon 2020

Stéphane Hogan, Counsellor for Research & Innovation, Delegation of the European Union to the African Union presented Horizon 2020[4], which is the new European Framework Programme for Research and Innovation for 2014 – 2020, with funding of €79 billion.  It is one of the largest research programmes and is open to participation from legal entities involved in research around the world.

Horizon 2020 will address all research and innovation funding previously provided by FP7 Framework Programme, Competitiveness and Innovation Programme (CIP) and European Institute of Innovation and Technology. There is a stronger focus on societal challenges and Innovation.

ICT will be incorporated across the three main pillars

➢  Excellent Science

➢  Industrial Leadership

➢  Societal Challenges

Horizon 2020 is open to International Cooperation. African research institutions can participate as part of International Consortia with partners from Europe to apply for funding as part of an international project addressing the challenges published in the Work Programme. There are

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[4] Visit http://www.ist-africa.org/home/default.asp?page=horizon2020 and
http://ec.europa.eu/research/horizon2020/

some targeted regional calls but there is also an opportunity to be involved in main stream thematically focused projects.

Work Programmes for 2014 – 2015 was published on 11 December 2013

Horizon 2020 Structure

➢ *Excellent Science (Total Budget of €24.4 billion, ICT Budget c €4 billion)*

   *Focus on World class Science as the foundation of tomorrow's technologies, jobs and wellbeing, need to develop, attract and retain research talent*

   1. The European Research Council (€13.1 billion)

   2. Future and Emerging Technologies (€2.7 billion)

   3. Marie Sklodowska-Curie actions on training and career development (€6.2 billion)

   4. European Research Infrastructures (including eInfrastructures) (€2.5 billion)

➢ *II Industrial Leadership (Total Budget of €17 billion, ICT Budget c €8 billion)*

   *Focus on strategic investments in key technologies underpin innovation across existing and emerging sectors and support innovative SMEs to create growth and jobs*

   1. Leadership in enabling and industrial technologies (€13.6 billion)

   2. Access to risk finance (€2.8 billion)

   3. Innovation in SMEs (€6.2 billion)

➢ *III Societal Challenges (Total Budget of 29.7 billion, ICT Budget c €4 billion)*

   *Focused on Innovation addressing societal challenges, breakthrough solutions coming from multi-disciplinary collaborations including social sciences and humanities, promising solutions that can be tested, demonstrated and scaled up*

   1. Health, demographic change and wellbeing (€7.47 billion)

   2. Food security, sustainable agriculture, marine research & the bio-economy (€3.85 billion)

   3. Secure, clean and efficient energy (€5.93 billion)

   4. Smart, green and integrated transport (€6.33 billion)

   5. Climate action, resource efficiency and raw materials (€3.08 billion)

   6. Inclusive and reflective societies (€1.3 billion)

   7. Secure Societies (€1.69 billion)

Stephane highlighted the importance to build long term strategic partnerships and to be actively involved. There is a need to be aware of what is required both on the thematic work and the administrative requirements to ensure that work is done in a timely fashion.

Stephane summarise the next steps are being to: Study the work programmes, get involved if you see an opportunity that fits your strategy, find partners quickly but choose them carefully,

create/develop your profile (capacities, achievements). Participation in a Framework Programme including Horizon 2020 involves some reporting duties - these need to be properly planned and resourced, Use support structures including National Contact Points.

First calls for proposals were published on 11 December 2013 with total funding of €15 billion over two years (2014 - 2015). First deadlines for submission from March 2014 onwards.

Sources of information include:

Horizon 2020 website http://ec.europa.eu/research/horizon2020

Participants portal http://ec.europa.eu/research/participants/portal

Horizon 2020 section on IST-Africa

http://www.ist-africa.org/home/default.asp?page=horizon2020

IST-Africa Guide to 2014 Calls for Proposals in Horizon 2020

http://www.ist-africa.org/home/files/IST-Africa_Guide_2014Calls_Horizon2020.pdf

## 2.5    National Contact Points

Constantine Vaitsas provided an overview of how National Contact Points are set up as focal points in relation to Horizon 2020. National Contact points provide national research organisations with information in relation to upcoming Calls, assist in identifying partners for proposals and provide support in relation to identifying relevant documentation. Constantine provided examples of how NCPs have been set up in different countries and the impact that having a NCP has in relation to securing research funding. The National Contact Point are established, operated and financed under the responsibility of the National Government and Ministry responsible for Science, Technology and Innovation. COSTECH has already received information in relation to how to establish NCPs in Tanzania through the IST-Africa Initiative.

## 2.6    Societal Challenges



George Essegbey, CSIR, Science and Technology Policy Research Institute, Ghana presented **Societal Challenge 1: Health, demographic change and wellbeing**. There are 32 topics in personalising health and care focus area with a total budget of €1.06 billion.

Programmes of particular African Interest that was presented included PHC 3 - 2015) Health promotion and disease prevention: improved inter-sector co-operation for environment and health based interventions; PHC 4 - 2014) Health promotion and disease prevention: translating 'omics' into stratified approaches; PHC 7 - 2014) Vaccine development for poverty-related and neglected infectious diseases: Tuberculosis; PHC 12 - 2014) New therapies for chronic non-communicable diseases; PHC 14 – 2014/15) Clinical research on

regenerative medicine; PHC 20 – 2015) Promoting mental wellbeing: in the ageing population; PHC 20 – 2015) Promoting mental wellbeing: in the ageing population; PHC 15 – 2015) Tools and technologies for advanced therapies; PHC 17 – 2015) Establishing effectiveness of health care interventions in the paediatric population; PHC 18 – 2014) Advancing active and healthy ageing with ICT: Service robotics within assisted living; PHC 21 - 2014) Developing and comparing new models for safe and efficient, prevention oriented, health and care systems; PHC 29 - 2014) Foresight for health policy development and regulation; PHC 30 – 2014) Advancing bioinformatics to meet biomedical and clinical needs; HCO 4 – 2014) Support for international infectious disease preparedness research and HCO 5 -201x) Global Alliance for Chronic Diseases: prevention and treatment of type 2 diabetes.



Melissa Plath, UniPID, University of Jyväskylä, Finland presented *Societal Challenge 2: Food Security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy*. Calls in 2014 and 2015 focus on finding solutions leveraging the innovation aspect and integrating end-users. All activities are open to third countries, with specific topics stemming from ongoing international dialogues including the EU-Africa dialogue on Research and Innovation. Sustainable Food Security focuses on Sustainable food productions system, safe food and healthy diets and global drivers of food security. Programmes of specific African interest that were presented included: SFS-6-2014/2015: Sustainable intensification pathways of agro-food systems in Africa (deadline of 26 June 2014) and SFS-18-2015: Small farms but global markets: the role of small and family farms in food and nutrition security (deadline 24 February 2015).

2014 - 2015 Calls under *Blue Growth (Unlocking the Potential of Seas and Oceans)* are focused on Sustainable exploitation of the diversity of marine life; New offshore challenges; Ocean observation systems/technologies and Horizontal activities.

*Bioeconomy* focuses on support for sustainable agriculture and forestry management processes providing public goods and innovative products for sustainable growth; foster innovation (including social innovation) in rural areas for inclusive growth; and enhance innovation in the bio-based industry for smart growth.

Melissa Plath presented *Climate action, environment, resource efficiency and raw materials*. Specific Calls of African interest presented included WASTE-4-2014/2015. Towards near-zero waste at European and global level, WATER-1-2014/2015. Bridging the gap: from innovative water solutions to market replication, WATER-5-2014/2015. Strengthening international R&I cooperation in the field of water, SC5-5-2014/2015. Coordinating and supporting research and innovation for climate action and SC5-14-2014. Consolidating global

knowledge on the green economy in support of sustainable development objectives in the EU and internationally.

## 2.7 Participation Rules and Instruments under Horizon 2020

Miriam Cunningham, IIMC / IST-Africa, Ireland presented the participation rules and instruments under Horizon 2020. Horizon 2020 has a single set of rules covering all funding programmes to simply the procedure for applicants. Grant Agreements and Reimbursement of actual costs will remain the main funding mechanism.

Participants in Horizon 2020 can be legal entities from EU-27 Member States, Associated Candidate Countries, Associated States and International Cooperation Partner Countries. Legal entities from all African States except South Africa are funded on the same basis as their European colleagues – reimbursement of costs.

The types of organisations that are normally involved in research include Research Organisations, Universities, SMEs, Industry and public administration.

It is necessary for grant applications to be made by consortia that have a minimum of three independent legal entities from three different EU Member States or Associated countries. African participants can then be added to this consortium. It is necessary to justify the participation of each legal entity regardless of what country they are established in as part of proving operational capacity.

Instruments in Horizon 2020 include:

➢ Grants for Research and Innovation – 100% funding of all activities and participants
➢ Grants for Innovation – 70% funding of all activities and participants –except non-profit (100%)
➢ Support and Coordination Actions - 100% funding of all activities and participants
➢ Programme Co-funding Actions
➢ SME-Instrument – Instrument to support specific SME activities in three phases
➢ Pre-Commercial Procurement (PCP) – Steer development to public sector needs
➢ Public Procurement of Innovative Solutions (PPI) – First buyer for innovative solutions
➢ Prizes – Support for two key categories of prizes (recognition and inducement) – still under discussion

**Research and Innovation Actions** are primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. May include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment. Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment.

***Innovation Actions*** primarily consist of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication. A 'demonstration or pilot' aims to validate the technical and economic viability of a new or improved technology, product, process, service or solution in an operational (or near to operational) environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator. A 'market replication' aims to support the first application/deployment in the market of an innovation that has already been demonstrated but not yet applied/deployed in the market due to market failures/barriers to uptake. 'Market replication' does not cover multiple applications in the market of an innovation that has already been applied successfully once in the market.

***Support and Coordination Actions*** undertake studies, analysis, development of research and Innovation strategies, raising awareness of European Commission Programmes, setting up thematic working groups to address Challenges in specific thematic areas.

All instruments have an application template that must be used. The evaluation criteria for proposals include Excellence, Impact and Quality and Efficiency of the Implementation.

Eligible costs for reimbursement include:

➢ Personnel Costs (Salary and social security costs based on payroll costs, Reimbursement of costs based on timesheet outlining actual work undertaken)

➢ Subcontracting (e.g. printing of materials, non-core work)

➢ Other direct costs

  ➢ Travel and subsistence allowances

  ➢ Depreciation of equipment

  ➢ Other necessary goods and services

Miriam presented mechanisms to identify European Partners, the different types of roles that partners can have within a research proposal, how to co-design a proposal as a team activity, intellectual property rights and consortium agreements, and how proposals are evaluated.

## *2.8    Leadership in Enabling and Industrial Technology*

Paul Cunningham, IIMC / IST-Africa, Ireland provided an overview of ICT within Horizon 2020.

**LEIT Call 2014 – Opened 11 December 2013, Closes 23 April 2014**

➢ *Components and Systems*

  ➢ ICT1 – 2014 Smart Cyber Physical Systems (Research & Innovation Actions; Innovation Actions)

> ➤ ICT2 – 2014 Smart System Integration (Research & Innovation Actions; Innovation Actions, CSA)

> ➤ ICT3 – 2014 Advanced Thin, Organic and Large Area Electronics Technologies

➤ *Future Internet*

> ➤ ICT4 – 2014 Smart Networks and Novel Internet Architectures (Research & Innovation Actions)

> ➤ ICT6 – 2014 Smart Optical and Wireless Network Technologies (Research & Innovation Actions, SA)

> ➤ ICT7 – 2014 Advanced Cloud Infrastructures and Services (Research & Innovation Actions; Innovation Actions, CSA)

> ➤ ICT9 – 2014 Tools and Methods for Software Development (Research & Innovation Actions)

> ➤ ICT13 – 2014 Web Entrepreneurship (Innovation Actions, CSA)

> ➤ ICT14 – 2014 Advanced 5G Network Infrastructures for the Future Internet (Research & Innovation Actions; Innovation Actions, CSA)

➤ *Content Technologies and Information Management*

> ➤ ICT15 – 2014 Big data and Open Data Innovation and Take-up (Innovation Actions, CSA)

> ➤ ICT17 – 2014 Cracking the Language Barrier (Research & Innovation Actions; Innovation Actions, CSA)

> ➤ ICT18 – 2014 Support the Growth of ICT Innovative Creative Industries SMEs (Innovation Actions, CSA)

> ➤ ICT21 – 2014 Advanced Digital Gaming (Research & Innovation Actions; Innovation Actions)

> ➤ ICT22 – 2014 Multimodal and Natural Computer Interaction (Research & Innovation Actions; Innovation Actions)

➤ *Robotics*

> ➤ ICT23 – 2014 Robotics (Research & Innovation Actions; Innovation Actions)

➤ *Cross cutting areas*

> ➤ ICT31 – 2014 Human-centric Digital Age (Research & Innovation Actions, CSA)

> ➤ ICT32 – 2014 Cybersecurity, Trustworthy ICT

Each area was presented, followed by discussion with the participants.

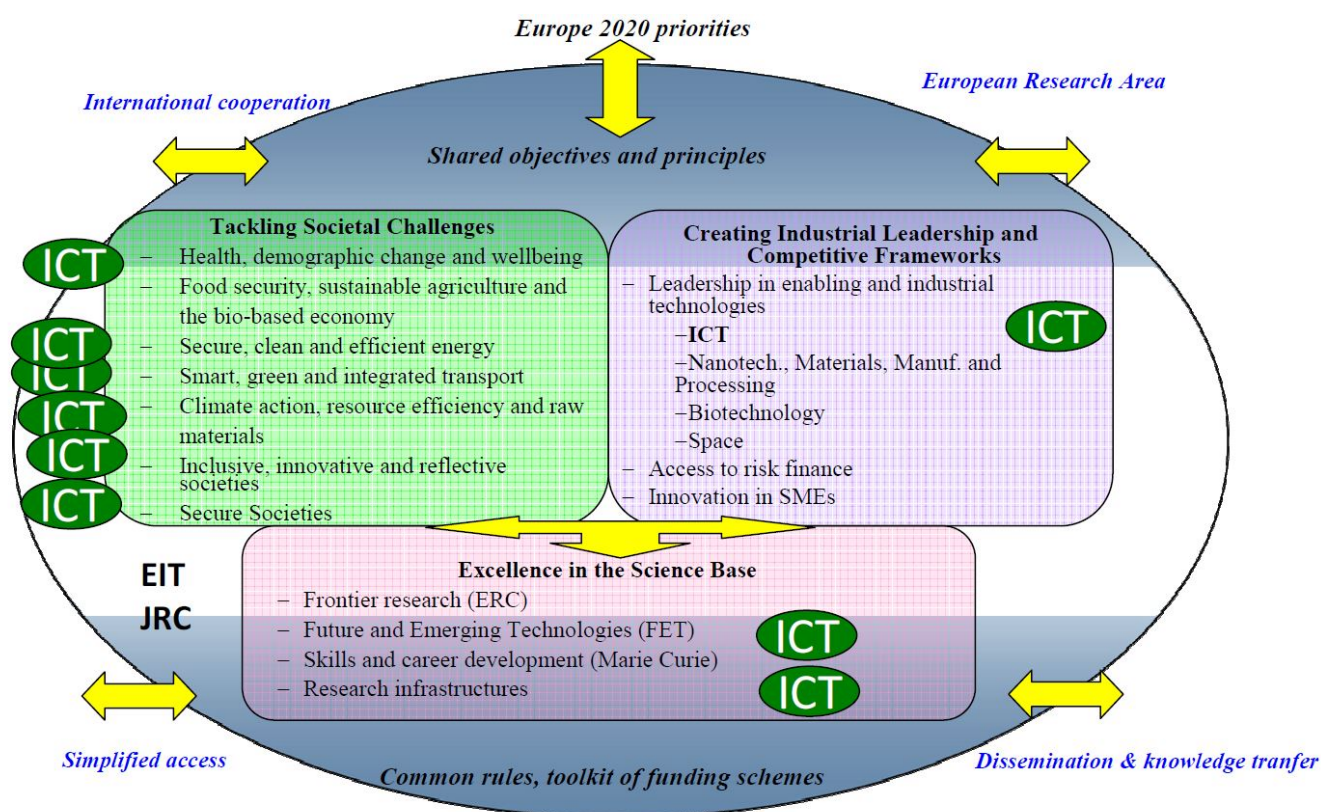ICT is involved in all three pillars as outlined in the diagram below:



Image provided by DG CONNECT, European Commission

## 2.9   ICT in Societal Challenges

Paul Cunningham, IIMC / IST-Africa, Ireland provided an overview of ICT components in Societal Challenges within Horizon 2020 in the areas of Health, Energy, Transport, Climate Changes and Environment, Inclusive, Innovative and Reflective Societies and Secure Societies. Specific ICT calls highlighted include:

**Health**

➢ PHC 19 – 2014) Advancing active and healthy ageing with ICT: Service robotics within assisted living environments; and ICT solutions for independent living with cognitive impairment

➢ PHC 20 – 2014) Advancing active and healthy ageing with ICT: ICT solutions for independent living with cognitive impairment

➢ PHC 23 - 2014) Developing and comparing new models for safe and efficient, prevention oriented, health and care systems

➢ PHC 26 - 2014 Self-management of health and disease: citizen engagement and mHealth

**Energy - Smart Cities**

> ➢ SCC 1 – 2014/2015: Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse projects

> ➢ SCC 2 – 2014: Developing a framework for common, transparent data collection and performance measurement to allow comparability and replication between solutions and best-practice identification

> ➢ SCC 3 – 2015: Development of system standards for smart cities and communities solutions

**Transport**

*Road transport:*

> ➢ MG.3.5-2014 Cooperative ITS for safe, congestion-free and sustainable mobility

> ➢ MG.3.6-2015 Safe and connected automation in road transport

> ➢ *Urban mobility* - MG.5.3-2014 Tackling urban road congestion

> ➢ *Logistics* - MG.6.3-2015 Common communication and navigation platforms for pan-European logistics applications

> ➢ *Intelligent Transport Systems* - MG.7.1-2014 Connectivity and information sharing for intelligent mobility

**Climate Action and Environment**

*ICT solutions for waste traceability, waste material flow management*

> ➢ WASTE-1-2014: Moving towards a circular economy through industrial symbiosis

> ➢ WASTE-2-2014: A systems approach for the reduction, recycling and reuse of food waste

> ➢ WASTE-3-2014: Recycling of raw materials from products and buildings

> ➢ WASTE-4-2014/2015: Towards near-zero waste at European and global level

*Water management* - Development and deployment of advanced ICT solutions for water resources management in agriculture and urban areas

> ➢ WATER-1-2014/2015: Bridging the gap: from innovative water solutions to market replication

**Inclusive, Innovation and Reflective Societies**

*Reflective Societies*

> ➢ REFLECTIVE 6 – 2015: Innovation ecosystems of digital cultural assets

> ➢ REFLECTIVE 7 – 2014: Advanced 3D modelling for accessing and understanding European cultural assets

*New forms of innovation - Innovation in the public sector by using emerging ICT technologies*

> ➢ EURO-6-2015: Meeting new societal needs by using emerging technologies in the public sector

➢ YOUNG-5–2014: Societal and political engagement of young people and their perspectives on Europe

*ICT-enabled open government* - Personalised public services, M-government, Open participation, Transparency

➢ INSO-1–2014, 2015: ICT-enabled open government

➢ INSO-9–2014: Innovative mobile e-government applications by SMEs

*ICT for learning and inclusion* - INSO-6-2014: Platform for ICT for Learning and Inclusion

**Secure Societies**

➢ DS 1 – 2014: Privacy

➢ DS 2 – 2014: Access Control

➢ DS 3 – 2015: The role of ICT in Critical Infrastructure Protection

➢ DS 4 – 2015: Secure Information Sharing

➢ DS 5 – 2015: Trust eServices

➢ DS 6 – 2014: Risk management and assurance models

## *2.10 Discussions and Conclusion*

The workshop was very interactive in style with participants asking questions and seeking clarification as required. There was quite a lot of discussion in relation to the best ways to identify European partners, how to best leverage existing relationships, reasons for why some projects were unsuccessful and how to manage IPR rights.

Tanzania historically has quite a lot of relationships with Universities in Sweden, Norway and Finland as well as other European Countries due to study visits, PhD studies and bilateral cooperation projects. It is necessary to identify specific Calls of interest and then reach out to past collaborators within European institutions to agree participation in proposals being prepared for submission. The main focus is to identify one European partner that the Tanzanian institution has a good working relationship, as the European partner will have its own network of collaborators in other EU Member States that it can include in the consortium. It is necessary to have a very focused approach, prepare strong cooperation and links and then prepare strong proposal. H2020 is an instrument to support Research and Innovation.

In relation to IPR rights, the European Commission does not claim rights on the IPR. Background IP belongs to the partners who created it. Knowledge created during the project belongs to the partners who are involved. It is necessary for partners to sign a Consortium Agreement, which includes IPR rights management. Templates exist which can support this to be established.

Challenges are regional and global in focus. Many projects can address international cooperation. It is necessary to start from the international challenge and include craft local

problem within international context. This can be included as demonstrations and case studies to demonstrate that the research can be leveraged within a developing country context.

In relation to next steps, the participants were encouraged to download the IST-Africa Guide to 2014 Calls under H2020[5], the individual Work Programmes[6] and identify relevant core areas for research collaboration under 2014 and 2015. Institutions were encouraged to prepare an organisational profile for publication and to identify key European partners based on existing relationships and bilateral projects.

Dr Mshinda closed the workshop thanking the participants for attending and thanking IST-Africa and CAAST-Net Plus for providing the training workshop, which was very informative. He requested that the participants share the knowledge learnt at departmental level within their institutions.

## Participants



| Title | Name | Institution | Position |
|-------|------|-------------|----------|
| Dr | Askwar Hilonga | The Nelson Mandela African Institution of Science and Technology (NM-AIST) | Lecturer |
| Mr | Augustine Matero | University of Dodoma | Assistant Lecturer |
| Dr | Exaud Mwende | Moshi University College of Co-operative and Business Studies (MUCCOBS) | Senior Lecturer |
| Mr | Gregory Mlay | The Southern and Eastern African Mineral Centre (SEAMIC) | |
| Mr | Merfin W Gebrem Zhael | The Southern and Eastern African Mineral Centre (SEAMIC) | GEO INFO Manager |
| Dr | Amos Nungu | Dar es Salaam Institute of Technology (DIT) | Senior Lecturer |
| Dr | Mussa Chacha | The Nelson Mandela African Institution of Science and Technology (NM-AIST) | Senior Lecturer |
| Dr | Alfred Mwambela | College of ICT, University of Dar es Salaam | Senior Lecturer |
| Dr | Raphael Mmasi | COSTECH | RM Innovation |

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[5] http://www.ist-africa.org/home/files/IST-Africa_Guide_2014Calls_Horizon2020.pdf
[6] http://www.ist-africa.org/home/default.asp?page=horizon2020

| Dr | Hassan Mshinda | COSTECH | Director General |
|---|---|---|---|
| Mr | Stephan Hogan | Delegation of the European Union to the African Union, Ethiopia | Counsellor for Research & Innovation |
| Mr | Costantine Vaitsas | FORTH, Greece | |
| Dr | George O Essegbey | STEPRI, CSIR, Ghana | |
| Mr | Theophil Pima | COSTECH | |
| Ass.Prof. | Mohamed Sheikh | The State University of Zanzibar (SUZA) | Senior Lecturer |
| Prof. | Izzeldin Osman Mohamed | Sudan University of Science and Technology. | Senior Lecturer |
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| Dr | Joseph Mwangoka | The Nelson Mandela African Institution of Science and Technology (NM-AIST) | Senior Lecturer |
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| Mrs | Adeline Ajuaye | COSTECH | Research officer |
| Mrs | Hilda Lyatuu. | COSTECH | Research Officer |
| Mr | Ramadhani Athuman | COSTECH | Network Infrastructure Specialist |
| Dr | Honest Kimaro | CSE Dept, University of Dar es Salaam | Lecturer |
| Dr | D Mafunda | COSTECH | Director of Innovation |
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| Dr | Msangi Bakari | COSTECH | NFAST COORDINATER |
| Mr | Edwin Nyella | Muhimbili University of Health and Allied Sciences | Director ICT |
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| Mrs | Bestina Daniel | COSTECH | Research Officer |
| Dr | Joseph Matumaini | School of Journalism and Mass Communication (SJMC) | Lecturer |
| Prof. | Richard Kangalawe | University of Dar es Salaam | Director of Research |
| Mrs | Maria Chiara Femiano | EU Delegation | Programme officer |
| Dr | Flora Ismail Tibazarwa | COSTECH | Director of Life Science |
| Dr | Emmanuel Chanya | Eastern Africa Statistical Training Centre (EASTC) | Lecturer |
| Dr | Honorati Masanja | Ifakara Health Institute - IHI | Chief Research Officer |
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| Dr | Paul Kazmoba | National Institute for Medical Research (NIMR) | |
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| Ms | Miriam Cunningham | IIMC, Ireland | COO |
| Mr | Paul Cunningham | IIMC, Ireland | CEO |