

SA S&T COOPERATION WITH THE EU



Mrs Ntombi Mchuba
Assistant Director: Strategic Partnerships
Department of Science and Technology, South Africa



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



Presentation Overview

- Drivers for SA S&T international cooperation
- SA strategy for S&T cooperation with the EU
- Framework for S&T cooperation with the EU
- COST programme
- Horizon 2020
- Institutional support for SA FP participants





Drivers for SA S&T International Cooperation

- International cooperation required to:
 - Enhance knowledge generation capacity
 - Support technology transfer
- *Goal: profile South Africa a preferred destination for international S&T investment and cooperation to support:*
 - Human Resource Development (retention and attraction)
 - Maximize ROI through leverage of foreign direct funding
 - Develop research infrastructure partnerships
 - Share experience and expertise, contributing to the global R&D
 - Policy benchmarking through learning from best practices





SA strategy for S&T cooperation with the EU

- Understand and integrate own and partners' drivers for international cooperation
- Exploit competitive (geographical or knowledge) advantages
- Market excellence to promote interest in collaboration
- Develop own strategies in function of rules of instruments
- Make own institutional investments (seed, co-investment and joint calls)
- Promote participation only where appropriate





Framework for SA S&T cooperation with Europe

- Overall SA-EU Strategic Partnership Agreements (TDCA)
 - Summits, Joint Cooperation Committee
 - Sectoral dialogues (such as the Joint Science and Technology Cooperation Committee)
- Framework Programme project (FP7, **Horizon 2020**)
- EU networking programmes (**COST**, EEN, Eureka)
- EU Bilateral S&T Cooperation Agreements
- Thematic dialogues (e.g. Space, Information Society, KBBE, Energy)
- Thematic partnerships (e.g. EDCTP)
- Bi-regional frameworks (e.g. AU-EU)
- INCO projects – BILAT, INCO-NETs and ERA-Nets
- Interface with multilateral frameworks (e.g. OECD, Carnegie Group, GEO, etc.)





European Cooperation in Science and Technology (COST)

- European Cooperation in Science and Technology (COST) started in the 80s
- “Bottom-up” approach
- Focus on multidisciplinary cooperation
- Promote early stage researcher
- Coordination through cooperation in networks
- Complements FP





COST Domains

1. Biomedicine and Molecular Biosciences (BMBS)
2. Chemistry and Molecular Sciences & Technologies (CMST)
3. Earth System Science & Environmental Management (ESSEM)
4. Food & Agriculture (FA)
5. Forests, their Products and Services (FPS)
6. Individuals, Society, Culture & Health (ISCH)
- 7. Information & Communication Technologies (ICT)**
8. Materials, Physical & Nanosciences (MPNS)
9. Transport & Urban Development (TUD)





COST ICT Actions


- **Information science and technologies:** the area covers all the aspects related to the foundations, design, analysis, development, and application of hardware and software systems.
- **Communication technologies:** research in this area concentrates on transferring information from source to sink. Fundamental aspects cover physical, electromagnetic and functional modelling of all elements of information and communication systems. Cross-border interaction with Materials, Physical, and Nanosciences is required.
- **Societal aspects of ICT:** research in this area covers both the influence of ICT on society and the requirements imposed by society on the ICT infrastructure. Interdisciplinary cooperation with disciplines dealing with societal needs is essential for developing this research area.





COST ICT Actions

30 running and 1 to start in April

- [IC1306 | Cryptography for Secure Digital Interaction | 07 April 2014 - 06 April 2018](#)
 - [IC1305 | Network for Sustainable Ultrascale Computing \(NESUS\) | 28 March 2014 - 27 March 2018](#)
 - [IC1307 | The European Network on Integrating Vision and Language \(iV&L Net\): Combining Computer Vision and Language Processing For Advanced Search, Retrieval, Annotation and Description of Visual Data | 26 March 2014 - 25 March 2018](#)
 - [IC1304 | Autonomous Control for a Reliable Internet of Services \(ACROSS\) | 14 November 2013 - 13 November 2017](#)
 - [IC1303 | Algorithms, Architectures and Platforms for Enhanced Living Environments \(AAPELE\) | 13 November 2013 - 12 November 2017](#)
 - [IC1301 | Wireless Power Transmission for Sustainable Electronics \(WiPE\) | 24 October 2013 - 23 October 2017](#)
 - [IC1302 | Semantic keyword-based search on structured data sources \(KEYSTONE\) | 15 October 2013 - 14 October 2017](#)
 - [IC1208 | Integrating devices and materials: a challenge for new instrumentation in ICT | 06 May 2013 - 05 May 2017](#)
 - [TD1207 | Mathematical Optimization in the Decision Support Systems for Efficient and Robust Energy Networks | 15 April 2013 - 14 April 2017](#)
 - [IC1206 | De-identification for privacy protection in multimedia content | 26 March 2013 - 25 March 2017](#)
 - [IC1207 | Parsing and multi-word expressions. Towards linguistic precision and computational efficiency in natural language processing \(PARSEME\) | 08 March 2013 - 07 March 2017](#)
 - [IC1204 | Trustworthy Manufacturing and Utilization of Secure Devices | 12 December 2012 - 11 December 2016](#)
 - [IC1203 | European Network Exploring Research into Geospatial Information Crowdsourcing: software and methodologies for harnessing geographic information from the crowd \(ENERGIC\) | 05 December 2012 - 04 December 2016](#)
 - [IC1205 | Computational Social Choice | 30 November 2012 - 29 November 2016](#)
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COST ICT Actions..

- [TD1202 | Mapping and the citizen sensor | 28 November 2012 - 27 November 2016](#)
- [IC1202 | Timing Analysis on Code-Level \(TACLe\) | 07 November 2012 - 06 November 2016](#)
- [IC1201 | Behavioural Types for Reliable Large-Scale Software Systems \(BETTY\) | 26 October 2012 - 25 October 2016](#)
- [IC1105 | 3D-ConTourNet - 3D Content Creation, Coding and Transmission over Future Media Networks | 22 May 2012 - 21 May 2016](#)
- [IC1104 | Random Network Coding and Designs over GF\(q\) | 26 April 2012 - 25 April 2016](#)
- [IC1106 | Integrating Biometrics and Forensics for the Digital Age | 14 March 2012 - 13 March 2016](#)
- [IC1102 | Versatile, Integrated, and Signal-aware Technologies for Antennas \(VISTA\) | 15 December 2011 - 14 December 2015](#)
- [IC1103 | Manufacturable and Dependable Multicore Architectures at Nanoscale | 01 December 2011 - 30 November 2015](#)
- [IC1101 | Optical Wireless Communications - An Emerging Technology | 08 November 2011 - 07 November 2015](#)
- [IC1004 | Cooperative Radio Communications for Green Smart Environments | 19 May 2011 - 18 May 2015](#)
- [IC1005 | HDRi: The digital capture, storage, transmission and display of real-world lighting | 16 May 2011 - 15 May 2015](#)
- [IC1001 | Transactional Memories: Foundations, Algorithms, Tools, and Applications \(Euro-TM\) | 10 February 2011 - 09 February 2015](#)
- [IC1002 | Multilingual and multifaceted interactive information access \(MUMIA\) | 30 November 2010 - 29 November 2014](#)
- [TD1001 | Novel and Reliable Optical Fibre Sensor Systems for Future Security and Safety Applications \(OFSeSa\) | 15 November 2010 - 14 November 2014](#)
- [IC1003 | European Network on Quality of Experience in Multimedia Systems and Services \(QUALINET\) | 08 November 2010 - 07 November 2014](#)
- [IC0906 | Wireless Networking for Moving Objects \(WiNeMO\) | 20 May 2010 - 19 May 2014 |](#)
- [C0905 | Techno-Economic Regulatory Framework for Radio Spectrum Access for Cognitive Radio/Software Defined Radio \(TERRA\) | 07 May 2010 - 06 May 2014](#)





SA-COST Reciprocal Agreement

- DST/COST reciprocal agreement, June 2009.
- Aims to respectively fund SA and EU researchers undertaking short-term scientific missions to Europe and SA, related to SA's participation in COST actions

How to participate

- Get in touch with the Action Chair
- Agree on the mutual benefit of your participation
- The Action Chair starts a formal procedure to get your institution's participation approved
- Contact ESASTAP in the meanwhile about your COST application
- Travel to Europe and establish scientifically productive and trustful collaborations





HORIZON 2020





What is Horizon 2020

- The EU programme aimed at building competitive industries, better societies and excellence in science
- Support projects that will bridge the gap between research and market/industry
- Coupling research to innovation, from research to retail, and bring together FP and IP
- Focus on challenges facing society, e.g. health, food, clean energy and transport
- From 2014-2020 with a budget of 70 B €
- Work Programme run for a 2 year period





Strategic approach to promoting SA participation in H2020

- SA's own responsibility to promote cooperation, understand nature of EU instruments
- Participation should be aligned with own national strategic objectives to have value add
- Create enabling national environment for researchers to participate – proactively identifying:
 - H2020 topics relevant to SA priorities and strengths
 - SA researchers best placed to respond
 - Support SA links to leading European groups
- Promote long-term strategic relations
- Enrich and complement bilateral cooperation





H2020 priorities

Excellent science

- European Research Council (ERC): Frontier research by the best individual teams
- Future and Emerging Technologies: Collaborative research to open new fields of innovation
- Marie Skłodowska-Curie actions (MSCA): Opportunities for training and career development:
- Research infrastructures(including e-infrastructure): Ensuring access to world-class facilities

Industrial leadership

- Leadership in enabling and industrial technologies (LEITs): ICT, nanotech, materials, biotech, manufacturing, space:
- Access to risk finance: Leveraging private finance and venture capital for research and innovation
- Innovation in SMEs: Fostering all forms of innovation in all types of SMEs

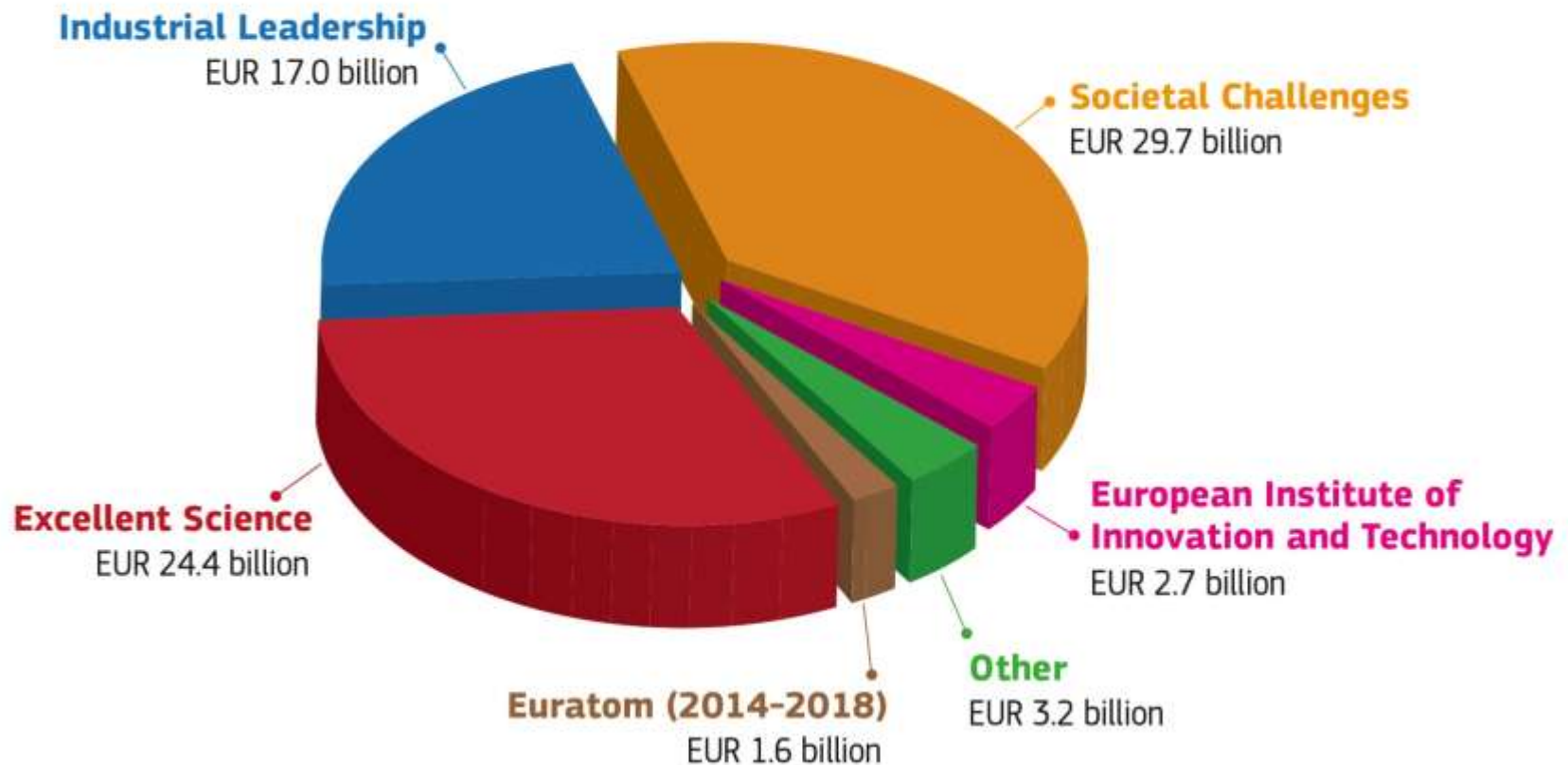
Societal challenges

- Inclusive and reflective societies
- Science with and for society
- Spreading excellence and widening participation



H2020 budget

HORIZON 2020 BUDGET (in current prices)





H2020 themes

- ICT
- Space
- Energy
- Smart, green and integrated transport
- Secure societies
- Leadership in enabling and industrial technologies / nanotechnology, materials and production technology
- Health, demographic change and wellbeing
- Food security, sustainable agriculture, marine and maritime research, and bio-economy
- Climate action, resource efficiency and raw materials
- Euratom
- Research Infrastructure
- Innovative, inclusive and reflective societies, and science for society





ICT focus areas

- New generation of components and systems
- Advanced computing
- Future Internet (cloud)
- Content technologies and information management (big data)
- Social media, language technologies
- Robotics
- Micro- and nano-electronics, photonics
- Cyber-security
- Internet of Things

21 calls closing on 23 April 2014

1 call closing 25 Nov 2014

- [ICT-14-2014: Advanced 5G Network Infrastructure for the Future Internet](#)





European Research Council (ERC)

- Frontier research
- Attract best researchers to Europe
- For early-stage and advanced researchers
- Completely bottom-up, no theme
- Possibly to spend part of time country of origin



MARIE CURIE ACTIONS (MSCA)





Institutional support for FP participants

- **Advisory support**

- Network of H2020 National Contact Points (NCPs)
- Intelligence from the SA S&T Office in Brussels
- Strengthening Technology, Research and Innovation between Europe and South African (*ESASTAP Plus*)

- **Awareness raising and information**

ESASTAP Plus, promoting collaboration under the SA and European programmes, and DST

- Website, e-mail alerts, social networks, information sessions, trainings, and workshops
- Marketing, brokerage events, twinning

- **Financial**

- seed funding and Strategic co-investment (where applicable)





THANK YOU!

contact@esastap.org.za

www.esastap.org.za

Twitter@ESASTAP Plus

Ntombi.mchuba@dst.gov.za

Tel: +27 12 843 6370

