ICT in the 7th Framework Programme / Horizon 2020

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Opportunities for participation in FP7

Outline:

1) What is FP7
2) How can Balkan researchers participate in FP7
3) ICT challenges in the FP7 Cooperation programme
4) Preview: Horizon 2020 – a new framework
1) What is FP7?


Five major building blocks (total Budget 50.5B €):

1. **Cooperation** (Budget: 32.4B €)
   - The core of FP7, representing two thirds of the overall budget, it fosters collaborative research across Europe and other partner countries; divided into 10 key thematic areas, of which one is ICT

2. **Ideas** (Budget: 7.5B €)
   - Supports « frontier research » on the basis of scientific excellence; projects are implemented by individual teams without obligation of cross-border partnerships; the programme is implemented via the European Research Council (ERC)
1) What is FP7?

3. **People** (Budget: 4.7B €)
   - Provides support for researcher mobility and career development, both inside the EU and internationally; implemented via a set of Marie Curie actions, providing fellowships and other helping measures

4. **Capacities** (Budget: 4.1B €)
   - Strengthens Europe’s research capacities in order to become a knowledge-based economy, by diverse activities such as research infrastructures, regions of Knowledge, Science in Society, etc.

5. **Euratom** (Budget: 2.7B €)
   - Specific programme for nuclear research and training activities
2) How could Balkan researchers participate in FP7

1. Cooperation
   - Collaborative research projects with EU partners in the ICT thematic area

2. Ideas
   - Participation in a scientific excellence project

3. People
   - Researcher mobility and career development: exchange with EU institutions and researchers
   - Participation in Marie Curie actions, providing fellowships and other helping measures

4. Capacities
   - Participation in activities such as research infrastructures, regions of Knowledge, Science in Society, etc
3) ICT challenges in the FP7 Cooperation programme

Structure:
- yearly Work Programmes (WP) for each thematic area
- last WP of the FP7 period: WP2013, published on 10 July 2012

Work Programme 2013 – ICT: The challenges

Technologies
- Challenge 1: Pervasive and trusted network and service infrastructures
- Challenge 2: Cognitive systems and robotics
- Challenge 3: Alternative Paths to Components and Systems
- Challenge 4: Technologies for Digital Content and Languages

Applications
- Challenge 5: ICT for Health, Ageing Well, Inclusion and Governance
- Challenge 6: ICT for a low carbon economy
- Challenge 7: ICT for the Enterprise and Manufacturing
- Challenge 8: ICT for Creativity and Learning
### 3) ICT challenges in the FP7 Cooperation programme

- **Call « Smart Cities and Communities »**: Smart Cities is a target research and innovation area in the future European Framework Programme for Research and Innovation. In order to prepare the constituency, the Themes ICT and ENERGY are launching this Cross-Thematic call. Budget: 209M € of which 95M€ for ICT.
- **Call « ICT for Green Cars »**: Budget: 40M €.
- **Call « Factories of the Future » (FoF)**: Budget 70M €.
- **Call 10**: Budget 705.5M €.
- **Call FET open**: Future and emerging technologies; short STREP proposals may be submitted earlier for initial anonymous evaluation; Budget 50M €.
- **Call 11**: Budget 236.5M €.

<table>
<thead>
<tr>
<th>Call Title</th>
<th>Deadline</th>
<th>Submission procedure</th>
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<tbody>
<tr>
<td>Call « Smart Cities and Communities »</td>
<td>04 December 2012</td>
<td>One stage</td>
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<td>Call 10</td>
<td>15 January 2013</td>
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<tr>
<td>Call FET open</td>
<td>12 March 2013</td>
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<tr>
<td>Call 11</td>
<td>16 April 2013</td>
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**Last calls for M&C and deadlines:**

- **Call « Smart Cities and Communities »**: 04 December 2012
- **Call « ICT for Green Cars »**: 04 December 2012
- **Call « Factories of the Future » (FoF)**: 04 December 2012
- **Call 10**: 15 January 2013
- **Call FET open**: 12 March 2013
- **Call 11**: 16 April 2013

**Call FET open**: Future and emerging technologies; short STREP proposals may be submitted earlier for initial anonymous evaluation; Budget 50M €.
Relevant calls for M&C:

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<td><strong>Call &quot;Smart Cities and Communities&quot;</strong></td>
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<td>Challenge 1:</td>
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<td>- ICT-2013.1.4 A reliable, smart and secure Internet of Things for Smart Cities</td>
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<td>Challenge 6:</td>
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<td>- ICT-2013.6.2 Data Centres in an energy-efficient and environmentally friendly Internet</td>
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<td>- ICT-2013.6.4 Optimising Energy Systems in Smart Cities</td>
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<td>Challenge 7:</td>
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<td>- FoF-ICT-2013.7.1 Application experiments for robotics and simulations</td>
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<td>- FoF-ICT-2013.7.2 Equipment assessment for sensor and laser based applications</td>
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<td>Challenge 9:</td>
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<td>- ICT-2013.9.1 FET-Open: Challenging current Thinking</td>
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<td>- ICT-2013.9.2 High-Tech Research Intensive SMEs in FET research</td>
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<td>- ICT-2013.9.3 FET Young Explorers</td>
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<td>Challenge 4:</td>
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<td>- ICT-2013.4.2 Scalable data analytics</td>
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<td>- ICT-2013.6.1 Smart Energy Grids</td>
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<td>- ICT-2013.6.3 ICT for water resources management</td>
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<td>Challenge 8:</td>
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<td>- ICT-2013.8.2 Technology-enhanced learning</td>
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4) Preview: Horizon 2020 – a new framework

FP7 is coming to an end – but opportunities for EU-WBC collaboration and integration of research projects will continue…

The EU Framework Programme for Research and Innovation

2014-2020

Proposed amount for Horizon 2020: 80 billion €*

- 46% increase compared to current period (2007-2013)
- Research and innovation increases to 8.5% of overall EU budget

*It appears that the European Parliament has recently settled the final budget for H2020 to 70B€; as no budget distribution has been officially updated at this stage, announced numbers are still based on the initially planned budget of 80B€.

3 major priorities:
1. Excellence in the Science Base
2. Industrial Leadership
3. Societal challenges

Read on: more information on H2020 is available in the information document “ICT in Horizon 2020” published in July 2013 by the BALCON team (http://www.balcon-project.eu/)
Horizon 2020 - focus

- Excellent Science
- Industrial leadership
- Societal challenges
Horizon 2020 – Objectives and structure

Europe 2020 priorities

- International cooperation
- Shared objectives and principles
- European Research Area
- Tackling Societal Challenges
  - Health, demographic change, and wellbeing
  - Food security, sustainable agriculture, and the bio-based economy
  - Secure, clean, and efficient energy
  - Smart, green, and integrated transport
  - Climate action, resource efficiency, and raw materials
  - Inclusive, innovative, and secure societies
- Creating Industrial Leadership and Competitive Frameworks
  - Leadership in enabling and industrial technologies
    - ICT
    - Nanotech, Materials, Manuf. and Processing
    - Biotechnology
    - Space
  - Access to risk finance
  - Innovation in SMEs
- EIT JRC
  - Frontier research (ERC)
  - Future and Emerging Technologies (FET)
  - Skills and career development (Marie Curie)
  - Research infrastructures
- Excellence in the Science Base
- Simplified access
- Common rules, toolkit of funding schemes
- Dissemination & knowledge transfer
What's new?

- A single programme bringing together three separate programmes / initiatives
- Coupling research to innovation - from research to retail, all forms of innovation
- Focus on societal challenges facing EU society, e.g. health, clean energy and transport
- Simplified access, for all companies, universities, institutes in all EU countries and beyond.
- Strong participation of SMEs
Priority 1. ICT in excellent science

- **FET Open** fostering novel ideas:
  - collaborative research for embryonic, high risk visionary science and technology

- **FET Proactive**:
  - nurturing emerging themes and communities

- **FET Flagships**:
  - projects on a global scale tackling grand interdisciplinary science and technology challenges

- **E-Infrastructures**:
  - integration and access to national research infrastructures; development, deployment and operation of e-Infrastructures
Priority 2. ICT in industrial leadership

- **Components and systems:**
  - Smart embedded components and systems, micro-nano-bio systems, organic electronics, large area integration, technologies for IoT, smart integrated systems, systems of systems and complex system engineering

- **Next generation computing:**
  - Processor and system architecture, interconnect and data localization technologies, cloud computing, parallel computing and simulation software

- **Future Internet:**
  - Networks, software and services, cyber security, privacy and trust, wireless communication and all optical networks, immersive interactive multimedia and connected enterprise

- **Content technologies and information management:**
  - Technologies for language, learning, interaction, digital preservation, content access and analytics; advanced data mining, machine learning, statistical analysis and visual computing

- **Advanced interfaces and robots:**
  - Service robotics, cognitive systems, advanced interfaces, smart spaces and sentient machines

- **Key Enabling Technologies:**
  - Micro-/nano-electronics and photonics; design, advanced processes, pilot lines for fabrication, production technologies and demonstration actions to validate technology developments and innovative business models
Priority 3. ICT in societal challenges

- **Health, demographic change & wellbeing**
  - E-health, self management of health, improved diagnostics, improved surveillance, health data collection, active ageing, assisted living;

- **Secure, clean and efficient energy**
  - Smart cities; Energy efficient buildings; smart electricity grids; smart metering;

- **Smart, green and integrated transport**
  - Smart transport equipment, infrastructures and services; innovative transport management systems; safety aspects;

- **Food security, sustainable agriculture, marine and maritime research & the bioeconomy**

- **Climate action, resource efficiency and raw materials**
  - ICT for increased resource efficiency; earth observation and monitoring;

- **Inclusive, innovative and secure societies**
  - Digital inclusion; social innovation platforms; e-government services; e-skills and e-learning; e-culture;

- **Secure societies**
  - Cyber security; ensuring privacy and protection of human rights on-line.