Information and Communication Technologies
Cloud, Software, Photonics WP(2018)-2020

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#H2020Energy info days
ICT-40-2020 Cloud Computing: towards a smart cloud computing continuum

Specific Challenge:

• Development towards transparent and adaptive environment for ‘everything as a service’;

• Complete cloud computing continuum: seamless access to continuous service environments;

• Federation, applications, services, dynamic workflows;

• Interoperability, performance, security, energy-efficiency.
ICT-40-2020 cloud cont. 1

Scope:
Research and innovation actions (RIA) – at least one of following

• advanced cloud technologies and testbeds for complete solutions (network, computing, data services) and complete lifecycle;
• advanced cloud data privacy and security techniques;
• novel programming models and semantically interoperable services.

And demonstrate applicability across multiple domains.
ICT-40-2020 cloud cont. 2

Scope:
Coordination and support actions (CSA)

• Coordinate stakeholders in cloud computing;
• Support R&D programmes and activities;
• Dissemination, organise events, develop research and innovation roadmaps, pre-standardisation activities.
ICT-40-2020 cloud cont. 3

**Expected impacts:**

**RIA:** contribute to
- Development of ecosystems and testbeds;
- Development of new cloud services and infrastructures across Europe industrial cloud capability;
- Opportunities for European-based providers, [particularly SMEs;
- Leverage of innovative cloud services and applications.

**CSA:**
- Creation of sustainable European forum of stakeholders for cloud computing research, industry and users.

Expected opening call: 19 Nov. 2019 (**DOUBLE-CHECK!!!!**)
ICT-50-2020 Software Technologies

Specific Challenge:

• Increased complexity, challenges to integration and cybersecurity;

• Seamless connectivity and access to data, abundant computing power;

• Adaptability, trust, security, reliability, performance while reducing energy consumption;

• Challenges from requirement analysis, design, development, testing, deployment, operations, across heterogeneous and dynamically self-configuring systems.
Scope: Research and innovation actions (RIA) – at least one of the following areas

• Development tools & methods for interoperable, adaptive, secure and trustworthy software
  a. New programming models and S/W engineering;
  b. Advanced development environments.

• advanced software systems and architectures
  a. Self-managed software facilitating the semantic adaptation of entities to dynamically changing contexts;
  b. Software systems that effectively deal with resources complexity and volatility.

And demonstrate applicability across multiple domains.
**ICT-50-2020 Software Technologies cont. 2**

**Scope**: Coordination and support actions (**CSA**)  

Coordinate stakeholders in the area of software technologies, digital infrastructures and cybersecurity;  
Support to R&D programmes/activities by disseminating project results and organising scientific and policy events, developing research and innovation roadmaps.
ICT-50-2020 Software Technologies cont. 3

Expected impacts:

RIA:
• Increased capacity of the European software industry;
• Improved reliability and cybersecurity of software;
• Expand research and innovation potential in software technologies & infrastructures while overcoming fragmentation;
• Contribute to EU's technology independence in software.

CSA:
• Creation of sustainable European forum of stakeholders for software research, industry and users.

Expected opening call: 9 July 2019 (DOUBLE-CHECK!!!!)
ICT-36-2020 Photonics iii. Light to Fuel

ICT-36-2020 Disruptive photonics technologies [budget 47.5 M€]

Research & Innovation Actions

i. 3D light field and holographic displays
ii. Packaging and module integration for photonic integrated circuits (PIC)
iii. Light to Fuel
iv. Next generation biophotonics methods and devices as research tools to understand the cellular origin of diseases

#H2020Energy
Objective is to develop photonics devices for the direct and efficient (>5%) conversion of solar energy into chemical fuel.

Requirements:
- Actions should demonstrate technical and economic feasibility.

Expected Impact:
- Demonstrate the efficient conversion of solar energy into chemical fuels, with a device efficiency of >5% and payback period of <10 years.
- Enable Europe taking the lead in related solar energy conversion industry.
Thank you!

EU Funding & Tenders Portal

www.ec.europa.eu/research/participants