



ICT 6: Cloud computing

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Cloud computing in previous WPs

FP7 ICT Work Programmes (Calls 1, 5, 8, 10)

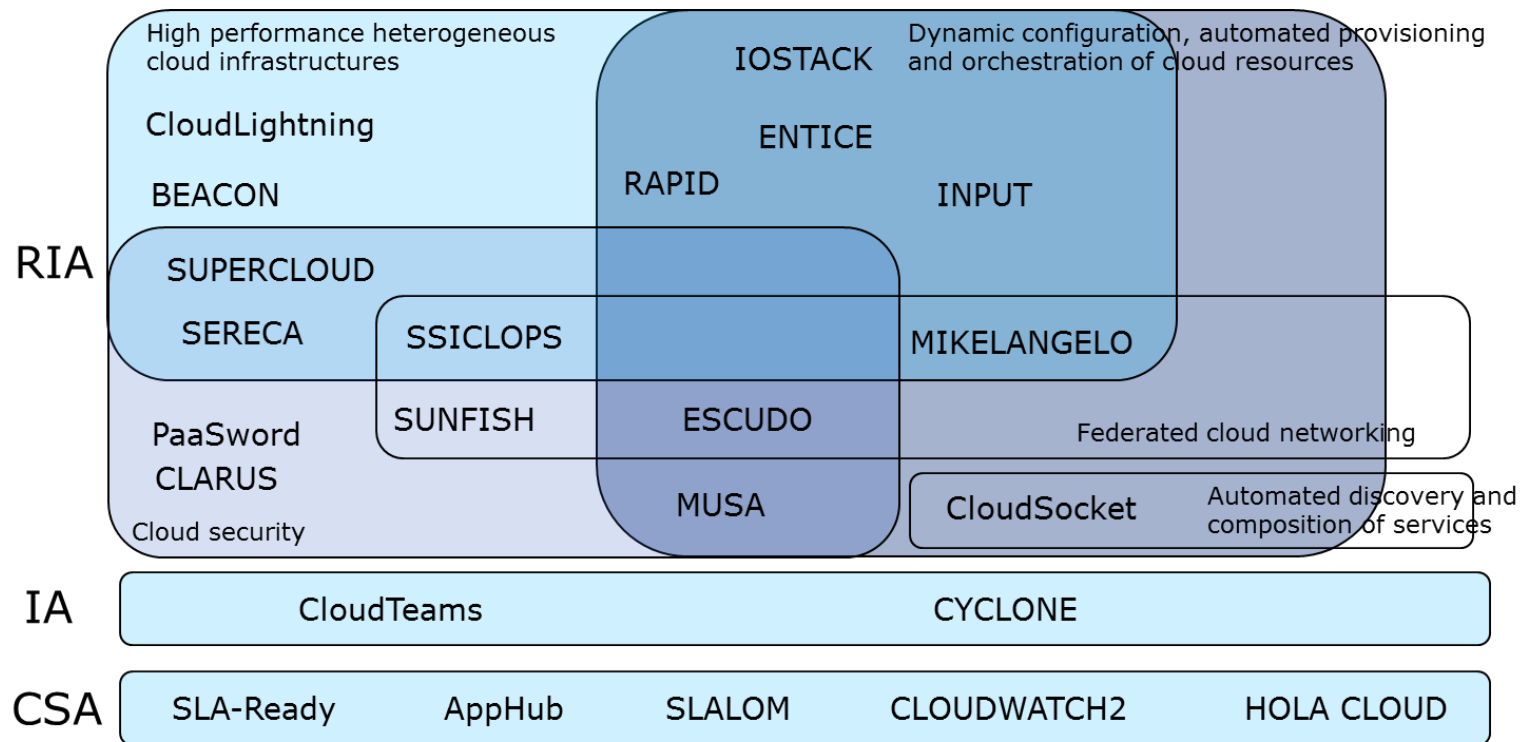
Total investment in the software, services and cloud computing area: **€341.5 million + part of Future Internet PPP**

H2020 WP 2014-15 (ICT 7, ICT 8)

Total investment in the cloud computing area: **€77 million**

Many running projects "in the cloud"

- Horizon 2020 call 1





Public consultation: research priorities in cloud computing

- Position papers from experts, NESSI, CloudWatch
- Open web consultation
- Public workshop
- Final report

<http://ec.europa.eu/digital-agenda/en/news/public-consultation-cloud-computing-and-software>



Specific Challenge

Research and Innovation Actions

- development of new paradigms (heterogeneous, federated, distributed clouds) as opposed to the current centralised model
- evolution in cloud architectures, cloud networking, deployment practices and run-time management as well as the associated security and privacy needs

Innovation actions

- cloud experimentation
- fostering the provision and adoption of cloud computing services by SMEs and public sector across Europe
- contributing towards a connected Digital Single Market



Scope

Research and innovation actions:

- Densely interconnected and decentralised cloud infrastructures – fog computing
- Cloud networking in the context of software-defined data centres
- Trust, security and privacy in decentralised cloud infrastructures and across multiple cloud providers
- Evolution of cloud architectures

35 M €; EU contribution between 3 - 5 M €



Scope

Innovation actions:

- **Experimentation** of cloud-based services and their deployment configurations in large-scale decentralised and federated environments, contributing towards interoperability and standardisation
- Increased provision and adoption of cloud computing services by **SMEs and public sector**. Piloting and demonstration in near-operational settings. Leverage innovative solutions to overcome current challenges such as data portability and interoperability, data protection and access control, standardisation, etc.

10 M €; EU contribution between 2 - 4 M €



Expected impact:

- Increased performance of cloud offerings – facilitating deployment of critical applications and services
- Stronger security and data protection practices - increased control by users
- Experimentation enhancing Quality of Experience - standardisation and interoperability. Large-scale global experimentation
- Increased readiness for adoption of trustworthy cloud-based solutions for SMEs and public sector
- Improve the competitive position of the European cloud sector and facilitate the emergence of innovative business

Provide appropriate metrics for claimed impacts⁸

Policy context: Digital Single Market

- **European Cloud initiative** - tackle fragmentation and raise the trust and confidence of users in cross-border cloud services through EU-wide specifications and certification
- **Free flow of data** - address key obstacles to the freedom of movement of data within the EU
- **Interoperability and standardisation** - increase interoperability of products and services

Enhance the Digital Economy
Cloud computing and other data services



Free flow of
data initiative



European Cloud
Initiative



Interoperability
and
standardisation



International Cooperation joint calls related to cloud computing:

- EU-Japan (EUJ-02-2016): IoT / Cloud / Big Data platforms in social application environments
- EU-Brazil (EUB-01-2017): Cloud Computing
- EU-South Korea (EUK-03-2016): Federated Cloud resource brokerage for mobile cloud services

Further Information

Digital Agenda – Cloud Computing

<https://ec.europa.eu/digital-agenda/en/telecoms-and-internet/cloud-computing>

European Cloud Computing Strategy - DSM

<https://ec.europa.eu/digital-agenda/en/european-cloud-computing-strategy>

Public consultation :

<http://ec.europa.eu/digital-agenda/en/news/public-consultation-cloud-computing-and-software>

Project portfolio :

<https://ec.europa.eu/digital-agenda/en/news/software-services-cloud-computing-h2020-project-portfolio>