



ICT 10: Software Technologies

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Software related activities in WP2016-17

- **Innovating in software:** topics which have generic software concepts and methodologies as the core R&I activities
 - E.g. generic and advanced research on software, tools and programming environments for massively parallel and heterogeneous systems, software technologies for cloud & big data
- **Software for innovation:** topics developing and using software for meeting specific R&I or application needs.
 - E.g. software for 5G networks, digital content, robotics, gaming, e-learning, e-gov, e-health etc.



Software Technologies in previous WPs

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

Included into topics covering software, services and cloud computing.

H2020 WP 2014-15 (Call 1 ICT 9)

A dedicated topic for Tools and Methods for Software Development



FP7 project portfolio in Software

Call 1

Service/Software Engineering
(complexity, dependability):

DEPLOY, **Protest**,
COMPAS, **ALIVE**,
MOST, **MANCOOSI**,
DIVA, **Q-Impress**

35,6 M €*

2007

Call 8

Advanced Software Engineering

MODAClouds	ARTIST
PROWESS	MIDAS
MARKOS	OSSMETER
RISCOSS	U-QASAR

31,1 M €

2011

Call 10

Innovative software & tools for services

Agile Software Prototyping	Model Driven Engineering
<i>S-Case</i>	<i>Mondo</i>

5,1 M €

2013

23,3 M €

Advanced Software Engineering

Service coordination CHOReOS , ACSI	Testing FITTEST	Maintenance FastFix	Migration to clouds REMICS	Open source development ALERT
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24 Projects
95.1 M €

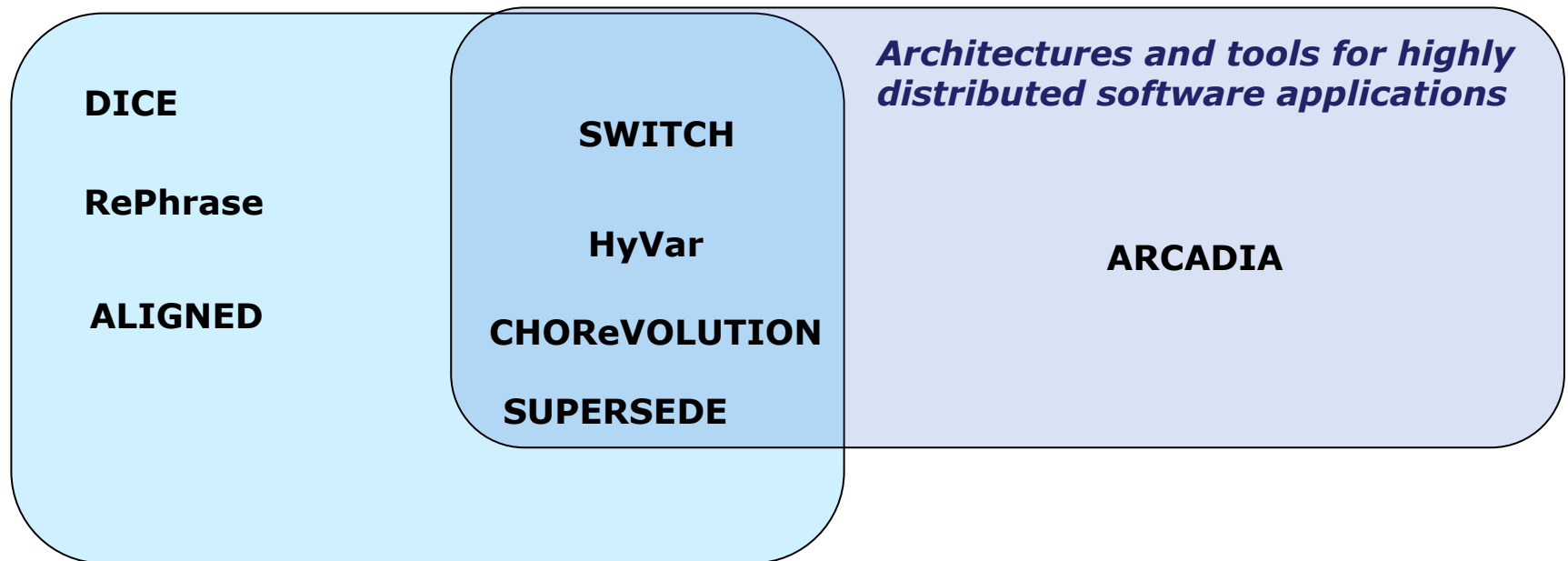
Call 5

*EC Contribution

8 running projects for software tools & Methods

- **Horizon 2020 call 1**

Software tools and methods for large, complex and data intensive systems

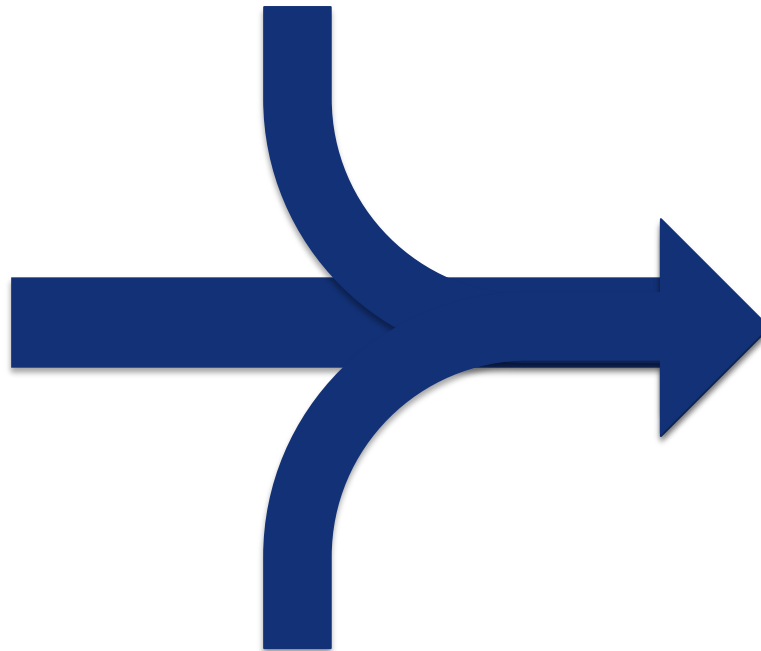


8 Projects 27 M €

From H2020 WP2014-15 to WP2016-17 Preparation process

Internal consultation

Public
Consultation
(9-10/2014,
Workshop
4/11/14)



**H2020
WP2016-2017
Topic ICT 10**

Other sources

(e.g. CAF position paper on H2020, NESSI position paper)

The Challenge

- **Programming and modelling methods, platforms and software reuse** that facilitate the development of more interconnected, flexible, reliable, secure and efficient software.
- **Holistic approach in the software development** that goes beyond software production within specific application domains.

Scope: Research & Innovation Actions

Theme A. Advanced software development approaches and methodologies

Novel development approaches which would drastically increase

- *development productivity*
- *software quality*
 - security
 - reliability
 - performance
 - scalability
 - adaptability

Scope: Research & Innovation Actions

Theme A: Advanced software development approaches and methodologies.

Aspects that can be covered include:

- Novel requirement engineering approaches.
- Tools and mechanisms for managing software quality, including big data analytics on user feedback and run-time software performance monitoring
- Tools for automated deployment and dynamic configuration.
- Tools and techniques for automating software interoperability and compliance testing
- Algorithms and techniques for extracting knowledge (e.g., specifications, designs or models) from the huge amount of existing open source code
- Tools using that knowledge in the development of new software

Scope: Research and innovation actions

Theme B: Seamless software architectures:

- **Innovative architectures, frameworks and platforms** addressing the need for evolvable, secure, context-aware and self-adaptive software in highly connected and interoperable systems
- **Support for the development and testing of software** for distributed systems in heterogeneous environments, addressing issues such as data consistency, reliability, scalability and the efficient use of underlying resources

Expected impact:

- **Reduction of the time to market** of the new generations of software enabled products and services;
- **A significant and substantiated productivity increase** in all aspects of software life-cycle especially for distributed systems;
- **Ability to meet software quality levels** required by a fast growing number of software-enabled products and services;
- **Increased reuse of code, design or functional requirements** in the development of new software.

Provide appropriate metrics for claimed impacts



Implementation details for ICT10 topic

- **Call 1 – 2016**
Budget: ***31 M Euro***
- **Instruments:** Research & Innovation Actions
 - Expected requested contribution: 3 to 5 M EUR
 - Does not preclude submission and selection of proposals requesting other amounts.

No further budget available for calls in 2017

Open Source Software in WP2016-17

- **In Future Internet thematic area:** The use and development of **open source software will be encouraged where appropriate** to further promote openness, facilitate the sharing of project results and accelerate innovation in Europe through the introduction of novel products and services.
- **Proposers in ICT-LEIT WP2016-17** are encouraged to use FIWARE for some or all of their platform developments, when relevant. **FIWARE enablers are available under open source licence** for business use.

Further Information

CAF Position Paper on ICT in Horizon 2020 beyond 2015.

http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=7050

Software Engineering, Key Enabler for Innovation: NESSI White Paper

http://www.nessi-europe.eu/Files/Private/NESSI_SE_WhitePaper-FINAL.pdf

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>