



# **MUSA: Multicloud Secure Applications**

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The project leading to this application has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 644429

# Project Consortium



Fundación Tecnalia Research & Innovation  
(TECNALIA, Spain)



Centro Regionale Information e Communication Technology  
(CER ICT, Italy)



CA Technologies Development Spain SAIL (CA, Spain)



Montimage  
(MI, France)



AIMES Grid Services  
(AIMES, UK)



Lufthansa Systems  
(LSY, Germany)



TTY-säätiö  
(TUT, Finland)



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**H2020-ICT-07-644429**  
**Project Start: 1/1/2014**  
**Project Type: RIA**  
**Duration: 36M**  
**Total Funding: 3.5 M**  
**EU Contribution: 2.4 M**

# MUSA Goals

- Support the security-intelligent lifecycle management of distributed applications over heterogeneous cloud resources,
- Security-by-design mechanisms to allow application self-protection at runtime,
- methods and tools for the integrated security assurance in both the engineering and operation of multi-cloud applications

MUSA Kick-off meeting, 20-21 January 2015



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# MUSA Key Ideas

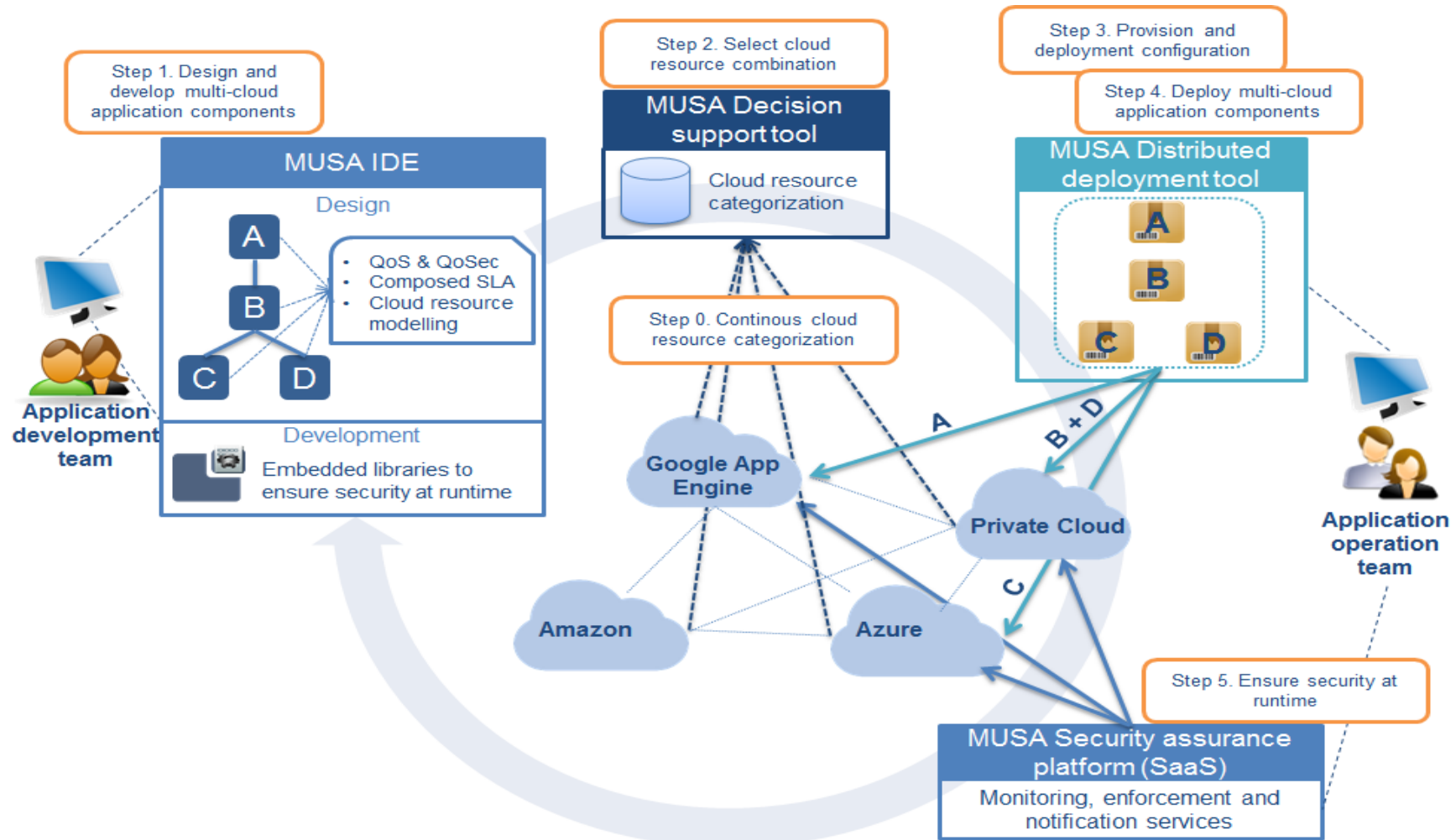
- Multicloud Application:
  - Application running on multiple cloud
  - Refine the concept of multicloud and differences between portability and multicloud
- Secure Multicloud Application
  - Multicloud as a source of security issues (example: larger attack surface)
  - Multicloud as a solution for security issues (example: increase availability using multiple technologies/providers)
- Security-by-design
  - Introduce security for the very early development stage of multicloud applications

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# Musa Overall Concept



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# MUSA Case Studies (I) – Air flight scheduling

- airlines need to revise their flight schedule plans in response to competitor actions, to follow updated sales ...
- Complex Operation, Sensible data
- MUSA aims at developing a multcloud application that embeds (data integrity, confidentiality, access control, localisation, availability, etc.) can be embedded in application components

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# MUSA Case Studies (II) – Smart Mobility

- In line with Finland’s Strategy for Intelligent Transport [35], the Tampere City Council has a number of services exposed to allow companies and individual developers to develop, test and productize own traffic applications using public data. The services can be publicly accessed via Intelligent Transport Systems and Services (ITS) platform [36], which includes the public transport services APIs, other traffic related APIs, traffic data, etc.
- MUSA aims at developing a multcloud application that embeds (data integrity, confidentiality, access control, localisation, availability, etc.) can be

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embedded in application components

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# MUSA Key (Expected) Results

#	Key Result Description
KR0	MUSA Framework
KR1	MUSA Integrated Development Environment
KR2	MUSA Security Libraries
KR3	MUSA Decision Support Tool
KR4	MUSA Deployment Tool
KR5	MUSA Monitoring Service
KR6	MUSA enforcement support service
KR7	MUSA notification service
KR8	MUSA Security Assurance Platform
KR9	Guide for an integrated multicloud secure applications lifecycle Management
KR10	Innovative multicloud application service prototypes that exploit heterogeneous Clouds



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[www.musa-project.eu](http://www.musa-project.eu)

**THANKS**

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