

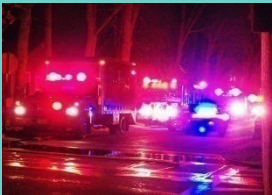
AMADEOS research domains

Automotive



Railway

ATM



Crisis management

Energy



About the AMADEOS project

AMADEOS is a collaborative project funded under the European Commission's FP7 (FP7-ICT-2013-610535)

Start date:	01/10/2013
Duration:	36 months
Budget:	€ 3.4m
Coordinator:	Andrea Bondavalli

AMADEOS consortium

Industrial partners

ResilTech S.R.L., Italy	
Thales-NL, The Netherlands	
ENCS, The Netherlands	

Academic partners

UNIFI, Firenze, Italy	
TUW, Wien, Austria	
UJF, Grenoble, France	

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**Architecture for
Multi-criticality Agile
Dependable
Evolutionary Open
System-of-Systems**



What are System-of-Systems?

"An SoS is an integration of a finite number of constituent systems which are independent and operable, and which are networked together for a period of time to achieve a certain higher goal."

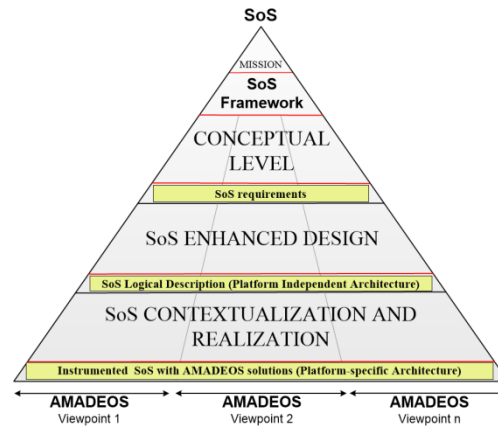
Key characteristics:

- Operational and managerial Independence
- Geographical distribution
- Emergent behavior
- Evolutionary/Adaptive Development

Main challenges

- Guaranteed responsiveness
- Dynamicity and evolvability
- Emergence

Project Concepts



Requirements viewpoints

Constraints	Emergence
Architecture & RUMI	Governance
Semantic of Communication	Handling of time
Dynamicity	Dependability, Security
Evolution	Quality Metrics

Profile

SysML profile to support description and analysis of a SoS.

Resilient Master Clock

A resilient fail-silent master clock based on satellite-based time synchronization

Use case example

Example **Household scenario** from the Energetic domain

- Smart Meter** : measures the amount of energy, gas and water used
- Energy Management Gateway** : controls home automation devices
- Coordinator** : performs neighborhood energy optimization

