Launch of the open source Arrowhead Framework
Arrowhead
Process and energy system automation

4 years project
68M€
78 partners
Coordinated by an ARTEMIS CoIE

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ISA-95 systems in to the cloud?
Arrowhead Grand challenges

- Enabling the interoperability of services provided by almost any device.

- Enabling the integrability of services provided by almost any device.
The global cloud approach
Collaborative automation in the cloud

- Automation is local - requirements on:
  - Real time
  - Security and safety
  - Continuous engineering

- Local clouds are beneficial to:
  - Latency - real time
  - Security - supporting safety
  - Less engineering dependencies

- Inter cloud actions are necessary and possibly secure!
System-of-Systems in a local cloud

ARROWHEAD FRAMEWORK
LOCAL CLOUD

Application system

Service Registry

Authorisation

Orchestration

Core systems

Application system

Application system

Application system

Application system

Application system
Real time local cloud automation & inter cloud automation

Real time Local cloud #1

Real time Local cloud #2

Real time Local cloud #3
Launch of the open source Arrowhead Framework
Arrowhead Framework wiki
You will most likely find inconsistencies here and there. Please correct if possible. If not please create a ticket so it can be addressed.

Why & How
- Objectives
- Strategy

Core systems & services
- Mandatory core systems and services
- Support core systems and services
- Core system prototypes
- Online deployed clouds
- Local deployment guidance

Technical architecture
- Application System
- Service Registry
- Orchestration System

How to implement
- Java library API for Core services usage
- Application system example – Using the Core system via the Java library and example application services
- Application system examples
- Design documentation and code

Application services
- Service specifications

Technical documentation model
- Compliance criteria
- Test tool
- Interoperability matrix
Arrowhead Framework evaluation
21 automation demos
within
5 application domains
Interesting results

Engineering time reduction with a factor of 4-5
Arrowhead Vision
Enable collaborative automation by networked embedded devices.
Arrowhead_Framework_Wiki

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