

GENESYS

GENERIC Embedded SYStem Platform
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WORKPACKAGE 1 INDUSTRIAL APPLICATIONS



STARTING POINT

At present, several domain-specific architectures and development methodologies are prevalent in the industrial application domain (automotive, avionic and industrial control), GENESYS is targeting a consolidation into a cross-domain architectural style, the reference architecture template, and the development methodology.

OBJECTIVES

- ✎ Capturing and analysis of the requirements of industrial applications
- ✎ Identification of industrial domain specific services
- ✎ Assessment of the GENESYS reference architecture template from the industrial applications point of view

APPROACH

- ✎ Requirements capturing
 - o Analysis of state-of-the-art architectures (AUTOSAR, IMA, industrial architectures) and ARTEMIS requirements (working group: reference designs and architectures)
 - o Requirements are grouped according to the ARTEMIS key challenges: Composability, Networking and security, Robustness, Diagnosis and maintenance, Integrated resource management, Self-organization, Evolvability
- ✎ Collection of industrial application specific services
- ✎ Assessment of GENESYS reference

CURRENT STATUS

- ✎ Requirements from industrial domain are available
- ✎ Mandatory and optional services for industrial applications are collected

WP CONTEXT

- ✎ Requirements from industrial domain are used as input for WP3 – WP6
- ✎ Several services were identified as application domain independent and were moved to WP4 and WP5 as core services

BENEFITS

Solutions to key challenges in all considered industrial applications

- ✎ *Complexity Management*

The strict partitioning of a distributed service provision into communication components and computational components with a cleanly defined interface in-between, will lead to a wide reuse of components and the reduction of the complexity at the system level.
- ✎ *Specification methodologies*

The cross-domain development methodology will consider the requirements on development in the industrial domains.

WORKPACKAGE PARTNERS

- ✎ Centro Ricerche Fiat
- ✎ Ikerlan
- ✎ Infineon

- ✎ Thalesgroup
- ✎ TTTech Computertechnik AG
- ✎ Volvo Technology