

# GENESYS

GENERIC Embedded SYSTEM Platform  
[FP7/2007-2013] n°213322



## WORKPACKAGE 3 METHODOLOGY & TOOLS



### OBJECTIVES

The objective of WP3 is to develop a cross-domain development methodology:

- Support of modelling, evaluation and validation of platform services and embedded systems based on the reference architecture template
- Extension of model-driven development approaches by measurable quality characteristics
- A set of methods/ tools required to cover the whole development process

### CURRENT STATUS

- Key principles of the methodology defined
- Process model including phases defined
- Main modeling languages selected
- Architectural views and models defined
- Quality evaluation methods and techniques defined (performance, dependability, maintainability, timing, power consumption)
- Semi-automatic integrated development environment defined

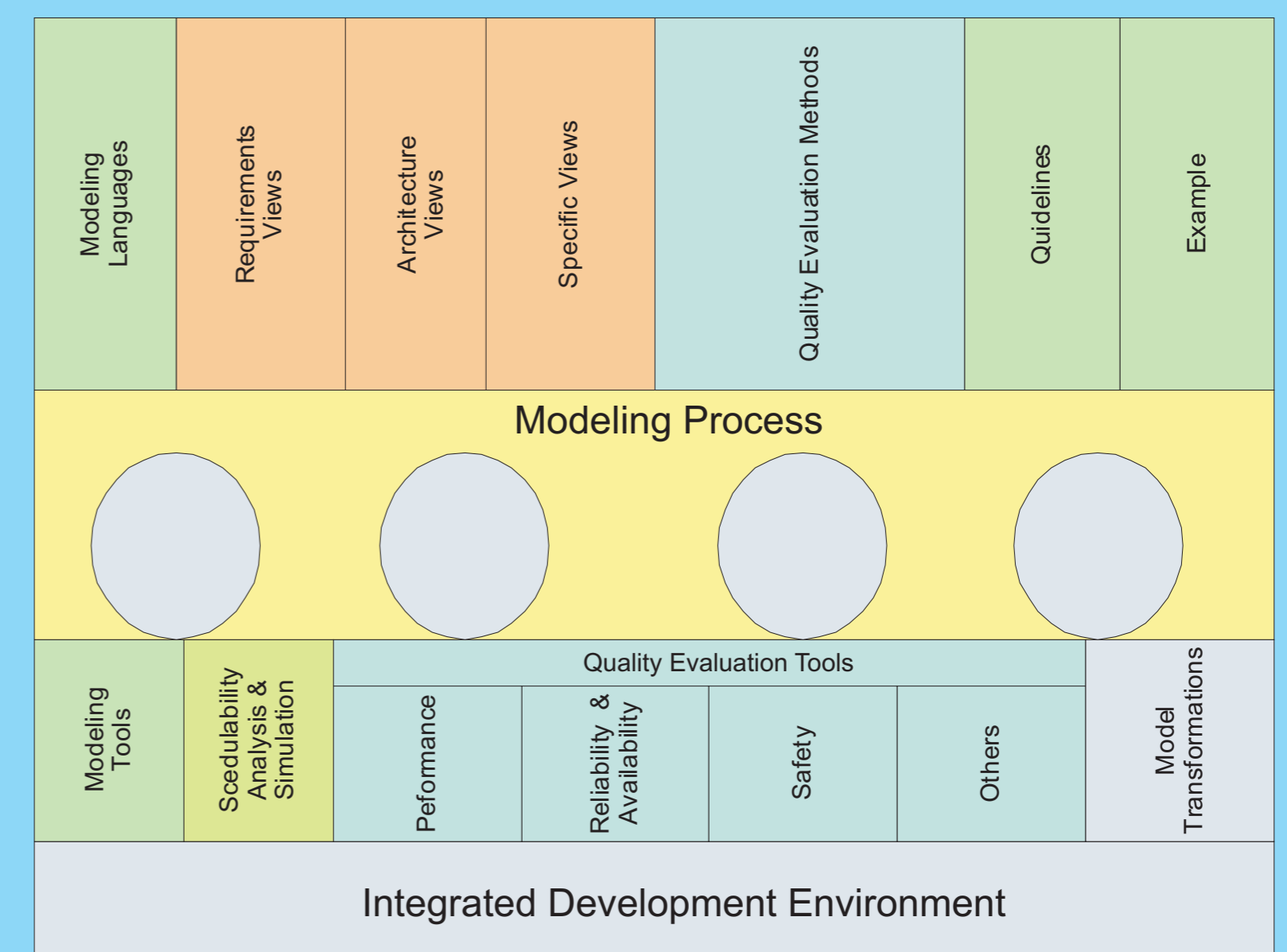
### BENEFITS

- Avoid fragmentation through a cross-domain development methodology
  - Cross-domain development tools
  - Tool developers gain the benefits of larger markets
- Design complexity management
  - Model- and quality-driven design methodology
  - High level of abstraction in the modelling and evaluation
  - Systematic representation, allocation and tracing of requirements throughout the lifecycle of a product at different abstraction levels
  - Early validation and verification support

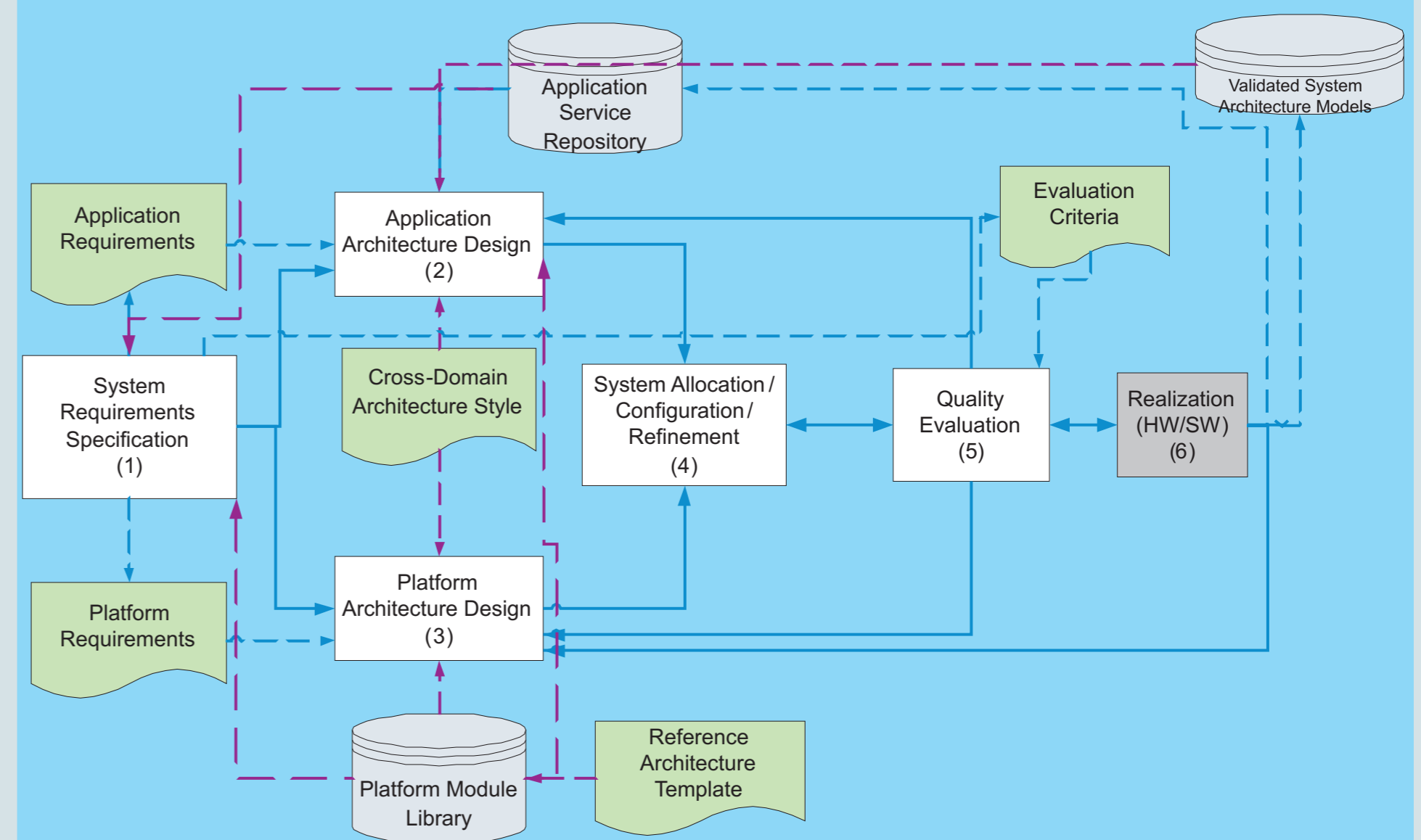
### APPROACH

- Questionnaire for industry - state of the practice and future needs: requirements categorization and prioritization
- Literature survey - state of the art
- Definition of the GENESYS methodology principles
- Use of the same modelling approach for all integration levels
- Inter-operable combination of UML2 MARTE profile, SystemC and formal notations
- Interoperability of methods and tools.

### METHODOLOGY FRAMEWORK



### MODELLING PROCESS



### WORKPACKAGE PARTNERS

- Technical Research Centre of Finland (VTT)
- European Software Institute

- Thalesgroup
- Technische Universität München
- Budapest University of Technology and Economics