Graphical (UML, MARTE)
- Based on Standards
- Separation of functional and non-functional concerns
- Following Model Driven Architecture paradigms
- Component-Based
- Synthetic
- Allows system specification
  - Application SW
  - HW Platform
- Support to Verification Environment definition
- Support to DSE
  - Specification of Design Space (DSE parameters and set of architectural mappings)
  - DSE constraints and Rules
- Fully integrated with Eclipse
- Model Checkers:
  - Verification of compliance with component model
  - User support
- Generators:
  - Automatic generation of text-based system representation
  - Easily customizable
- Scalable and configurable
- Text-based representations in standard formats
- SystemC Executable model for functional verification
- Performance model for DSE
  - Fast (Native) simulation
  - Output: Application and system performance metrics
  - No recompilation required for DSE iterations
- XML interface for Exploration Tools

COMPLEX Eclipse Framework

University of Cantabria
Microelectronics Eng. Group

GMV Aerospace and Defence S.A.U

F. Herrera, P. Peñil & E. Villar
{fherrera, pablop, evillar}@teisa.unican.es

F. Ferrero & R. Valencia
{fferrero, rvalencia}@gmv.com

Embedded Application
HW/SW Platform
Architectural Mapping
Design Space Exploration
Verification Environment

Toolset

Generators

Model Checkers

Graphical (UML, MARTE)

Support to DSE

Full support for performance analysis

Support to Verification Environment definition

Graphical Model

XML interface for Exploration Tools

Performance model for DSE