Atenea
Modeling Software Systems

http://atenea.lcc.uma.es

Universidad de Málaga

Introduction and goal

- **Atenea** is a group of researchers interested in **Modeling Software Systems**

- Based in Málaga (Spain), at the ETSI Informática of the Universidad de Málaga

- **Atenea** conducts basic and applied research on modeling software systems, and on the provision of engineering tools to design, analyze, evaluate and implement distributed information systems

Research interests

- **Modeling languages** for expressing specifications of systems and their integration and distribution

- **Techniques and tools** for relating different specifications of the same system

- **Model-based Engineering** of software systems

- Functions and tools to support different kinds of **formal analyses** of distributed systems

- **Quality models and tools** for evaluating the quality of IT systems and their individual components

Members and Collaborations

Current members

- Antonio Vallecillo
- Nathalie Moreno
- Manuel F. Bertoa
- Francisco Durán
- Gala Barquero
- Paula Muñoz

Former members

- Loli Burgueño
- Javier Troya
- Manuel Wimmer
- José Raúl Romero
- Aurora Ramirez
- Eduardo Rivera

Active Collaborations

- Bremen
- TU Wien
- JKU Linz
- SIMULA
- TU/e
- ...

Active Research Projects

Expressing Uncertainty in Software Models

- Extending UML/OCL Datatypes with Uncertainty
- Confidence in Models and Model Transformation Elements
- Softening OCL Invariants and software contracts
- Uncertain and Probabilistic Complex Event Processing (CEP)
- ❖ COST Action IC1404 (2015-19), PGC2018-094905-B-I00 (2019-21)

Model-based Testing

- Modeling Reliable Service-Oriented Systems with UML and OCL
- Automatic Generation of Mutants for ATL Model Transformations
- Fault Localization in Model Transformations
- ❖ TIN2014-52034-R (2015-18), UMA18-FEDERJA-180, …

Performance and scalability

- Trading Accuracy for Performance in Data Processing Applications
- Parallel executions of model transformations
- ❖ TIN2014-52034-R (2015-18), PGC2018-094905-B-I00 (2019-21)