

# Research on Model-Driven Development @ K.U.Leuven DistriNet

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## MDD Research Tracks

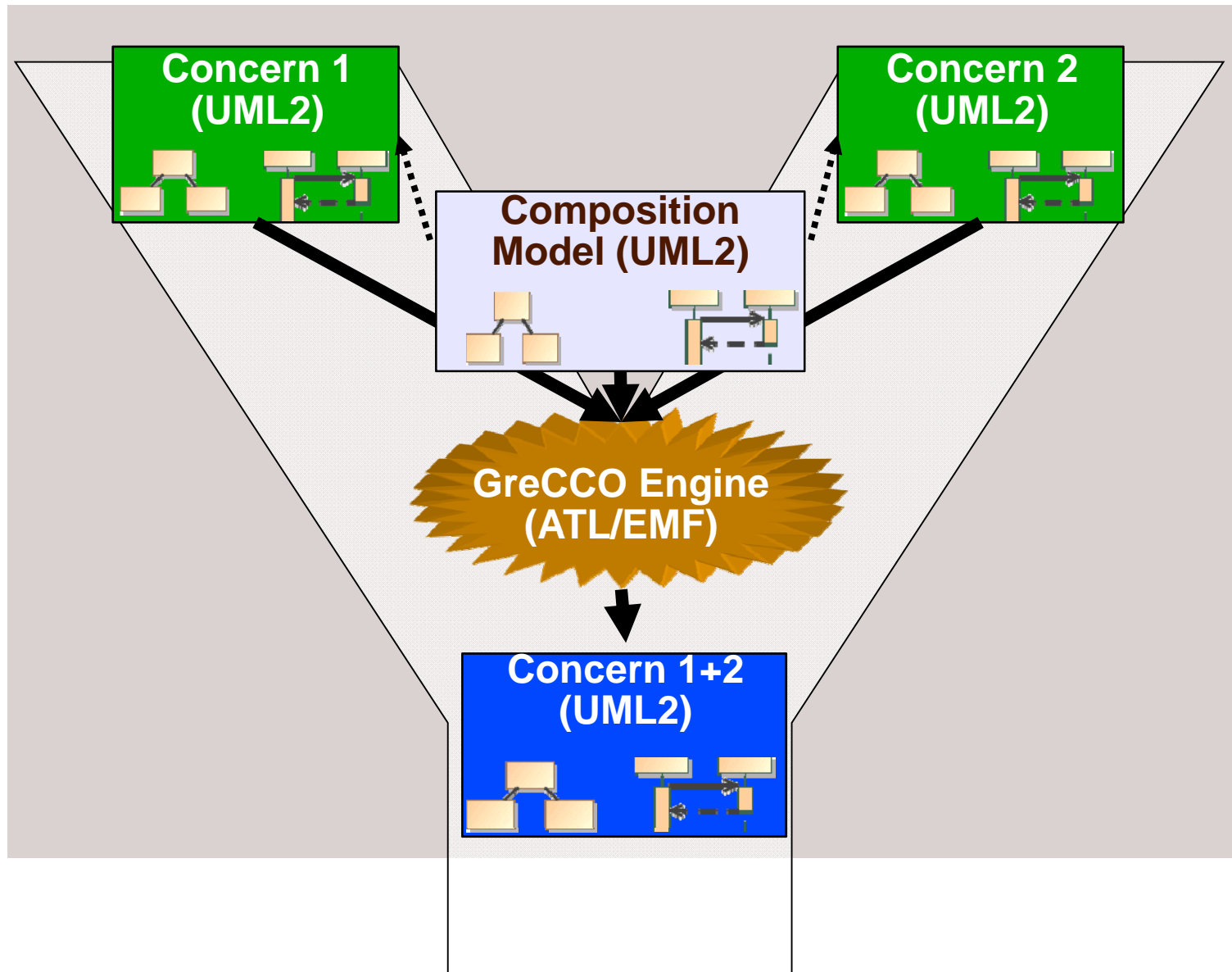
- ⊙ Reusable Model Transformations (GReCCo) [ECMDA'08]
- ⊙ AOM Composition Approaches [AOM@MODELS'07]
- ⊙ Transformation Chaining (UniTI) [MODELS'07]
- ⊙ Transformation Traceability [ECMDA-TW'07, ECMDA'08]
- ⊙ Model V&V and Property-Preserving Transformations

## Supporting Projects

- ⊙ ITEA-MARTES (Model-based Approach to Real-Time Embedded Systems development, 01/2005-12/2007)
  - ⊙ Nokia, NXP, THALES TRT&TCF, Barco, Telelogic, Softeam, ...
  - ⊙ <http://www.martes-itea.org>
- ⊙ ITEA-SPICES (Support for Predictable Integration of mission Critical Embedded Systems, 07/2006-06/2009)
  - ⊙ Airbus, THALES TAV&TCF, Barco, Axlog, CEA, VERIMAG, ...
  - ⊙ <http://www.spices-itea.org>

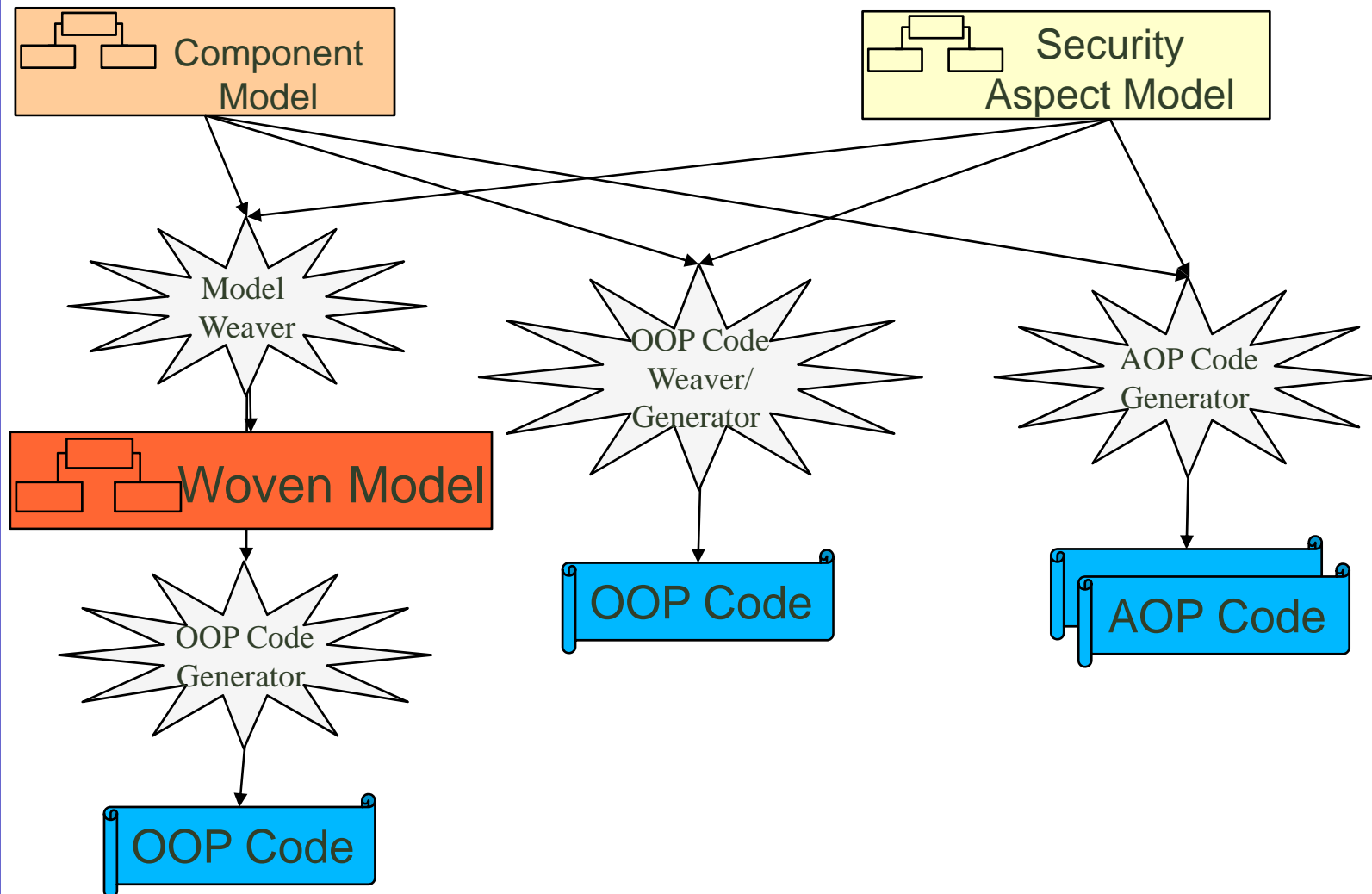


## Reusable Model Transformations (GReCCo)



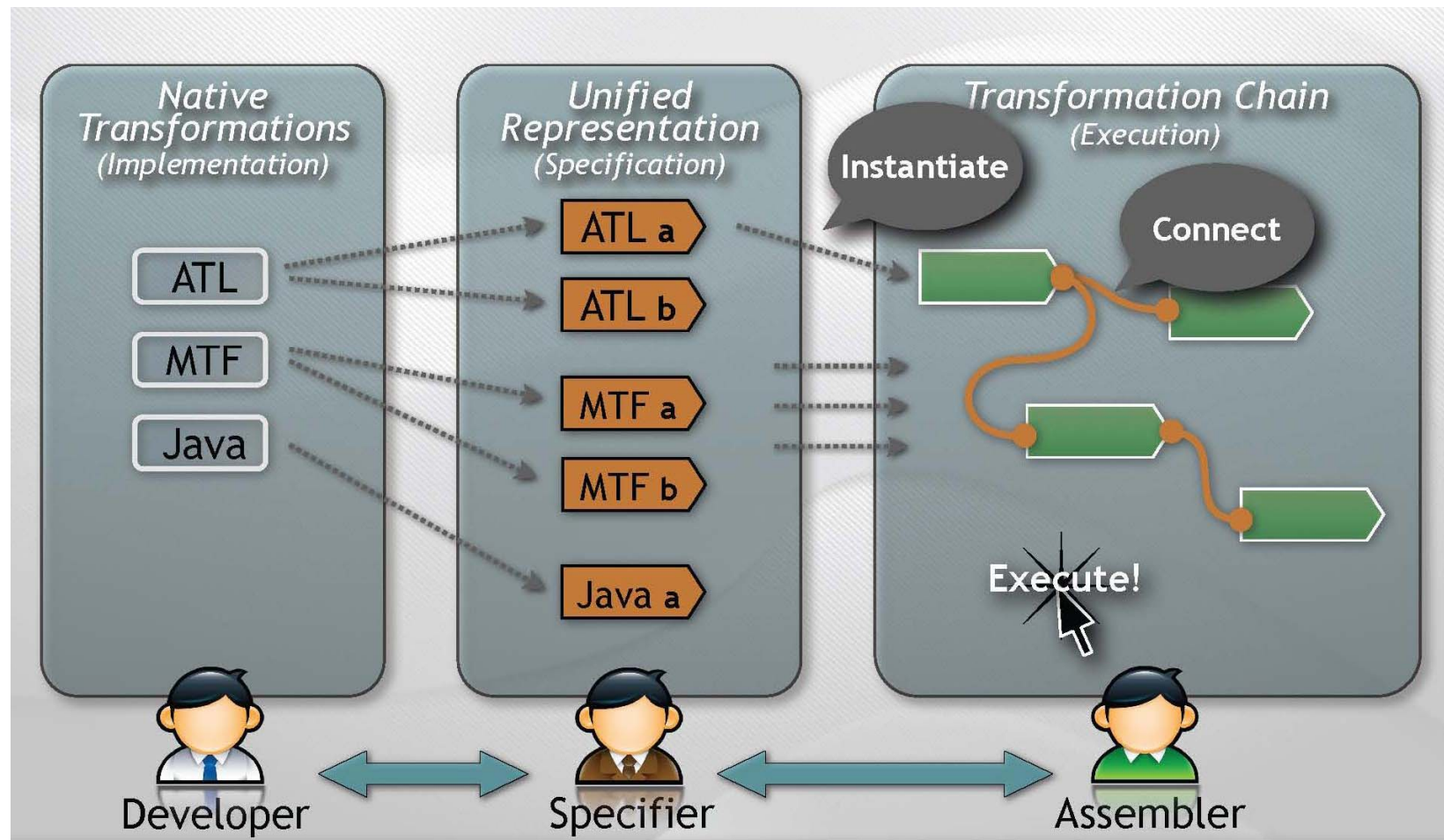


## AOM Composition Approaches



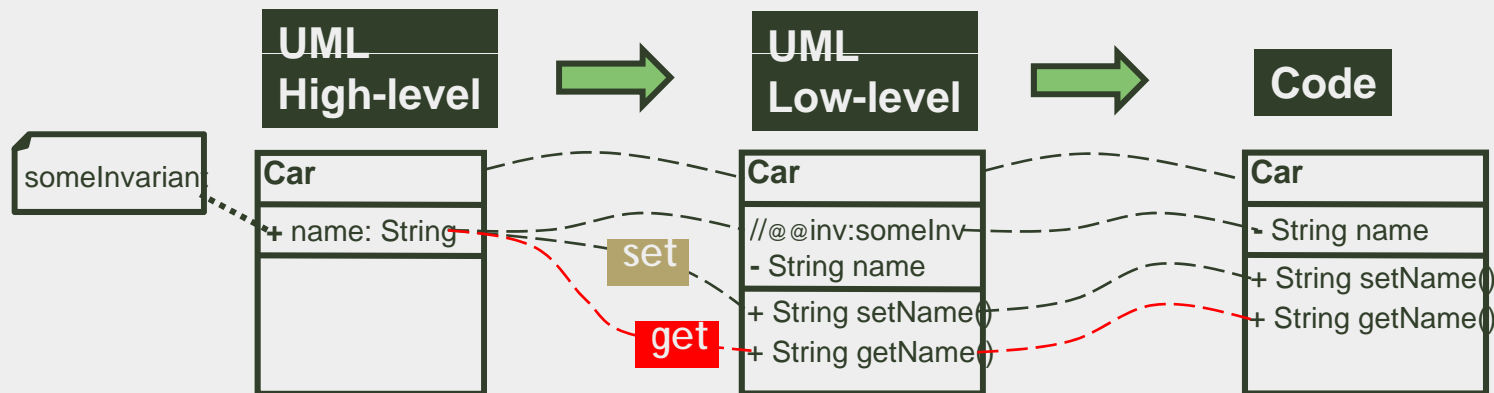
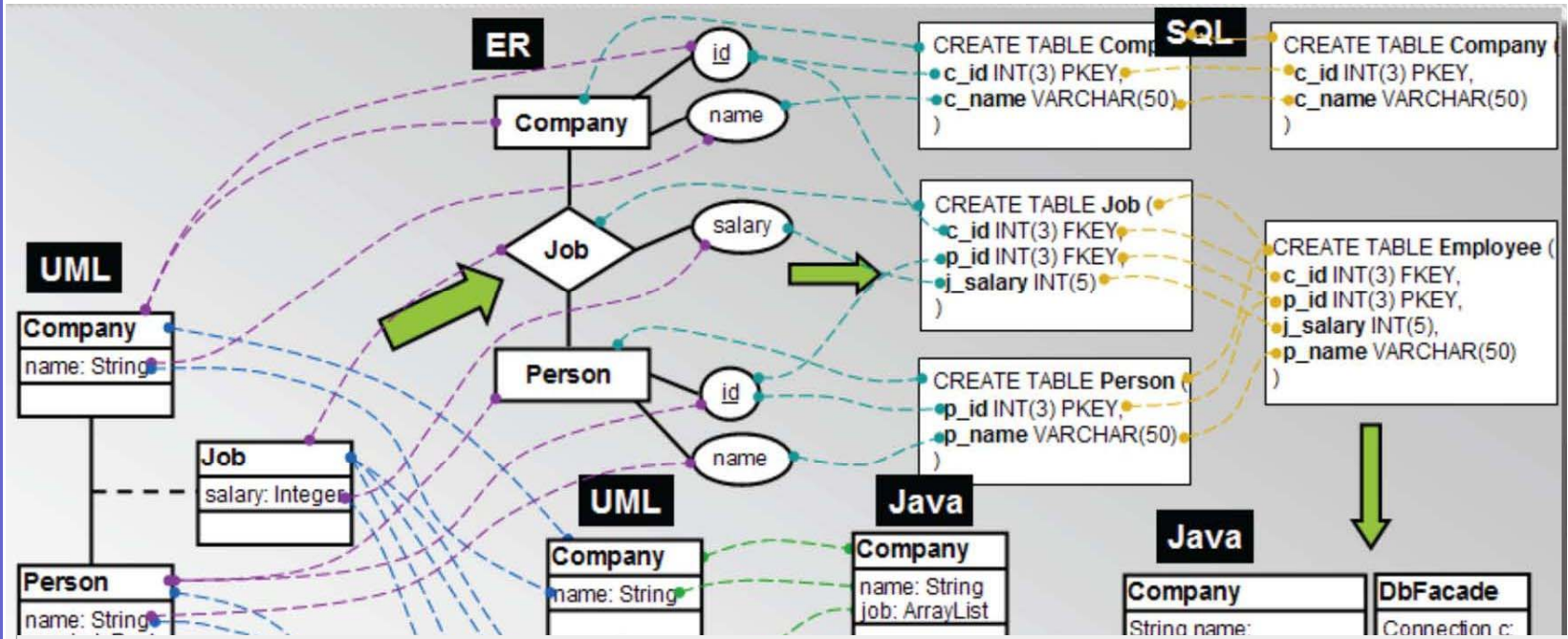


## Transformation Chaining (UniTI)



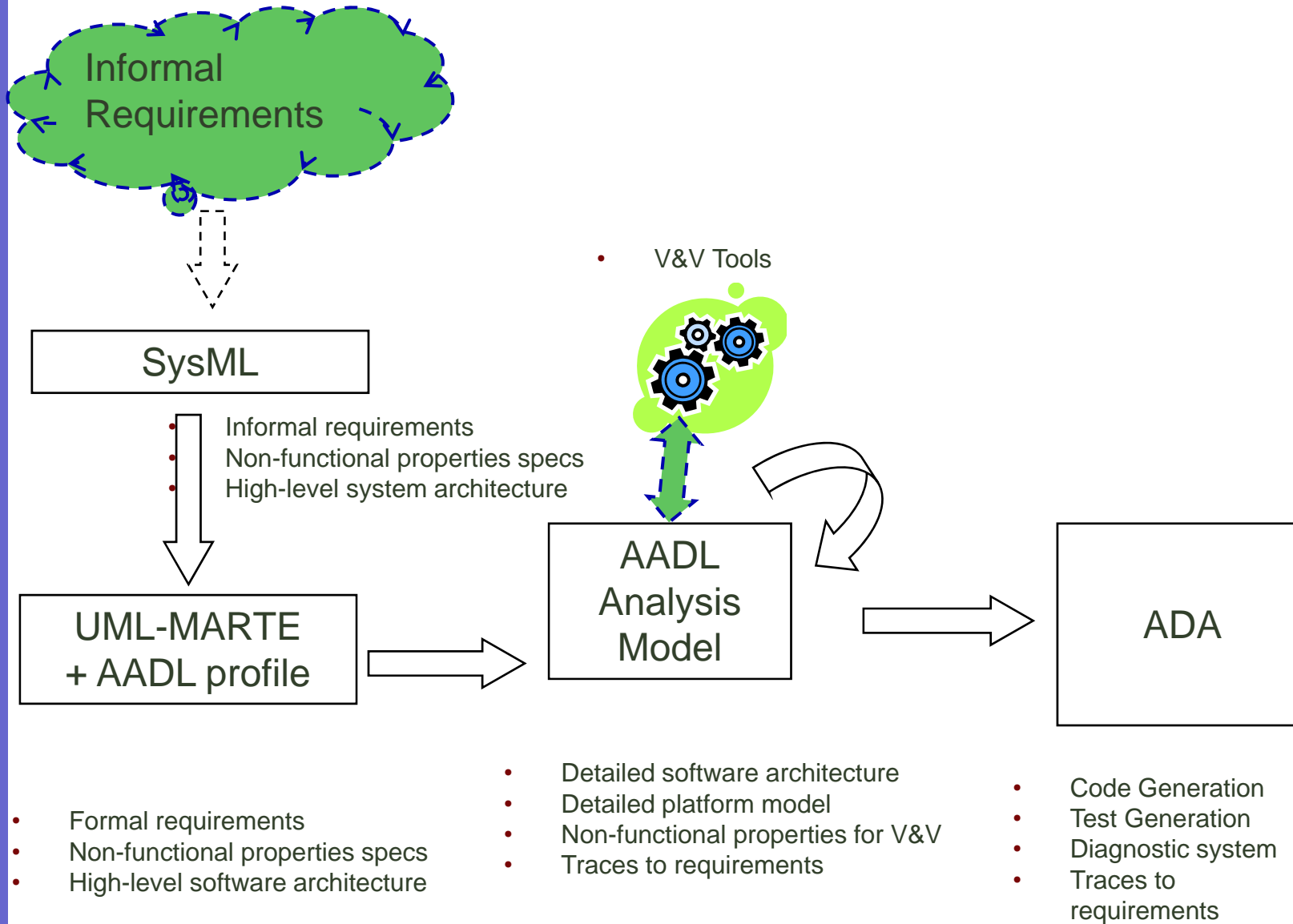


## Transformation Traceability using Tags





# Model V&V and Property-Preserving Transformation





## Specific Problems

- ⊙ From requirements to architecture/HLD models
- ⊙ (Non-Functional) Concern Integration
- ⊙ Property-preserving transformations
- ⊙ Model Evolution within an MDD process
- ⊙ Incremental MDD development
  - ⊙ Model Extension
  - ⊙ Incremental V&V
- ⊙ Capturing “manual” fine-tuning as model transformations
- ⊙ Guidelines for multi-paradigm modelling
  - ⊙ Criteria for usage
  - ⊙ Directions for transformations





## Criteria for Success / Goals / Expectations

- ⊙ Learn from other people's expertise
- ⊙ Joint paper on discussed topics
- ⊙ Potential longer-lasting results
  - ⊙ Establishing research collaboration
  - ⊙ Setting up joint projects / networks (IST, ITEA, ...)



## Stefan Van Baelen

- ⊙ Ph.D on Conceptual/Domain modeling
- ⊙ Post-Doc researcher at K.U.Leuven DistriNet
  - ⊙ Wouter Joosen, Yolande Berbers
- ⊙ Focus on Embedded Software Domain
- ⊙ MDD team of 6 researchers (2 Prof., 1 Post-Doc, 3 Ph.D. Students)