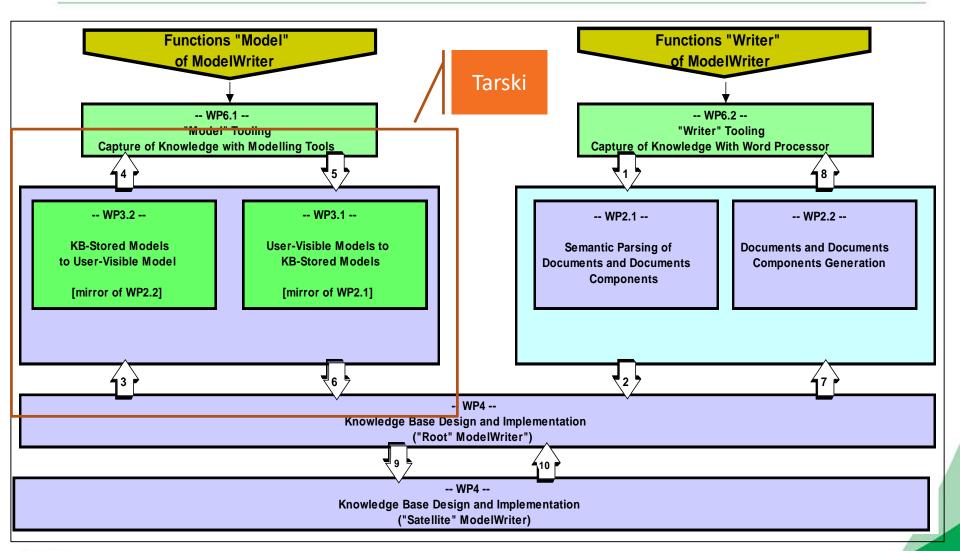
WP3 - Model to/from Knowledge Base Synchronization Mechanism



Technological components & interactions Colloboration by WP interactions





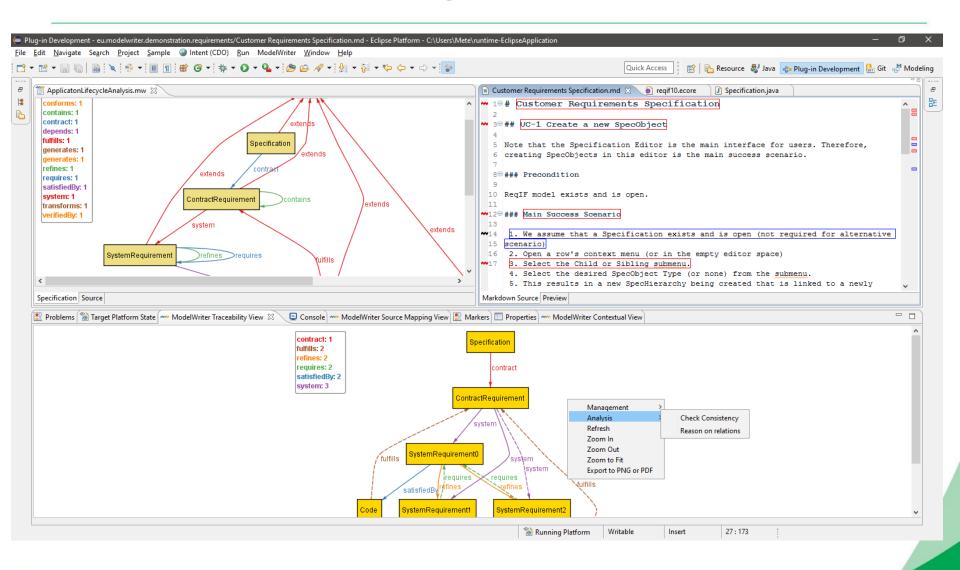


Tarski: A Platform for Automated Analysis of Dynamically Configurable Semantics of Traceability





Technical Contributions @Tarski







Challenges of Traceability in Industry

Semantically meaningful traceability

 traceability relations should have a rich semantic meaning instead of being simple bi-directional referential relation

Configurability of traceability (possibly dynamically)

- the semantics of traceability elements is often statically defined
- the semantics cannot be easily adapted for the needs of different projects.
- different traceable elements and the types of relations exist in industrial settings.

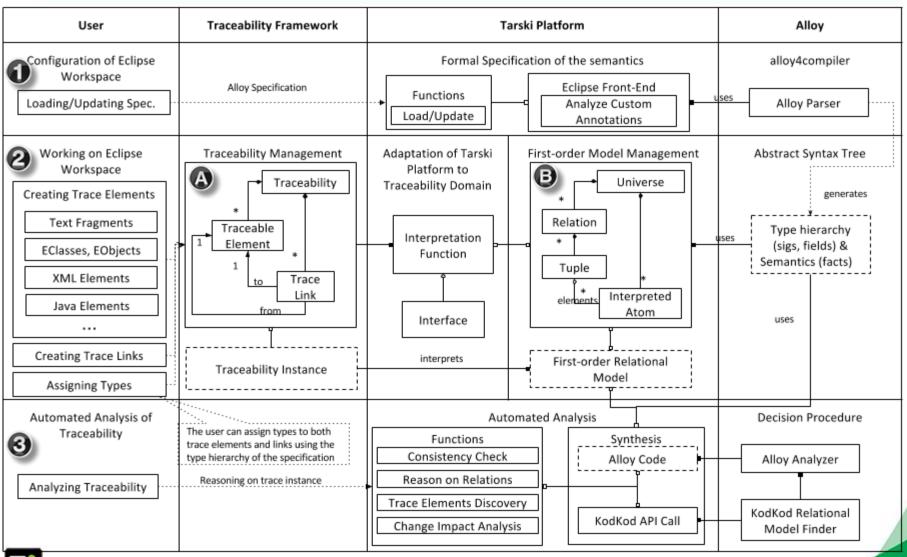
Several industries demands formal proofs of traceability

Consistency checking and repairing broken trace links



Tarski Approach



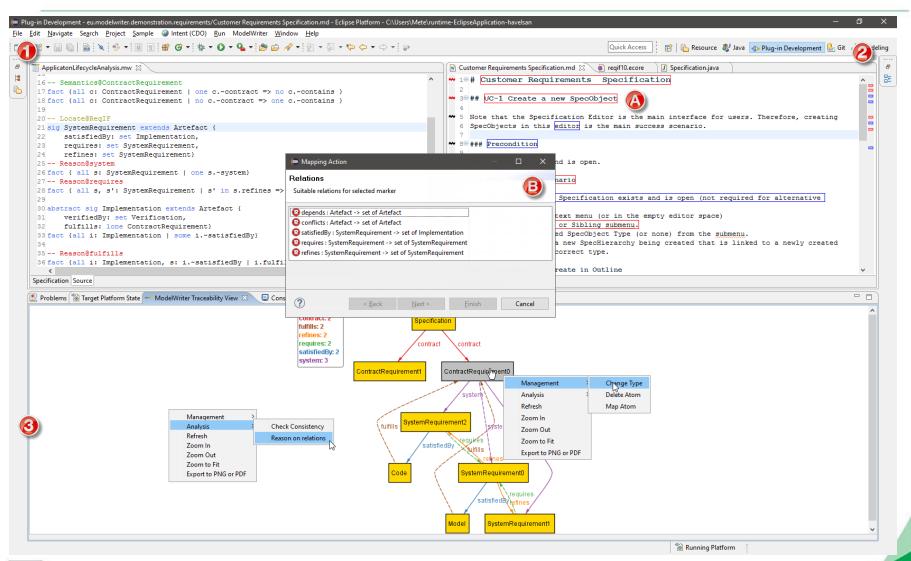




Tarski

Approach

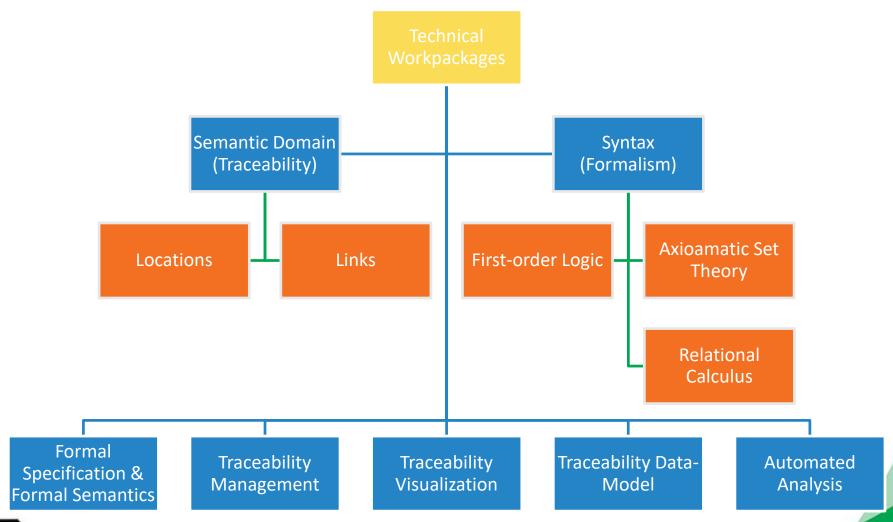






Overview of Technical Contributions @Tarski

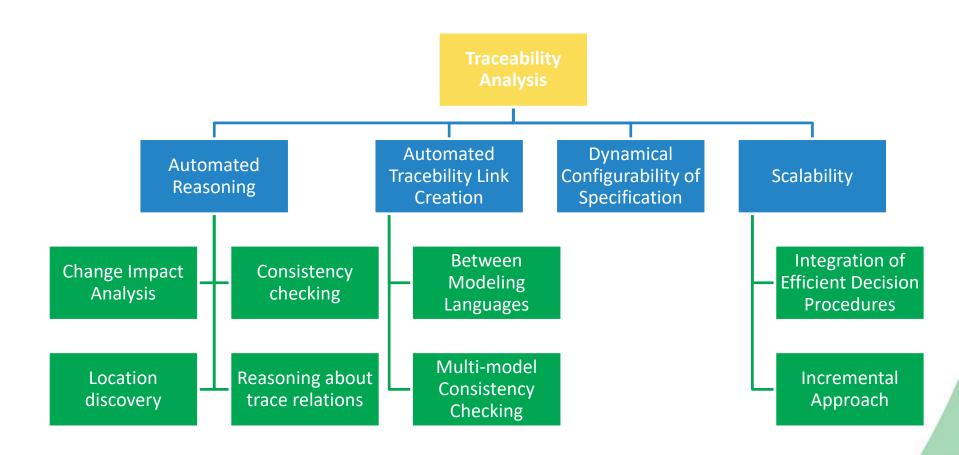






Traceability Analysis

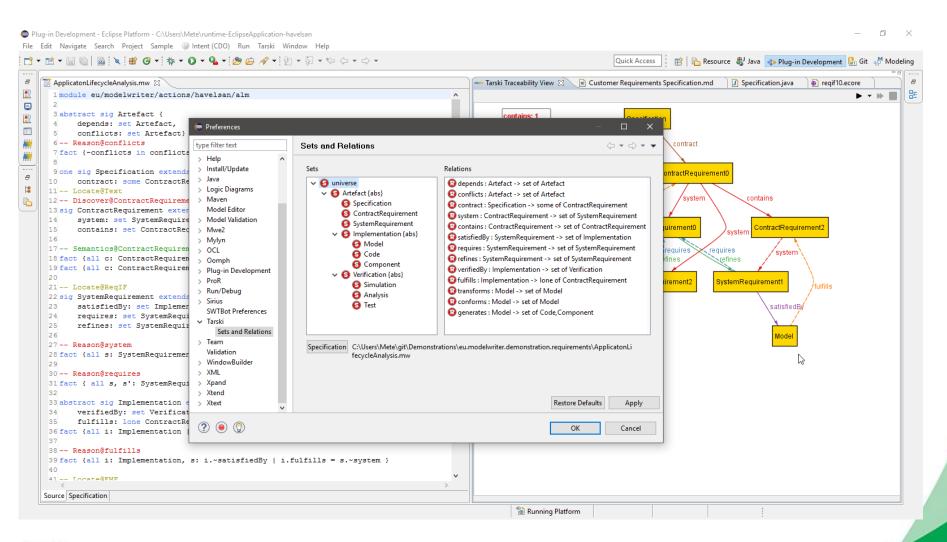






Types/Component Ontology derived from ITEA3 the specification

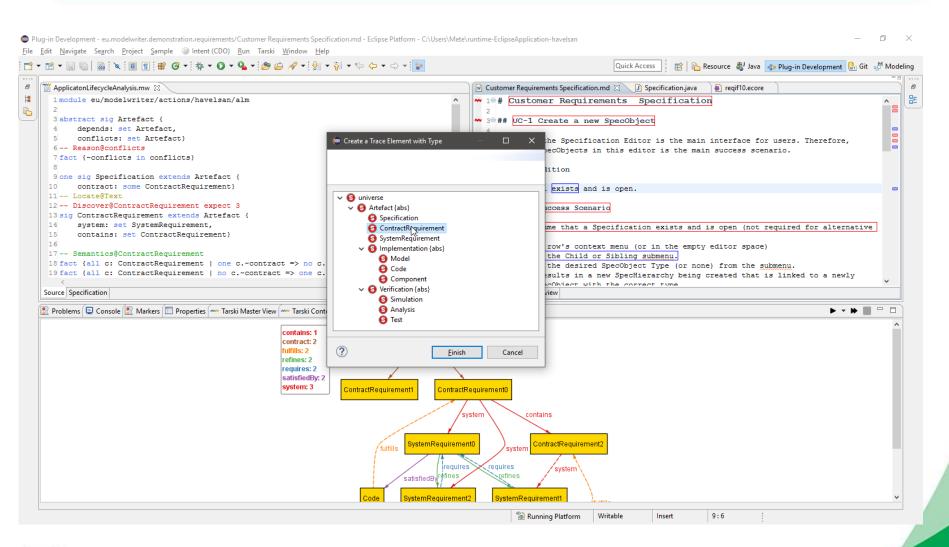






Assigning Unary Relations to a Traceable Elements

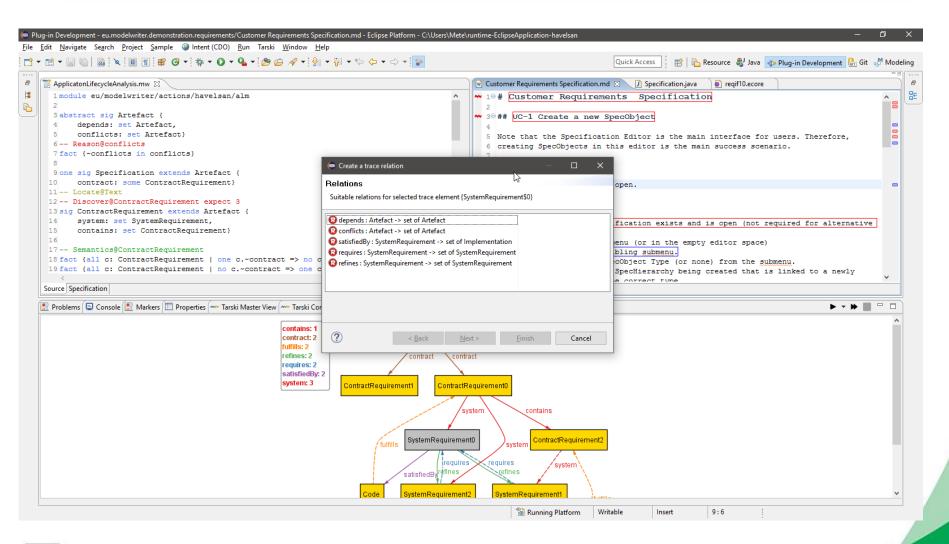






Assigning Binary Relations to a Trace Link

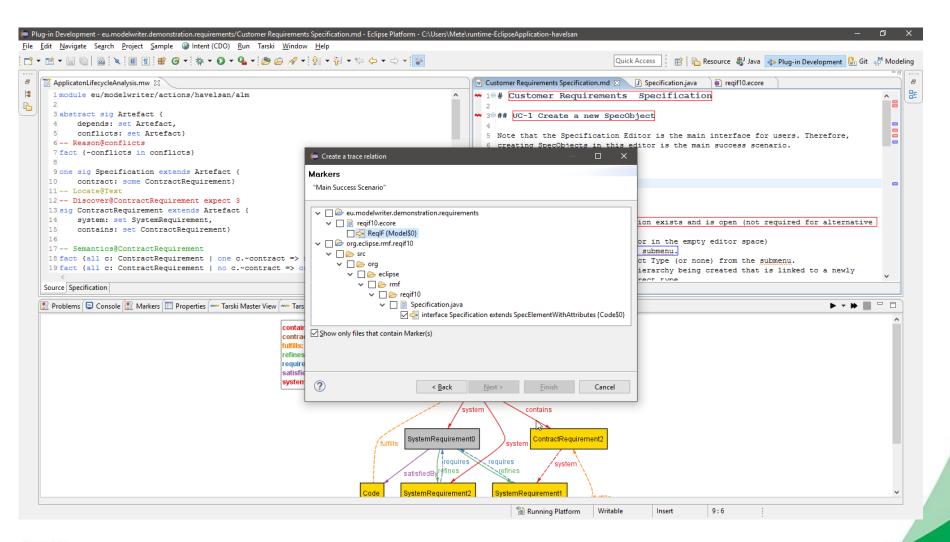






Selecting a range for a binary relation from an existing traceable elements

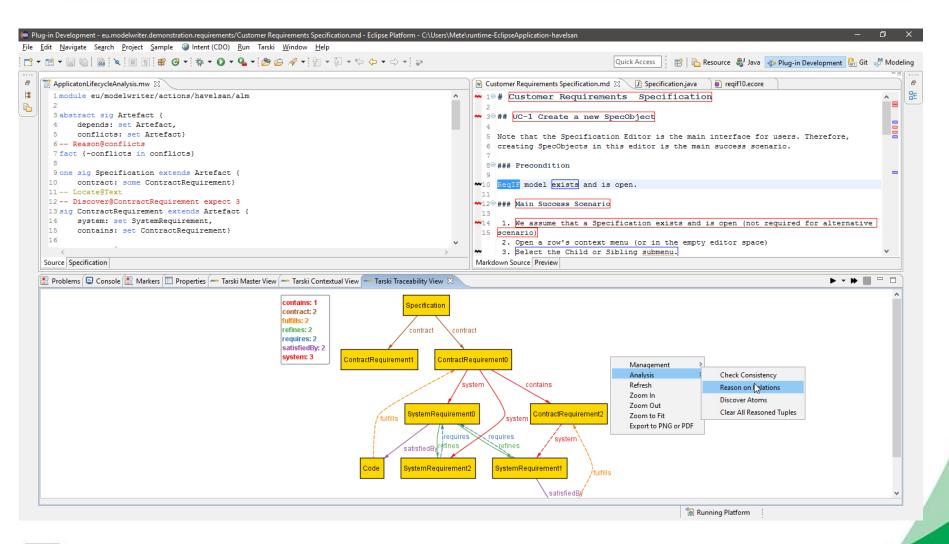








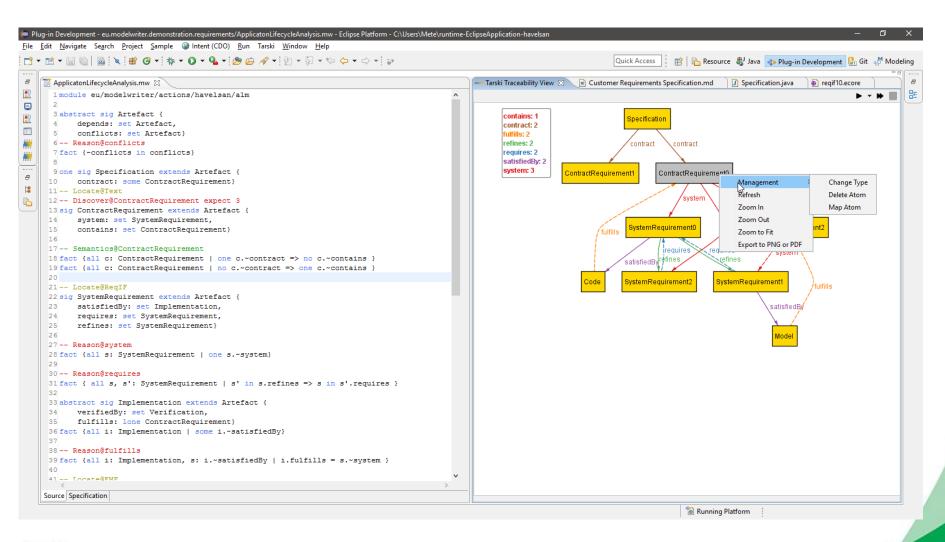
Automated Analysis of Traceability





Dynamical Configuration & Model Management

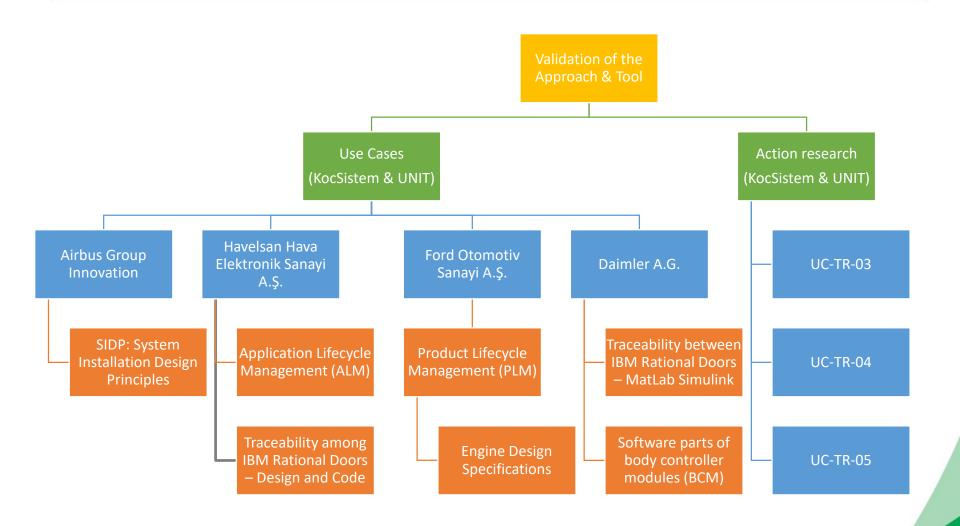








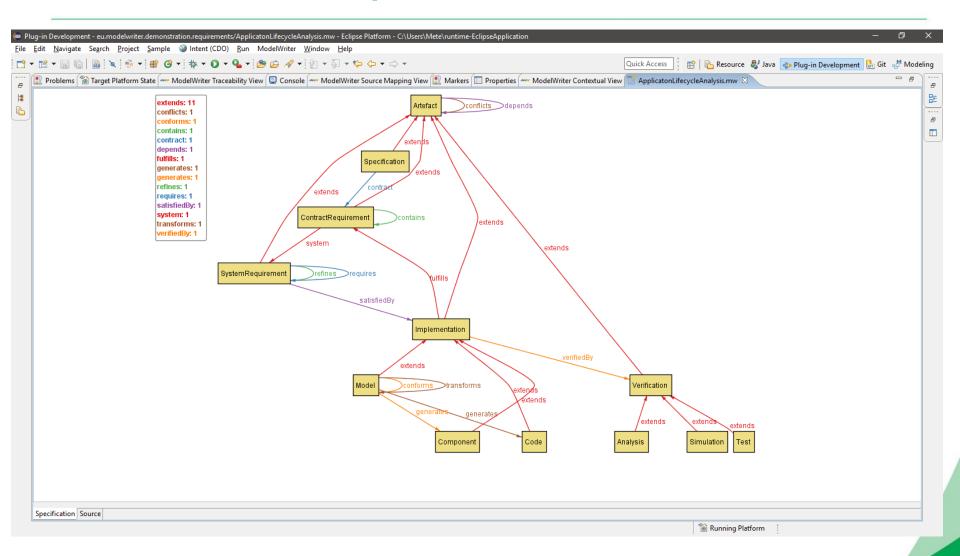
Validation of the Approach and Tool





Demonstration Havelsan's Formal Specification in Action

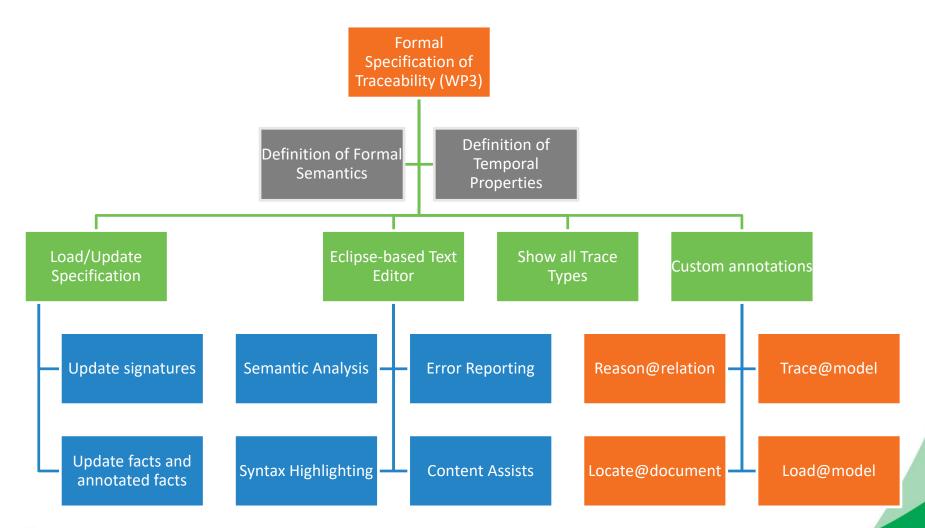






Formal Specification of Traceability (WP3) [UNIT]

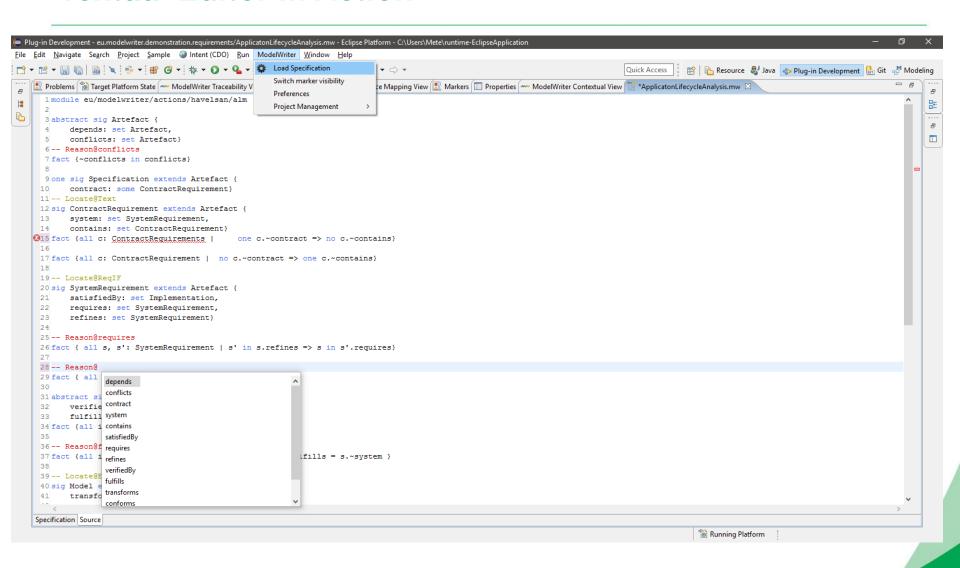






Demonstration Textual Editor in Action

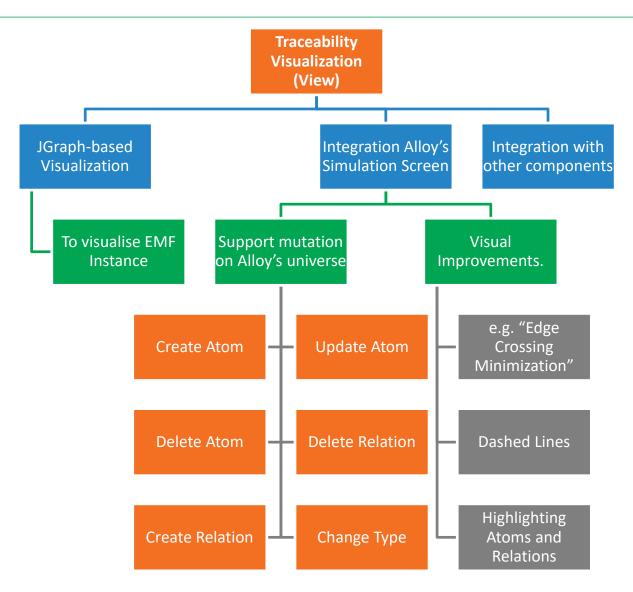






Traceability Visualization/View (WP3) [KoçSistem]

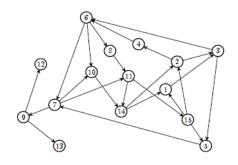




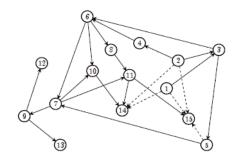


Layered/Hierarchical Graph Drawing Sugiyama Framework

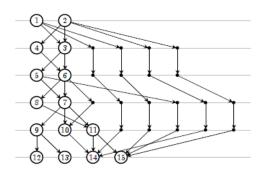




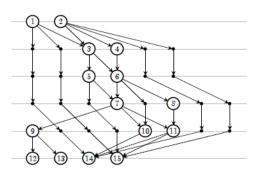
(a) Input digraph, G.



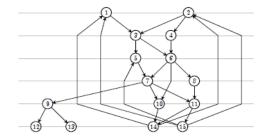
(b) Cycles removed.



(c) After leveling.



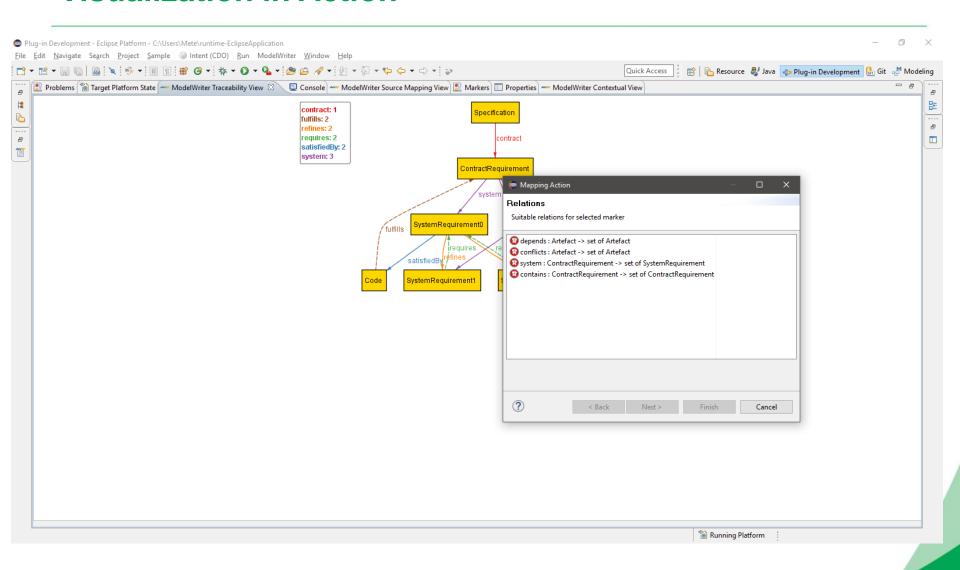
(d) Edge crossings minimized.





Demonstration Visualization in Action

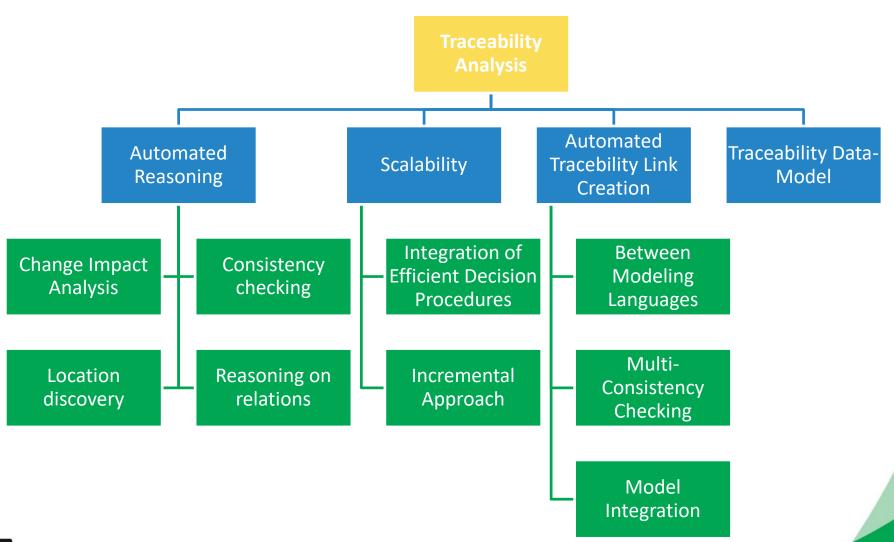






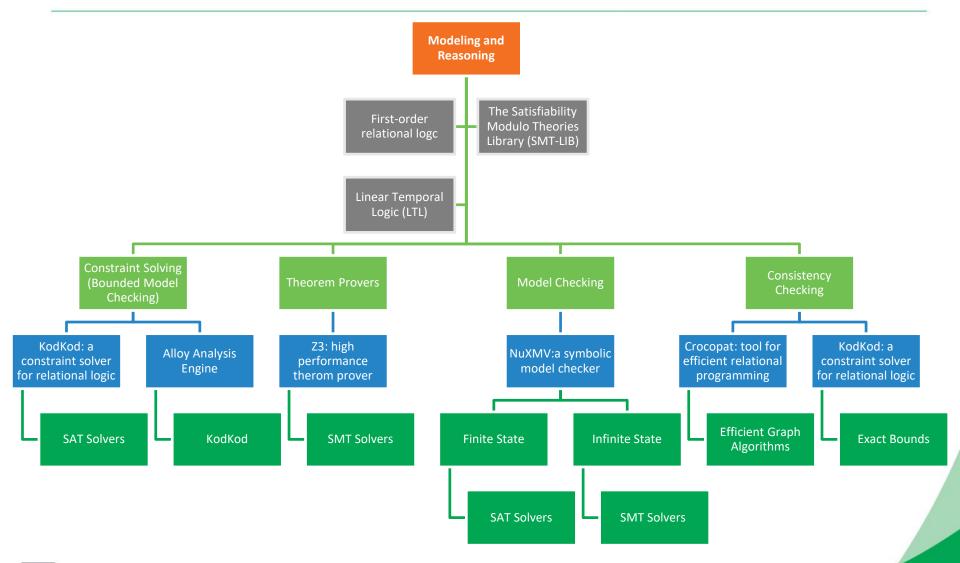
Traceability Analysis (WP4 & WP3) [UNIT]







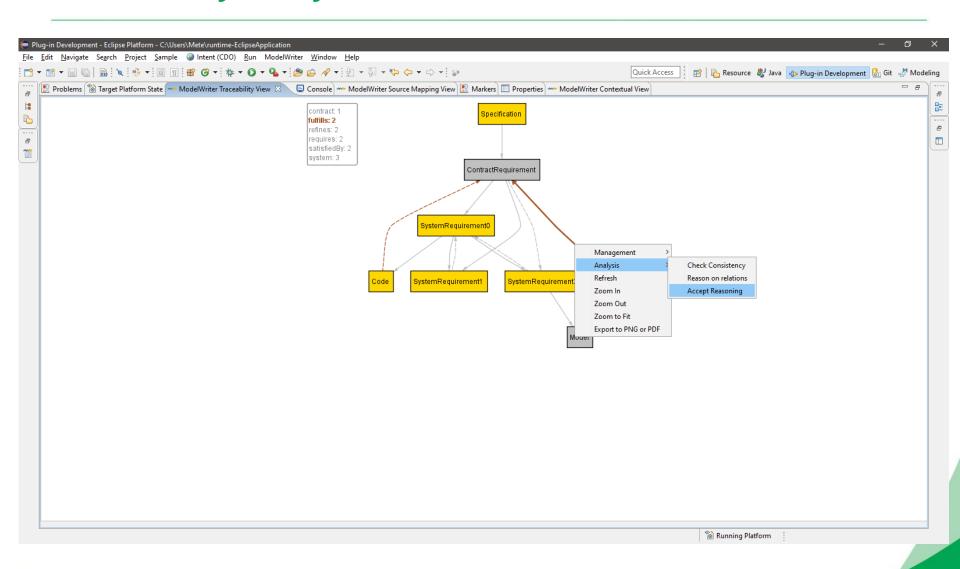
Modeling and Reasoning Approaches (WP3) ITEA3 [UNIT]





Demonstration Traceability Analysis in Action

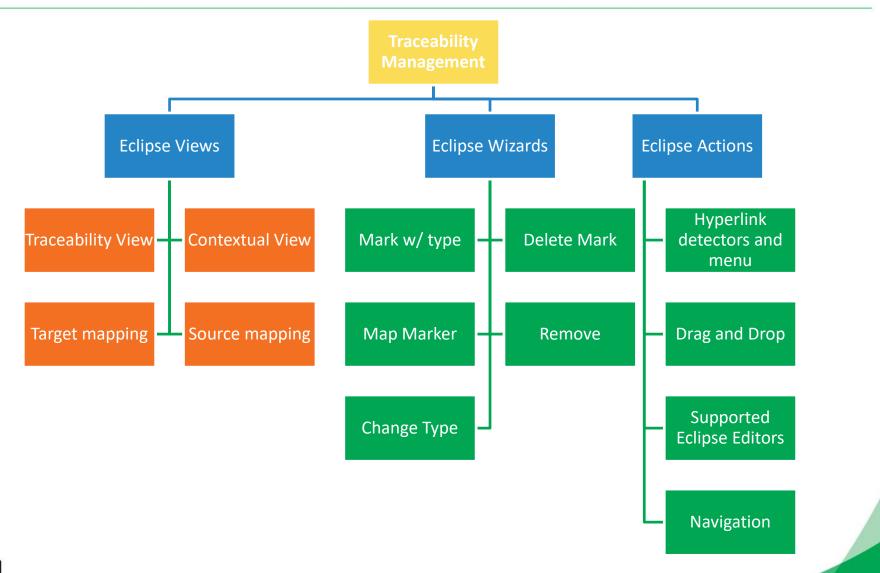






Traceability Management (WP6) [KoçSistem]







Demonstration Traceability Management in Action



