



TADDO2

Trustworthy Automated Driving DevOps

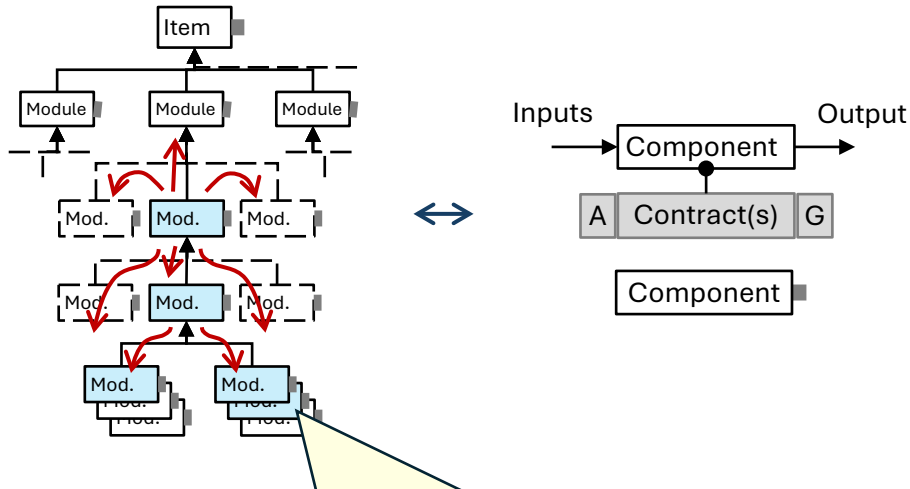
DevOps Safety – what to bring on the journey?

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Updateable Modules

- The automotive industry is transforming
- High pace of development tied to high pace of safety assurance
- Functional **CI/CD at a module level** is key



Each incremental update must assure

- Failure propagation is prevented
- Separation & freedom from interference
- Correctness
- Completeness

Business drivers affecting DevOps

- Shorter release cycles
 - CI/CD of Arch. Dev. & Safety Dev.
 - CI/CD of V&V
- Learning from operations
 - Feedback of Ops data from release N
 - Incremental value-add in release N+1

Trustworthy DevOps organization:

- DevOps organization & interfaces with defined roles and responsibilities

Business
How we generate revenue and profit

BAPO

Organization
Departments, teams and responsibilities

Architecture
Technology and structure to build systems

Architecture & information model

- Taxonomy of Ops data & Safety property
- Information meta-models
- Contract patterns & syntax supporting complete V-cycle
- Method for automatic analysis
- Method for CI/CD of architecture & information model

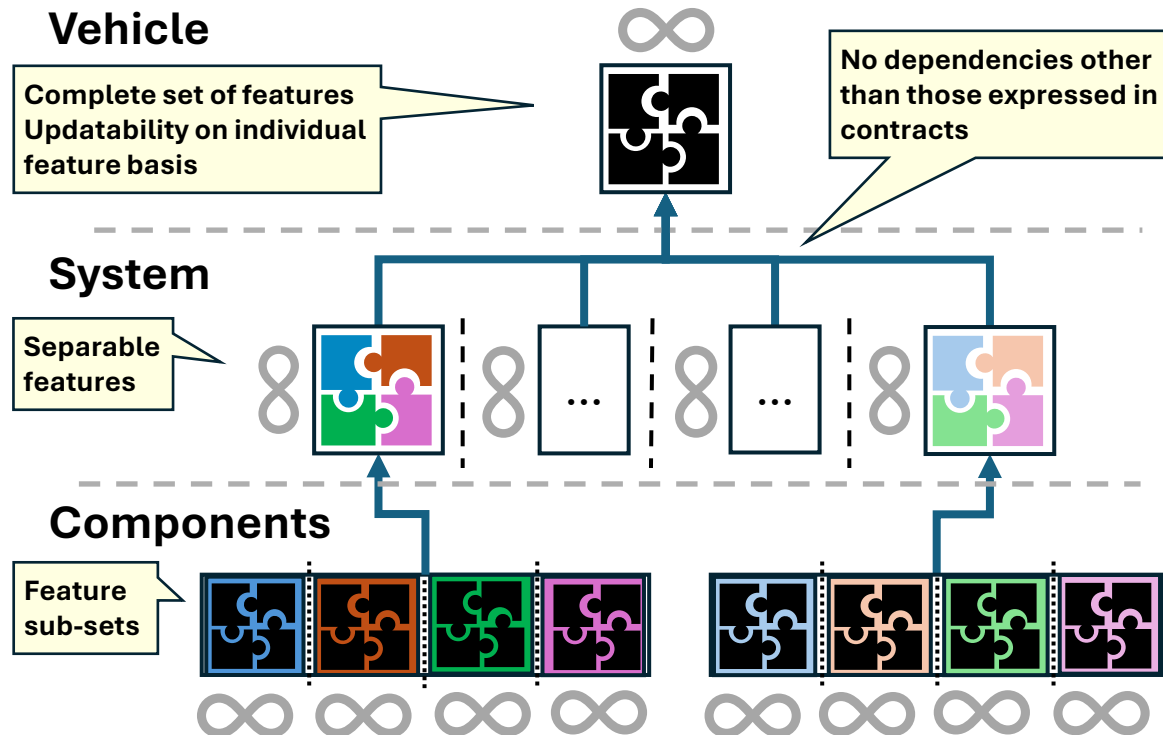
Process
Activities and ways of working

Safety & security assurance

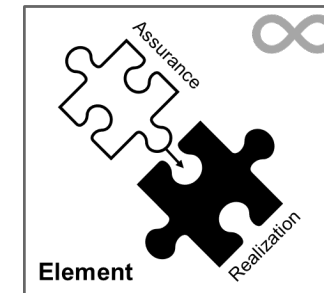
- Taxonomy of safety & security argumentation
- Safety DevOps process measures
- Safety & security argumentation meta-model & syntax
- Method for CI/CD of assurance cases

Module Decoupling and Properties

- Scalable structure & architecture
- Self-containment
- Machine readable assertions
- V&V with field evidence



Safety assurance for each piece in puzzle:



Plan across multiple product increments

Incremental feature update follows a V-cycle

Architecture & Information model repository

Compile assurance case