

“Advancing Traffic Efficiency and Safety
through Software Technology, Phase 2 (ATESST2)”

Demonstrators

ATESST2 Final Workshop
June 21 2010



Modelling/Demonstrator Issues

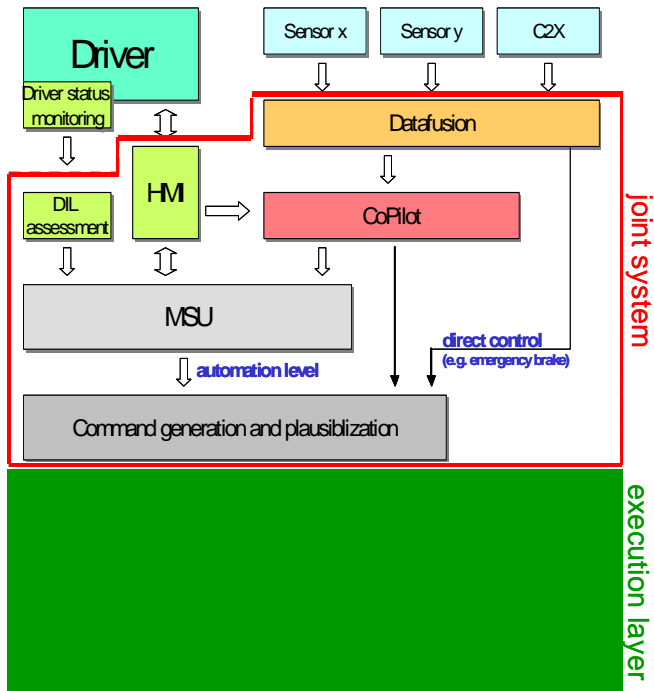
- Select representative sample application
- Select several automotive domains
- Present language and methods in samples
- Apply toolings and profile
- Show use in commercial toolings
- Show alignment with used/supporting methodologies
- Give introduction to EAST-ADL usage
- Physical Demonstrator & realization

Domains and Methods

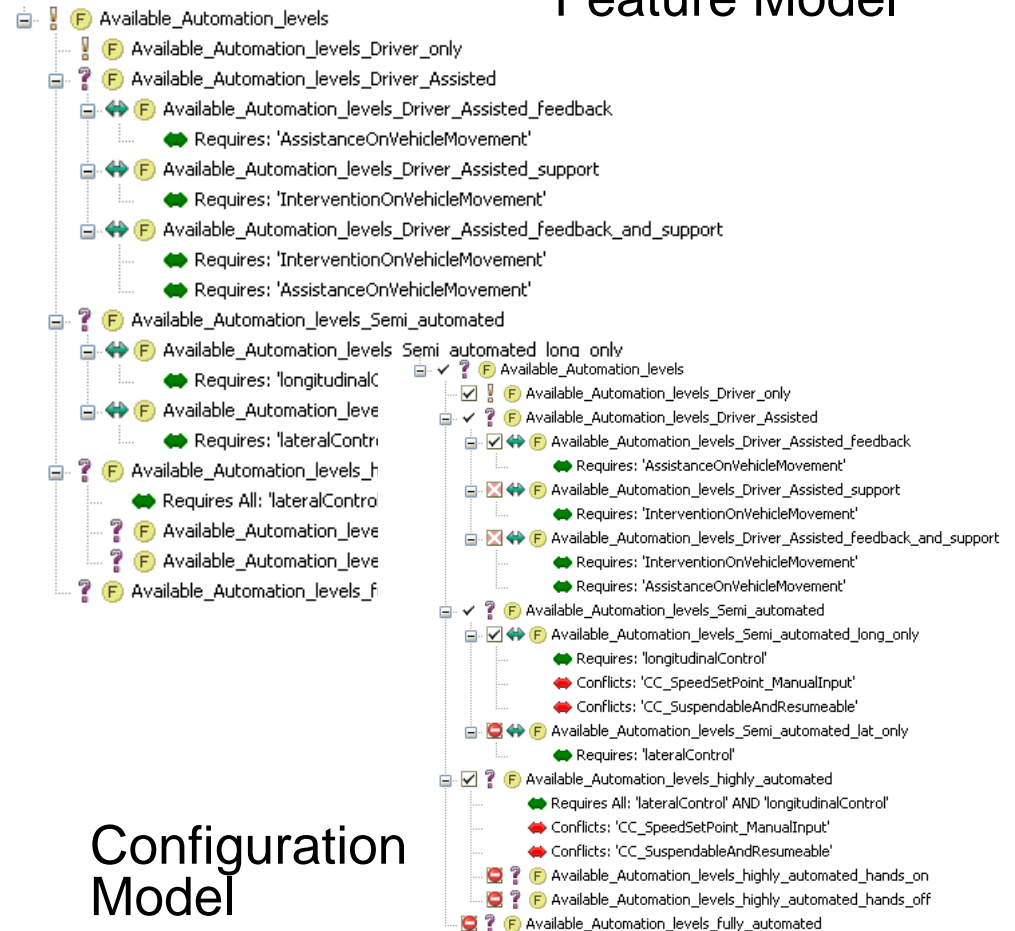
	HAVEit	Brake System	Cooperative Braking	Steering System	Security System
Feature Modelling	X	X	X	X	X
Function Modelling	X	X	X	X	X
Variability	X	X			X
SY&SW Design					X
Behavior		X			
Requirements		X			
Timing		X			
Safety	X	X			
Environment Modelling		X	X	X	X
Cooperative Systems	X		X		

Feature Modelling: HAVEit

HAVEit Architecture



Feature Model



Configuration Model

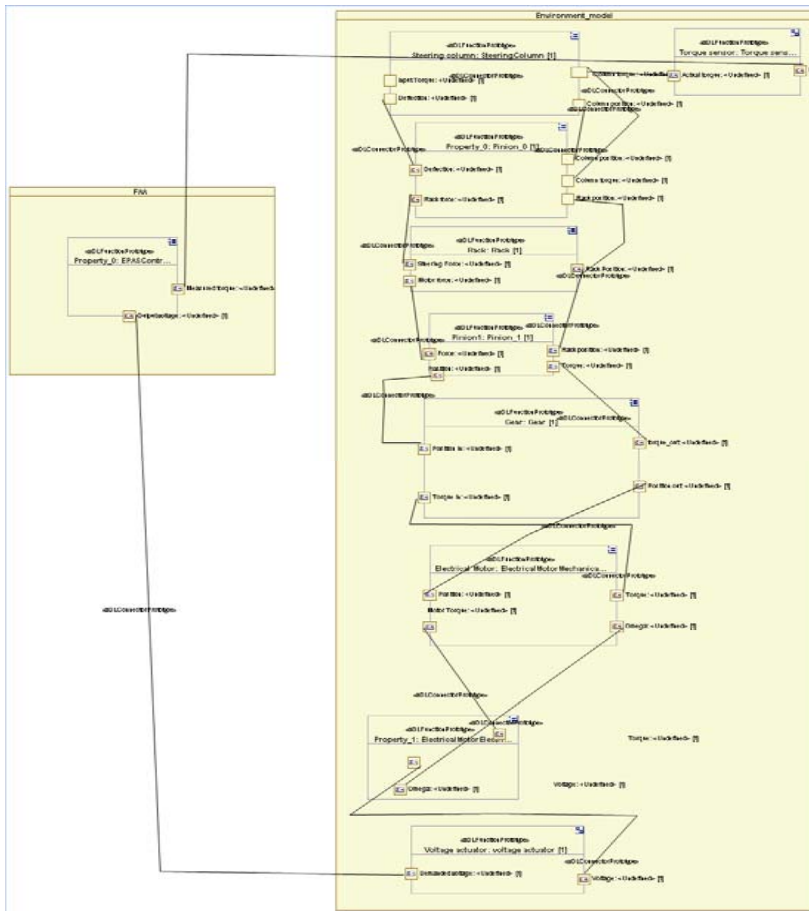
Feature Based Hazard Analysis: HAVEit

Feature	Hazard	Situation	Hazardous Event	Safety Goal	Safe State	ASIL
CC_Basic	Unintended vehicle acceleration/propulsion	S175, S181	HE_CC_03	SG_CC_01	SS_CC_01	A
CC_Basic	Unintended vehicle acceleration/propulsion	S20, S40	HE_CC_04	SG_CC_01	SS_CC_01	A
CC_Basic	Unintended vehicle acceleration/propulsion	S45, S46, S47, S48, S49, S50, S55, S56, S57, S58, S59, S60, S66, S68, S70, S75, S76, S77, S78, S79, S80, S85, S86, S87, S88, S89, S90, S95, S96, S97, S98, S99, S100, S121, S122, S123, S124, S127, S128, S129, S130, S133, S134, S135, S136, S140, S146, S148, S152, S154, S158, S160, S164, S166, S170, S172, S175, S181	HE_CC_05	SG_CC_01	SS_CC_01	A
CC_Basic	unwanted freewheeling/missing propulsion	S115, S181	HE_CC_01	SG_CC_02	disable CC function	A
CC_Basic	too low vehicle acceleration/propulsion	S115, S181	HE_CC_01	SG_CC_02	disable CC function	A

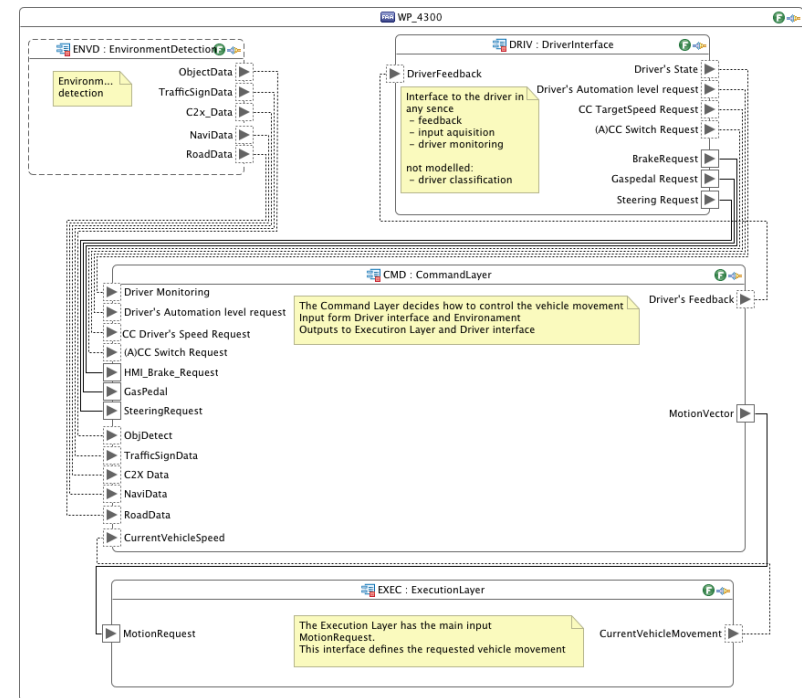
Table 6: Feature – Hazard – Situation – Hazardous Event –Safety Goal –Safe State – ASIL extract from [9])

Function Modelling: All demonstrators

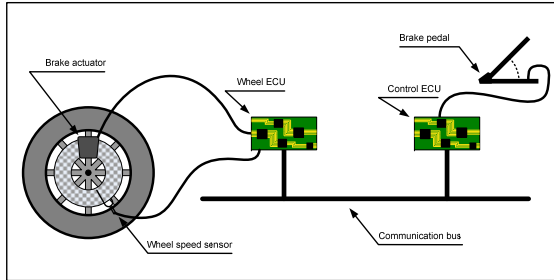
Steering System



HAVEit Architecture



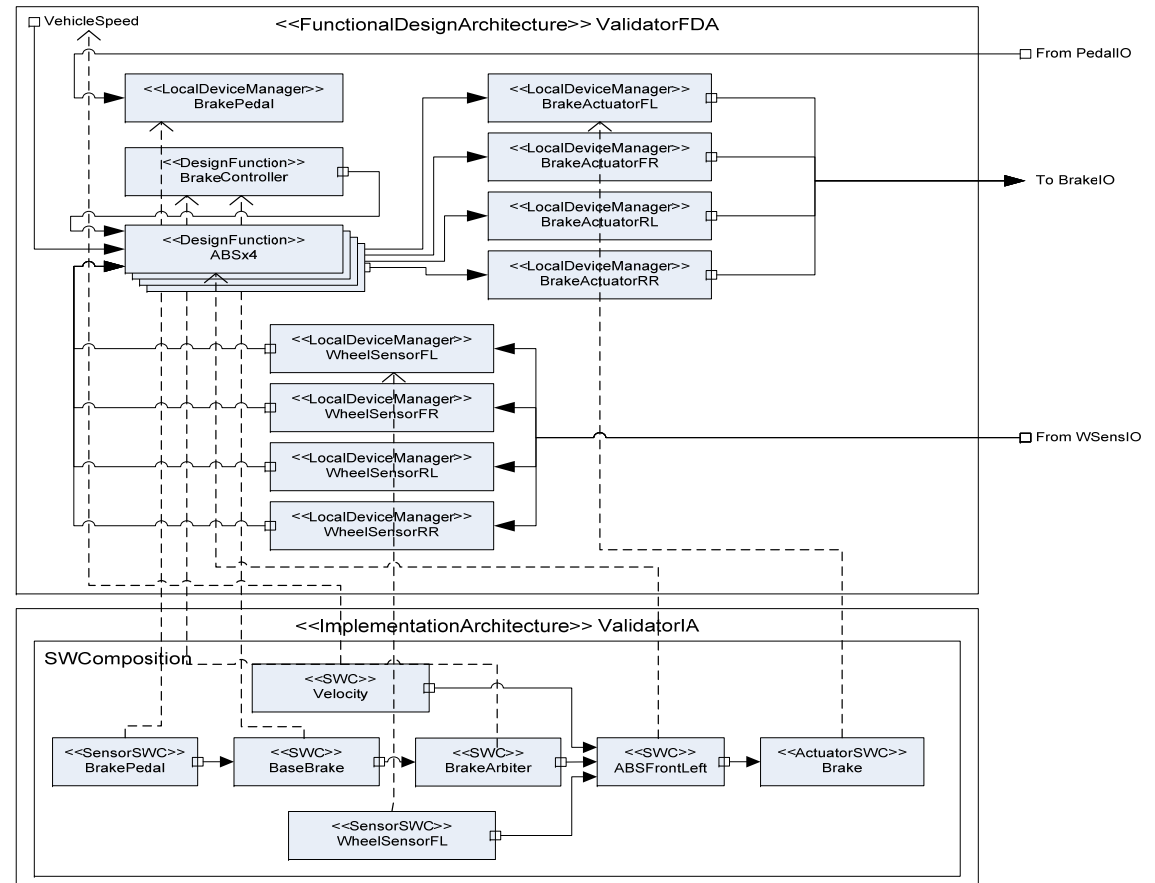
Design Modelling: Brake & Security Sys.



SW design

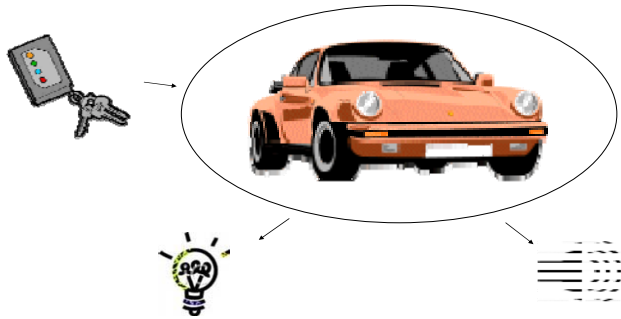
SW/HW mapping

HW design

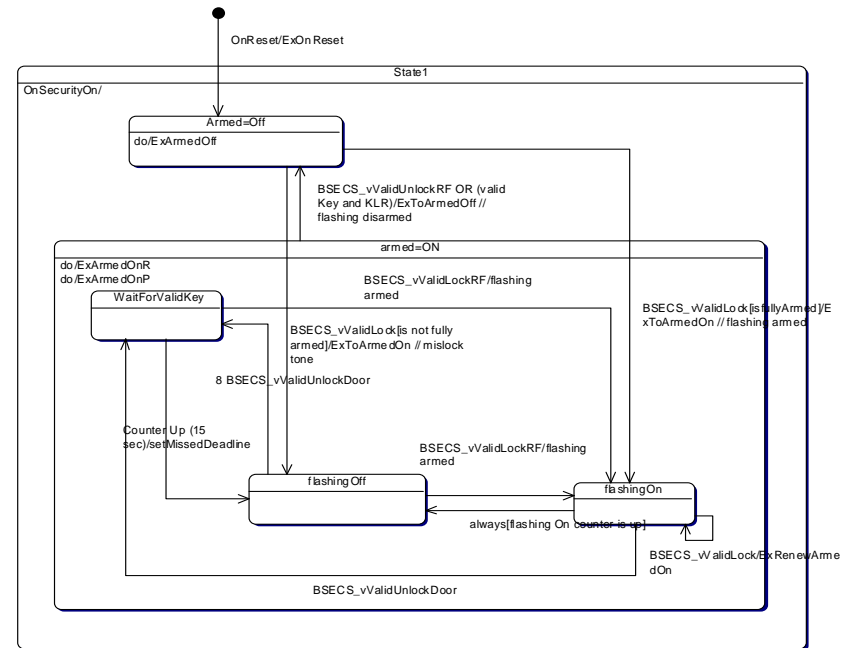


Behavior & Modes: Security System

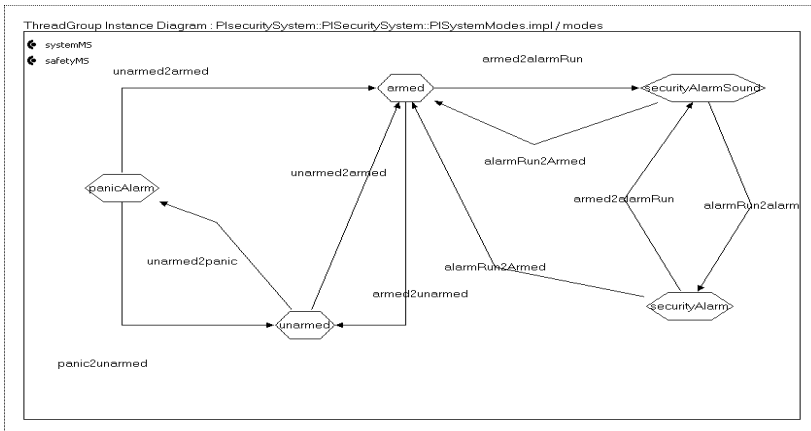
Security System



Bitte Absenderangaben auf dem Folienmaster ändern
ein- oder zweizeilig

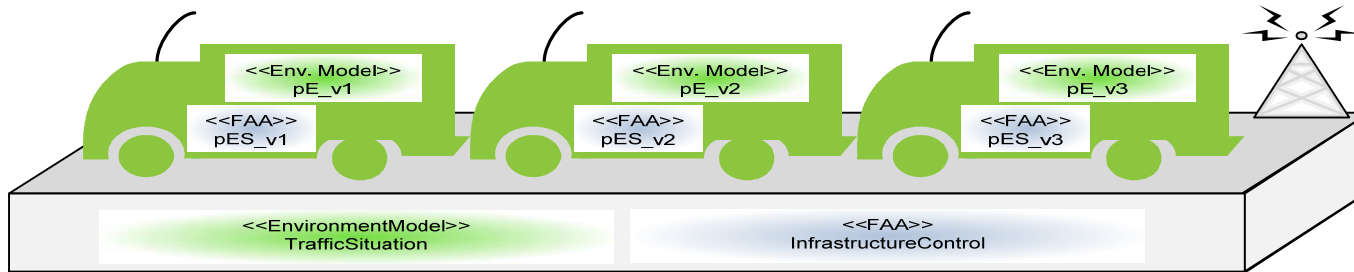


Internal state of function armed control



Mode & Mode Transitions sec. Sys.

Cooperative Sys. & Environment Case Study



Three occurrences of vehicle with local EE system and environment model

One environment model for Traffic Situation

One FAA for the road infrastructure

