



EAST-ADL

# Concept Presentation 2011

Validator : Propulsion

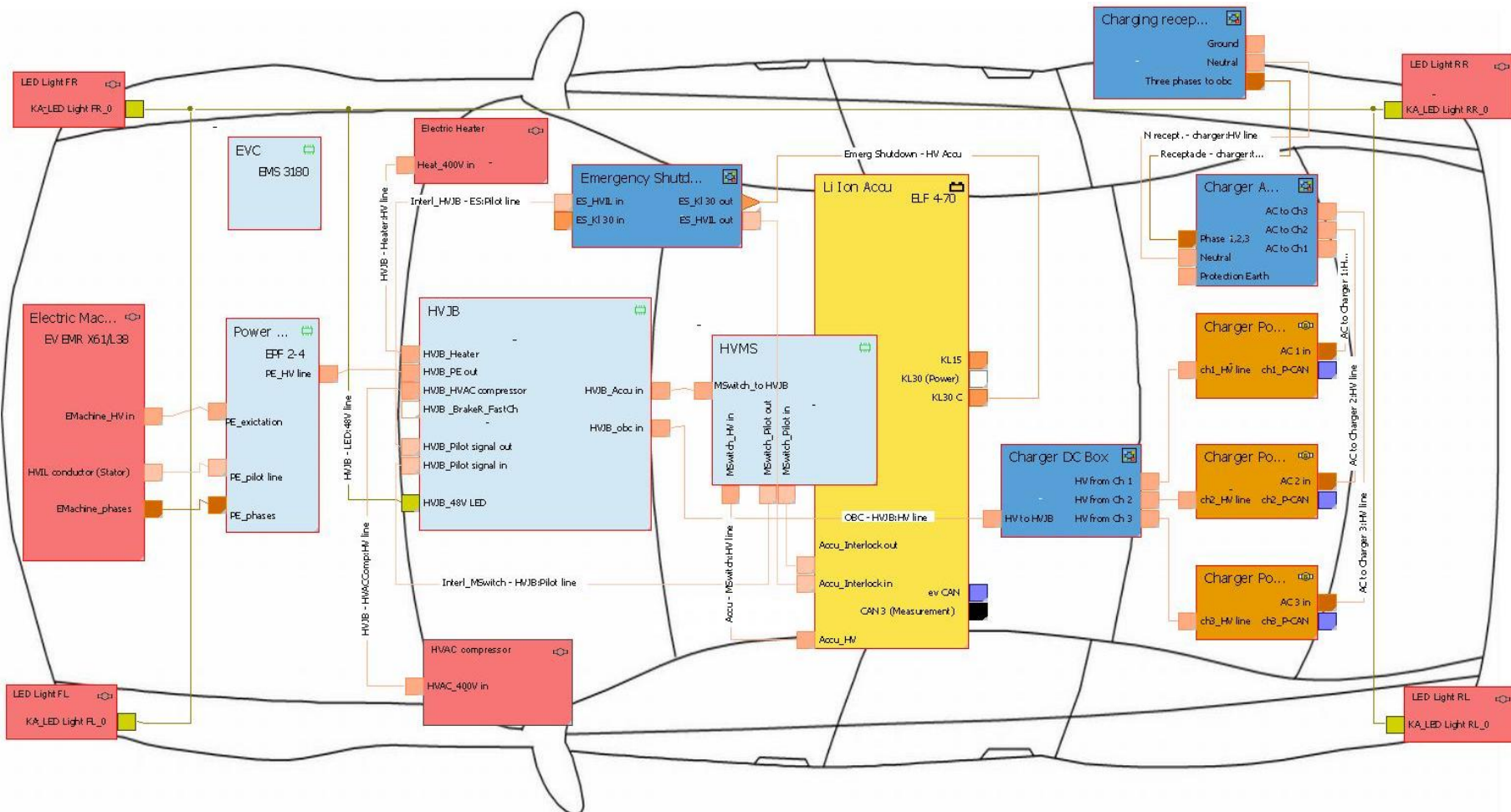
# System Solution

- Validator propulsion is part of a real prototypic vehicle



# Network Model of real prototypic vehicle

## High voltage and mid voltage part



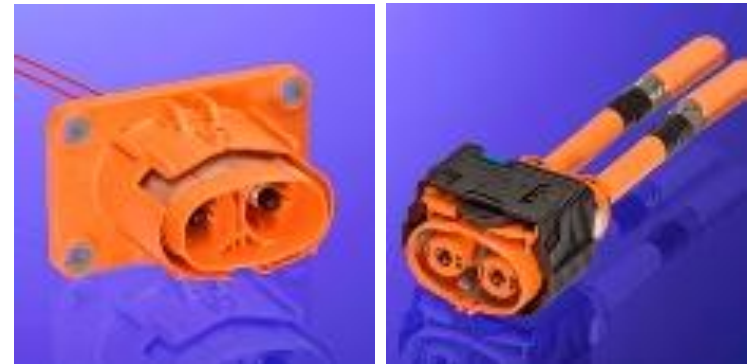
# Validator propulsion system - purpose

- Re-model existing system to validate EAST-ADL modeling and analysis concepts
  - identify representation needs,
  - assess analysis capabilities,
  - compliance with needs and requirements of relevant standards,
  - assess usability aspects,

# Validator propulsion system - content

- power and signal distribution subset of a FEV with the associated interlock functionality for safety features

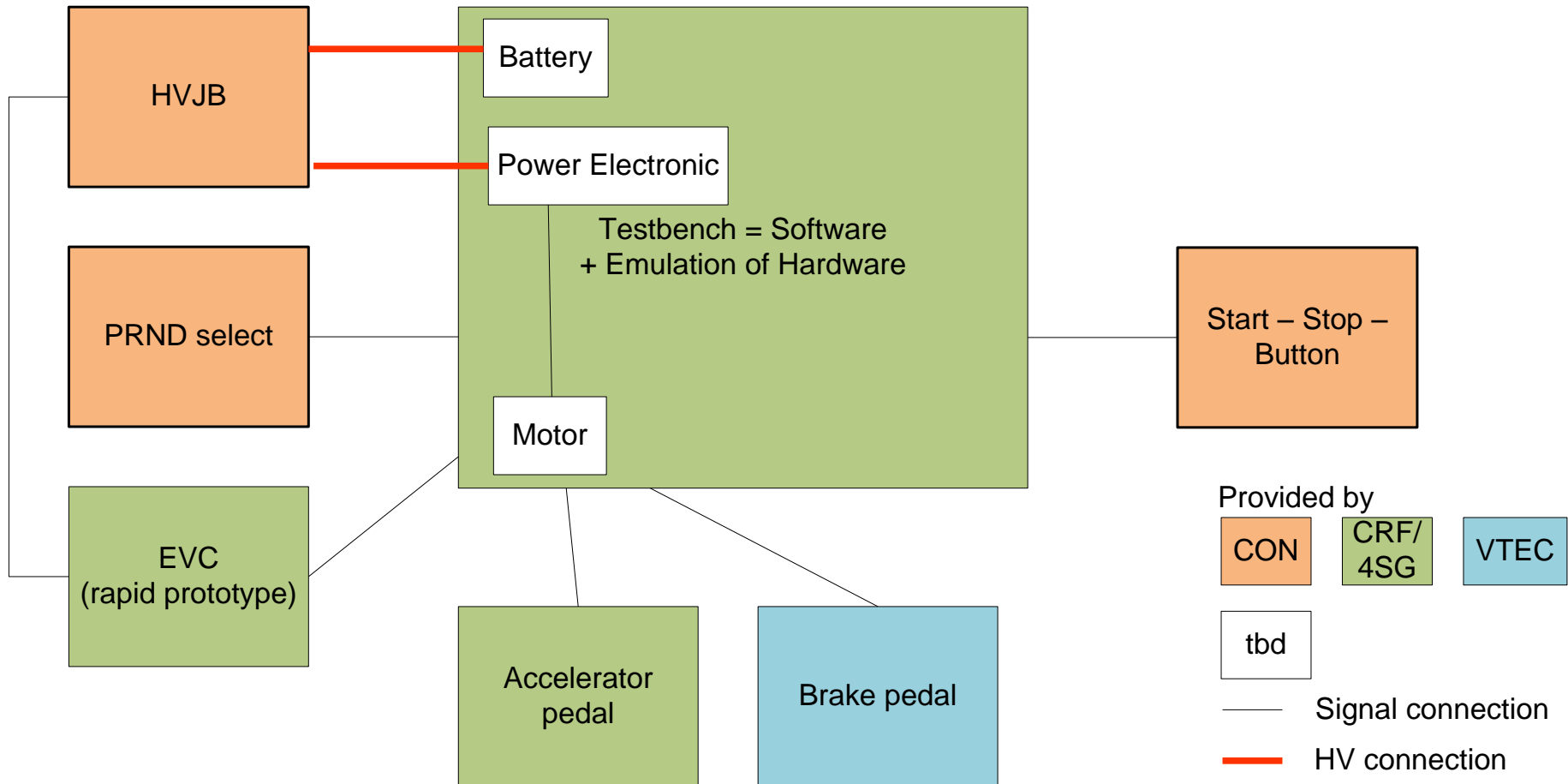
Interlock is a wire loop supervising if a high voltage connector was opened, so inside a device there are two additional wires



- driving mode selection management

Driving mode depends on velocity of vehicle, pedal activation, Start–Stop–Button activation and specific status of PRND switch

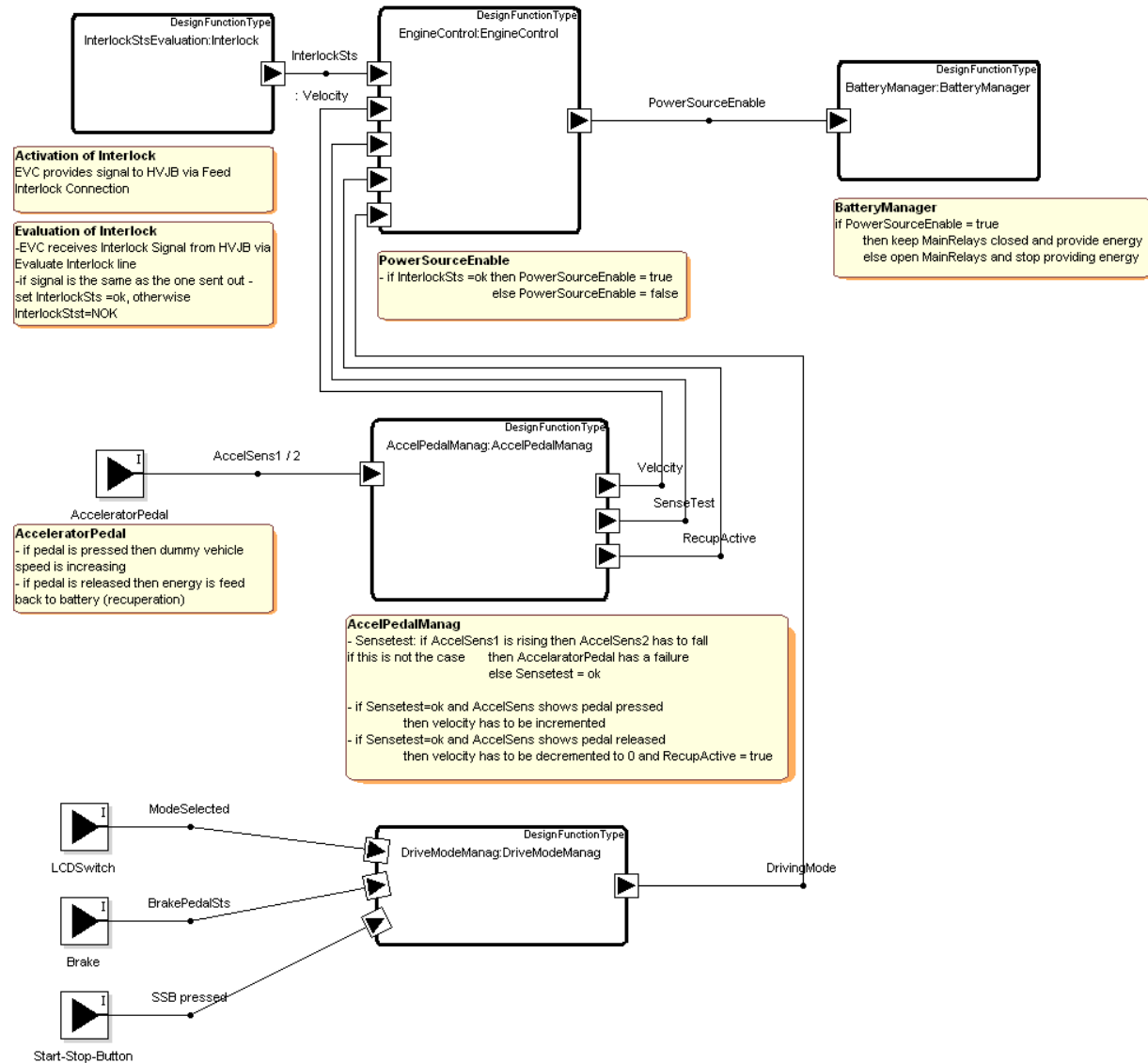
# Validator propulsion system - setup



# Related requirements

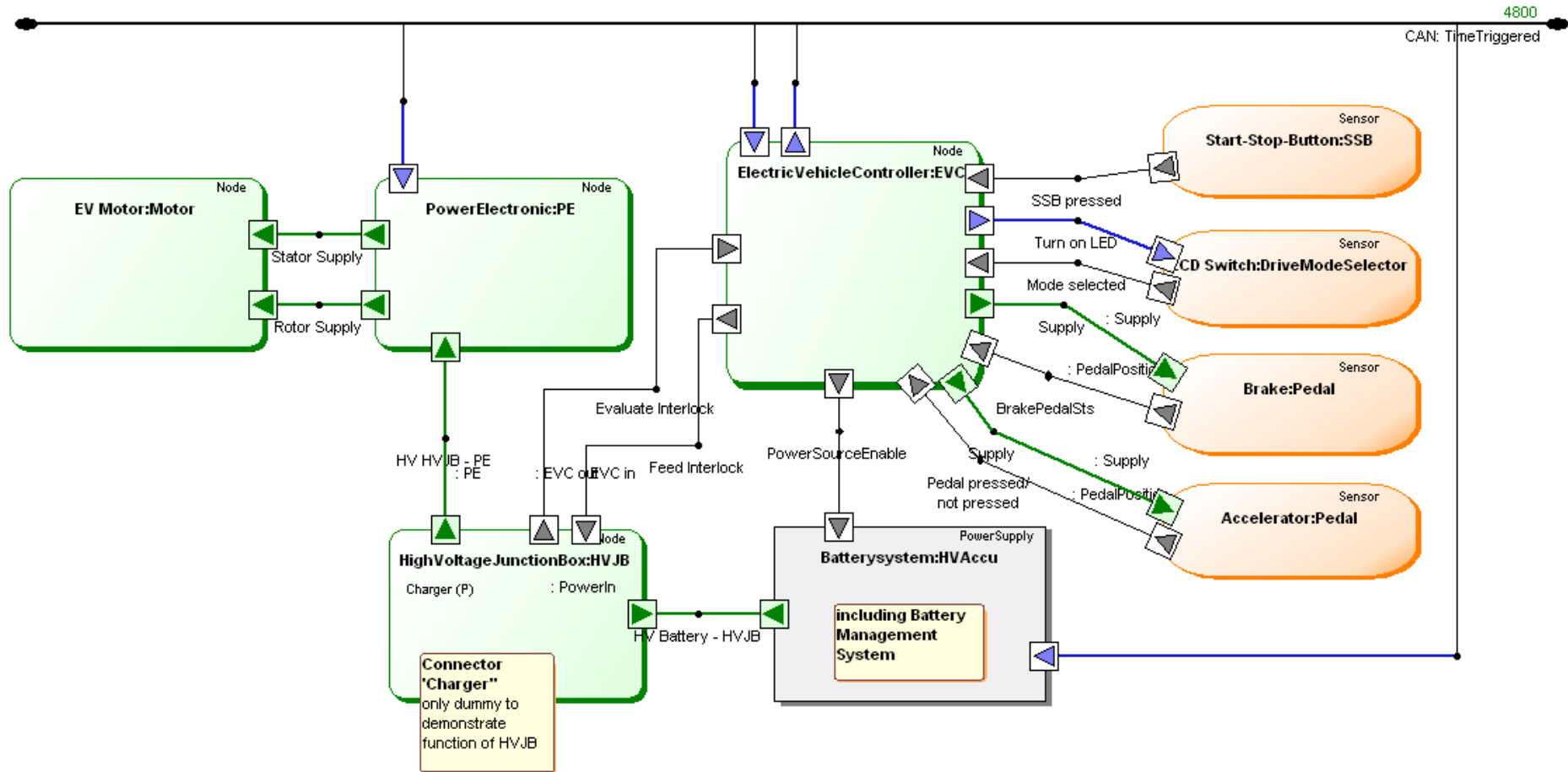
Name	Alias	Notes	Stereotype	Author	Status	Keywords	Requirement Priority
CON#0021		Provide a feature model on vehicle and system (analysis) level of Conti EV DemoCar	Functional	BiRo	Proposed	WP6	High
CON#0022		Extend profile and mode selection logic by considering additional exceptional driving situations	Functional	BiRo	Proposed	WP6	High
CON#0023		VV Case Development, including fault injection and constraint checking in a HW Simulation environment	Safety	BiRo	Proposed	WP6	High
CON#0024		Prepare Hardware for demonstrator based on Conti EV DemoCar	Integration	BiRo	Proposed	WP6	High
CON#0025		Interlock management - shutdown of HV line in case of opening of the interlock connection		BiRo	Proposed	WP6	High
CON#0026		Selection of a gear (P_R_N_D) with respect to additional conditions		BiRo	Proposed	WP6	High
CON#0027		Authentication procedure for driving and charging depending on immobilizer status		BiRo	Proposed	WP6	Low

# Functional Design Architecture





# Hardware Design Architecture



# Further Steps

- Further refinement of FDA and HDA
- Decision on mechanical setup and realization of test setup
- Application of safety analysis
- Test of model transfer to other tools