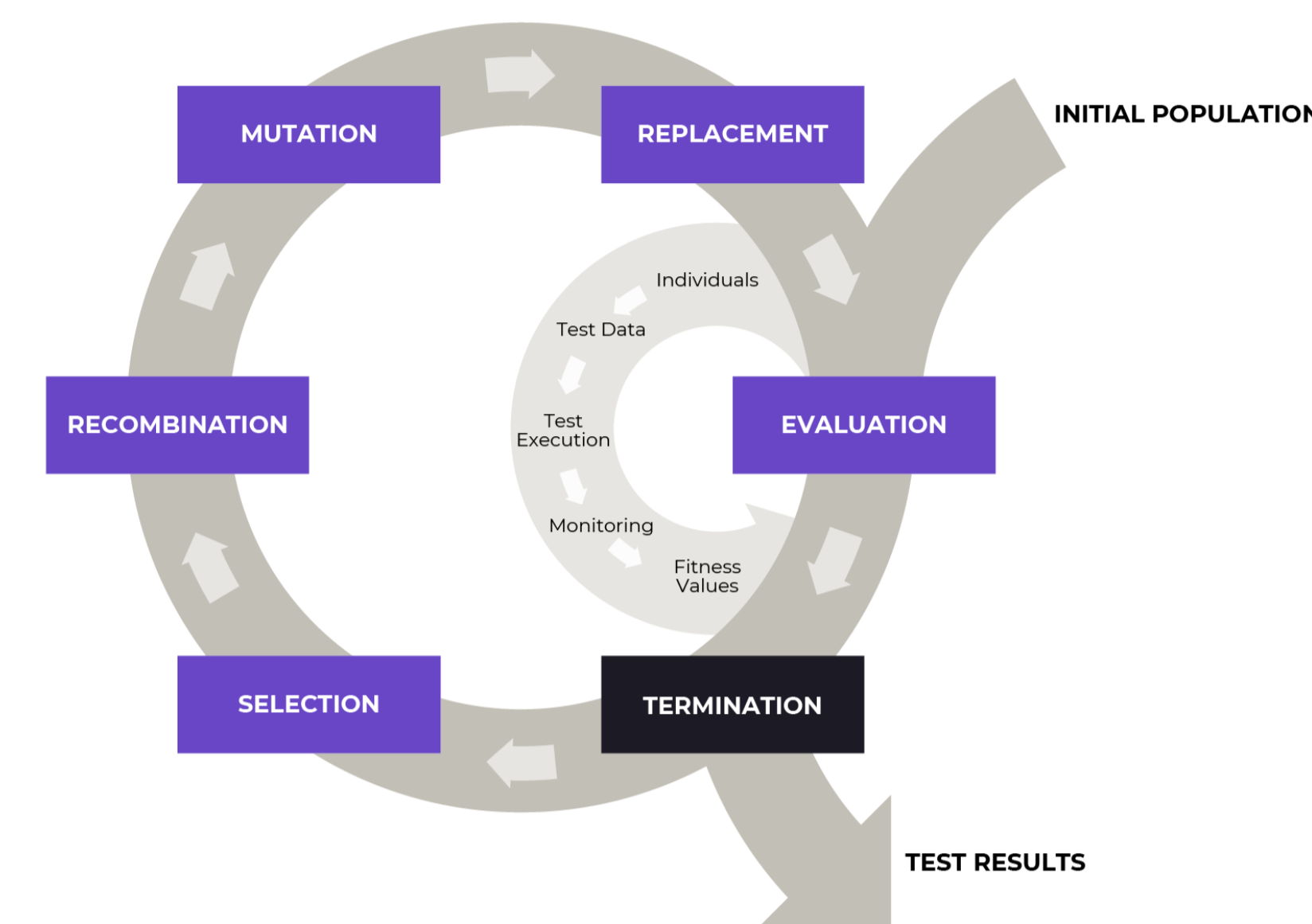
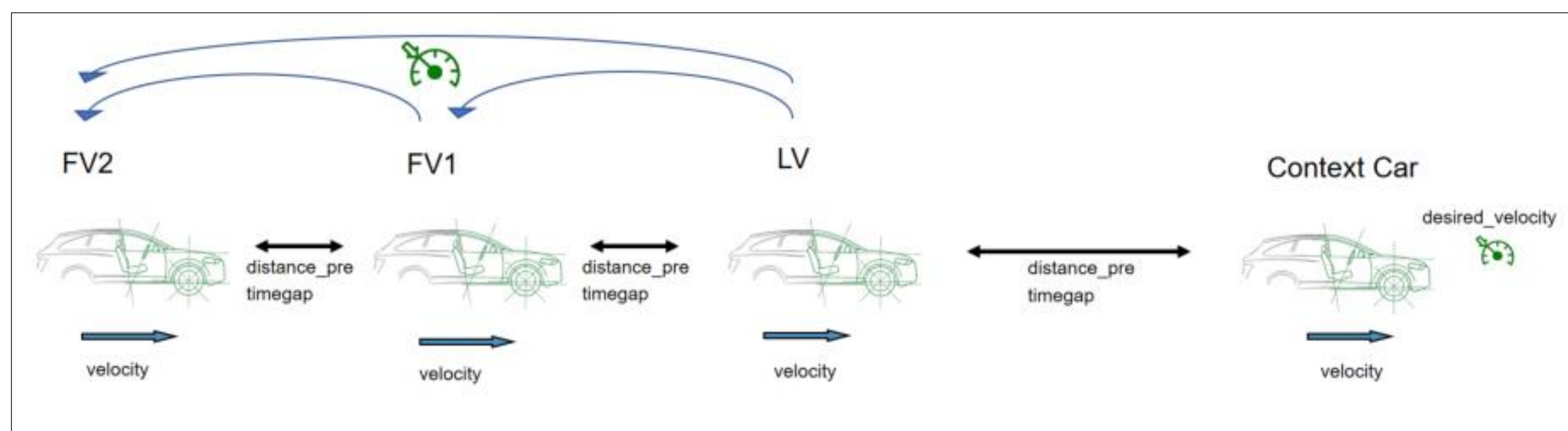


# Context Awareness of Collaborative Embedded Systems

## Evolutionary Testing

### Provoking critical situations while testing CSGs

Using Evolutionary Algorithm to optimize tests in order to provoke critical situations. CSG and their context is simulated. Dedicated CES can also be used as real embedded systems. Tests are repeatedly executed and evaluated in an iterative way with the goal of finding the most critical situations.



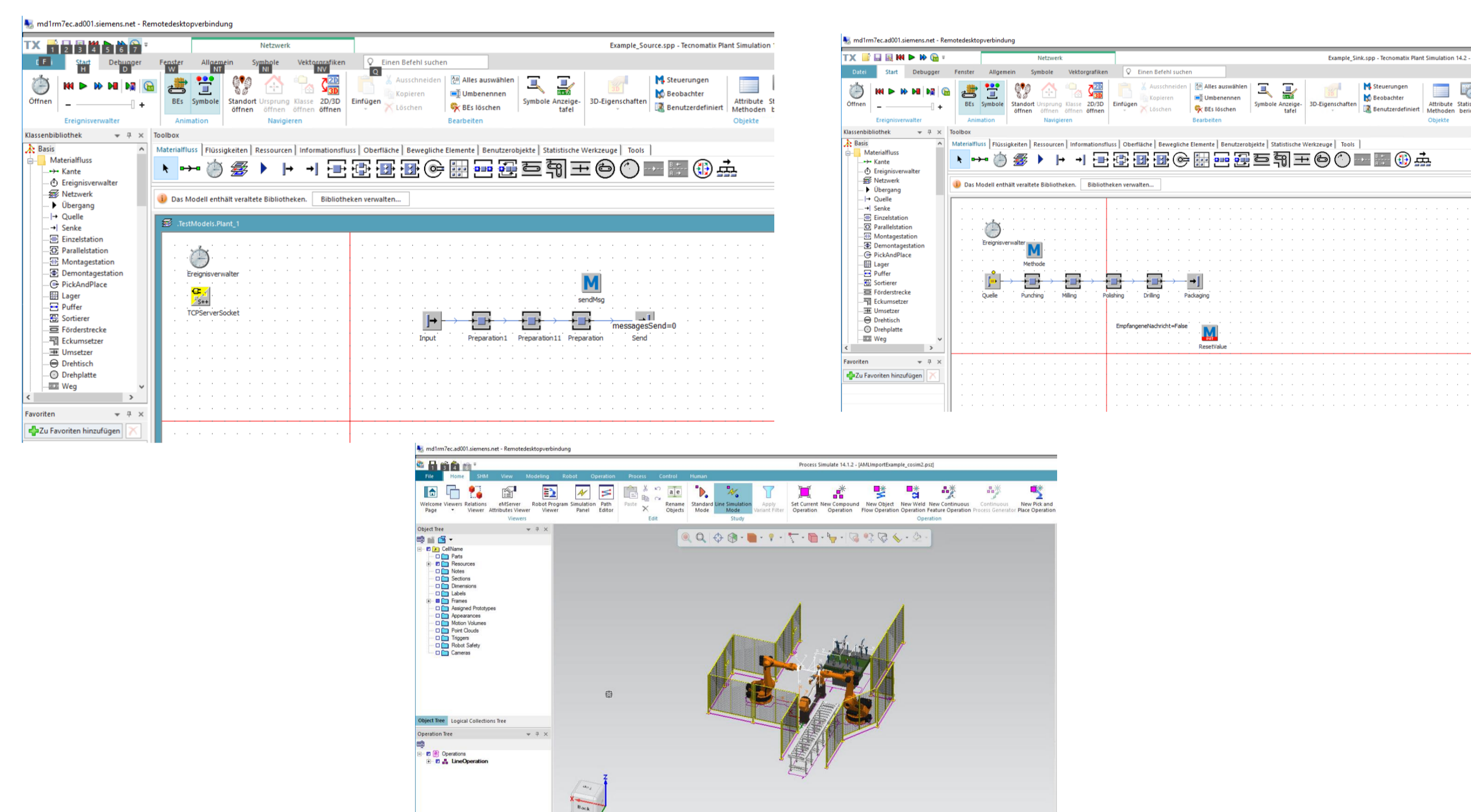
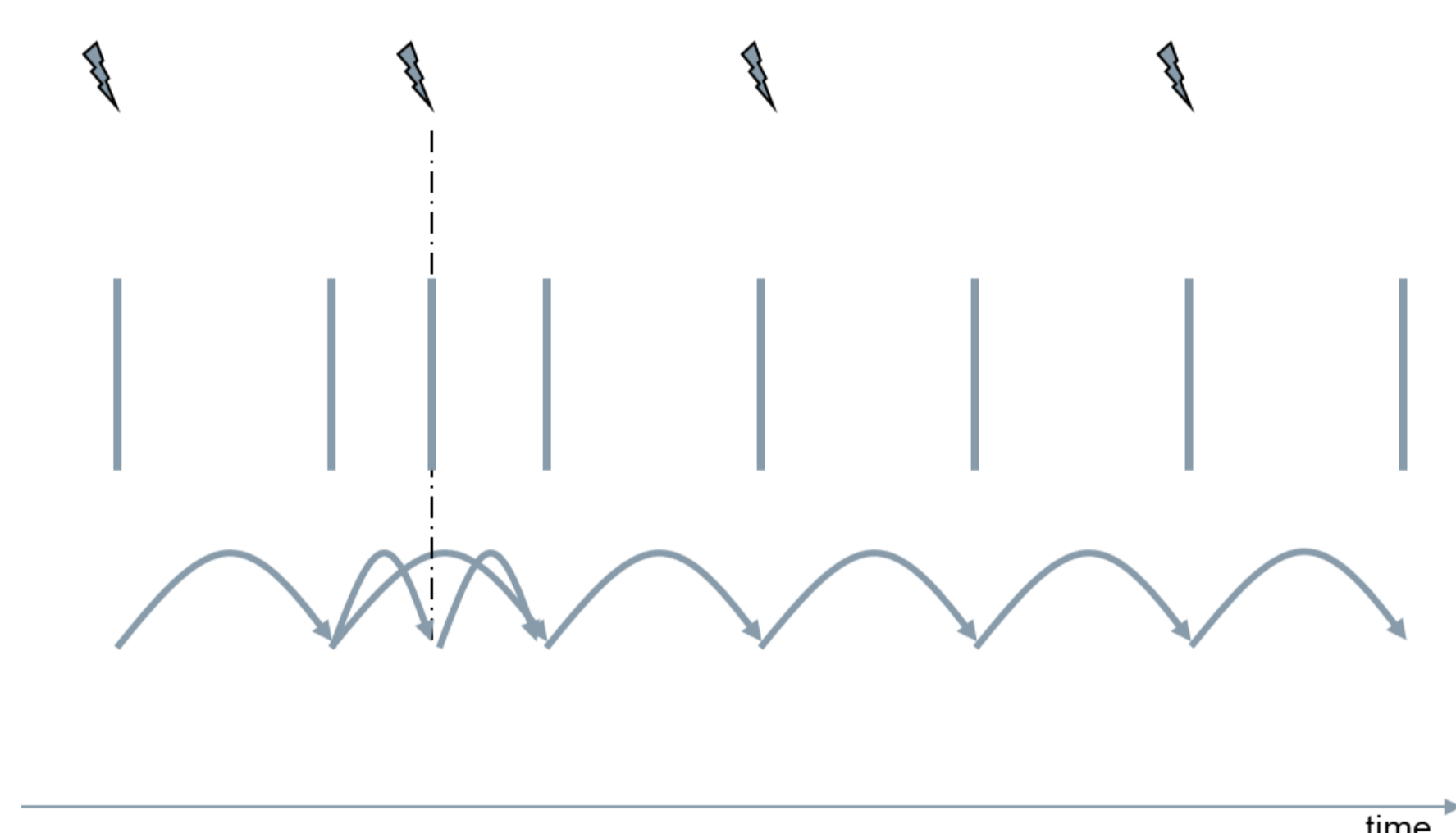
## ETC-Master

### Co-Simulation Master Coupling Simulators with different time schemes

- Analyzing the material flow and the behavior of a production cell with one simulation

Co-Simulation  
Master

Event-discrete  
Time-discrete  
Continuous



## Simulation Framework for CESs in Vehicles

### Virtual testing of prototypic Cooperative Adaptive Cruise Controllers (CACC)

- Realization of CACC test scenarios by co-simulation of system under test and models for simulation of V2V communication and sensor technology using FMI

