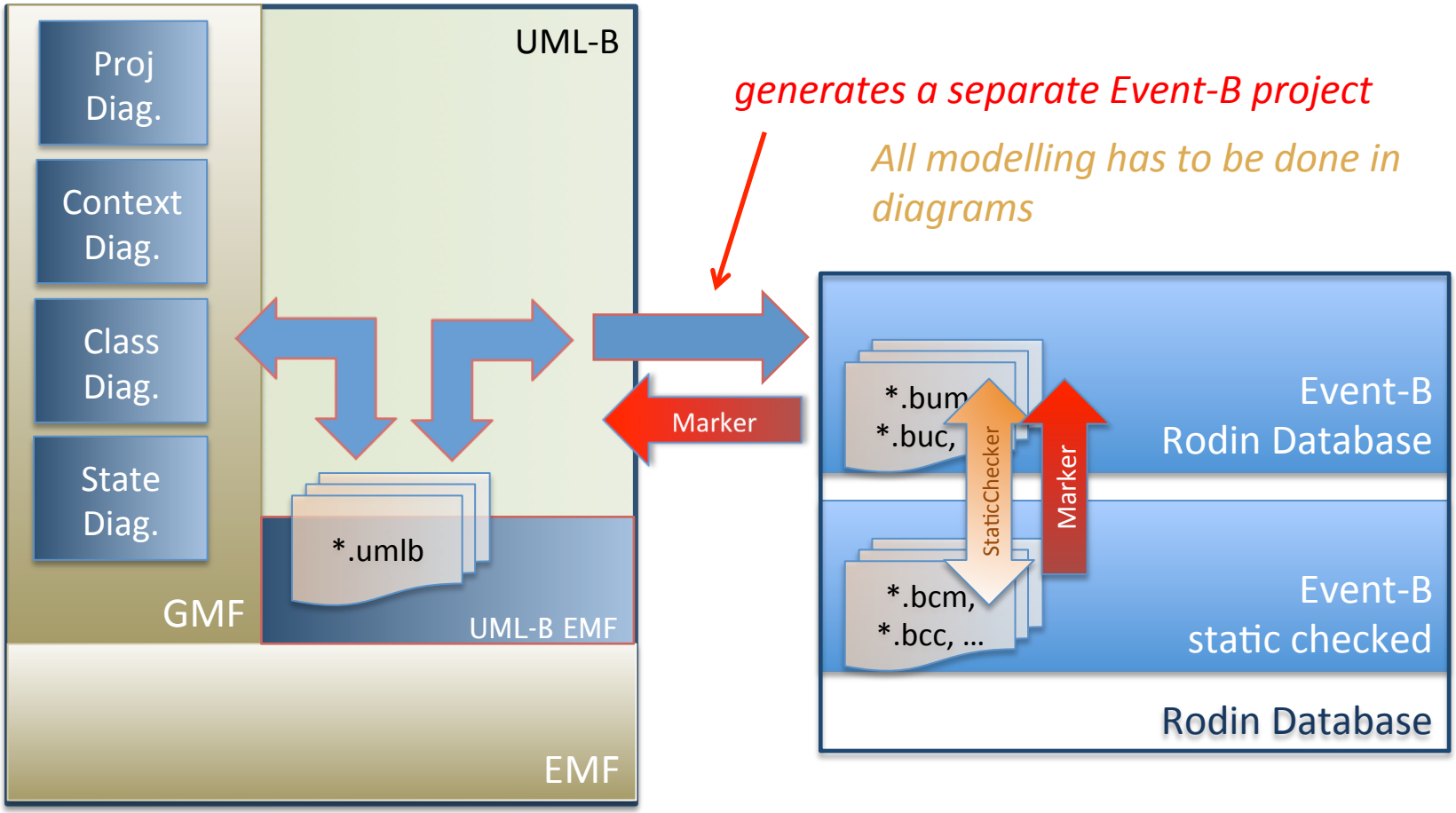
iUML-B Statemachines,

a new approach to UML-B

(old) UML-B Architecture



Motivation for (new) iUML-B

Experienced Event-B users

- would like diagrams
- without being distanced from Event-B

Integrated UI

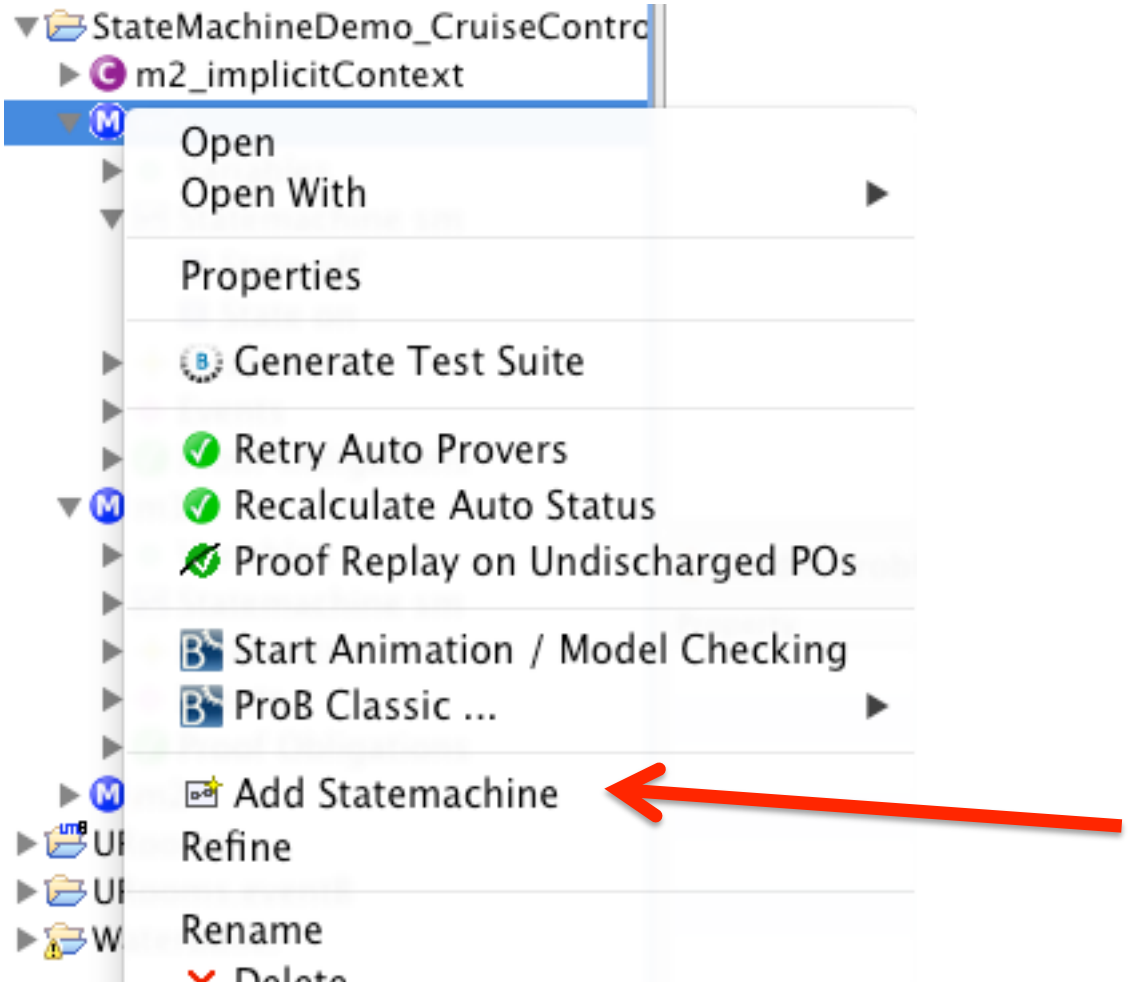
- Mix notations within one machine
  - Event-B Text editor +
  - Class diagrams +
  - **State machine diagrams** +
  - … and others

Solution:

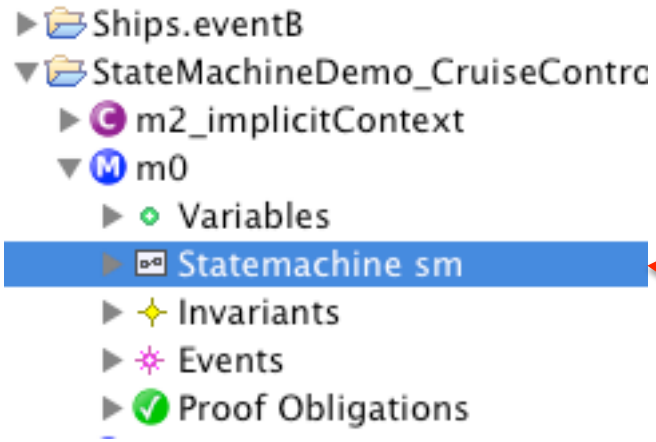
- Re-implement UML-B as an extension to Event-B
  - e.g. a state machine is an element inside an Event-B machine
  - Contributes guards an actions to hand written events

iUML-B Tool demo

Adding a statemachine to an Event-B machine

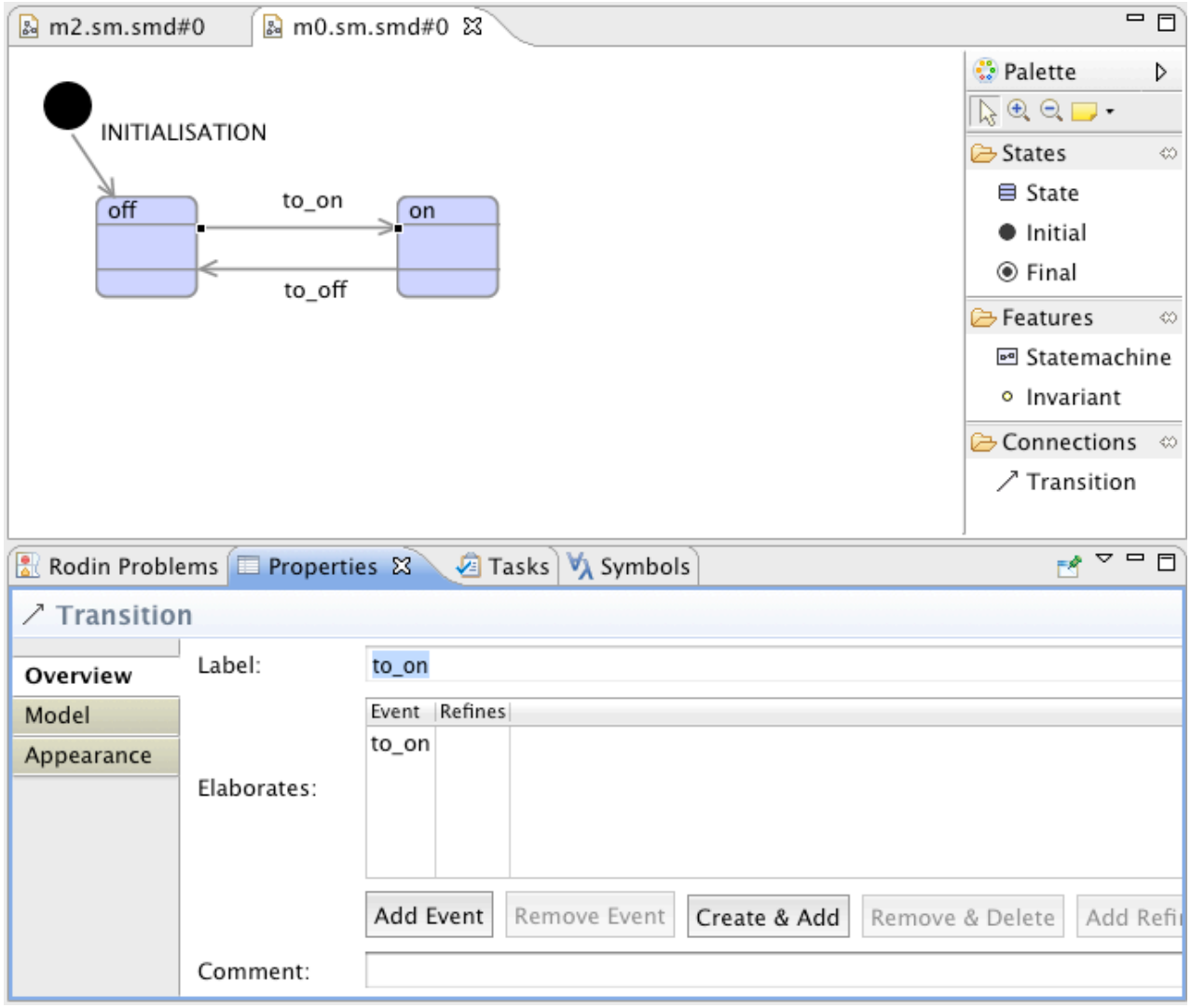


Open state machine diagram editor



Double click to open

Editor i/f

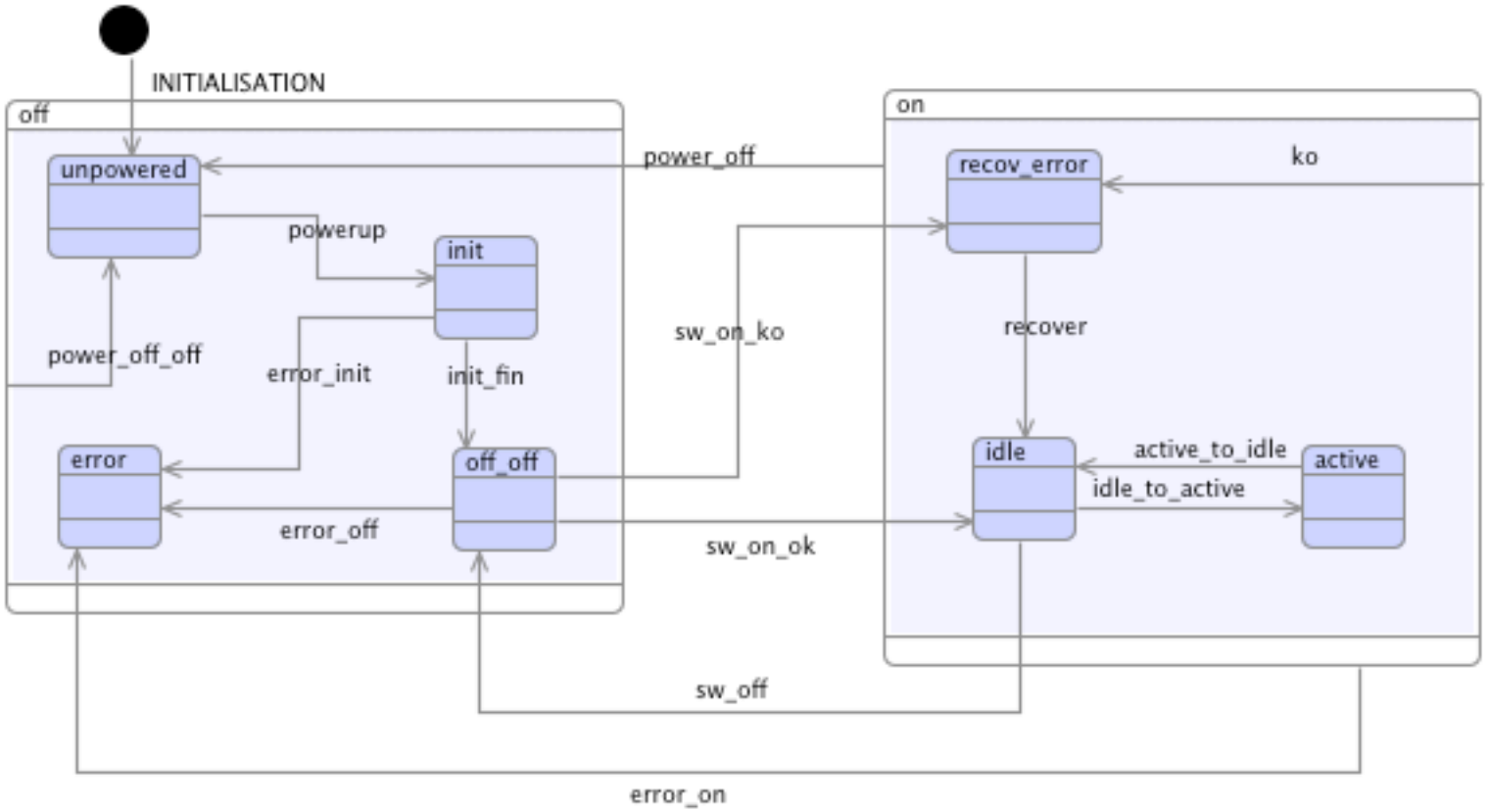


Draw diagram,

Link to existing events using properties sheet add event button

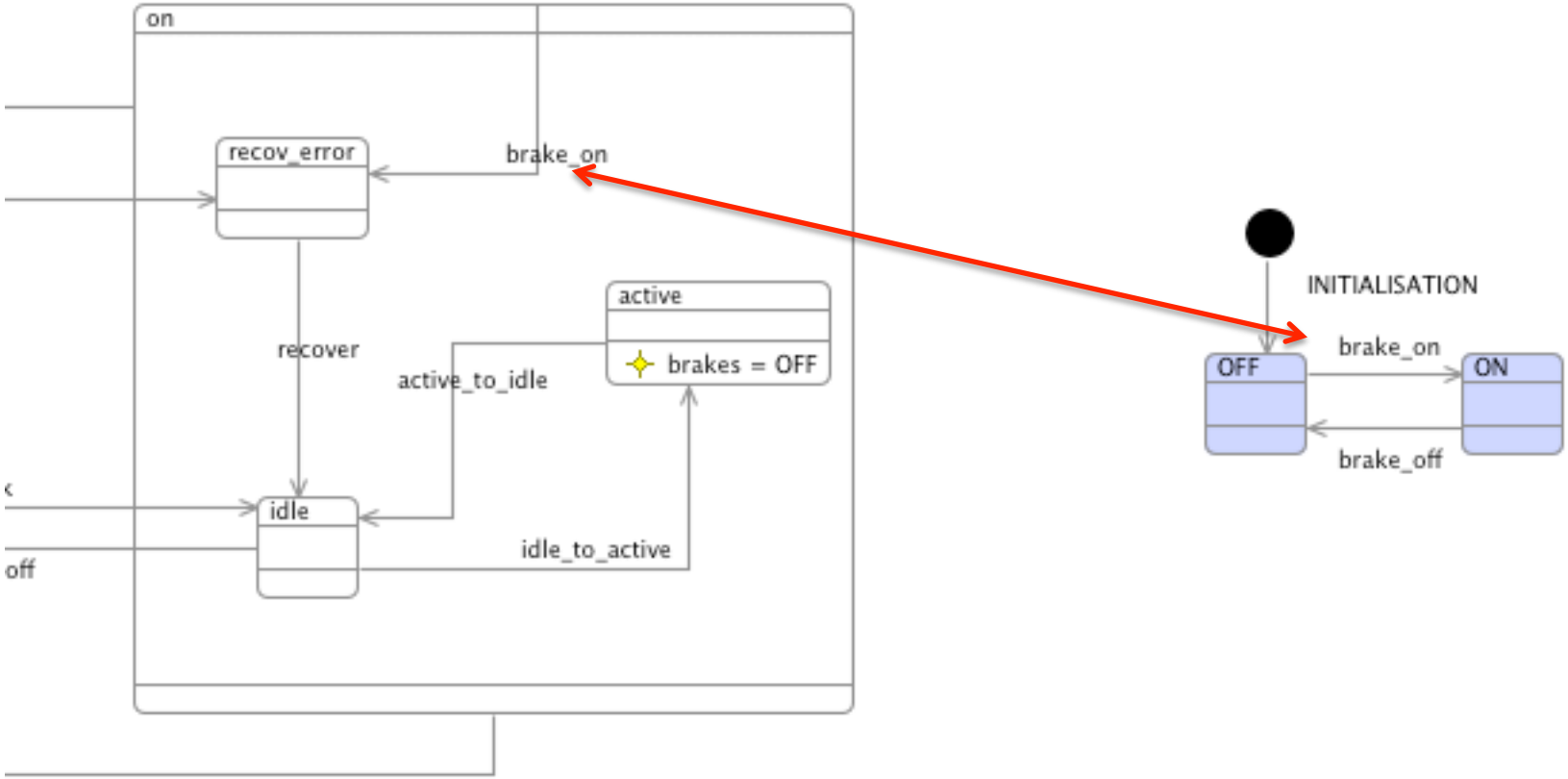
Create new events and and link to them using create & add button

Refinement – add nested statemachines

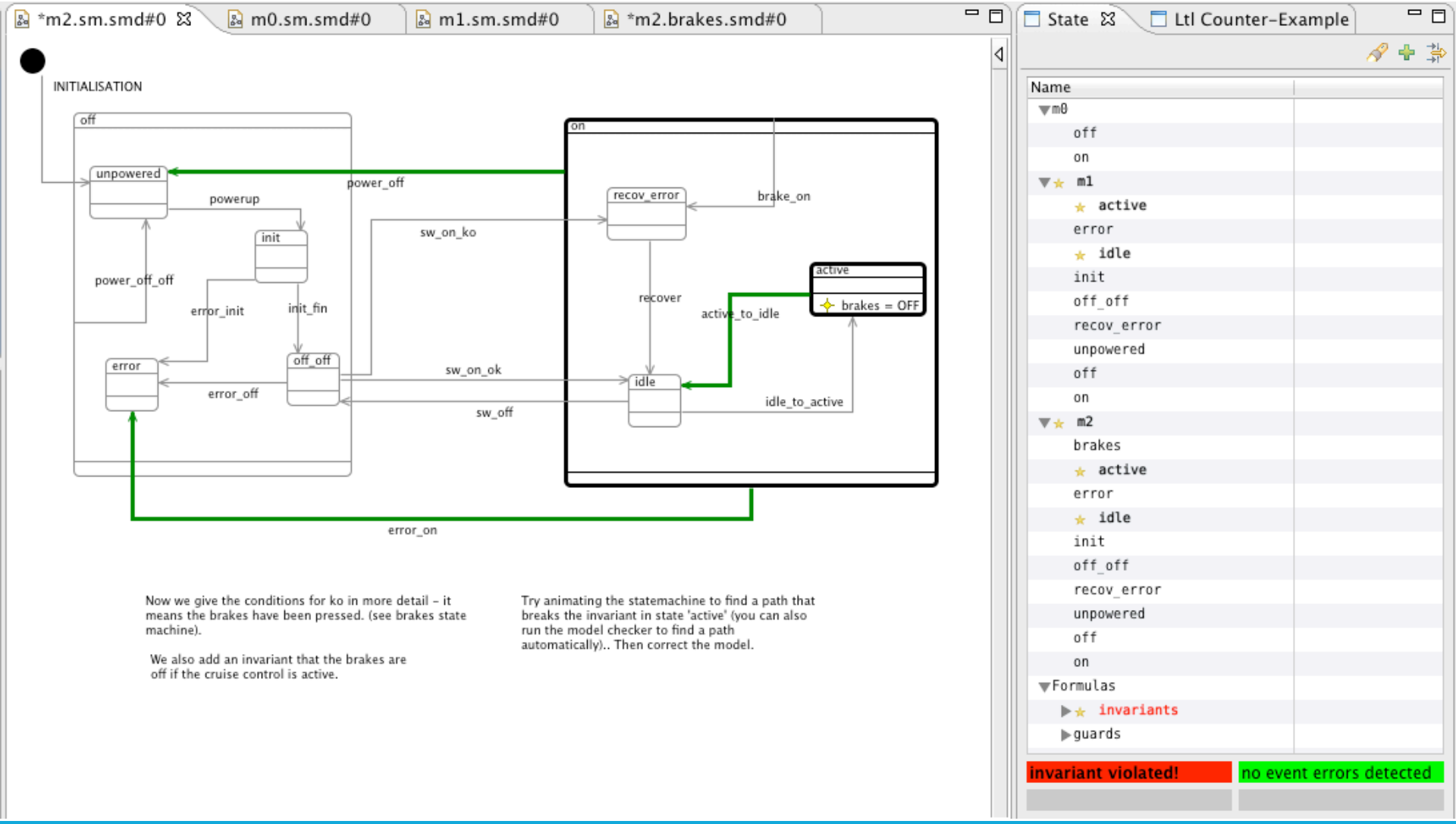


ko represents the occurence of some conditions where the cruise control shouldn't be active (or idle?)

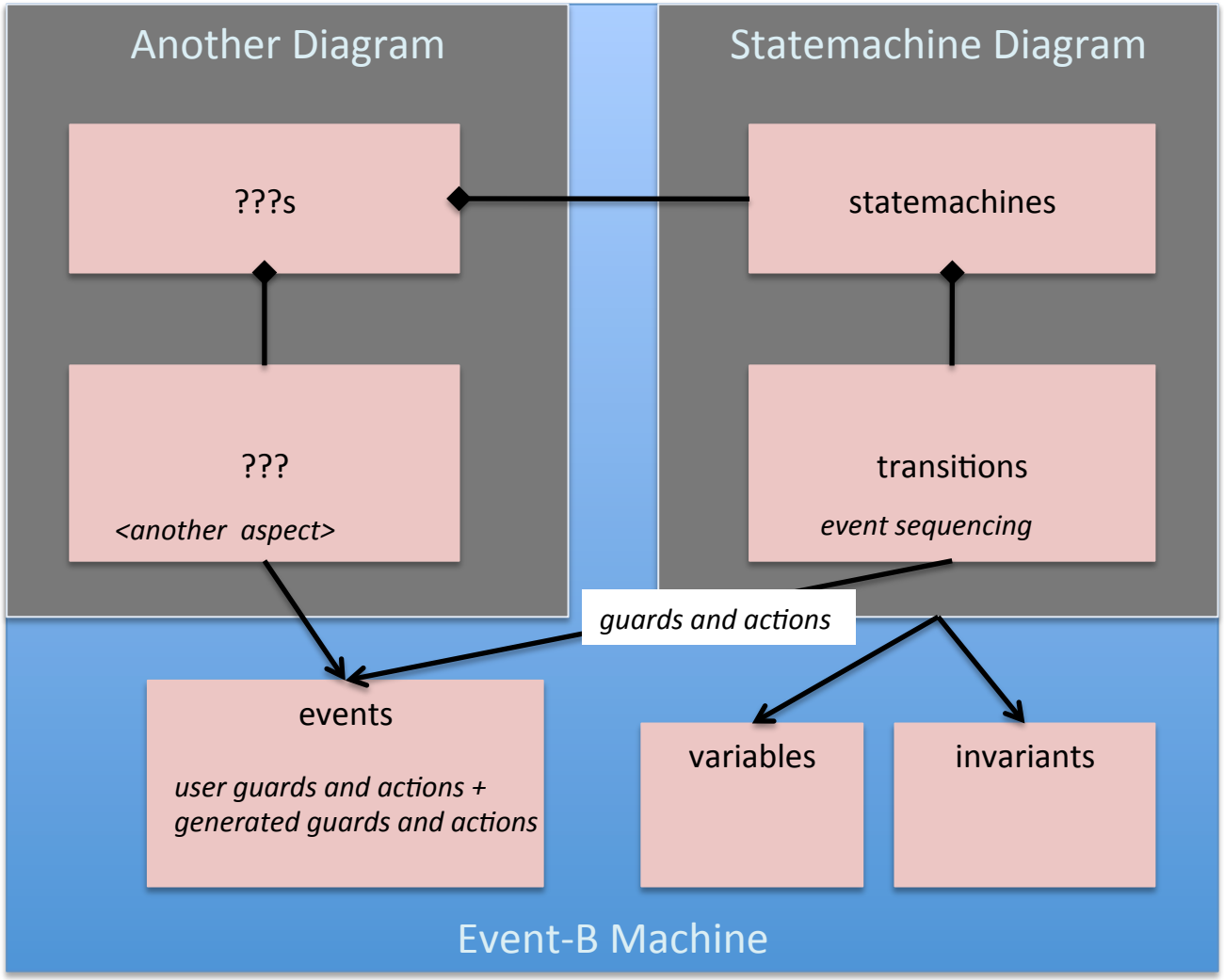
Synchronise state machines via event elaboration



Animation/model checker



Multiple Diagrams



Architecture/persistence