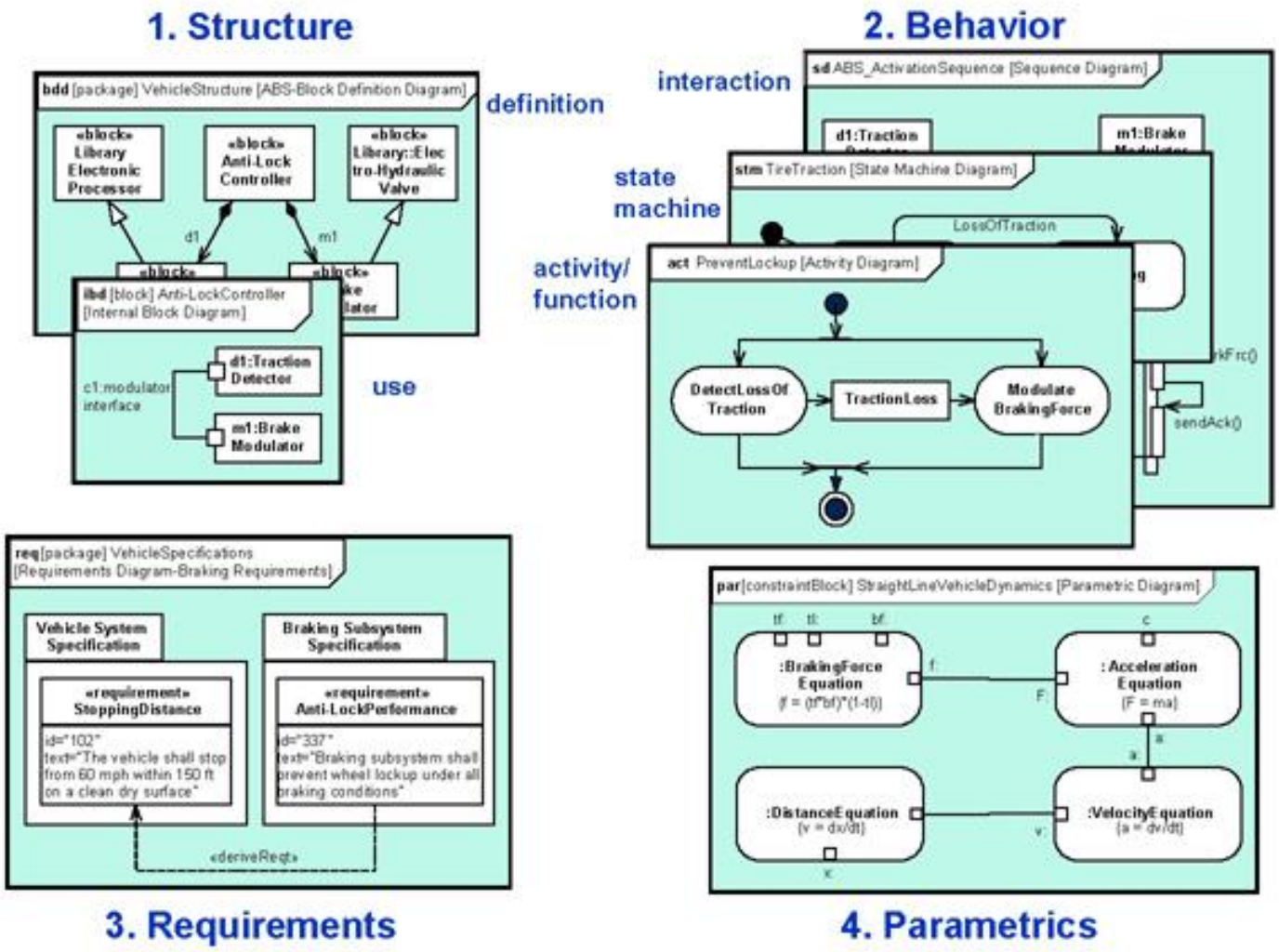
SysML Introduction

Introduction to Systems Engineering
I2ISE

Introduction to SysML

- SysML = *System Modeling Language*
  - Supports analysis, specification, design, and verification/validation of *systems (h*ardware, software, mechanics, personnel)
- Allows the formation and communication of a system *model* using *diagrams*
- Elements in different (types of) diagrams are reused to convey different aspects of the elements' use
- SysML is an enabler of *Model-Based Systems Engineering*
  - The *model*, not documentation, is in focus

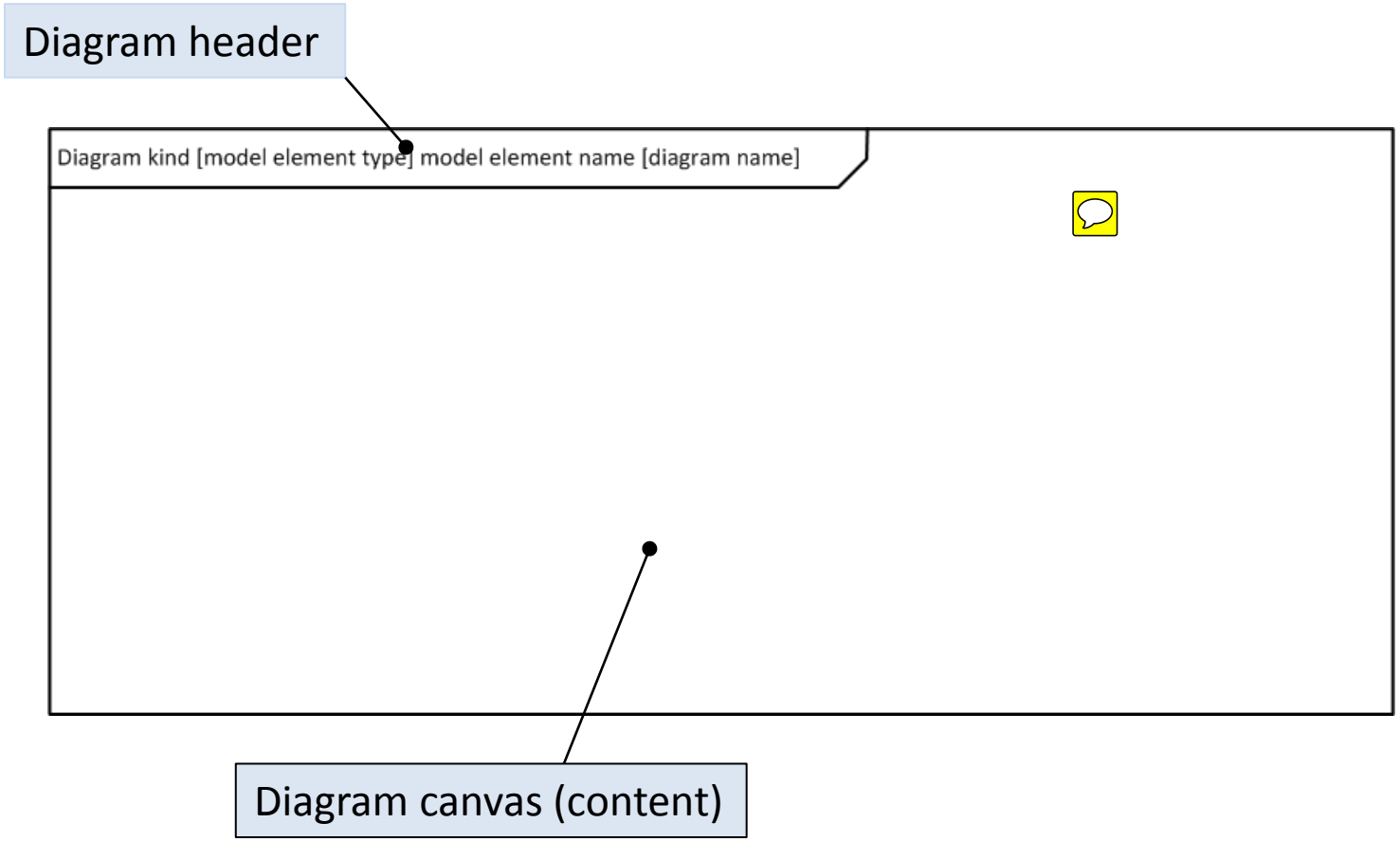
SysML ”pillars” (diagrams)



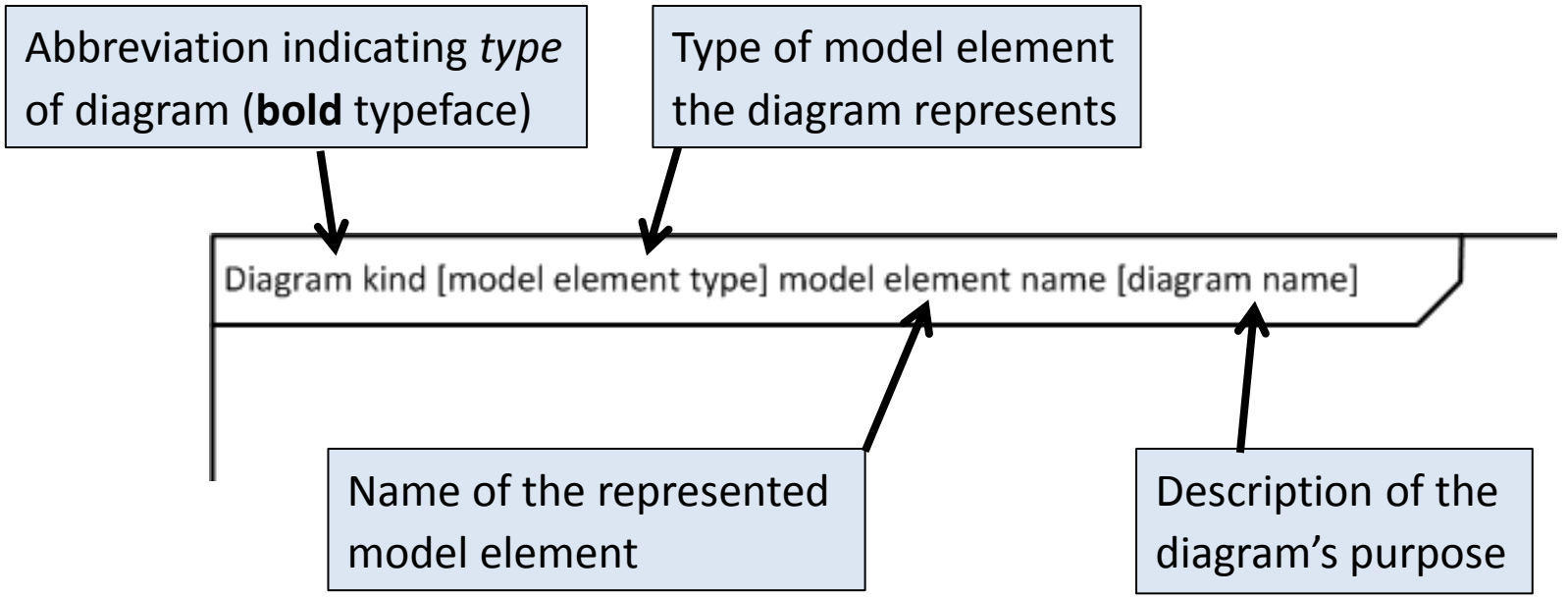
Note that the Package and Use Case diagrams are not shown in this example, but are respectively part of the structure and behavior pillars

SysML: Diagram frame

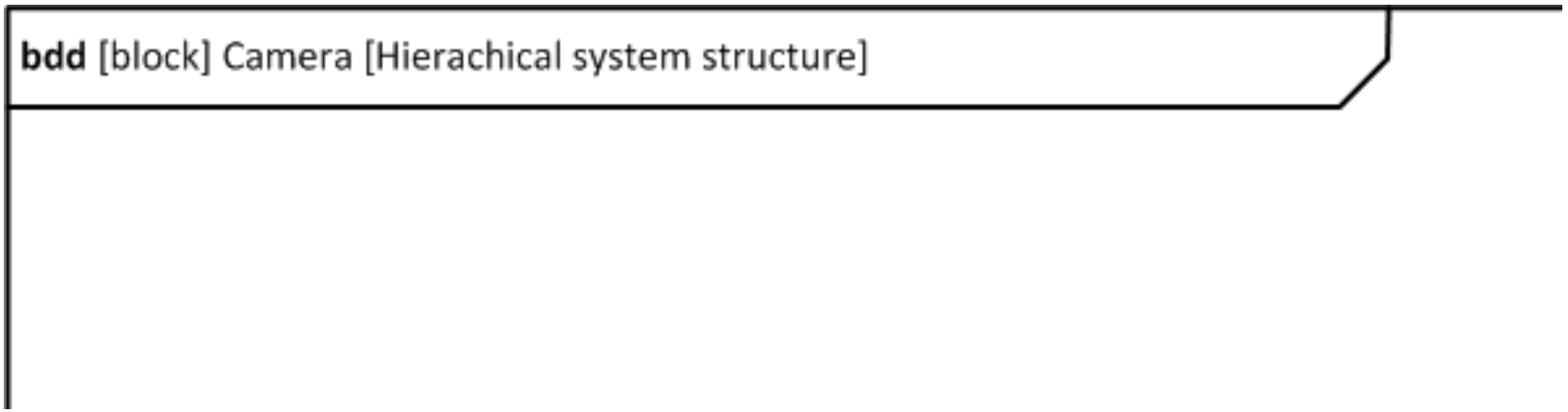
- The diagram frame consists of header and canvas



SysML: Diagram header



SysML: Diagram header - example

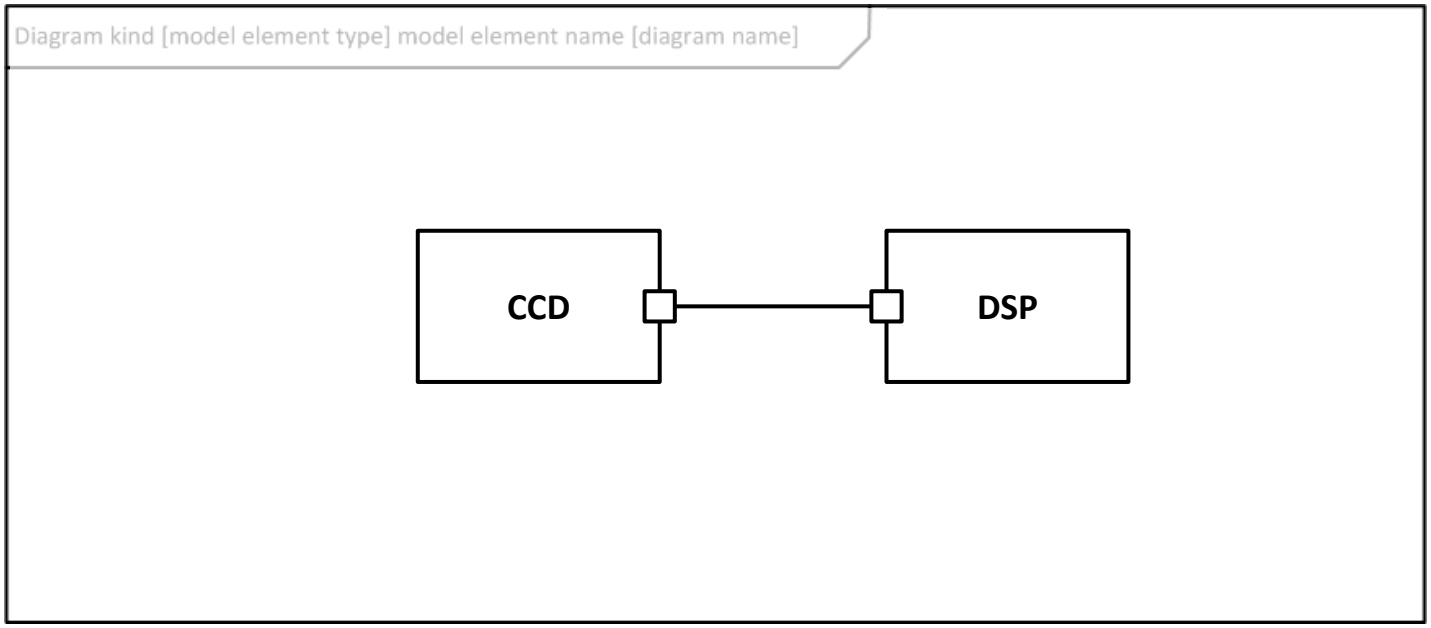


- This is a *block definition diagram* (bdd), defining the *hierarchical system structure* of the *block Camera*

- Items in brackets are optional - *model element type* frequently omitted, *diagram name* frequently included

SysML: Diagram canvas

- The diagram canvas holds the modeling elements



SysML: Diagram types