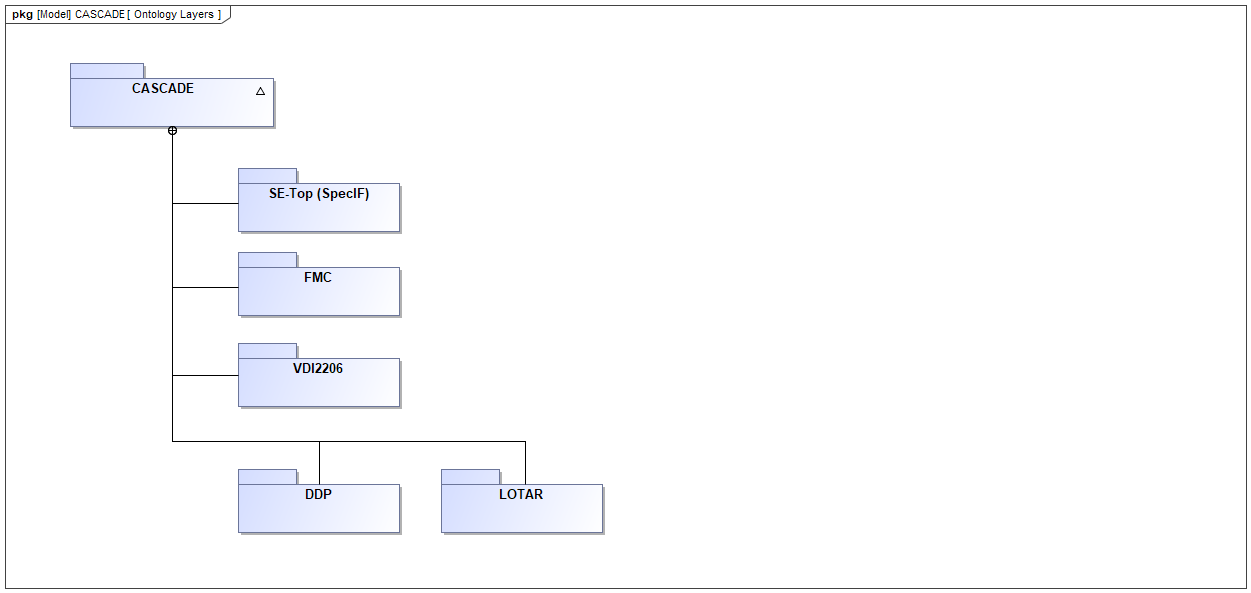
CASCADE

# ▣  Ontology Layers



#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Diagram |
| *Notation* | SysML Package Diagram |

#### Statements

|  |  |  |
| --- | --- | --- |
| ▣  Ontology Layers | *shows* | [⬚  DDP](#N-8331434730)  [⬚  LOTAR](#N-10600638111)  [⬚  SE-Top (SpecIF)](#N-8616682308)  [⬚  FMC](#N-8474539017)  [⬚  VDI2206](#N-8181216186) |

# ⬚  SE-Top (SpecIF)

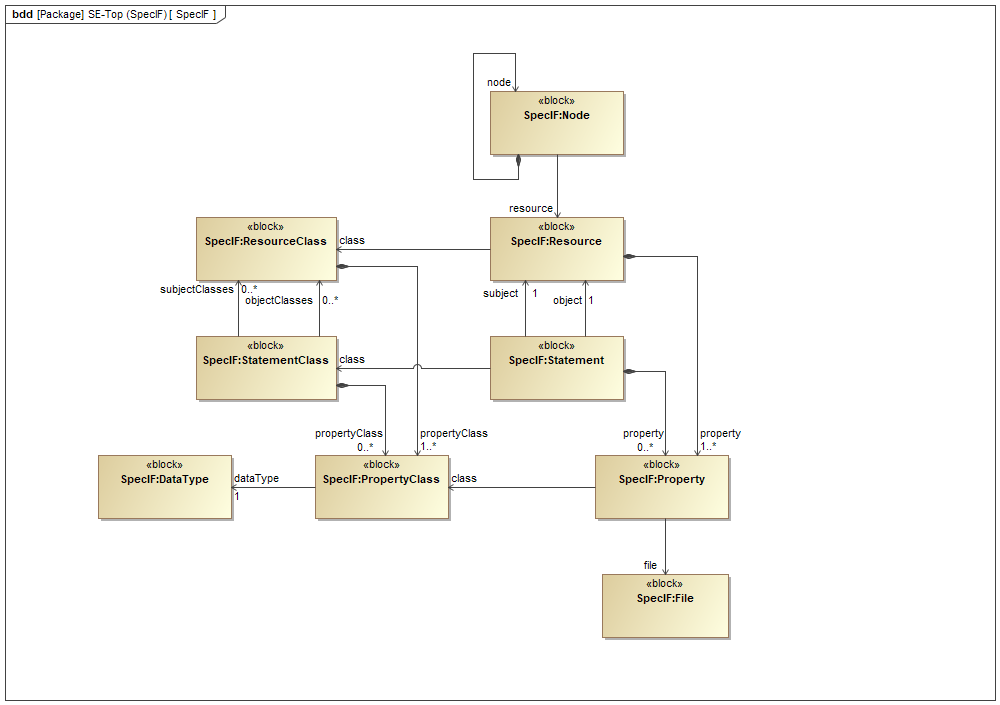
#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  SE-Top (SpecIF) |
| ⬚  SE-Top (SpecIF) | *has part* | [▣  SpecIF](#N-11625251085)  [Resource](#N-9709229031)  [Statement](#N-10978893387)  [SpecIF:ResourceClass](#N-9053657240)  [SpecIF:StatementClass](#N-8356626690)  [SpecIF:Node](#N-9406818339)  [SpecIF:File](#N-11104024229)  [Property](#N-11892476719)  [SpecIF:PropertyClass](#N-8986676680)  [SpecIF:DataType](#N-12064264921) |

### ▣  SpecIF



#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Diagram |
| *Notation* | SysML Block Definition Diagram |

#### Statements

|  |  |  |
| --- | --- | --- |
| ▣  SpecIF | *shows* | [property](#N-8331415083)  [SpecIF:File](#N-11104024229)  [object](#N-9457294858)  [file](#N-8616412231)  [Property](#N-11892476719)  [resource](#N-10043463311)  [subject](#N-8914643408)  [dataType](#N-8747233993)  [SpecIF:DataType](#N-12064264921)  [SpecIF:PropertyClass](#N-8986676680)  [objectClasses](#N-11932331571)  [propertyClass](#N-9416826229)  [node](#N-10042466679)  [class](#N-10198901598)  [SpecIF:Node](#N-9406818339)  [Statement](#N-10978893387)  [SpecIF:StatementClass](#N-8356626690)  [Resource](#N-9709229031)  [SpecIF:ResourceClass](#N-9053657240)  [subjectClasses](#N-8097585855) |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | ▣  SpecIF |

### Resource

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | Resource |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | Resource |
| Resource | *associated with* | [class](#N-10198901598) |
| Resource | *owns a* | [property](#N-8331415083) |
| [subject](#N-8914643408)  [object](#N-9457294858)  [resource](#N-10043463311) | *is a* | Resource |

### Statement

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | Statement |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | Statement |
| Statement | *associated with* | [subject](#N-8914643408)  [object](#N-9457294858)  [class](#N-10198901598) |
| Statement | *owns a* | [property](#N-8331415083) |

### SpecIF:ResourceClass

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:ResourceClass |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:ResourceClass |
| SpecIF:ResourceClass | *owns a* | [propertyClass](#N-9416826229) |
| [▣  Model Diagram](#N-8224592994)  [SpecIF:Model\_Element](#N-7987372190)  [class](#N-10198901598)  [objectClasses](#N-11932331571)  [subjectClasses](#N-8097585855) | *is a* | SpecIF:ResourceClass |

### SpecIF:StatementClass

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230)  [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:StatementClass |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:StatementClass |
| SpecIF:StatementClass | *associated with* | [objectClasses](#N-11932331571)  [subjectClasses](#N-8097585855) |
| SpecIF:StatementClass | *owns a* | [propertyClass](#N-9416826229) |
| [contains](#N-8086684257)  [modifies](#N-10675468240)  [FMC:requests](#N-9323430886)  [FMC:succeeds](#N-9458257541)  [FMC:communicates](#N-12039010810)  [class](#N-10198901598) | *is a* | SpecIF:StatementClass |

### SpecIF:Node

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:Node |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:Node |
| SpecIF:Node | *associated with* | [resource](#N-10043463311) |
| SpecIF:Node | *owns a* | [node](#N-10042466679) |
| [node](#N-10042466679) | *is a* | SpecIF:Node |

### SpecIF:File

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:File |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:File |
| [file](#N-8616412231) | *is a* | SpecIF:File |

### Property

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | Property |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | Property |
| Property | *associated with* | [file](#N-8616412231)  [class](#N-10198901598) |
| [property](#N-8331415083) | *is a* | Property |

### SpecIF:PropertyClass

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:PropertyClass |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:PropertyClass |
| SpecIF:PropertyClass | *associated with* | [dataType](#N-8747233993) |
| [propertyClass](#N-9416826229)  [class](#N-10198901598) | *is a* | SpecIF:PropertyClass |

### SpecIF:DataType

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:DataType |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:DataType |
| [dataType](#N-8747233993) | *is a* | SpecIF:DataType |

# ⬚  FMC

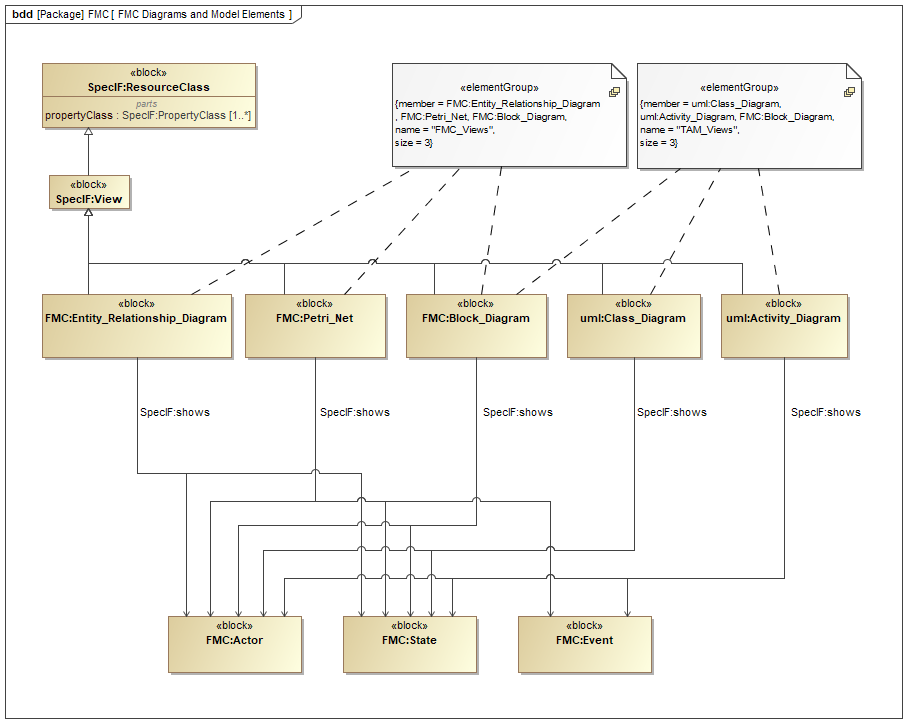
#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  FMC |
| ⬚  FMC | *has part* | [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054)  [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758)  [contains](#N-8086684257)  [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590)  [modifies](#N-10675468240)  [FMC:requests](#N-9323430886)  [▣  Model Diagram](#N-8224592994)  [SpecIF:Model\_Element](#N-7987372190)  [FMC:succeeds](#N-9458257541)  [FMC:communicates](#N-12039010810)  [FMC:sends](#N-8154897981)  [FMC:receives](#N-7925990474) |

### ▣  FMC Diagrams and Model Elements



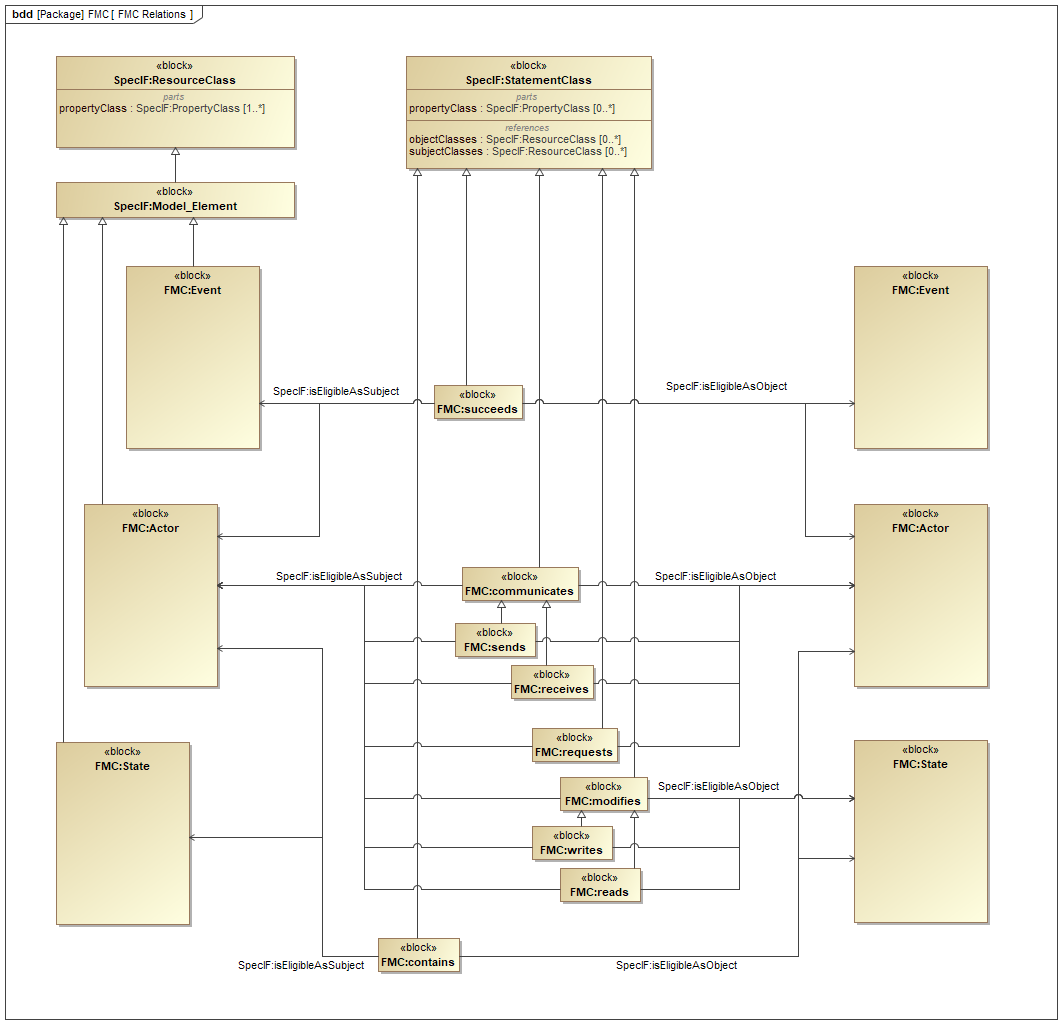
#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Diagram |
| *Notation* | SysML Block Definition Diagram |

#### Statements

|  |  |  |
| --- | --- | --- |
| ▣  FMC Diagrams and Model Elements | *shows* | [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [⬧  Event](#N-9466336054)  [▣  UML Class Diagram](#N-11260199291)  [▣  FMC Petri Net](#N-11518027991)  [▣  UML Activity Diagram](#N-10283736758)  [●  State](#N-8554257095)  [SpecIF:ResourceClass](#N-9053657240)  [■  Actor](#N-8326314579)  [▣  Model Diagram](#N-8224592994)  [propertyClass](#N-9416826229) |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC Diagrams and Model Elements |

### ▣  FMC Relations



#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Diagram |
| *Notation* | SysML Block Definition Diagram |

#### Statements

|  |  |  |
| --- | --- | --- |
| ▣  FMC Relations | *shows* | [FMC:writes](#N-8881866255)  [FMC:succeeds](#N-9458257541)  [contains](#N-8086684257)  [objectClasses](#N-11932331571)  [propertyClass](#N-9416826229)  [SpecIF:Model\_Element](#N-7987372190)  [modifies](#N-10675468240)  [subjectClasses](#N-8097585855)  [⬧  Event](#N-9466336054)  [FMC:sends](#N-8154897981)  [FMC:receives](#N-7925990474)  [SpecIF:StatementClass](#N-8356626690)  [●  State](#N-8554257095)  [FMC:communicates](#N-12039010810)  [SpecIF:ResourceClass](#N-9053657240)  [■  Actor](#N-8326314579)  [FMC:requests](#N-9323430886)  [FMC:reads](#N-9834911590) |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC Relations |

### ■  Actor

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Actor |
| [⬚  FMC](#N-8474539017) | *has part* | ■  Actor |
| [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758)  [contains](#N-8086684257)  [contains](#N-8086684257)  [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590)  [modifies](#N-10675468240)  [FMC:requests](#N-9323430886)  [FMC:requests](#N-9323430886)  [FMC:succeeds](#N-9458257541)  [FMC:succeeds](#N-9458257541)  [FMC:communicates](#N-12039010810)  [FMC:communicates](#N-12039010810)  [FMC:sends](#N-8154897981)  [FMC:sends](#N-8154897981)  [FMC:receives](#N-7925990474)  [FMC:receives](#N-7925990474) | *associated with* | ■  Actor |
| [■  Human](#N-8820363721)  [■  System](#N-11672198927) | *is a* | ■  Actor |
| ■  Actor | *is a* | [SpecIF:Model\_Element](#N-7987372190) |

### ●  State

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  State |
| [⬚  FMC](#N-8474539017) | *has part* | ●  State |
| [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758)  [contains](#N-8086684257)  [contains](#N-8086684257)  [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590)  [modifies](#N-10675468240) | *associated with* | ●  State |
| [●  Energy](#N-8293833147)  [●  Information](#N-8027020875)  [●  Material](#N-10981665481) | *is a* | ●  State |
| ●  State | *is a* | [SpecIF:Model\_Element](#N-7987372190) |

### ⬧  Event

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230) | *shows* | ⬧  Event |
| [⬚  FMC](#N-8474539017) | *has part* | ⬧  Event |
| [▣  FMC Petri Net](#N-11518027991)  [▣  UML Activity Diagram](#N-10283736758)  [FMC:succeeds](#N-9458257541)  [FMC:succeeds](#N-9458257541) | *associated with* | ⬧  Event |
| ⬧  Event | *is a* | [SpecIF:Model\_Element](#N-7987372190) |

### ▣  FMC Block Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  FMC Block Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC Block Diagram |
| ▣  FMC Block Diagram | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| ▣  FMC Block Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### ▣  FMC Petri Net

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  FMC Petri Net |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC Petri Net |
| ▣  FMC Petri Net | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054) |
| ▣  FMC Petri Net | *is a* | [▣  Model Diagram](#N-8224592994) |

### ▣  FMC:Entity\_Relationship\_Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  FMC:Entity\_Relationship\_Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC:Entity\_Relationship\_Diagram |
| ▣  FMC:Entity\_Relationship\_Diagram | *associated with* | [●  State](#N-8554257095)  [■  Actor](#N-8326314579) |
| ▣  FMC:Entity\_Relationship\_Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### ▣  UML Class Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  UML Class Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  UML Class Diagram |
| ▣  UML Class Diagram | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| ▣  UML Class Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### ▣  UML Activity Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  UML Activity Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  UML Activity Diagram |
| ▣  UML Activity Diagram | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054) |
| ▣  UML Activity Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### contains

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | contains |
| [⬚  FMC](#N-8474539017) | *has part* | contains |
| contains | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [●  State](#N-8554257095)  [■  Actor](#N-8326314579) |
| contains | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### FMC:writes

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:writes |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:writes |
| FMC:writes | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| FMC:writes | *is a* | [modifies](#N-10675468240) |

### FMC:reads

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:reads |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:reads |
| FMC:reads | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| FMC:reads | *is a* | [modifies](#N-10675468240) |

### modifies

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | modifies |
| [⬚  FMC](#N-8474539017) | *has part* | modifies |
| modifies | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590) | *is a* | modifies |
| modifies | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### FMC:requests

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:requests |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:requests |
| FMC:requests | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| FMC:requests | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### ▣  Model Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  Model Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  Model Diagram |
| [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758) | *is a* | ▣  Model Diagram |
| ▣  Model Diagram | *is a* | [SpecIF:ResourceClass](#N-9053657240) |

### SpecIF:Model\_Element

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | SpecIF:Model\_Element |
| [⬚  FMC](#N-8474539017) | *has part* | SpecIF:Model\_Element |
| [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054) | *is a* | SpecIF:Model\_Element |
| SpecIF:Model\_Element | *is a* | [SpecIF:ResourceClass](#N-9053657240) |

### FMC:succeeds

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:succeeds |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:succeeds |
| FMC:succeeds | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579)  [⬧  Event](#N-9466336054)  [⬧  Event](#N-9466336054) |
| FMC:succeeds | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### FMC:communicates

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:communicates |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:communicates |
| FMC:communicates | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| [FMC:sends](#N-8154897981)  [FMC:receives](#N-7925990474) | *is a* | FMC:communicates |
| FMC:communicates | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### FMC:sends

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:sends |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:sends |
| FMC:sends | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| FMC:sends | *is a* | [FMC:communicates](#N-12039010810) |

### FMC:receives

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:receives |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:receives |
| FMC:receives | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| FMC:receives | *is a* | [FMC:communicates](#N-12039010810) |

# ⬚  VDI2206

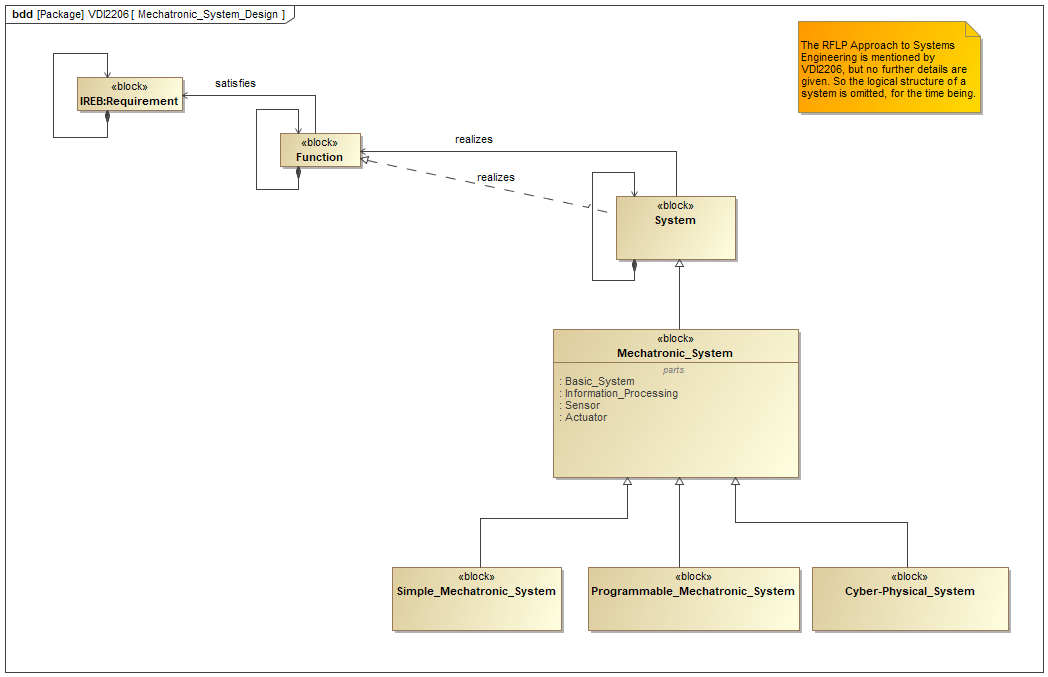
#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  VDI2206 |
| ⬚  VDI2206 | *has part* | [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [■  Actuator](#N-9924014680)  [■  Mechatronic\_System](#N-9886737907)  [■  Human](#N-8820363721)  [●  Actuator\_Information](#N-9789090921)  [■  Basic\_System](#N-8476627873)  [■  Communication\_System](#N-11512976268)  [■  Cyber-Physical\_System](#N-12113483900)  [●  Electrical\_Energy](#N-8004118917)  [■  Environment](#N-11998033270)  [●  Energy](#N-8293833147)  [Function](#N-8374252329)  [●  Information](#N-8027020875)  [■  Information\_Processing](#N-11240396515)  [●  Material](#N-10981665481)  [■  Programmable\_Mechatronic\_System](#N-11781185189)  [↯  Requirement](#N-8115193264)  [■  Sensor](#N-10530259236)  [●  Sensor\_Information](#N-11484556930)  [■  Simple\_Mechatronic\_System](#N-10687971633)  [■  System](#N-11672198927)  [●  Water](#N-9300093352) |

### ▣  Mechatronic\_System\_Design



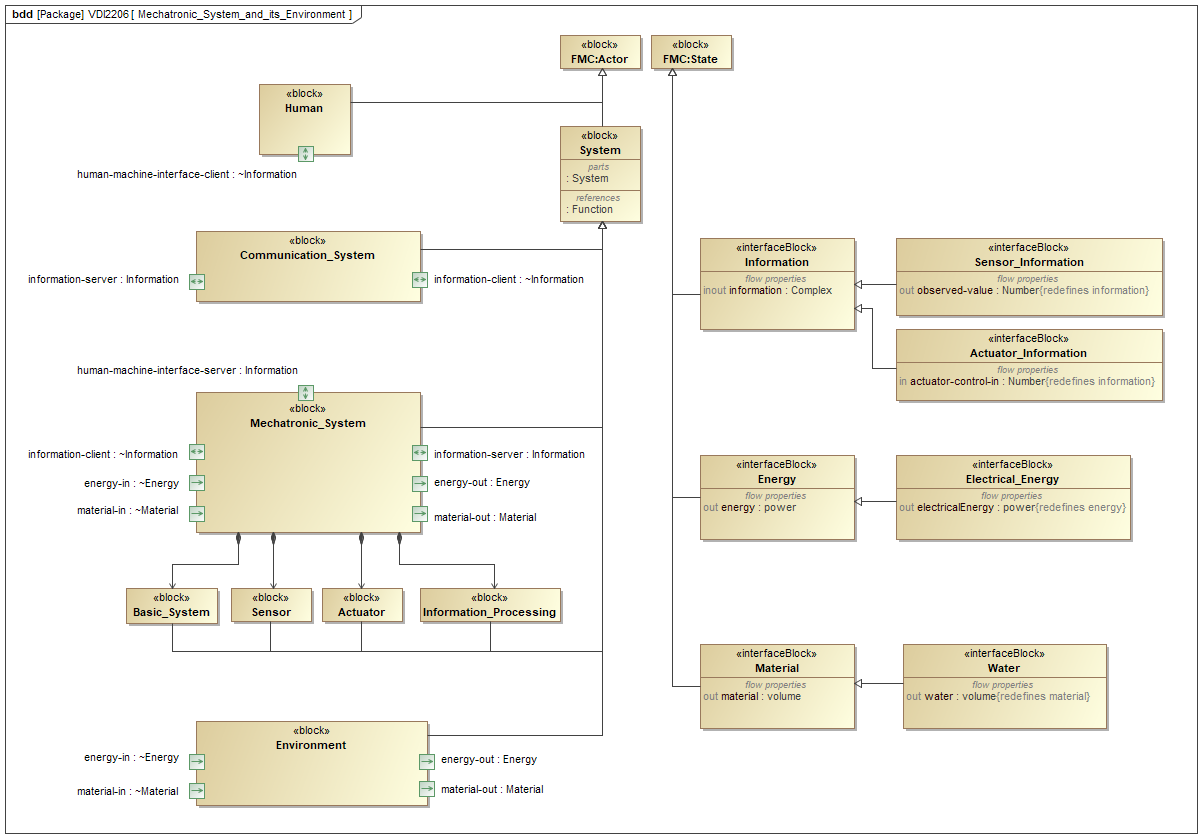
#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Diagram |
| *Notation* | SysML Block Definition Diagram |

#### Statements

|  |  |  |
| --- | --- | --- |
| ▣  Mechatronic\_System\_Design | *shows* | [■  Cyber-Physical\_System](#N-12113483900)  [■  System](#N-11672198927)  [■  Simple\_Mechatronic\_System](#N-10687971633)  [■  Mechatronic\_System](#N-9886737907)  [■  Programmable\_Mechatronic\_System](#N-11781185189)  [Function](#N-8374252329)  [↯  Requirement](#N-8115193264)  [■  Basic\_System](#N-8476627873)  [■  Information\_Processing](#N-11240396515)  [■  Sensor](#N-10530259236)  [■  Actuator](#N-9924014680) |
| [⬚  VDI2206](#N-8181216186) | *has part* | ▣  Mechatronic\_System\_Design |

### ▣  Mechatronic\_System\_and\_its\_Environment



#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Diagram |
| *Notation* | SysML Block Definition Diagram |

#### Statements

|  |  |  |
| --- | --- | --- |
| ▣  Mechatronic\_System\_and\_its\_Environment | *shows* | [●  Sensor\_Information](#N-11484556930)  [■  material-in](#N-11716028388)  [●  Material](#N-10981665481)  [■  human-machine-interface-server](#N-10800911885)  [■  System](#N-11672198927)  [■  Actuator](#N-9924014680)  [electricalEnergy](#N-10244358488)  [■  Information\_Processing](#N-11240396515)  [■  Mechatronic\_System](#N-9886737907)  [●  Information](#N-8027020875)  [■  Basic\_System](#N-8476627873)  [■  energy-out](#N-8888979696)  [■  material-out](#N-11853277278)  [■  Communication\_System](#N-11512976268)  [■  information-client](#N-11713513889)  [■  human-machine-interface-client](#N-8537115424)  [■  energy-in](#N-11262625403)  [●  Actuator\_Information](#N-9789090921)  [■  information-server](#N-10280718572)  [energy](#N-11400445041)  [●  Energy](#N-8293833147)  [●  Water](#N-9300093352)  [■  Environment](#N-11998033270)  [●  State](#N-8554257095)  [■  Human](#N-8820363721)  [●  Electrical\_Energy](#N-8004118917)  [■  Actor](#N-8326314579)  [■  Sensor](#N-10530259236)  [Function](#N-8374252329) |
| [⬚  VDI2206](#N-8181216186) | *has part* | ▣  Mechatronic\_System\_and\_its\_Environment |

### ■  Actuator

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Actuator |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Actuator |
| ■  Actuator | *has part* | [■  energy-in](#N-11262625403)  [■  actuator-control-in](#N-9631676150)  [■  actuator-energy-out](#N-11583368180) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Actuator |
| ■  Actuator | *is a* | [■  System](#N-11672198927) |

### ■  Mechatronic\_System

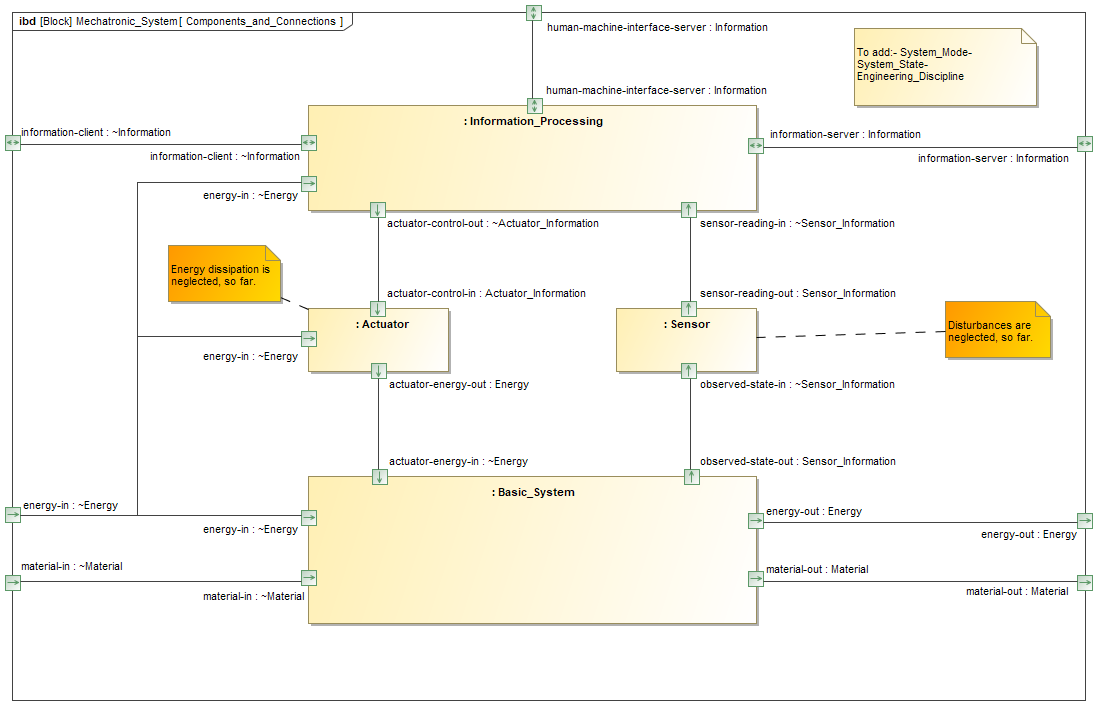
#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Mechatronic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Mechatronic\_System |
| ■  Mechatronic\_System | *has part* | [▣  Components\_and\_Connections](#N-7861219829)  [■  material-out](#N-11853277278)  [■  material-in](#N-11716028388)  [■  energy-out](#N-8888979696)  [■  energy-in](#N-11262625403)  [■  information-client](#N-11713513889)  [■  information-server](#N-10280718572)  [■  human-machine-interface-server](#N-10800911885) |
| ■  Mechatronic\_System | *owns a* | [■  Basic\_System](#N-8476627873)  [■  Information\_Processing](#N-11240396515)  [■  Sensor](#N-10530259236)  [■  Actuator](#N-9924014680) |
| [■  Cyber-Physical\_System](#N-12113483900)  [■  Programmable\_Mechatronic\_System](#N-11781185189)  [■  Simple\_Mechatronic\_System](#N-10687971633) | *is a* | ■  Mechatronic\_System |
| ■  Mechatronic\_System | *is a* | [■  System](#N-11672198927) |

### ▣  Components\_and\_Connections



#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Diagram |
| *Notation* | SysML Internal Block Diagram |

#### Statements

|  |  |  |
| --- | --- | --- |
| ▣  Components\_and\_Connections | *shows* | [■  energy-out](#N-8888979696)  [■  material-in](#N-11716028388)  [■  sensor-reading-in](#N-10434910303)  [■  sensor-reading-out](#N-12003715530)  [■  human-machine-interface-server](#N-10800911885)  [■  actuator-energy-in](#N-12128750161)  [■  actuator-control-in](#N-9631676150)  [■  material-out](#N-11853277278)  [■  information-client](#N-11713513889)  [■  energy-in](#N-11262625403)  [■  observed-state-in](#N-8547414597)  [■  observed-state-out](#N-8385651192)  [■  actuator-energy-out](#N-11583368180)  [■  information-server](#N-10280718572)  [■  actuator-control-out](#N-10191202097)  [■  Basic\_System](#N-8476627873)  [■  Information\_Processing](#N-11240396515)  [■  Sensor](#N-10530259236)  [■  Actuator](#N-9924014680) |
| [■  Mechatronic\_System](#N-9886737907) | *has part* | ▣  Components\_and\_Connections |

### ■  Human

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Human |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Human |
| ■  Human | *has part* | [■  human-machine-interface-client](#N-8537115424) |
| ■  Human | *is a* | [■  Actor](#N-8326314579) |

### ●  Actuator\_Information

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Actuator\_Information |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Actuator\_Information |
| ●  Actuator\_Information | *is a* | [●  Information](#N-8027020875) |

### ■  Basic\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Basic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Basic\_System |
| ■  Basic\_System | *has part* | [■  material-in](#N-11716028388)  [■  material-out](#N-11853277278)  [■  energy-out](#N-8888979696)  [■  energy-in](#N-11262625403)  [■  observed-state-out](#N-8385651192)  [■  actuator-energy-in](#N-12128750161) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Basic\_System |
| ■  Basic\_System | *is a* | [■  System](#N-11672198927) |

### ■  Communication\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Communication\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Communication\_System |
| ■  Communication\_System | *has part* | [■  information-client](#N-11713513889)  [■  information-server](#N-10280718572) |
| ■  Communication\_System | *is a* | [■  System](#N-11672198927) |

### ■  Cyber-Physical\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ■  Cyber-Physical\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Cyber-Physical\_System |
| ■  Cyber-Physical\_System | *is a* | [■  Mechatronic\_System](#N-9886737907) |

### ●  Electrical\_Energy

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Electrical\_Energy |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Electrical\_Energy |
| ●  Electrical\_Energy | *associated with* | [electricalEnergy](#N-10244358488) |
| ●  Electrical\_Energy | *is a* | [●  Energy](#N-8293833147) |

### ■  Environment

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Environment |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Environment |
| ■  Environment | *has part* | [■  energy-out](#N-8888979696)  [■  material-out](#N-11853277278)  [■  energy-in](#N-11262625403)  [■  material-in](#N-11716028388) |
| ■  Environment | *is a* | [■  System](#N-11672198927) |

### ●  Energy

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Energy |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Energy |
| ●  Energy | *associated with* | [energy](#N-11400445041) |
| [●  Electrical\_Energy](#N-8004118917) | *is a* | ●  Energy |
| ●  Energy | *is a* | [●  State](#N-8554257095) |

### Function

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | Function |
| [⬚  VDI2206](#N-8181216186) | *has part* | Function |
| [■  System](#N-11672198927) | *associated with* | Function |
| Function | *associated with* | [↯  Requirement](#N-8115193264) |
| Function | *owns a* | [Function](#N-8374252329) |

### ●  Information

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Information |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Information |
| [●  Actuator\_Information](#N-9789090921)  [●  Sensor\_Information](#N-11484556930) | *is a* | ●  Information |
| ●  Information | *is a* | [●  State](#N-8554257095) |

### ■  Information\_Processing

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Information\_Processing |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Information\_Processing |
| ■  Information\_Processing | *has part* | [■  human-machine-interface-server](#N-10800911885)  [■  actuator-control-out](#N-10191202097)  [■  sensor-reading-in](#N-10434910303)  [■  information-client](#N-11713513889)  [■  information-server](#N-10280718572)  [■  energy-in](#N-11262625403) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Information\_Processing |
| ■  Information\_Processing | *is a* | [■  System](#N-11672198927) |

### ●  Material

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Material |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Material |
| [●  Water](#N-9300093352) | *is a* | ●  Material |
| ●  Material | *is a* | [●  State](#N-8554257095) |

### ■  Programmable\_Mechatronic\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ■  Programmable\_Mechatronic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Programmable\_Mechatronic\_System |
| ■  Programmable\_Mechatronic\_System | *is a* | [■  Mechatronic\_System](#N-9886737907) |

### ↯  Requirement

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ↯  Requirement |
| [⬚  VDI2206](#N-8181216186) | *has part* | ↯  Requirement |
| [Function](#N-8374252329) | *associated with* | ↯  Requirement |
| ↯  Requirement | *owns a* | [↯  Requirement](#N-8115193264) |

### ■  Sensor

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Sensor |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Sensor |
| ■  Sensor | *has part* | [■  sensor-reading-out](#N-12003715530)  [■  observed-state-in](#N-8547414597) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Sensor |
| ■  Sensor | *is a* | [■  System](#N-11672198927) |

### ●  Sensor\_Information

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Sensor\_Information |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Sensor\_Information |
| ●  Sensor\_Information | *is a* | [●  Information](#N-8027020875) |

### ■  Simple\_Mechatronic\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ■  Simple\_Mechatronic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Simple\_Mechatronic\_System |
| ■  Simple\_Mechatronic\_System | *is a* | [■  Mechatronic\_System](#N-9886737907) |

### ■  System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  System |
| ■  System | *owns a* | [■  System](#N-11672198927) |
| ■  System | *associated with* | [Function](#N-8374252329) |
| [■  Actuator](#N-9924014680)  [■  Mechatronic\_System](#N-9886737907)  [■  Basic\_System](#N-8476627873)  [■  Communication\_System](#N-11512976268)  [■  Environment](#N-11998033270)  [■  Information\_Processing](#N-11240396515)  [■  Sensor](#N-10530259236) | *is a* | ■  System |
| ■  System | *is a* | [■  Actor](#N-8326314579) |

### ●  Water

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Water |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Water |
| ●  Water | *is a* | [●  Material](#N-10981665481) |

# ⬚  DDP

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  DDP |

# ⬚  LOTAR

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  LOTAR |

# Model Elements (Glossary)

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Model Elements (Glossary) |

### ■  Actuator

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Actuator |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Actuator |
| ■  Actuator | *has part* | [■  energy-in](#N-11262625403)  [■  actuator-control-in](#N-9631676150)  [■  actuator-energy-out](#N-11583368180) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Actuator |
| ■  Actuator | *is a* | [■  System](#N-11672198927) |

### ■  actuator-control-in

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  actuator-control-in |
| [■  Actuator](#N-9924014680) | *has part* | ■  actuator-control-in |

### ■  actuator-control-out

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  actuator-control-out |
| [■  Information\_Processing](#N-11240396515) | *has part* | ■  actuator-control-out |

### ■  actuator-energy-in

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  actuator-energy-in |
| [■  Basic\_System](#N-8476627873) | *has part* | ■  actuator-energy-in |

### ■  actuator-energy-out

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  actuator-energy-out |
| [■  Actuator](#N-9924014680) | *has part* | ■  actuator-energy-out |

### ●  Actuator\_Information

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Actuator\_Information |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Actuator\_Information |
| ●  Actuator\_Information | *is a* | [●  Information](#N-8027020875) |

### ■  Basic\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Basic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Basic\_System |
| ■  Basic\_System | *has part* | [■  material-in](#N-11716028388)  [■  material-out](#N-11853277278)  [■  energy-out](#N-8888979696)  [■  energy-in](#N-11262625403)  [■  observed-state-out](#N-8385651192)  [■  actuator-energy-in](#N-12128750161) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Basic\_System |
| ■  Basic\_System | *is a* | [■  System](#N-11672198927) |

### class

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | class |
| [Resource](#N-9709229031)  [Statement](#N-10978893387)  [Property](#N-11892476719) | *associated with* | class |
| class | *is a* | [SpecIF:ResourceClass](#N-9053657240)  [SpecIF:StatementClass](#N-8356626690)  [SpecIF:PropertyClass](#N-8986676680) |

### ■  Communication\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Communication\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Communication\_System |
| ■  Communication\_System | *has part* | [■  information-client](#N-11713513889)  [■  information-server](#N-10280718572) |
| ■  Communication\_System | *is a* | [■  System](#N-11672198927) |

### ■  Cyber-Physical\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ■  Cyber-Physical\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Cyber-Physical\_System |
| ■  Cyber-Physical\_System | *is a* | [■  Mechatronic\_System](#N-9886737907) |

### dataType

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | dataType |
| [SpecIF:PropertyClass](#N-8986676680) | *associated with* | dataType |
| dataType | *is a* | [SpecIF:DataType](#N-12064264921) |

### ⬚  DDP

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  DDP |

### ●  Electrical\_Energy

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Electrical\_Energy |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Electrical\_Energy |
| ●  Electrical\_Energy | *associated with* | [electricalEnergy](#N-10244358488) |
| ●  Electrical\_Energy | *is a* | [●  Energy](#N-8293833147) |

### electricalEnergy

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | electricalEnergy |
| [●  Electrical\_Energy](#N-8004118917) | *associated with* | electricalEnergy |

### ●  Energy

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Energy |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Energy |
| ●  Energy | *associated with* | [energy](#N-11400445041) |
| [●  Electrical\_Energy](#N-8004118917) | *is a* | ●  Energy |
| ●  Energy | *is a* | [●  State](#N-8554257095) |

### energy

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | energy |
| [●  Energy](#N-8293833147) | *associated with* | energy |

### ■  energy-in

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  energy-in |
| [■  Actuator](#N-9924014680)  [■  Mechatronic\_System](#N-9886737907)  [■  Basic\_System](#N-8476627873)  [■  Environment](#N-11998033270)  [■  Information\_Processing](#N-11240396515) | *has part* | ■  energy-in |

### ■  energy-out

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  energy-out |
| [■  Mechatronic\_System](#N-9886737907)  [■  Basic\_System](#N-8476627873)  [■  Environment](#N-11998033270) | *has part* | ■  energy-out |

### ■  Environment

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Environment |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Environment |
| ■  Environment | *has part* | [■  energy-out](#N-8888979696)  [■  material-out](#N-11853277278)  [■  energy-in](#N-11262625403)  [■  material-in](#N-11716028388) |
| ■  Environment | *is a* | [■  System](#N-11672198927) |

### file

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | file |
| [Property](#N-11892476719) | *associated with* | file |
| file | *is a* | [SpecIF:File](#N-11104024229) |

### ⬚  FMC

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  FMC |
| ⬚  FMC | *has part* | [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054)  [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758)  [contains](#N-8086684257)  [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590)  [modifies](#N-10675468240)  [FMC:requests](#N-9323430886)  [▣  Model Diagram](#N-8224592994)  [SpecIF:Model\_Element](#N-7987372190)  [FMC:succeeds](#N-9458257541)  [FMC:communicates](#N-12039010810)  [FMC:sends](#N-8154897981)  [FMC:receives](#N-7925990474) |

### ■  Actor

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Actor |
| [⬚  FMC](#N-8474539017) | *has part* | ■  Actor |
| [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758)  [contains](#N-8086684257)  [contains](#N-8086684257)  [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590)  [modifies](#N-10675468240)  [FMC:requests](#N-9323430886)  [FMC:requests](#N-9323430886)  [FMC:succeeds](#N-9458257541)  [FMC:succeeds](#N-9458257541)  [FMC:communicates](#N-12039010810)  [FMC:communicates](#N-12039010810)  [FMC:sends](#N-8154897981)  [FMC:sends](#N-8154897981)  [FMC:receives](#N-7925990474)  [FMC:receives](#N-7925990474) | *associated with* | ■  Actor |
| [■  Human](#N-8820363721)  [■  System](#N-11672198927) | *is a* | ■  Actor |
| ■  Actor | *is a* | [SpecIF:Model\_Element](#N-7987372190) |

### ▣  FMC Block Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  FMC Block Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC Block Diagram |
| ▣  FMC Block Diagram | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| ▣  FMC Block Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### FMC:communicates

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:communicates |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:communicates |
| FMC:communicates | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| [FMC:sends](#N-8154897981)  [FMC:receives](#N-7925990474) | *is a* | FMC:communicates |
| FMC:communicates | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### contains

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | contains |
| [⬚  FMC](#N-8474539017) | *has part* | contains |
| contains | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [●  State](#N-8554257095)  [■  Actor](#N-8326314579) |
| contains | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### ▣  FMC:Entity\_Relationship\_Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  FMC:Entity\_Relationship\_Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC:Entity\_Relationship\_Diagram |
| ▣  FMC:Entity\_Relationship\_Diagram | *associated with* | [●  State](#N-8554257095)  [■  Actor](#N-8326314579) |
| ▣  FMC:Entity\_Relationship\_Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### ⬧  Event

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230) | *shows* | ⬧  Event |
| [⬚  FMC](#N-8474539017) | *has part* | ⬧  Event |
| [▣  FMC Petri Net](#N-11518027991)  [▣  UML Activity Diagram](#N-10283736758)  [FMC:succeeds](#N-9458257541)  [FMC:succeeds](#N-9458257541) | *associated with* | ⬧  Event |
| ⬧  Event | *is a* | [SpecIF:Model\_Element](#N-7987372190) |

### modifies

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | modifies |
| [⬚  FMC](#N-8474539017) | *has part* | modifies |
| modifies | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590) | *is a* | modifies |
| modifies | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### ▣  FMC Petri Net

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  FMC Petri Net |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  FMC Petri Net |
| ▣  FMC Petri Net | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054) |
| ▣  FMC Petri Net | *is a* | [▣  Model Diagram](#N-8224592994) |

### FMC:reads

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:reads |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:reads |
| FMC:reads | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| FMC:reads | *is a* | [modifies](#N-10675468240) |

### FMC:receives

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:receives |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:receives |
| FMC:receives | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| FMC:receives | *is a* | [FMC:communicates](#N-12039010810) |

### FMC:requests

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:requests |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:requests |
| FMC:requests | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| FMC:requests | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### FMC:sends

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:sends |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:sends |
| FMC:sends | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579) |
| FMC:sends | *is a* | [FMC:communicates](#N-12039010810) |

### ●  State

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  State |
| [⬚  FMC](#N-8474539017) | *has part* | ●  State |
| [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758)  [contains](#N-8086684257)  [contains](#N-8086684257)  [FMC:writes](#N-8881866255)  [FMC:reads](#N-9834911590)  [modifies](#N-10675468240) | *associated with* | ●  State |
| [●  Energy](#N-8293833147)  [●  Information](#N-8027020875)  [●  Material](#N-10981665481) | *is a* | ●  State |
| ●  State | *is a* | [SpecIF:Model\_Element](#N-7987372190) |

### FMC:succeeds

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:succeeds |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:succeeds |
| FMC:succeeds | *associated with* | [■  Actor](#N-8326314579)  [■  Actor](#N-8326314579)  [⬧  Event](#N-9466336054)  [⬧  Event](#N-9466336054) |
| FMC:succeeds | *is a* | [SpecIF:StatementClass](#N-8356626690) |

### FMC:writes

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | FMC:writes |
| [⬚  FMC](#N-8474539017) | *has part* | FMC:writes |
| FMC:writes | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| FMC:writes | *is a* | [modifies](#N-10675468240) |

### Function

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | Function |
| [⬚  VDI2206](#N-8181216186) | *has part* | Function |
| [■  System](#N-11672198927) | *associated with* | Function |
| Function | *associated with* | [↯  Requirement](#N-8115193264) |
| Function | *owns a* | [Function](#N-8374252329) |

### ■  Human

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Human |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Human |
| ■  Human | *has part* | [■  human-machine-interface-client](#N-8537115424) |
| ■  Human | *is a* | [■  Actor](#N-8326314579) |

### ■  human-machine-interface-client

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  human-machine-interface-client |
| [■  Human](#N-8820363721) | *has part* | ■  human-machine-interface-client |

### ■  human-machine-interface-server

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  human-machine-interface-server |
| [■  Mechatronic\_System](#N-9886737907)  [■  Information\_Processing](#N-11240396515) | *has part* | ■  human-machine-interface-server |

### ●  Information

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Information |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Information |
| [●  Actuator\_Information](#N-9789090921)  [●  Sensor\_Information](#N-11484556930) | *is a* | ●  Information |
| ●  Information | *is a* | [●  State](#N-8554257095) |

### ■  information-client

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  information-client |
| [■  Mechatronic\_System](#N-9886737907)  [■  Communication\_System](#N-11512976268)  [■  Information\_Processing](#N-11240396515) | *has part* | ■  information-client |

### ■  information-server

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  information-server |
| [■  Mechatronic\_System](#N-9886737907)  [■  Communication\_System](#N-11512976268)  [■  Information\_Processing](#N-11240396515) | *has part* | ■  information-server |

### ■  Information\_Processing

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Information\_Processing |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Information\_Processing |
| ■  Information\_Processing | *has part* | [■  human-machine-interface-server](#N-10800911885)  [■  actuator-control-out](#N-10191202097)  [■  sensor-reading-in](#N-10434910303)  [■  information-client](#N-11713513889)  [■  information-server](#N-10280718572)  [■  energy-in](#N-11262625403) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Information\_Processing |
| ■  Information\_Processing | *is a* | [■  System](#N-11672198927) |

### ↯  Requirement

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ↯  Requirement |
| [⬚  VDI2206](#N-8181216186) | *has part* | ↯  Requirement |
| [Function](#N-8374252329) | *associated with* | ↯  Requirement |
| ↯  Requirement | *owns a* | [↯  Requirement](#N-8115193264) |

### ⬚  LOTAR

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  LOTAR |

### ●  Material

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Material |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Material |
| [●  Water](#N-9300093352) | *is a* | ●  Material |
| ●  Material | *is a* | [●  State](#N-8554257095) |

### ■  material-in

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  material-in |
| [■  Mechatronic\_System](#N-9886737907)  [■  Basic\_System](#N-8476627873)  [■  Environment](#N-11998033270) | *has part* | ■  material-in |

### ■  material-out

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  material-out |
| [■  Mechatronic\_System](#N-9886737907)  [■  Basic\_System](#N-8476627873)  [■  Environment](#N-11998033270) | *has part* | ■  material-out |

### ■  Mechatronic\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  Mechatronic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Mechatronic\_System |
| ■  Mechatronic\_System | *has part* | [▣  Components\_and\_Connections](#N-7861219829)  [■  material-out](#N-11853277278)  [■  material-in](#N-11716028388)  [■  energy-out](#N-8888979696)  [■  energy-in](#N-11262625403)  [■  information-client](#N-11713513889)  [■  information-server](#N-10280718572)  [■  human-machine-interface-server](#N-10800911885) |
| ■  Mechatronic\_System | *owns a* | [■  Basic\_System](#N-8476627873)  [■  Information\_Processing](#N-11240396515)  [■  Sensor](#N-10530259236)  [■  Actuator](#N-9924014680) |
| [■  Cyber-Physical\_System](#N-12113483900)  [■  Programmable\_Mechatronic\_System](#N-11781185189)  [■  Simple\_Mechatronic\_System](#N-10687971633) | *is a* | ■  Mechatronic\_System |
| ■  Mechatronic\_System | *is a* | [■  System](#N-11672198927) |

### node

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | node |
| [SpecIF:Node](#N-9406818339) | *owns a* | node |
| node | *is a* | [SpecIF:Node](#N-9406818339) |

### object

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | object |
| [Statement](#N-10978893387) | *associated with* | object |
| object | *is a* | [Resource](#N-9709229031) |

### objectClasses

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230)  [▣  SpecIF](#N-11625251085) | *shows* | objectClasses |
| [SpecIF:StatementClass](#N-8356626690) | *associated with* | objectClasses |
| objectClasses | *is a* | [SpecIF:ResourceClass](#N-9053657240) |

### ■  observed-state-in

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  observed-state-in |
| [■  Sensor](#N-10530259236) | *has part* | ■  observed-state-in |

### ■  observed-state-out

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  observed-state-out |
| [■  Basic\_System](#N-8476627873) | *has part* | ■  observed-state-out |

### ■  Programmable\_Mechatronic\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ■  Programmable\_Mechatronic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Programmable\_Mechatronic\_System |
| ■  Programmable\_Mechatronic\_System | *is a* | [■  Mechatronic\_System](#N-9886737907) |

### property

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | property |
| [Resource](#N-9709229031)  [Statement](#N-10978893387) | *owns a* | property |
| property | *is a* | [Property](#N-11892476719) |

### propertyClass

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [▣  SpecIF](#N-11625251085) | *shows* | propertyClass |
| [SpecIF:ResourceClass](#N-9053657240)  [SpecIF:StatementClass](#N-8356626690) | *owns a* | propertyClass |
| propertyClass | *is a* | [SpecIF:PropertyClass](#N-8986676680) |

### resource

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | resource |
| [SpecIF:Node](#N-9406818339) | *associated with* | resource |
| resource | *is a* | [Resource](#N-9709229031) |

### ⬚  SE-Top (SpecIF)

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  SE-Top (SpecIF) |
| ⬚  SE-Top (SpecIF) | *has part* | [▣  SpecIF](#N-11625251085)  [Resource](#N-9709229031)  [Statement](#N-10978893387)  [SpecIF:ResourceClass](#N-9053657240)  [SpecIF:StatementClass](#N-8356626690)  [SpecIF:Node](#N-9406818339)  [SpecIF:File](#N-11104024229)  [Property](#N-11892476719)  [SpecIF:PropertyClass](#N-8986676680)  [SpecIF:DataType](#N-12064264921) |

### ■  Sensor

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  Sensor |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Sensor |
| ■  Sensor | *has part* | [■  sensor-reading-out](#N-12003715530)  [■  observed-state-in](#N-8547414597) |
| [■  Mechatronic\_System](#N-9886737907) | *owns a* | ■  Sensor |
| ■  Sensor | *is a* | [■  System](#N-11672198927) |

### ■  sensor-reading-in

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  sensor-reading-in |
| [■  Information\_Processing](#N-11240396515) | *has part* | ■  sensor-reading-in |

### ■  sensor-reading-out

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Port |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Components\_and\_Connections](#N-7861219829) | *shows* | ■  sensor-reading-out |
| [■  Sensor](#N-10530259236) | *has part* | ■  sensor-reading-out |

### ●  Sensor\_Information

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Sensor\_Information |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Sensor\_Information |
| ●  Sensor\_Information | *is a* | [●  Information](#N-8027020875) |

### ■  Simple\_Mechatronic\_System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688) | *shows* | ■  Simple\_Mechatronic\_System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  Simple\_Mechatronic\_System |
| ■  Simple\_Mechatronic\_System | *is a* | [■  Mechatronic\_System](#N-9886737907) |

### SpecIF:DataType

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:DataType |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:DataType |
| [dataType](#N-8747233993) | *is a* | SpecIF:DataType |

### SpecIF:File

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:File |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:File |
| [file](#N-8616412231) | *is a* | SpecIF:File |

### SpecIF:Model\_Element

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230) | *shows* | SpecIF:Model\_Element |
| [⬚  FMC](#N-8474539017) | *has part* | SpecIF:Model\_Element |
| [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054) | *is a* | SpecIF:Model\_Element |
| SpecIF:Model\_Element | *is a* | [SpecIF:ResourceClass](#N-9053657240) |

### SpecIF:Node

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:Node |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:Node |
| SpecIF:Node | *associated with* | [resource](#N-10043463311) |
| SpecIF:Node | *owns a* | [node](#N-10042466679) |
| [node](#N-10042466679) | *is a* | SpecIF:Node |

### Property

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | Property |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | Property |
| Property | *associated with* | [file](#N-8616412231)  [class](#N-10198901598) |
| [property](#N-8331415083) | *is a* | Property |

### SpecIF:PropertyClass

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:PropertyClass |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:PropertyClass |
| SpecIF:PropertyClass | *associated with* | [dataType](#N-8747233993) |
| [propertyClass](#N-9416826229)  [class](#N-10198901598) | *is a* | SpecIF:PropertyClass |

### Resource

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | Resource |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | Resource |
| Resource | *associated with* | [class](#N-10198901598) |
| Resource | *owns a* | [property](#N-8331415083) |
| [subject](#N-8914643408)  [object](#N-9457294858)  [resource](#N-10043463311) | *is a* | Resource |

### SpecIF:ResourceClass

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404)  [▣  FMC Relations](#N-10680217230)  [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:ResourceClass |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:ResourceClass |
| SpecIF:ResourceClass | *owns a* | [propertyClass](#N-9416826229) |
| [▣  Model Diagram](#N-8224592994)  [SpecIF:Model\_Element](#N-7987372190)  [class](#N-10198901598)  [objectClasses](#N-11932331571)  [subjectClasses](#N-8097585855) | *is a* | SpecIF:ResourceClass |

### Statement

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | Statement |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | Statement |
| Statement | *associated with* | [subject](#N-8914643408)  [object](#N-9457294858)  [class](#N-10198901598) |
| Statement | *owns a* | [property](#N-8331415083) |

### SpecIF:StatementClass

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230)  [▣  SpecIF](#N-11625251085) | *shows* | SpecIF:StatementClass |
| [⬚  SE-Top (SpecIF)](#N-8616682308) | *has part* | SpecIF:StatementClass |
| SpecIF:StatementClass | *associated with* | [objectClasses](#N-11932331571)  [subjectClasses](#N-8097585855) |
| SpecIF:StatementClass | *owns a* | [propertyClass](#N-9416826229) |
| [contains](#N-8086684257)  [modifies](#N-10675468240)  [FMC:requests](#N-9323430886)  [FMC:succeeds](#N-9458257541)  [FMC:communicates](#N-12039010810)  [class](#N-10198901598) | *is a* | SpecIF:StatementClass |

### ▣  Model Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  Model Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  Model Diagram |
| [▣  FMC Block Diagram](#N-11784872831)  [▣  FMC Petri Net](#N-11518027991)  [▣  FMC:Entity\_Relationship\_Diagram](#N-9047185869)  [▣  UML Class Diagram](#N-11260199291)  [▣  UML Activity Diagram](#N-10283736758) | *is a* | ▣  Model Diagram |
| ▣  Model Diagram | *is a* | [SpecIF:ResourceClass](#N-9053657240) |

### subject

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  SpecIF](#N-11625251085) | *shows* | subject |
| [Statement](#N-10978893387) | *associated with* | subject |
| subject | *is a* | [Resource](#N-9709229031) |

### subjectClasses

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Relations](#N-10680217230)  [▣  SpecIF](#N-11625251085) | *shows* | subjectClasses |
| [SpecIF:StatementClass](#N-8356626690) | *associated with* | subjectClasses |
| subjectClasses | *is a* | [SpecIF:ResourceClass](#N-9053657240) |

### ■  System

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ■  System |
| [⬚  VDI2206](#N-8181216186) | *has part* | ■  System |
| ■  System | *owns a* | [■  System](#N-11672198927) |
| ■  System | *associated with* | [Function](#N-8374252329) |
| [■  Actuator](#N-9924014680)  [■  Mechatronic\_System](#N-9886737907)  [■  Basic\_System](#N-8476627873)  [■  Communication\_System](#N-11512976268)  [■  Environment](#N-11998033270)  [■  Information\_Processing](#N-11240396515)  [■  Sensor](#N-10530259236) | *is a* | ■  System |
| ■  System | *is a* | [■  Actor](#N-8326314579) |

### ▣  UML Activity Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  UML Activity Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  UML Activity Diagram |
| ▣  UML Activity Diagram | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095)  [⬧  Event](#N-9466336054) |
| ▣  UML Activity Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### ▣  UML Class Diagram

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  FMC Diagrams and Model Elements](#N-10911557404) | *shows* | ▣  UML Class Diagram |
| [⬚  FMC](#N-8474539017) | *has part* | ▣  UML Class Diagram |
| ▣  UML Class Diagram | *associated with* | [■  Actor](#N-8326314579)  [●  State](#N-8554257095) |
| ▣  UML Class Diagram | *is a* | [▣  Model Diagram](#N-8224592994) |

### ⬚  VDI2206

#### Properties

|  |  |
| --- | --- |
| *Element Type* | Package |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Ontology Layers](#N-8555885582) | *shows* | ⬚  VDI2206 |
| ⬚  VDI2206 | *has part* | [▣  Mechatronic\_System\_Design](#N-8955848688)  [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476)  [■  Actuator](#N-9924014680)  [■  Mechatronic\_System](#N-9886737907)  [■  Human](#N-8820363721)  [●  Actuator\_Information](#N-9789090921)  [■  Basic\_System](#N-8476627873)  [■  Communication\_System](#N-11512976268)  [■  Cyber-Physical\_System](#N-12113483900)  [●  Electrical\_Energy](#N-8004118917)  [■  Environment](#N-11998033270)  [●  Energy](#N-8293833147)  [Function](#N-8374252329)  [●  Information](#N-8027020875)  [■  Information\_Processing](#N-11240396515)  [●  Material](#N-10981665481)  [■  Programmable\_Mechatronic\_System](#N-11781185189)  [↯  Requirement](#N-8115193264)  [■  Sensor](#N-10530259236)  [●  Sensor\_Information](#N-11484556930)  [■  Simple\_Mechatronic\_System](#N-10687971633)  [■  System](#N-11672198927)  [●  Water](#N-9300093352) |

### ●  Water

#### Properties

|  |  |
| --- | --- |
| *Element Type* | uml:Class |

#### Statements

|  |  |  |
| --- | --- | --- |
| [▣  Mechatronic\_System\_and\_its\_Environment](#N-8556726476) | *shows* | ●  Water |
| [⬚  VDI2206](#N-8181216186) | *has part* | ●  Water |
| ●  Water | *is a* | [●  Material](#N-10981665481) |