

AutomationML Components from Festo



<AutomationML/>
The Glue for Seamless
Automation Engineering





component
supplier

FESTO

Mathias
Wiegand

Digital
Business
Projects

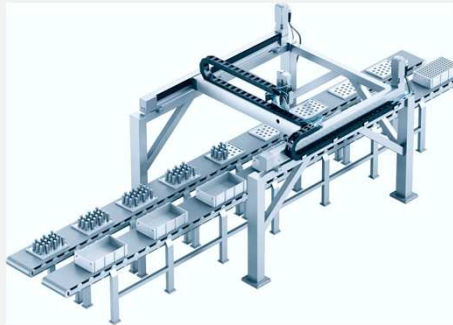
member
of AML e.V.
since 2014

Data Exchange between Engineering Partners

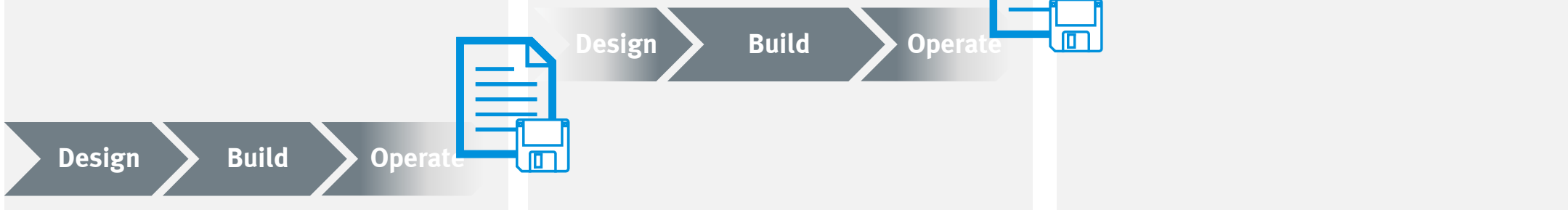
Supplier



Integrator



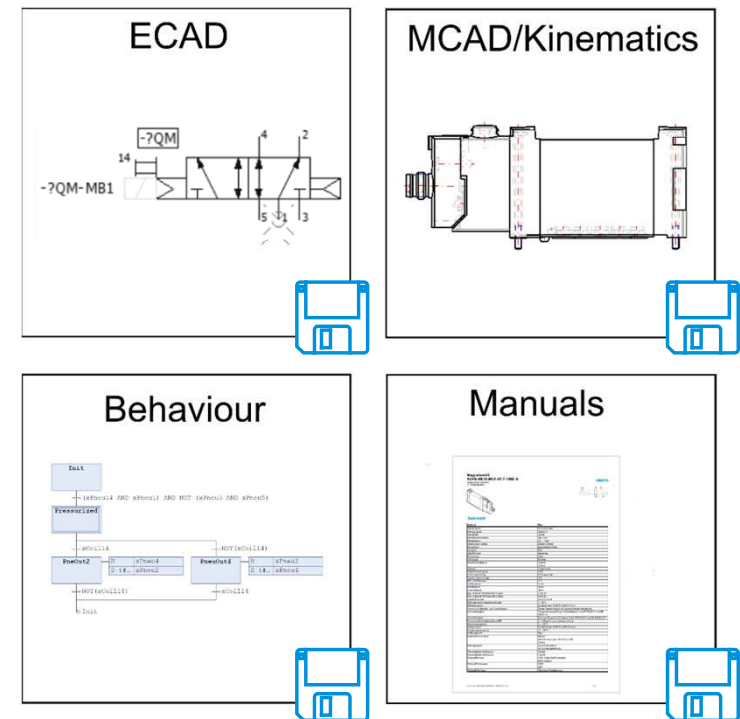
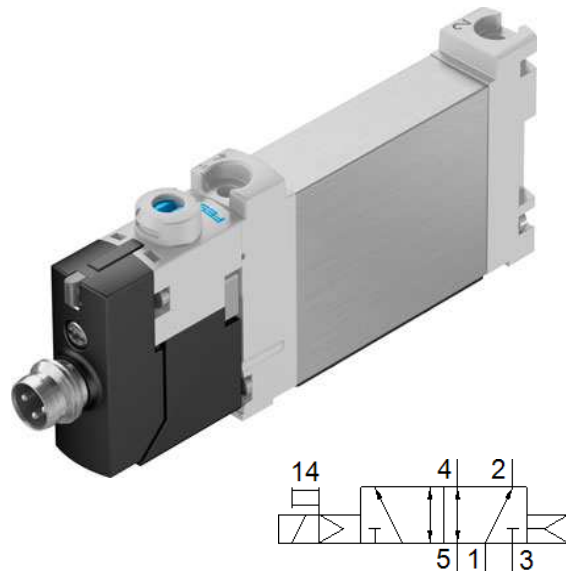
Operator



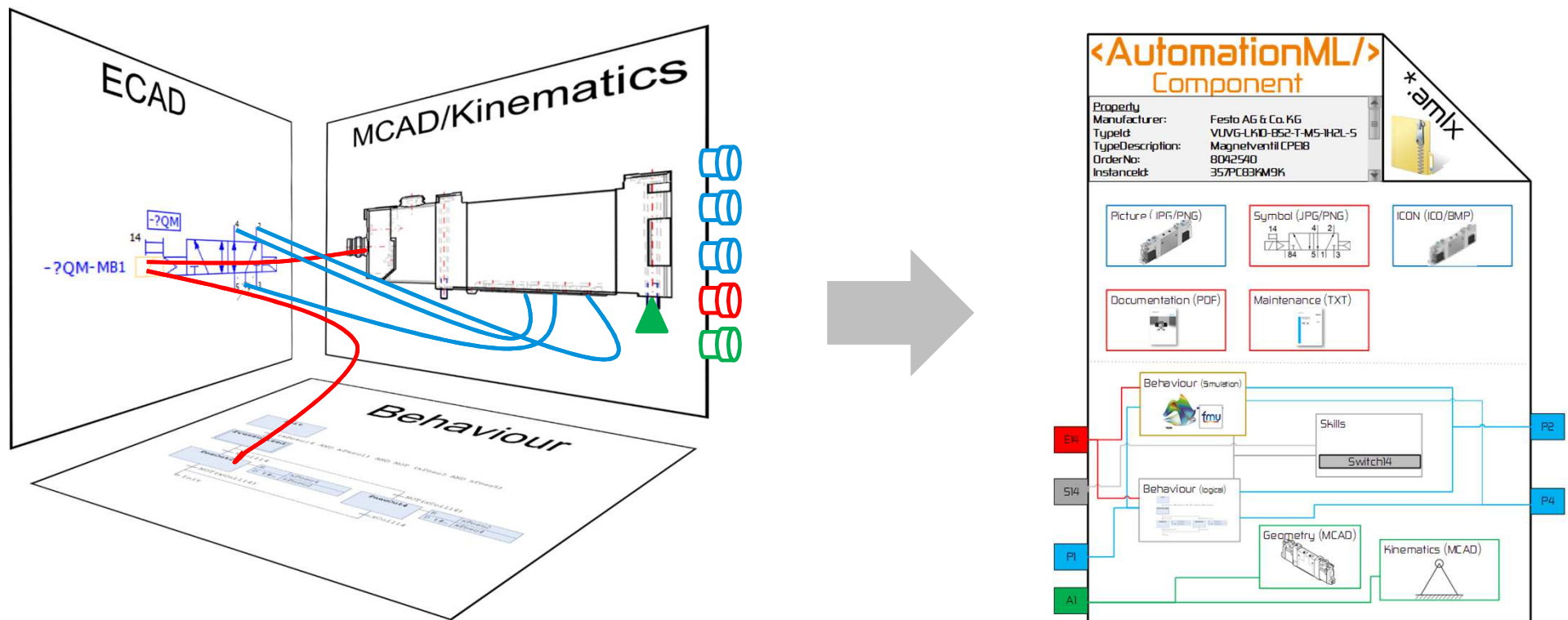
Supplier: Digital Representation for Engineering – state of the art

Festo solenoid valve VUVG-BK10-M52-AT-F-1R8L-S

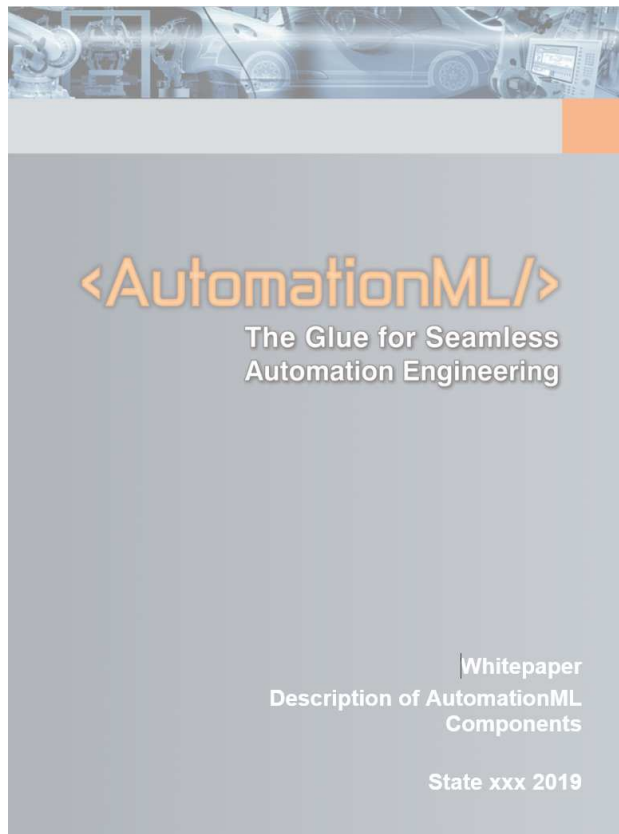
Engineering Data Exchange Files (excerpt)



AutomationML Component: Cross-domain and interconnected Engineering Container for Exchange



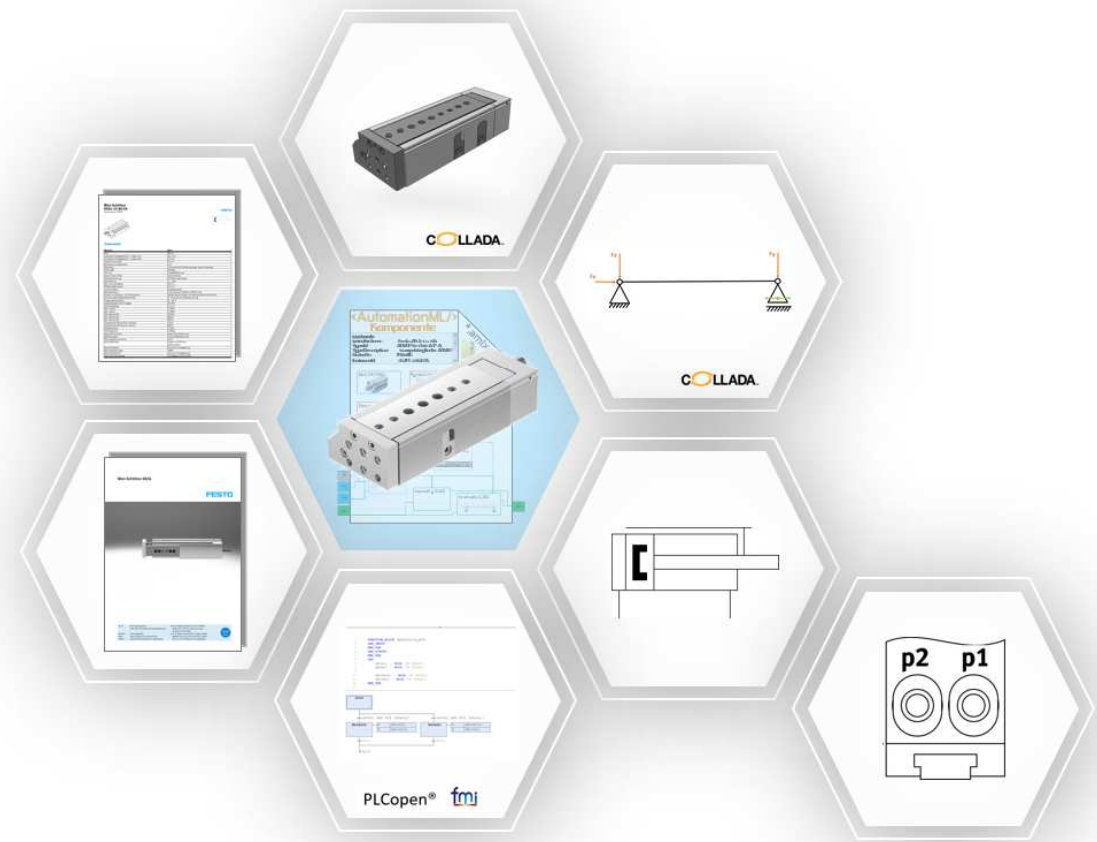
Whitepaper: AutomationML Components



- AutomationMLComponentBaseRCL
 - MaintenanceDescription{Class: AutomationMLBaseRole }
 - Function{Class: LogicObject }
 - Model{Class: AutomationMLBaseRole }
 - Documentation{Class: ExternalData }
 - ExternalDataReference{Class: ExternalDataReference }
 - KinematicModel{Class: Model }
 - BehaviourModel{Class: Model }
 - GeometryModel{Class: Model }
 - GraphicRepresentation{Class: ExternalData }
 - GraphicRepresentationReference{Class: GraphicRepresentationReference }
 - Icon{Class: GraphicRepresentation }
 - Symbol{Class: GraphicRepresentation }
 - AdditionalDeviceDescription{Class: ExternalData }
 - DeviceDescriptionReference{Class: DeviceDescriptionReference }
 - Connector{Class: AutomationMLBaseRole }
 - AutomationMLComponentStandardRCL
 - MaintenanceDescriptionGroup{Class: MaintenanceDescription }
 - MaintenanceDescriptionItem{Class: MaintenanceDescription }
 - AutomationComponent{Class: AutomationMLBaseRole }
 - Sequence{Class: Function }
 - LogicInterface{Class: LogicInterface }
 - VariableInterface{Class: VariableInterface }

Contents of an AutomationML Component

- ▲ **SUC** FestoAsset { **Role:** AutomationComponent }
 - ▲ **SUC** DGSL-25-200-PA { **Class:** FestoAsset }
 - ▲ **IE** KinematicModel { **Role:** COLLADAKinematicModel }
 - **COLLADAInterface** { **Class:** COLLADAInterface }
 - ▷ **IE** AttachmentSlide { **Role:** COLLADAKinematicAttachment }
 - ▷ **IE** AttachmentRearBase { **Role:** COLLADAKinematicAttachment }
 - ▲ **IE** GeometryModel { **Role:** GeometryModel }
 - **COLLADAInterface** { **Class:** COLLADAInterface }
 - ▷ **IE** AttachmentSlide { **Role:** COLLADAGeometryAttachment }
 - ▷ **IE** AttachmentRearBase { **Role:** COLLADAGeometryAttachment }
 - ▲ **IE** Behaviour { **Role:** PLCopenBehaviourModel }
 - Behaviour { **Class:** LogicInterface }
 - P1 { **Class:** VariableInterface }
 - P2 { **Class:** VariableInterface }
 - MoveIn { **Class:** VariableInterface }
 - MoveOut { **Class:** VariableInterface }
 - ▲ **IE** Connectors
 - ▲ **IE** MechanicalConnectors { **Role:** MechanicConnector }
 - Slide { **Class:** MechanicInterface }
 - Base { **Class:** MechanicInterface }
 - SensorSlot1 { **Class:** MechanicInterface }
 - SensorSlot2 { **Class:** MechanicInterface }
 - ▲ **IE** PneumaticConnectors
 - PneumaticPort1 { **Class:** PneumaticConnector }
 - PneumaticPort2 { **Class:** PneumaticConnector }



Why the AutomationML Component is important for Festo

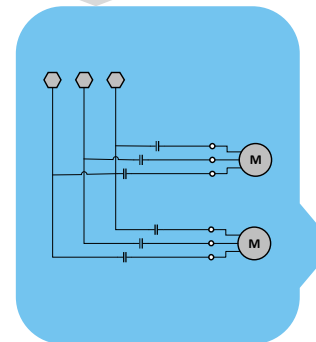


correctly configured

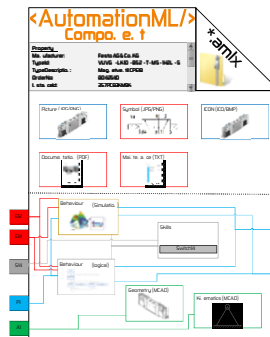
MCAD



ECAD

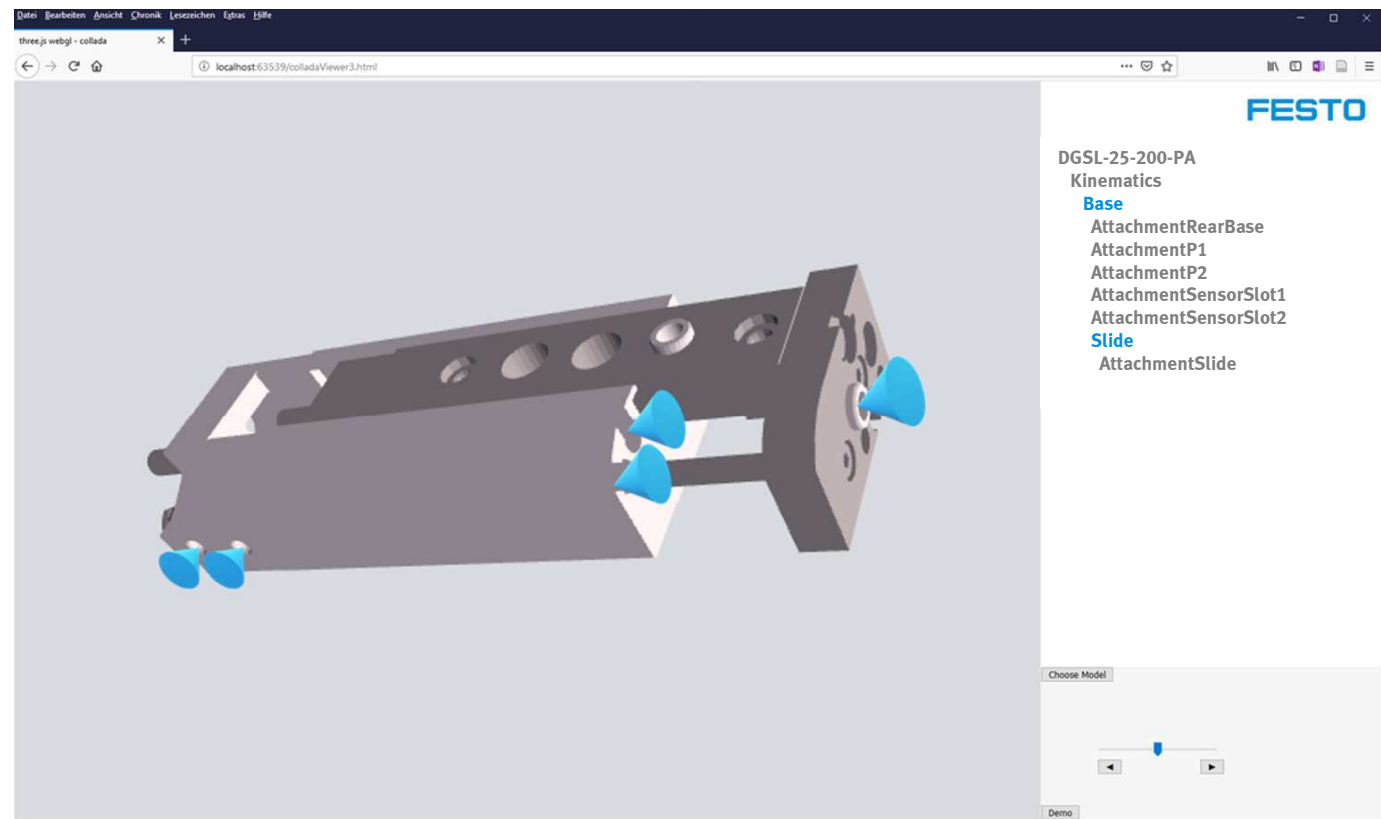
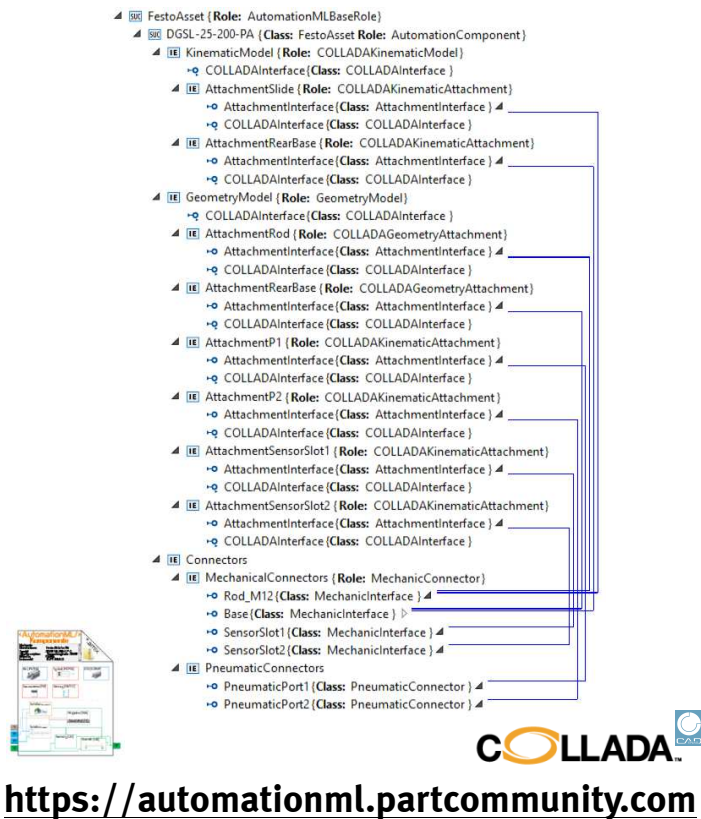


Behaviour

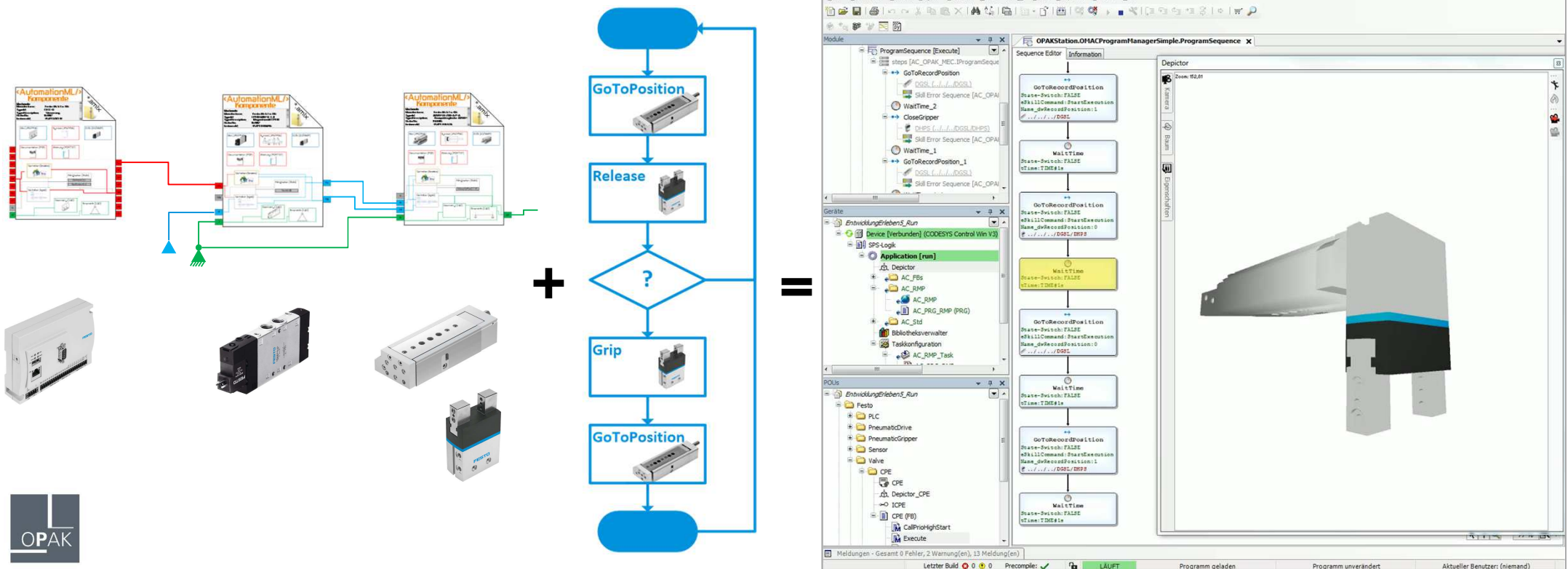


```
FUNCTION_BLOCK BehavPLC
VAR_INPUT
END_VAR
VAR_OUTPUT
END_VAR
VAR
xPneu1 : BOOL := FALSE;
xPneu2 : BOOL := FALSE;
END_VAR
```


AutomationML Example of Use: Geometry und Kinematics



AutomationML Example of Use: Synthesis of PLC Code



Thank You!

*Workshop this afternoon:
AutomationML Components
from the Scratch*

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