1 Process-Product-Resource Concept

Short Description	This example shows a simple AutomationML document (2.0) which illustrates the Product-Process-Resource concept. AutomationML defines the Base-RoleClasses Resource, Product and Process and the Base-Interface PPRConnector. These classes could be used to model the Process-Product-Resource Relations. The Example contains: • The AutomationMLBaseRoleClassLib with RoleClasses 'Resource', 'Product' and 'Process'. • The AutomationMLInterfaceClassLib with InterfaceClass 'PPRConnector'. • A SystemUnitClassLib with three SystemUnitClasses, using the RoleClasses and InterfaceClasses providing a Product-Process-Resource-model. • An InstanceHierarchy with three InternalElements instanciated from the SystemUnitClasses This example illustrates the Product-Process-Resource concept defining components for a conveyor system. The resource – component is the Internal Element, named 'RollerConveyor'. The process – component is the Internal Element, named 'Transportation' and the product – component is the Internal Element, named 'Pallet'. The assigned and supported roles of these components are accordingly. Since we like to model, that the transportation process is related to the conveyor resource and to the pallet product, according interface definitions are needed. The 'Transportation' component has one interface named 'Resource', which could be used to associate the conveyor resource and one interface named 'Product', which is intended to link the pallet component. The resource - component and the product – component each have interfaces that make them associable to the other components as well. All Interfaces are derived from the standard-InterfaceClass 'PPRConnector' which is intented to support the PPR (Product-Process-Resource) - Concept.
	The used AutomationML-Libraries are included via external references.
Specification Part,	Part 1 – Architecture
Reference Documents	AutomationML Whitepaper Part 1 -Architecture
Screen Shot AutomationML Editor	Instance Hierarchy IH ConveyorSystem IE RollerConveyor { Class: RollerConveyor Role: Resource} Interfaces Product { Class: PPRConnector} Process { Class: PPRConnector} IE Transportation { Class: Transportation Role: Process} Resource { Class: PPRConnector} Product { Class: PPRConnector} Product { Class: PPRConnector} Resource { Class: PPRConnector} IE Pallet { Class: PPRConnector} Resource { Class: PPRConnector} Process { Class: PPRConnector}

Used Libraries ■ RutomationMLBaseRoleClassLib ■ Role AutomationMLBaseRole { Class: } Role Group { Class: AutomationMLBaseRole} Role Facet { Class: AutomationMLBaseRole} Role Port (Class: AutomationMLBaseRole) Role Resource (Class: AutomationMLBaseRole) Role Product (Class: AutomationMLBaseRole) Role Process (Class: AutomationMLBaseRole) ▶ Role Structure { Class: AutomationMLBaseRole} Role PropertySet { Class: AutomationMLBaseRole} ■ AutomationMLInterfaceClassLib ■ AutomationMLBaseInterface { Class: } Order { Class: AutomationMLBaseInterface} PortConnector { Class: AutomationMLBaseInterface} InterlockingConnector { Class: AutomationMLBaseInterface} PPRConnector { Class: AutomationMLBaseInterface} ExternalDataConnector { Class: AutomationMLBaseInterface}