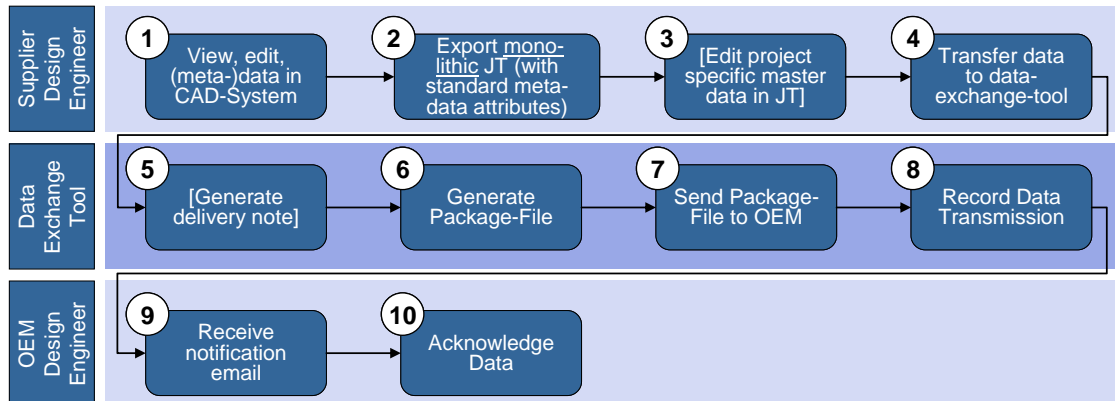


## Use Case: JT for Supplier Integration (Supplier to OEM)

### Sub UC1: Early phases

<b>Aim</b>	Send a monolithic JT (enveloping surface and connection points, no inner structure) with all needed metadata to the OEM.
<b>Actors</b>	OEM Design Engineer (Sender) – Integrate supplier part in model of module / car (positioning of part in context has to be done manually) Data Exchange Tool – Secure and traceable exchange of engineering data Supplier Design Engineer (Receiver) – Construct (CAD-model of) supplier part
<b>Preconditions</b>	Data source: 3D-CAD-Systems were defined as data source. The different 3D-CAD-systems were defined in the workgroup or in inhouse test. Conversion: JT Files were exported using a JT translator (defined by workgroup or inhouse tester) Data quality: JT-data has to be quality checked against a defined checkprofil. The quality check will ensure the completeness of masterdata, geometry (e.g. open faces), colours etc. Every time JT contents were created – even if they were created on the fly – the have to be quality checked (maybe in batch process).
<b>Optional Preconditions</b>	Metadata: Units of Measurement (weight, length), surface area, material thickness, volume, material information, center of gravity and moment of inertia. JT File version: Because of long term archiving reasons the same JT Fileversion should be used as in ISO PAS (currently version 8.1).
<b>Description</b>	If a part or assembly shall be send to an OEM, the Design Engineer checks and possibly edits the meta-data of that part or assembly in the CAD-system. Then, he exports a <u>monolithic JT</u> containing standard meta-data (master data) and geometry (enveloping surface with connection points, no inner structure). Optionally project specific masterdata is added to the monolithic JT. ( <u>Precondition</u> : He checks the data quality of the monolithic JT in a tool (e.g. <i>Q-Checker</i> ) with respect to the criteria given by an OEM the data should be send to). Finally, the Design Engineer transfers the data to the Data Exchange Tool (e.g. <i>SWAN</i> ). While doing this, he enters the properties for the data transmission (e.g. receiver). The Data Exchange Tool optionally generates a delivery note containing the results of the quality check. It generates a package file (e.g. <i>.tar-packet</i> ) containing all data that should be send to the OEM. This package file is then send by the tool to the data receiver (Design Engineer on OEM site). The Data Exchange Tool records the whole data exchange operation. This enables the traceability of actions afterwards. The receiver on OEM site and the sender on supplier site will receive an email notification when the data package arrived. The notification contains information about sender and receiver and the content of the package file as well as a link to the data. The receiver follows the link and stores the data. By doing this he acknowledges the data-transfer.
<b>Alternatives</b>	JT for Supplier Integration (OEM to Supplier)
<b>Postconditions</b>	JT and metadata can be used in development process on OEM site.

**Diagram**



**Benefits** CAD data exchange is independent from CAD systems.

Smaller data volume of JT-files.

Interiors of supplier part are hidden.

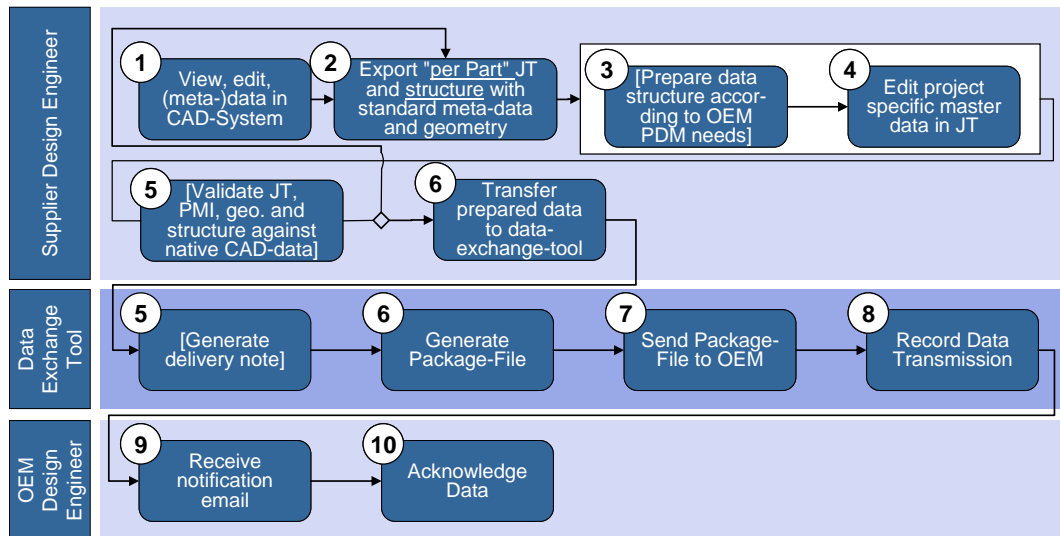
**Notes** Instead of a DFÜ-Tool a web based platform could be used, to easy data exchange with suppliers.

## Use Case: JT for Supplier Integration (Supplier to OEM)

### Sub UC2: Project phases

<b>Aim</b>	Send a “per Part” JT (enveloping surface and connection points, <u>no inner structure</u> , but with further fixing and context relevant data) with all needed metadata to the OEM.
<b>Actors</b>	OEM Design Engineer (Sender) – Integrate supplier part in model of module / car (optimum: no manual positioning has to be done) Data Exchange Tool – Secure and traceable exchange of engineering data Supplier Design Engineer (Receiver) – Construct (CAD-model of) supplier part
<b>Preconditions</b>	Data source: 3D-CAD-Systems were defined as data source. The different 3D-CAD-system types were defined in the workgroup or in inhouse test. Conversion: JT Files were exported using a JT translator (defined by workgroup or inhouse tester) Data quality: JT-data has to be quality checked against a defined checkprofil. The quality check will ensure the completeness of masterdata, geometry (e.g. open faces), colours etc. Every time JT contents were created – even if they were created on the fly – the have to be quality checked (maybe in batch process).
<b>Optional Preconditions</b>	Metadata: Units of Measurement (weight, length), surface area, material thickness, volume, material information, center of gravity and moment of inertia. JT File version: Because of long term archiving reasons the same JT Fileversion should be used as in ISO PAS (Version 8.1).
<b>Description</b>	If a part or assembly shall be send to an OEM, the Design Engineer checks and possibly edits the meta-data of that part or assembly in the CAD-system. Then, he exports “Per Part” JTs containing relevant master data and geometry. Project specific masterdata is added to the JTs. JT files should contain enveloping surface with connection points - <u>no inner part structure</u> - but content information and possibly surrounding parts (for mounting, fixing). ( <u>Precondition</u> : He checks the data quality of the “Per Part” JTs in a tool (e.g. <i>Q-Checker</i> ) with respect to the criteria given by an OEM the data should be send to). He (optionally) validates all JT files against the native 3D-CAD-files in case of geometry and metadata (incl. PMI). Finally, the Design Engineer transfers the data to the Data Exchange Tool (e.g. <i>SWAN</i> ). While doing this, he enters the properties for the data transmission (e.g. receiver). The Data Exchange Tool optionally generates a delivery note containing the results of the quality check. It generates a package file (e.g. <i>.tar-packet</i> ) containing all data that should be send to the OEM. This package file is then send by the tool to the data receiver (Design Engineer on OEM site). The Data Exchange Tool records the whole data exchange operation. This enables the traceability of actions afterwards. The receiver on OEM site and the sender on supplier site will receive an email notification when the data package arrived. The notification contains information about sender and receiver and the content of the package file as well as a link to the data. The receiver follows the link and stores the data. By doing this he acknowledges the data-transfer.
<b>Alternatives</b>	JT for Supplier Integration (OEM to Supplier)
<b>Postconditions</b>	JT and metadata can be used in development process on OEM site.

**Diagram**



**Benefits**

CAD data exchange is independent from CAD systems.  
 Smaller data volume of JT-files.

Interiors of supplier part are hidden.

**Notes**

Instead of a DFÜ-Tool a web based platform could be used, to easy data exchange with suppliers.