



# 3DEXPERIENCE® CONFERENCE

SEPTEMBER 14-15  
DARMSTADT | GERMANY

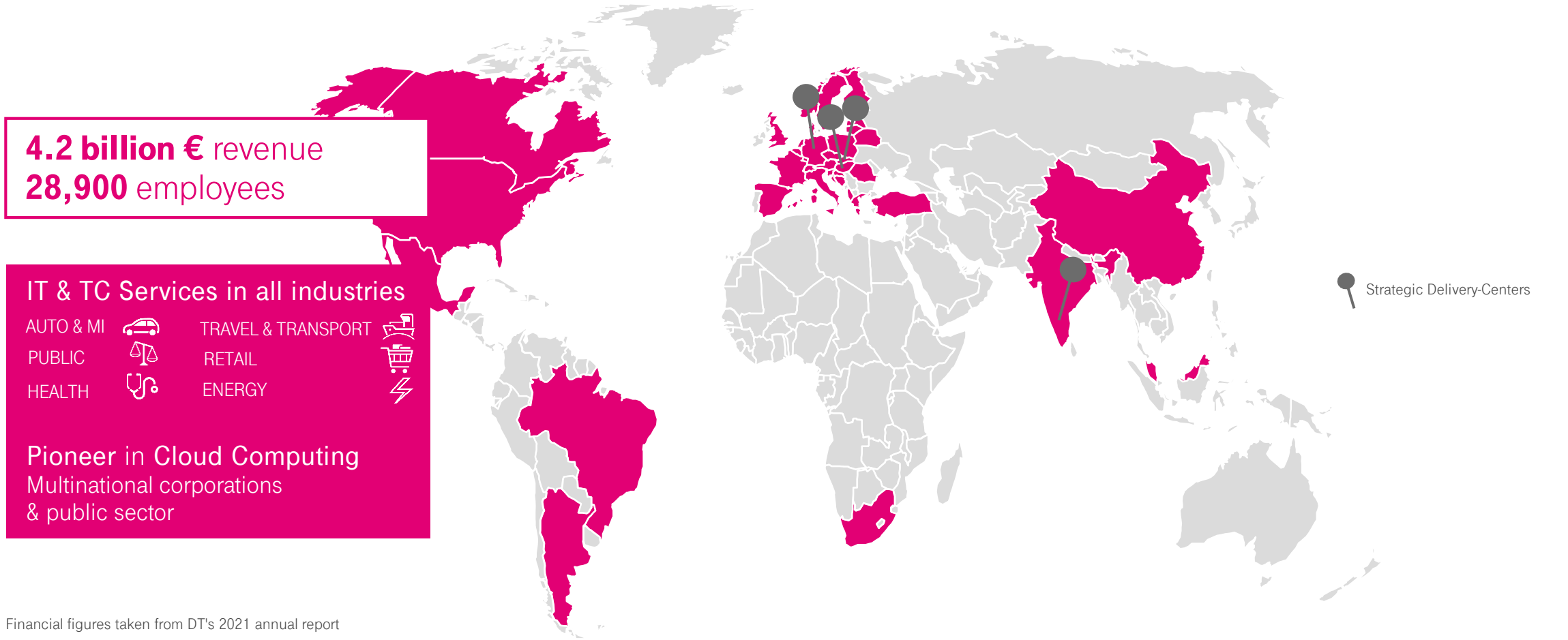
**From migration to coexistence  
(Teamcenter / 3DEXPERIENCE Integration)**  
Breaking the silos with 3DEXPERIENCE Openness technology

Patrick Aretz  
Product Manager CAX Integration Solutions

Svilen Georgiev  
Product Manager PDM WebConnector  
T-Systems International GmbH



# T-Systems – Deutsche Telekom’s Subsidiary for Major Corporations



Financial figures taken from DT's 2021 annual report

# Customer Project

**Teamcenter / 3DEXPERIENCE Integration at Jaguar Land Rover**

# Jaguar Land Rover

## PLM Migration Toolset



### Customer

**Jaguar Land Rover**, owned by **Tata Motors Limited**, is the **UK's largest automotive manufacturing business**, built around two British car brands. Production sites are located in the UK, India and China with local assembly facilities in Kenya, Malaysia, Pakistan and Turkey. Jaguar Land Rover employs a team of 26,000 people globally and supports more than 190,000 UK jobs through the supply chain, dealer network and wider economy.

### The Challenge

- Migrate up to two million vehicle structure datasets from existing Teamcenter Engineering system to 3DEXPERIENCE Product Lifecycle Management (PLM) within the next three years
- Phased migration of sixteen complete vehicle programs from Teamcenter to 3DEXPERIENCE with systems coexisting during migration and with bi-directional synchronization of modified data

### The Solution

- Consulting services and toolset to perform the phased migration
- Definition and implementation of dedicated migration processes executed with the T-Systems product PDM WebConnector
- Implementation of bi-directional synchronization
- Migration of PDM (part master, product structure, configuration data) and CAD data, including background data conversion during migration

### The Benefits

- Increased efficiency through consolidation of disparate CAD and manufacturing systems in single Product Lifecycle Management solution
- No interruption to normal business during phased transition from Teamcenter to 3DEXPERIENCE
- Traceability of migrated vehicle structures at process level
- Allows system coexistence for smooth and flexible transition of vehicle programs

# Project Overview

## Initial Situation

### Motivation of iPLM project

- Replace inherited PLM landscape
- Reduce of about 400 interfaces and unify the scattered PLM landscape
- A single PLM system to control design by marketing and configuration

### Initial situation 2014 when T-Systems joined the project

- The **Enovia 2014 VPM** customization project was in its final phase
- T-Systems' responsibility was CAD data migration from **Teamcenter 2007.1** to **Enovia 2014**

### Remarks:

- Decision to switch from a **big bang** to a **coexistence model** to mitigate the risk for the company
- T-Systems is the provider of the migration and integration solution
- The migration itself is performed and operated by third party service provider and steered by JLR business

# Project Phases and Tasks

## From 2014 to 2015 – Initial Migration Phase

- Migration of CAD product structures from Teamcenter 2007.1 to Enovia 2014
- Migration of configuration information from Teamcenter as reference in Enovia 2014

## From 2016 until 2017 – Transition Phase

- Reverse migration of design structures back to Teamcenter
- Maintenance of the integration
- Upgrade of solution to support 3DEXPERIENCE 2017x

## From 2018 to now – Coexistence Phase

- Migration of Teamcenter CAD product structure (precise) to VPLM/UPS (unified product structure)
- Migration of Teamcenter configuration and imprecise configured structure to 3DEXPERIENCE configuration
- Reverse migration of Product Structures and Documents from 3DEXPERIENCE to Teamcenter
- Reverse migration of 3DEXPERIENCE configurations to Teamcenter

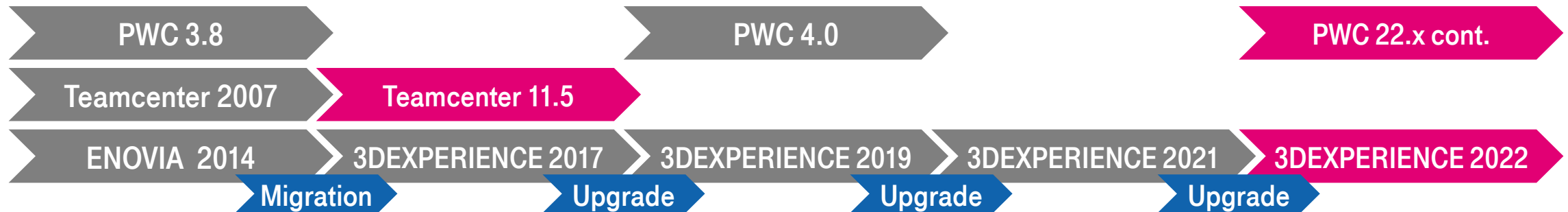
# Coexistence and Integration

2018 to now

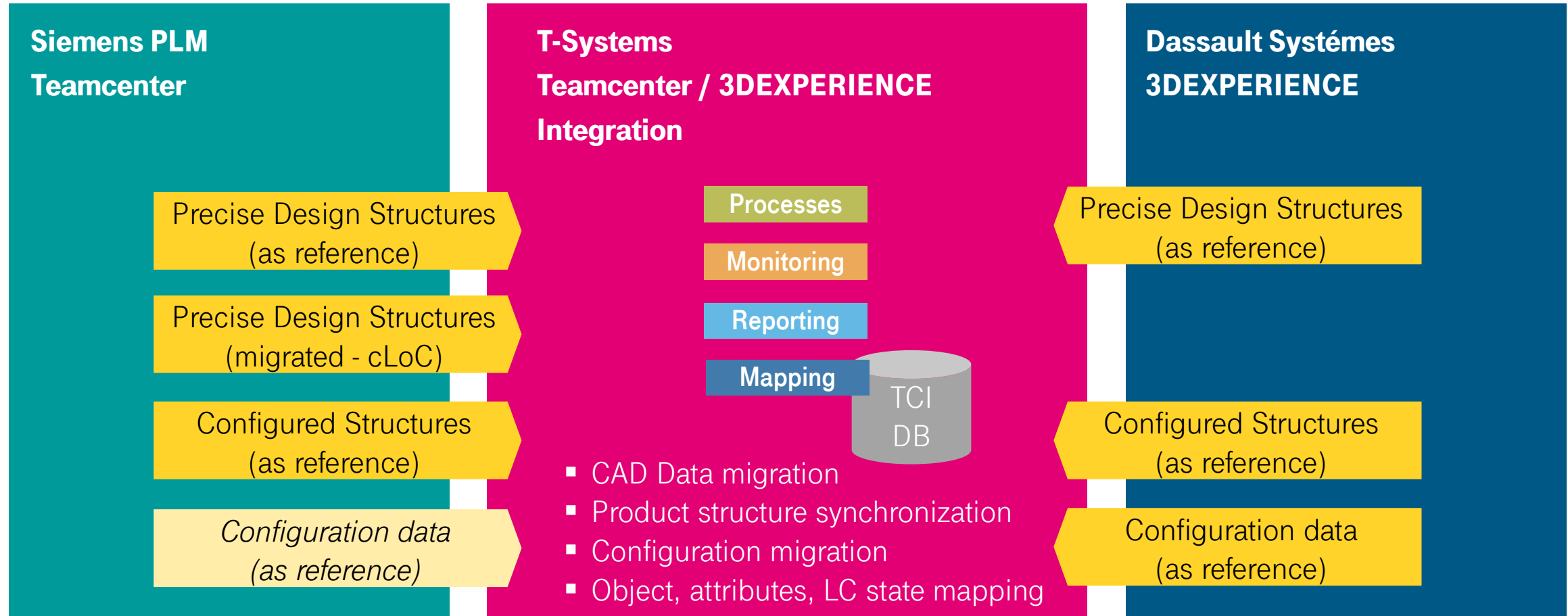
- 3DEXPERIENCE is used as central configuration and design system for all new and current vehicle programs
- Joint design in 3DEXPERIENCE and in Teamcenter
- Teamcenter is still used for design and downstream processes (e.g., management of supplier data)
- **Data supply for manufacturing is now done directly from 3DEXPERIENCE with the DigiBuck JT supply solution!**

**Project maintenance mode; enhancements and updates are provided as required.**

- Process enhancements
- Adaptation to data model changes in 3DEXPERIENCE (e.g., UBOM data model)
- Continuous PLM system upgrades and updates of the Migration Platform PDM-WebConnector



# Integration Solution Overview





# Integration Solution

## Implemented Processes

### Teamcenter to 3DEXPERIENCE

- Migrate Program with Variant Conditions (imprecise configured vehicle structure)
- Migrate Design with list-based processing
- Delta migration and scheduled migration
- Change of system ownership (cLoC), rights and roles logic (P&O)

### 3DEXPERIENCE to Teamcenter

- Migrate Configuration with Effectivity information
- Migrate Design with life cycle state and revision mapping
- Delta migration and scheduled migration

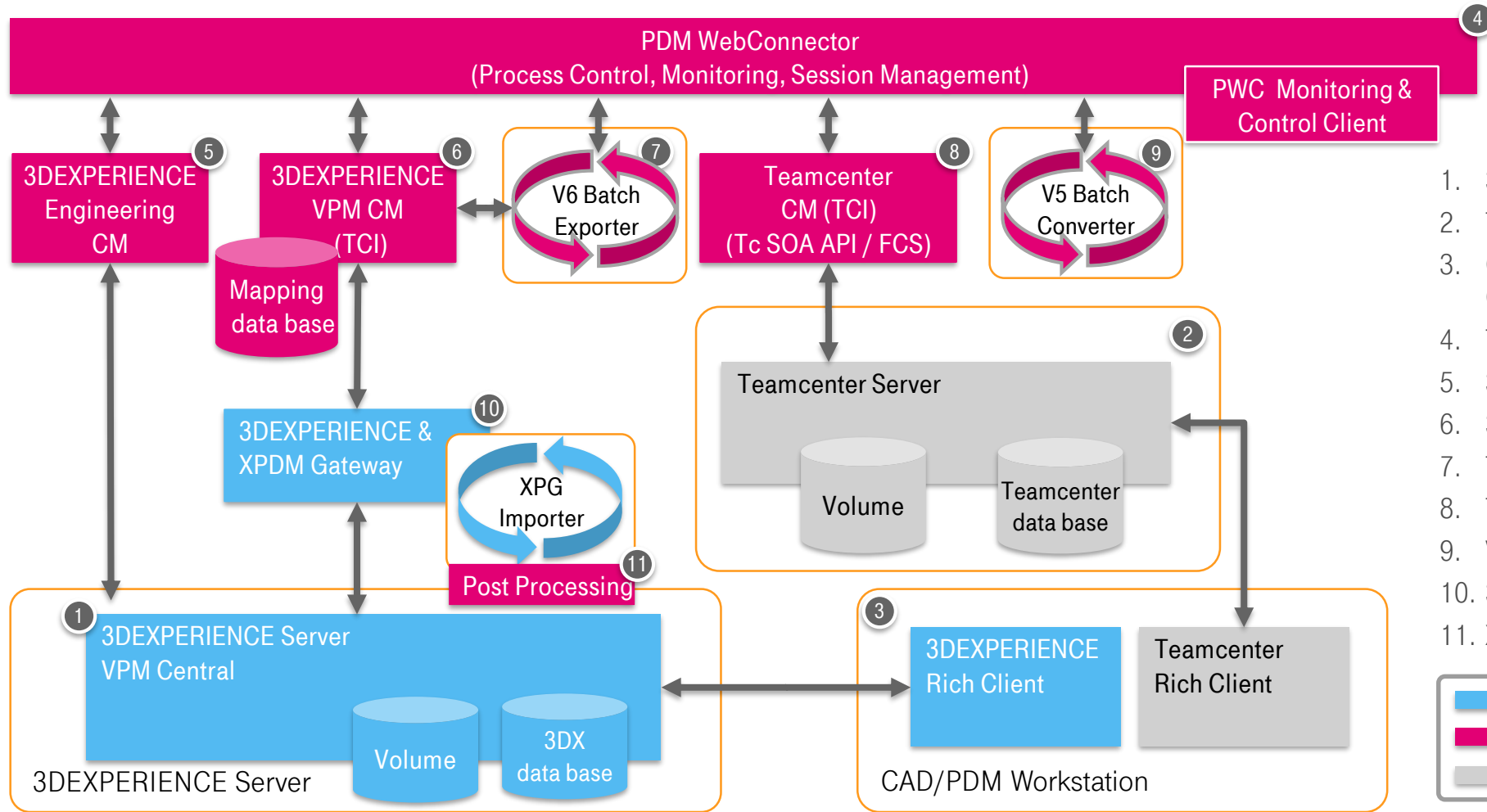
### Configuration export and import in Teamcenter and 3DEXPERIENCE

- |                          |                        |
|--------------------------|------------------------|
| ▪ Configuration Features | ▪ Options and Values   |
| ▪ Product Configuration  | ▪ Variant Rules        |
| ▪ Effectivity migration  | ▪ Variant Conditions   |
| ▪ Event State            | ▪ “Date” Revision Rule |

#### Configuration mapping

No Revision Rules in 3DEXPERIENCE  
No Event States in Teamcenter

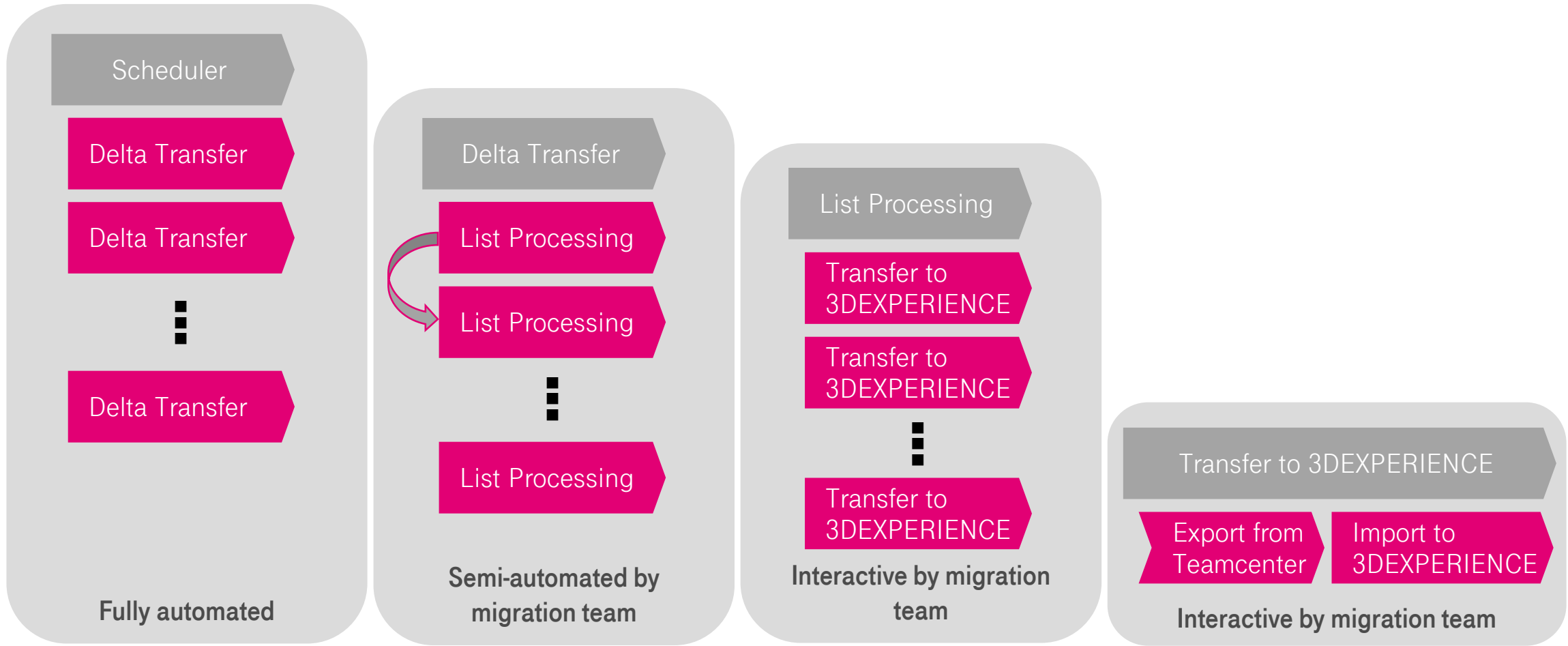
# Integration Architecture



1. 3DEXPERIENCE Server System
2. Teamcenter server system
3. CAD workstations:  
CATIA V6 & Teamcenter client
4. T-Systems SOA backbone
5. 3DEXPERIENCE Engineering CM
6. 3DEXPERIENCE XPDM CM (TCI)
7. TSI3DXBatch (V6 CAA batch)
8. TCI Teamcenter CM
9. V5 processing (V5 CAA batch)
10. 3DEXPERIENCE XPDM Gateway
11. XPDM Import Post Processing

# TCI – 3DEXPERIENCE Teamcenter Integration

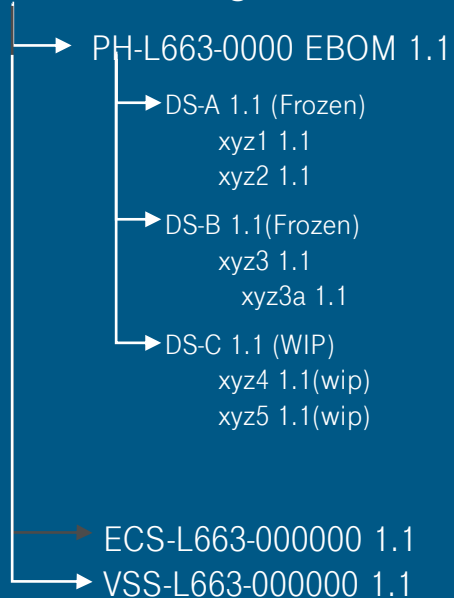
## Aggregation of Migration Processes



# DigiBuck Solution Overview

## Dassault Systèmes 3DEXPERIENCE

### PRG-L663-PG Programme node 1.1



## T-Systems

### Data Supply and Conversion for DigiBuck

Powered by PDM WebConnector & COMFOX

Extract

Transform

Convert

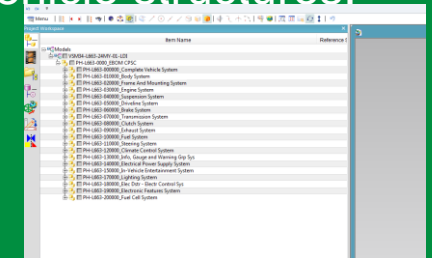
Provide

Full-sized vehicle program supported incl:

- All business types
- Configured and non-configured EBOM
- VSM, VSS & ECS
- Grouping by Model Year, ...

## JLR DigiBuck

- The Jaguar Land Rover (JLR) in-house solution DigiBuck is a DMU infrastructure based on Teamcenter Visualization and JT format.
- It allows business users to review all designs of vehicle structures.



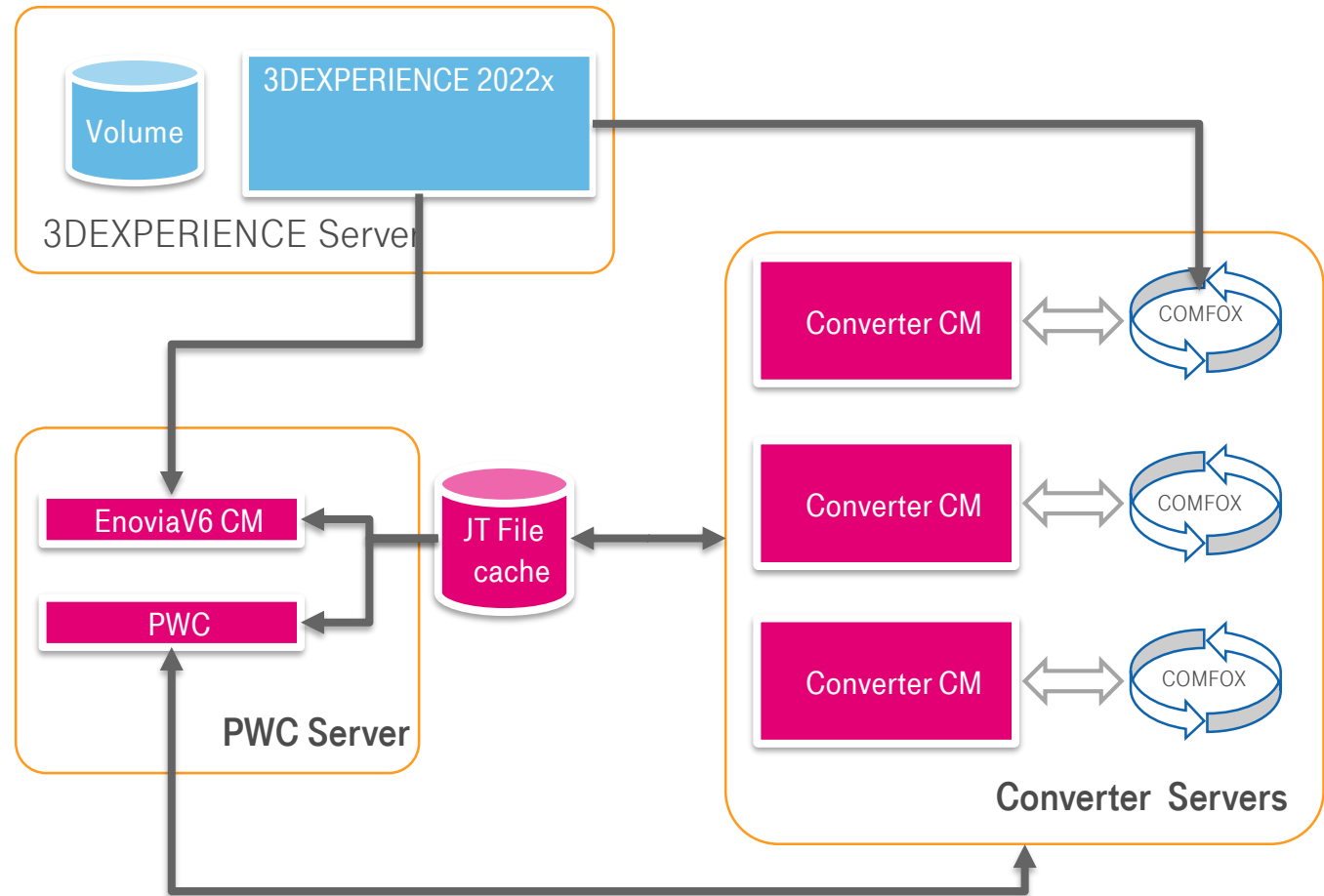
# Architecture for JLR DigiBuck

## Value 4 JLR

The JLR migration project and DigiBuck are utilized by:

- Same 3DX platform
- Same T-Systems technology stack
- Same trustful partners - Dassault Systèmes & T-Systems
- With high grade of re-use of technology, methods and expertise from the migration project

It ensures the long-term project success and business user satisfaction



# T-Systems

# PLM Products

**as used in the project**

# T-Systems Software used in the Integration Solution

## TEAMCENTER 3DEXPERIENCE INTEGRATION (TCI)



Is plugged into the PDM WebConnector

- Connects to XPDM interface for CAD migration
- Interfaces Teamcenter via SOA API / FCC
- **Postprocessing** and validation of imported product structures in 3DEXPERIENCE
- **3DEXPERIENCE batch processing** for CAD file export, Folder creation, Filter expand, Effectivity export and import

Other available PLM systems

Aras Innovator, CIM Database

## 3D DATA CONVERSION (COMFOX)



- JT XCAD to V6 Converter
- Best-in-class JT converter for CATIA
- Imports and export of JT data

## CENTRAL INTEGRATION PLATFORM (PDM WEBCONNECTOR)



- Orchestrates migration processes
- Integrates batch processes
- Connectivity to 3DEXPERIENCE Enterprise layer
- Admin client to run and to configure the integration
- Exports 1) Product Structures from 3DEXPERIENCE  
2) Config. structure data from Teamcenter
- Exports and imports 3DEXPERIENCE config data

Other available OOTB Connectivity

Aras Innovator, DOORS, 3DEXPERIENCE, Integrity, SAP, Teamcenter, Windchill, ...

Use cases: PDM/PDM/ERP integration, sync, migration

Seamless integration on data, functional & process level

## COMRECONV5 V5 BATCH TOOL

- Streamline and clean-up of CATIA V5 data with the exported Teamcenter product structure

# T-Systems – The perfect fit for your needs

Thank you!



[product.support@t-systems.com](mailto:product.support@t-systems.com)



<https://plm.t-systems-service.com/en/>



**T · · Systems ·**

**PATRICK ARETZ**

PLM Product Manager

**T-SYSTEMS INTERNATIONAL GMBH**

Fasanenweg 5

70771 Leinfelden-Echterdingen, Germany

Tel: +49 711 999 8377

Mob.: +49 151 1171 6922

[Patrick.Aretz@t-systems.com](mailto:Patrick.Aretz@t-systems.com)

**T · · Systems ·**

**SVILEN GEORGIEV**

PLM Product Manager

**T-SYSTEMS INTERNATIONAL GMBH**

Fasanenweg 5

70771 Leinfelden-Echterdingen, Germany

Tel: +49 711 999 9977

Mob.: +49 151 1172 4063

[Svilen.Georgiev@t-systems.com](mailto:Svilen.Georgiev@t-systems.com)

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higher performance