

Leverage the asset of big data

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GLOBAL PRODUCT DATA INTEROPERABILITY **S U M M I T** 2014



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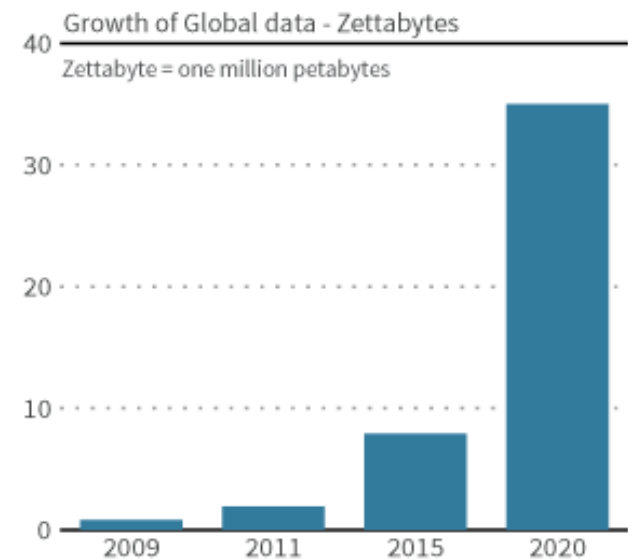
What is BIG DATA?

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Big data is the synonym for the analysis of a *huge amount* of data from *various sources* in *high performance* with the aim of getting *more economic benefit* out of it.

The data sets are becoming so large and complex that it gets difficult to process them using on-hand data management tools or traditional data processing applications.

**Big data, big value ...
huge opportunity**



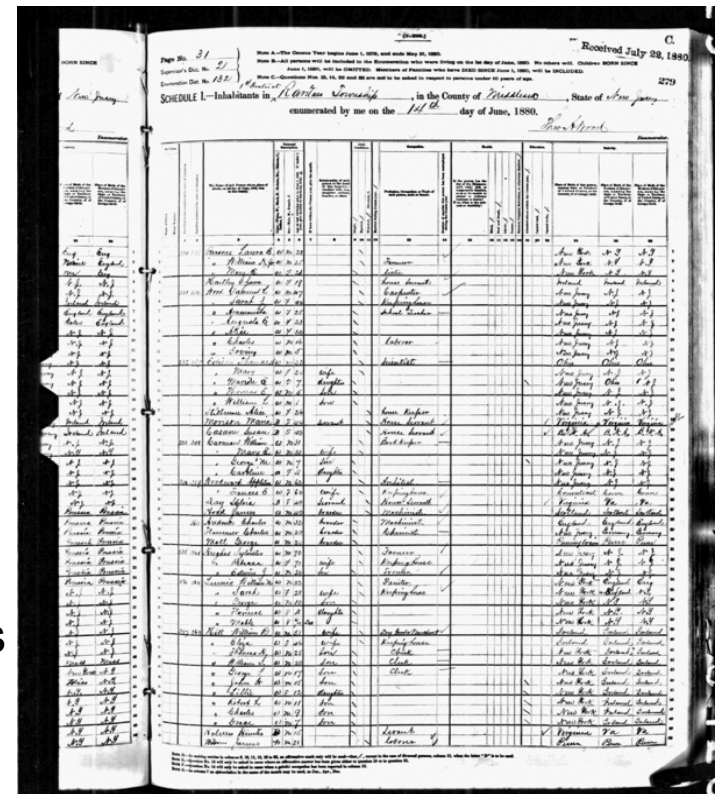
Source: Reuters

What is BIG DATA?

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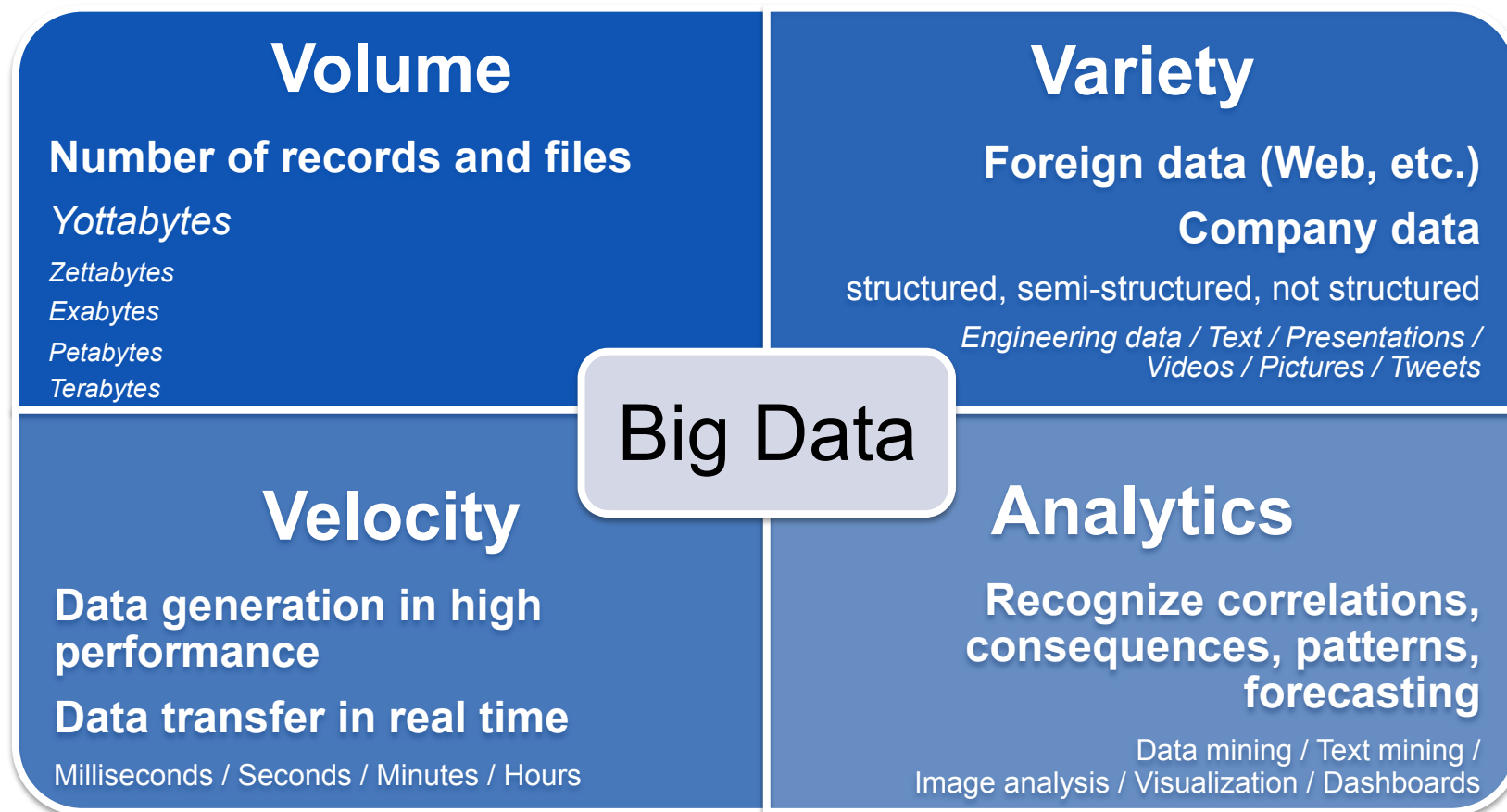
The first big data project: 1880 United States Census

- More than 50 million people have been asked for
 - Demographic data, e.g. age, gender
 - Mortality, civil status, birthplace of the parents
 - Tax data and infrastructure
- The analysis and processing of the data took seven years
- Herman Hollerith was ordered to develop a tabulating machine for the Census in 1890
- With 43 Hollerith machines and 500 employees the Census of 1890 was analyzed in two years



Big data elements

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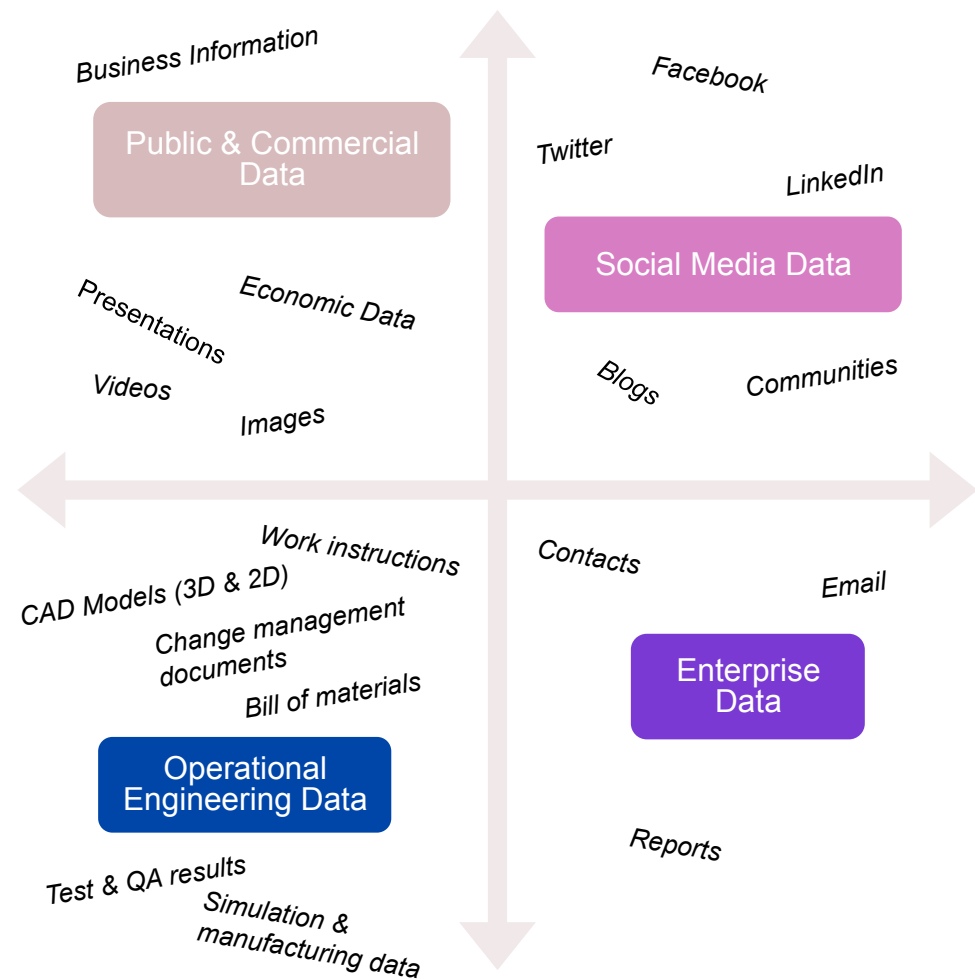
Volume

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- It may (but not always) involve terabytes to petabytes (and beyond) of data

Challenges:

Companies have **difficulties identifying the right data** and determining how to best use it



Variety

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- The data comes from many resources
- Much data today is not natively in structured format
- The ownership of data is fragmented across the organization



Challenges:

Transforming such content into a **structured format** for later analysis is a major challenge

Velocity

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- Mass of data is not mandatorily a problem if you have enough time for the analysis. But do you really have it?

Challenges:

- Quicker analysis (real-time processing)
- Short response times (concurrent queries)
- Analysis of different information types (numbers, text, images)



Analytics

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- Transformation of data in valuable information
- Uncover hidden patterns, unknown correlations and other useful information



Challenges:

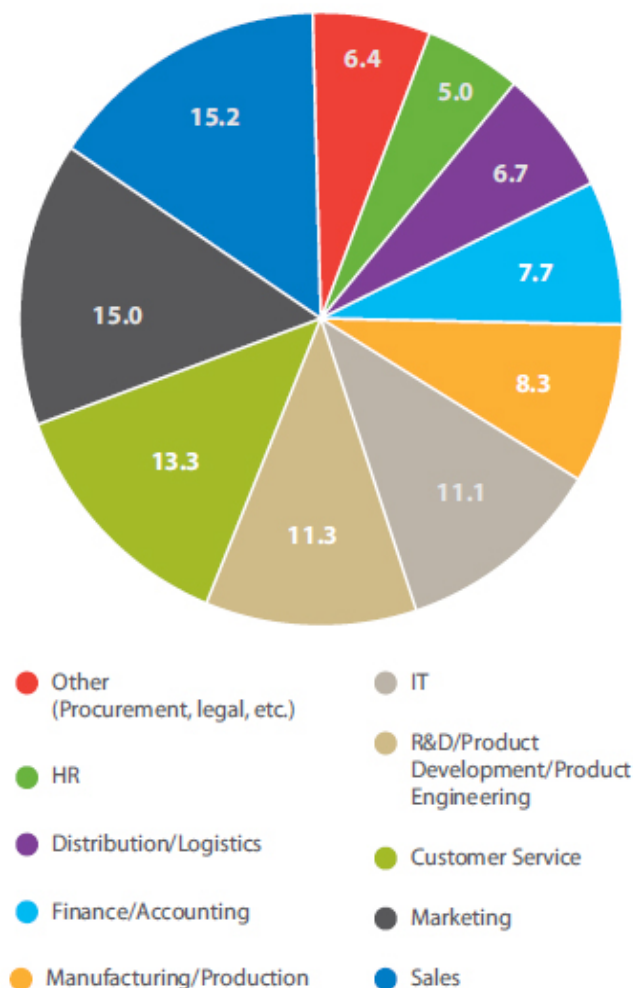
- Selecting the right data out of all internal and external sources
- Veracity and quality of data

Big data benefits

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Can you estimate the huge value of all the data in your company?

- Opportunities to capitalize on Big Data exist in numerous corners of a large and global company
- Transcat's focus is mostly in **Engineering** and **Manufacturing**

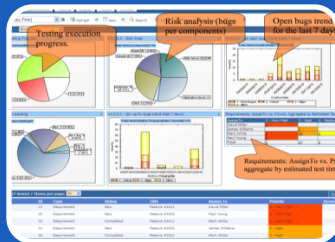


(Source: Survey of TCS 2013)

Big data benefits

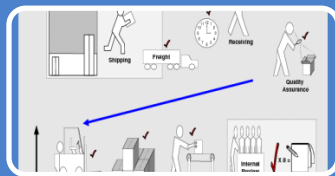
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• Greatest benefits for Engineering and Manufacturing



Product quality / Defect tracking

- Better detection of defects in design and manufacturing
- Monitoring of product data quality
- Boost quality
- Reducing unnecessary iterations in product development, e.g. design time, design improvements by defining company standards and embedding industry standards



Drive efficiency across the extended enterprise

- Increasing the efficiency of engineering and manufacturing processes
- Integration of datasets from multiple systems to enable effective and consistent collaboration



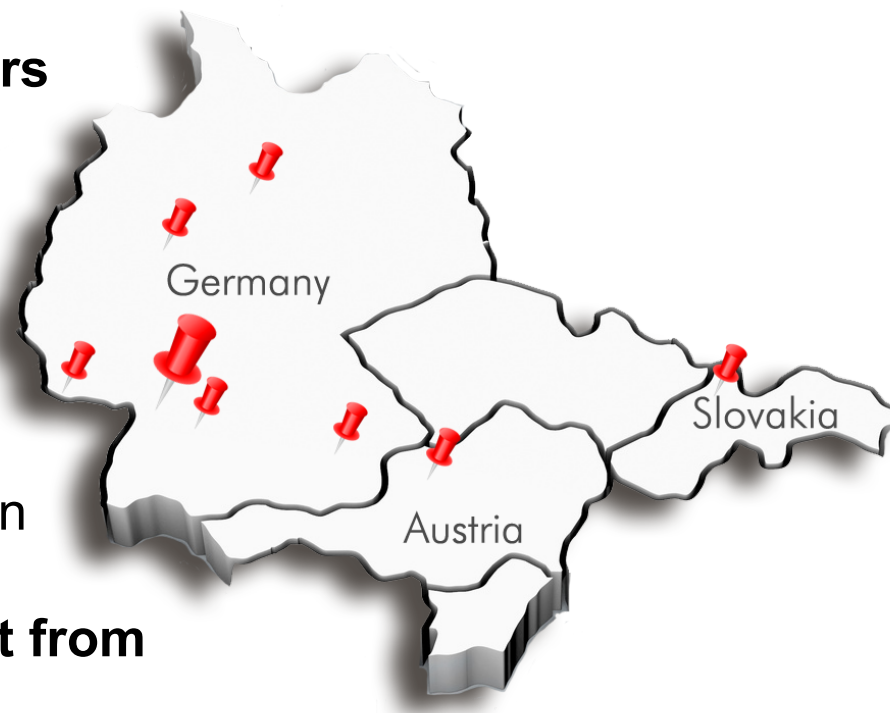
Supply planning and supplier performance data

- Improve relationship with suppliers
- Better contract negotiations

Transcat Company Profile

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- **More than 2,000 global customers**
- **200+ employees at 7 locations**
- **Founded in 1987**
- **Transcat PLM**
 - DS Business Partner
 - Germany & Austria
- **Transcat Software**
 - Software Development Division
 - Germany & Slovakia
- **June 2012: Management buy out from Dassault Systèmes**



Transcat Software Offering

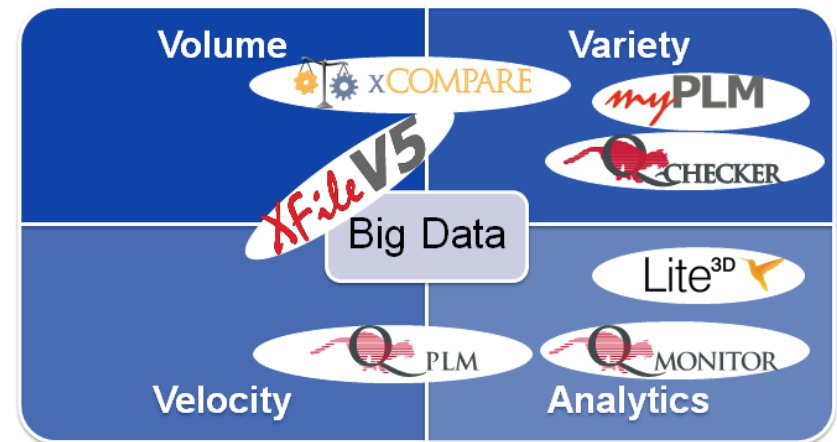
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- **Process Assurance, Methodology and Compliance**

- XFileV5 – Analyze, Identify, Structure
- xCompare – Compare, Validate, Document
- myPLM – Application Management, MultiCAD
- Q-Checker – Methodology, Quality, MBD
- Q-PLM – Automation, PDM
- Q-Monitor – Quality Metrics

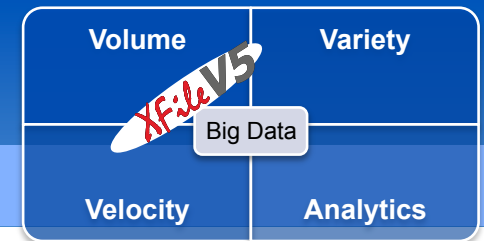
- **Lite3D portfolio – neutral formats:**

Visualization, Data exchange,
Long-term archiving, MBD



Analyze, Identify, Structure

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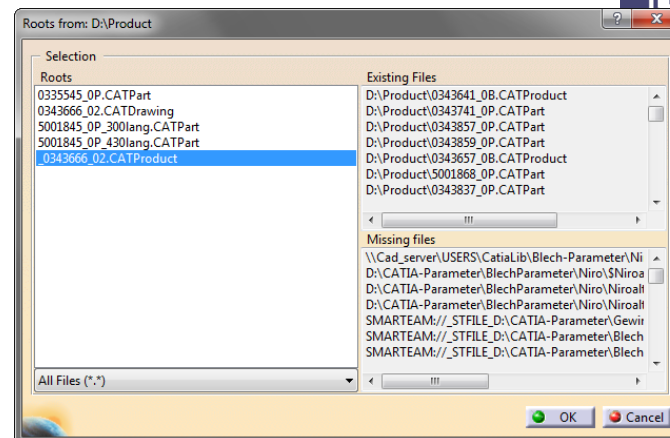
Is the data consistent and ready for collaboration and re-use?

Goal

- Interchanging consistent set of documents
- From unstructured to structured files

Tasks

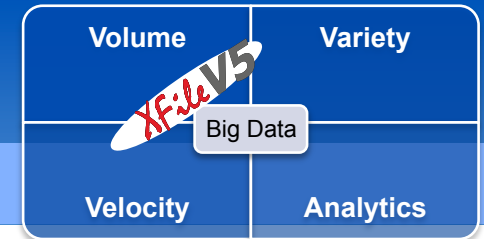
- Root Documents need to be found
- Links need to be verified (broken & ghost links)
- CATIA V5 structure is complex
- Consistent data exchange requires complete package



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XFileV5 – Consistent CATIA V5 data

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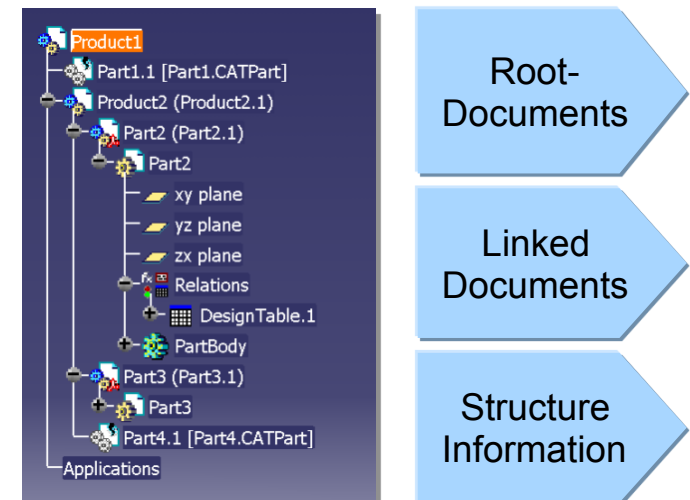
- **Managing and exchanging CATIA V5 data**
- Development supported by German Automotive OEM's and Dassault Systèmes

Features:

- **Identification of root documents**
- **Detection of links to CATIA and non CATIA data**
- **Listing of missing documents**
- **Have components been renamed?**
- **Without loading the files in CATIA**
- **Interactive and batch**

Too little or too much data sent

Costly analysis sending and receiving data



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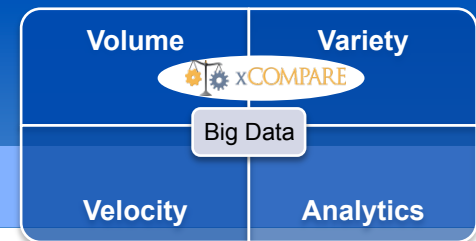


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xCompare – Model Validation

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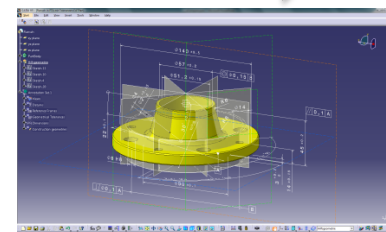
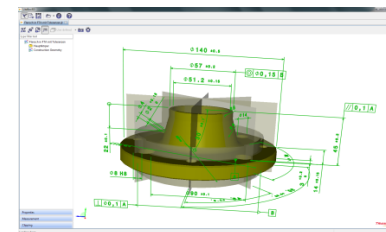
- **Design Change Validation and Documentation** – Clearly communicate feature and geometry changes between OEM/suppliers, partners and downstream
- **Manufacturing and Simulation Validation** – Easy identification of shape changes between the design models and manufacturing/simulation models
- **Data translation validation** – Avoid unacceptable differences caused by translation



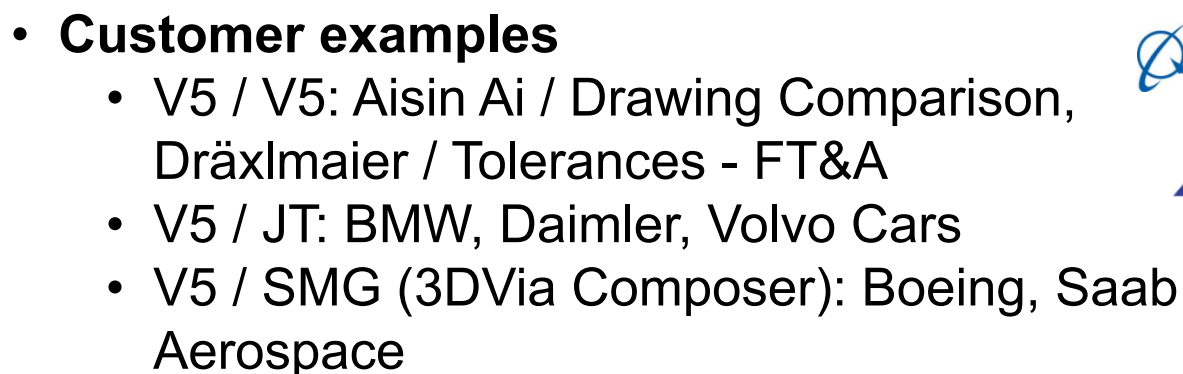
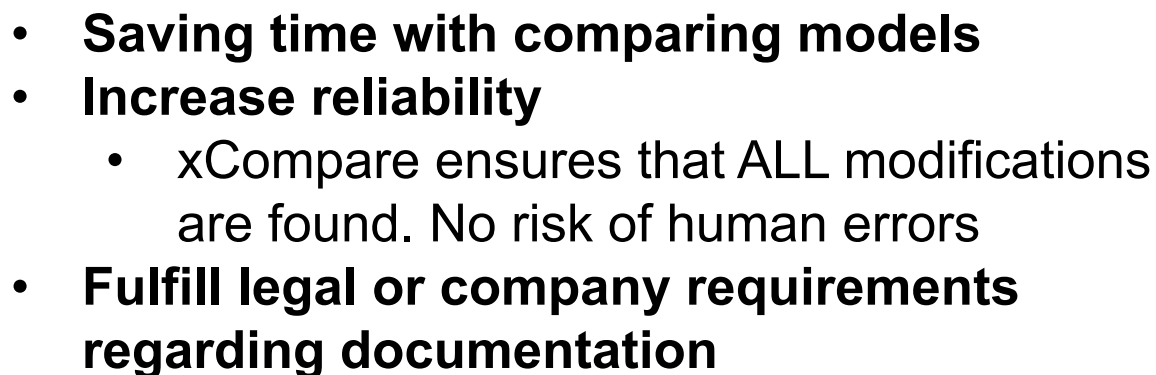
Manufacturing



Simulation



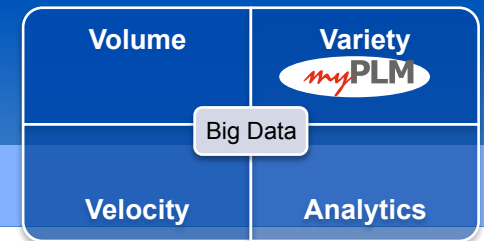
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Application Management, MultiCAD

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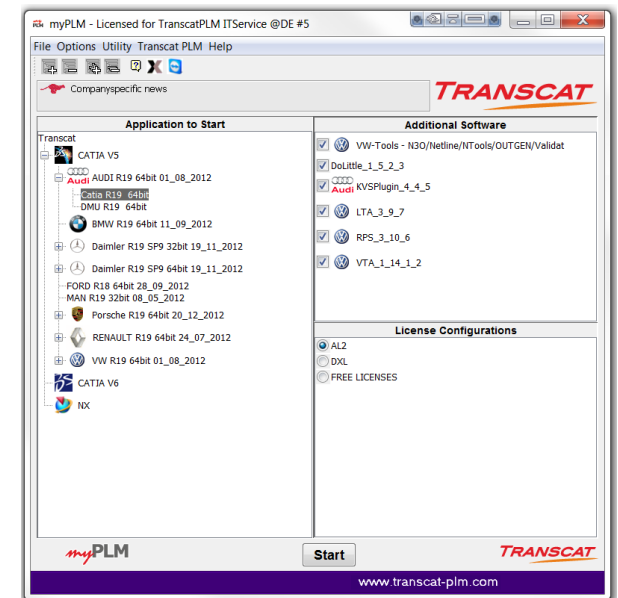


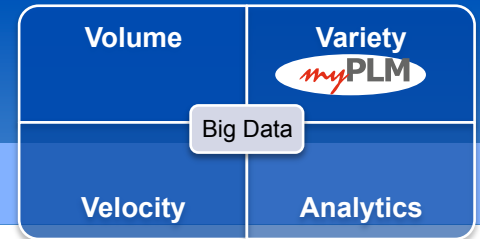
Today...

- CAX products have to be customized after installation
- Each CAD version and add-on application need to be launched and supported separately
- Lots of icons on the user's desktop

With myPLM

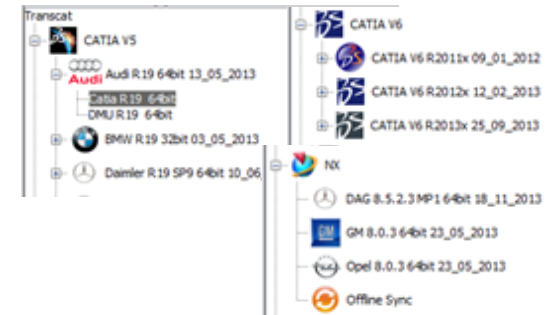
- Well organized user interface in a node-structured tree view
- Environment selection for different OEMs
 - GM, Daimler, Airbus, Porsche, ...
- Embedded license selection
- Selection of Add-ons
- Administration of user permissions
 - + Easy to use for end user
 - + Flexible and transparent administration
 - + One tool to manage all CAX products





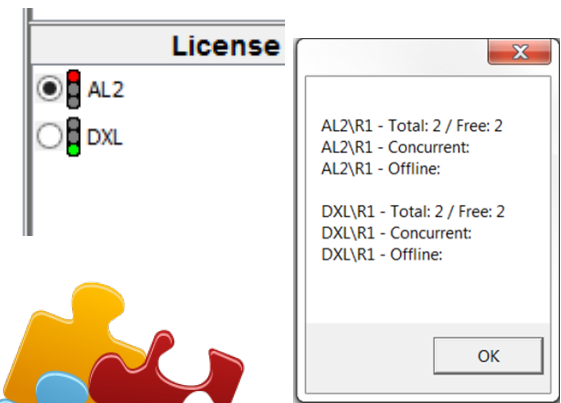
- **Support of MultiCAD environment**

- CATIA V5 & V6
- Creo
- Siemens NX



- **Different license configurations for**

- CATIA V5
- CATIA V6 server selection
- Siemens NX



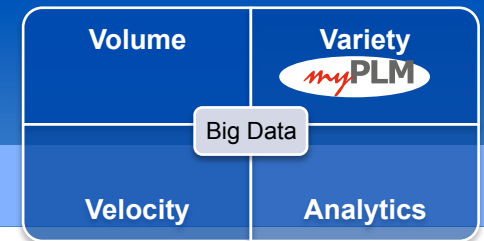
- **Easier administration with Add-ons**

- License-Check, License-Statistic, License-Management
- Active Directory Connect, Offline-Sync
- Software distribution



myPLM benefits

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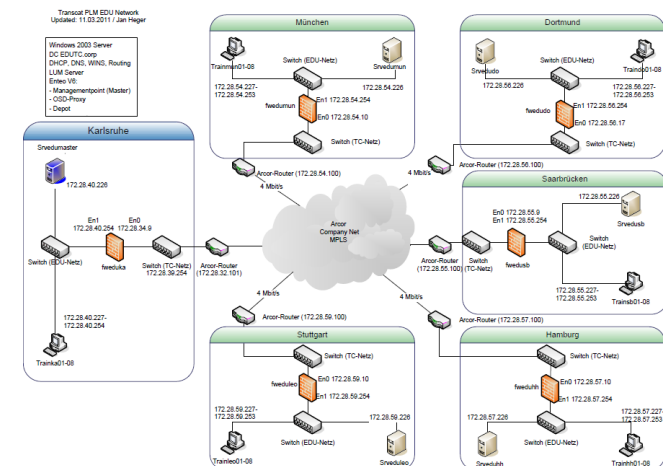
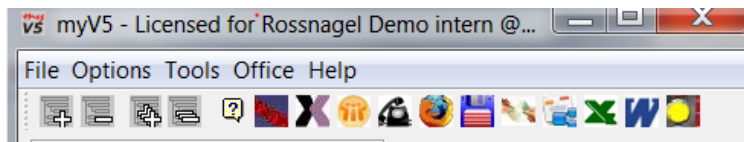


- **One tool to manage all CAx products**

- Global administration of user authorizations for different CAx applications
- Global definition for all CAx installations
- Simple administration of myPLM to manage all CAx installations

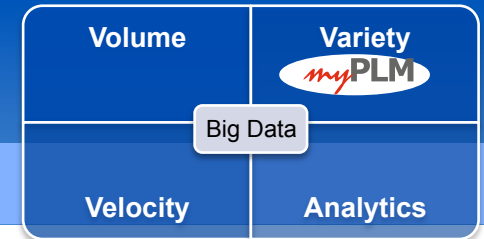


- **myPLM global solution for PLM Application Management**



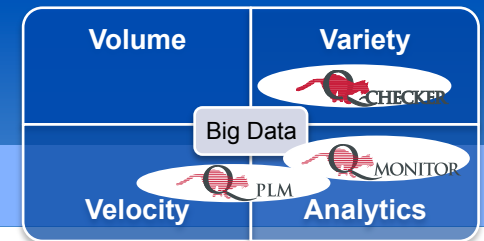
myPLM – Customer examples

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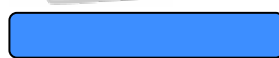
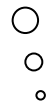


Data Quality in the process

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Reducing unnecessary iterations in product development



Designer



FEA



Electrical Design



Mold Design



Step Conversion



Suppliers



Time



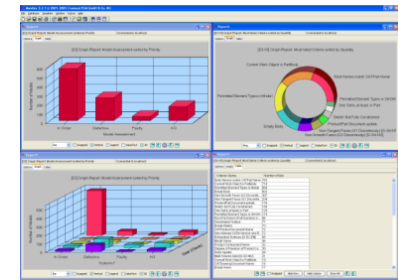
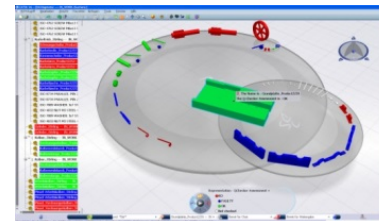
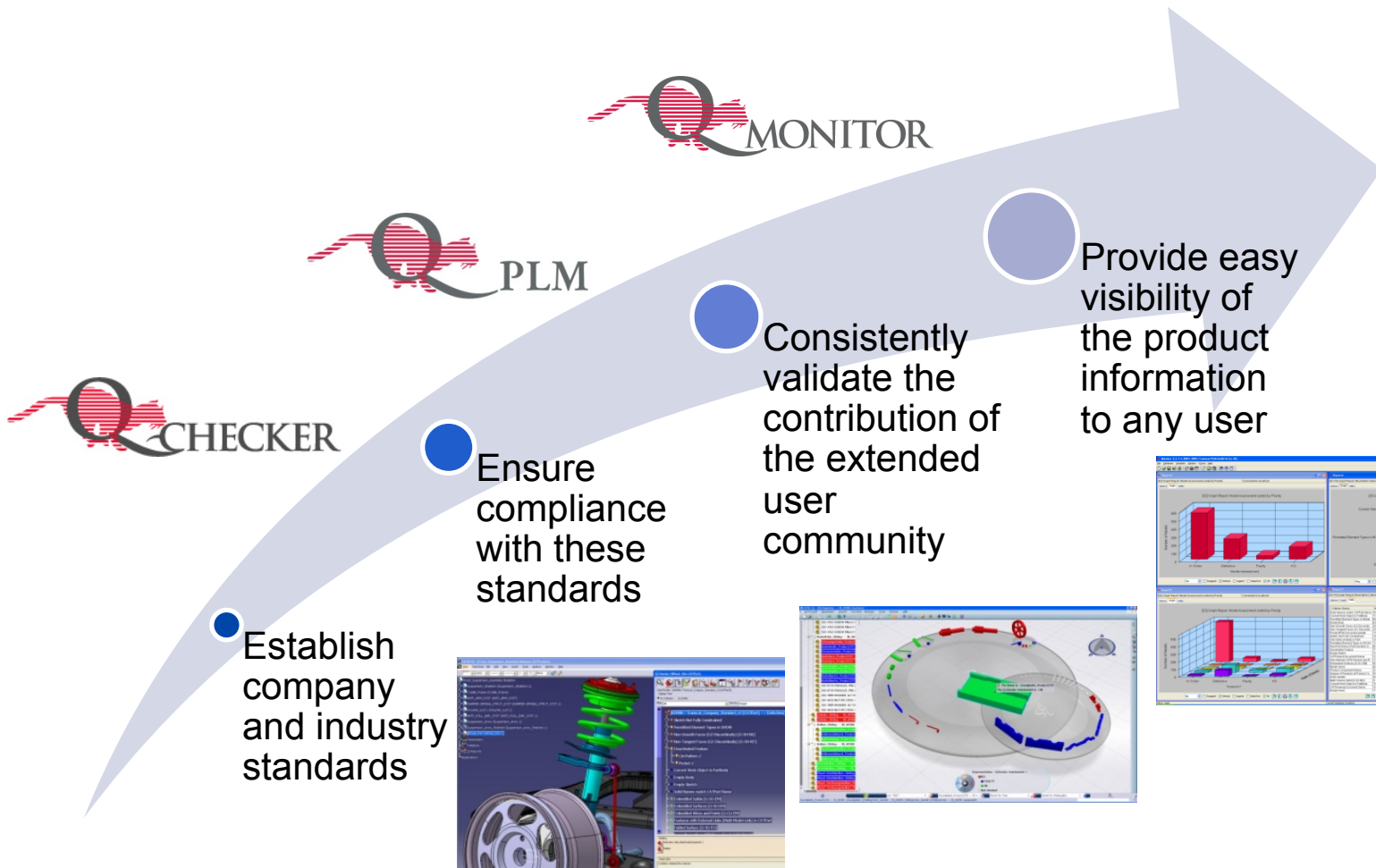
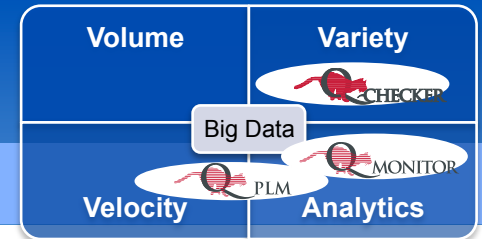
Repair & Communication



Time Saved

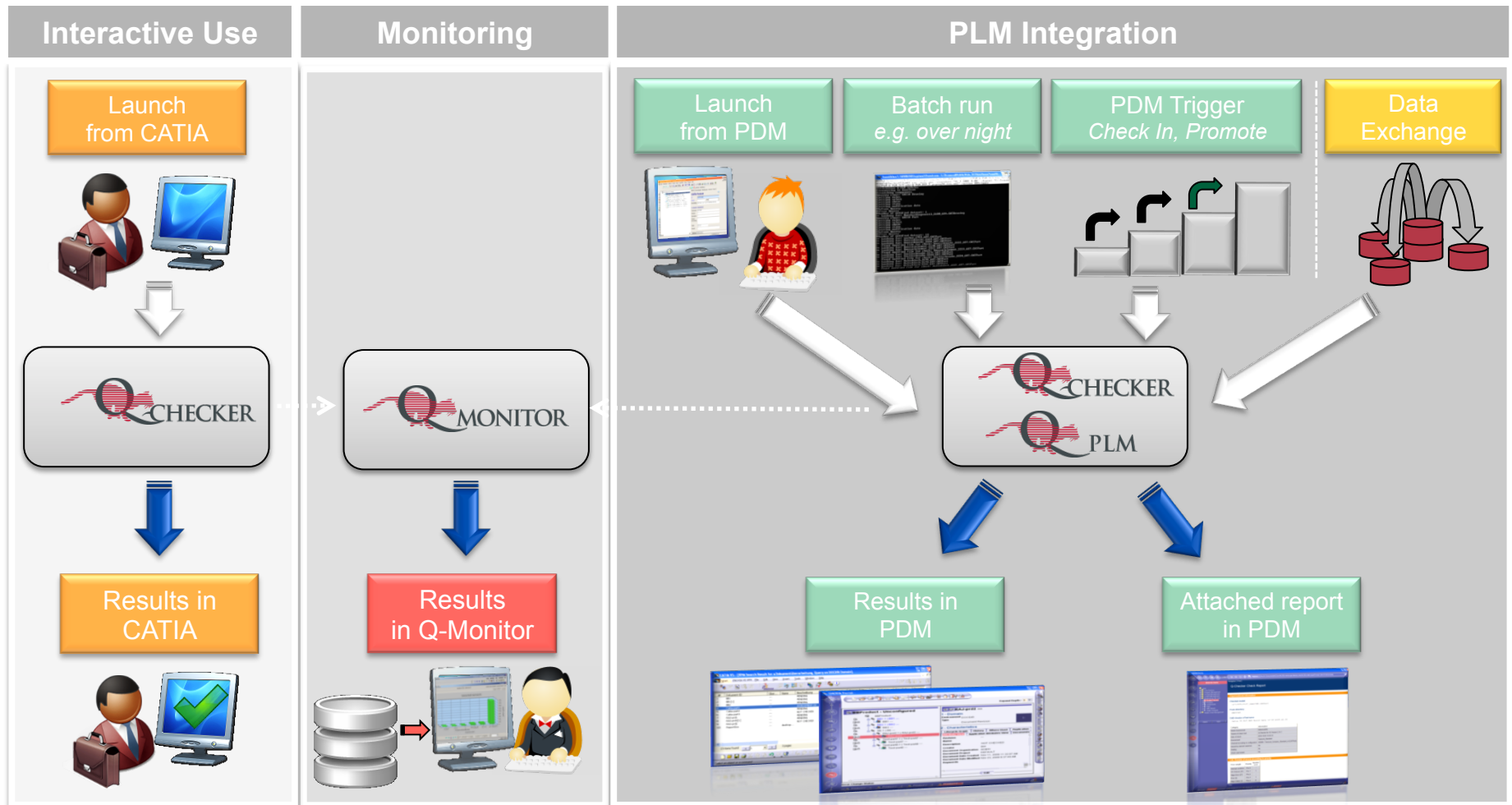
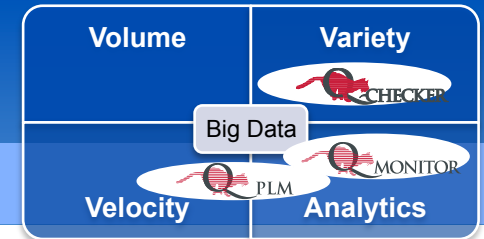
Boost your quality

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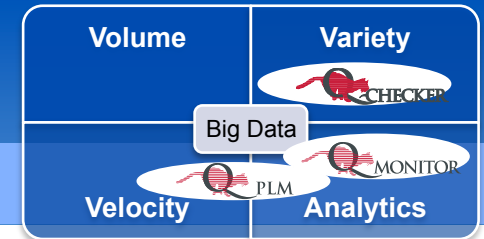
Overview Q-Checker PLM Integration

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Q-Checker customers

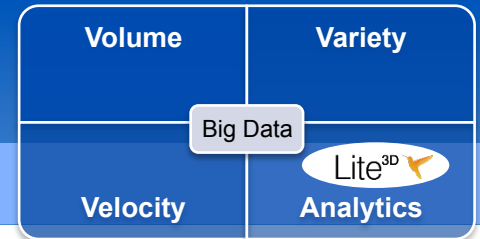
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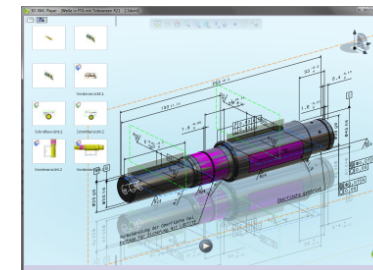
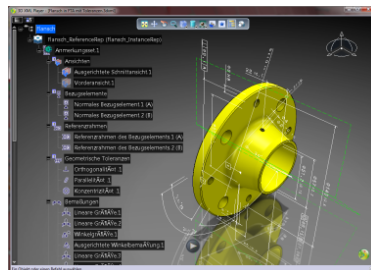
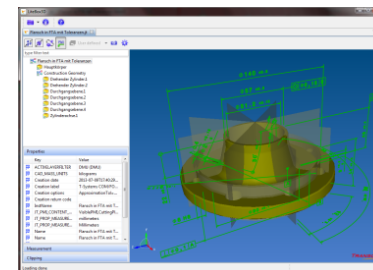
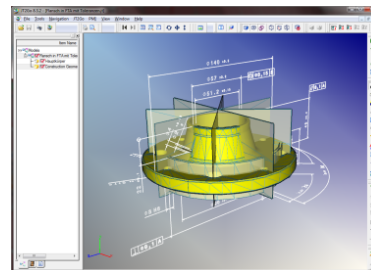
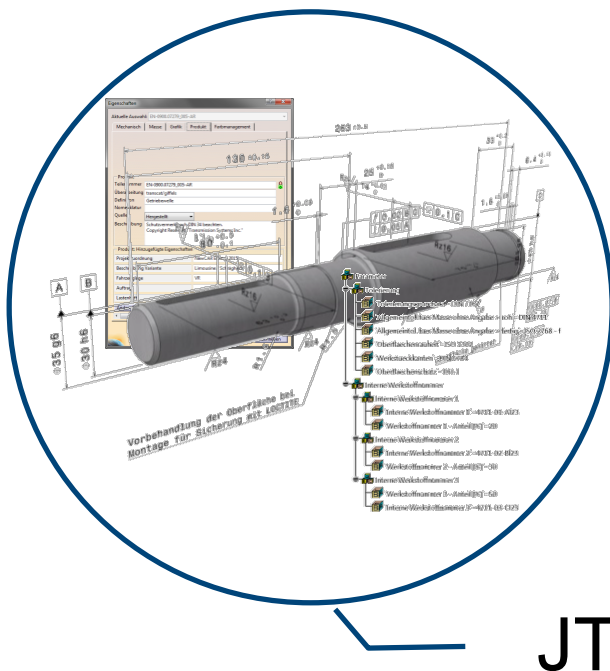
Dr. Ing. h. c. F. Porsche AG

3D data everywhere

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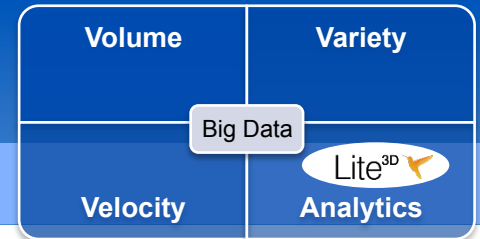
Provide easy visibility of the product information to any user with JT as process format



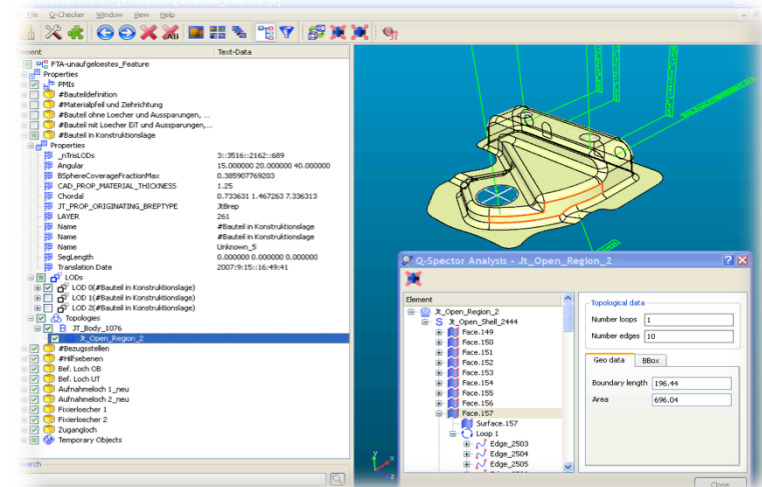
PDM
ERP
Supplier
Service
NC/CNC

Lite3D

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- Industry requires a lightweight, neutral 3D file format
- Reasons: cost, IP protection, independency from vendors, less specialist knowledge
- Requirements for the use of neutral 3D data:
 - Long term 3D archiving (Model based Definition)
 - Data exchange, downstream reuse, mobile devices
 - Corporate-wide viewing of 3D data



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Variety

Big Data

Velocity

Lite^{3D} Analytics



Summary

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- Increase of data quality and product quality
- Make these high quality data available to all users (internal and external)
- Support data re-use and collaboration
- Achieve a higher level of efficiency in company and downstream processes

Thank you

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