




SIEMENS



JT
ISO Acceptance
Enterprise Visualization

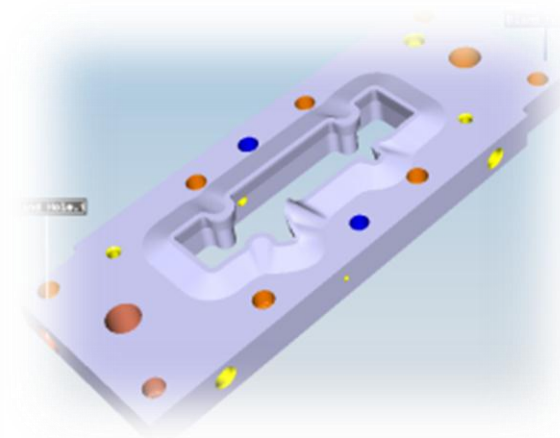
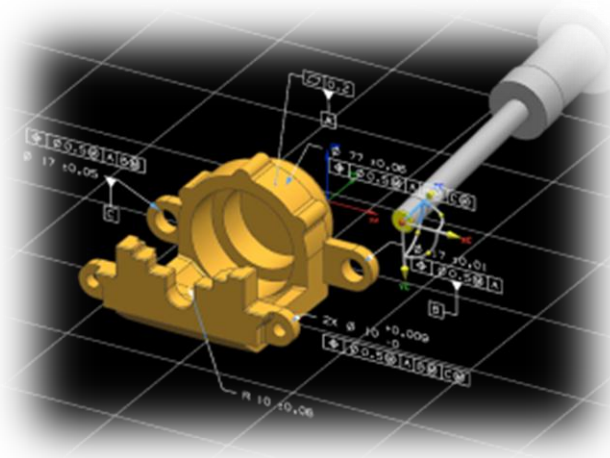
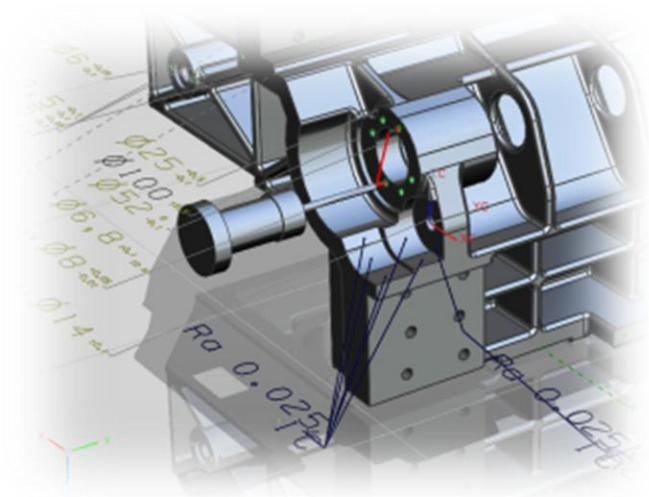
3D data for visualization and collaboration

Andrew Swiecki

Mike Zink

What is JT

JT is an industry focused, high-performance, lightweight, flexible file format for capturing and repurposing 3D Product Definition (CAx) data that enables collaboration, validation and visualization throughout the extended enterprise.

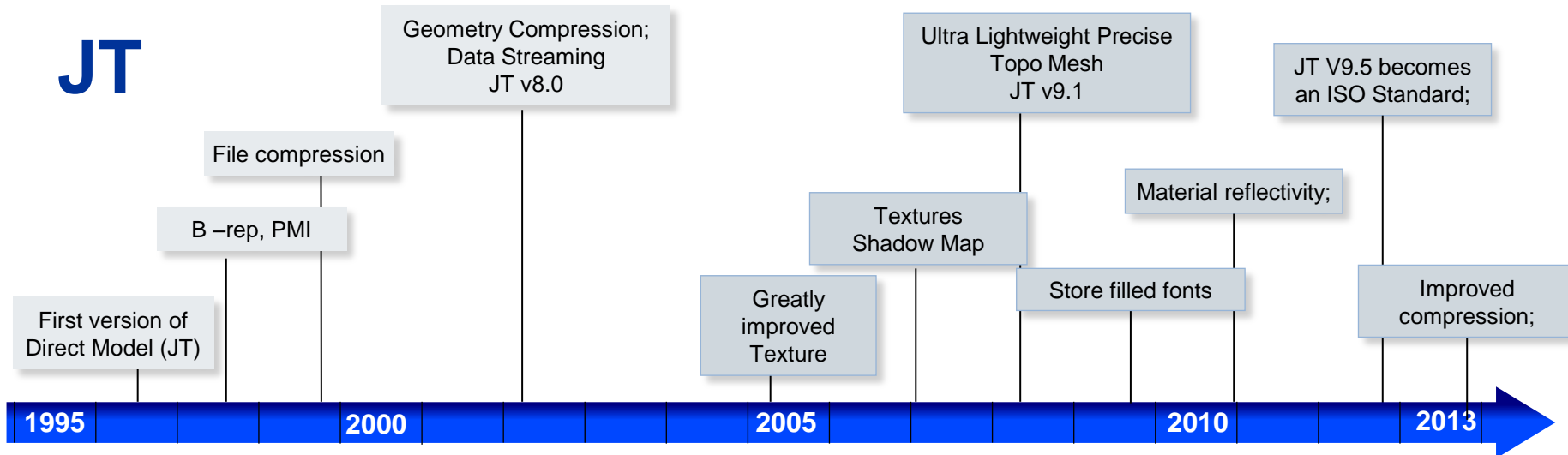


JT - Used by companies of all sizes in all industries

Aerospace & Defense	Automotive & Transportation	Machinery & Industrial Equipment	High Tech & Electronics	Shipbuilding, Energy CPG & Life Sciences

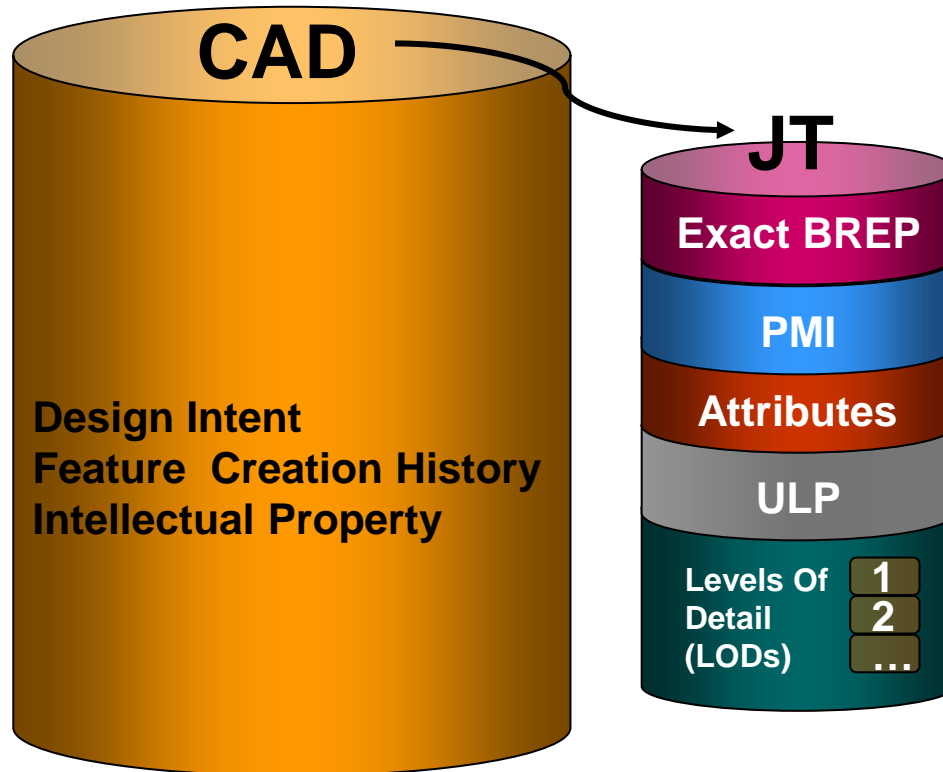
History of JT

JT

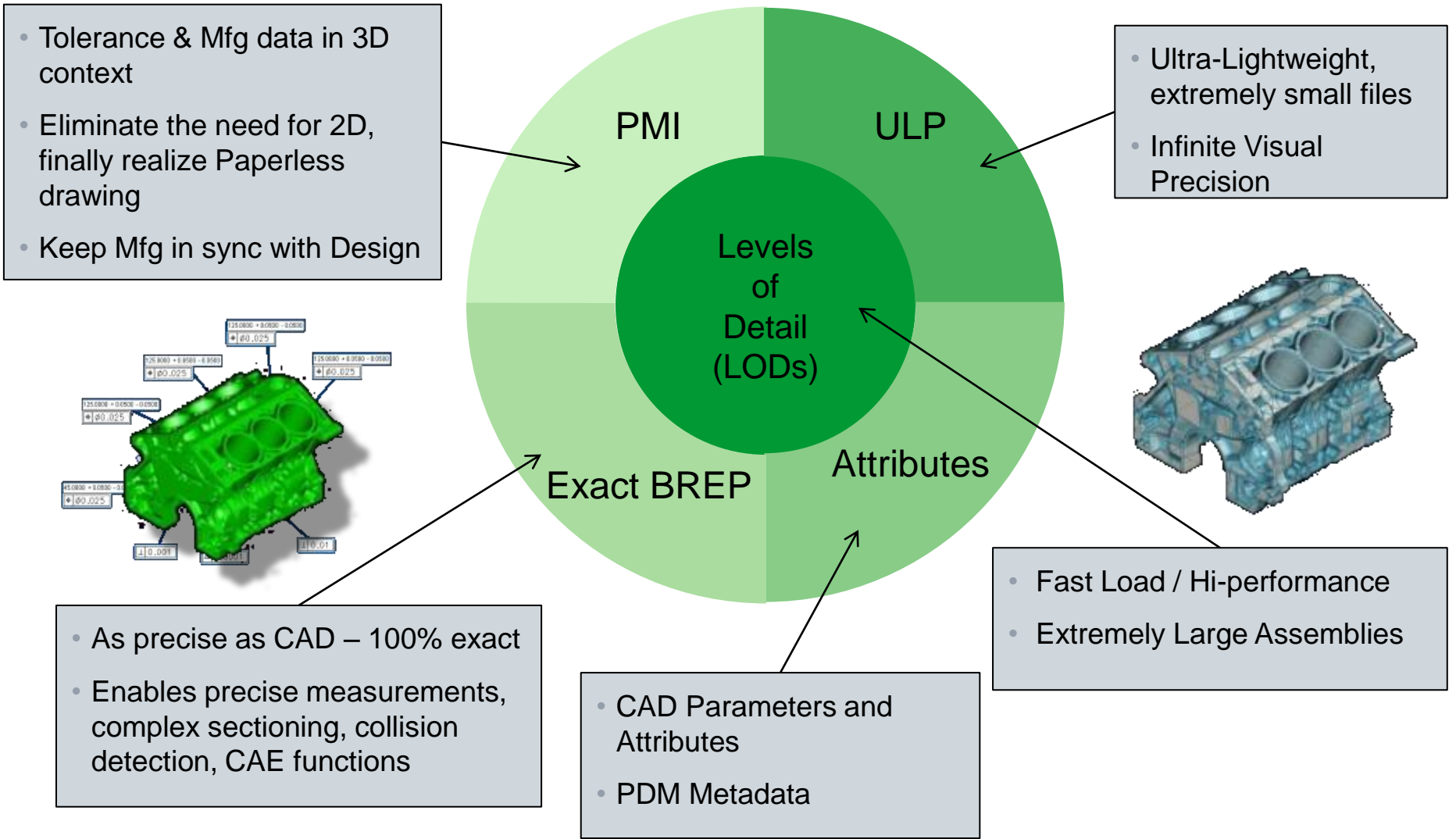


Celebrating 15 years as the JT File Format

JT vs CAD - Lightweight 3D Data



Open Architecture - Anatomy of JT



JT Open Program

A growing community of over 130 members

Guiding JT as an open, 3D format

- No cost viewer
- Published file format (free to download)
- Developer toolkit available to all
- ISO International Standard (IS)

Membership

- Corporate members
- Vendor members
- Advocate members
- Academic members

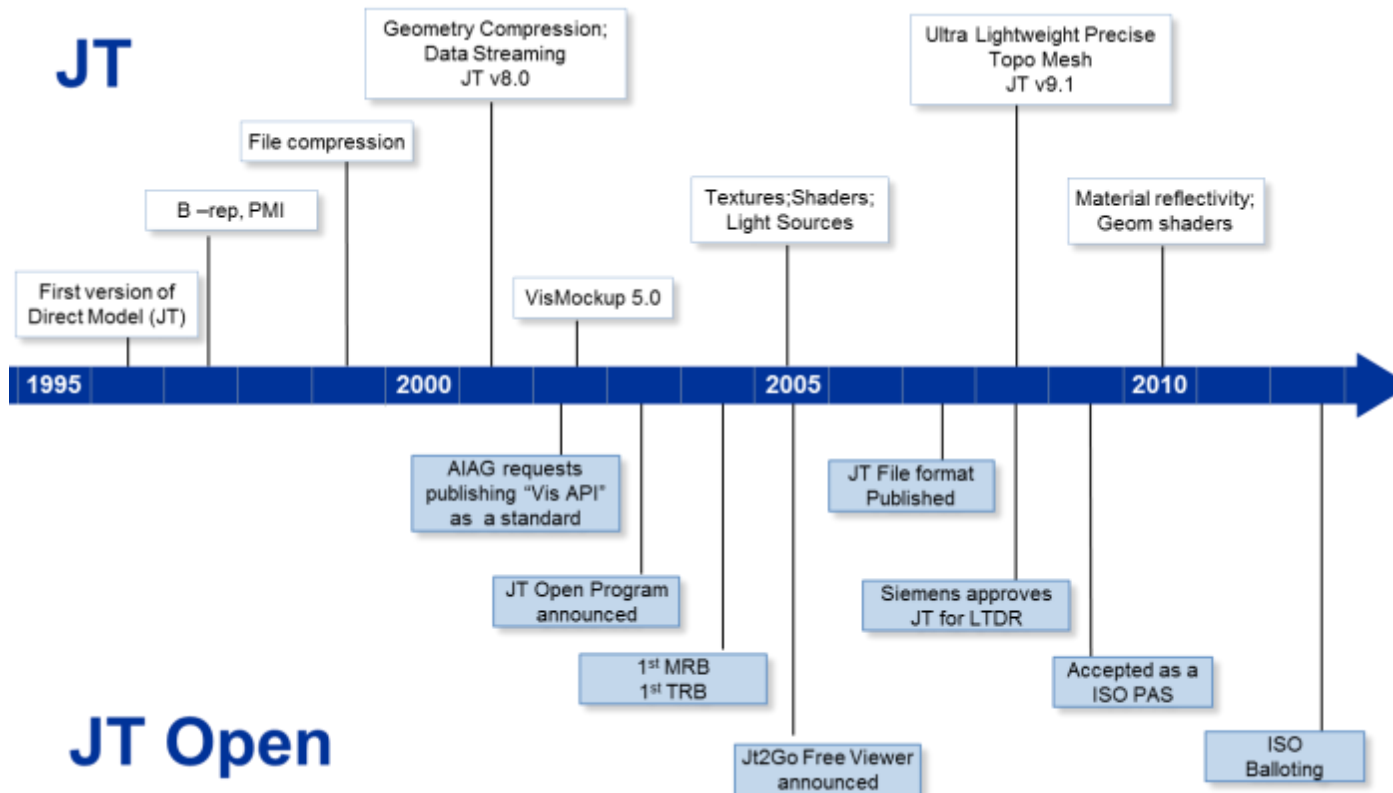
Structure

- Management Review Board
- Technical Review Board

Celebrating the 10th year of JT Open Program in 2013



JT Open Program - tradition of JT innovation



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ISO JT

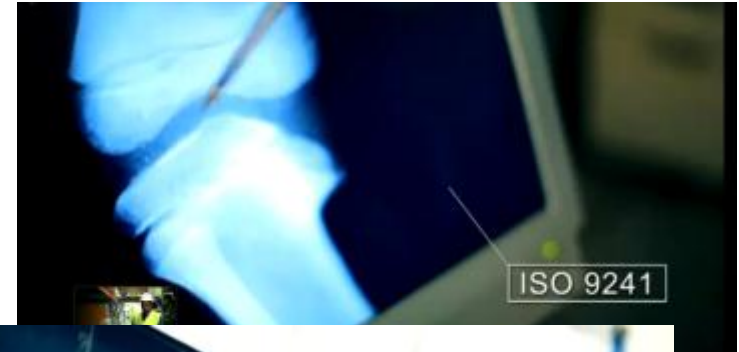
ISO Standards – getting started with committees

First decide where JT fits as an ISO

- What committee to approach ...

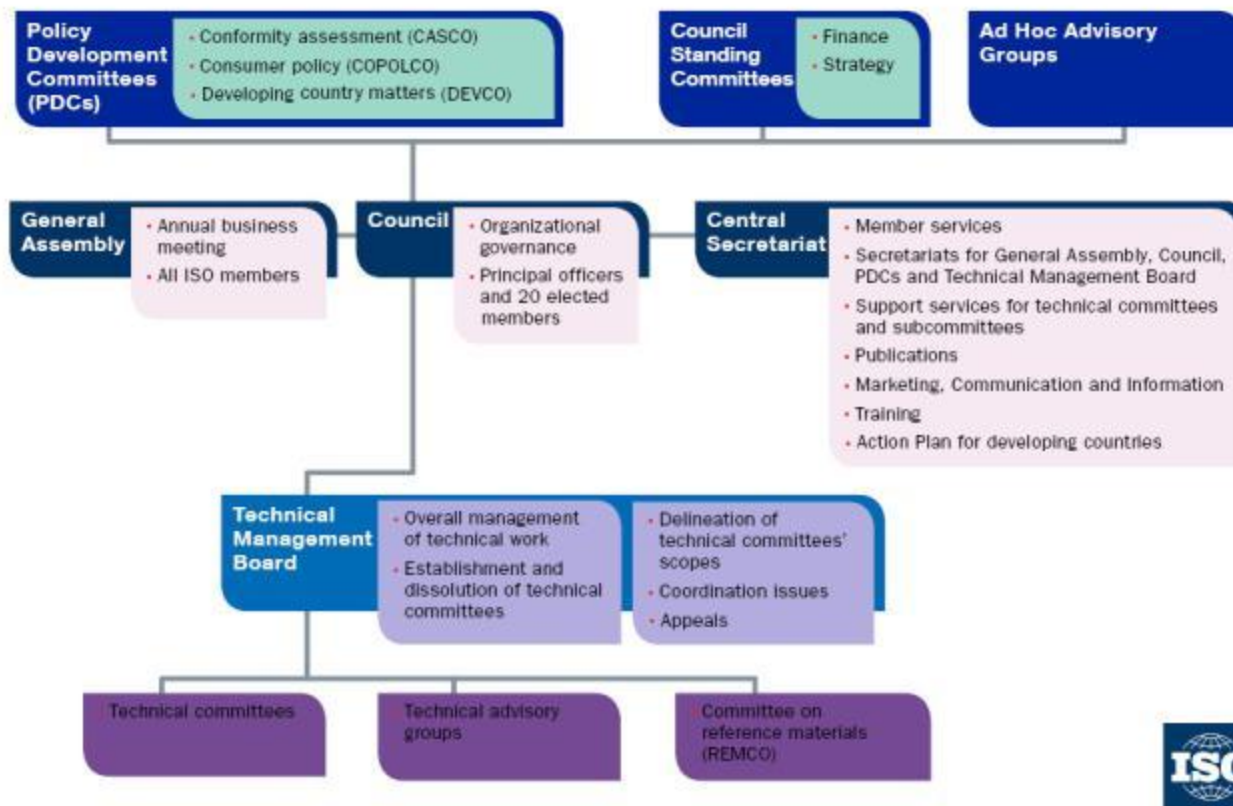
Then attend meetings and lobby for support

- 3D Visualization with JT



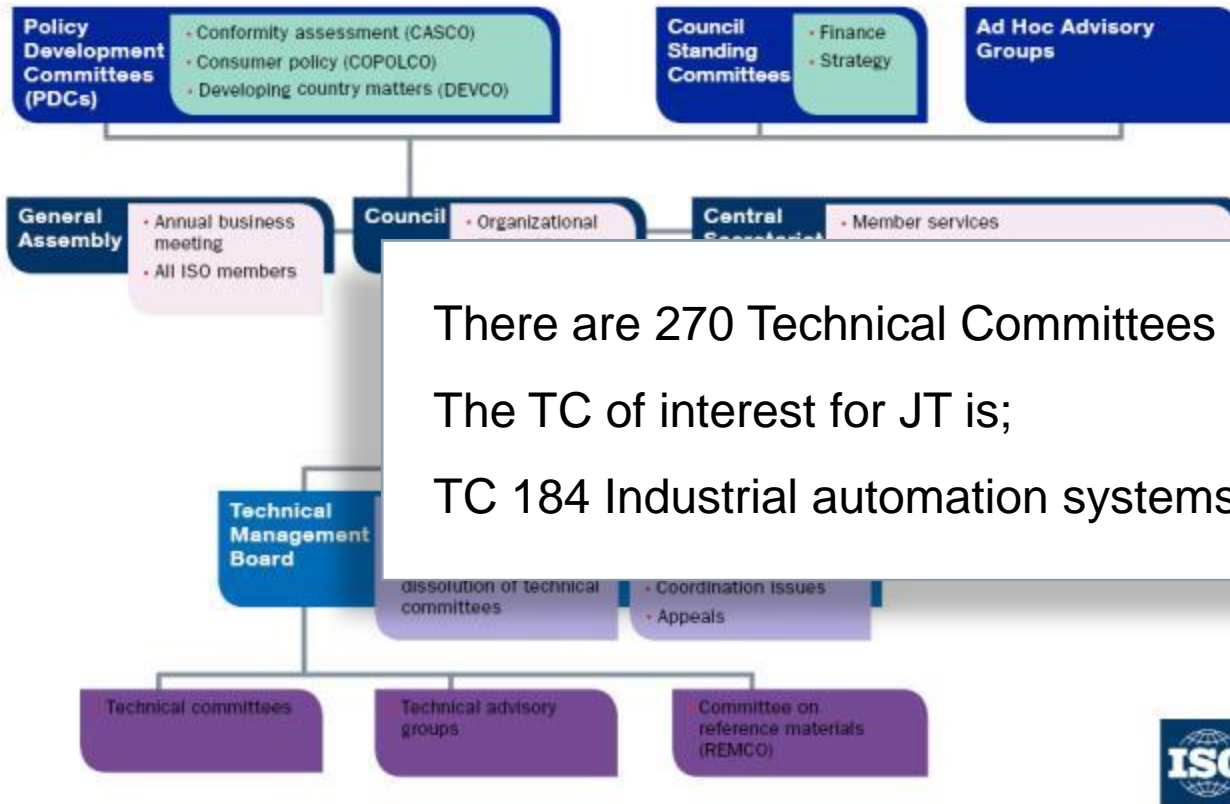
How is ISO organized

ISO's structure



How is ISO organized

ISO's structure



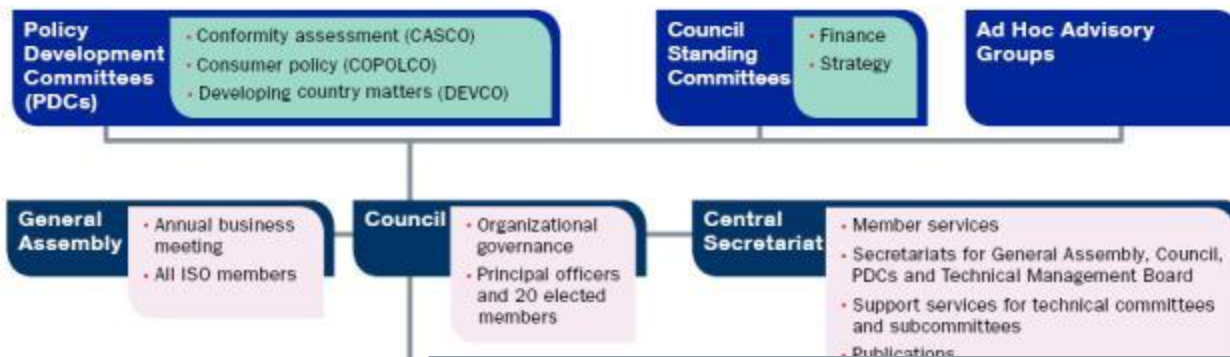
There are 270 Technical Committees (TC) in ISO

The TC of interest for JT is;

TC 184 Industrial automation systems and integration

TC 184 Industrial automation systems and integration

ISO's structure



Subcommittees/Working Groups:

Subcommittee/Working Group	Title
TC 184/AG	Advisory group <i>The convener can be reached through the secretariat</i>
TC 184/WG 6	OGI <i>The convener can be reached through the secretariat</i>
TC 184/SC 1	Physical device control
TC 184/SC 2	Robots and robotic devices
TC 184/SC 4	Industrial data
TC 184/SC 5	Interoperability, integration, and architectures for enterprise systems and automation applications

TC 184 Industrial automation systems and integration

Subcommittees/Working Groups:

Subcommittee/Working Group	Title
TC 184/AG	Advisory group

Industrial Data

TC 184/WG 6

Secretariat: [ANSI](#)

Secretary: [Mr. Jerry Smith](#)

Chairperson: [Mr. Howard Mason \(United Kingdom\)](#) until end 2012

ISO Central Secretariat contact: [Mr. Brian Stanton](#)

TC 184/SC 1

TC 184/SC 2

TC 184/SC 4

TC 184/SC 5

Number of published ISO standards under the direct responsibility of TC 184/SC 4 (number includes updates):

680

Participating countries:

19

Observing countries:

9

TC 184 Industrial automation systems and integration

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TC 184/WG 6	<p>Secretariat: ANSI</p> <p>Secretary: Mr. Jerry Smith</p> <p>Chairperson: Mr. Howard Mason (United Kingdom) until end of 2013</p> <p>ISO Central Secretariat contact: Mr. Brian Stanton</p>
TC 184/SC 1	
TC 184/SC 2	
TC 184/SC 4	
TC 184/SC 5	

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Secretariat:

USA (ANSI)

Participating Countries

Austria (ASI)

Bulgaria (BDS)

China (SAC)

Czech Republic (UNMZ)

France (AFNOR)

Germany (DIN)

Italy (UNI)

Japan (JISC)

Korea, Republic of (KATS)

Netherlands (NEN)

Norway (SN)

Portugal (IPQ)

Russian Federation (GOST R)

South Africa (SABS)

Spain (AENOR)

Sweden (SIS)


Switzerland (SNV)

United Kingdom (BSI)

TC 184 Industrial automation systems and integration

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TC 184/WG 6	<p>Secretariat: ANSI Secretary: Mr. Jerry Smith Chairperson: Mr. Howard Mason (United Kingdom) until end 2012 ISO Central Secretariat contact: Mr. Brian Stanton</p>	Industrial Data
TC 184/SC 1	<p>Number of published ISO standards under the direct responsibility of TC 184/SC 4 (number includes updates):</p> <p>Participating countries:</p> <p>Observing countries:</p>	 <ul style="list-style-type: none"> ISO 10303 (STEP) ISO 13584 (PLIB) ISO 15531 (MANDATE) ISO 15926 (Oil and Gas) ISO 18629 (PSL) ISO 18876 (IIDEAS) ISO 22745 (OTD) ISO 8000 (DQ)
TC 184/SC 2		
TC 184/SC 4		
TC 184/SC 5		

Bringing JT through the ISO process

Siemens PLM Software and ProSTEP iViP worked together to bring the JT Format through the ISO process

- ProSTEP iViP sponsored the New Work Item Proposal that was accepted to deliver the JT specification as an International Standard



Complying with ISO legal requirement

Siemens PLM was required to grant ISO specific rights to the JT File Format Specification

- Copyright agreement
- Patent statement
- Siemens Senior Executive approvals



JT File Format Accepted by ISO

The JT File Format unanimously passed a global ballot on December 11, 2012 and has been accepted by ISO as an International Standard

- JT V 9.5 is now ISO/IS 14306:2012 - JT file format specification for 3D product data visualization
- The format specification was published to the ISO purchase/download site December 15, 2012

Result of voting

P-Members voting: 13 in favour out of 13 = 100 % (requirement \geq 66.66%)

(P-Members having abstained are not counted in this vote.)

Member bodies voting: 0 negative votes out of 14 = 0 % (requirement \leq 25%)

Approved

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Approved

The screenshot shows the ISO Standards catalogue page for ISO 14306:2012. The page title is "ISO 14306:2012 Industrial automation systems and integration -- JT file format specification for 3D visualization". Below the title, there is a "Media and price" section with a table listing two options: "PDF" and "PDF on CD", both priced at CHF 352.00 and available in English. An "Abstract" section provides a brief description of the standard. At the bottom, there is a "General information" section with details such as "Edition: 1 (Monolingual)", "ICS: 25.040.40", "Status: Published", "Stage: 60.60 (2012-12-14)", and "TC/SC: TC 184/SC 4".

Format	Price	Language	
PDF	CHF 352.00	English	Add to basket
PDF on CD	CHF 352.00	English	Add to basket

Abstract

ISO 14306:2012 provides the description of the structure and content for a binary file having the extension of *.jt*. A binary file with the *.jt* extension is generally referred to as a *JT* file. The *JT* format described in ISO 14306:2012 is used primarily in industrial use cases as the means for capturing and repurposing lightweight 3D product definition data.

General information Revision information Corrigenda, Amendments & other parts

Edition: 1 (Monolingual)	ICS: 25.040.40
Status: <input checked="" type="checkbox"/> Published	Stage: 60.60 (2012-12-14)
TC/SC: TC 184/SC 4	Number of Pages: 559

ISO JT in the press

Desktop Engineering (DE) notes in "[Siemens PLM software Walks the Walk with Openness Promise](#)" that Siemens PLM Software underscores its commitment to openness with this announcement.

DE highlights that "JT, which many CAD vendors support and which has long served as a de facto open format for sharing and visualizing 3D product data across PLM systems in companies like General Motors, has now been adopted by the ISO as an international standard."



Presents

Virtual Desktop

A closer look at product lifecycle

Home About the Blogger Desktop Engineering

Siemens PLM software Walks the Walk with Openness Promise

Published December 21, 2012 | By [Beth Stackpole](#)

For those who think Siemens PLM Software's talk about openness is just talk, its latest announcements, that while seemingly unrelated, seem to go a long way in commitment to the much discussed strategy.



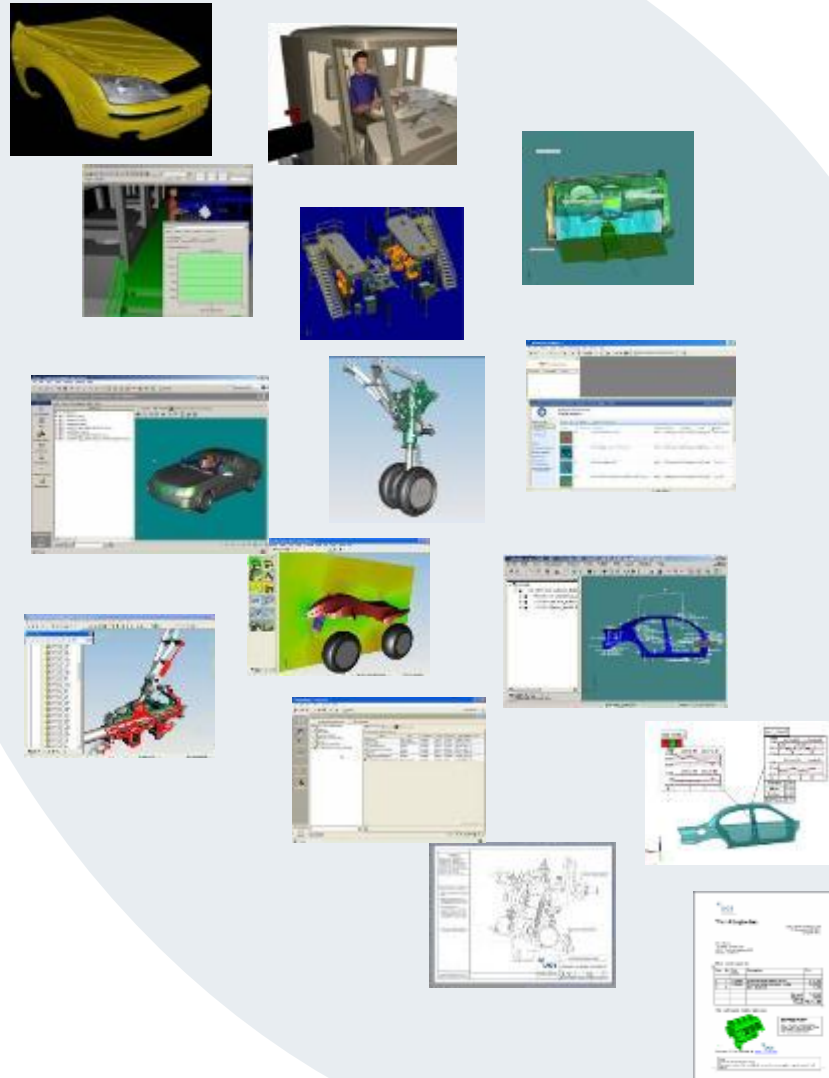
General Motors has used the JT file format for more than a decade as part of its PLM strategy for lightweight 3D visualization and collaboration. Image Courtesy of General Motors

In the course of a week, the PLM veteran announced that its 15-year old JT data accepted as what it claims is the first ISO international standard for viewing and

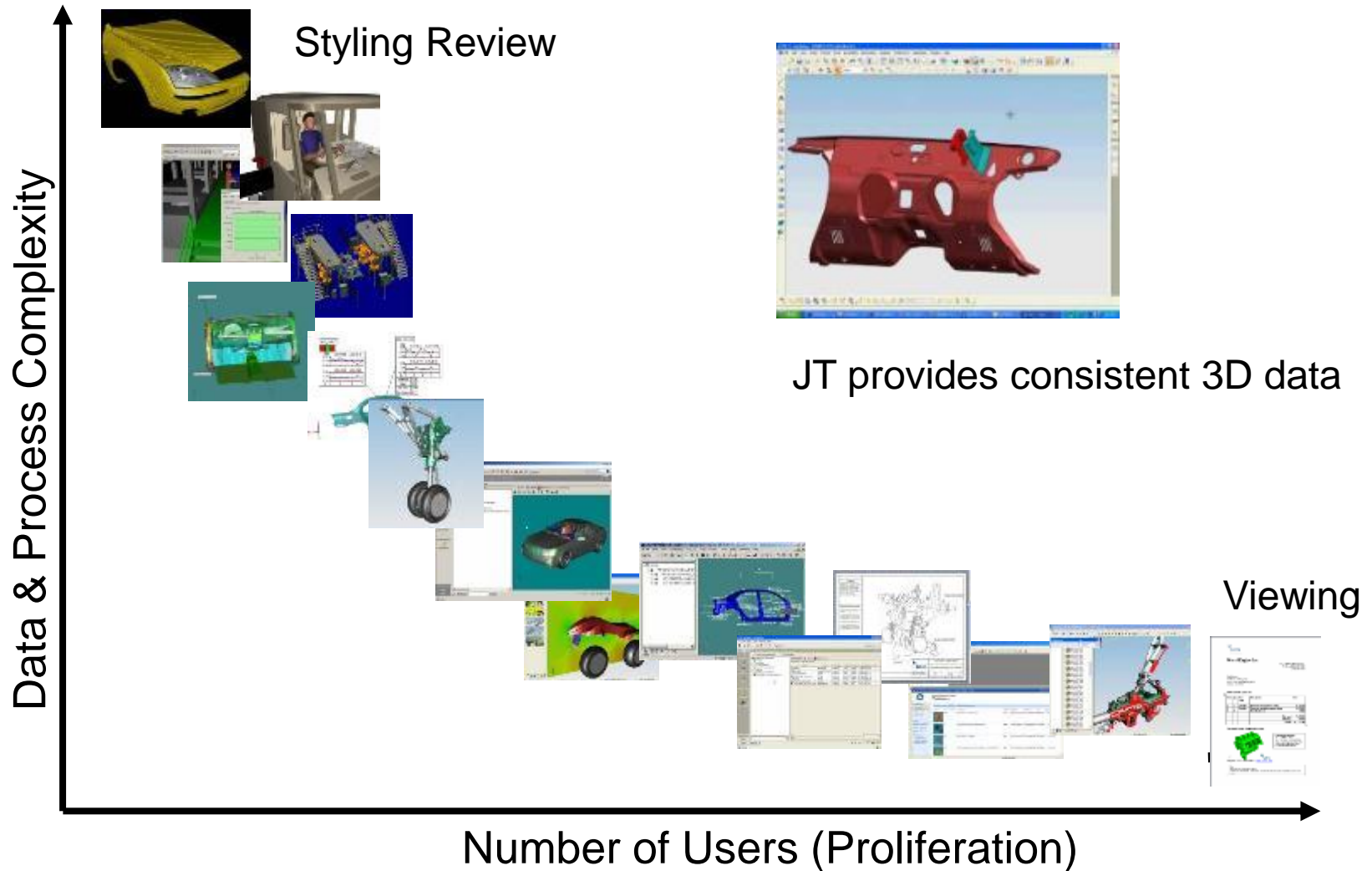
Enterprise Visualization Where to use JT ?

JT - Functional Areas of use

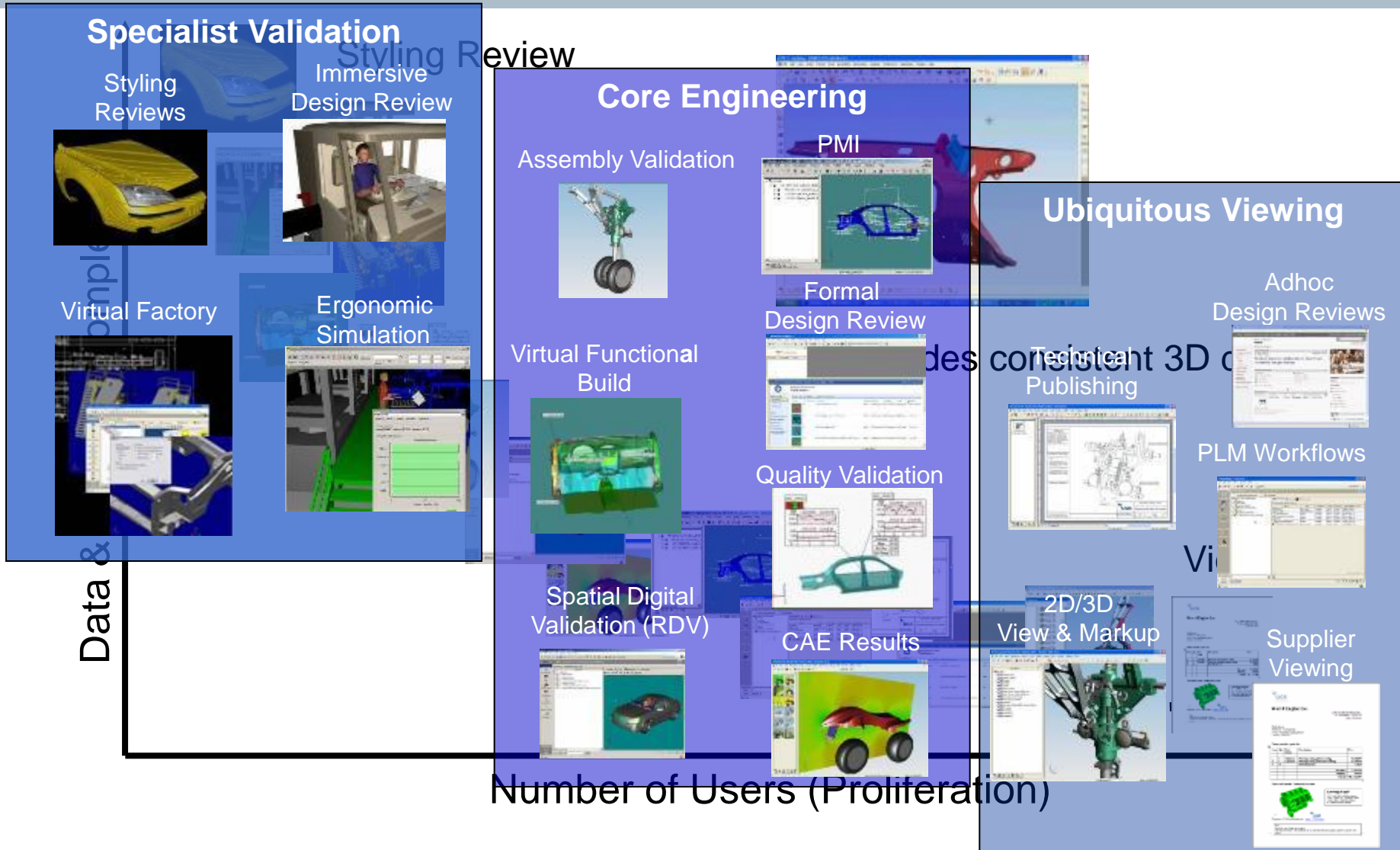
Styling Review
Immersive Design Review
Ergonomics
Virtual Factory
Virtual Functional Build
Assembly Validation
Quality Validation
Spatial Digital Validation
CAE Results
Formal Design Review
PMI
PLM Workflows
Technical Publishing
2D/3D View & Markup
Supplier Viewing



JT is a cross functional 3D representation



JT is a cross functional 3D representation



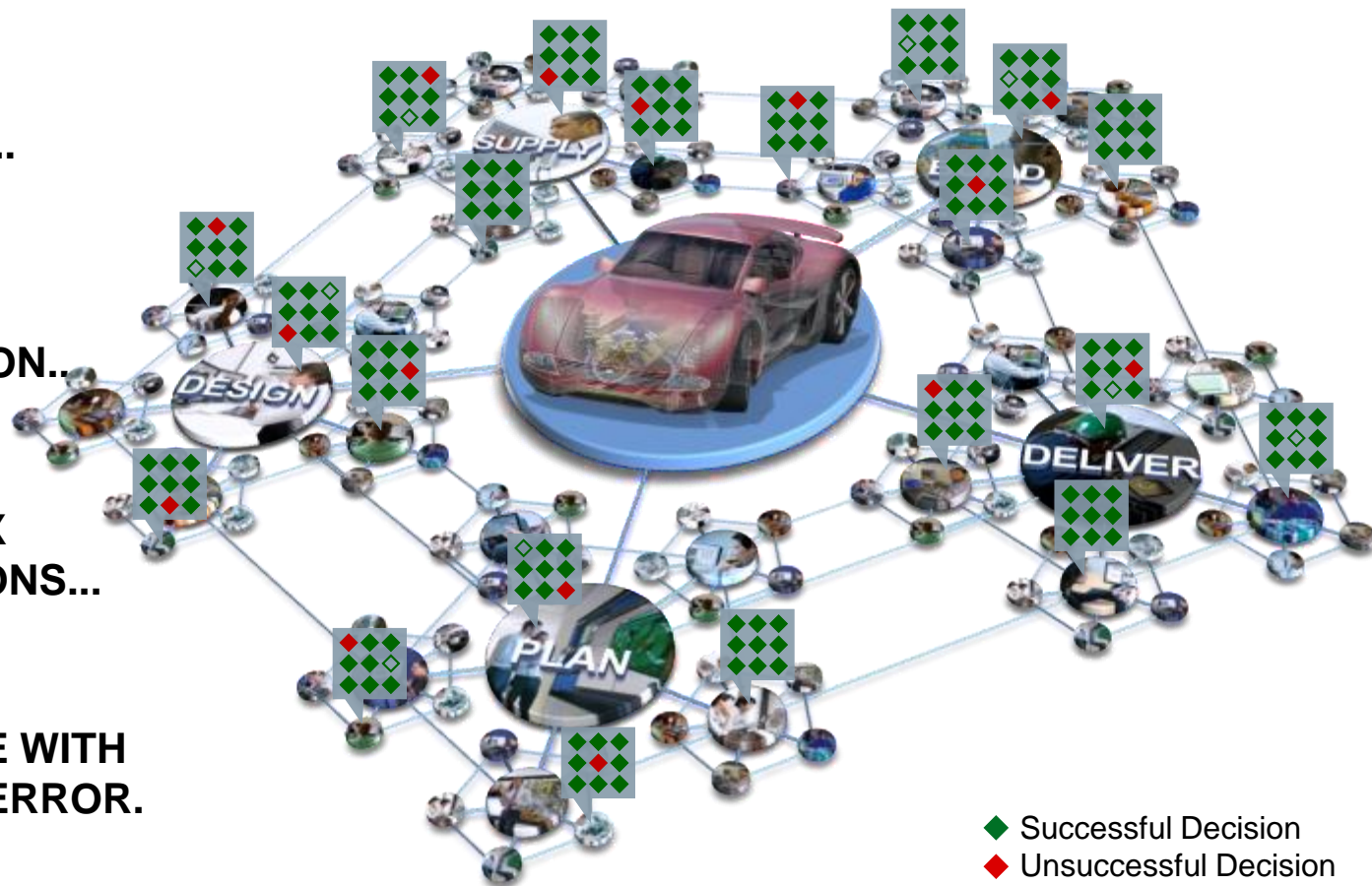
Complex world of product development

**MORE PEOPLE
COLLABORATING...**

**SEARCHING FOR
MORE INFORMATION...**

**MAKING COMPLEX
PRODUCT DECISIONS...**

**UNDER PRESSURE WITH
LESS ROOM FOR ERROR.**



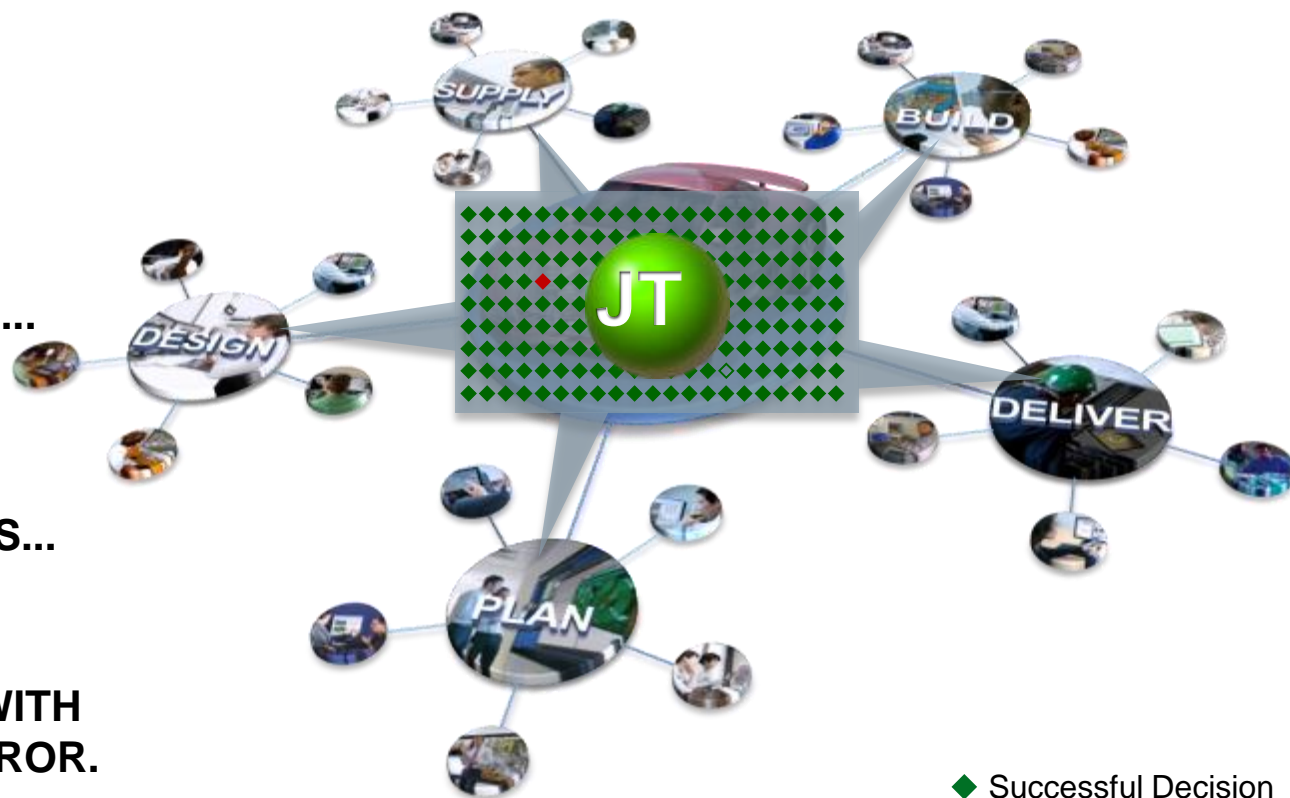
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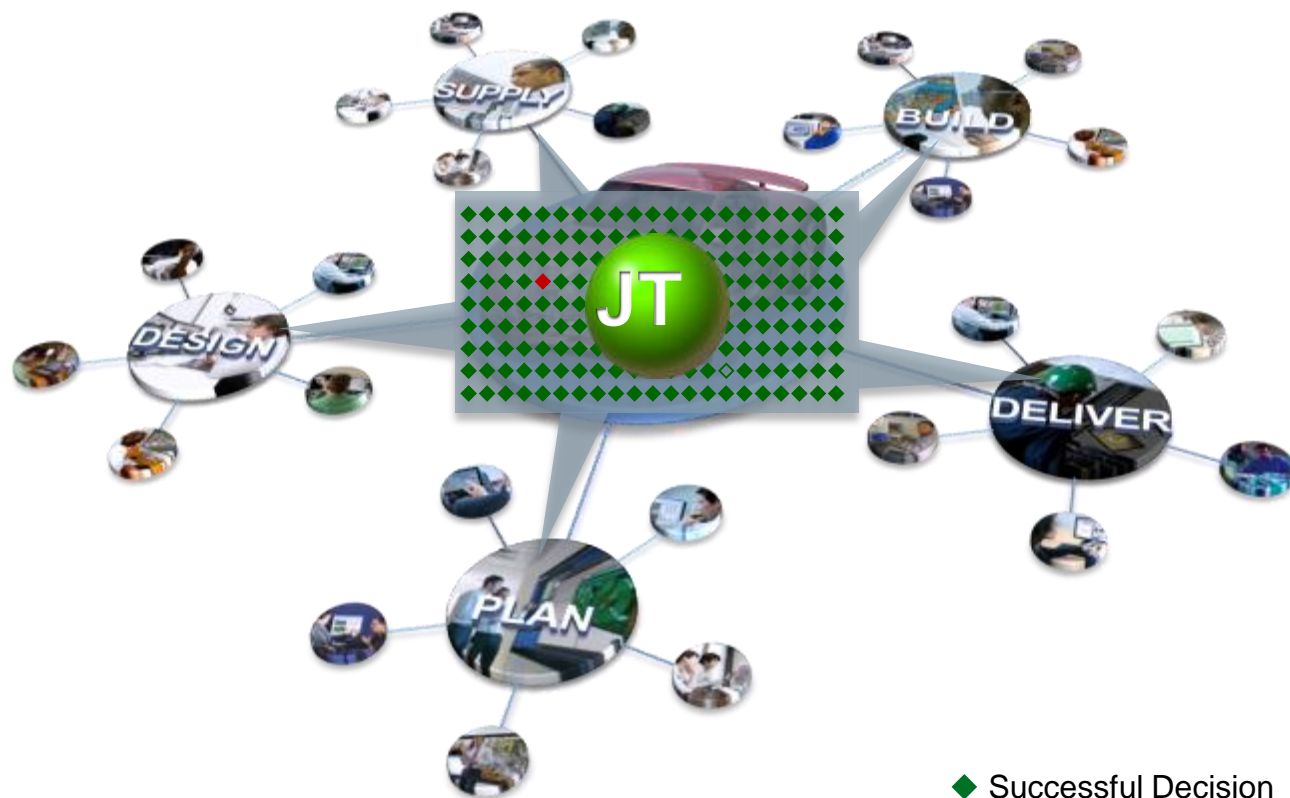
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Complex world of product development

**MORE PEOPLE
COLLABORATING...**



- ◆ Successful Decision
- ◆ Unsuccessful Decision

Collaboration via JT - Visualization on the Go



Collaboration via JT - Free JT viewers available today

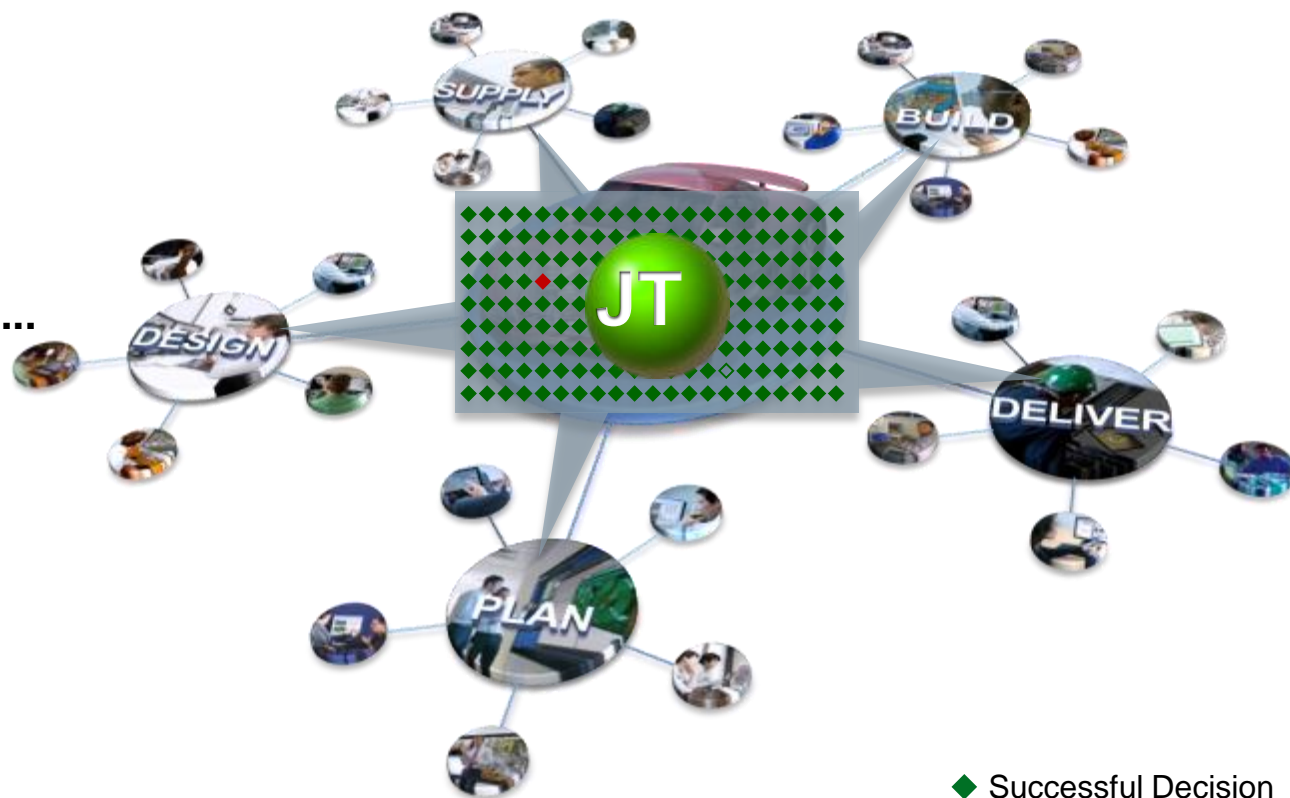
Free viewers for JT exist on desktop and mobility platforms

- JT2Go for Windows desktop
- JT2Go for Windows 8 Modern interface
- JT2Go for iOS
- Teamcenter Mobility - iOS
- Windows 8 - 3D Viewer for JT
- Glovius - iOS and desktop
- VUE CAD - iOS - JT demo files only for free



Complex world of product development

SEARCHING FOR
MORE INFORMATION...



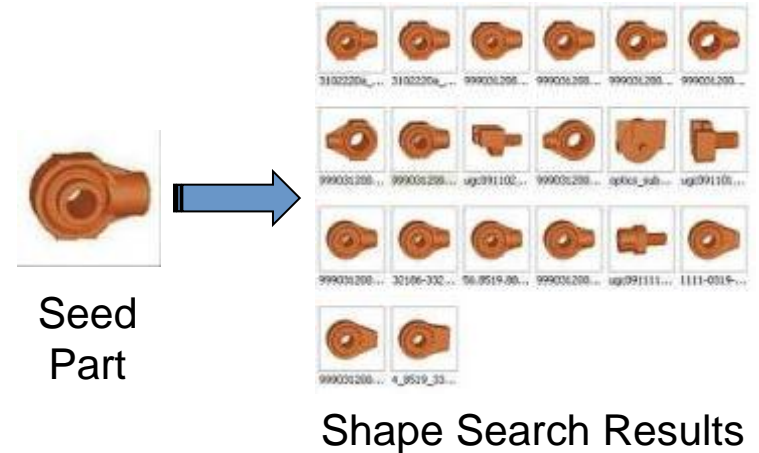
- ◆ Successful Decision
- ◆ Unsuccessful Decision

JT- Based Shape Searching - Promoting Part Reuse

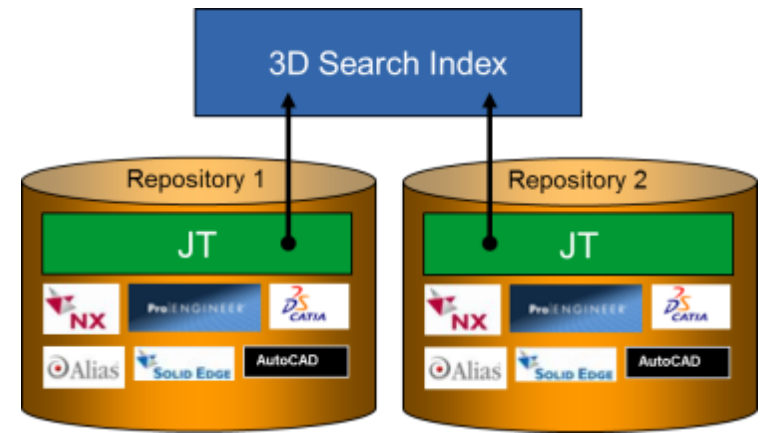
How much does it cost to introduce and maintain a new part?

Is it easier to create a new part or re-use an existing one?

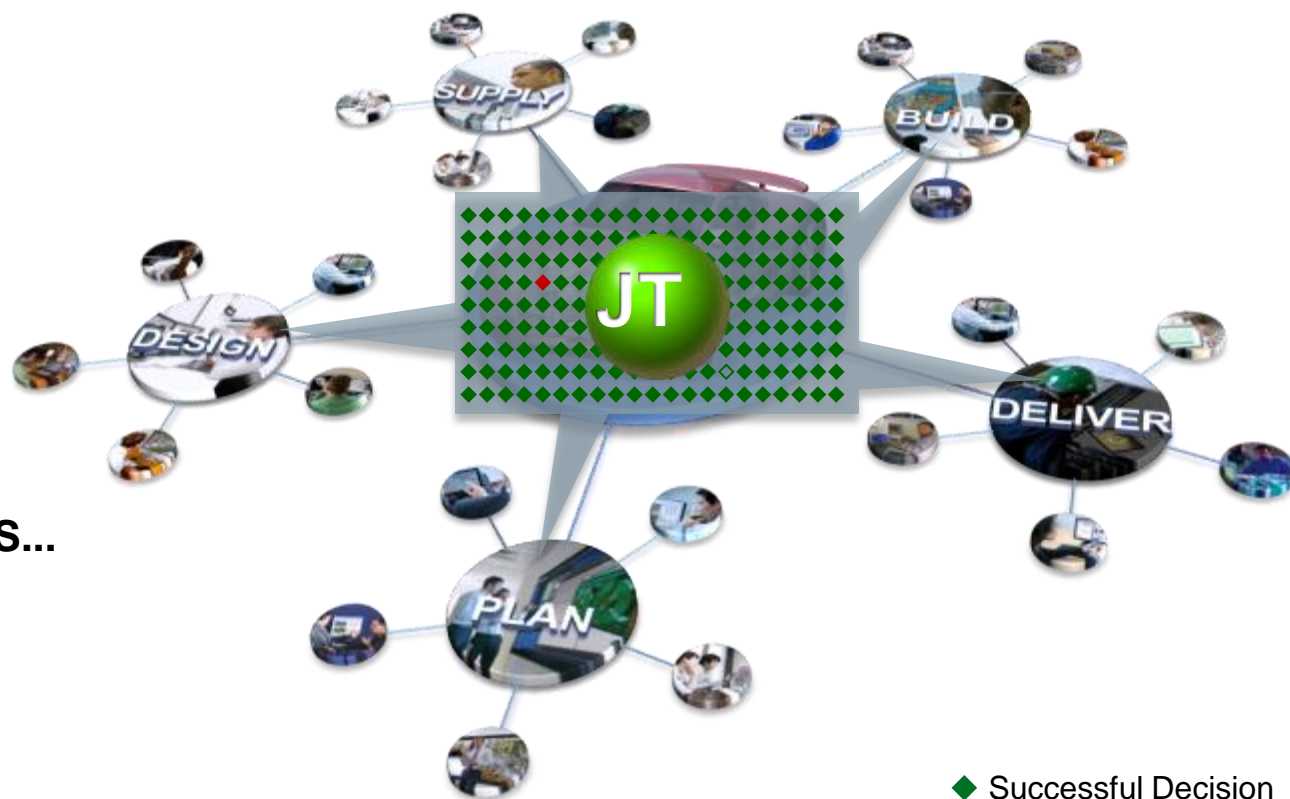
How do I find an existing part that satisfies my requirements?



“Many manufacturers maintain bloated inventories resulting from overzealous innovation. Geometric search allows best-in-class companies to identify redundancies and re-use opportunities, reducing inventories by as much as 52 percent.”
 Benjamin Friedman – IDC, Manufacturing Insights



Complex world of product development

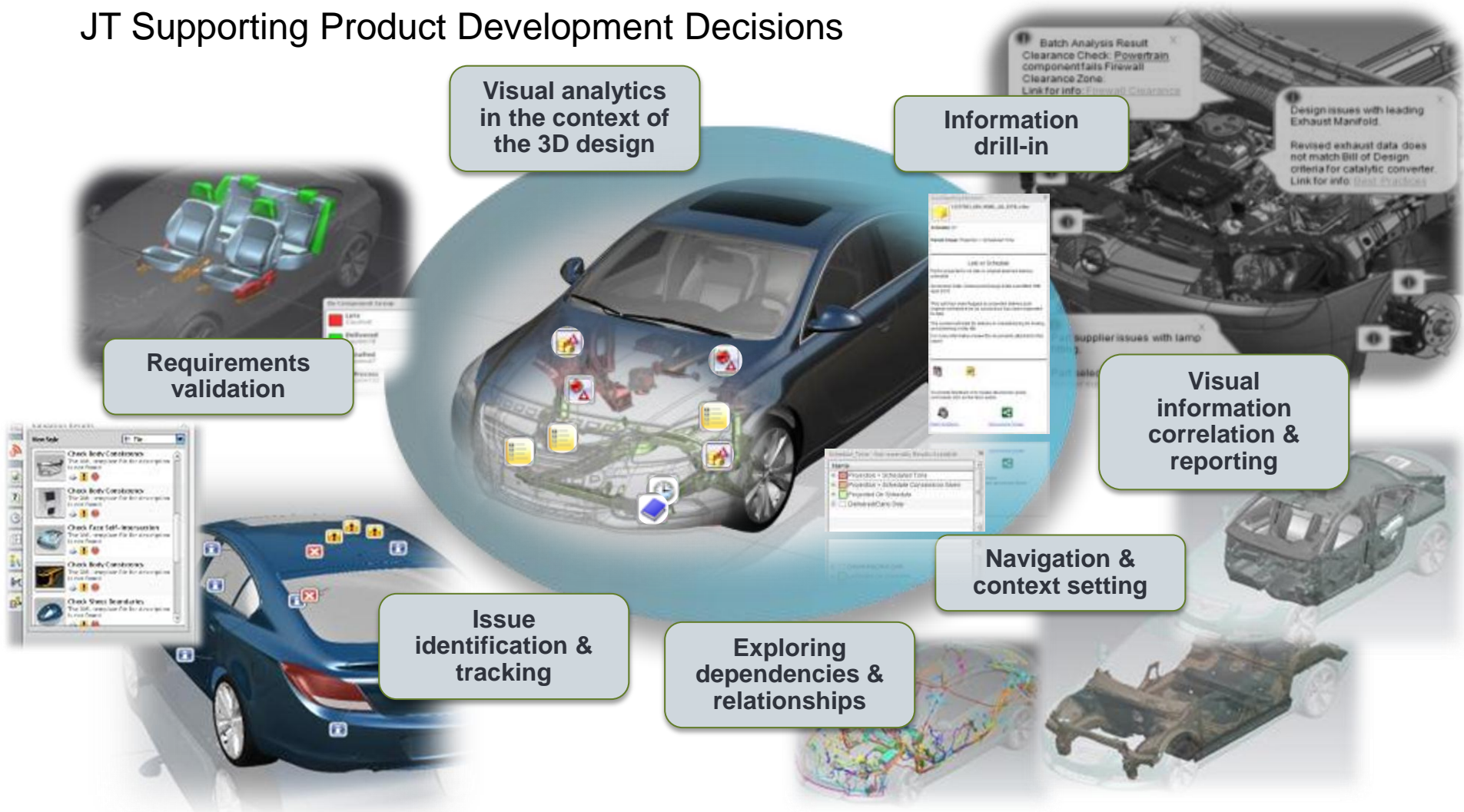


**MAKING COMPLEX
PRODUCT DECISIONS...**

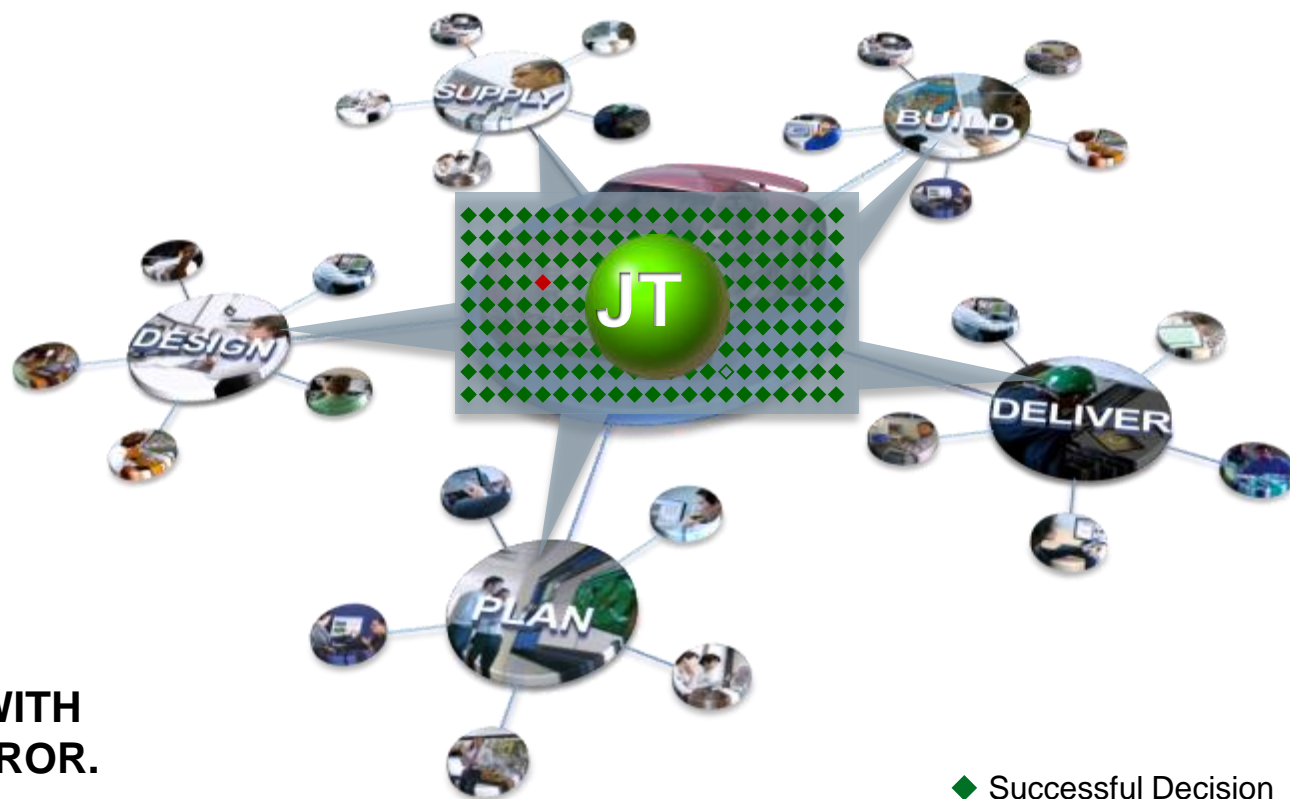
- ◆ Successful Decision
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Visual Reporting with JT – Making Complex Decision

JT Supporting Product Development Decisions



Complex world of product development

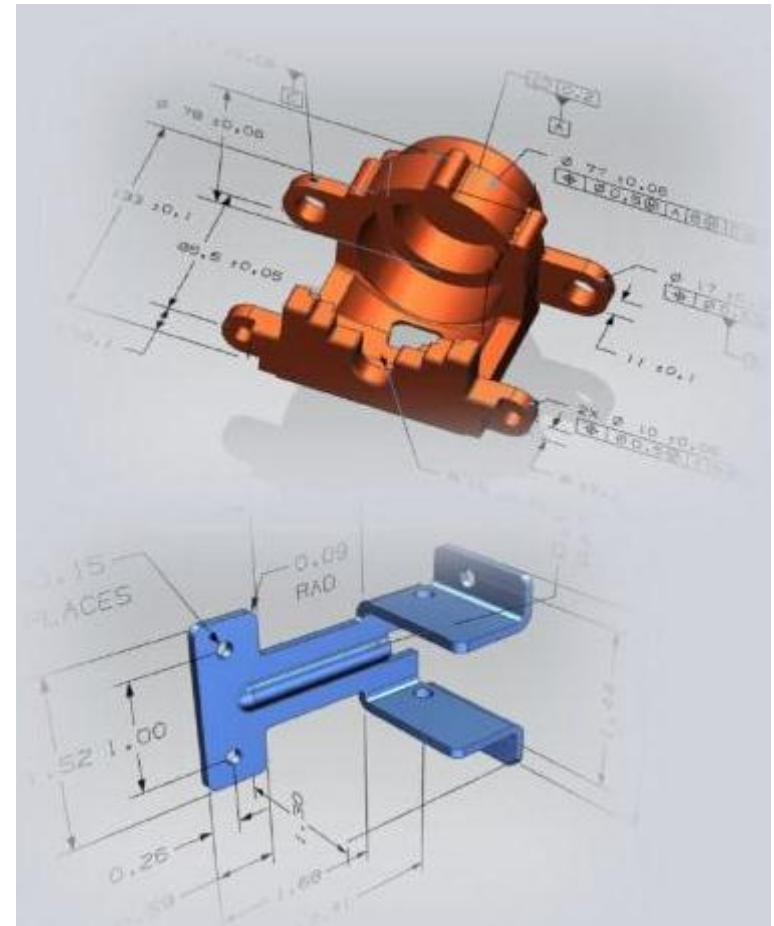
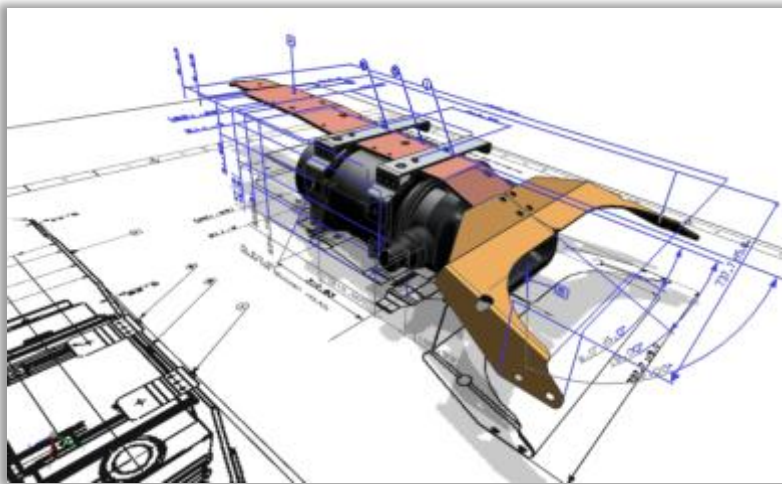


**UNDER PRESSURE WITH
LESS ROOM FOR ERROR.**

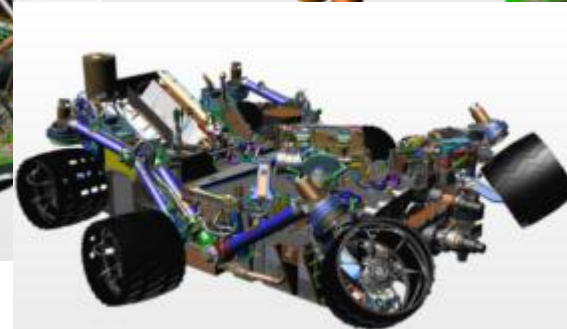
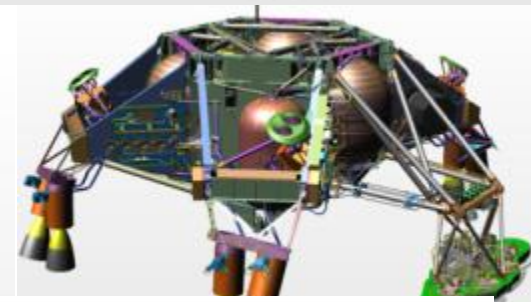
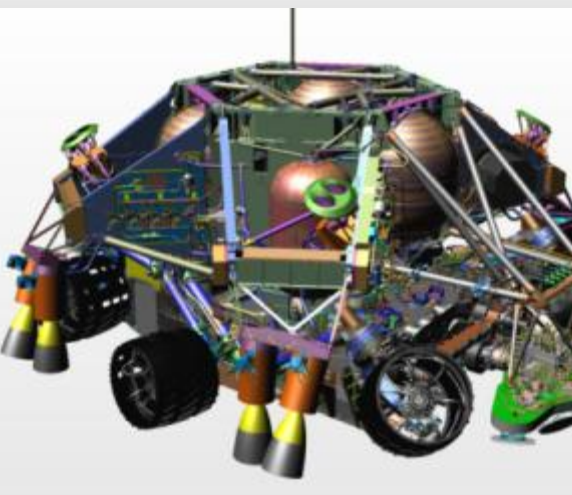
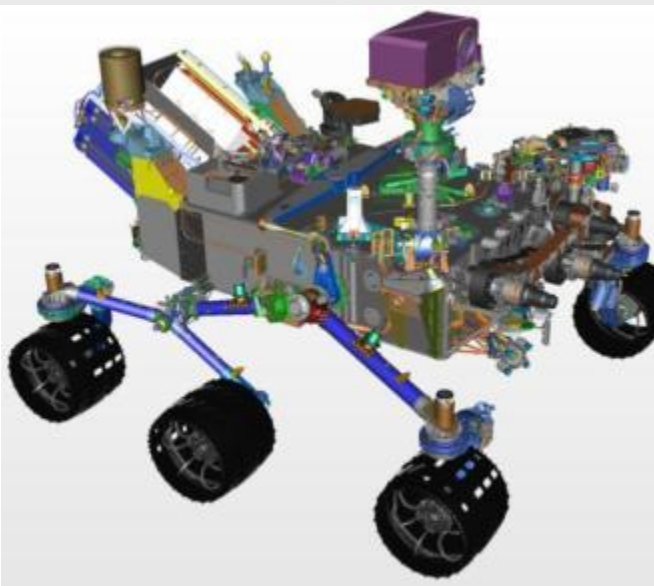
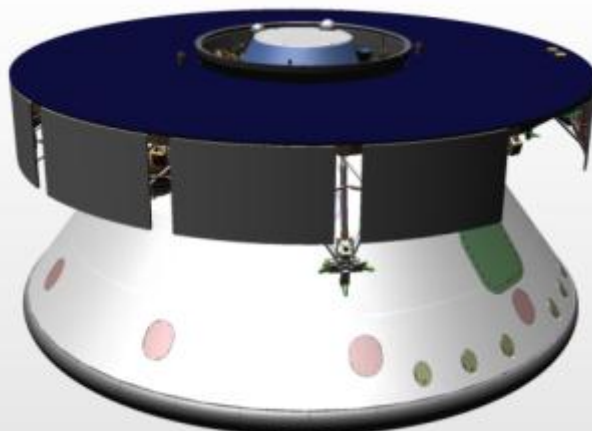
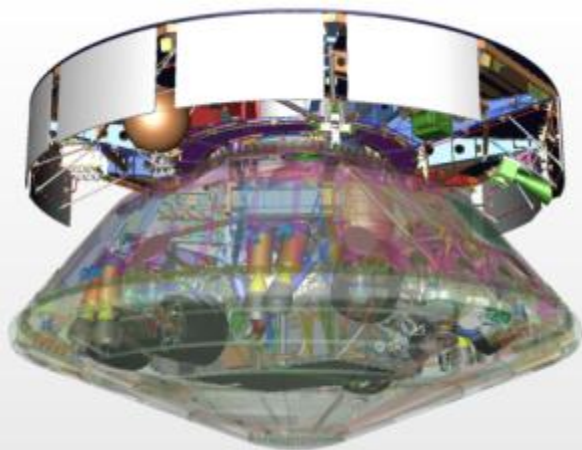
- ◆ Successful Decision
- ◆ Unsuccessful Decision

Less Room for Error - Why PMI is so important

- Annotation on 3D part or assembly with all of the information required by a fabricator to build it
- Process communication via fully annotated 3D models, not 2D drawing
- Semantically rich, not just a picture
- Enable automation
- Reduces communication errors



Mars Science Laboratory (MSL)



Mars Science Laboratory (MSL)



Conclusion



- Resources becoming more challenging
 - Funding harder to acquire
 - Schedules reducing
 - Missions/Task more complicated
- More organizations across the enterprise are needing access to PLM data
- Innovation mandatory in order to compete
 - Must have innovative tools, processes, and people
- JT is a good vehicle to serve as a central, visual, physical road map to an enterprises PLM and ERP data

JT is a good vehicle to serve as a central, visual, physical road map to an enterprises PLM and ERP data

Summary

- JT plays a key role across PLM
- ISO Standard
- Strong partnership with JT Open community
- Well positioned for the future
- Use the 3D data that meets your business need