



Configuration Driven Technical Publications for Manufacturing Process Planning

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Objectives

- ▶ Leverage Teamcenter's configuration management, Versioning, Effectivity, Work flow and Change management
- ▶ Create technical documentation that is bound to data and configured objects in Teamcenter
- ▶ For a given configuration:
 - ▶ Create **templates** for technical illustrations (pages) and portfolios (books) (WISYWIG)
 - ▶ Create **technical illustrations** based on previously created templates
 - ▶ Bind technical illustrations into **portfolios** using a previously created portfolio template
 - ▶ **Manage** the templates, illustrations and portfolios in Teamcenter



Example Applications

- ▶ Part Catalogs
- ▶ Technical Manuals
- ▶ Manufacturing Work Instructions
- ▶ Service Bulletins
- ▶ Service & Repair Manuals
- ▶ Resource descriptions
- ▶ Costing documents
- ▶ Estimating documents



Workflow

AUTHOR: Create and Manage Sheets / Portfolio

- Configure data set from Product / Process / Plant or Resources
- Create / modify illustration sheet and portfolio templates
 - Map to JT data sets
 - Map to object data / attributes
- Choose configuration and apply illustration sheet or portfolio template

PUBLISH: Condition data for viewer consumption

- Teamcenter viewing
- Print Publishing
- Web Publishing

INPUT: Leverage Enterprise Knowledge

- BOM data – configuration, effectivity
- CAD, Image and Drawing repositories
- Product / Process / Resources / Plant Attributes
- Document Layout Templates

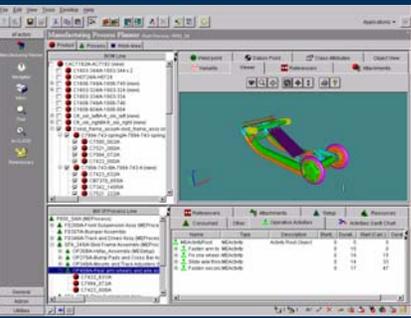
VIEW: Last Saved or Most Current

- Portal Viewer
- Web Browser
- Printed Documents





Configuration driven Publishing

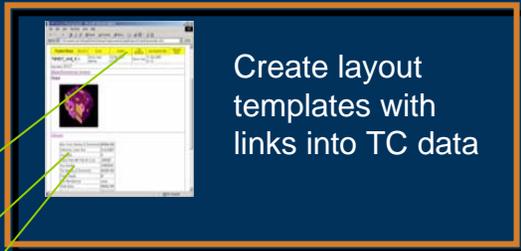
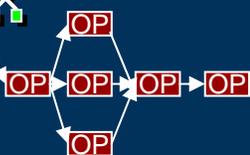


Product, Process, Plant and resource Configurations

CAD Assy.

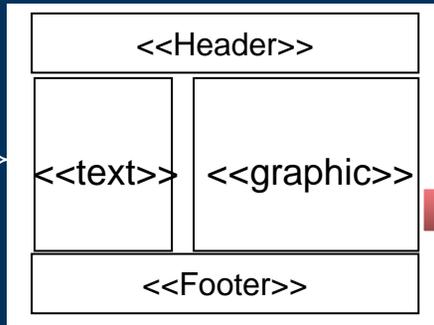


Process

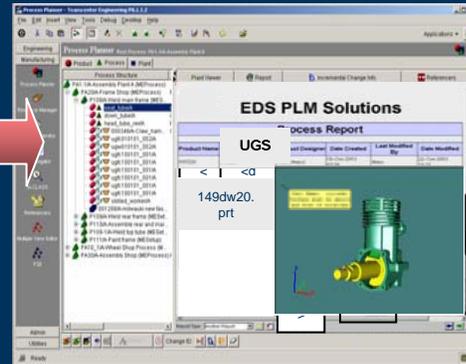


Create layout templates with links into TC data

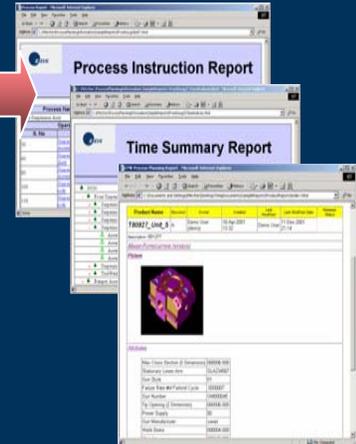
Select & apply Illustration template



Generate and edit sheet



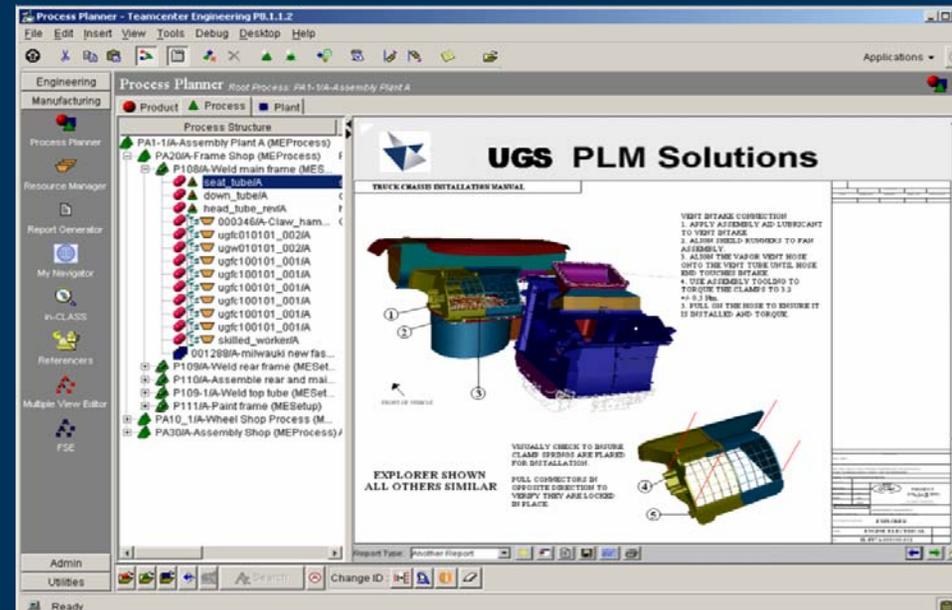
Publish Work books





Key Functionality

- ▶ Provides ability to use product / process / resources / plant configurations to drive generation of technical documents
- ▶ Generation of technical documents driven from within Teamcenter Engineering Portal
- ▶ Templates defined and married up with configuration data pushed out of Teamcenter Engineering
- ▶ Technical Illustrations and Portfolios are managed in Teamcenter
- ▶ A portfolio (book) is published as HTML or as printable media





Documentation components

▶ Page template

- ▶ Consists of shapes (placeholders)
- ▶ Each shape can be linked to an object or attribute in TC
- ▶ Data from a single page may overflow into multiple pages when used to create documentation

▶ Portfolio template

- ▶ Consists of multiple page templates
 - ▶ Title page(s)
 - ▶ Body page(s)
 - ▶ Trailing page(s)

The screenshot shows a software window titled "TC Vis Publish- Template: Setup Instructions: Operation: P10". The window contains a page layout with several tables and placeholders. The top table is a header table with columns: Operation, sequence, description, date, revision, owner. Below it is a table with columns: <op.name>, <Op.seq>, <Op.desc>, Op.date, Op.rev, Op.owner. The main content area contains a large placeholder for "<Free Text>" and another for "<Bound Text>". Below these are two tables: "Operation's activities" and "Consumed Parts". The "Operation's activities" table has columns: Step, description, time, Part ID, Name, Description. The "Consumed Parts" table has columns: Resource ID, Name, Description, Area, owner, revision. The bottom of the window shows a status bar with "Page-1".

Operation	sequence	description	date	revision	owner
<op.name>	<Op.seq>	<Op.desc>	Op.date	Op.rev	Op.owner

<Free Text>

<Bound Text>

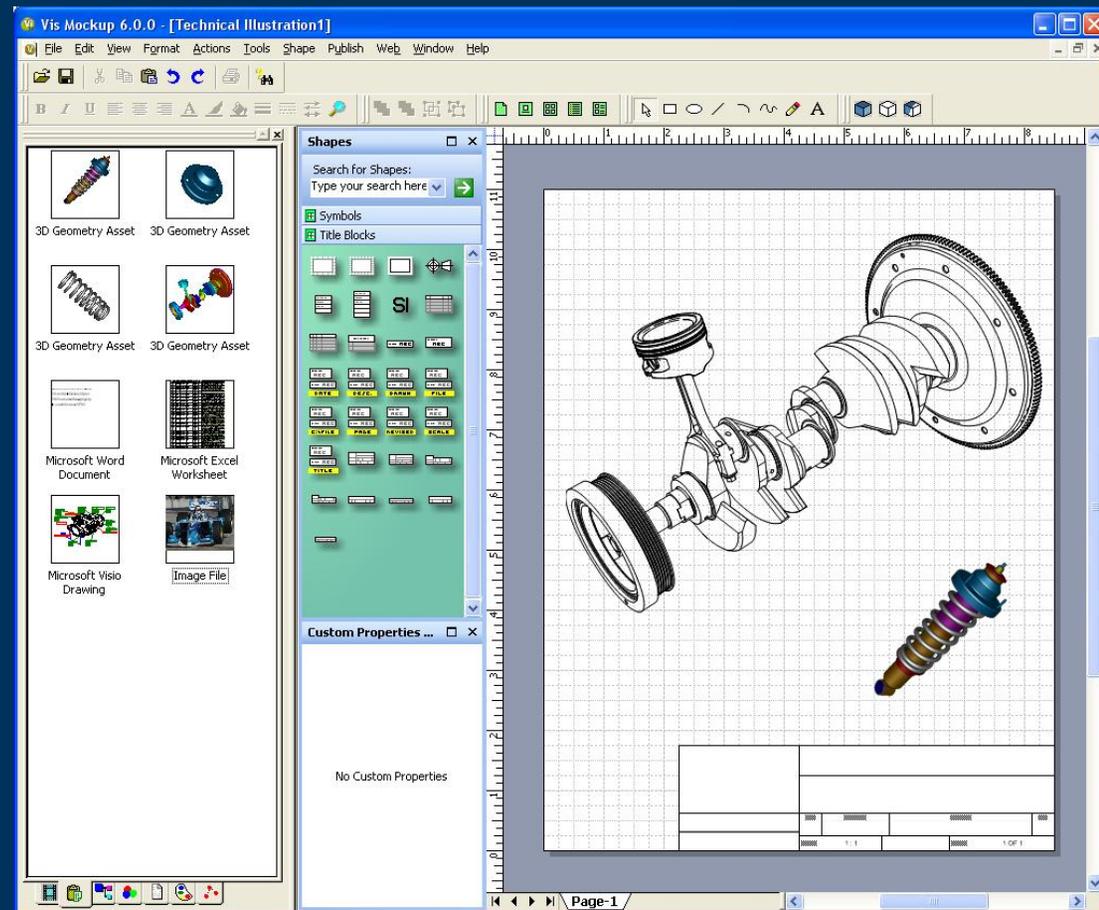
Operation's activities			Consumed Parts		
Step	description	time	Part ID	Name	Description
<act.name>					

Resource List					
Resource ID	Name	Description	Area	owner	revision
<res.ID>					



Illustration Page Template

- ▶ Page is composed of different shape types:
 - ▶ Visio shapes
 - ▶ Vis Publish custom shapes
- ▶ Examples of TC bounded asset/shape:
 - ▶ 2D asset/shape
 - ▶ 3D snapshot shape – Bound to a JT view on a product / process / plant structure
 - ▶ Table – Bound to configured objects in TC for data
 - ▶ Text – Bound to a field of data in TC





Creating new pages from template

- ▶ A new page can be initialized from a pre-defined template.
- ▶ All the assets and their binding data will be carry over to the new page.
- ▶ User can then change any asset or shape for that specific page.
- ▶ User can populate the assets with the appropriate data from TC.
- ▶ The newly created page is then associated with the selected BOM line with the relationship type associated with the tab.
- ▶ Multiple pages with appropriate role (relationship type) can be attached to a BOM line.
- ▶ The attachment is done based on the Abs Occ context mode and the current active IC.



Creating new pages from template

New Dataset dialog box showing template selection and configuration options.

Templates: TCOperati... TCAssOper... TCOperati...

Template name: TCPartListEmpty

File options: Save view as, Use template (selected), File upload, No file (blank slate)

Name: part list-1

Description: List of parts

Open On Create:

Buttons: OK, Cancel

UGS Part List page template showing a header and a large empty content area.

Page-1

Buttons: Hide, Close

UGS Part List page showing a table of data and a 3D model of a car seat.

ID	Name	Description	Rev	SequeneNum...	LogicalID
10257833mire...	10257833mire...	10257833mire...	A	No seq#	11
12455425mla...	12455425mla...	12455425mla...	A		12
12455520mire...	12455520mire...	12455520mire...	A		13
12455536mire...	12455536mire...	12455536mire...	A		14
a2455440mid...	a2455440mid...	a2455440mid...	A		15
a2455446mid...	a2455446mid...	a2455446mid...	A		16
driver	driver	driver	seat		Logical Identity

Page-1

Buttons: Hide, Close



Example of Technical Illustration

Database attributes are automatically populated into the template and updated on request

The screenshot shows the UGS Process Planner interface. The main window displays a 'Process Report' template for 'UGS PLM Solution'. The report includes a table with product and process information, a list of operations, and a 3D CAD model of a mechanical part. A callout bubble points to the 3D model, and another points to the instructions section.

Product Name	Product Description	Product Designer	Date Created	Last Modified By	Date Modified
000326	000326	demo(demo)	18-Oct-2001 07:29	demo	22-Oct-2001

Process Name	Process Description	Process Designer	Date Created	Last Modified By
23270-5	Ejector Plate Machining	demo(demo)	10-Oct-2001 12:48	demo

Operations and Sub-Processes

1. Clamp part in fixture
2. Assemble cap with 6 screws
3. Tighten screws with 50 ppm
4. Seal screws
5. Attach Label (new)

Attention: diagonal tightening required

Edit Text
Detail Instructions

Save WI Sheet
under TC operation
or activity



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process of innovation*



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