



electronic
document
CONFERENCE

3D PDF

Transforming Your Supply Chain

Program

- What is a 3D PDF?
- Creating and controlling
- Supply Chain challenges
- Real world: High Tech Plastics
- Sharing the magic with your Vendors
- Wrap-up



What is a 3D PDF?



What a 3D PDF isn't

- Not a new CAD format
- Doesn't require special software to participate
- Not for every one



What a 3D PDF is!

- Works with many embedded objects
- Many formats, many solutions
- Container for various pieces of data
- Interactive approach to communicating information



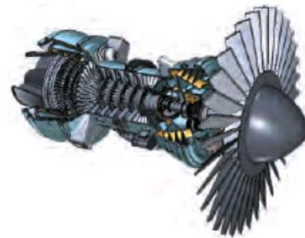
3D PDF example (ca 2005)

TURBINE INDUSTRIES



Turbine Industries offers a full line of gas-turbine engines for a variety of maritime applications. Covering a range from 400 to 40,000 horsepower, our engines power ships from as large as destroyers and cruisers to as small as hydrofoils and private yachts. All products are derived from engine designs and technologies successfully service-proven in Pratt & Whitney's™ aircraft engines.

Since the 1950s, our marine turbines have been used in a variety of military and commercial craft. This breadth of experience is a testament to the versatile design of our engine packages and includes: Air Cushion Vehicles, Assault Craft Cutters, Crew Boats, Cruise Ships, Cutters, Destroyers, Ferries, Frigates, High Speed Ferries, Hydrofoils, Ice Breakers, Minesweepers, Private Yachts, Race Boats, Surface Effect Crafts.



All of our marine engines are supported by our Customer Service and Aftermarket Services organizations. Customer Service provides a broad variety of technical services, including technical assistance, training and technical publications. Our Aftermarket Services team provides parts repair and overhaul services as well as comprehensive maintenance management services.

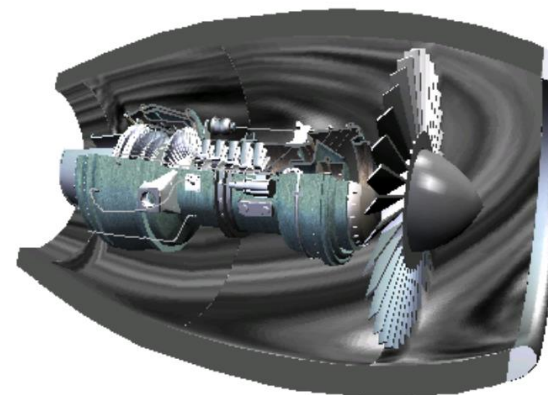
We are capable of performing all levels of engine overhaul for all Pratt & Whitney™ engines and a growing number of our competitors' engines. Our global network of service facilities has a portfolio of offerings that is

comprehensive and specifically structured to lower cost and optimize the engine's time on-wing.

In addition, we have set the standard for the world's largest implementation of engine technology from production to retirement. Whether we perform feats of maintenance, manpower or information technology, we believe that every customer is truly unique and requires an ingeniously tailored solution.

Our high bypass turbine design creates a very compact yet powerful system while maintaining a low noise profile due to efficient **airflow**.

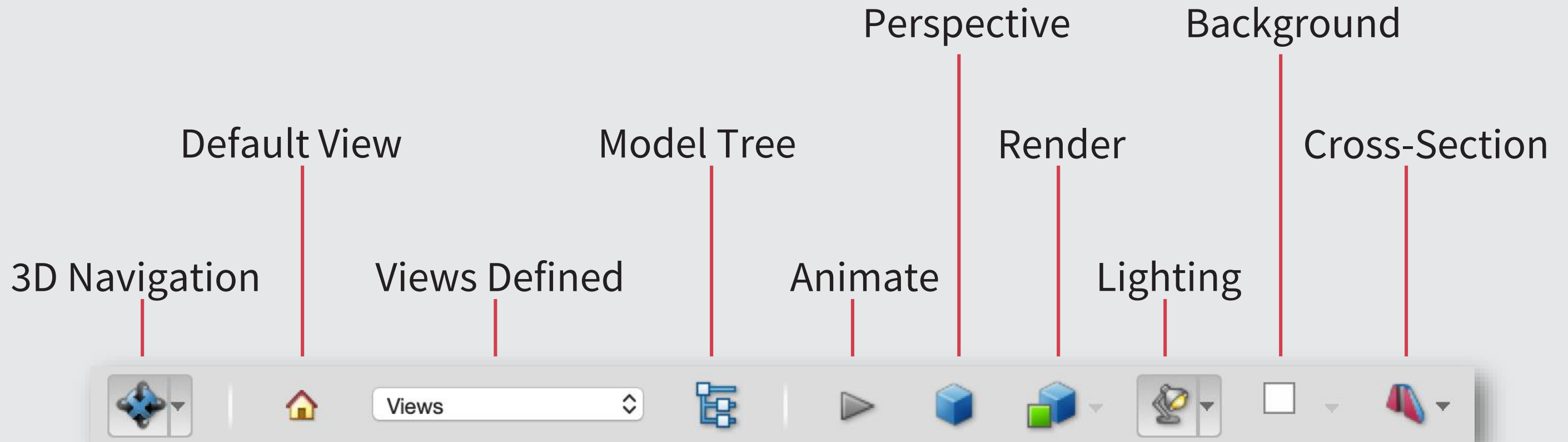
The multi-stage compressor and combustion chamber coupled with a very effective fuel injection system create a highly **reliable** fuel efficient, compact power system for many applications.



This document is published using Adobe Acrobat 7.0 Professional, InDesign CS, Illustrator CS, Autodesk 3ds Max and Right Hemisphere's Deep Exploration



3D PDF controls



Creating 3D PDFs



- Adobe Acrobat Pro*
- CAD Plug-In



- Automation Solutions*

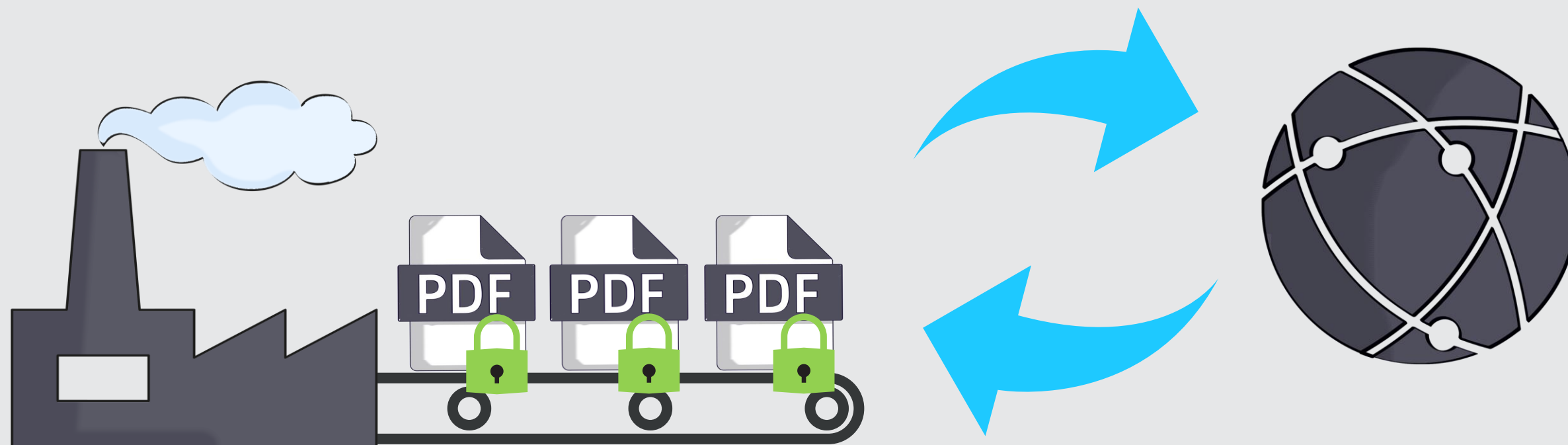
*Tetra4D



Supply Chain: Parts & Design



Supply Chain: Purchasing, Production



Röchling Automotive

- Build interactive documents from bills of materials
- Detail from across engineering to supply chain on one page
- Lifecycle stage specific generation



Automotive Plastics

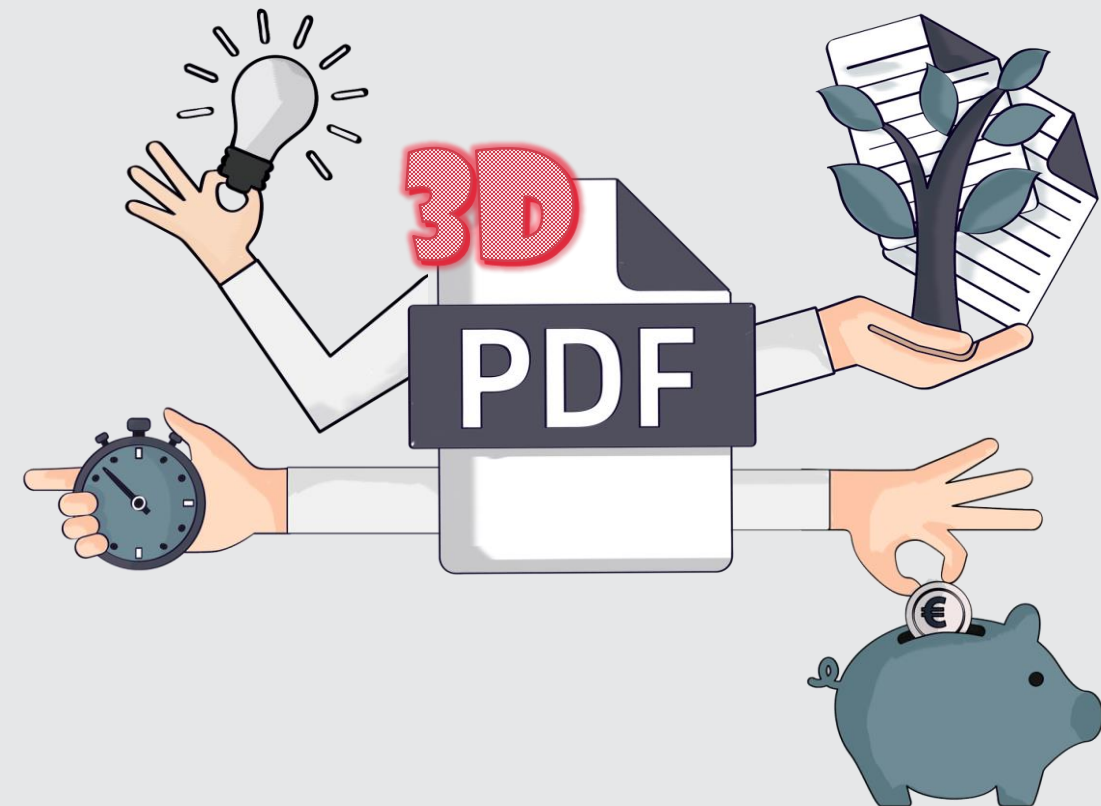
3D PDF with Bill of Materials

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Designed by:	Christian Raffael	Approved by:	Werner Farina	
OEM	RA internal charges			
Customer	Roehling Internal			
Partnumber	PRODUCT 1			
Partdescription	WATER INJECTION TANK			
Productgroup	EN - Hydraulic System			
OEM Revision				
Project				
Vehicle/Platform/Engine	RA internal charges			
Assignment	SLS Rapid Prototypes			
CAD Volume [cm³]	0,00			
Carryover/Standartpart				
Safety Part	NO			
Bill of Materials				
DIS	Partnumber			
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OEM Revision				
Vehicle/Platform/Engine				
Assignment				
CAD Volume [cm³]				
Carryover/Standartpart				
Safety Part				
Hide selected	One Level up	Isolate selected	Show All	Next Level Structure List



Wrap-up

- 3D PDF for complex data packages
- Multiple CAD and mixed-media documents
- Viewable in most tools
- Low cost startup to incorporate



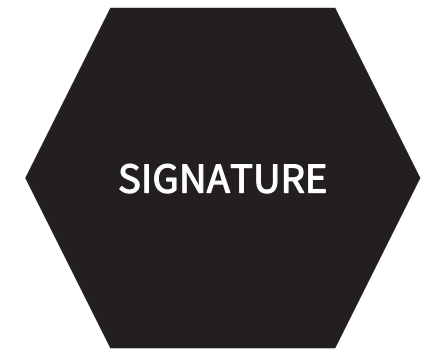
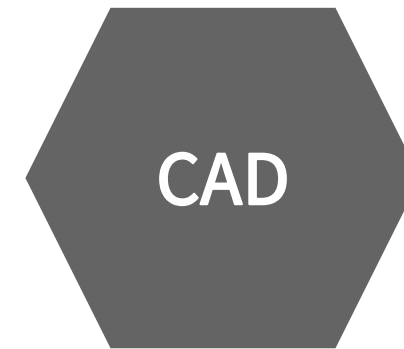
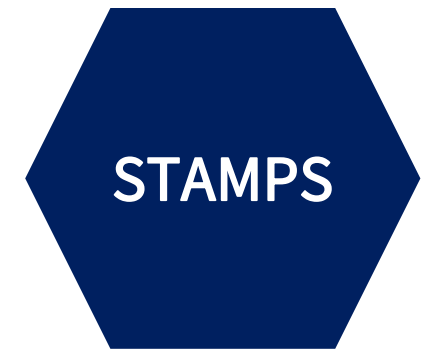
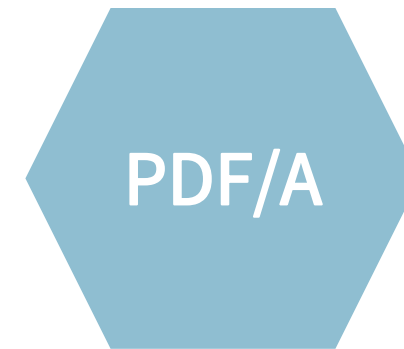
Resources

- Google: “Interacting with 3D PDF”
<https://helpx.adobe.com/acrobat/using/interacting-3d-models.html>
- Google: “Adding 3D Models to PDF”
<https://helpx.adobe.com/acrobat/using/adding-3d-models-pdfs-acrobat.html>
- SEAL Systems: 3D PDF in the Supply Chain
- PROSTEP: CAD integrations and 3D PDF
- Tetra4D: 3D PDF tools



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