

TECHNIA

ADDNODE GROUP



Lite3D

Establish 3D as an affordable common collaboration language beyond engineering throughout the extended enterprise.

EXPERIENCE PACKAGED

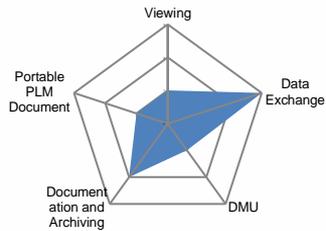
Overview of different neutral formats

Formats: STEP / 3DXML / JT / 3D PDF

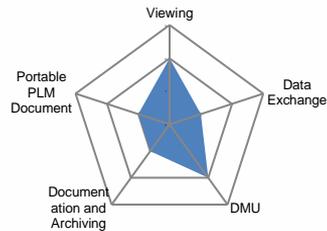
Application areas: Viewing / Data exchange / Digital Mock Up (Process chain) / Documentation and Archiving

Criteria: Free of charge Viewer / Converter and Software / Software Development Kits / Compression and Data size / Standardization

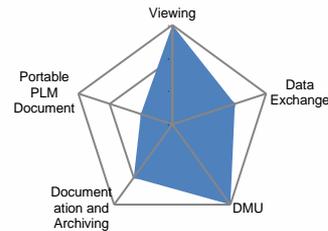
STEP



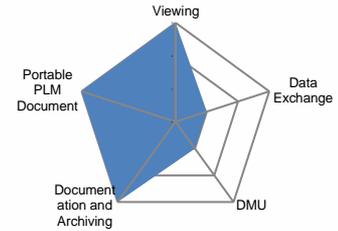
3D XML



JT



3D PDF



Benefits of using neutral formats

CAD/CAM/CAE systems often share common data. Neutral file help to use product data of one system in other systems and vice versa.
But it can do much more...

3D data for all users

Common
Collaboration
language is 3D
Less discussions
and
misunderstandings
compared to 2D

Optimized and lean processes

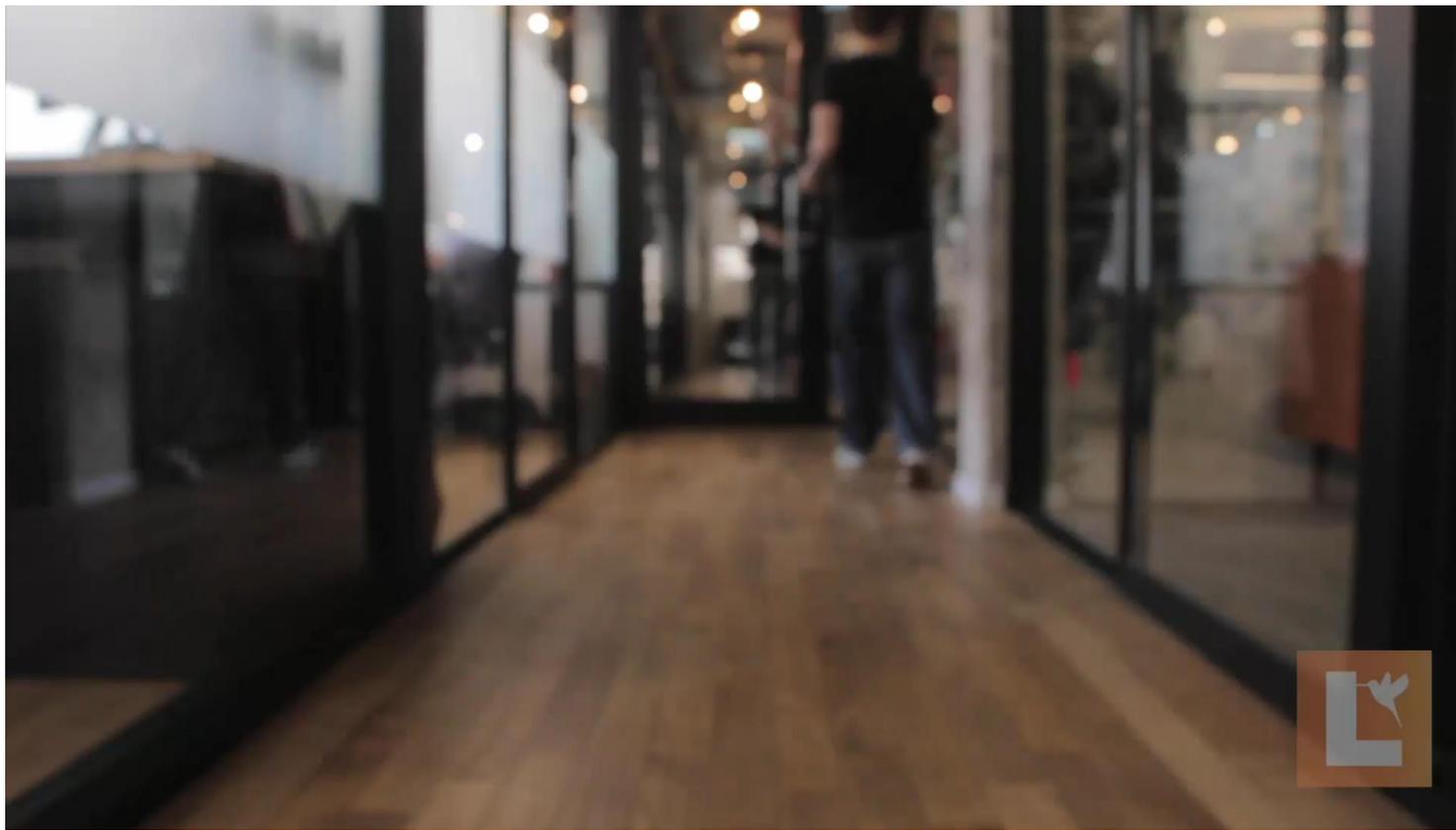
High functional JT
software

Higher flexibility

Separate CAD
engineering from
downstream
processes
Independency of
vendors

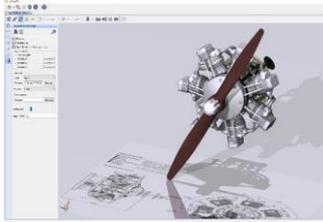
JT ISO is a mature and industry proven standard

Industry focused, high-
performance, lightweight,
flexible file format
Neutral and royalty free
JT covers Engineering use
cases
Large worldwide user and
vendor community



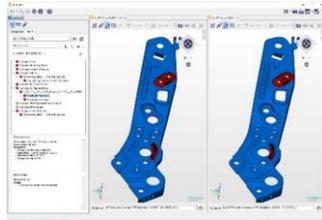
Professional JT portfolio driven by customer input with solid release cycle

ISO based own JT toolkit with full control and best performance



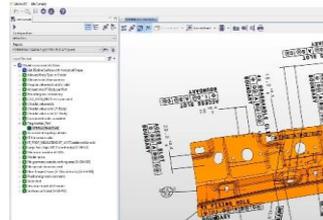
LiteBox3D

Desktop and Web Viewing



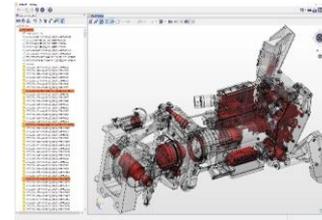
xCompare

Validation



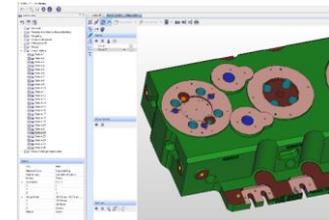
LiteComply

Data Quality



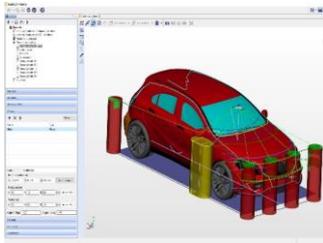
LiteDrop

Data Simplification & IP Protection



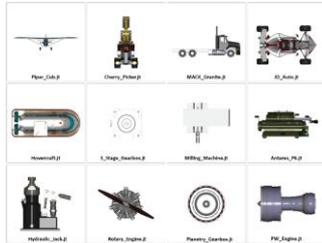
LiteMachine

Design to Manufacture



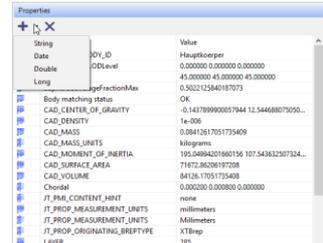
LiteCar

Vehicle Homologation



LiteImage

Image Capturing (Batch)



LiteProperties

Properties editing (batch)



3DHTML

3DHTML creator (batch)

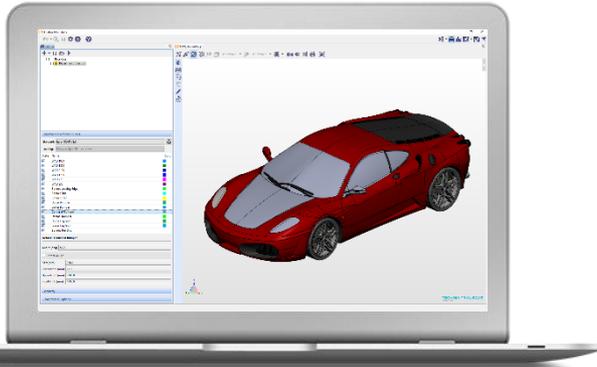


Custom Apps

LiteSilhouette, LiteCCC, ...

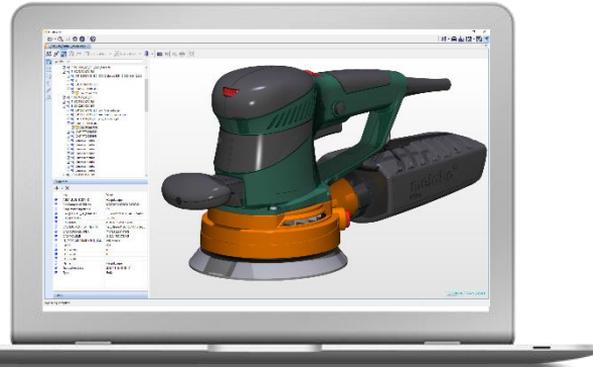
LiteBox3D

Desktop and HTML5 web based viewer for JT, PLMXML, STEP AP 242 XML and TIFF



Free Desktop viewing

Most User friendly JT viewer on the market



Pro Desktop viewing

Desktop Viewing with enhanced functionality



Web viewing

Viewing on any device

LiteBox3D Free

Most User friendly JT viewer on the market



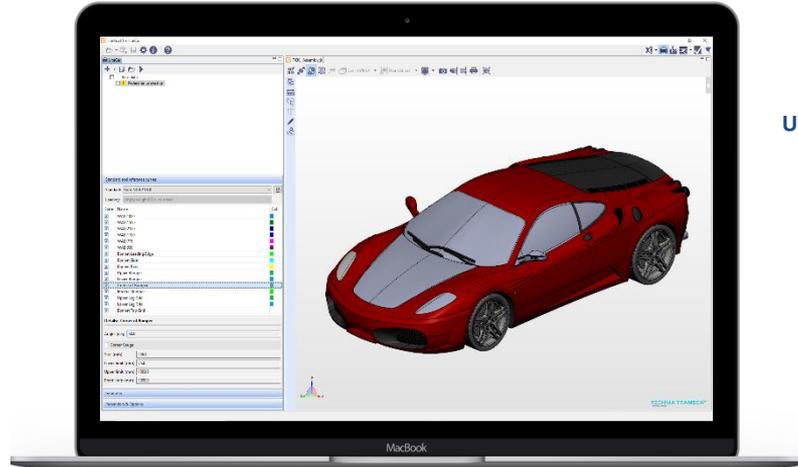
NO LIMITS

Powerful own JT
ISO 14306:2012
toolkit



PLATFORM

LiteBox3D as a
platform for
process
applications



USER-FRIENDLY

LiteBox3D is
characterized by its
user-friendliness.



FREE

Free version for
commercial usage

LiteBox3D Pro

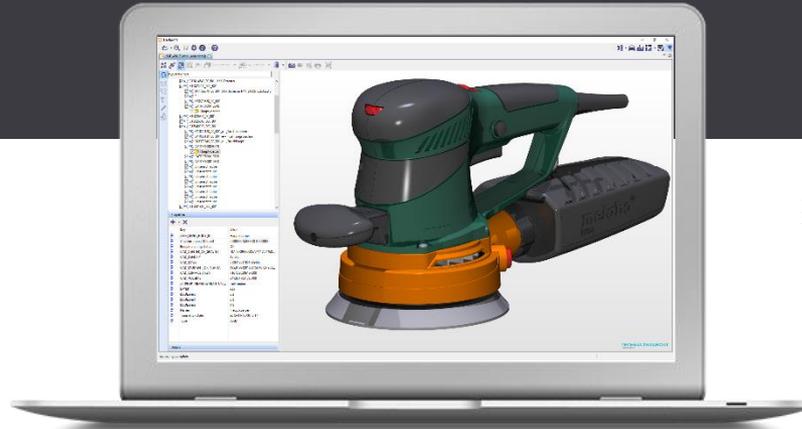
Desktop Viewing with enhanced functionality



EXTENDED

Additional powerful features

- Advanced measurement and clipping
- Edit Properties
- Redlining
- Move parts
- Silhouette creation
- Geometry / Topology analysis
- 3D HTML Export
- PMI Tree
- Ray tracing



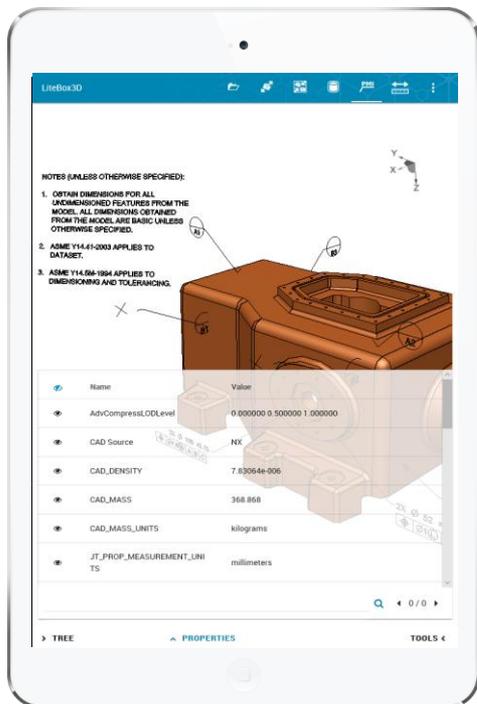
SIMPLE INTEGRATION

JAVA Eclipse and DDE interface allows communication with any third party products e.g. Adobe Acrobat Reader.



YOU WANT MORE...

Solid release cycle driven by customer input



LiteBox3D Web viewer

Viewing of 3D on and Device

OPEN STANDARDS

Based on HTML5, WebGL and modern browsers. TECHNIA supports the CPO Initiative (Code of PLM Openness)

IP PROTECTION

No file based model exchange between users. Models remain on server at any time

LOW COSTS

Client-side rendering

EASY ACCESS ON ANY DEVICE

Whether on mobile or at your desk, you can access your 3D-models from every device.

ALWAYS UP TO DATE

No more confusion due to different releases of the same model, the latest version is always accessible

PWA / OFFLINE MODE

Keep on working even when disconnected from internet



3DHTML

Ready to share 3D!

ONE FILE

Bundles LiteWeb App + 3D data + HTML Template into a .html which offers all functionality offline

IP PROTECTION

Protect files with password and set file expiration date

CUSTOMIZATION

Customized templates upon user requirements

EASY ACCESS ON ANY DEVICE

Whether on mobile or at your desk, you can access your 3D-models from every device.

NO INSTALLATION

Only requirement is a modern web browser

FEATURES

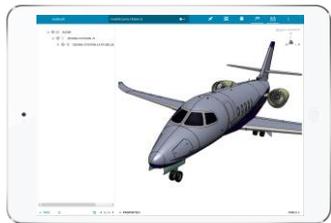
3D visualization (zoom, pan, rotate)
Meta information (properties)
Model tree
PMI and Model views
Tools like Measurement and Clipping

Comparing Products

PRICING AND SERVICES

<h2>Desktop Free</h2> <p>For commercial use</p>	<h2>Desktop Pro</h2> <p>With advanced features</p>	<h2>Web viewer</h2> <p>For any device</p>
<h1>€0</h1> <p>Forever</p>	<h1>€120</h1> <p>Per Seat</p>	<h1>€25</h1> <p>Per session / month</p>
<ul style="list-style-type: none">○ Display JT, STEP AP242 XML, PLMXML, TIFF○ Display PMIs and Model views○ Measurement○ Clipping○ Display Redlining/Markups○ Access to Lite3D add-ons○ ...	<ul style="list-style-type: none">○ Everything in Free and advanced measurement and clipping, Edit Properties, Redlining, Move parts, Silhouette creation, Geometry / Topology analysis, 3D HTML Export, PMI Tree, Ray tracing○ Submit feature requests○ Access to TECHNIA support	<ul style="list-style-type: none">○ Display JT, STEP AP242 XML, PLMXML, TIFF○ Display PMIs and Model views○ Measurement○ Clipping○ Powerful API for integration○ Access to TECHNIA support

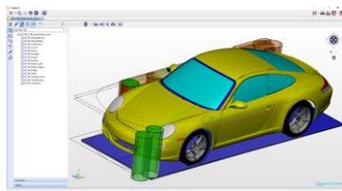
2018 Milestones



Feb 2018.1
Enhanced logging
PMI improvements
3DHTML: Password protection and expiration date
Enhanced measurement
New LiteComply rule
New product: LiteProperties



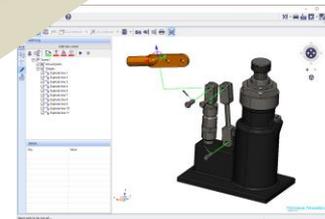
Apr 2018.2
18% faster model loading
New clipping functionality and improved usability
New measurement functionality
New LiteComply rule
3DHTML and Web: Measurement preview, PWA support



Aug 2018.3
New product: LiteCar
Improved visualization (PMI, edges)
Improved Redlining functionality and usability
3DHTML and Web: Measurement completed, Support of big models

Oct

2018.4
UI and UX improvements
Improved loading performance
Redlining improvements
New LiteComply rule



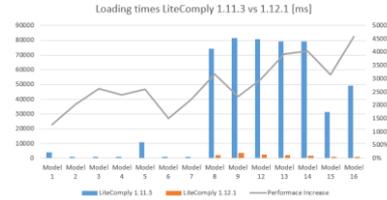
Dec 2018.5
Ray tracing
Parts Movement
LiteCar v1.2.0



2019 Improvements

Up to date

- Support of new JT file version
- OBJ and VRML file support
- Enhanced STPX support

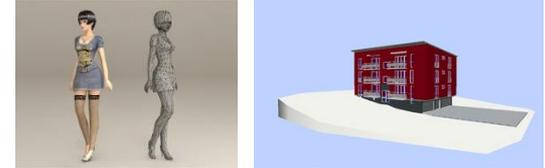


Infrastructure

Performance, Scalability, Linux

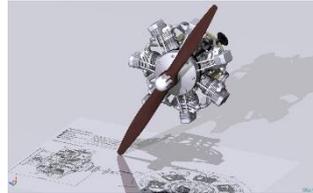
File Support

Support of further neutral file formats (OBJ, VRML, ..)



Performance

Faster viewing and checking



User Experience

More features
Look & feel
Ease of use



Technology

Oracle JAVA free



Customer focused

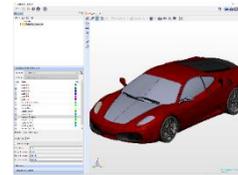
LiteCar
Work Instructions

OpenJDK



Vehicle Homologation

More features
Look & feel
Ease of use



Work Instructions

Easy to Create
View on every device
Revision stable



Lite3D Customers



Volkswagen



KOSTAL

BOSCH



kiekert

WABCO



ALPINE

TRW

BOYSEN
INNOVATIONEN ABGASTECHNOLOGIE



DAIMLER

SCHAEFFLER

SAFRAN
AIRCRAFT ENGINES

PWO



SIEMENS

MAHLE



ARaymond[®]
MORE THAN FASTENING



Webasto

MAGNA
CAR TOP SYSTEMS

GRAMMER



faurecia

LiteBox3D Sample Integrations



Supplier Collaboration with neutral data

Daimler JT Supplier Package

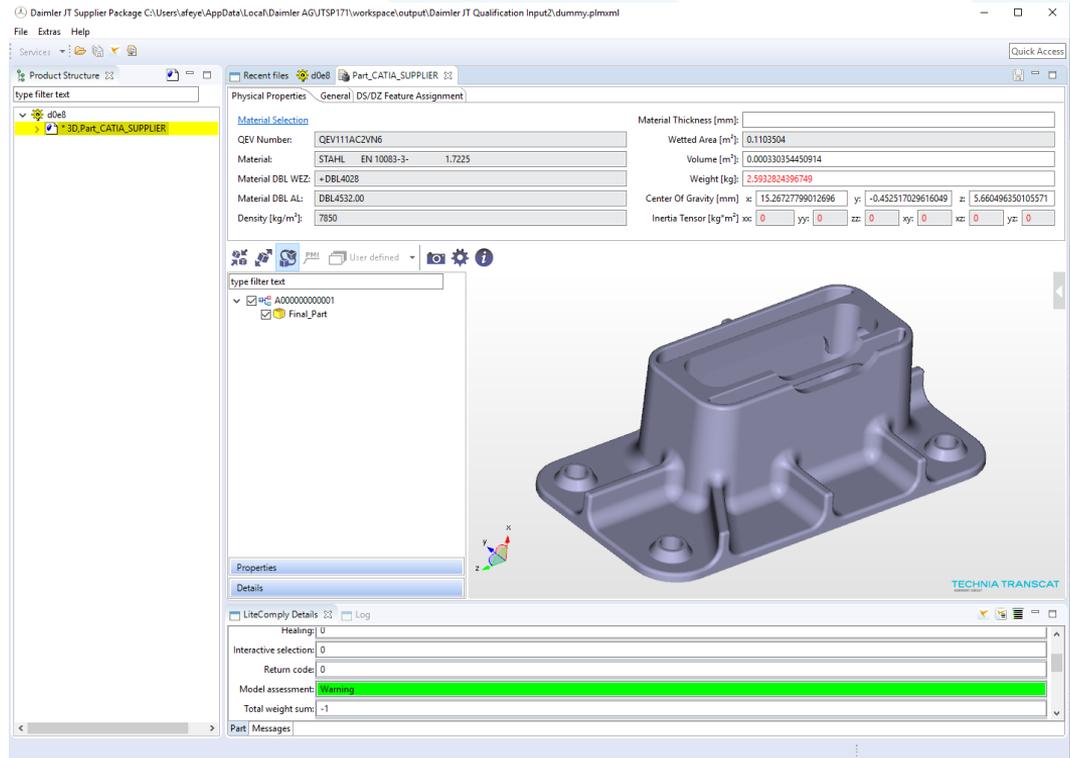
- Data Exchange with suppliers

Advantages of IT-Standards

- ...reduced license costs
- ...to make us independent from software vendors
- ...for long term data retention
- ...to ensure common data quality standards

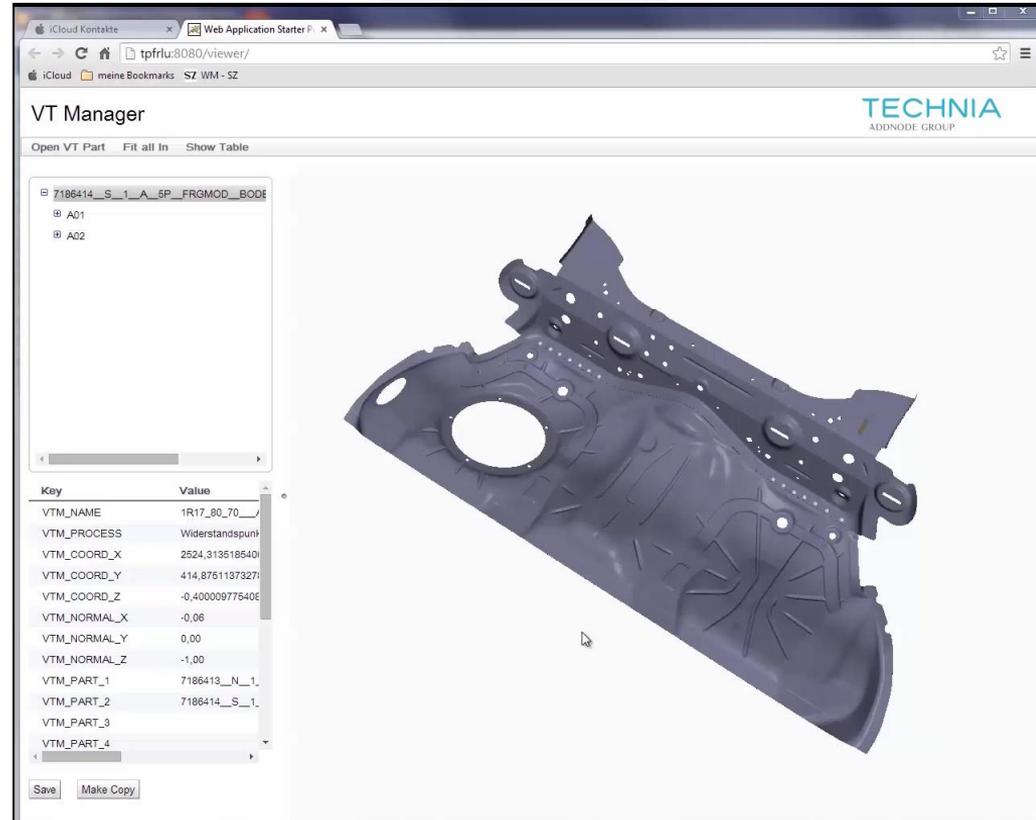
Powered by TECHNIA Software

- Viewing components based on LiteBox3D Desktop viewer
- Writing of JT properties with TECHNIA software
- Customer specific functionality for Title block handling in Tiff
- JT data quality proven with LiteComply



Welding Application

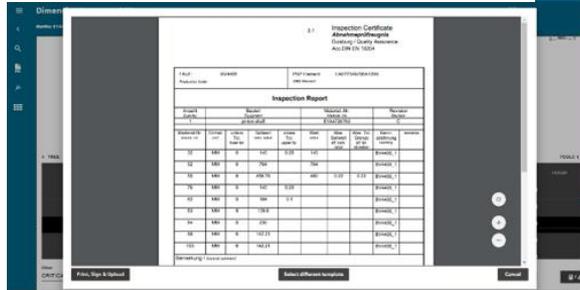
- JT web viewing combined with database containing welding point information



Inspection reports

Web application for inspection reports

- Login credentials authenticated in Teamcenter
- JT data located in Teamcenter
- Inspection dimensions in Quality-DB



The screenshot displays a 3D CAD model of a pinion shaft. The model is shown in a perspective view, with various dimensions and features highlighted. The dimensions include a total length of 496, a distance of 369.5 from the left end to the center of the tooth, and a diameter of 459.78 h9. The tooth is labeled 'Mitte Verzahnung CENTRE TOOTHING'. The shaft has a diameter of 395 and a lead-in chamfer with a radius of R2.5. The surface finish is specified as Ra 0.07. The model is shown in a blue and white color scheme.

Below the model is a table with the following data:

Class	Characteristic Number	QS Num	Measuring Size	Unit	Tolerance Class	Tolerance Value	Lower Tolerance	Nominal Value	Upper Tolerance	Value	Dif. Norm Value	Dif. Tol. Deviation	Part Marking	Remark
<input type="checkbox"/>	CRITICAL	32	Q14	Diameter	MM	0	-0.268	140	0.28	140	0		BV4405_1	
<input type="checkbox"/>	CRITICAL	52	Q21	Dimension	MM	0	-0.05	764	0	764	0		BV4405_1	
<input type="checkbox"/>	CRITICAL	55	Q07	Diameter	MM	h	9	-0.155	459.78	0	460	0.22	BV4405_1	

BOM Manager

- 3D Viewing integrated in BOM manager

The screenshot displays the BOM Manager interface with the following components:

- 3D Viewport:** Shows a 3D model of a compressor assembly with a green highlight on a specific part. The interface includes a 'SCENE' tree on the left, a 'TOOLS' bar at the bottom, and a 'PROPERTIES' panel on the right.
- Bar Chart:** A bar chart with a y-axis from 0 to 100, showing data points for various parts.
- BOM Table:** A detailed table listing parts with columns for 'id', 'reper', 'modul', 'permets', 'part_number', 'quantite', and 'description'. The table includes a 'Description' column with a tree view of sub-components.
- Options de filtrage:** A sidebar menu with options like 'Rep. Fonctionnel', 'Reference', and 'Afficher les lignes ou je suis en action'.
- Textual Content:**

Bienvenue dans la base collaborative

Suite à la demande du chef de marque et de la supply chain, il est nécessaire de renseigner la colonne maturité pour chaque ligne de nomenclature mise sur cette maturité représente la confiance du module manager à amener sa pièce à la série, mais également la maturité de la définition de la pièce

La maturité ne peut prendre que 3 valeurs distinctes

 - 1 - Pièce dont on est sûr qu'elle sera présente en série
 - 2 - Pièce dont la présence sur la série est soumise à la réussite d'un essai
 - 3 - Pièce qui ne sera pas présente pour la série (solution temporaire) ou pièce dont la définition technique est inexactement valide.

Pour commencer, spécifier un critère de filtrage (Réfère, référence etc ...) et cliquez sur le bouton de recherche (P)

3DEXperience Integration

LiteBox3D Integration in
3DEXperience

The screenshot displays the 3DEXPERIENCE ENOVIA Collection Management interface. The main content area shows the 'Plan Details' tab for a 'Lego' Seasonal Plan. The plan details are as follows:

Type	Seasonal Plan	Name	Lego
Description	Lego	Owner	Innovation Forum
Owner	Innovation Forum	Visibility	Members
Season	Spring Summer 2018	Apparel Programs	
Subsidiary	Blue Sky	Business Unit	
Last Modified	Oct 2, 2018	Sort Order	0.0
Schedule From	Project Start Date	Actual Start Date	
Estimated Start Date	Oct 2, 2018	Actual Finish Date	
Estimated Finish Date	Oct 2, 2018	Actual Duration	0.0
Estimated Duration	1.0 Days	Plan Currency	Dollar
OTB	0.0	Default Forecast Level	Product
Landed Cost	0	Revenue	0
Markup %	0	Quantity	0
Gender Class	Boys	Product Type	Toys
Margin %		Default Forecast Level	Product
Retail Price		Margin %	0
		Retail Price	0

The 'Plan By' section shows the following levels:

Level 1	Level 1 Values
Level 2	Level 2 Values
Level 3	Level 3 Values
Level 4	Level 4 Values

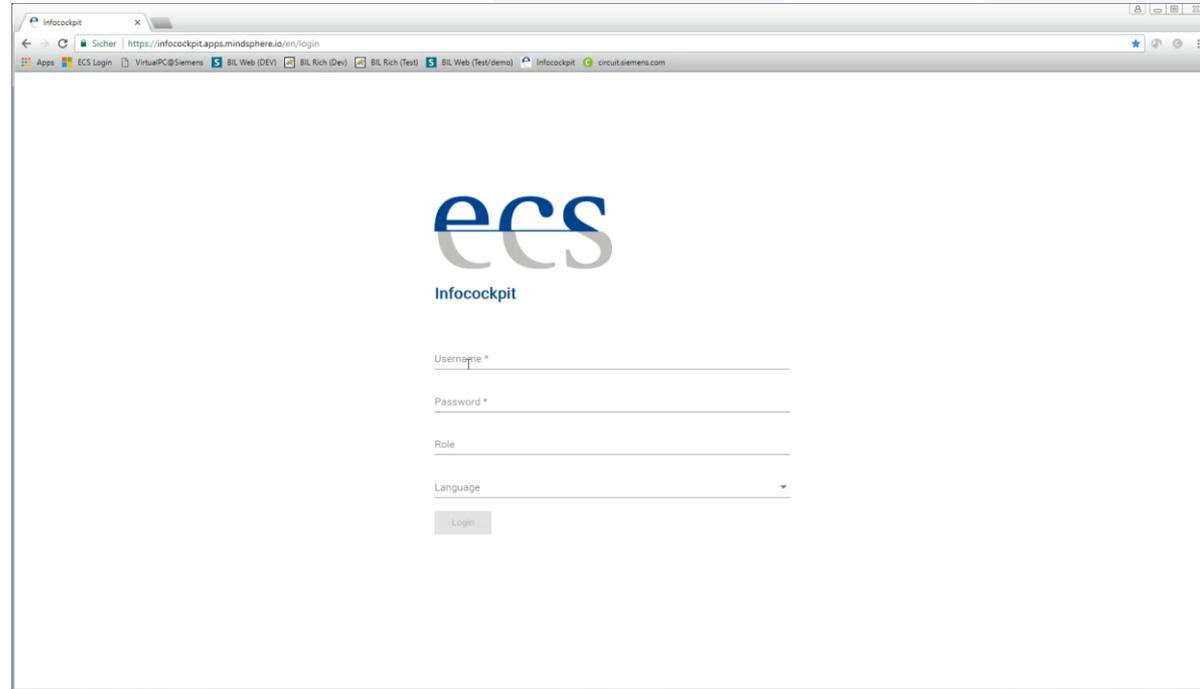
The 'Plan Sequence' section shows:

Plan Sequence	Gender Class, Product Type
---------------	----------------------------

PDM-ERP Frontend

Seamless LiteBox3D Web viewer
integration in HTML5 application

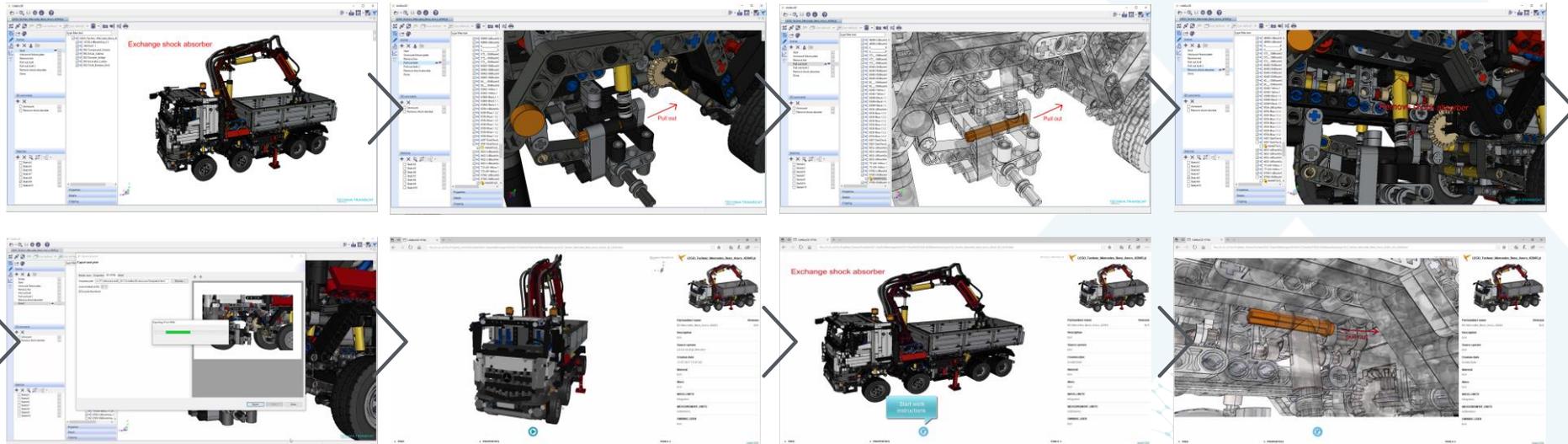
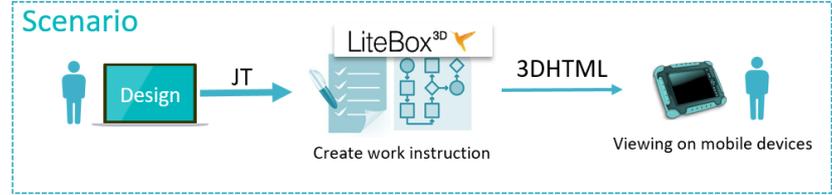
- Login credentials authenticated in Teamcenter
- JT data located in TC
- Meta data in SAP



The screenshot shows a web browser window displaying the login page for the ECS Infocockpit. The browser's address bar shows the URL <https://infocockpit.apps.mindsphere.io/en/login>. The page features the ECS logo and the text "Infocockpit". Below the logo, there are four input fields: "Username *", "Password *", "Role", and "Language" (with a dropdown arrow). A "Login" button is positioned at the bottom of the form.

Work instructions

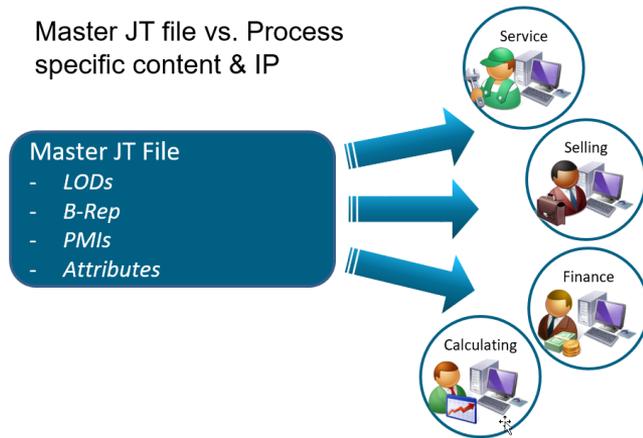
- Easy to Create. Work instructions in LiteBox3D
- View on every device. 3DHTML output can be viewed on any web browser (no viewer installed)
- Revision stable. Annotation notes are still there in updated JT's



Products

Data Clearing – IP Protection and Simplification

Extract process specific content & IP from a Master JT file
High performance JTs with just what's needed and you want to share
Removal of invisible parts



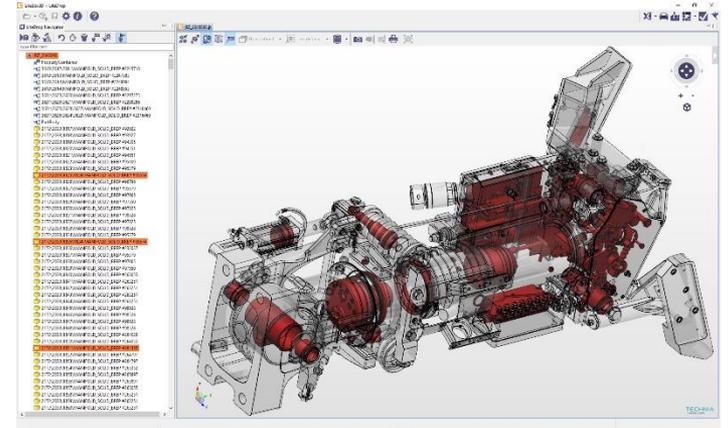
Bidding & Inquiry
- LODs (low accuracy) only

High end Visualization
- B-Rep only

Manufacturing / Shop floor
- LOD & PMIs

After Sales
- LOD (finest) & Properties

Others.... i.e. viewing by web
- As small as possible



LiteComply



Data quality in JT and TIFF

Measure product data quality in JT

Checks for „norms and standards“

Checks for geometry

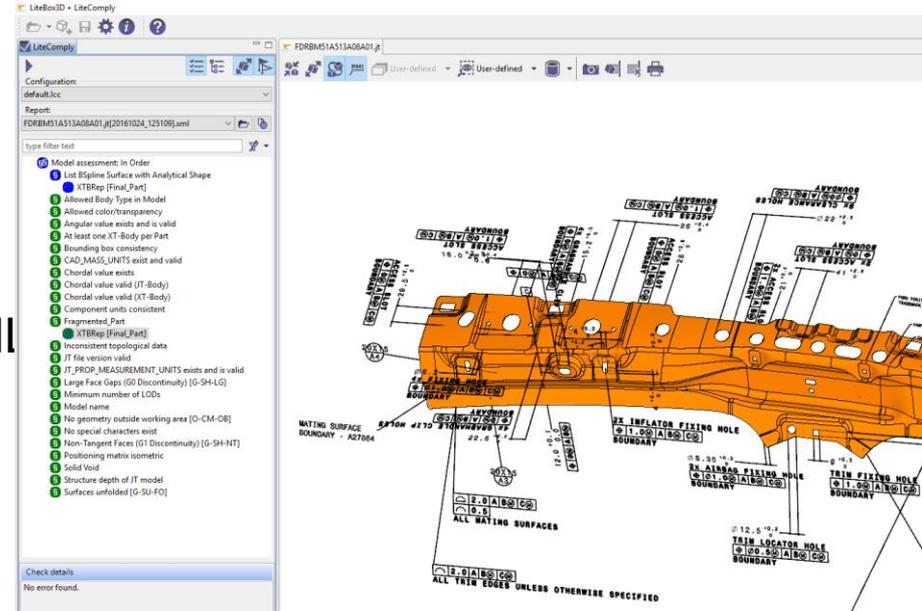
Based on LiteBox3D

Supporting JT, PLMXML, STEP AP 242XML
and TIFF format

Very flexible possibilities for rule definition

Super performance using multi-threading

Batch & interactive



<https://www.youtube.com/watch?v=Lyn8IYHKVCM>
<https://www.youtube.com/watch?v=wT-dO1VDG5c>

xCompare JT / JT



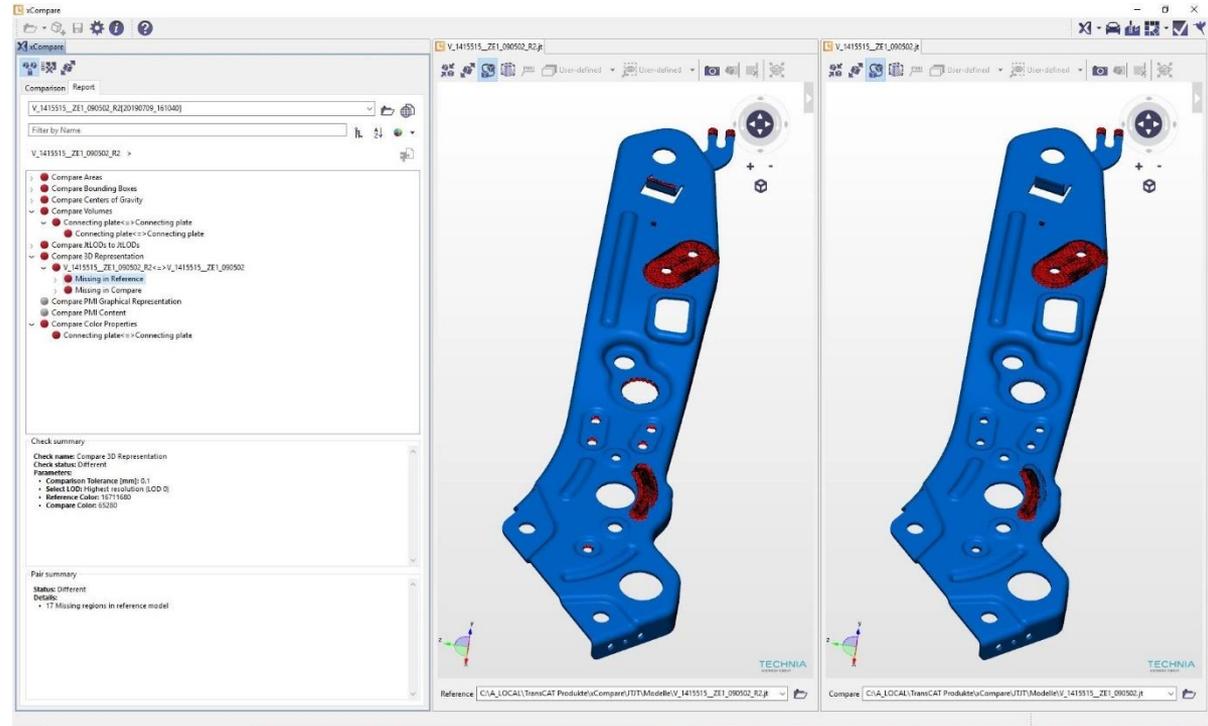
Model comparison between two JT files

Based on the Lite3D platform and integrated in LiteBox3D

Comparison between 2 revisions of JT files

Finding differences in geometry, LODs, PMIs, Properties,

Batch mode for automated process

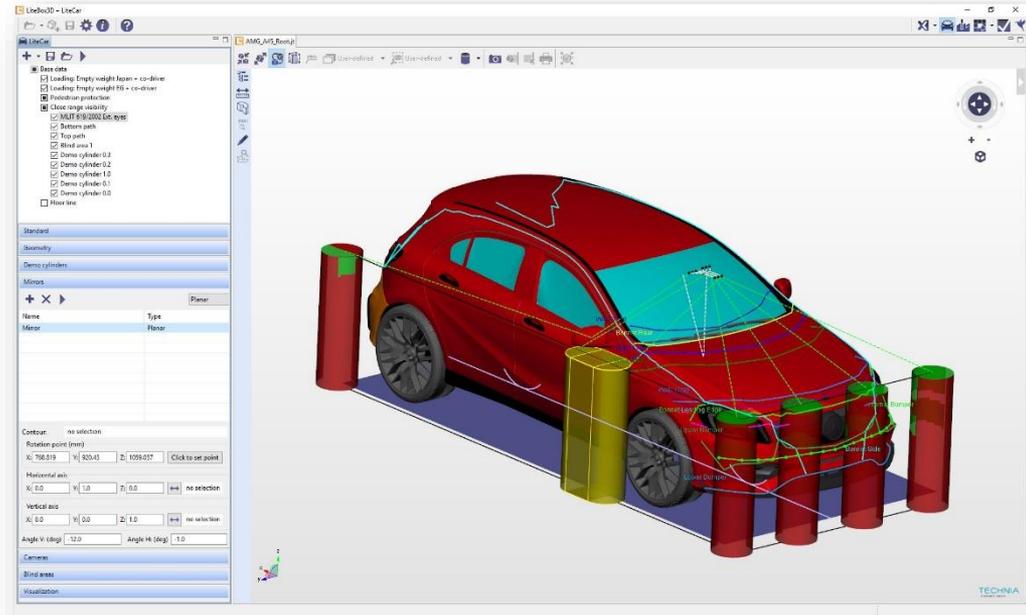


LiteCar



Vehicle Homologation

- Provide Vehicle Homologation functionality in Lite3D based on JT / ISO
- Current features:
 - Pedestrian Protection
 - Close Range Visibility
 - Bumpers
 - Side Impact
 - Crash Barriers
 - Floorline
- More features like in CAVA will be added over time



Long version: <https://www.youtube.com/watch?v=9NY2DEYJo64>
Short version: <https://www.youtube.com/watch?v=ZfQXg4i3kz8>

LiteMachine

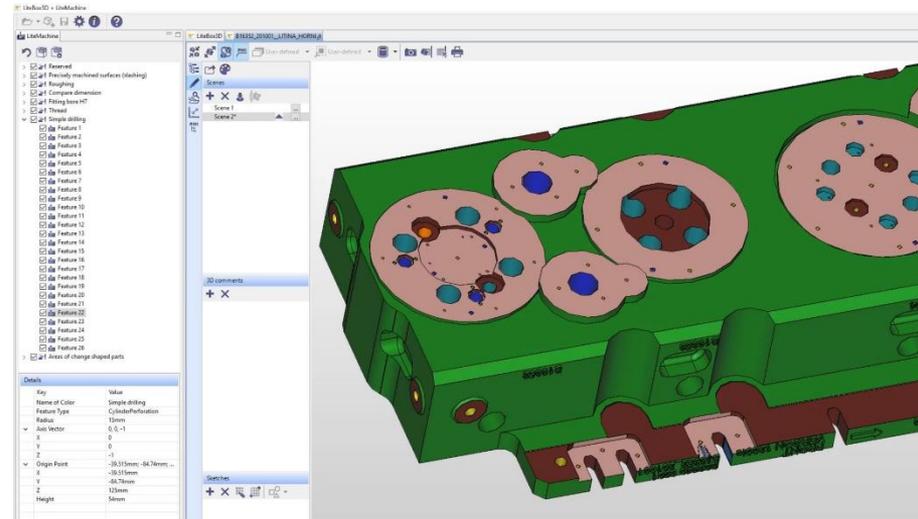


Lite communication from design to manufacturing

LiteMachine is a tool for feature detection based on a color code.

LiteMachine analyzes the 3D model and automatically detects color-coded features to be manufactured.

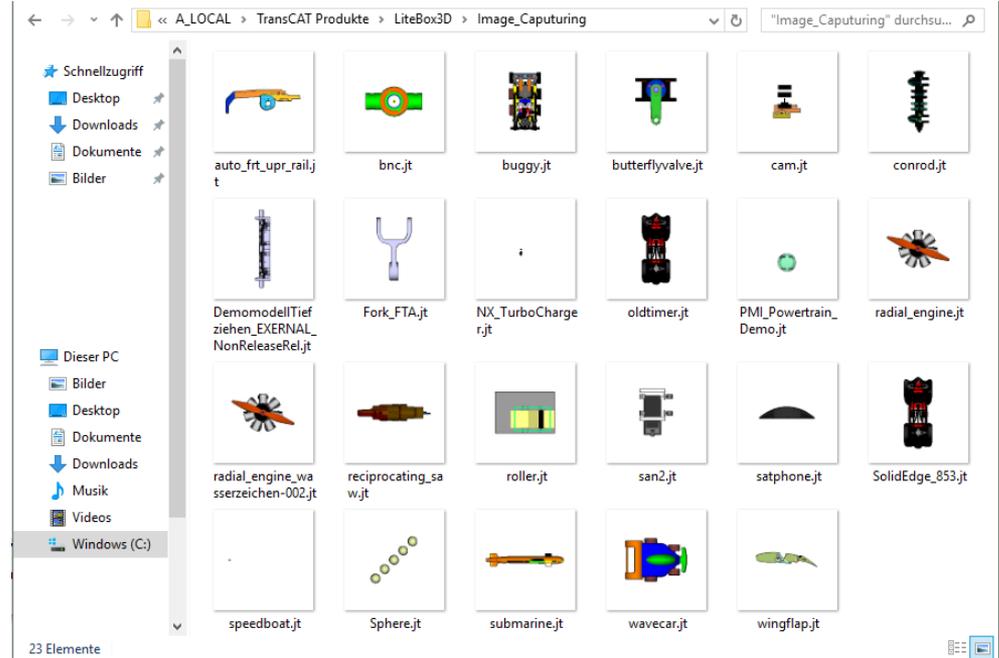
Information for NC operations is calculated based on the 3D model and can be saved in an Lite3D XML file.



LitImage

Image Batch Capture Tool

- LitImage command line utility captures images of a JT model or assembly (PLMXML, STEP AP242 XML)
- The captured image is saved in PNG format.
- This feature requires a *LitImage* license.



LiteProperties

Image Batch Capture Tool

- LiteProperties command line utility adds, edits, and deletes properties in a JT model
- This feature requires a *LiteProperties* license.

Basic command line syntax for LiteProperties.exe:

```
LiteProperties.exe [-h] [-v] [-i <config.xml>]
```

Options:

-h, -?, --help	Display only the usage message
-v, --version	Display only the version of LiteProperties utility
-i, --input <config.xml>	Name of LiteProperties configuration file

Configuration file example:

```
<TechniaTranscat>
<LiteProperties>
  <!-- Path to input model -->
  <Input filepath="C:\path\to\model.jt" force="no">
    <!-- Edit a property -->
    <Property action="edit" path="path\to\item\Prop_ABC" value="changed value"/>
    <!-- Add a property -->
    <Property action="add" parent_path="path\to\item" name="Prop_XYZ" type="string" value="new value"/>
    <!-- Delete a property -->
    <Property action="delete" path="path\to\item\Prop_123"/>
  </Input>
  <!-- Path to output model -->
  <Output filepath="C:\path\to\output\model.jt"/>
  <!-- Path to log file -->
  <Log filepath="C:\path\to\output\model.log"/>
</LiteProperties>
</TechniaTranscat>
```

JT Consulting

What do we offer?

Introduction in JT and industry use cases

Strategic JT workshops

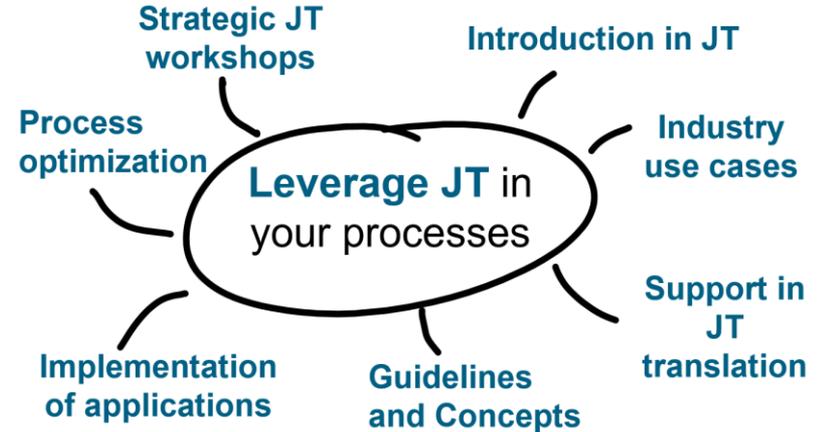
- Identify processes and use cases for JT
- Create guidelines and concepts

Support in JT translation

- Validation of translation process
- Optimization of translator config
- Error handling with affected parties

Implement Lite3D applications in customer environment

- Web viewing, batch and process implementations, etc.



Why TECHNIA?

Our history and skills

Professional JT portfolio driven by customer input with solid release cycle

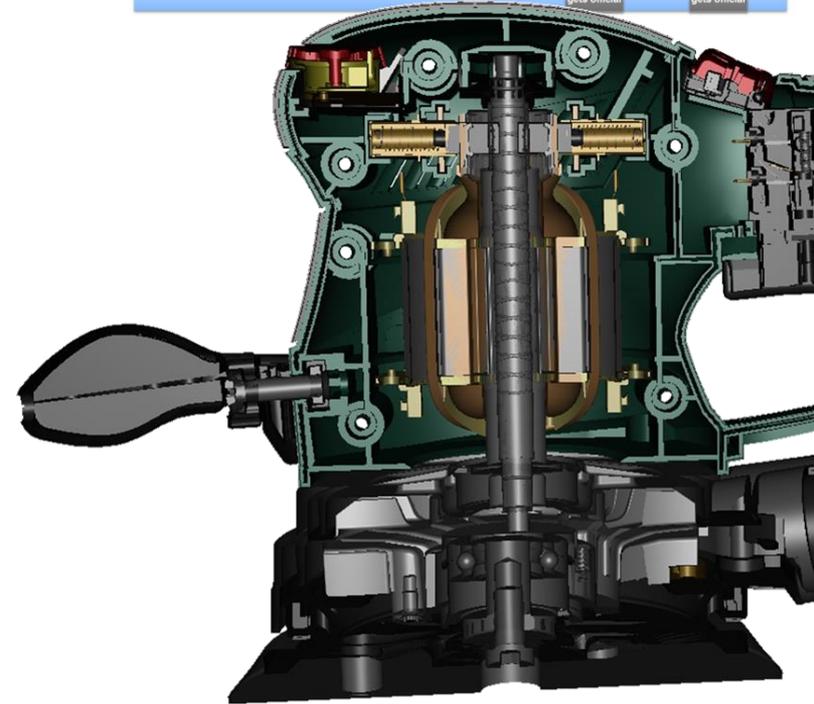
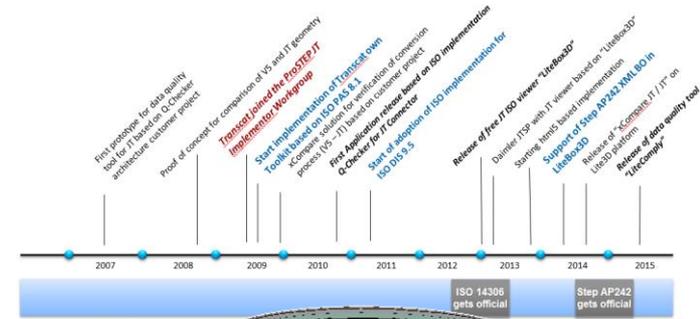
More than 10 years of experience in JT with visualization and process applications

ISO based own JT ISO toolkit

Full control (no limits by JT Open toolkit)

Best performance

Consulting services and custom specific applications



Some LiteBox3D features

For more details, consult the What's new documents of every release

<https://www.technia.com/support/software-downloads>

Clipping

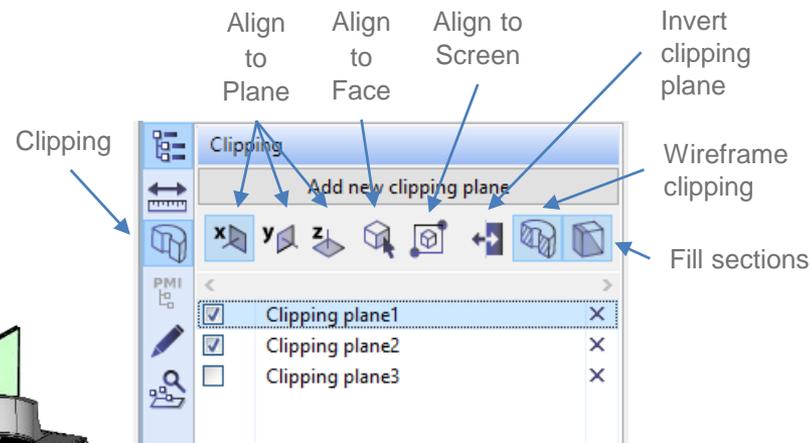
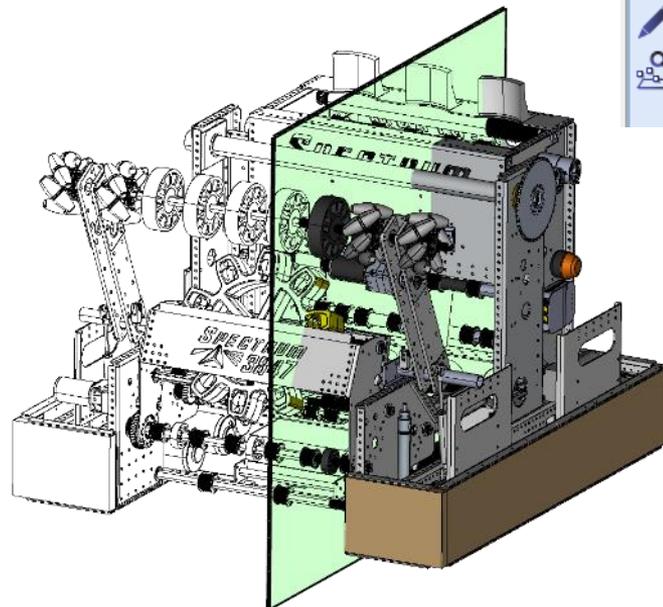
New functionality and improved usability
 Clipping moved to side bar
 Manipulation of clipping plane in 3D

Free functionality:

Create clipping plane aligned to X,Y,Z
 Invert clipping plane
 Wireframe clipping
 Fill sections

Extended functionality in LiteBox3D Pro:

Create clipping plane aligned to Face
 Dynamic clipping aligned to Screen
 Rotate clipping plane

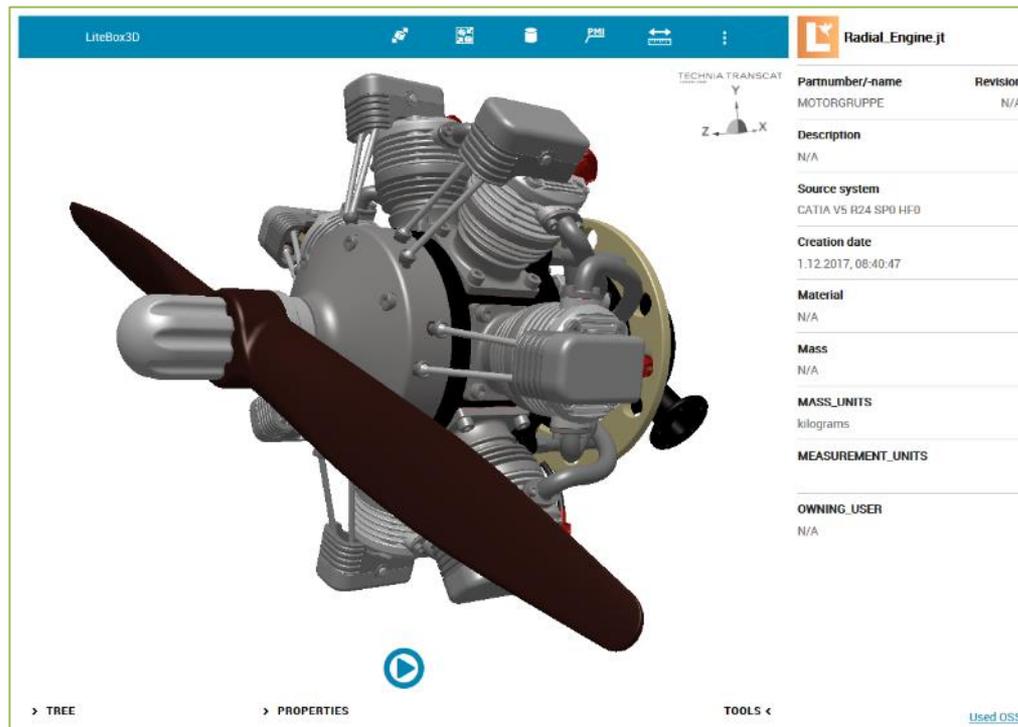


3DHTML supports larger models

3DHTML supports larger models now

Models up to twice as big compared to former version are now supported

LOD default value for 3DHTML export has been changed to LOD0

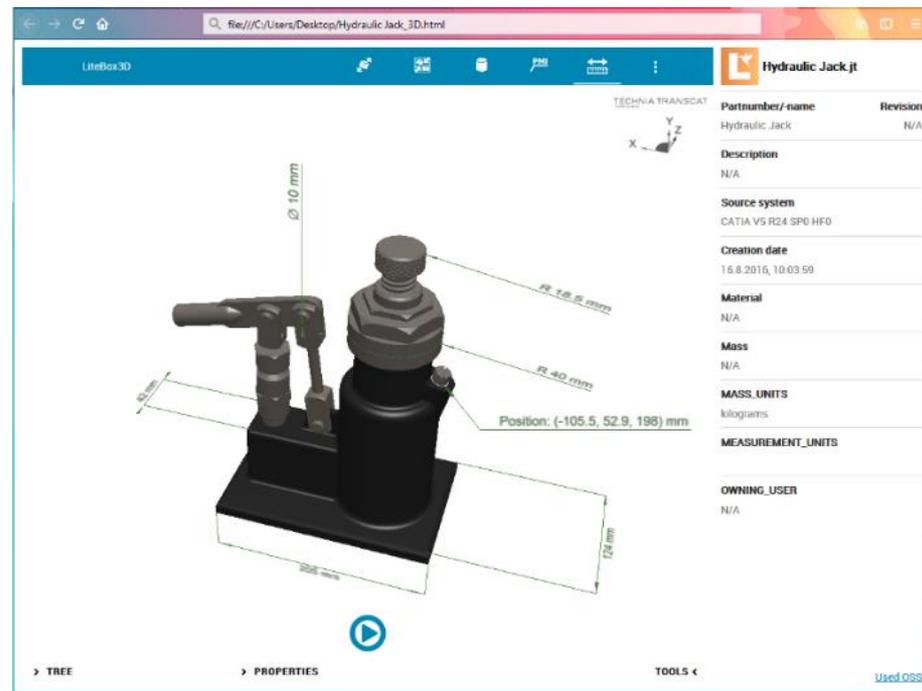


3DHTML Measurement

Measurement functionality is now available in 3DHTML

Functions

- Point position
- Distance between points, edges and faces
- Edge length
- Angle
- Diameter/Radius of holes and cylinder
- Area



Improve Redlining Usability and UI

Intuitive interface

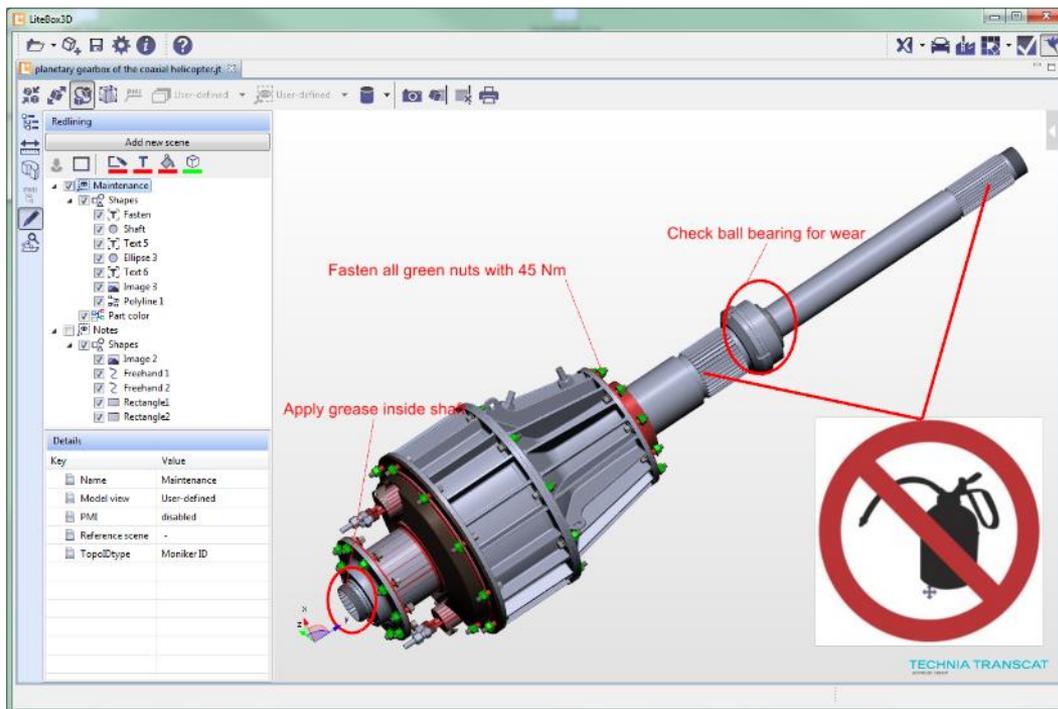
Create and manage scenes in redlining tree

Animation between scenes

Revision stable redlining

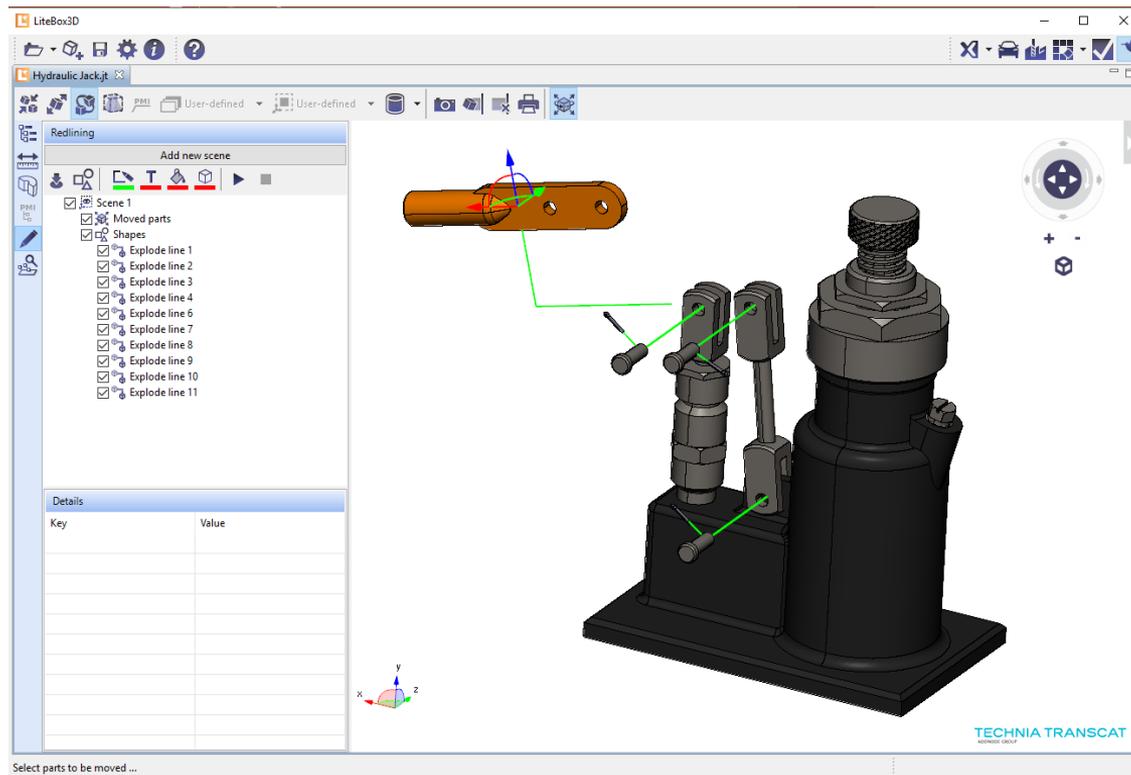
Image import

Different fonts for text in 3D



Moving of parts

Parts can be moved and rotated in the 3D scene. Optionally, an explode line is created. The changed location can be stored in a redlining scene. A possible application of this feature are work instructions.



Ray tracing

Real-time 3D rendering to get realistic product shots



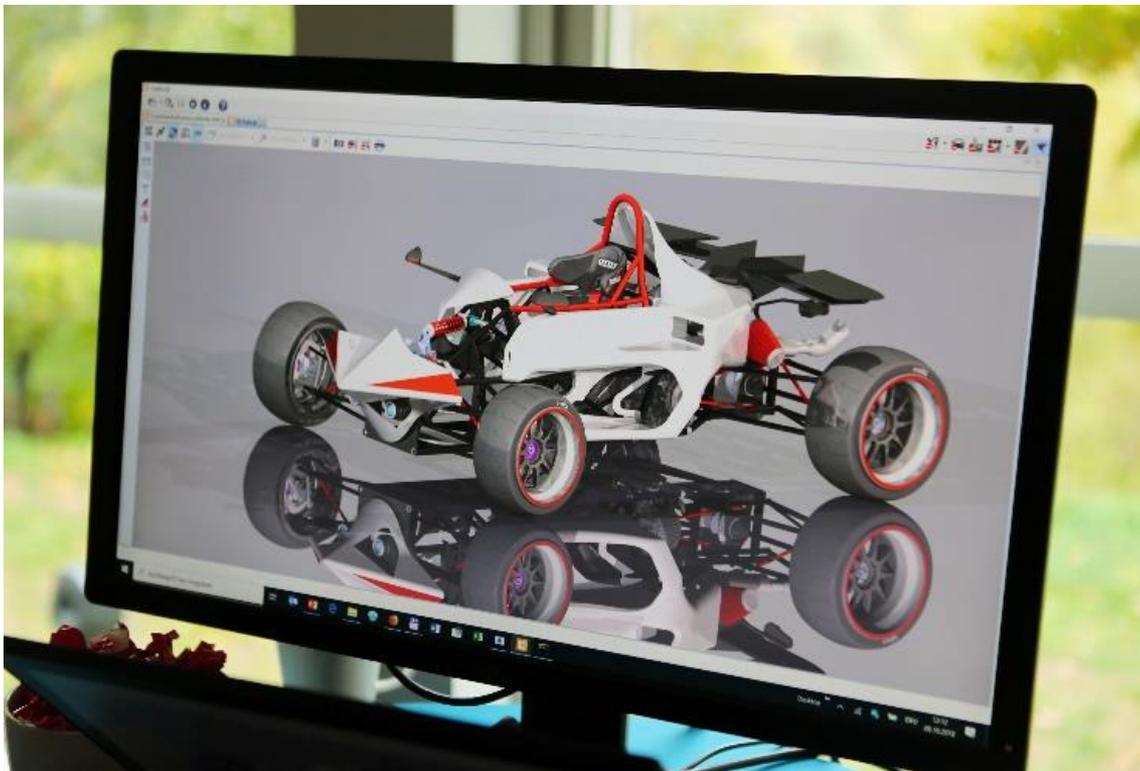
Fast

Everything is happening instantly.
LiteBox3D uses TECHNIA's internally
developed render engine.



Easy

You don't have to be a rendering expert
to create photorealistic view of your 3D
models



TECHNIA

At TECHNIA, we pave the way for your innovation, creativity and profitability. We combine industry-leading Product Lifecycle Management tools with specialist knowledge, so you can enjoy the journey from product concept to implementation.

Our experience makes it possible to keep things simple, personal and accessible so that together we transform your vision into value.

With over 30 years' experience, more than 6000 Customers worldwide and World-class knowledge in PLM & Intelligent Engineering, we work together as an extension of your team to create an exceptional PLM experience.

Our teams work from 21 locations around the world, across vertical industries, delivering a premium service with a global infrastructure and a local presence. We adopt the latest technology and agile methodologies so, even as technology changes, our relationships last a lifetime.

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EXPERIENCE MATTERS

