



TFTLabs

An Introduction to TFTLabs and TFTLabs Cloud Concepts

Highlighted in green are customers' benefits.

Highlighted in red are customers' issues.



TFTLabs

Open 3D solutions for the cloud

Company description

TFTLabs SAS is a newly formed company headquartered in Lyon Bron, France.

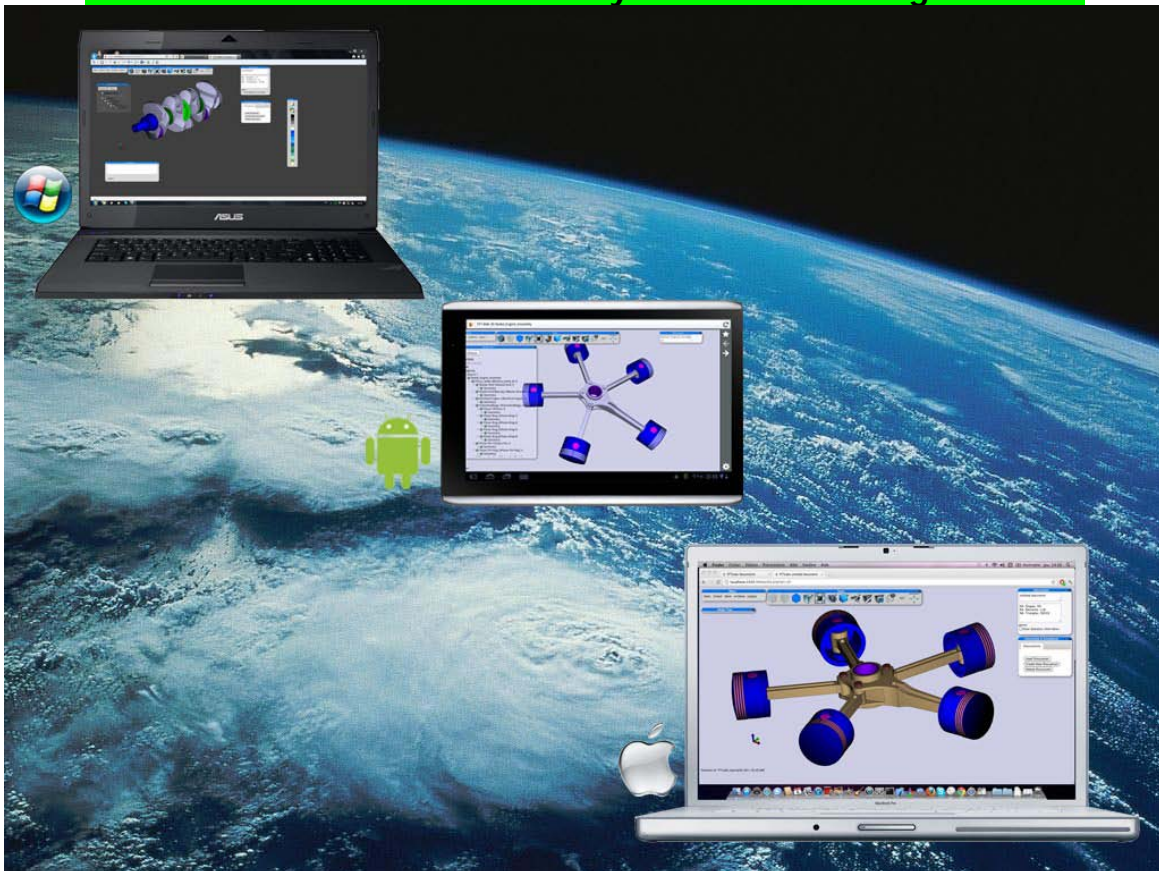
Founded by interoperability and CAD veterans, TFTLabs provides the market with the best of breed new generation tools for 3D interoperability and collaboration in the manufacturing environment.

Mission

Follow the **COS** (**C**ommunication / **O**penness / **S**calability) principles... to bring your 3D manufacturing to the web !

You already dropped legacy office desktop software and adopted cloud solutions for mail, documents, spreadsheets, DIDN'T YOU ?

Now it's time to do the same for your manufacturing 3D data !



Functional description - main benefits

What does TFTLabs COS bring to you ?

Communication

Stop having standalone disconnected desktop solutions. **Connect to the 3d web with our pure web cloud multi platform technology** :

- Import your data from various existing CAD systems to a 3d web environment.
- **Access and manipulate your data from anywhere, any platform, in a simple browser**: Everything is done with standard HTML 5 / Javascript / WebGL dynamic web pages.
- Enrich and securely diffuse 3d information with a comprehensive 3d toolbox for creation, merge, manipulation, annotation, review and comment.

Openness

Benefit our :

- Rich open 3d data format in text form (JSON / JavaScript Object Notation, which compresses well),
- Javascript applications in textual form,
- Application Programming Interfaces (APIs) in JavaScript / Representational State Transfer (REST)

as the ultimate answer for data perennity.

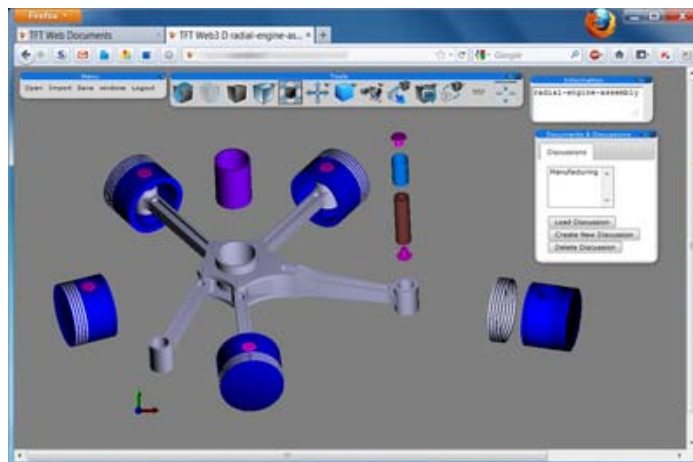
Access to your strategic 3d data is guaranteed, forever.

Continuous improvement of your workflows is guaranteed, forever.

Scalability

Pure cloud technology means:

- **no upfront cost**,
- **tiny maintenance cost** : nothing to install and/or upgrade on user desktop for IT teams,
- **very cost-effective license model** as for any SAAS (Software As A Service),
- **hardware freedom** : runs on various operating systems and devices.



Main needs addressed in manufacturing workflows

Information communication and sharing

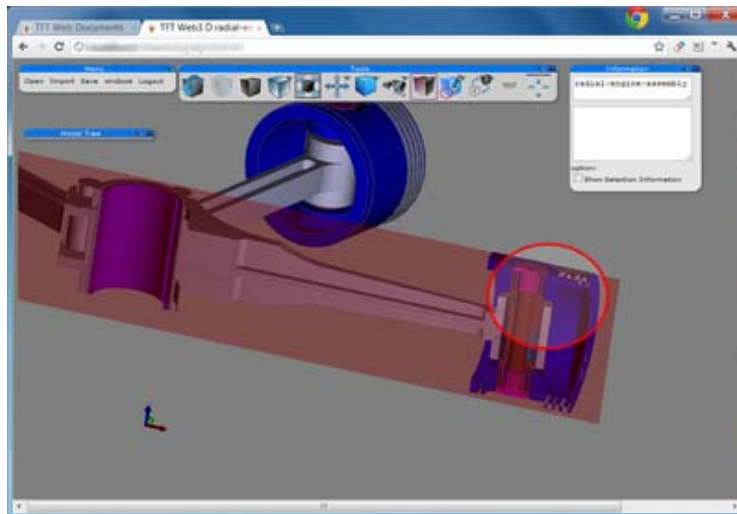
- Setup of instant 3D manufacturing projects reviews and workshops.
- Merge information from various sources into the open extensible data model.
- Production of Web documents for project teams, end users, sub-contractors, customers, ...

Information gathering and perenity

- Open data and software format is a prerequisite for availability and consistency of information in the long run.
- This is the only way to go for a manufacturing company aiming total control on strategic 3d data, whatever software providers may become or decide.
- Our rich data model and our skills in importing various CAD formats into textual JSON guarantees to secure your 3D assets forever.

Information enriching, tools' neutrality and interoperability

- Openness allows for very cost effective and customised solutions for documentation production and 3d data exploitation.
- Openness allows for perenity of any CAD information outside CAD software in the long run.
- Our rich data model and our skills allows for further interoperability with downstream applications in the design and manufacturing process.





FAQ

As an end-user, manufacturing company, what is my interest to work with this technology ?

Let's ask following questions about your **today traditional 3d desktop software** :

- **What is the corresponding Total Cost of Ownership** per user ?
- **Am I happy with the licensing and upgrade model ?** Is it flexible ? Does it scale nicely up and down to follow my workload on different projects ? What is restricted by the End User License Agreement, for instance in case of a multi-user usage ?
- **Is the 3d data format open, textual and documented ?** What will happen if my software vendor stops developing and supporting the product which handles my data ? (Trust our experience : this can happen even if the software vendor is big !).
- **Is it accessible from any operating system, any mobile device ?**
- **Can I improve my productivity tools the way I want ?** or do I have to pay for upgrades which are useless for me ?
- Can I program in script (Javascript, ...) or do I need complicated language like C++ ? Should I need additional licenses to access APIs ?

We do think we can bring better answers to those questions.

TFTLabs founders gather 20+ years of experience in CAD / 3D software. This worldwide recognised team is at the origin of numerous software products and components in the field of interoperability, project review and digital mockup which are currently in the marketplace. It is our mission to assist our end user customers with the best solutions in terms of cost, functionality, perennity and evolutivity for their 3D manufacturing workflows.

As a VAR, service company, what is my interest to work with this technology ?

With traditional desktop 3D software, here's the VAR challenge :

- **public price for software licenses is decreasing,**
- **opportunities for service are not progressing** to compensate : those software remain closed desktop-only solutions, with awkward file formats and complicated APIs. Thus they require high software engineering skills for customisation and service activities.

With our Open 3D solutions for the cloud, service opportunities are boosted :

- open format and software allows for a virtually **infinite range of customisation possibilities** , with much lower software engineering skills required,
- much more users and data are involved which means **opportunities for system installation, administration and connection with other enterprise systems** which are way beyond desktop software situations.

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TFTLabs

In 3D manufacturing, many offers arise who claim for “openness” “cloud” “web” “mobile”; how are you different from others ?

We believe that addressing the web/cloud is not just a matter of putting traditional desktop software on a server and display some kind of “light” 3d on the client. This approach leads us back 20 years ago when only final display were rendered on end users’ screen whereas calculation was made on bigger processing units.

As a contrast, we started our technology from scratch for both data format and software in order to address all the specific aspects of the web and mobile world :

1. **Software and data are based on web open standards**, with **no plug-in** that highly compromise security and are never up-to-date. Therefore our applications are in HTML5 / Javascript / WebGL whereas **many actors are still stuck on plug-in update and security nightmares** with various incompatible binaries.
2. Complying to standards means that the data format should comply with those web open standards as well. That’s why the base format for 3d data is JSON (JavaScript Object Notation).
3. Web and mobile benefit increasing bandwidth and graphics capabilities but still require care on computational resources : you have to run with limited battery power and CPU. This is true for any rich graphic application like video and also obviously for 3d. For both of them, big calculation like software rendering is simply not an option. **Our JSON 3d data are ready-to-display and sent to GPU on various devices**. **Legacy 3d data formats are a resource hog** because they require CPU intensive operations for loading and rendering.
4. The web and cloud ecosystem takes its maximal power when multiple actors can interact on a given data source with web technologies. That’s also why **we promote a completely open JSON 3d data format and REST APIs to maximize 3d dissemination** whereas **others still propose legacy complicated APIs and awkward binary formats**.

What about my 3d assets in the cloud ? Is it secure ?

We believe that cloud solutions are almost always the most suitable for software delivery. This Software As A Service (SAAS) model allows huge savings in upfront license cost and maintenance. Web software written with web technologies and no plug-in is far more secure than traditional software. However, data is yours. Deciding whether your assets can be stored outside your company in the cloud as well (Infrastructure As A Service) is a business decision which is of different nature. **Our solutions guarantee that you’ll find the most suitable place to store your data** : in the cloud, in-place, or a mix depending on your particular context.

References

- <http://www.google.com/apps/intl/en/customers/index.html>
- <http://www.valeo.com/en/press-releases/details.html?id=100>
- <http://aws.amazon.com/ec2/>
- <http://www.telecompaper.com/news/orange-thales-dassault-start-french-cloud-project>

Interested?

As a VAR: join our partner program at: partner@tftlabs.com

As an End-User: ask for more information at : info@tftlabs.com