Optimizing CAD geometry workflow and interoperability while maximizing savings utilizing enterprise 3D Visualization for multiple processes during times of supplier and sourcing uncertainty.

Craig Impastato

GLOBAL PRODUCT DATA

INTEROPERABILITY

SUMMIT 2025

BOEING ELYSIUM LOCKHEED MARTIN NORTHROP GRUMMAN Parker PDES, Inc.® Connecting the Digital Enterprise

Presenters Bio

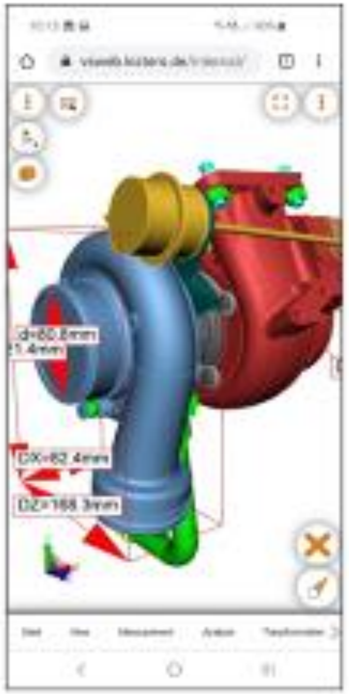
Kisters:

- Founded: 1963
- Employees: 750
- Locations: 22 worldwide
  Headquarters: Aachen, Germany
- Visualization is our passion - for 30+ years
- 3000+ companies using our visualization solutions
- 10’s of thousands of users worldwide
- Extensive Worldwide Partner/Reseller Network
- Enterprise departments:
  Visualization, 3D Printing, Large Format Printing, Data Analysis & Prediction, Resource Management Systems, Energy, …

Craig Impastato

- Director of Sales – Americas
- 35 years of industry experience
- CAD Automotive design engineering, software application support, PLM software applications sales
- Engaged with manufacturers, automotive, aerospace and defense, any industry doing product development
- Degree: Autobody Design and Liberal Arts
- Life long resident of the Detroit area
- Phoenix is too hot for me….
- Craig.Impastato@kisters.net

Supported Verticals



Automotive

Ship building

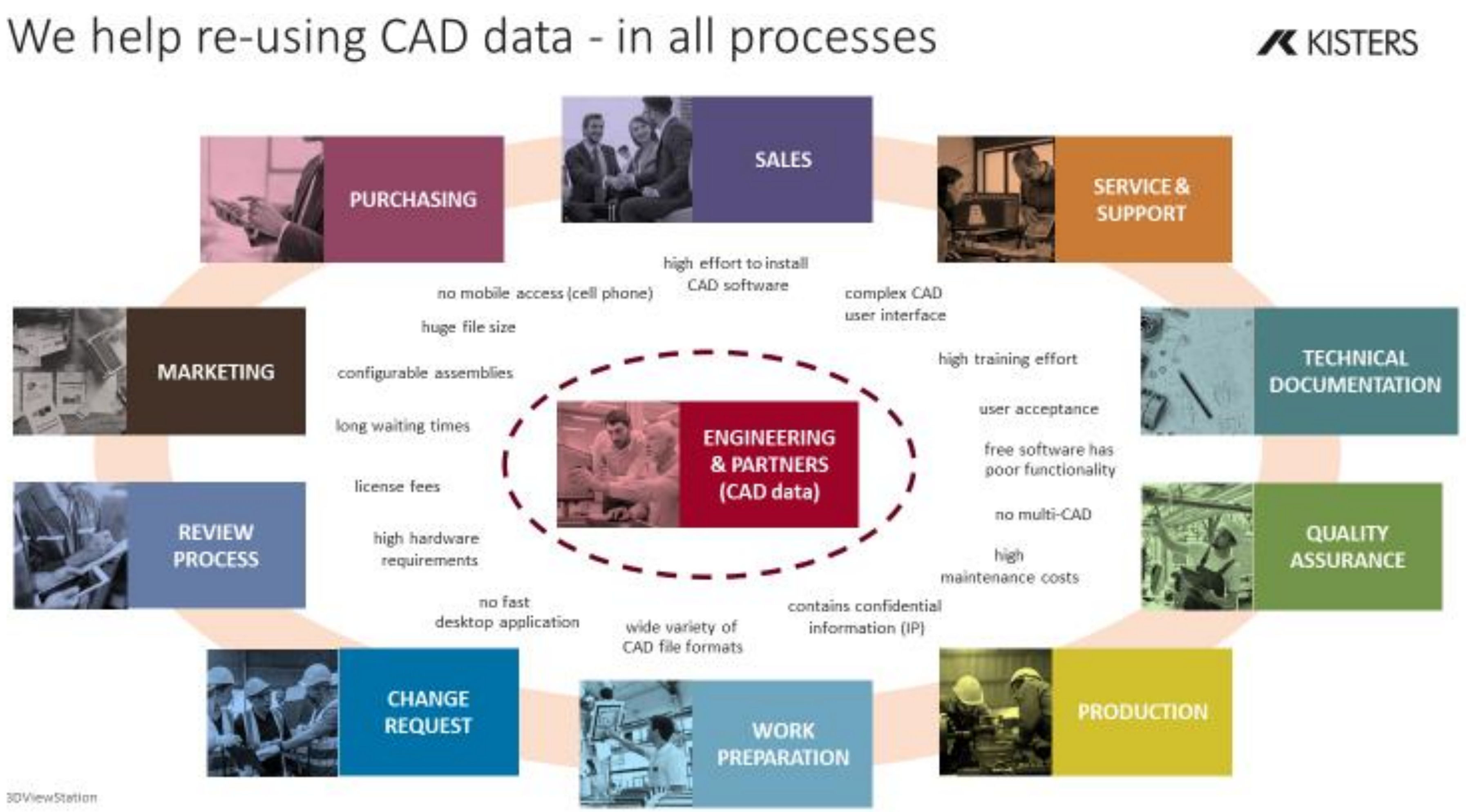
Aerospace

Machinery

Plant

Construction

Enterprise Wide CAD Visualization



3DViewStation – Enterprise Wide CAD Visualization

Processes

- Engineering
- Review
- Change
- Sales
- Marketing
- Purchasing
- Supplier collaboration
- Work preparation
- Production
- Quaility Assurance
- Technical Documentation
- Service & Support

Applications

- PLM
- Product configurator
- ERP/MES
- Costing
- Collaboration
- Parts catalog
- Techpubs
- Data integration
- Long term archive
- Quality system
- Human machine interface
- MRO/SLM
- After sales
- Predicitve / preventive maintenance

3D VIEWSTATION

Benefits

- universal solution
- easy user interface
- supports many CAD and non-CAD file formats
- True Multi-CAD support
- rich functionality
- high user acceptance
- fast Desktop application
- fast Web-based application
- perfect mobile user experience
- same user experience for Desktop & Web

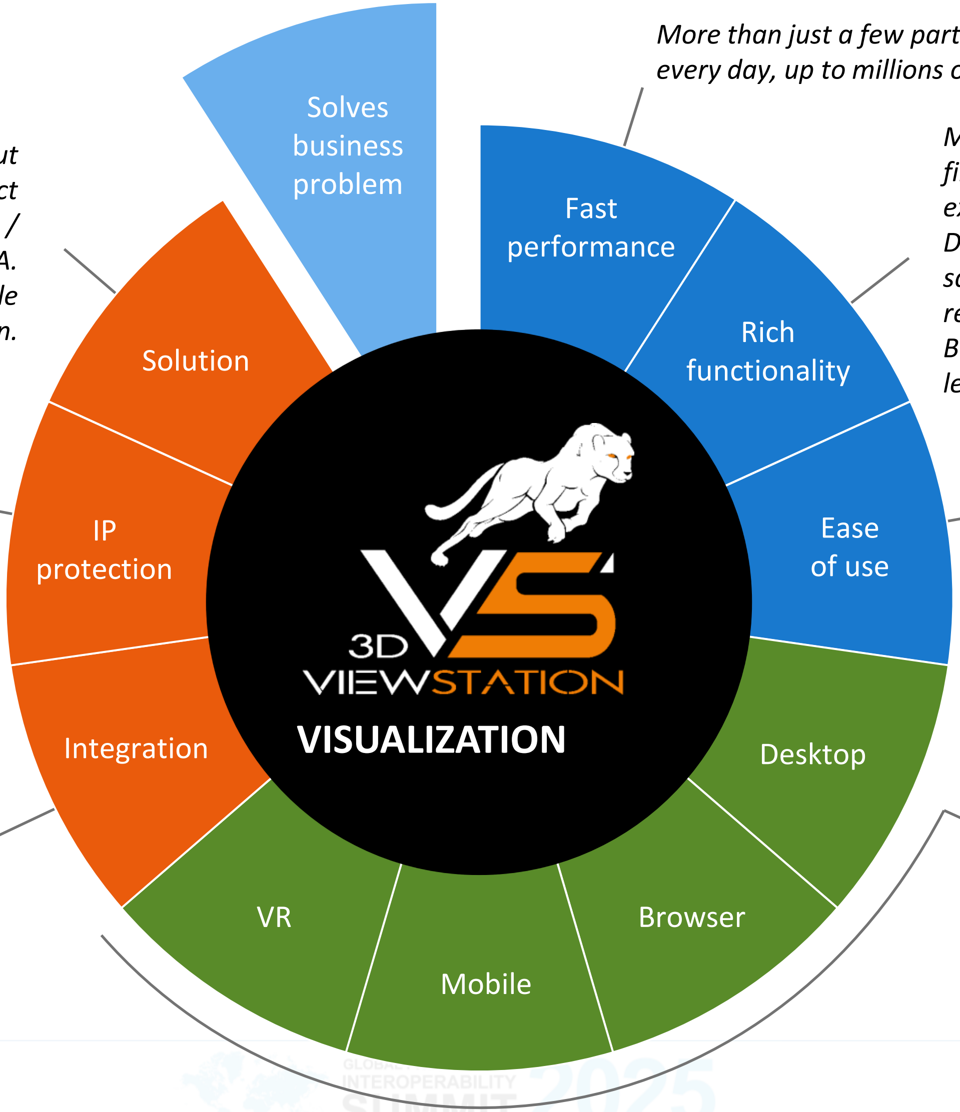
- single technology for many use cases
- good for power users & occasional users
- suppliers & customers access to CAD data
- low hardware requirements
- low installation effort
- low license fees
- short load times
- works well with even ultra large assemblies
- low training effort
- low maintenance costs
- IP protection ensured

Aspects for visualization within the enterprise

Visualization is required everywhere – we all talk about MBD, MBSE & the Digital Thread: PLM, ERP, project reviews, product configuration, manufacturing, After sales / MRO, spare parts, QA, LTA.
Leveraging online solutions has many advantages over file based collaboration.

The real world requires your data everywhere - but not as original native CAD data. Geometry alienation & removal are a good addition to online systems, which allow access tracking and permanent updates.

Often stand alone applications are sufficient and even required. But only smart integrations will unlock the real power of combined solutions.



More than just a few parts: the real world assemblies grow every day, up to millions of parts

More than just viewing: Review & inspection: navigate, filter, measure, section, compare, transform, analyze, explode, split.
Do authoring: for shop floor, for quotations, for after sales / technical documentation, change requests, design reviews
Besides 3D & PMIs the real world still uses a lot of 2D as legally binding documents

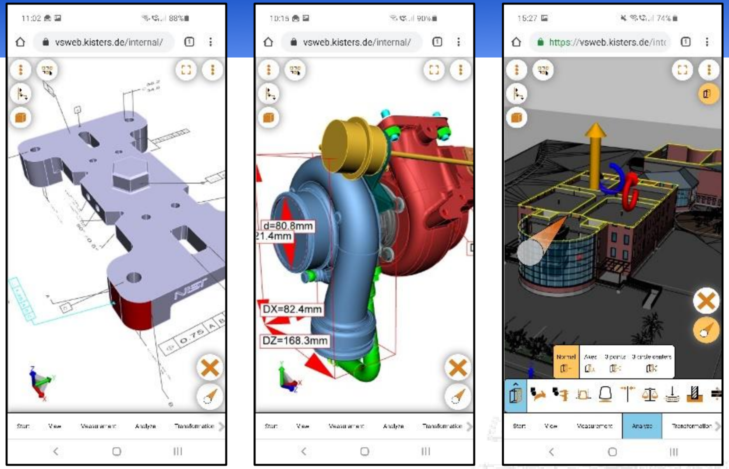
real world knows Office like UI.
Still small devices need different UI.

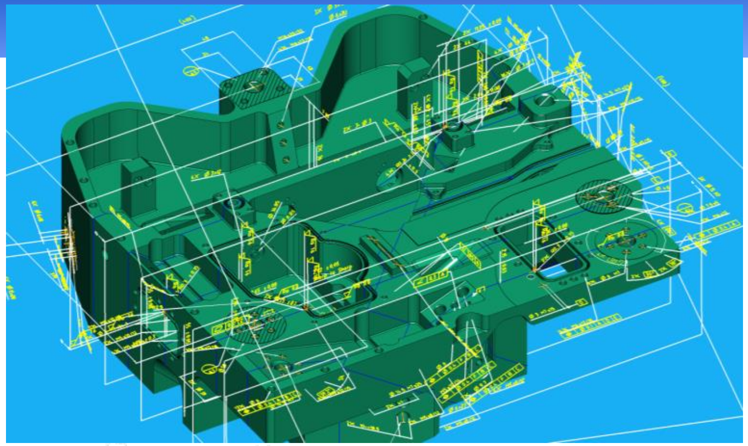
In the real world users decide on which platform to run or which kind of client to use. There is no „either“ „or“. Same functionalities & capabilities, same fast performance, same APIs are expected for all type of clients and platforms.

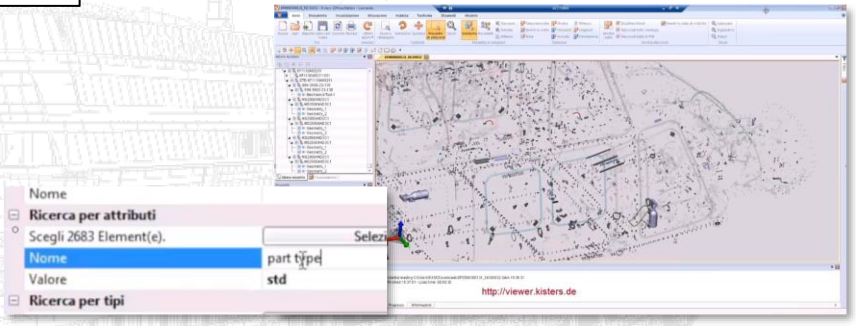
Supporting the model based enterprise

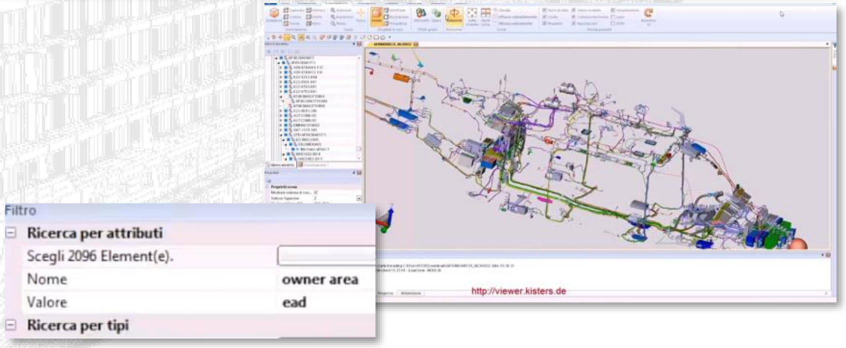
Support for

- Fast visualization
- Various file formats:
  NX, Catia, …, JT, STEP AP242…
- PMIs, PMI views
- Attributes
- Various filtering options incl. rule engine
- Many more functions & features
- Access to your data at
  any time, from anywhere, using any device





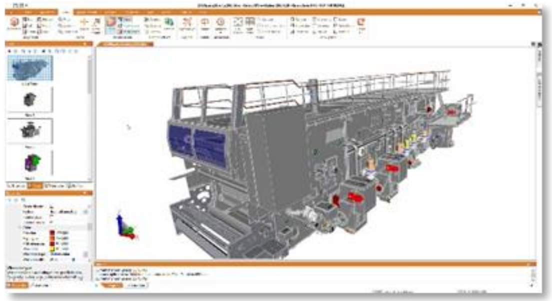


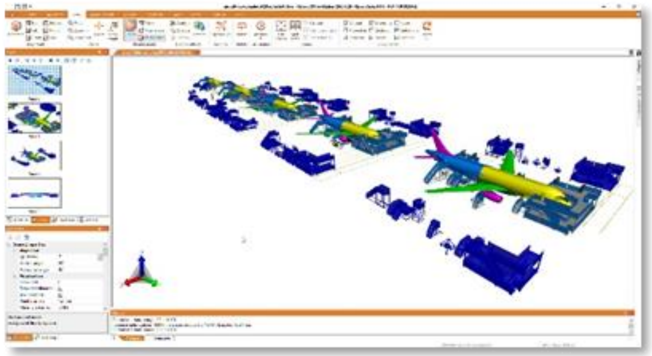


Search by rule	
	Select
Rule	

node.color=#008000 or node.transparency>0
node.vertexcolor=#005F0000
node.attribute("*maß")="*Ø*" and node.attribute("strukturcode")<=11
node.attribute("Revision") and not node.name="System2*"
node.hasgeometry and node.surface > 8000000 and node.volume < 300000000

Interoperability often requires performance

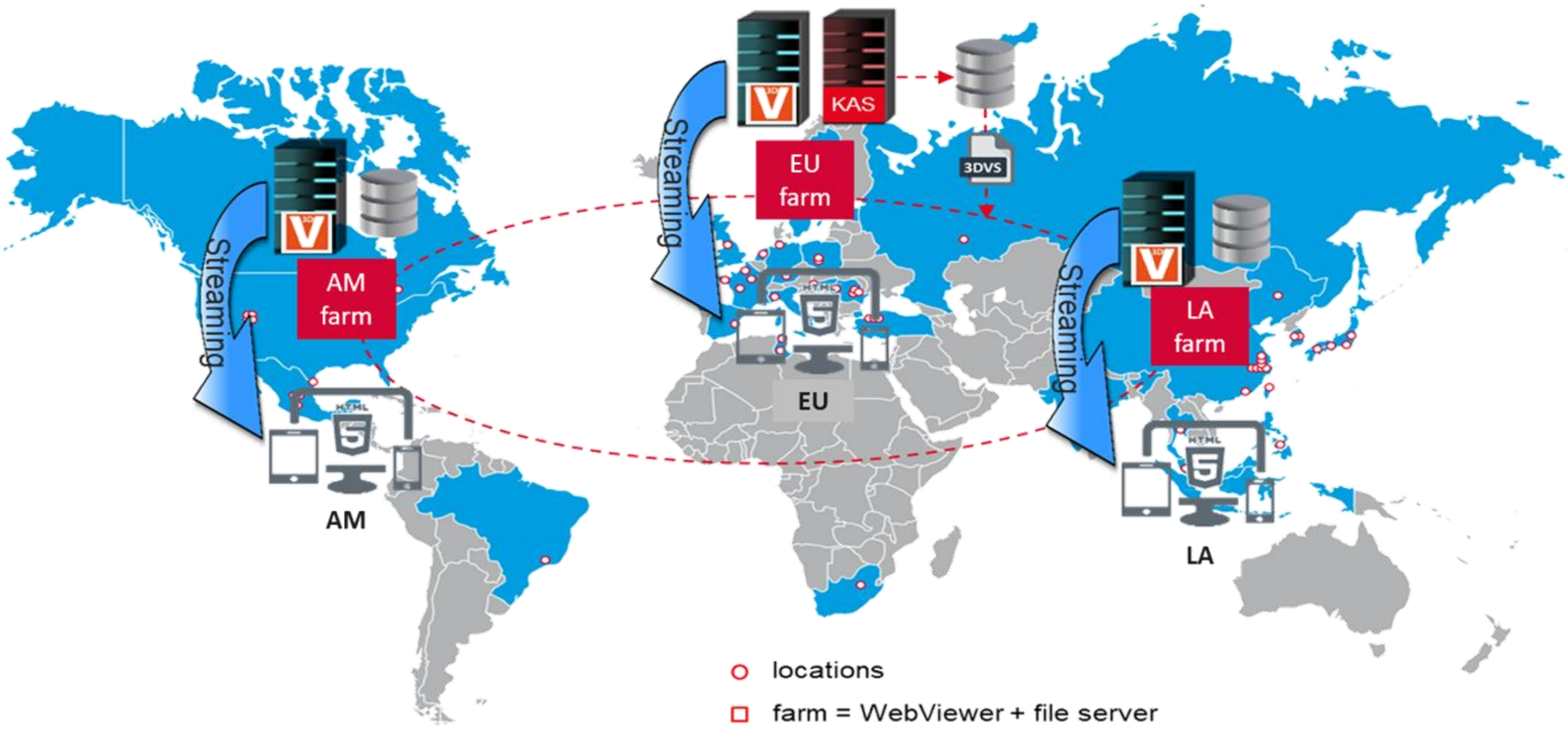




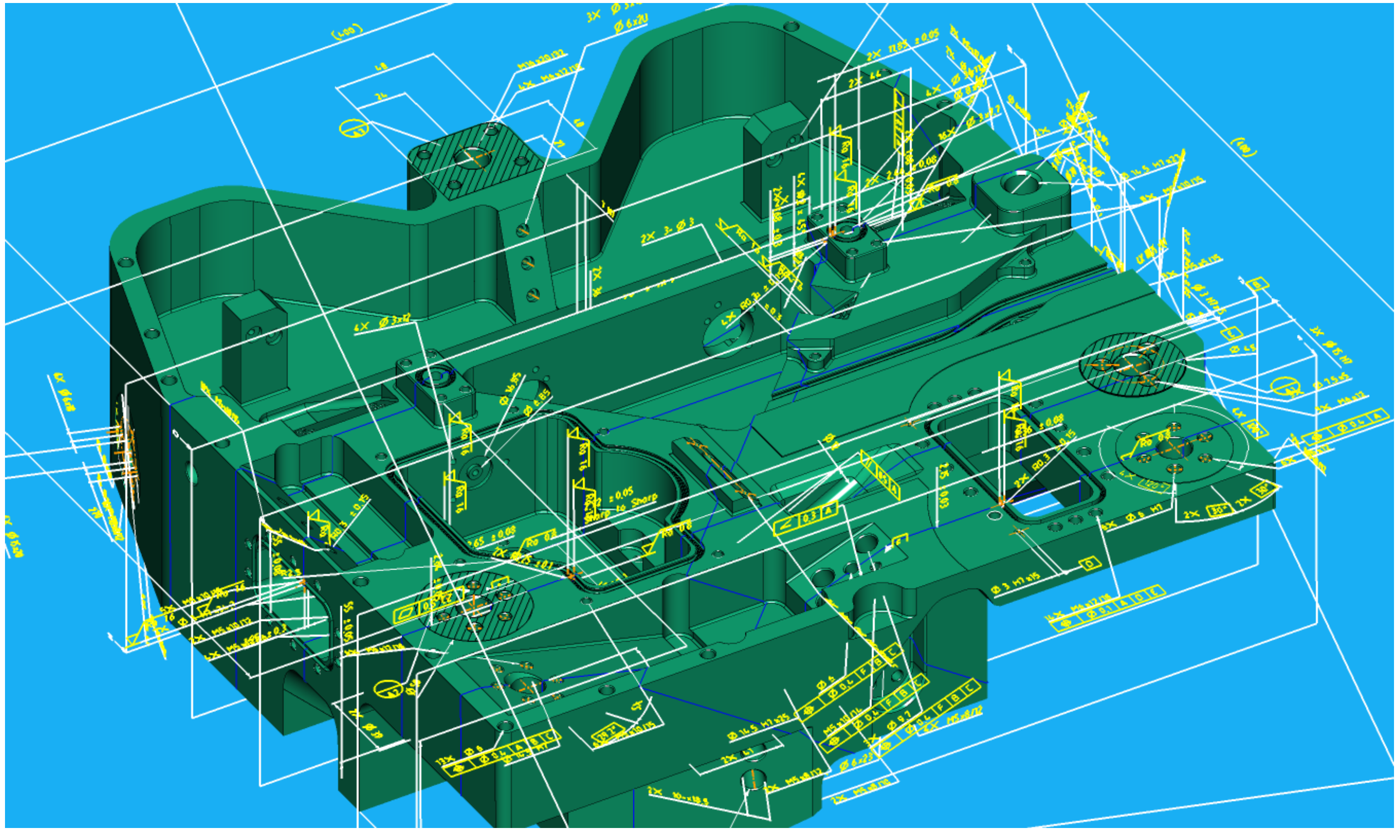
KISTERS 3DViewStation is fast - our response to increasing complexity of products – the real world:

- Complex tool 5.5 GB Catia, 3DVS: 1 sec
- Complex tool 5.5 GB Catia, native: 7 min
- 20,000 part SE machine, 3DVS: 1 sec
- 20,000 part SE machine, native: 35 sec
- Complex truck engine NX, 3DVS: 1 sec
- Aircraft + jigs, 3DVS: 1 sec
- 100,000 part Catia, 3DVS: 1 sec
- car body, JT: 1 sec

Interoperability of Systems and CAD Data within the Internal Supply Chain



Reading PMI when Viewing Various Formats with semantic associativity



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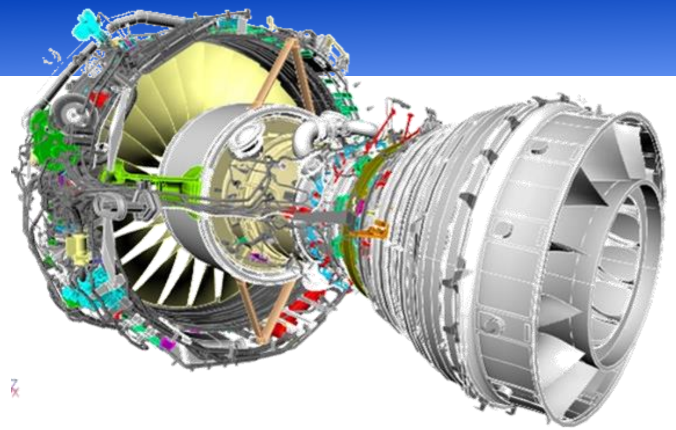

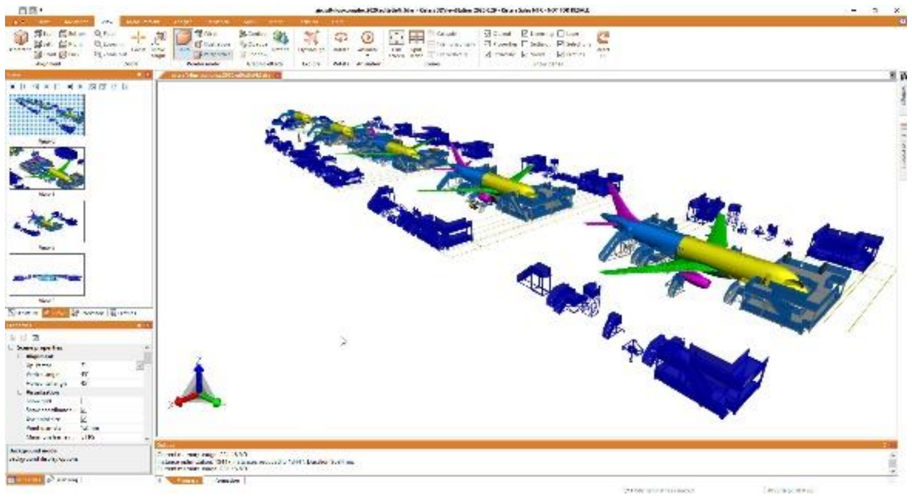

KISTERS 3DViewStation is fast - our response to increasing complexity of products – the real world:

- Turbine,
  30.000 parts, 3DVS: 1 sec
- Aircrafts assembly line,
  125,000+ parts, 3DVS: 1 sec
- Ship
  10 million parts, 3DVS: 15 sec

Northrop Grumman – Multiple Projects / 3DXML Reader

- Aerospace and defense technology
- 90.000 employees
- CAD: NX
- PLM: Teamcenter

Problem:

- need for fast Web-based visualization to be used in several use cases

Solution:

- Kisters 3DViewStation WebViewer plus Batchtool KAS

Values:

- Model review as part of the release process
- Model viewing integrated with MRO application
- Authoring work instructions at Space Systems
- Automated generation of lightweight 3DVS representations
- Integrated with eQube (eQ Technologic) DaaS platform

Interoperability of Systems and CAD Data within the Internal Supply Chain

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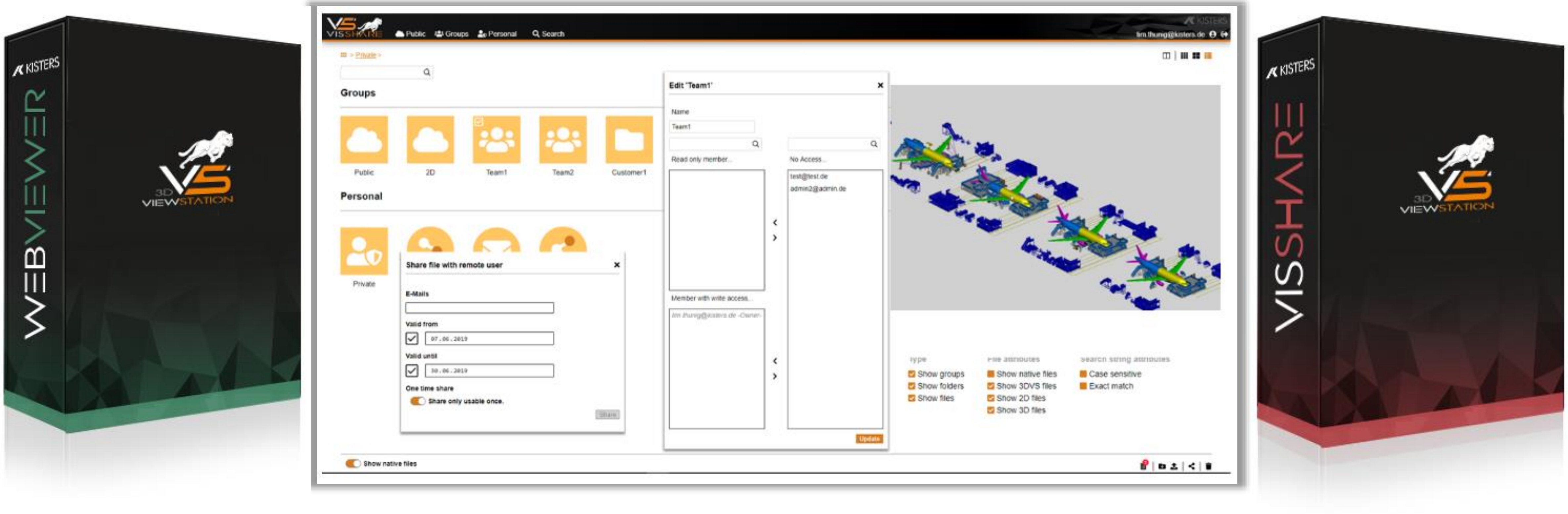
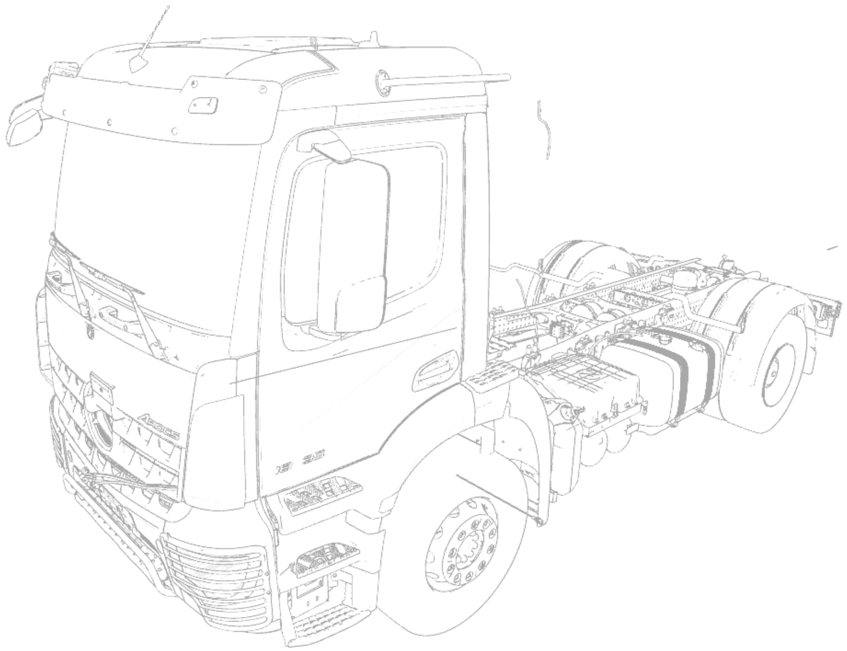


Summary

Model based enterprises need

- Fast visualization solutions
- Support for PMIs, PMI views, …
- Integration with various leading systems
- Many other functions & features



Huge cost savings as well as significant efficiency gains are possible if the right solution is chosen.

There is a shift to Web based visualization solutions

- Providing access to your data at
  any time, from anywhere, using any device
- Giving control over your data
- Avoiding large downloads
- Ensuring shortest possible load times

Benefits of

- **Interoperability of applications via API's**
- **Speed of Deployment**
- **Less footprint**
- **Secure IP**
- **Lightweight distribution of Data**
- **Accessibility for all downstream users**
- **Elimination of 2D Drawings for work instructions, build and assembly**
- **Easy access to digital artifacts**

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Real Word Example

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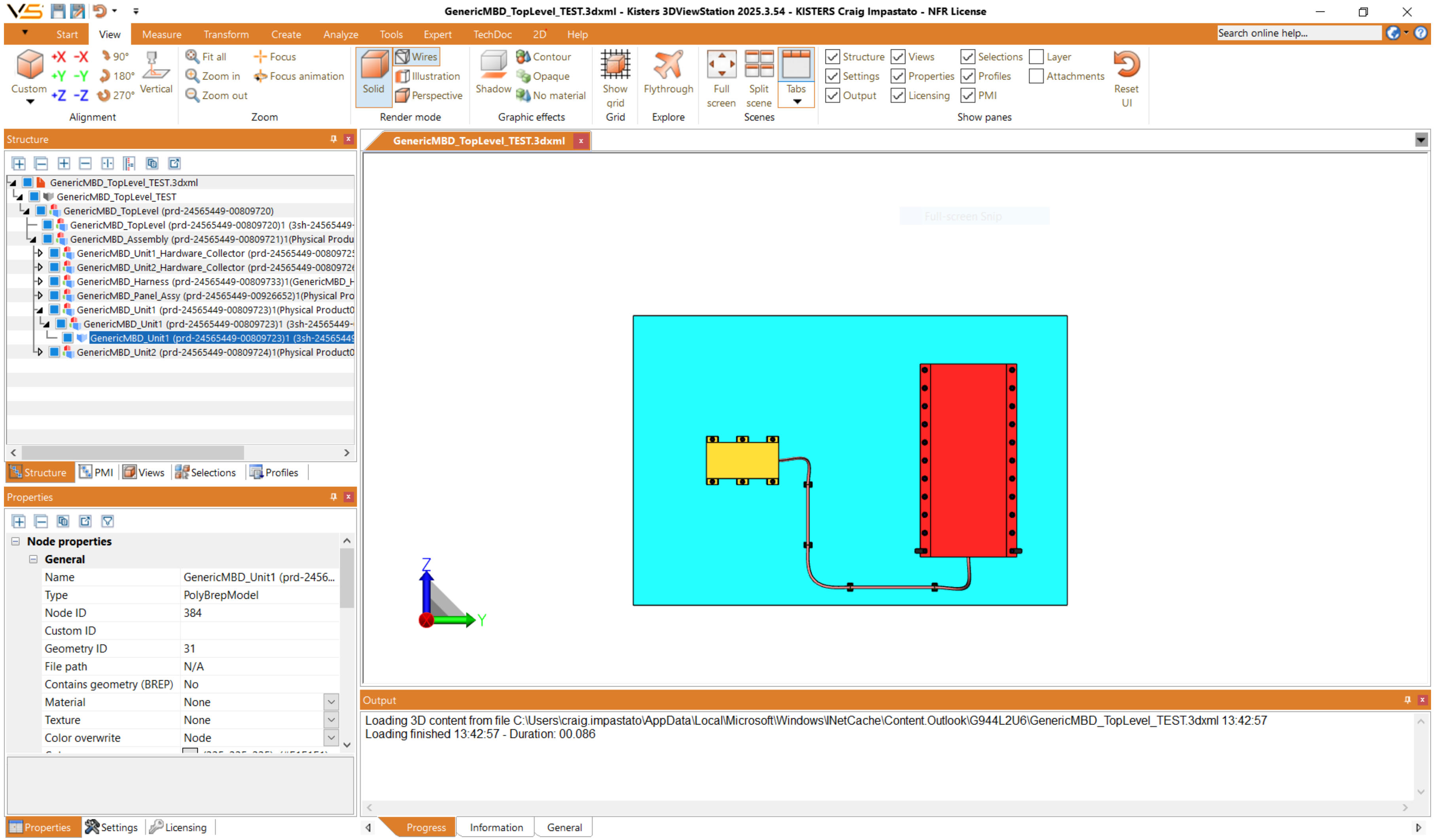

What are your Challenges?

https://www.3DViewStation.com, https://viewer.kisters.de