

OpenRadioss™ ParaView Webinar

2024-10-08 - M.Bulla / F. Mazen

Who am I?

- **François Mazen**
- **Director of Scientific Visualization at Kitware Europe, France**
- **Numerical Simulation Background (Ansys, Siemens PLM)**
- **Open-Source Software Enthusiast**
- **Debian Linux Distribution Developer**



Ansys

SIEMENS

kitware



Kitware / Leader in AI & scientific open source solutions

Software development

Based on open source tools
300+ active projects worldwide



Sustained Growth

Since creation of the company
100% employee-owned



230 employees Worldwide

6 offices across USA/Europe



65% staff with PhD or Master

High Level customer expertise



20+ years of expertise

Kitware USA, 1998
Kitware Europe, 2010

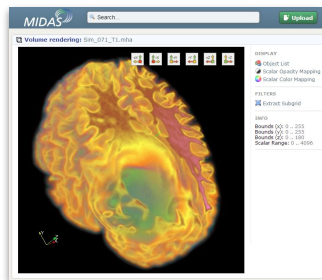


Revenue 2020

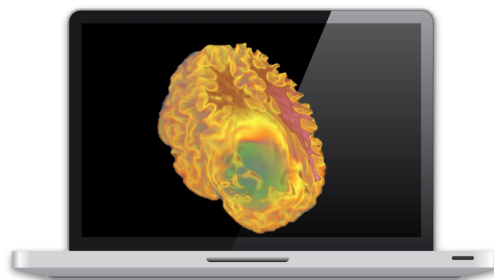
\$39M consolidated



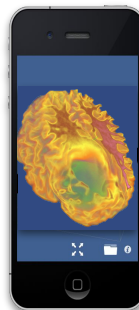
Applications / Universal Platforms



Web



Desktop



Mobile



Cloud /HPC

kitware
Platforms



3D Slicer



ParaView



KWIVER



mstk



Pulse
Physiology Engine



CMake



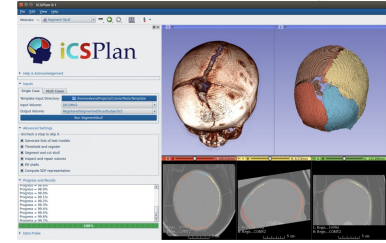
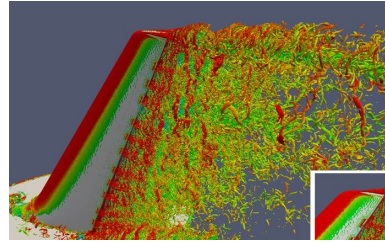
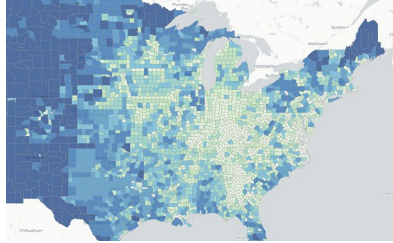
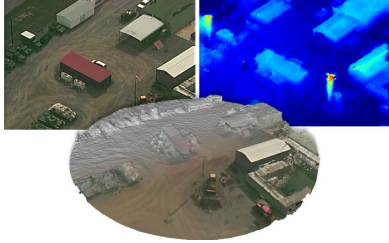
Resonant



tomviz



Areas of expertise / Built on open source



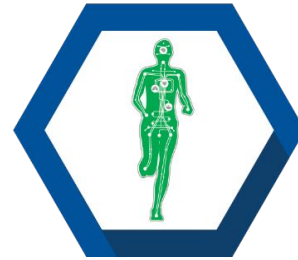
Computer
Vision



Data and
Analytics



Scientific
Computing



Medical
Computing



Software
Solutions

Kitware / Services



TRAINING



SUPPORT



DEVELOPMENT

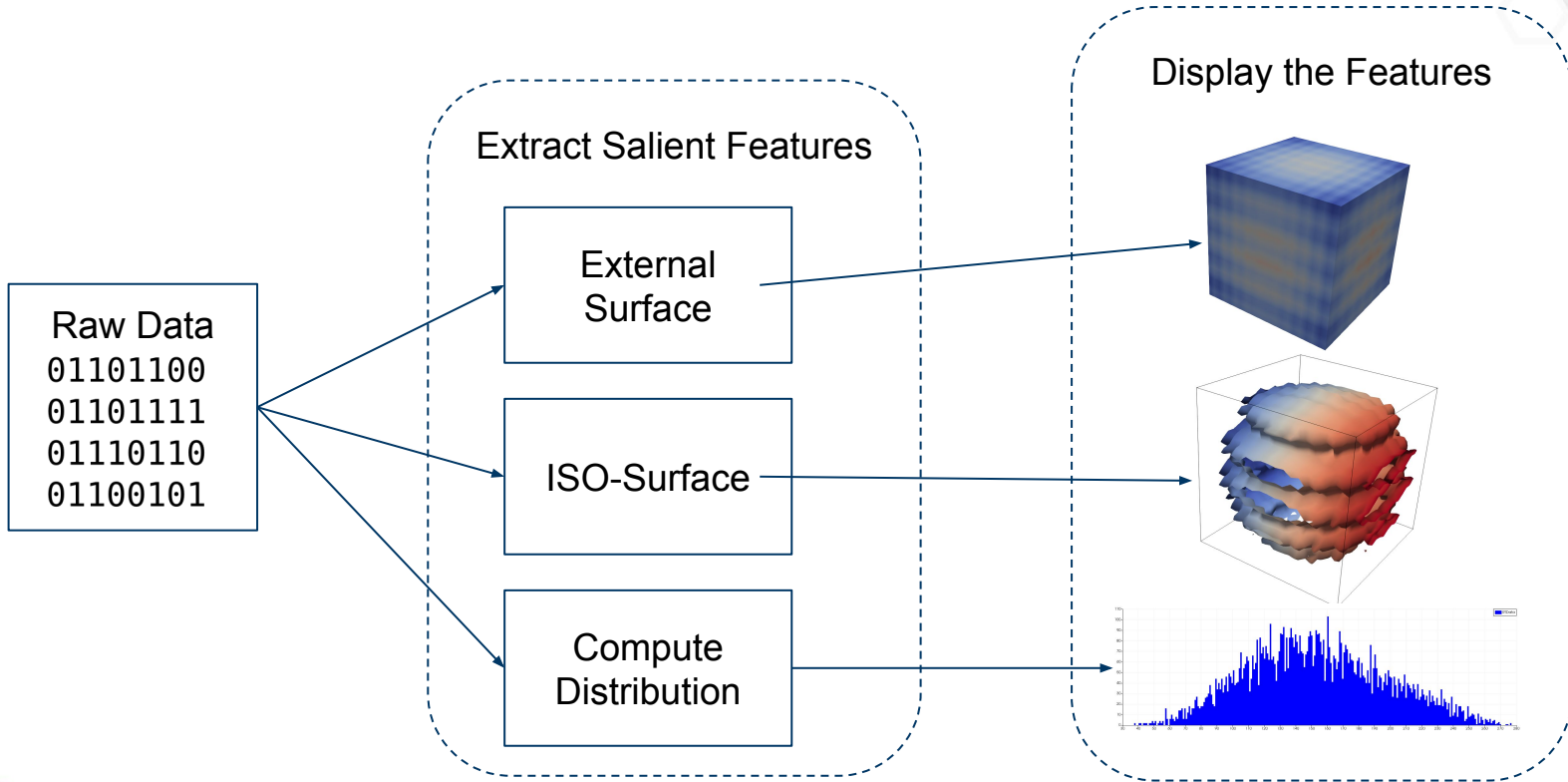


GRANT
COLLABORATION

ParaView

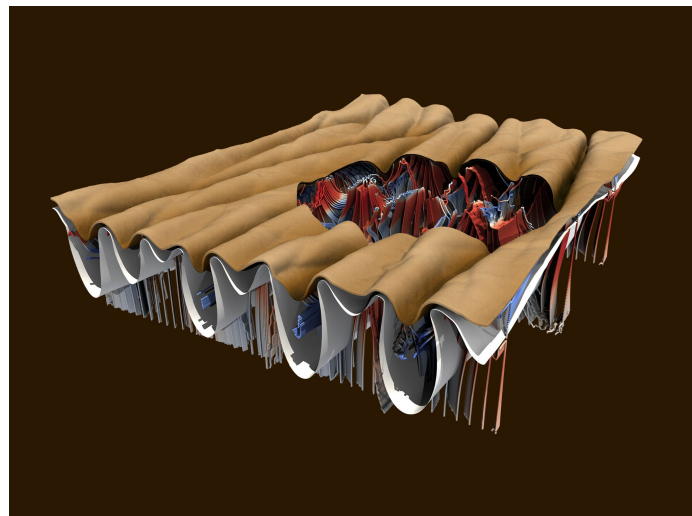
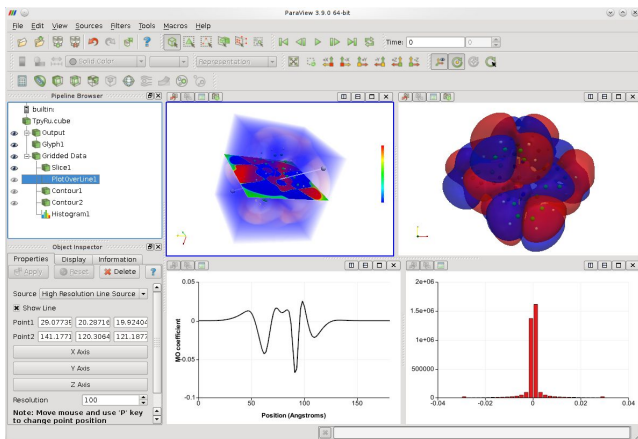


Scientific Visualization Basics



ParaView / High-Performance Post-Processing (2002)

- Open-source, multi-platform, data analysis and visualization application
- Analysis of extremely large datasets using distributed memory computing resources

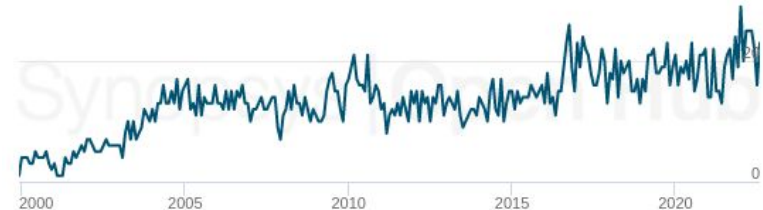


ParaView Community

- **Open Source Software (BSD license)**
- **Run on most of Top500 HPC**
- **300000+ download yearly from Kitware servers**
 - More users via other unknown download channel (Linux packaging, Enterprise distribution...)
- **157k commits made by 339 contributors since 2000**
- **1.6M lines of code**



Contributors per Month

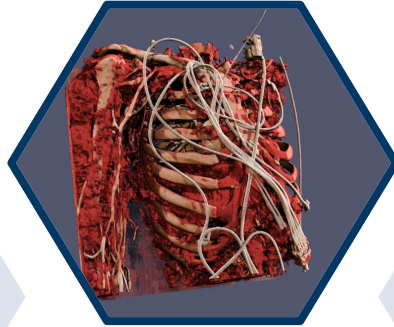


Features / Application Domains



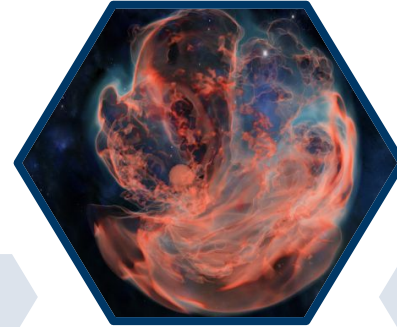
Fluid
Dynamic

Structural
Analysis



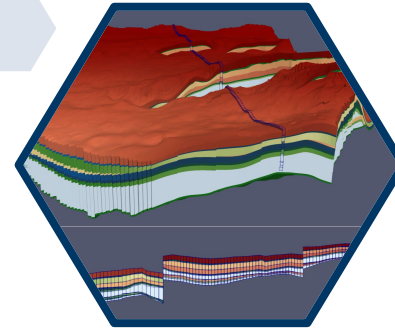
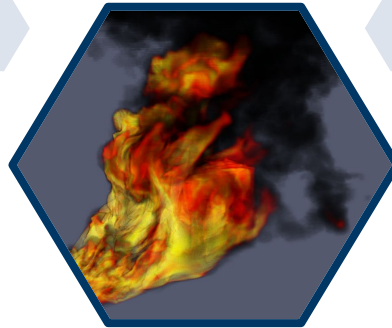
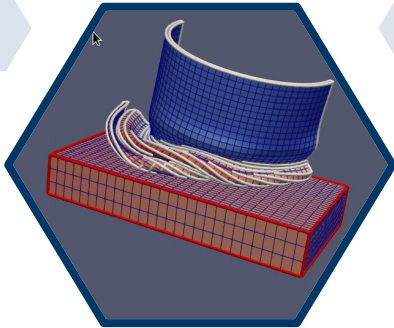
Medical

Particles

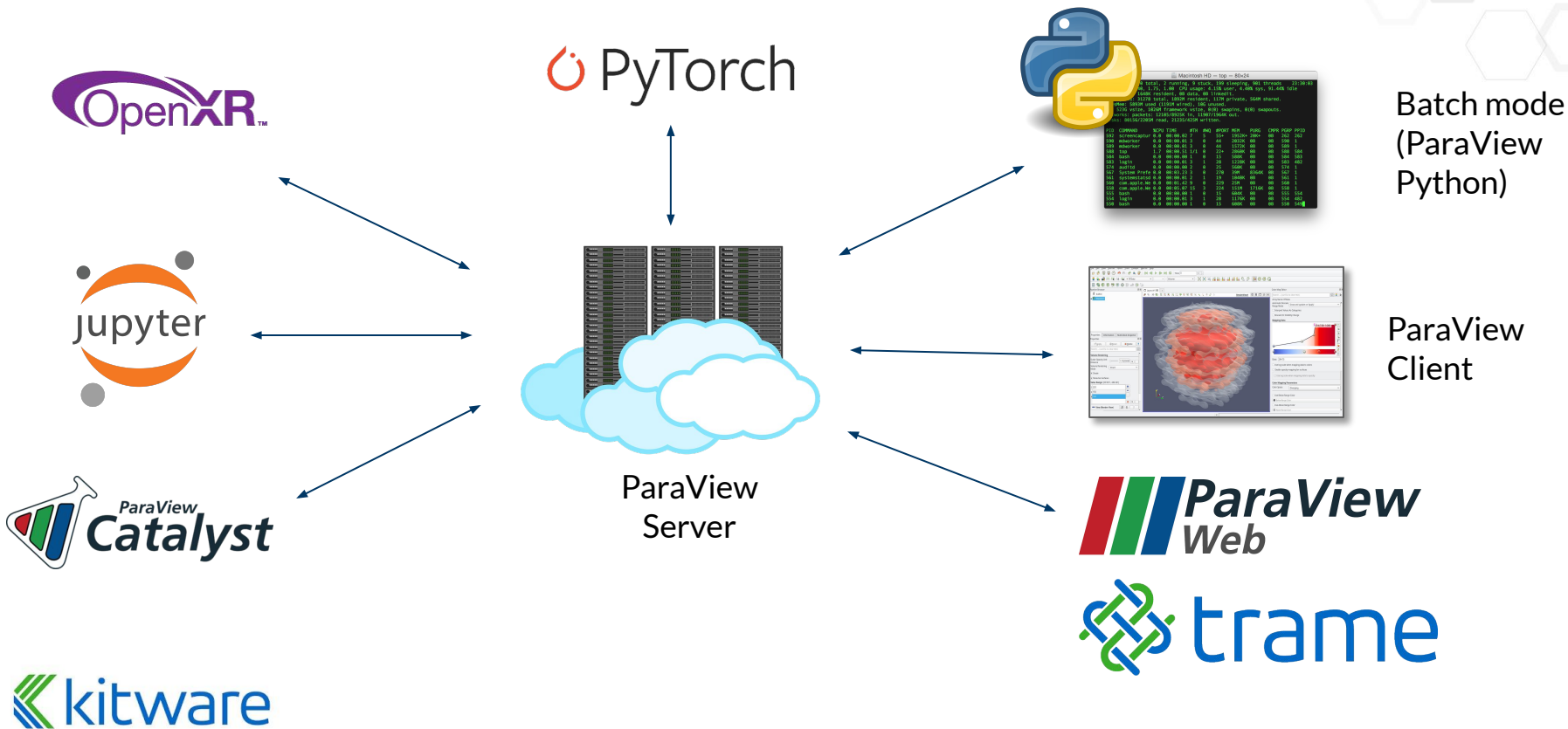


Astrophysic

Geoscience



ParaView Ecosystem



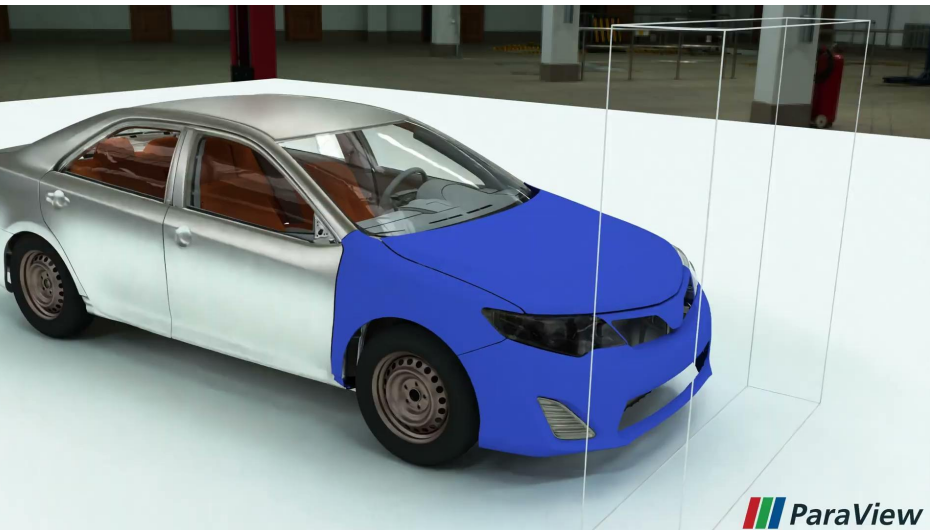
OpenRadioss

Marian Bulla

ParaView Demo



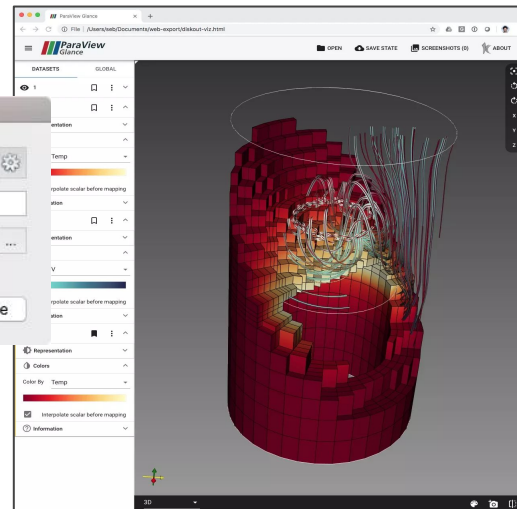
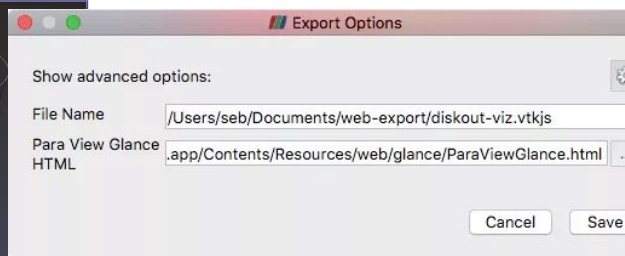
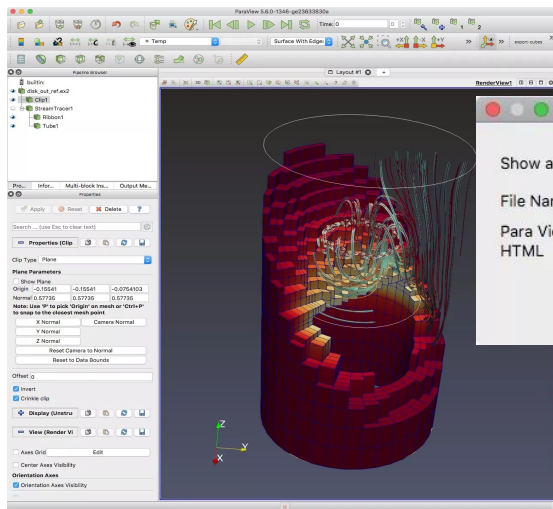
Advanced Rendering with Ray Tracing

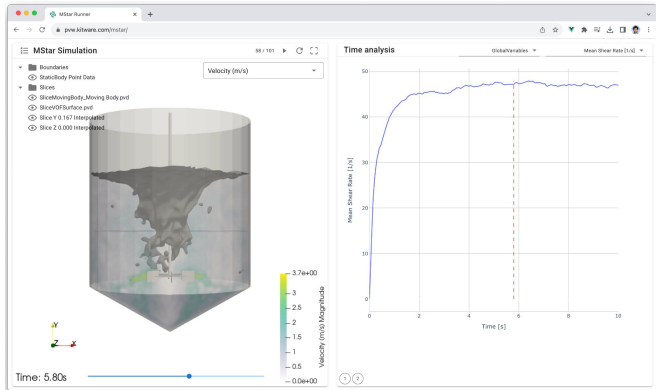


Dedicated Webinar: <https://vimeo.com/915475584>

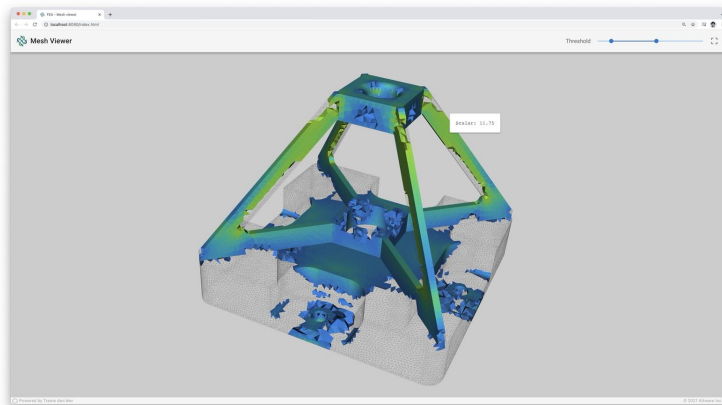
Glance

Export ParaView scenes to a standalone ParaViewGlance.html file (data included)

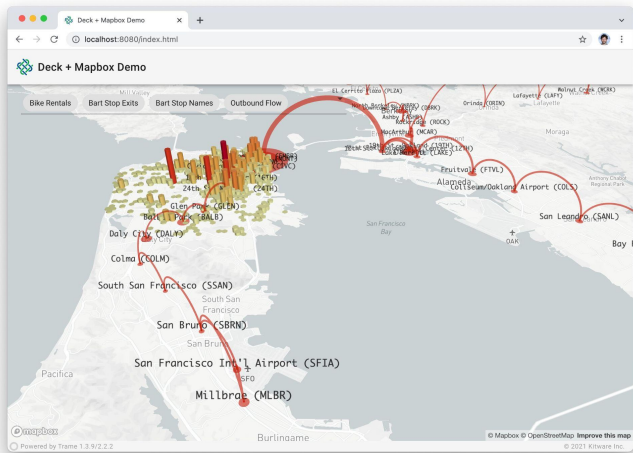




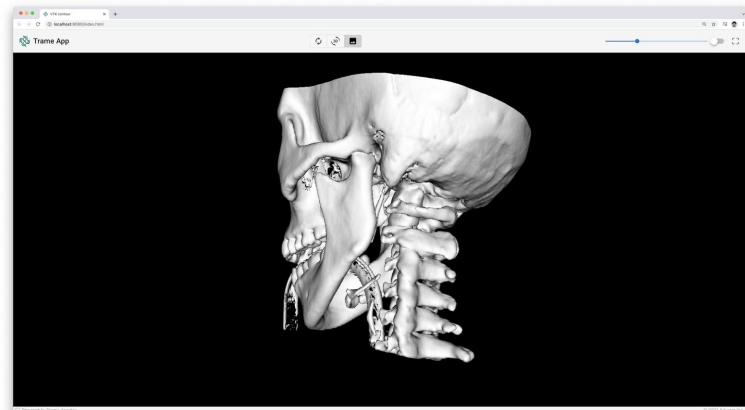
 ParaView



VTK

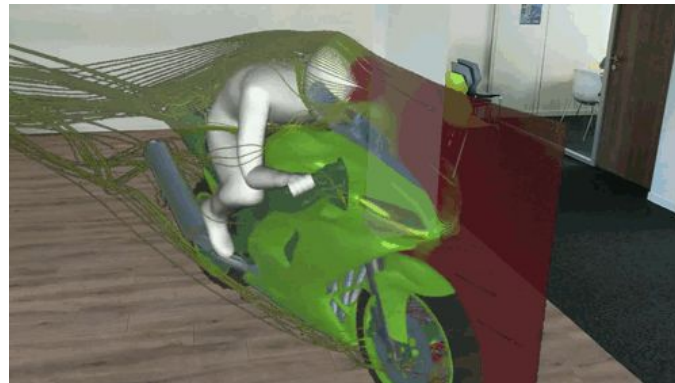
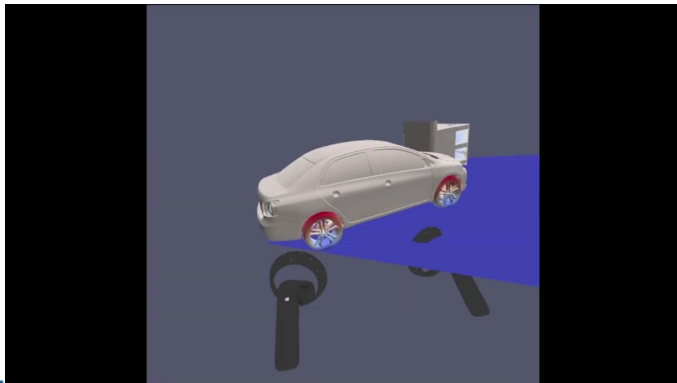
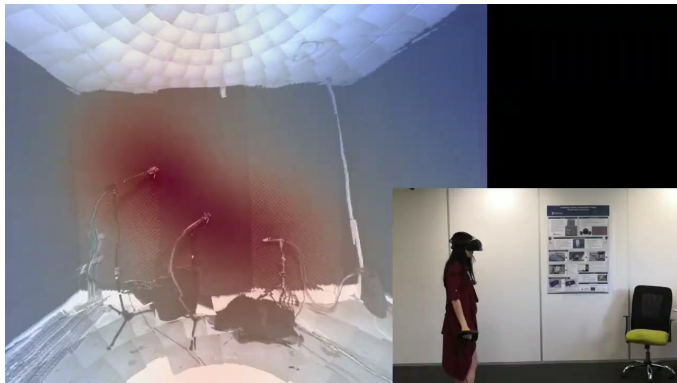


 pydeck

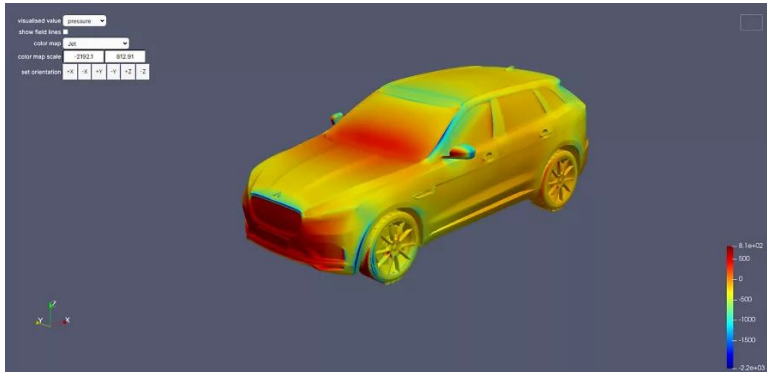


 kitware

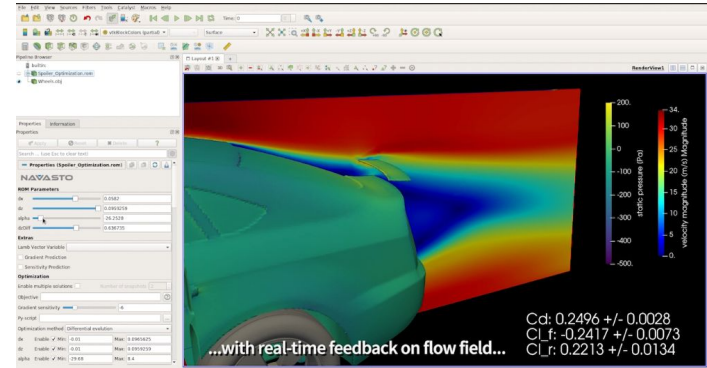
Virtual Reality / Augmented Reality



AI in ParaView

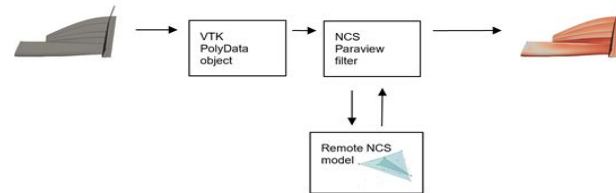
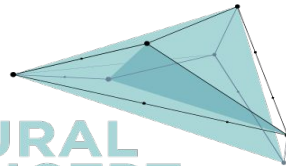


<https://www.ansys.com/ai>



https://www.navasto.de/software/navdesign_paraview/

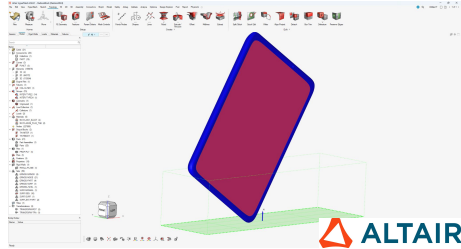
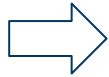
NEURAL
CONCEPT



<https://www.kitware.com/integrating-geometric-deep-learning-models-into-paraview/>

Summary

Meshing
(Altair HyperMesh™,
Gmsh...)



.rad files



Explicit Dynamic
Auto/Aero/Rail
Consumer Goods
Safety
Bio Mechanics
...

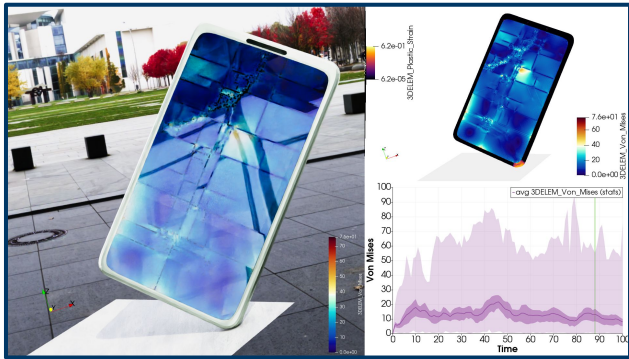
OpenRadioss™

.vtk files



ParaView

Pipeline Browser
Color Maps
Multi-Views
Find Data
Extract Parts
...



Call to Actions

 Download [OpenRADIOSS](#) & [ParaView](#)

 Download the [Cell Phone Model](#)

 Run, Play & Fun with Open Source! 

 Register on [LinkedIn](#), [Github](#), [ParaView Discourse](#)

☐ Contact Us! communitymanager@openradioss.org
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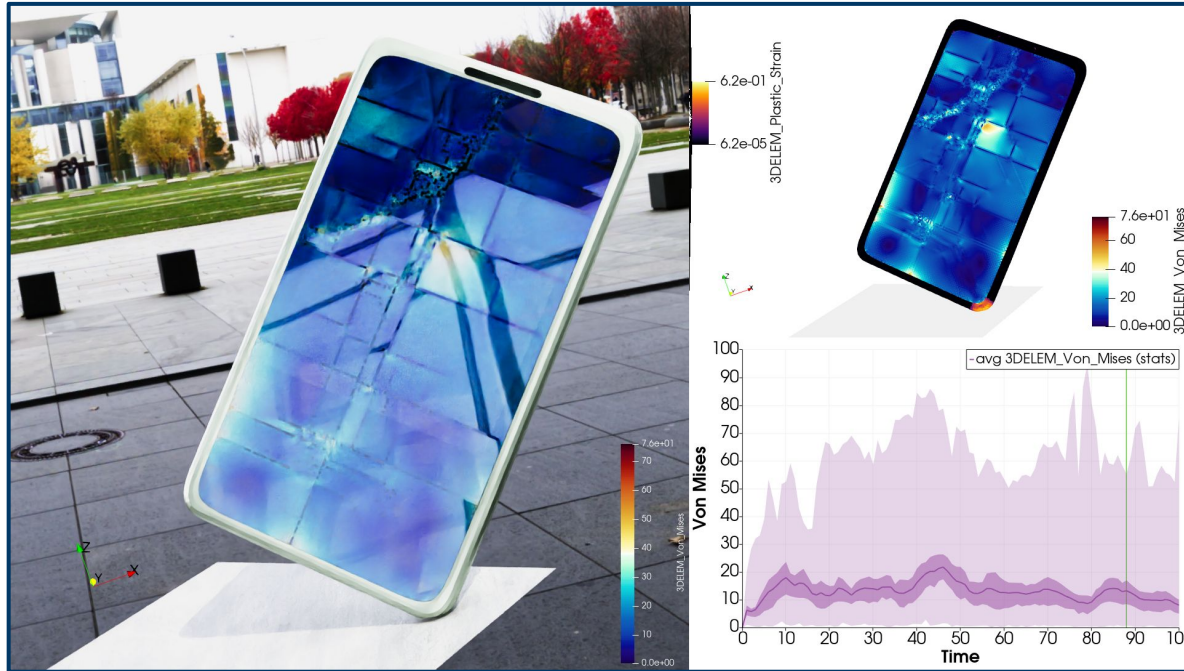


Acknowledgements

- **Altair:** Eric Lequiniou, Sébastien Villeneuve, Marian Bulla
- **Kitware:** Lucas Givord, Louis Gombert, Mathieu Westphal, Hélène Grandmontagne & all the SciViz team!
- **CC-Fr:** Karim Azoum, Marie Lhande Pincemin

- **YOU!** For attending the webinar

Questions?





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