

Ask A Panelist



Panelist and viewpoints:

Dr. Francesca Flamigni, EU R&D
Prof. Andre Stork, Visualization
Mr. Kjell Bengtsson, Standards

Dr. Mike Jahadi, PDES, Inc
Dr. Tor Dokken, 3D Geometry
Ms Silvia de la Maza, I4MS

Interactive discussions Viewpoints

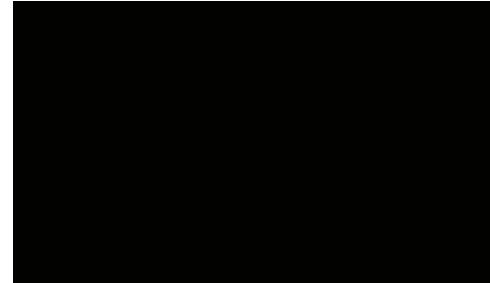
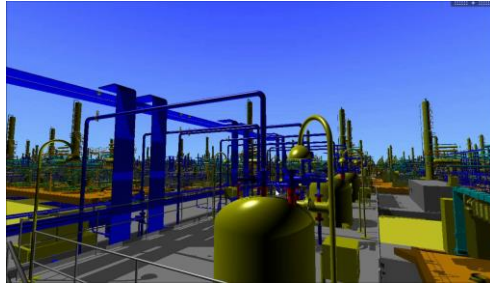
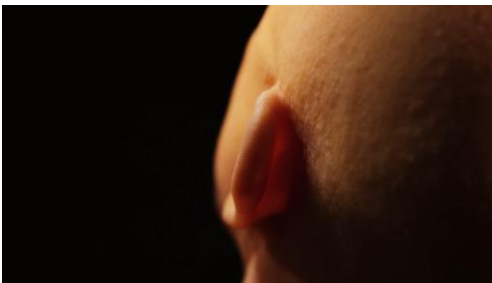


Visualisation: > 10.000 years
story-telling, communicating,
educating, understanding,
interacting

Interactive discussions Viewpoints



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Today realistic 3D
rendering and printing
RT of huge models
Interactive SciVis

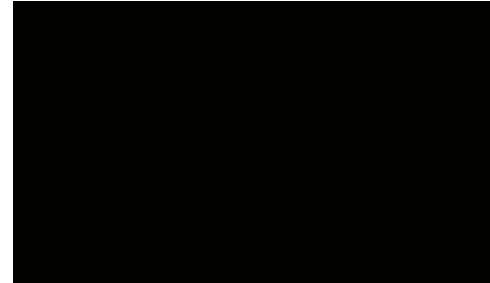
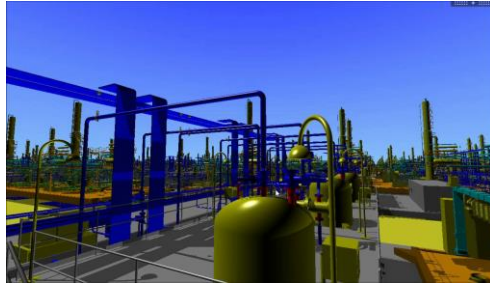
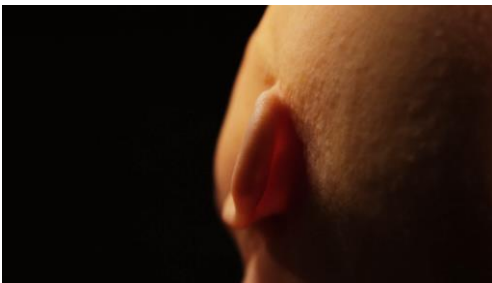
Fraunhofer Institute for Computer Graphics Research

Prof. Dr. André Stork

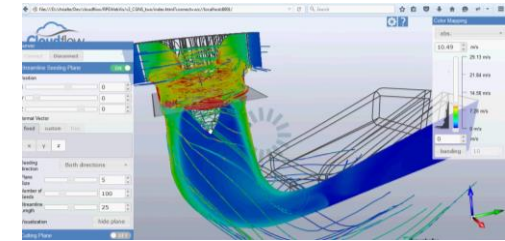
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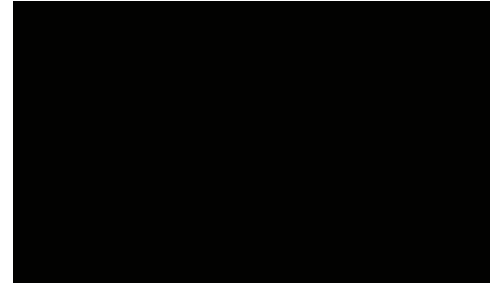
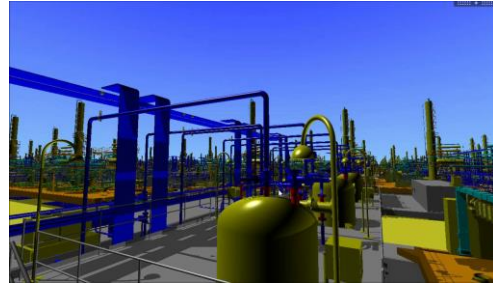
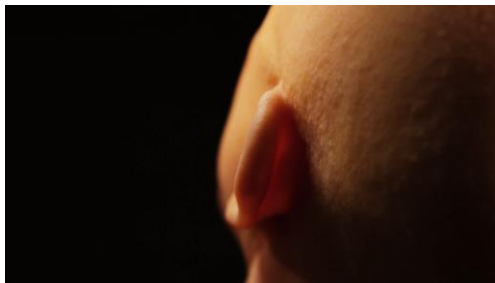
Today: Cloud Graphics
Challenge: stay being
interactive even in
remote environments
with lag and latency



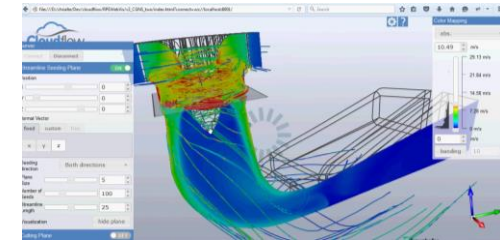
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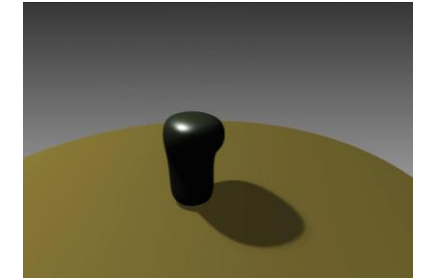
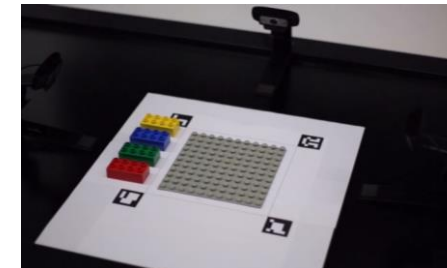
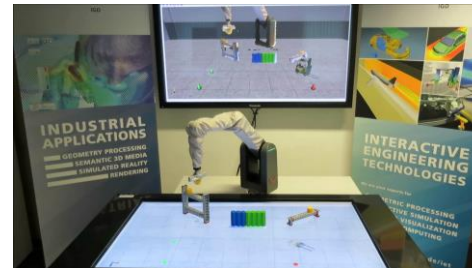
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Tomorrow:
Augmented Virtuality
Real and virtual /
physical and cyber are
melting together



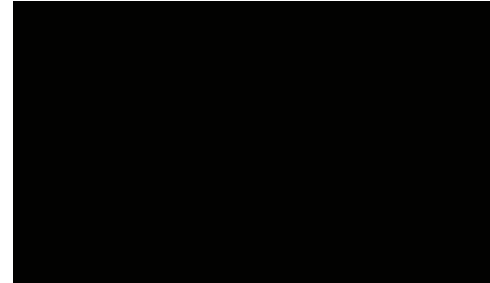
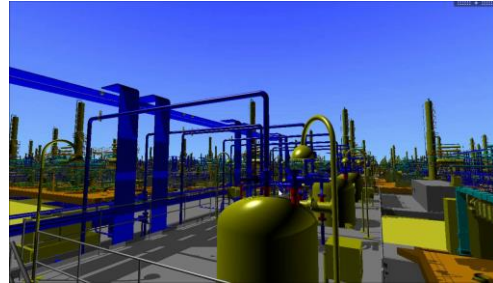
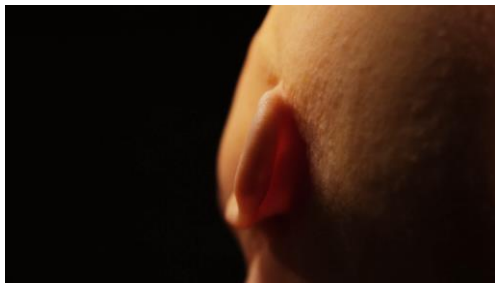
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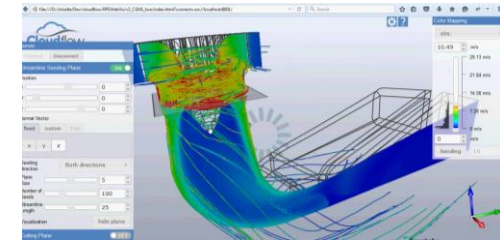
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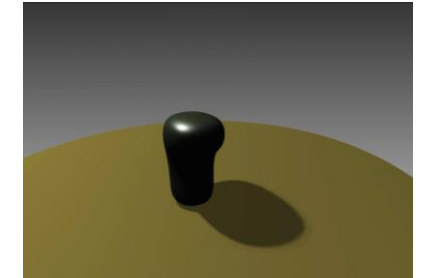
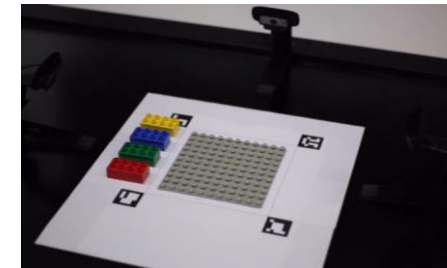
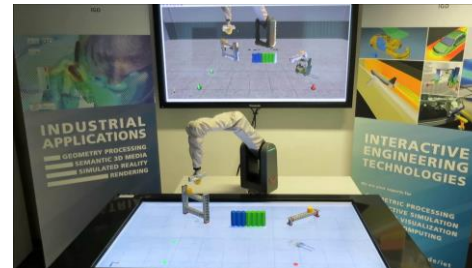
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Standards Viewpoints

Andrus Ansip, Vice-President for the Digital Single Market "The industrial revolution of our time is digital. We need the right scale for technologies such as cloud computing, data-driven science and the internet of things to reach their full potential. As companies aim to scale up across the Single Market, public e-services should also meet today's needs: be digital, open and cross-border by design. The EU is the right scale for the digital times.



Günther H. Oettinger, Commissioner for the Digital Economy and Society : "Europe has a very competitive industrial base and is a global leader in important sectors. But Europe will only be able to maintain its leading role if the digitisation of its industry is successful and reached fast. Our proposals aim to ensure that this happens. It requires a joint effort across Europe to attract the investments we need for growth in the digital economy."

Digital design and construction must become standard for construction projects in Germany, said **Alexander Dobrindt, the country's federal minister of transport and digital infrastructure**. He was speaking during a panel discussion on building information modelling (BIM) and the construction site at bauma 2016.



John Alexander MP, committee chair, noted that BIM and other smart technologies could have a tremendous impact on the **Australian** economy.

"In order to achieve this, however, governments and industry must be aware of the potential of smart ICT, and must invest in the technologies, skills and systems to make the transformation a reality," he added.

**To achieve these objectives, standards need to be part of contracts and legislations
"License to operate and self declaration of your information has to be implemented"**

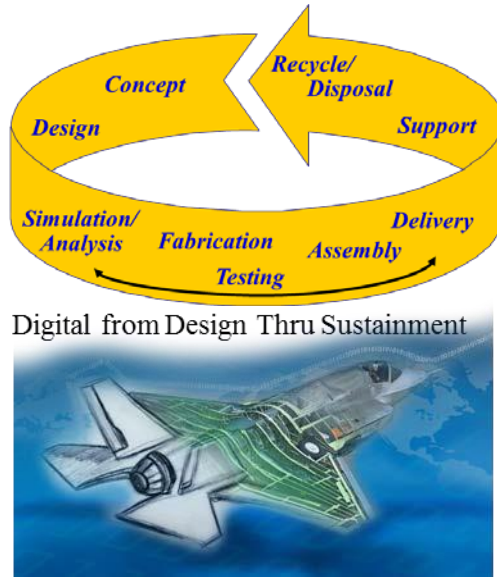
PDES, Inc. Consortium



Dr. Michael R. Jahadi, P.E. President
& Chairman of PDES, Inc.

Lockheed Martin Aeronautics Company

May 2, 2016



STEP is...an international standard (ISO 10303) for exchanging data between different systems (CAD, CAM, CAE, and PDM)

PDES Inc. VISION: Providing the Digital Enterprise strong business value through technical collaborations

PDES KEY GOALS

- 1.0 Enable Cross industry collaboration for the Digital Enterprise
- 2.0 Develop and/or Endorse Standards that Support the Digital Enterprise
- 3.0 Increase the value of the PDES Organization
- 4.0 Deliver Measurable Business Value to Members

Initiatives

Model Based Engineering
Model Based Manufacturing
Model Based Sustainment (LOTAR)
Systems Engineering
Integration & Data Exchange Testing
Information standards

The Manufacturer's Problem



How do I sustain my product over its life time?

PDES, Inc. Consortium
Dr. Michael R. Jahadi, P.E.

A formation of seven F-35 fighter jets flying in a staggered line over a desert landscape. The jets are dark grey and have their canards deployed. The background shows a clear blue sky and a vast, flat desert floor with some distant mountains.

Questions?

Dr. Michael R. Jahadi, P.E.

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<https://www.pdesinc.org/>

Cloud CAx for Additive Manufacturing

**AM Analysis
based design**

**AM Material
properties**

**AM Process
Planning**

- Computer Aided technologies (CAx) for Additive Manufacturing (AM) should include all three aspects above
- CAxMan is working on novel 3-variate representations, standardization. novel design, simulation, process planning and quality control to target the needs of AM
- The Cloud has the capability to offer industry (e.g., SMEs), new services, applications and workflows related to AM
- CloudFlow/CAxMan provides technology on which more compressive Cloud solutions addressing AM can be built
- To included new aspect we should consider EU's call FOF-12-2017 to target a wider aspect of services, applications and workflows related to AM



WMF pre-workshop Barcelona 02/05/2016. One slide panel discussion: Tor Dokken

Digital innovation Hubs:

- *Needs*
- *Functionalities*
- *I4MS replication*

INDUSTRIE 4.0

- HPC
- CPS
- LASER
- ROBOTICS



- SMEs
- NEEDS
- BENEFITS
- OPEN CALLS
- The future of R+D???