



visionair

www.infra-visionair.eu

VISIONAIR Project – Opportunities for new media research

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PARTNERS:



What is VISIONAIR

Access to the world class European visualization infrastructure

FP7 infrastructure project:

- Open access to a large research community to promote excellence of European research
- Access to visualization services in Europe
- Research related to interoperability and collaboration between sites

Coordinator: Frédéric Noël, Grenoble-INP

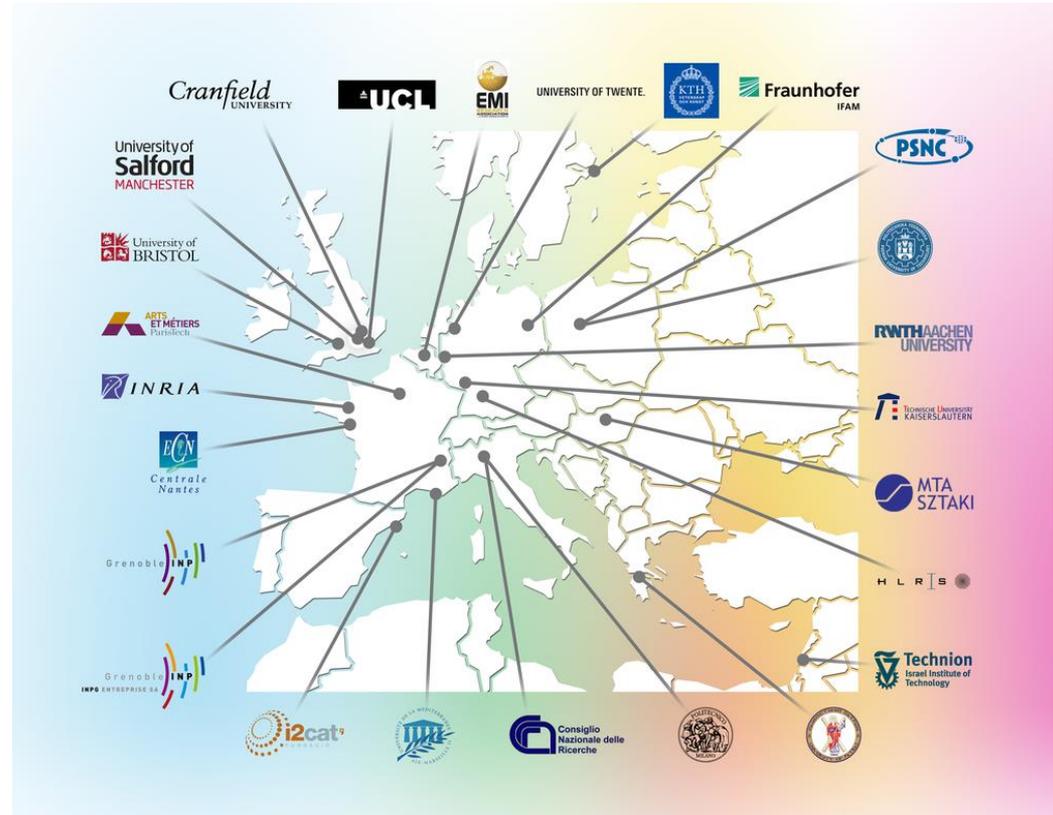
Budget: 8M€

Timeframe: **Feb 2011- Jan 2015**



Partners

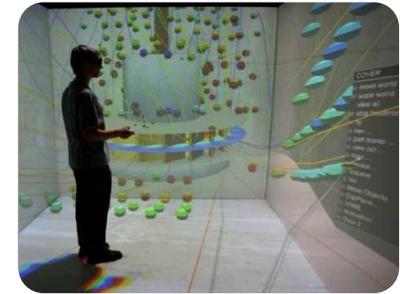
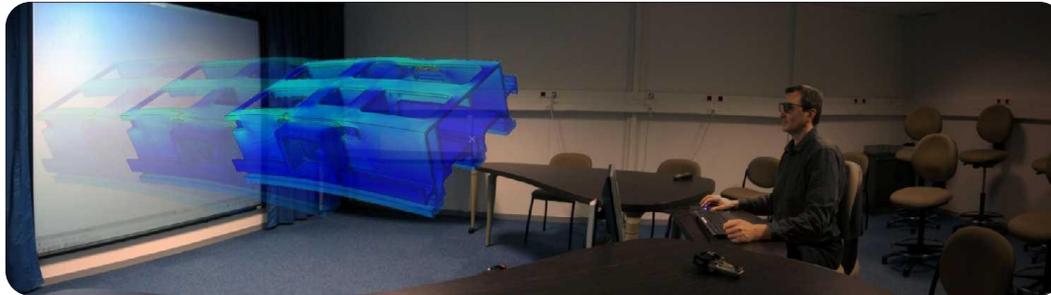
- **25 partners from 12 countries**
 - France
 - Germany
 - United Kingdom
 - Italy
 - Spain
 - Sweden
 - Netherlands
 - Poland
 - Greece
 - Hungary
 - Israel
 - Belgium
- Universities,
- Research Centers,
- Centers of Excellence



Topics

4 main areas

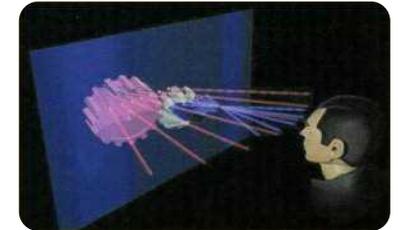
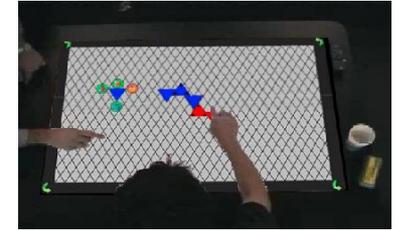
- Scientific visualization
 - Visualization of huge data from scientific simulations
 - HPC research centers for **computing large amount** of data



Topics

4 main topics

- Collaborative environments
 - Augmented reality technologies for remote collaborative works
 - Holographic displays, haptic controllers
 - **Building environments for remote collaboration, design, etc.**



Topics

4 Main Topics

- Virtual Reality
 - High end **immersive** facilities which allow users to experience virtual environments and **interact** with them
 - Motion capture, 3D scanning, caves, immersive displays



Topics

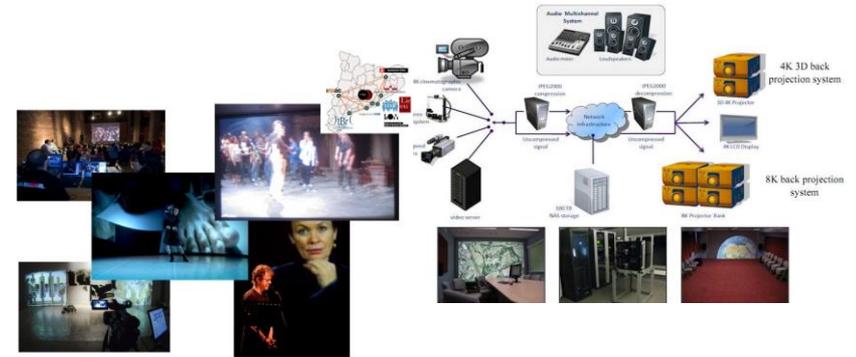
- **Ultra-High Definition**
 - Cutting edge visualization technology **beyond HD**:
 - **4K / UHDTV-1, 8K / UHDTV-2**
 - Stereoscopy
 - High Frame Rate
 - Great quality but large amount of audiovisual data
 - **Example: UHD-1 60p RGB 8-bit: almost 12 Gbit/s !**
- **Network**
 - Very fast optical networks
 - Usually dedicated bandwidth or dedicated link of 1G / 10G / 40G / 100G ...
 - Real time applications: small latency



What VISIONAIR offers?

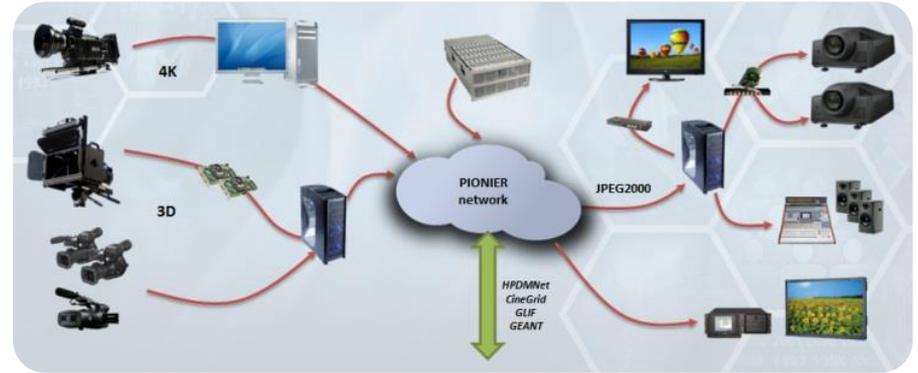
Trans-National Access of VISIONAIR

- To provide visualization infrastructure
- For projects and communities
 - Research and science
 - Education
 - Arts and culture
- Free of charge
 - Free access to the infrastructure
 - Reimbursement of travel and accommodation
 - Transportation of equipment
- In one of **25 installations** in Europe
- **UHD/3D from PSNC also available as a mobile lab (!)**
- **For demonstrations, experiments, cultural events**
- **Separate or common use of installations**



Example UHD installation

Poznan Supercomputing and Networking Center



- Ultra-High Definition infrastructure
 - 4K and 3D cameras
 - 4K 3D projection system
 - Network compressed and uncompressed streaming

- **2014/2015 – 8K 3D installation**

- Take part in a lot of demonstration and experiments related to Ultra-High Definition, networks and streaming

- „Travelling with infrastructure”



Human-Robot Interaction

At total distance of 2000km over 40G network with 4K 3D low-latency live visualization

Long-distance
Human-Robot Interaction with
3D UHDTV 60p video
VISIONAIR

4K 3D 60p, 2000 km,
40Gb/s (10ms!)

uncompressed and compressed streaming,
Holographic,
Robot interaction



UNIVERSITY OF TWENTE.



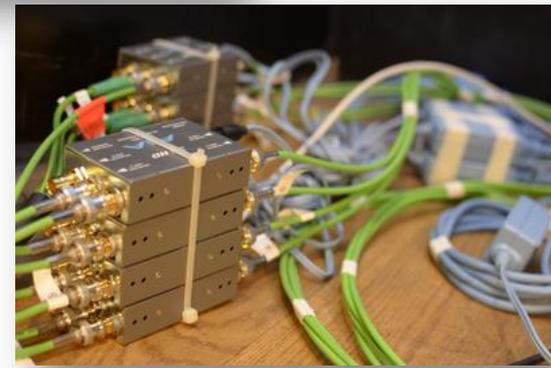
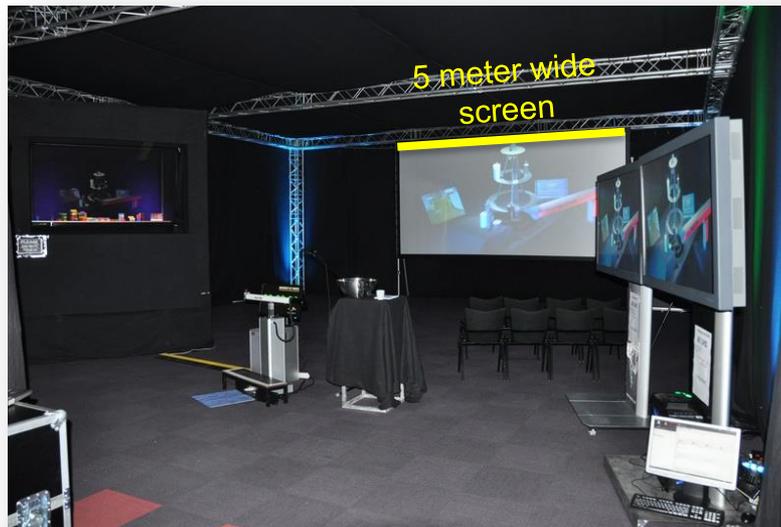


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A WORLD-CLASS INFRASTRUCTURE FOR ADVANCED 3D VISUALIZATION-BASED RESEARCH

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Preparations

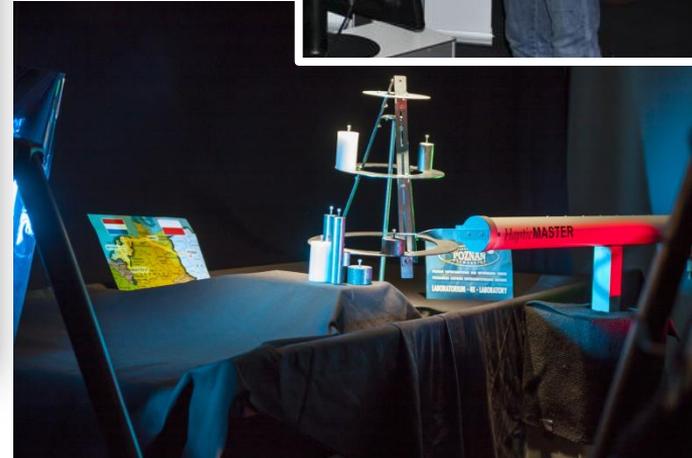
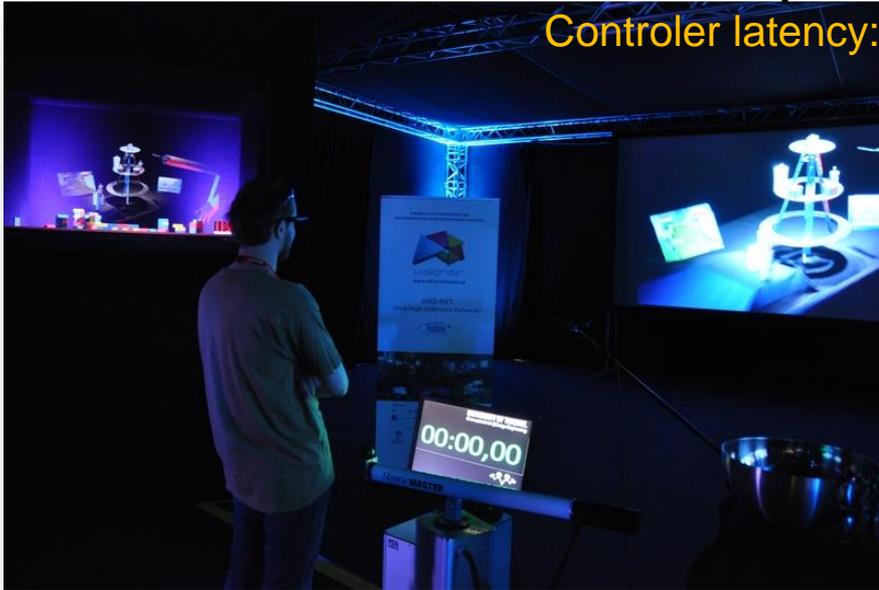


The Game

Network latency: 10ms

Video latency: 50ms

Controler latency: <20ms



Movie (2:51): <http://www.youtube.com/watch?v=CLsF3ol8psl>

Research on new enablers for artistic virtual environments and performances

ICT2013 Vilnius, Barcelona, Poznań, Grenoble

- SPECIFY and I2CAT, PSNC, INRIA
 - Common concert of distant musicians
 - Virtual dancer rendered in 3D



Conclusions

- **Support for research projects**
 - So far 50 Trans-National Access projects completed
- **Access to high level visualization infrastructure for free**
 - With reimbursement up to 1.500 EUR
- **Project active until Jan 2015!!!**
 - www.infra-visionair.eu/propose-new-project.html
- Contact us in order to discuss details
 - mackostr@man.poznan.pl
 - mac@man.poznan.pl
- **News from Open Forum conference (4:48):**
 - <http://tv.pionier.net.pl/Default.aspx?id=2975>



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Thank you
Questions, comments?

PARTNERS:

