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Maciej Glowiak

**SIG Multimedia**

**What's happening in the field at PSNC**

22 Feb 2022

# Multimedia @ PSNC

## New Media Department in a nutshell



### Experimental content production

- 8K, 3D, 360°, point cloud/laser scanning, HDR, HFR, slow-motion, ...
- Ambisonic and spatial sound, motion capture, video streaming
- Support for event production (recording, streaming, A/V)



### Multimedia software development

- European R&D projects
- Encoding, decoding, streaming, processing of 8K, 360°, etc.
- Content delivery and videoconferencing



### Multimedia infrastructure

- Laboratories equipped with next generation media devices
- 8K, 360, streaming, 2D and 3D scanning, plenoptics, volumetric & VR, sound

# Projects

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## H2020 and national projects

- ImmersiaTV ([www.immersiatv.eu](http://www.immersiatv.eu))
  - Immersive Experiences around TV, an integrated toolset for the production and distribution of immersive and interactive content across devices
  - 360 live content delivery with synchronization to traditional TV
- Immersify ([www.Immersify.eu](http://www.Immersify.eu))
  - Cutting Edge tools for the next generation of immersive media
  - To improve quality of immersive media, support for large display environments, new ways of interactive experiences, create 8K/VR content
- DARIAH-PL ([lab.dariah.pl/en/](http://lab.dariah.pl/en/))
  - establish Dariah.lab - a research infrastructure for digital humanities and Arts. The infrastructure has been placed on the Polish Research Infrastructure Map in the area of social sciences and humanities.



# Projects

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## Content Delivery and Videoconferencing

- **PIONIER TV**
  - Kultura-based content delivery and portal for academic television in PIONIER network
  - Additional deployment for Poznan City Hall (video.poznan.pl)
- **eduMEET**
  - Active development and deployments of the eduMEET webconferencing tool
  - Various deployments  
PIONIER – meet.pionier.net.pl, Poznan City Hall - dialog.poznan.pl



## Art & Science

- Various initiatives in collaboration with artists
  - Opening laboratories and equipment for artists' communities
  - Testing tools in unusual and non-obvious applications
  - PSNC Future Labs





As pictures speak louder than words...



# 8K Production studio





8K and 8K 3D cameras and streaming infrastructure





6-meter-wide 8K active 3D 60p display wall

Rear projection, 12 blended Barco projectors + 4 Barco-e2 processing system



Multipurpose production space with 8K screen



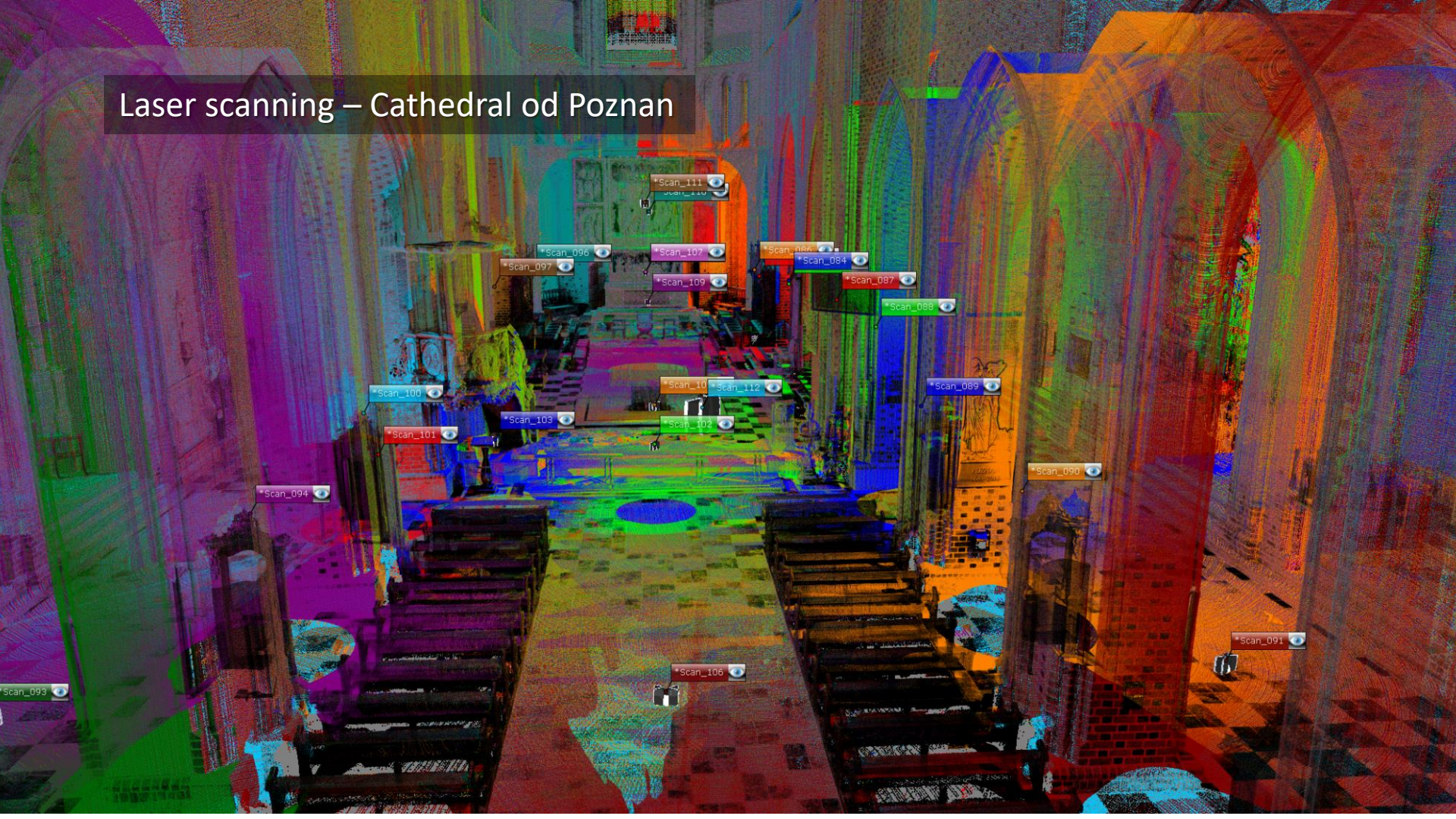


Multipurpose production space with 8K screen





# Laser scanning – Cathedral od Poznan



Rendering from point cloud





Rendering from point cloud – 8K, 3D or 360 - Cathedral





Rendering from point cloud – Fallout shelter in Poznan

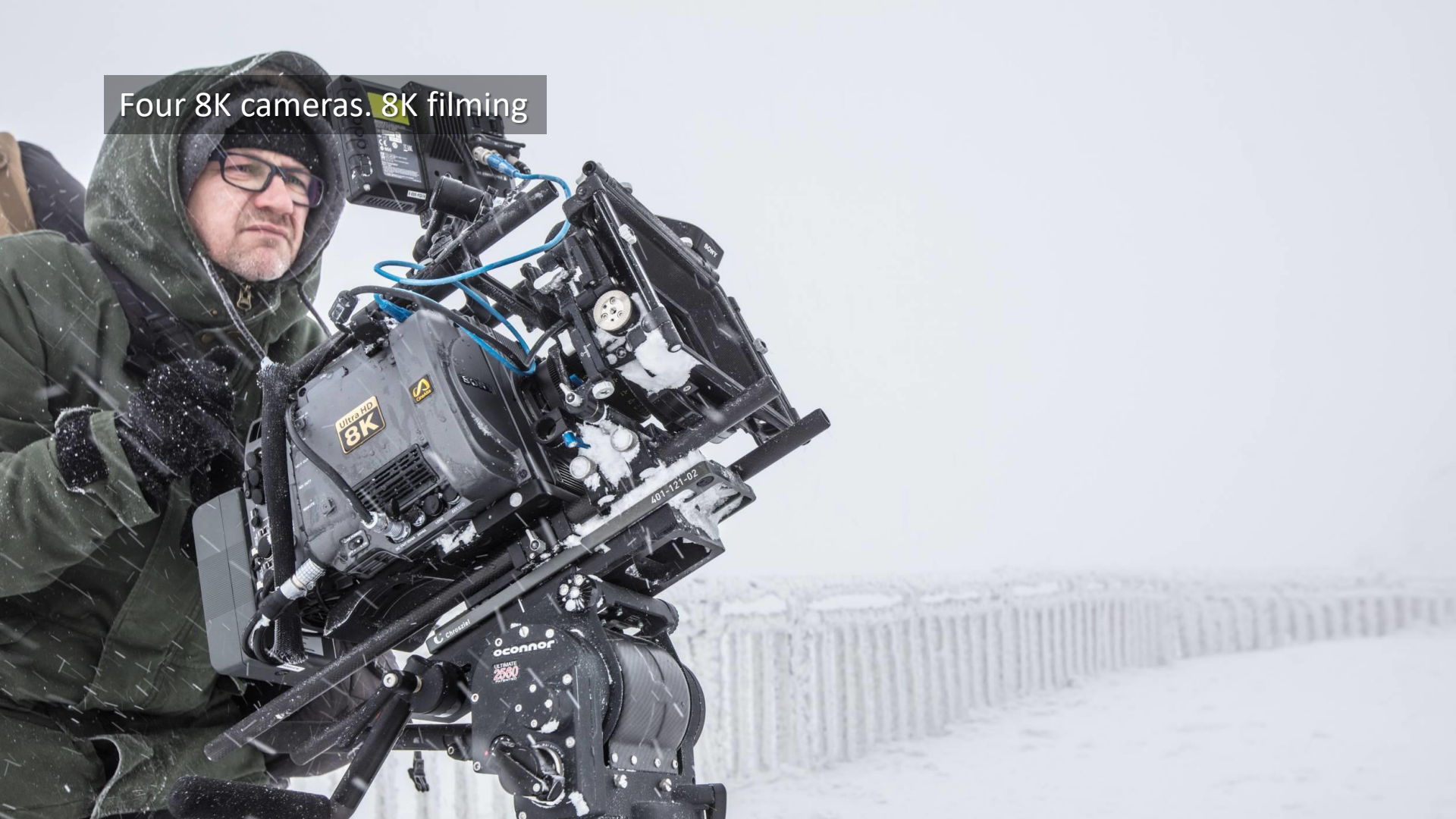




Laser scanning –historical dukes' of Poland skulls



Four 8K cameras. 8K filming





8K movie production – Cathedral of Poznan





Underwater recording in 6K – Baltic sea



Underwater recording in 6K – Baltic sea





HFR and slowmotion recording in 4K or 4K 3D – flowers in liquid nitrogen  
Up to 1000 fps in 4K (3D with 2 Phantom Flex 4K cameras)

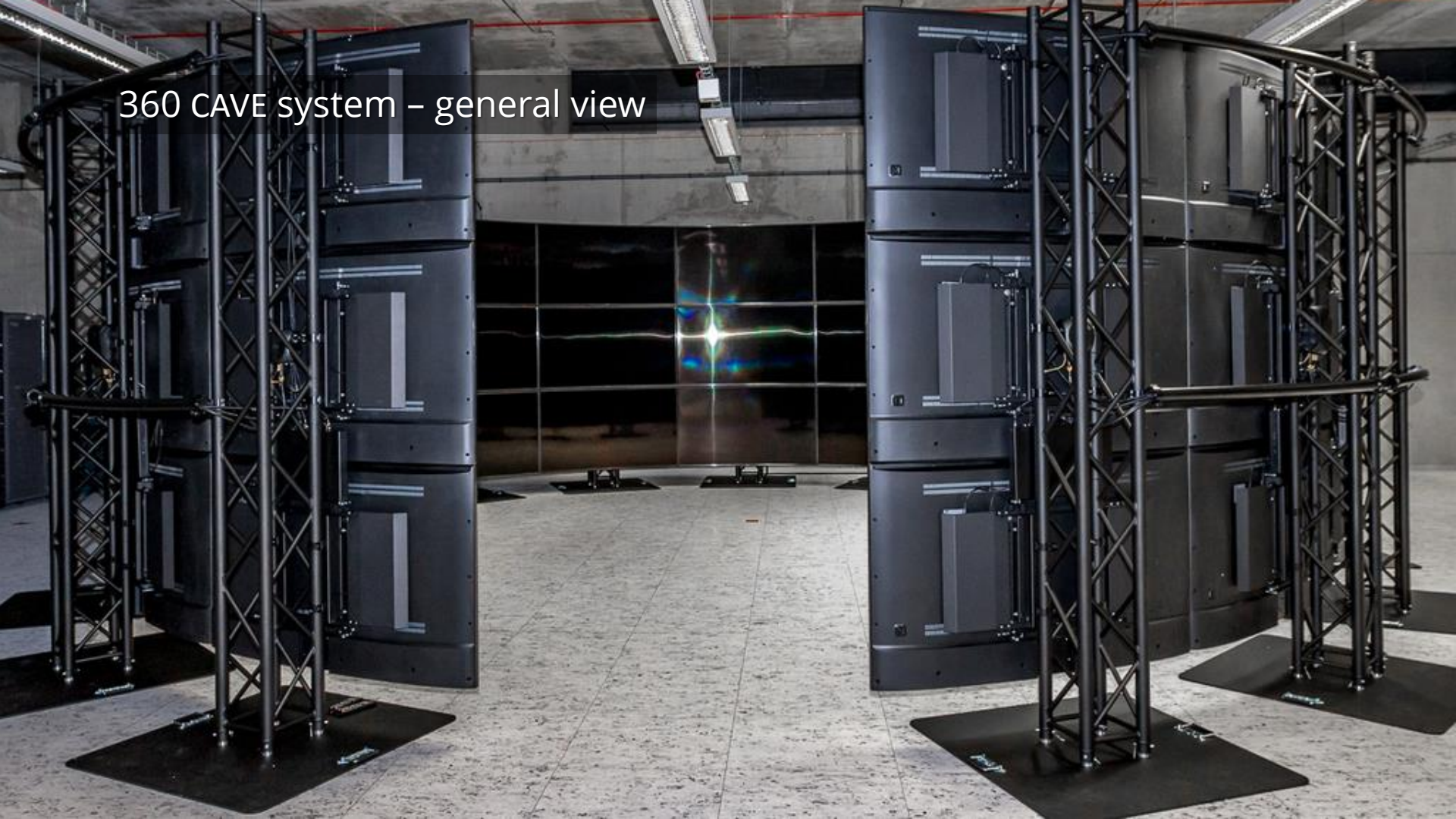


Ambisonic sound recording





360 CAVE system – general view





360 CAVE system – cathedral church





8K streaming from PSNC to InterBee (NHK, Spin Digital) – 4 cameras + robot





Making events – TNC





# Making events





Making events



**PETER ELFORD**  
Assistant Professor

After three successful Assistant Professor positions, Peter Elford was appointed as the first Assistant Professor in the School of Information Systems and Technology (IST) at the University of Queensland. Peter is an interdisciplinary researcher in artificial intelligence, machine learning, and data science. He has over 20 years' experience working in government, industry, and academia. Peter is an Associate Professor, research fellow, and industry partner at the Queensland Research and Innovation Institute (QRII). He is also an Assistant Professor at the Queensland University of Technology (QUT) and a member of the original team at Australia.





Making events – 25th anniversary of PSNC  
(lights, animations, LED projections, cameras, streaming)





8K low latency streaming from Poznan to Linz with remote interaction



8K low latency streaming from Poznan to Linz with remote interaction





High Order Ambisonics & 360 high-res (16K) recording



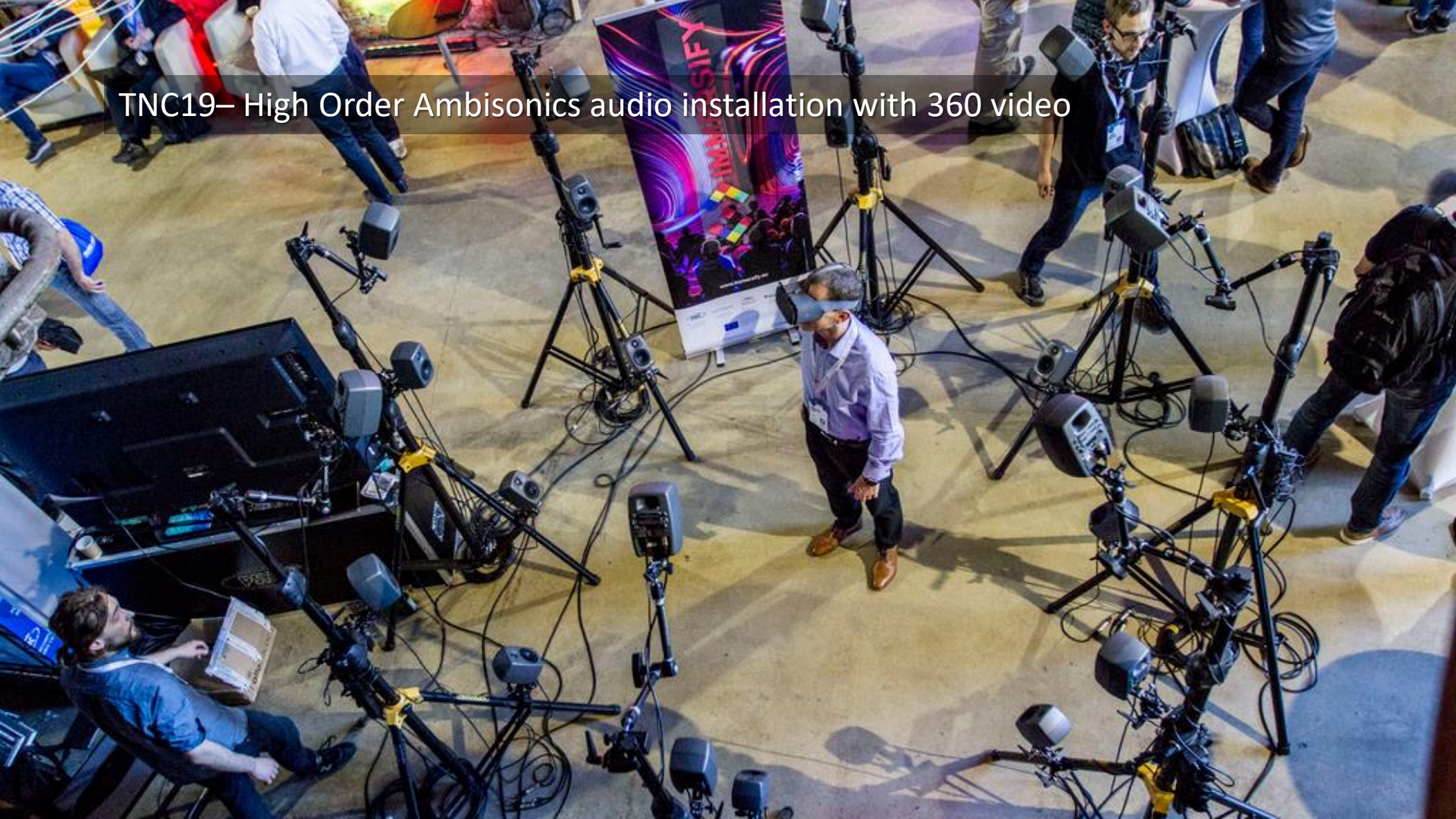


Ars Electronica Festival – High Order Ambisonics audio installation with 360 video





TNC19– High Order Ambisonics audio installation with 360 video



Acusmonium – ambsonics sound (48 loudspeakers), Art&Science





# Motion capture and real time processing





# Visual mapping in Poznan ZOO







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