

# IMMERSIVE VISUAL TECHNOLOGIES FOR SAFETY-CRITICAL APPLICATIONS



The research programme is organized in three work packages:



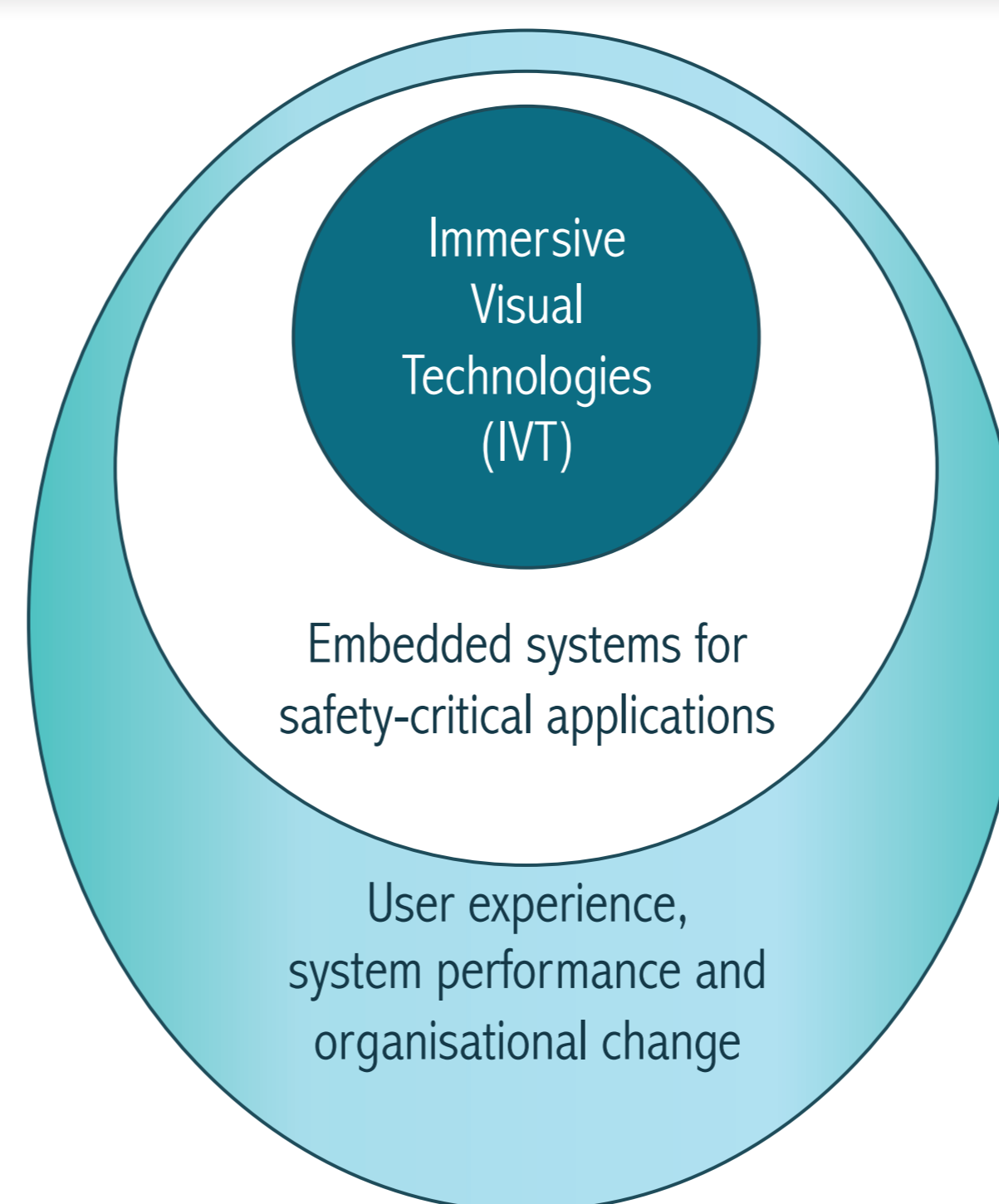
Marie Skłodowska-Curie Innovative Training Network



<https://immersafe-itn.eu/>
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**WP1**  
Light field sensing and processing  
Multimodal 3D reconstruction from mobile sensors  
Depth-corrected head-up display visualization  
Reliable and fast communication of immersive visual data

## PROJECT GOALS



The main objective of the project is to train multidisciplinary experts on core imaging technologies, and the related systems and human factors for the successful design of the safety-critical applications of the future.

**WP2**  
Dependability analysis  
Methods and architectures for real time implementation  
Integration towards use cases Ultra-durable embedded transparent display

## TRAINING STRUCTURE

**WP3**  
Fatigue induced by use of IVT  
User ability to receive information from IVT Relation of IVT to organisational changes

### COLLECTIVE TRAINING



PhD courses

Training School, Tech Days, Immersive Cluster Day

Webinar series designed for ImmerSAFE

Attending International conferences and meetings with the Advisory Board



LOCAL



NETWORK-WIDE



ONLINE



CONFERENCES

### INDIVIDUAL TRAINING



Cross-disciplinary research projects with intersectoral supervisory Teams

Secondments in academy and industries

Dedicated Moodle courses made available online

Coaching to improve presentation skills

## INDIVIDUAL RESEARCH PROJECTS

- Vision enhancement in extreme environmental conditions
- Accommodation and convergence cues on transparent display media
- Multi-camera surround view visualisation and multi-modal sensor integration
- Ultra-reliable communications of immersive visual data
- Dependability in vision-centered systems
- Assessing the effectiveness of immersive visual technologies in an industrial machine framework
- Evaluating the Quality of Experience of immersive visual systems in operative control rooms
- How do immersive visual technology affect task performance in control centres?
- Organisational changes caused by immersive visual technologies in safety-focused organisations
- Industrial visualisation using see-through interfaces
- Embedded system for enhanced surround vision in work machines
- Augmented and virtual reality systems in operative control rooms
- Real-time image processing and analysis of UAV videos for safety-critical applications
- Compression methods for geometry-enhanced light field images under safety-critical conditions
- Rugged multicoloured transparent displays

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### BENEFICIARIES



### PARTNERS



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