

VISION

“Immersive interface technologies for life-cycle human-oriented activities in interactive aircraft-related virtual products”

From Virtual Reality technologies with poor usability in real-life aerospace industrial practice...



The VISION project began in November 2008. The overall objective of the project is to increase the competitiveness of European aerospace industry by developing advanced immersive interface technologies for the life-cycle human-oriented activities in interactive aircraft-related virtual products.

VISION is partially funded by the European Commission under the 7th EU Framework Programme for Research and Technological Development (FP7). The project’s Consortium includes the following organizations:

- Lab for Manufacturing Systems & Automation / UniPatras (Co-ordinator)
- EADS Deutschland GmbH
- EADS France Innovation Works
- Universität des Saarlandes
- VTT Technical Research Centre of Finland
- Vienna University of Technology

....to advanced immersive interface technologies for the virtual aircraft products of the future

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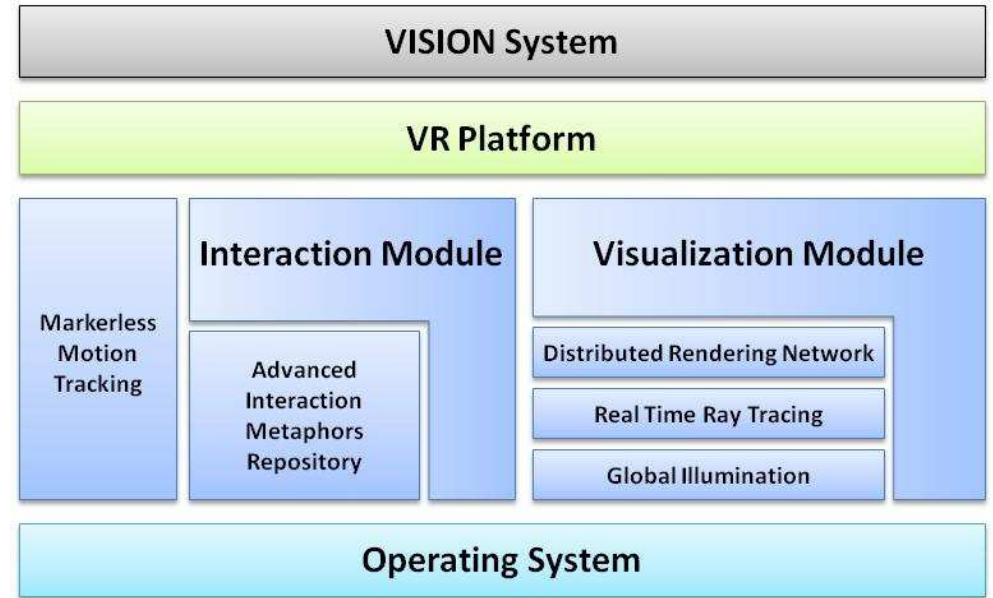


The objective of VISION is to specify and develop key interface features in fundamental cornerstones of Virtual Reality technology, namely in the following fields:

- (1) Photorealistic Immersive Visualization.
- (2) Advanced User Interaction.

The technological achievements of VISION will enhance the realism of the digital human-in-the loop VR simulations and optimize the human-virtual product integration.

More specifically, the VISION project aims to develop advanced Virtual Reality based simulation functionality in support of the design and ‘virtual prototyping’ of critical aircraft-related products.



Visualization Module

- Real-Time Ray Tracing Platform.
- Ray tracing engine addressing the description of materials and light properties.
- Distributed Rendering Network.
- Real-time light simulation and global illumination.

Interaction Module

- Interaction framework supporting the flexible standardization and platform- and application- independent implementation of 3D user interaction metaphors.
- Markerless body tracking technology.
- Generic and platform independent, smart interaction methods & techniques and custom human-machine interaction metaphors.