

AR/VR for European Space Programmes

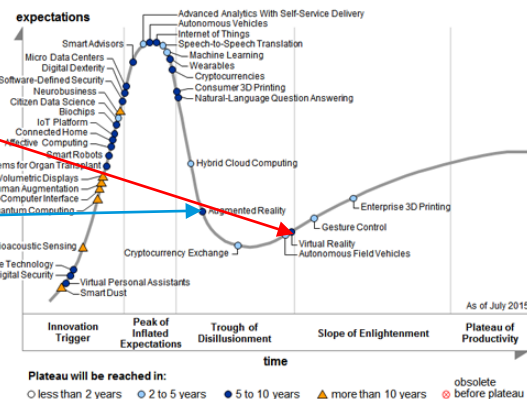
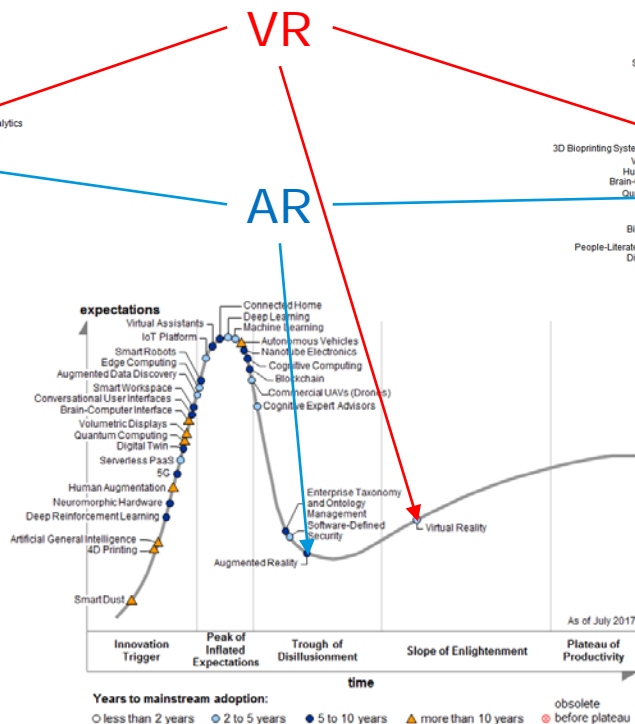
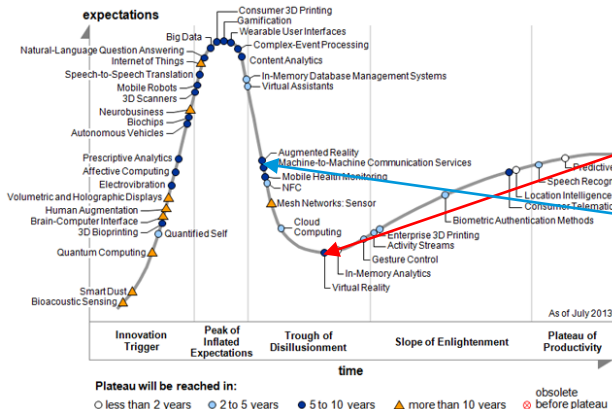
ESA/Estec

2 December 2019

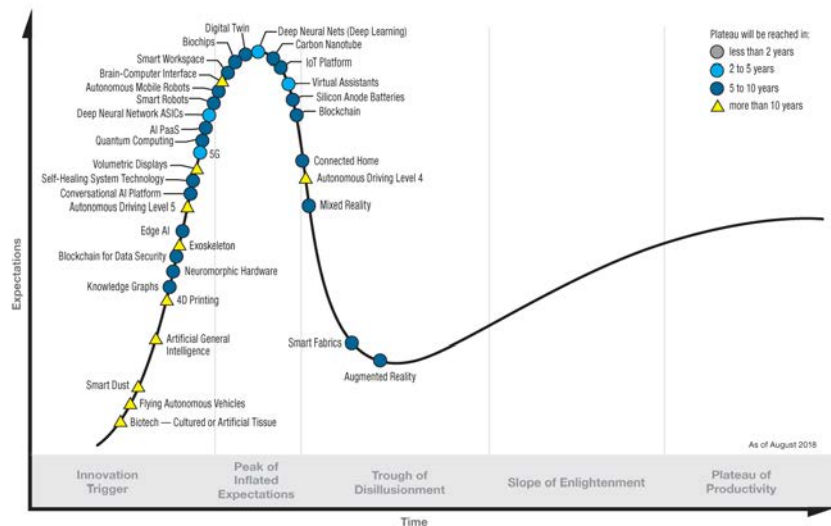


The Hype of VR

Virtual reality first entered Gartner's annual hype cycle chart in 2013



Where are we today ?



2018

- VR disappears from the chart
- New: Mixed reality



2019

- AR and mixed reality disappear
- New: AR cloud, Immersive Workspace

Past activities

- WEAR – first AR use in space (2009)
- PVAITV – first trial at ESA test center
- 3D-PAT – authoring tool for VR



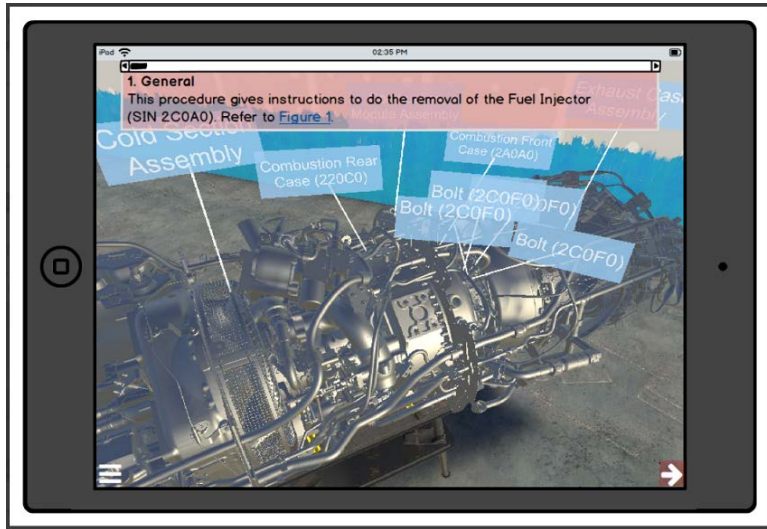
Past activities - continued



- Virtual Collaboration – astronaut remote support
- EdcAR – maintenance use case with AR (2017)
- Hololens4mobiPV – procedure viewer with Hololens

Some Current Activities

- VIPER – includes authoring tool, AR and VR
- IPV for AR/VR – to extend 3D-PAT for AR authoring
- AR for AIT/AIV – extend mobiPV with AR capabilities

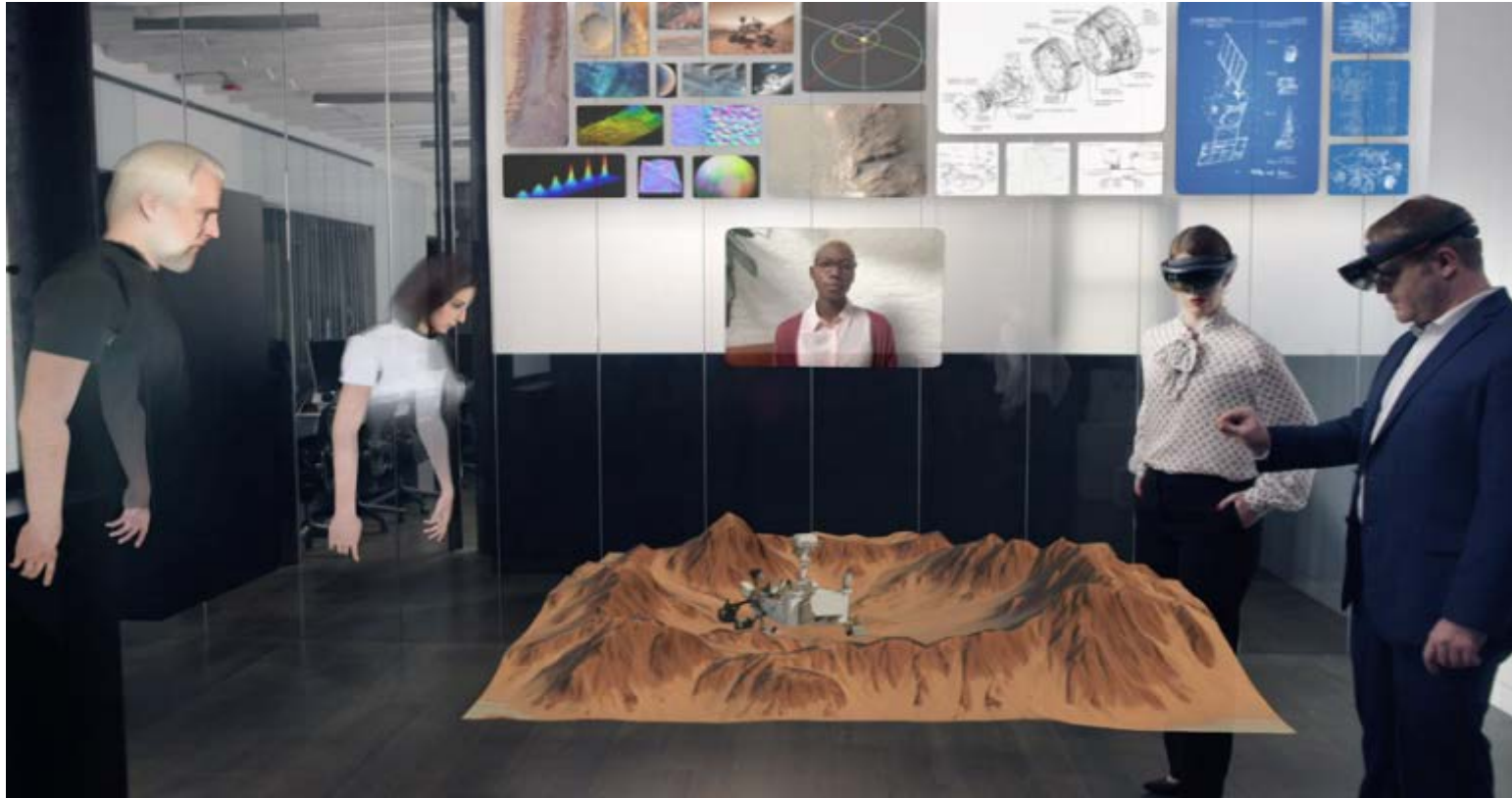


Astronaut Operations and Training

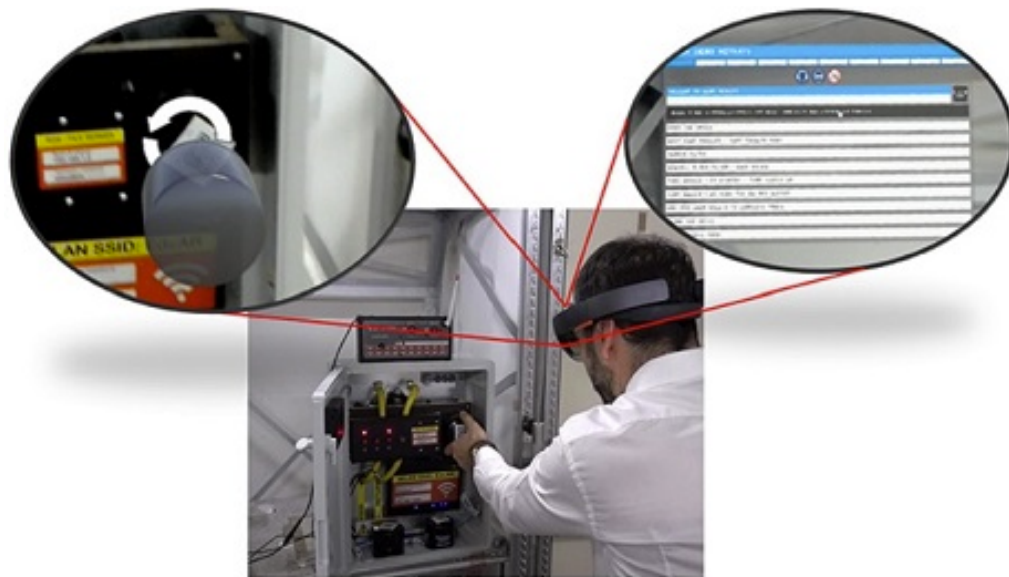


Spacecraft and Robotic Operations





Product Assurance and Quality Assurance



Mission and Science Data Exploration



Workshop objectives



- To promote the exchange of ideas, experiences and achievements in the area of AR/VR across different application domains



- To connect developers of tools, application and solutions based on AR/VR technology with the potential users in the Space domain