New projected augmented reality system amplifies value of expert knowledge

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VTT Technical Research Centre of Finland and Thales Alenia Space Italy have developed a prototype system allowing remote experts to project their instructions directly on to the equipment being used by on-site personnel. The new projected augmented reality system will be further developed and commercialized through the recently launched VTT's spinoff Delta Cygni Labs.

Expert knowledge is necessary to support the operation, maintenance, and repair of complex equipment in aerospace, energy, transport, machinery and other industries. An expert can help solve critical problems for which on-site personnel are unprepared. Travel to the equipment is nonetheless time-consuming and often expensive.

VTT and Thales Alenia Space Italy have developed a prototype system that implements a new collaboration paradigm: connecting the remote expert and on-site personnel by projecting the expert instructions directly on to the equipment.

The key practical advantage of this system is its high usability. For the remote expert, it is as easy as pointing at the equipment with a remote laser pointer. Instructions projected directly on to the work area can be seen simultaneously by several on-site personnel without the need to wear glasses or other devices or use displays. The system also helps to shorten equipment downtime by leveraging expert knowledge without delay, while saving on travel costs.

Demonstrations were held at Thales Alenia Space Italy and ALTEC in Italy in December 2012. The system received very positive feedback from the representatives of industry for its usability and application potential in complex assembly and maintenance on ground and in space.

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MEDIA MATERIAL

Caption: The new augmented reality system allows remote experts to project their instructions directly on to the equipment being used by on-site personnel.

Thales Alenia Space is a joint subsidiary of Thales and Finmeccanica. Thales Alenia Space has more than 40 years of experience in the design, integration, testing, operation and commissioning of innovative space systems. Thales Alenia Space is also a leading supplier to the International Space Station, and a pivotal player in space systems designed to explore the Universe. www.thalesgroup.com/space

Advanced Logistics Technology Engineering Center (ALTEC) is the Italian center of excellence for the provision of engineering and logistics services to support operations and utilization of the International Space Station and the development and implementation of operations control center dedicated to robotic planetary missions. www.altecspace.it

Delta Cygni Labs is a VTT spinoff developing and commercializing advanced communication and interaction systems. www.deltacygnilabs.com

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