

Digitalisation of Procedure and Introduction of Augmented Reality

Kaj Helin¹, Jaakko Karjalainen¹, Paul Kiernan², Gianluca Casarosa³,

¹VTT Technical Research Centre of Finland Ltd, Tampere, Finland

²SKYTEK Ltd, Dublin, Ireland

³ESA – European Space Research and Technology Centre (ESTEC), Noordwijk, The Netherlands

Abstract

This abstract introduces European Space Agency's (ESA) projects called "DPIAR-V1 - Digitalisation of Procedure and Introduction of Augmented Reality (Step 1)". The objectives of this activity are to provide the Test Centre of the European Space Agency with a tool for the authoring and visualization of maintenance and operations procedures by exploiting Augmented Reality (AR). The system is based of MS HoloLens 2 mixed reality platform which was integrated as novel user interface to the ESA Mobile Procedure Viewer system called mobiPV. The AR system has been connected to STAMP sensor data system, which allows users to visualize pre-defined set of sensors during procedure execution. The AR system will be tested in three main uses cases 1) LSS Basement procedure 2) VTC1.5 Operating Procedure and Pre-operation, and 3) Modified TEDY structure - Placement of accelerometers. During abstract submission LSS Basement procedure was already authored.