

Organization Name: PEREY Research & Consulting
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What type of research project?

Business Process Innovation Issues

Topic of proposed research project:

Procedures for assessment/certification of worker safety when using wearable AR systems

Goal of research project (200 words):

In order to reduce the real or perceived risk, any new technology needs to be assessed in conditions simulating the workplace so that the system (and/or the user with the system) can be certified as safe to operate.

One of the barriers to widespread adoption of AR is the possibility that the use of new technology will increase risk to workers due to increases (not decreases) in cognitive load due to distraction (their paying attention to the AR experience) or that their vision or other senses are diminished.

There are many issues to be considered: line of sight, amount of vision obscured, illumination, requirement to divert attention to reach/see instructions, sounds being obscured, or detected.

Rather than creating an entirely new system to test wearable AR technology or an AR display device safety in the workplace, this project will propose how existing enterprise safety assessment protocols and procedures can be extended to make introducing wearable AR technology safe and compliant with existing safety policies and regulations.

What are the specific objectives for the research?:

1. prepare a report with tables (or a spreadsheet) that documents existing worker technology usage safety certification procedures in four industries where risk to workers is known to be high and where AR could be introduced (e.g., power and energy, manufacturing, logistics,, aviation)
2. develop sample text (sentences) that the AREA recommends companies begin with when extending their existing worker technology usage safety certification procedures that measure criteria for workplace safety while using AR with wearable displays
3. conduct, with member support/participation, the safety procedure testing with at least four use cases and devices (using existing AR experiences that have been developed by AREA members)
4. obtain feedback about the proposed AREA-recommended extensions to existing worker safety certification procedures from professionals in risk averse industries and/or regulatory organizations for industries targeted by the AREA members. All feedback compiled in a written report.

Who do you think has expertise to conduct this research?:

Industrieanlagen-Betriebsgesellschaft mbH (IABG)

IABG is a German analysis and test engineering-based company in Ottobrunn near Munich