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CONVERGING



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DELIVERABLE

D5.2 – Social industrial environment – Intermediate version

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Executive Summary

This deliverable provides an update to the activities of WP5, broadly covering the human-centered workplace design. This includes technical developments to support training, user interfaces and user-experience evaluation, as well as the human-centered evaluation of these. These contribute to the human-centered goals of CONVERGING, providing the interfaces and validation needed to ensure the systems are responsive and conformant to operator needs.

Together, these updates focus on:

- A VR-supported training environment to enable operators to experience the test pilots in an interactive and safe way, allowing early feedback and building of operator comfort with the involved interaction scenarios.
- A camera-based operator ergonomics monitoring and optimization module, tested to adjust robot pose to improve operator ergonomics.
- User interfaces to be employed in each of the pilot cases which provide increased flexibility in terms of which interface to be used, and the amount of information displayed.
- Several key user-studies establishing how error handling and blame attribution develop in human-robot interaction scenarios. Additional user studies have validated the design of interfaces and VR training environments.

Together, these developments directly support the open pilot demonstrators, informing the design of the interactive scenarios, previously reported in D7.1. Furthermore, the interfaces provide control and information flow to the orchestration and monitoring modules from WP3, detailed in D3.2.

This deliverable is the 2nd for this work package, with initial prototypes being reported in D5.1. The contribution relative to D5.1 will be highlighted, where prior work will be referenced from D5.1 and not presented again unless necessary for further detailing.

The deliverable presents the updates for the individual tasks, with each section presenting the progress, evaluation, and next steps. At the end, a conclusion summarizes the work, drawing connections to the broader project goals and an outlook to the future development.