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DELIVERABLE

D7.1 – CONVERGING Open pilots' network - Initial setup

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Executive Summary

This document presents a comprehensive overview of the four developed Open Pilot Lines (OPLs) under the CONVERGING Project. These will serve as real-scale pilot facilities designed to demonstrate and transfer innovative methodologies and technologies to manufacturing companies.

The OPLs are strategically established to showcase the feasibility and practical application of advanced technologies. They aim to foster collaboration among end-users, technology developers, and system integrators, thereby driving innovation and enhancing manufacturing processes.

Key features of the 1st version of each OPL, along with their offerings and training plans, are detailed in this document. These pilot lines will not only provide a platform for technology demonstrations but also facilitate knowledge transfer and skill development within the manufacturing sector.

By implementing these OPLs, CONVERGING aims to bridge the gap between technological advancements and their practical application in the industry, ensuring that manufacturing companies can leverage cutting-edge solutions to enhance their competitiveness and efficiency.

Section 1 introduces the purpose of this document, highlighting the importance of Open Pilot Lines in fostering innovation and experimentation within manufacturing processes. It details the objectives and structure of the deliverable, offering readers a clear and organized framework.

Section 2 delves into the details of each Open Pilot Line within the CONVERGING network. For each of the Open Pilot Lines, the section showcases its value proposition, a description of the initial setup, including the required hardware and involved modules. Last each OPL presents the next steps to follow and a detailed training plan.

The Automotive Open Pilot Line, managed by TECNALIA, mitigates the risks faced by operators performing repetitive tasks such as polishing draw dies. In this pilot, the robot and operator work together to inspect the dies. The robot then efficiently polishes the damaged areas, extending the dies' lifespan. This collaboration not only enhances production in the automotive industry but also frees operators from hazardous and repetitive tasks.

The White Goods Open Pilot Line, operated by IPK, offers a platform for developing and training assembly tasks for household goods, focusing on the manipulation of small parts, cables, and gaskets. This initiative aims to enhance the automation-readiness of European white-good manufacturers and advance suitable technologies for automating these traditionally manual tasks. By addressing these challenges, it seeks to streamline production processes and position European manufacturers at the forefront of technological innovation in the sector.

The Aeronautics Open Pilot Line hosted in TF-CC premises and designed and implemented with LMS. This Open Pilot implements smart collaborative robotic solutions for remote inspection and maintenance of aircraft fuel tanks. This would ensure the operator's safety while efficiently executing the complex and dangerous maintenance procedures.

AIMEN manages the Additive Manufacturing Open Pilot Line. It serves as a test bed for future integration at PRIMA facilities. It handles, postprocesses, and transports heavy metal

components while ensuring data traceability. The OPL leverages robotics and digital technologies to enhance operator capabilities and supports the adoption of innovative solutions through various technologies, training programs, and technical services. This setup facilitates the development and testing of collaborative processing for medium/large parts like PRIMA's.

Section 3 outlines the forthcoming steps for each Open Pilot Line (OPL) to ensure effective service provisioning. It details the specific actions required to operate each OPL, including the development and implementation of comprehensive training plans. These steps are designed to enhance the capabilities of the OPLs, ensuring they are well-equipped to support industry needs and encourage technological advancements.

Section 4 concludes the document by summarizing the pivotal role of Open Pilot Lines (OPLs) in the advancement of manufacturing technologies and reiterates the importance of these facilities in fostering collaboration among industry stakeholders.

Here we focus on the deployment of the first version of the OPLs designed in T2.3. However, further enhancements and other relevant updates will be included in the following deliverables, 7.3 and 7.4, after the development of the final version of the s/w and h/w modules of CONVERGING at WP3-WP6.

As this deliverable is a demo type one, major focus has been put on delivering video demonstrators, showcasing the current status of the OPLs. This document serves as supplementary material, providing more technical details that cannot be shown in the videos. After the approval of the deliverable by the EC, the consortium plans to release these videos in public.