



EUROPASS CERTIFICATE SUPPLEMENT

Additive Manufacturing

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The holder of this certificate has acquired the following skills and competences:

Technical and Professional Competences

- **Additive Manufacturing & 3D Printing Strategy:** Expertise in managing the complete 3D printing lifecycle, including selecting appropriate technologies (FDM, SLA/LCD, SLS), analyzing material properties, and making implementation decisions for auxiliary or final industrial products.
- **Topological Optimization & Lightweight Design:** Proficiency in designing advanced mechanical products using generative design and topological optimization to reduce weight while maintaining structural integrity, specifically tailored for additive manufacturing constraints.
- **Mechanical Design & Graphical Representation:** Mastery of computer-aided design (CAD) for developing complex moulds, patterns, and tools. Ability to interpret and create highly detailed technical documentation, including pneumatic, hydraulic, and electrical system integration.
- **Automated Systems & Mechatronic Integration:** Competence in the assembly, maintenance, and commissioning of mechatronic systems. Ability to integrate 3D printing equipment into automated production lines managed by PLCs and industrial robotics.

Transversal Competences

- **Analytical Vision for Advanced Manufacturing:** Ability to evaluate the technical and economic feasibility of shifting from traditional subtractive manufacturing (machining) to additive manufacturing for specific industrial components.
- **Innovation & Digital Transformation Management:** Capacity to lead the implementation of Industry 4.0 technologies, ensuring the digital integration of design, manufacturing, and remote monitoring (VETWORC systems).
- **Strategic Problem Solving in Production:** Proactive approach to diagnosing manufacturing failures, optimizing printing parameters (exposure, layer height, shrinkage), and implementing corrective measures in real-time.
- **Sustainability & Environmental Responsibility:** Commitment to minimizing material waste through efficient nesting and support design, while strictly adhering to occupational risk prevention protocols regarding chemical resins and industrial machinery.

DATE

FACILITATOR SIGNATURE

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