

CAD/CAM TECHNOLOGIES: 3D PRINTING, CAD MODELLING AND REVERSE ENGINEERING

Innovations and benefits - The ENEA Protolab Laboratory provides support to SMEs to assess the efficient use of new generation CAD/CAM technologies, 3D printing, CAD modelling and reverse engineering during the product development and production optimization phases, developing 3D software applications, with specific focus to generative modelling. In such a framework, these software applications allow to:

- optimize production by integrating CAD data with complex variables linked to a specific production process
- favour the spread of generative modelling to allow SMEs to develop customized applications without having particular programming skills
- develop high-design 3D models using advanced generative modelling technologies
- reduce production costs and increase the quality of products
- encourage the shift of production towards higher-value-added collections.

Uses - Design and development of NURBS- and MESH-based CAD software applications to create 3D high-design models and optimize the production system.

Information <http://www.protolab.enea.it/>

Video <https://www.youtube.com/watch?v=t1UTq56NIZg>

Past and present activities - Participation in European (CEM – Computational Evolving Manifolds and MADE 3D under Horizon 2020) and national research projects, including projects such as INDES – Innovazione per l'industrial design, MAKE3D Modellazione 3D e Fabbricazione Digitale per le PMI.

Training activities in collaboration with trade associations and development of “best practices” calibrated according to the business needs.

Collaboration is underway with the ENEA Laboratory of Industrial Research CROSS-TEC (Interoperability and process virtualization for enterprise networks) – Accredited at the High Technology Network of Emilia-Romagna Region.



CUSTOM Thanks to its flexibility, the support service to CAD/CAM technologies users can be adjusted to different needs and contexts