

SYNTECS

SUSTAINABLY AND DIGITALLY DRIVEN HIERARCHICAL
LASER TEXTURING FOR COMPLEX SURFACES



NEWSLETTER #4



FEBRUARY 2026

Mission Accomplished: SYNTECS Final Review & Legacy

In November 2024 we held our M24 Project Meeting host by FARPLAS in Istanbul, Turkey. This event was an important milestone where we reviewed progress and set future goals.

We're now ready to integrate all the developed modules into the LASEA machine and in May 2025 we anticipate seeing the first tests conducted on the machine – an exciting step towards realizing the full potential of SYNTECS Project!

Rewind: Key Highlights (April – Nov 2025)

- **Machine Integration (April 2025):** Successful installation of Fusion Bionic's DLIP module and the in-line monitoring systems at LASEA.
- **Laser World of Photonics (June 2025):** A major exhibition presence in Munich, where we launched the Project Catalogue and engaged with over 500 stakeholders.



- **Joint Webinar (Oct 2025):** We led the conversation on "Functional Surfaces" with our sister projects, sharing insights on aerospace applications.

WEBINAR

- **Final Workshop (Nov 2025):** An online deep-dive into our LCA-CAD tools and Digital Twins, attended by 31 experts from across the industry.



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December 2025: Sustainability Benchmarks

Following the end of technical trials, the final month of 2025 was dedicated to solidifying the project's environmental impact data.

- Sector Sustainability Assessment: By December 31, 2025, 3Drivers finalized the comprehensive report on the environmental, economic, and social impacts of the SYNTECS process.
- LCA Validation: The final data proved that the SYNTECS laser process offers a cleaner, energy-efficient alternative to traditional chemical etching, supporting the EU's Twin Transition goals.

January 2026: The Final Review - LASEA, Seraing (Belgium)

The SYNTECS consortium gathered one last time at LASEA's headquarters in Seraing for the Final Project Review with the European Commission.

- Live Demonstration: Partners showcased the fully integrated SYNTECS machine platform, demonstrating the seamless interplay between the laser modules and the digital control systems.
- Results Validation: We presented the final validated results from our three industrial case studies (Medical, Automotive, and Electronics), proving that our hierarchical laser textures meet strict industrial performance standards.
- Future Roadmap: The meeting concluded with the presentation of our exploitation roadmap, detailing how these technologies will be brought to market by our partners.



Final Resources

Explore the full legacy of the SYNTECS project through our final publications:

-  **Project Catalogue:** The complete technical guide to the SYNTECS machine and modules.
-  **Project Videos:** Visit our YouTube channel for final demonstrations and partner testimonials.
 - Watch: Innovations in SYNTECS** – See the acoustic and optical monitoring in action.
 - Watch: Coordinator's View** – Dr. Christoph Zwahr on the future of process monitoring.

PARTNERS

The consortium consists of world class research organisations including Fraunhofer IWS and Fraunhofer IML (Germany), the University of Birmingham (UK), Centre Technique Industriel de la Plasturgie et des Composites – IPC (France), IST-ID (Portugal), Manufacturing Technology Center (UK) and the European Federation for Welding, Joining and Cutting (Belgium). Bringing their technology expertise are Laser Engineering Applications SA - LASEA (Belgium), Fusion Bionic (Germany), 3 Drivers (Portugal) and Iconiq Innovation Ltd (UK). End users providing application case studies in the automotive, medical, and electronics sectors are Centro Ricerche Fiat - CRF (Italy), Farplas Otomotiv Anonim Sirketi (Türkiye), DePuy Synthes (Ireland), and European Thermodynamics Limited (UK).

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