NEWSLETTER #3
HYBRID MANUFACTURING

Multi-material | *Lightweight* | Complex Geometry

PROJECT WEBSITE

PROJECT UPDATES

Welcome to the **latest edition of our newsletter**, where we illuminate the groundbreaking work and transformative advancements unfolding within the **DISCO2030** project. At the intersection of ingenuity and ambition, DISCO2030 stands as a **beacon of innovation**, redefining the landscape of manufacturing through cutting-edge technologies and visionary methodologies.

Empowering Industries: The DISCO2030 Project

DISCO2030 epitomizes a collaborative endeavour dedicated to harnessing the power of a**dditive manufacturing** and **hybrid processes** to revolutionize the production of lightweight, complex geometry components and structures. With a steadfast commitment to **excellence** and **sustainability**, DISCO2030 seeks to empower industries across sectors by delivering solutions that transcend traditional **manufacturing paradigms**.

Pioneering Use-Cases: A Glimpse into the Future

Central to the ethos of DISCO2030 are **three pivotal use-cases** that underscore the project's relevance and impact on the European economy:

1. **Rocket Engine:** From the outer reaches of space to the frontiers of exploration, DISCO2030 is poised to enhance the performance and resilience of rocket engine components, propelling humanity towards new horizons of discovery and innovation.
2. **Marine Engine:** Navigating the vast expanse of our oceans, DISCO2030 endeavours to optimize marine engine capabilities, fostering efficiency and sustainability in maritime transportation while withstanding the rigors of marine environments.
3. **Cryogenic Hydrogen Tank:** In collaboration with the automotive sector, DISCO2030 aims to develop a cryogenic hydrogen tank that epitomizes safety, reliability, and performance, driving advancements in alternative fuel technologies and shaping the future of sustainable mobility.

Upcoming Milestones: Charting New Frontiers

Looking ahead, DISCO2030 is poised to achieve unprecedented milestones, marking a significant leap forward in our pursuit of innovation:

METAL-METAL HYBRID MANUFACTURING

The production of the **first geometrical parts** utilizing metal-metal hybrid manufacturing techniques.

METAL-POLYMER HYBRID MANUFACTURING

Printing of **geometrical parts** using metal-polymer hybrid manufacturing, unlocking new dimensions of versatility and resilience.

INTEGRATED FIBERGLASS COUPONS

Production of coupons with **integrated fiberglass**, showcasing the seamless integration of diverse materials.

"RECIPE BOOK" COMPILATION

Compilation of a comprehensive **"recipe book"** of process parameters for metal-polymer and metal-metal hybrid manufacturing, democratizing access to advanced methodologies and best practices.

In closing, the strides made, and milestones achieved within the DISCO2030 project propel us forward with unwavering determination and boundless optimism. As we embark on the **next phase of our journey**, we extend our heartfelt appreciation to all contributors, collaborators, and supporters who have been instrumental in our progress thus far. With a **shared vision and collective effort**, we are poised to continue pushing the boundaries of innovation, shaping a future where manufacturing excellence knows no bounds. Together, let us forge ahead, empowered by the possibilities that lie ahead and inspired by the **transformative impact** we can make together. Thank you for your **unwavering commitment and dedication** – we look forward to the **remarkable advancements** that await us on this remarkable voyage.

PARTNER SPOTLIGHT

AVIO SpA (Avio) is a 1908-founded Italian aerospace company employing around **1.000 people**, of whom **30%** is committed to research and development.

The company offers competitive solutions for **launching institutional**, **government** and **commercial payloads** into Earth orbit through the Vega family of rockets.

The experience accumulated over more than **50 years enables** Avio to compete with major players in the field of **solid and liquid propulsion** for space launchers and military tactical missiles.

AVIO SpA has **5 sites** located in **Italy**, **France**, and **French Guiana**. It is the **prime contractor** for the European space launcher **Vega** and a sub-contractor for the **Ariane programme**, both financed by the **European Space Agency (ESA)**.

In **DISCO**, AVIO SpA acts as a **use-case partner** for the **rocket engine demonstrator**, bringing into the project unique expertise in the **design** and **development of cryogenic rocket engines** for small launchers.

disco2030.eu/disco2030-consortium.html

UPCOMING EVENTS

AMUG - Additive Manufacturing Users Group Conference
Mar. 10-14, 2024

Additive Manufacturing Forum Berlin
Mar. 20-21, 2024

Hannover Messe
Apr. 22-26, 2024

RAPID + TCT
Apr. 23-25, 2024

Rapid.Tech 3D 2024
May 14-16, 2024

ADDITIO
Jun. 3-7, 2024

3D Print
Jun. 4-6, 2024

TCT 3Shiny
Jun. 5-6, 2024

Additive 2024
Jun. 12-14, 2024

North American Manufacturing Research Conference (NAMRC)
Jun. 17-21, 2024

Additive Manufacturing Expo Tokyo
Jun. 19-21, 2024

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