

Sustainable Steel Additive Manufacturing (SESAM)



Co-funded by the European Union

PROBLEM/ISSUE ADDRESSED

The manufacturing industry needs to continuously become more sustainable, resilient and innovative to maximise benefits for society and economy, while lowering its environmental impact. At the same time, additive manufacturing (AM) has been identified as an enabling technology with key benefits including faster route-to-market; increased product functionality; reduced material waste; lower costs and lower environmental impact. A key industry challenge now lies in integrating AM systems that are easy-to-use, simple to integrate in existing production flows and which yield consistently high-quality materials, in order to secure and scale-up possible benefits.

PROPOSED SOLUTION

Among AM approaches, Laser-beam Directed Energy Deposition with wire (L-DEDw) is a particularly promising pathway for next generation industrial production. The SESAM project seeks to show how L-DEDw can be brought into real production, well-integrated into the existing supply chain and to investigate whether such a technology could yield significant returns on investment and reduce the environmental footprint of production.

WHY IT IS IMPORTANT FOR SOCIETY

The broad-scale integration of AM can speed-up product development, increase functionality of products, reduce material waste, raise industry resilience and lower environmental impact.



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“ Thanks to EIT Manufacturing we were able to find a strong dissemination partner for the SESAM project.”

FUTURE RESULTS & INSIGHTS

As the SESAM project only started in Q3 2022, it has yet to generate significant project results. Nevertheless, as the project progresses, the project team aims to show what benefits there are to integrating L-DEDw in production. For example:



- Return on investment
- Shorter lead-times



- New business models
- Lower environmental footprint



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