



Research Organisation Name:

High Speed Sustainable Manufacturing Institute (HSSMI)

About:

HSSMI is a sustainable manufacturing innovation consultancy. We work across manufacturing industries to help companies respond to market challenges by: increasing productivity, helping transition towards a circular economy, and upscaling their products and processes. Since being founded in 2012, we have worked with government bodies, established manufacturers, and aspiring start-ups. We connect experts who are practical and realistic with people who want to make their products in an innovative and sustainable way.

Location(s):

London; Birmingham; Glasgow

Technical Capability:

Digital manufacturing tools; manufacturing strategy; process & plant scale up; end of life strategy; circular economy assessment

Research Areas Relevant to the Foundation Industries:

Circular economy (all 6 FIs); supply chain assessment (all 6 FIs); waste management (all 6 FIs)

How to Engage with HSSMI:

Consultancy

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Case Study:

- Waste-to-Wings – HSSMI worked with Wilson Biochemicals to map the aviation supply chain in the UK for the purpose of building a circular economy framework for the project. The project aims source large amounts of high quality municipal solid waste that is difficult to source segregate (e.g. in airports) for the purpose of turning it into aviation fuel. The project was nominated for an award at the global Energy Institute 2021 Awards. - [HSSMI Recognised in Award Nomination for Sustainable Aviation Fuel Project - HSSMI](#)
- Co-Producing Lithium and Kaolin from Cornwall's Granite Reserves – Working in collaboration with Cornish Lithium and Imerys to establish whether lithium can be sourced from decomposed granite, which is abundantly present in

Cornwall and used for the extraction of china clay (kaolin). This project is TFI funded and is still ongoing. For HSSMI, this project represents an opportunity to leverage existing knowledge on the electric vehicle battery supply chain, work within the extractive industry and develop the Circular Economy team's offerings related to circular business models and industrial symbiosis. HSSMI will conduct life cycle assessments (LCAs) to assess overall carbon footprint and the potential to reduce emissions. HSSMI will also conduct facility design analysis to assess viability of auxiliary facilities for battery supply chain activities. - [Sourcing Two Products from One Stone: Co-Producing Lithium and Kaolin from Cornwall's Granite Reserves - HSSMI](#)

- Seatrace - As part of the SeaTrace project, HSSMI and MarinTrust brought together key stakeholders, including retailers, pet food industry representatives, feed producers, processors, and fishmeal plants, to discuss the challenges in the supply chain, technology gaps and how to overcome them. By building upon work done throughout the project to identify the relevant key data elements (KDEs) and through further workshops and surveys, HSSMI was able to map the processes involved in the supply chain, capturing the data requirements and process data for each phase. This work coupled with key stakeholder insights helped clarify the processes, limitations, and challenges at each node. - [Investigating The Feasibility of Traceability Systems For The Marine By-Product Supply Chain - HSSMI](#)