



## KEY SERVICE: **DESIGN FOR MANUFACTURING**

### **WHY CONSIDER DESIGN FOR MANUFACTURING?**

Design for Manufacturing (DfM) can help your organisation to translate strong technology readiness into an optimized and dynamic manufacturing readiness state. HSSMI will assess the product design in relation to optimisation for manufacture, product & process control, and design for end of life. HSSMI will leverage their significant manufacturing experience across industries to provide a comprehensive assessment of the current design and how to improve the interface between product and the manufacturing and disassembly processes.

### **WHY HSSMI?**

HSSMI is a sustainable manufacturing innovation consultancy, with a unique focus on sustainable manufacturing. Our manufacturing experience coupled with extensive skills and capabilities in lean manufacturing and circular economy allows us to provide an independent perspective on your organisation's journey towards process improvement. We appreciate that each manufacturing business is different and endeavour to provide tailored solutions that work for your business' way of thinking.

### **HOW HSSMI CAN HELP**

The HSSMI team used a structured engineering approach to assess and validate the current and future product design, to identify areas for improvement and enable a highly efficient design for manufacture, thus aiming at reducing the overall manufacturing cost while maximising quality and performance.

Our approach is based around understanding the manufacturing bill of sequence, the specific manufacturing operations required for each process step and the interphase between the product and the process.

By optimising each step, we will be able to provide strategic outcomes for the manufacturing, and a thorough review of critical process controls to maximise operational efficiency, ergonomics & safety as well as end of the life considerations.

Design for Manufacturing activities:



Initial virtual build of the battery modules and pack.



Process flow changes assessment.



Design proposal for each process with the identified issues.

## HOW HSSMI CAN HELP

### 1 - Workshop

The first stage is structured around a workshop which includes expert advice and facilitation from our consultants. The purpose of the workshop is to understand the priorities and objectives of your business, as well as to understand what challenges you would like to target for improvement.

### 2 - Process Survey and Initial Map

The second stage carries out a survey to identify the processes that most closely relate to your challenges, and your current state. The process mapping activity would establish a priority in your processes that would offer the greatest benefit to your bottom line. Delivery method can be via plant visits or remote/virtual walk throughs.

### 3 - Process Simulation

At this stage, we use our suite of digital tools to assess different process alternatives. Depending on the challenges at hand, we could improve product flow to remove congestions points (bottlenecks), optimise batch size and reduce lead time. Simulation will help anticipate issues in the implementation stage and design optimum processes while minimising disruption in the production line.

### 4 - Implementation

HSSMI will support the required process changes implementation. Our team of experienced technical specialist and engineers will work hand in hand with your team and/or selected suppliers to install, commission and train your production personnel. When required, HSSMI will use a bespoke software solution, which creates a live, cloud-based roadmap, accessible only by your organisation. The roadmap provides an interactive action plan that designated members of your organisation can use to help define, shape and direct your own improvement plan.



Process Development



Quality & Test



Equipment & Layout  
Definition



Installation Support