



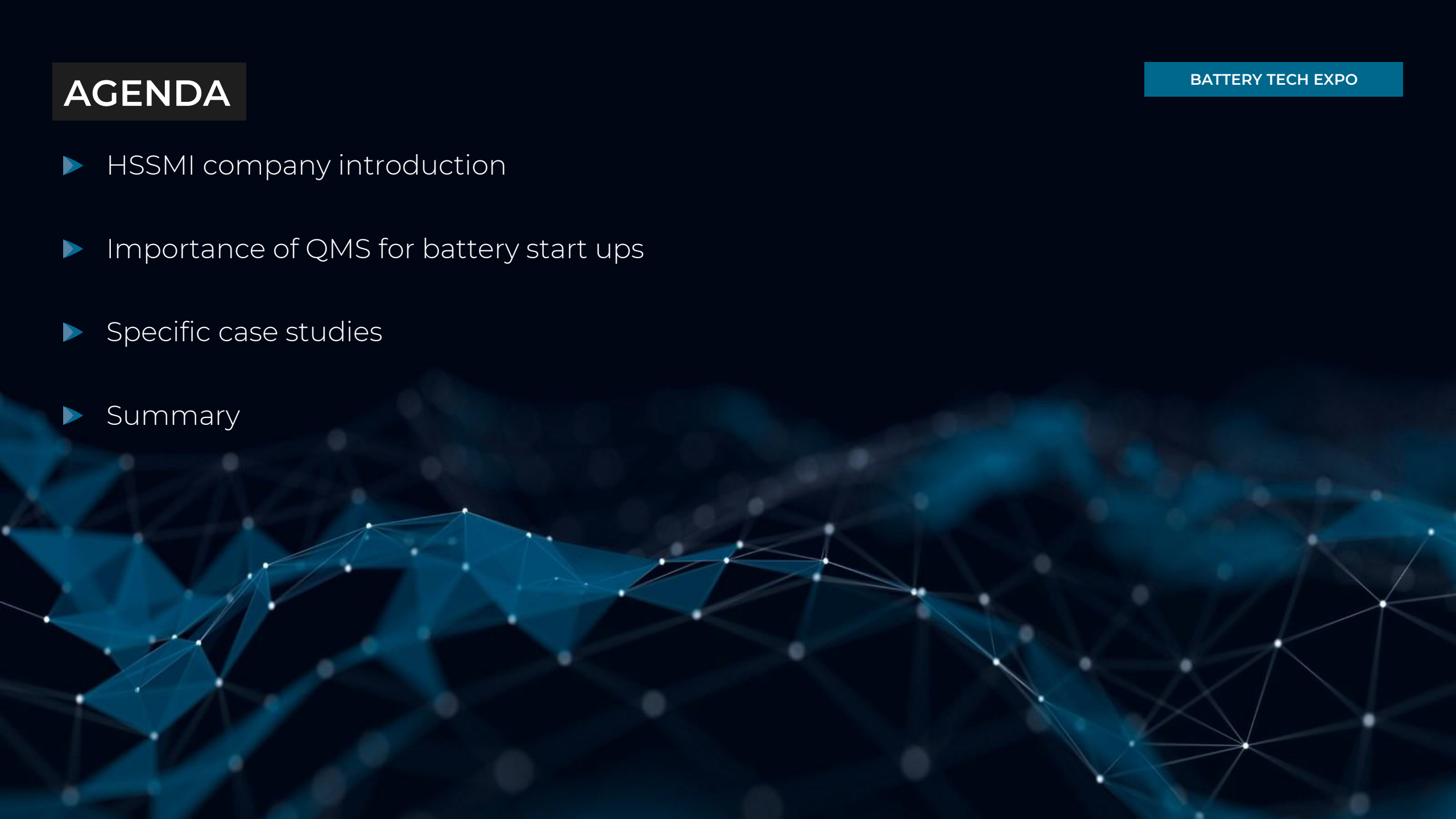
HSSMI

**SHORTER TIME TO MARKET AND LOWER COST SCALE
UP FOR BATTERY STARTUPS AND SMES THROUGH
EARLY QMS IMPLEMENTATION.**

BATTERY TECH EXPO | APRIL 2024

AGENDA

BATTERY TECH EXPO

- ▶ HSSMI company introduction
 - ▶ Importance of QMS for battery start ups
 - ▶ Specific case studies
 - ▶ Summary
- 

INTRODUCTION

BATTERY TECH EXPO

- ▶ Ibon Terrazas Velez.
- ▶ Senior Technical Lead at HSSMI.
- ▶ Experience in battery technologies and hydrogen solutions.
- ▶ Scale-up and manufacturing of new technologies.





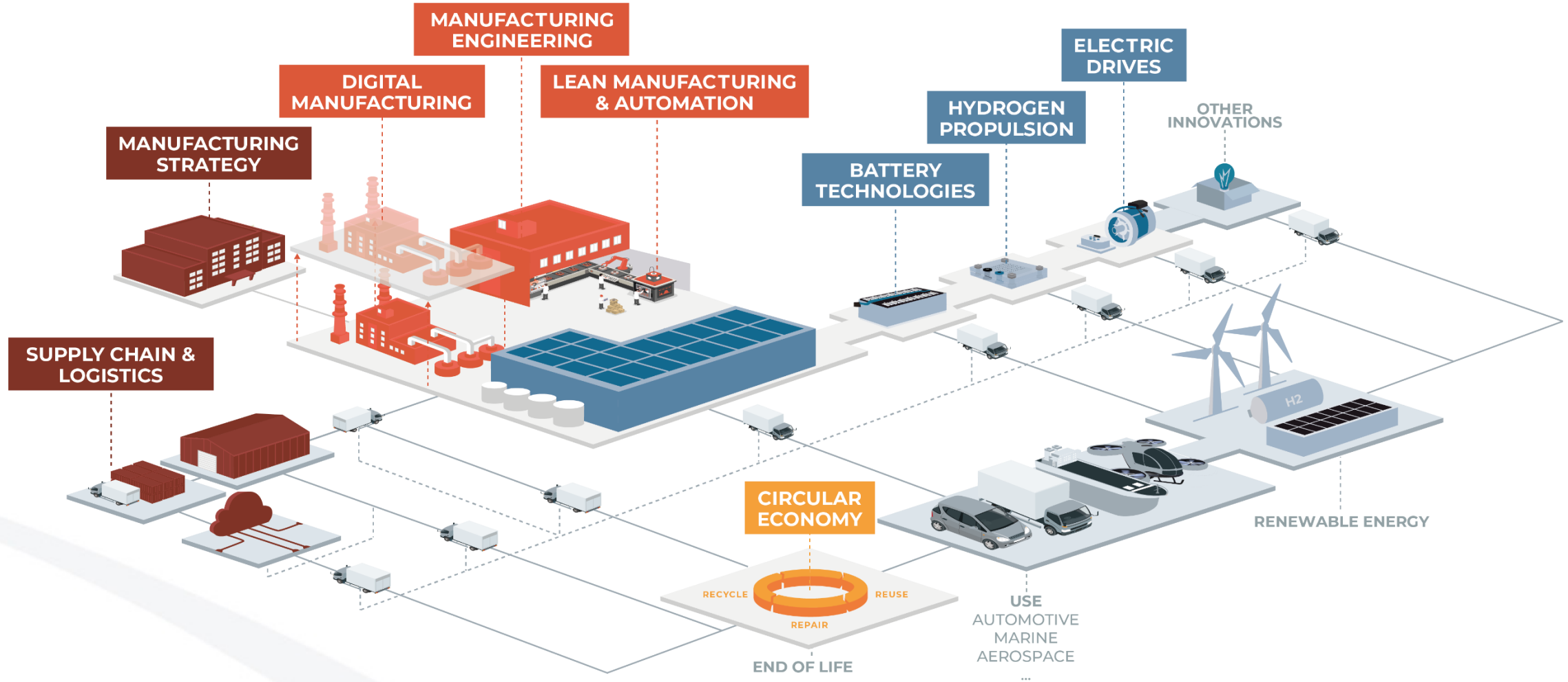
• WE ARE A SUSTAINABLE MANUFACTURING CONSULTANCY

Founded | 2012

Size | 37 employees

Offices | London + Birmingham

OUR SOLUTION AREAS

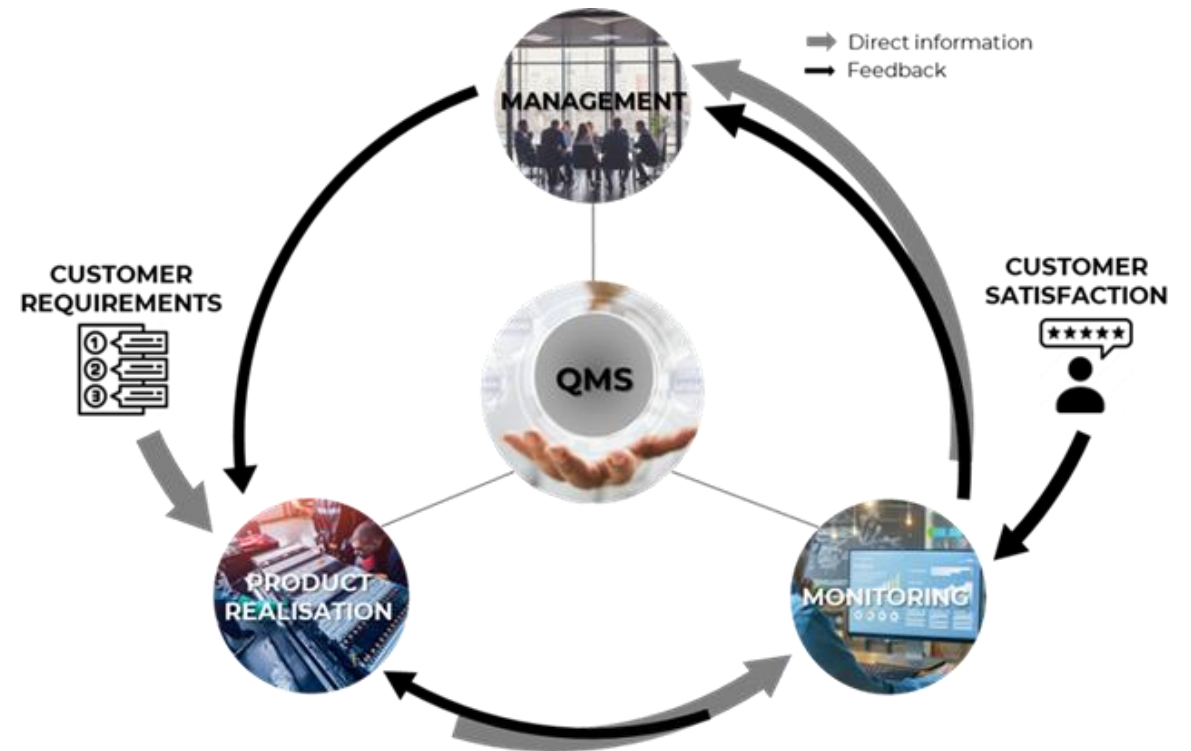


**IMPORTANCE OF QMS
FOR BATTERY START
UPS**

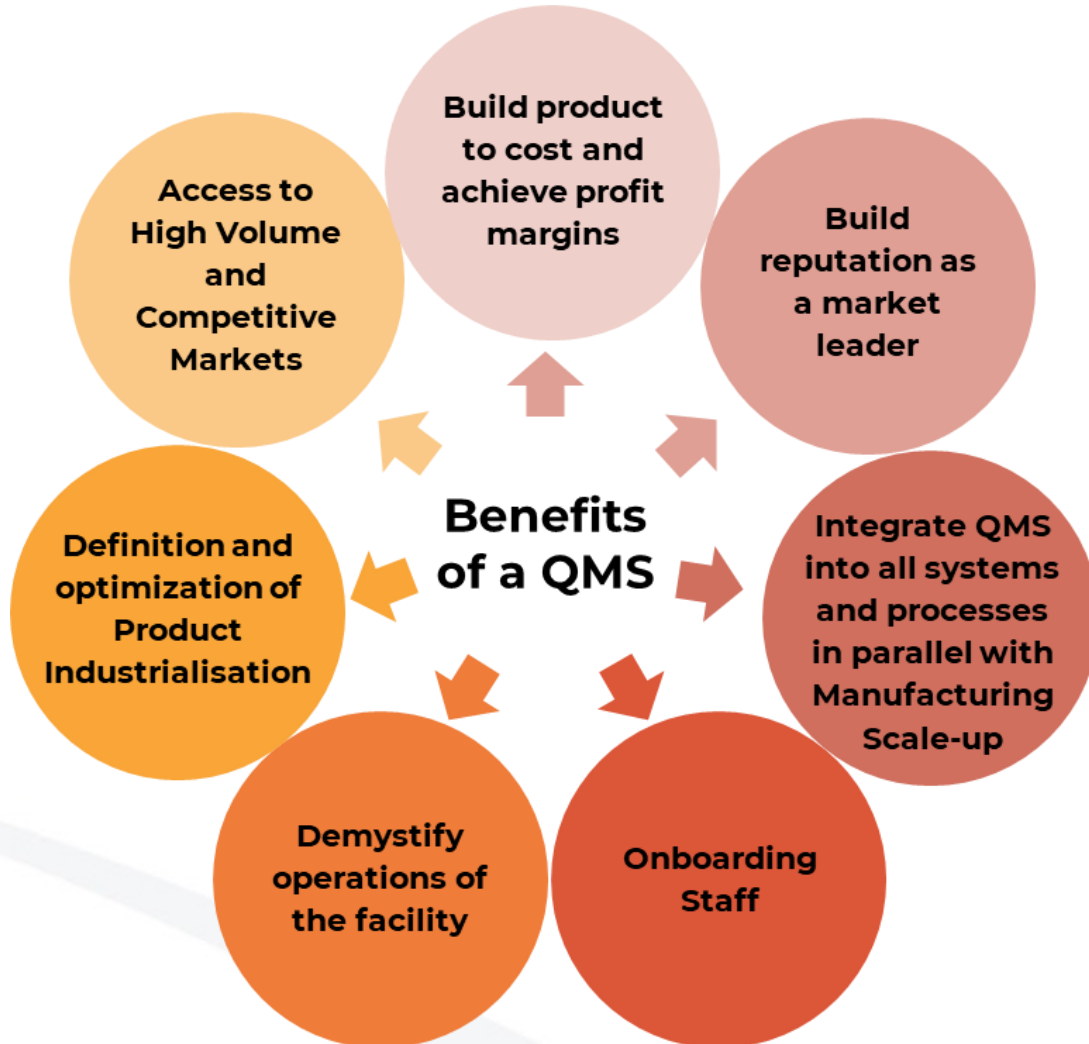
- ▶ HSSMI has supported OEM's and SME's scale up and optimise manufacturing for the last 10 years
- ▶ Brought on to deliver technical work however often identify challenges with communication, processes and business case.
- ▶ Noticed trends in the types of challenges for start-ups:
 - ▶ Undefined direction
 - ▶ Unclear communication pathways and responsibilities
 - ▶ Indecisive and slow to make decisions
 - ▶ Not matching customer expectations (as a supplier)
 - ▶ Business Stagnation
- ▶ Started to pull together processes and templates before realizing it looked very similar to a Quality Management System

QMS OVERVIEW

- ▶ A QMS is a formalized system that documents processes, procedures and responsibilities for achieving quality policies and objectives.
- ▶ A QMS helps coordinate and direct an organization's activities to meet customer and regulatory requirements. It supports the business objectives and provides evidence-based data to continuously improve product quality and cost.
- ▶ An effective and supported QMS is not a straight jacket for the organization, it helps the business improve.



BENEFITS & CUSTOMER EXPECTATIONS



Ultimately the supplier must supply a product:

- ▶ To specification
- ▶ On time
- ▶ At cost

CASE STUDIES

CASE STUDY – SHyGaN project

Scaling up the production up of a safe, low pressure hydrogen storage technology that will enable H2GO to demonstrate its feasibility for gas preheating applications at Northern Gas Network's Low Thornley facility.

Project objectives

- ▶ Develop H2GO's hydrogen storage system for future commercialization.
- ▶ Using BAXI's boiler technology to demonstrate how hydrogen stored chemically as solid state can remove the barriers of conventional storage methods.
- ▶ Hydrogen generated from renewable energies.
- ▶ Demonstration will be undertaken at NGN's facilities in Low Thornley.



CASE STUDY – SHyGaN project

WP7 Scale-up of the technology

- ▶ Defining an initial manufacturing process for the H2GO hydrogen storage system, from an initial BoP, from the perspective of high-volume manufacturing
- ▶ Developing a design for manufacture approach by analysis of the design and manufacturing process of the containerised solution
- ▶ Defining an End-of-Life strategy for the hydrogen storage solution and its materials once it reaches its lifetime

QMS specific activities

- ▶ Delivery of various workshops
 - ▶ QMS definition, benefits, certifications and 10-step implementation plan
 - ▶ Mission & Vision of the company and how it relates to the Quality Policy, Quality Objectives and their definition
 - ▶ QMS readiness assessment

OUTCOMES

- ▶ Understanding of QMS and benefits. Steps for implementation
- ▶ Update of the quality mission and vision of the companies. Short & long-term objectives definition
- ▶ Resources required to achieve the desired objectives

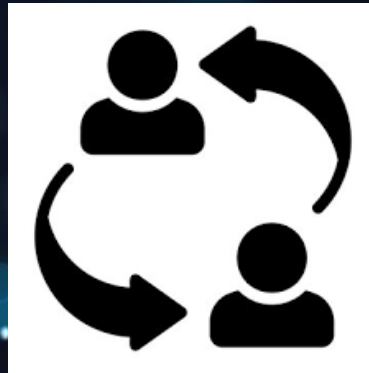


SUMMARY

Do not disregard the importance of a QMS



Involve all the departments within the company from the very beginning



Start early





HSSMI

GET IN TOUCH

ibon.terrazas@hssmi.com

www.hssmi.com

Follow us

 [hssmi](https://www.linkedin.com/company/hssmi)  [@hssmi](https://twitter.com/hssmi)