



Grand Challenges

Major Industrial Symbiosis Challenges for a Manufacturing Shift to the Circular Economy

UKMSN+ Launch Event
4th December 2019

Key Challenges & Potential Solutions

Transference of industrial symbiosis models from one industrial sector to another and from UK to elsewhere, and vice-versa.

- Development of case studies showing related business models and providing best practice benchmarks
- Development and communication of evidence of industrial symbiosis best practices
- Education of producers and consumers through knowledge transference events
- Development of a database for companies, including SMEs in particular, to both inform and find resources available as well as actors to cooperate with
- UKMSN+ events hosted by champion organisations
- Identification of champions within the industry
- Facilitation of collaboration across sectors through trusted actors
- Development of resource classification, quality standards and related legislation

Scarcity of consistent supply and quality of resources

- Development of resource classification, quality standards and related legislation
- Development of a database for companies, including SMEs in particular, to both inform and find resources available as well as actors to cooperate with
- Facilitation of collaboration across sectors through trusted actors

Engagement and support to SMEs

- Development of a database for companies, including SMEs in particular, to both inform and find resources available as well as actors to cooperate with
- Facilitation of collaboration across sectors through trusted actors
- Development of awareness campaigns that are accessible for general managers and can keep SMEs attention
- Provision of managerial advice mechanisms that develop strategic capabilities of SMEs

Lack of policy, regulations and support

- Development of resource classification, quality standards and related legislation
- Policy frameworks to classify resources, quality and safety requirements

- Identification of champions in the government sphere
- Development of policy to stimulate resource exchange collaborations
- Promotion of change through regulation

Education of producers and consumers

- Education of producers and consumers through knowledge transference events
- Development of educational mechanisms to develop awareness and strategic thinking for sustainability based on industrial symbiosis
- Develop of a sustainability culture through campaigns, events, knowledge dissemination and transference that can influence symbiosis

Business model innovation

- Implementation of transitions from linear to circular processes that do not disrupt or undermine the business.
- If the innovation is disruptive, disrupt for better. Business benefits from disruption are clear and feasible.
- Develop implementation initiatives where cost trade-offs and implications for business strategy are clear

Geographical dispersion

- Capitalise on existing logistics systems and infra-structure linking geographically dispersed industrial symbiosis actors
- Development of government incentives to invest in logistics systems that facilitate and support industrial symbiosis across regions
- Development of digital information systems that facilitate and support communications between geographically dispersed actors

Safety control for the movement of waste resources

- Development of resource classification, quality and safety standards and related legislation
- Policy frameworks to classify resources, quality, safety and transferability requirements
- Development of a database for companies to find information on resources available and their related quality and safety levels
- Development of safety and quality accreditation programmes
- Development of legislation to determine liability