Digital manufacturing projects at IfM 2017

Digitally supported processes

Sensor (mass) Fabrication for IoT / Smart Cities Augmented Reality in Warehousing. Completed mini project

Mass customization of manufacturing process

Proposal Digital Manufacturing / Digitalisation of Nanomaterial processing

Inventory counting policy using data writing on historical data

Quality analytics project with GKN

Providing data with "states" that can identify inaccuracies be used to avoid operational disruptions

Intelligent products enabling repair services of home appliances

Predictive analysis on lettuce growth yield and market demand

Energy harvester / storage for IoT



Digitally enhancing businesses

DLT in (re) distributed manufacturing.

Bit-by-Bit: Impact of 3DP on business models

Update business strategy tool set for digital/4IR: How to consider new customer value propositions, new product/service model & new capabilities & competencies

Blockchain and digital manufacturing

Role of collaboration in business models for the commercialisation of AU/3DP technologies in the food industry

Digital supply chain consortium.

How to generate, evaluate, prioritise and select potential 'digital business' projects.

Productivity and digital manufacturing: impact on activity changes? Impact on business model changes? Measures of productivity? New business models for the commercialization of 3DP/AM in food & bioprinting.

How do firms de-risk/increase likelihood of successful implementation of digital

Business projects: technology, skills, capability building (strategy, resources, processes, co-ordination) & change management.

Cognitive barriers to business models transformations for (D)AM

Explore technology management aspects of digital manufacturing.

Automation assessment & strategy.

Potential BM opportunities e.g. food, bioprinting, traditional manufacturing.

Redistributed manufacturing, consumer goods & the role of big data

How do digital twins disrupt existing business models?

How manufacturing firms can formulate a process from digital transformation?

3D Printing and business model competition (3D systems & strategy).

Adapting sourcing decisions of food items predicting climate changes.

Developing digital systems

Intelligent control for customized products using 3DP Farmbots (collaborative learning urban farming bots) Proposal AMSCI – Construction as manufacturing. Production layout/scheduling Predictive analytics of competent failure in gas turbines Developing control & co-ordination mechanisms for distributed manufacturing organisation enabled by digital manufacturing

Developed an IT architecture for warehousing & logistics company

Switching operational modes using data analytics Supply chain scenarios

Cloud-based Building Information Modelling (BIM)

Proposal BIM for Asset Management

Supply network link prediction with Boeing and Jaguar Land Rover

Exploring manufacturing applications for virtual reality technology

Working on recreating the IfM in virtual space to showcase research

Predictive maintenance of production systems

Proposal supply network disruption prediction with Boeing

Cognitive intelligence in FMCG production (with Cisco) Next generation digital infrastructure (EPSRC Prosperity proposal)

Predictive analytics & maintenance of multi-modal transport networks

EU Proposal Predictive disruption analytics & robust scheduling with Boeing

Reconfigurable networks for digital twins

How can manufacturing firms classify rare-events classification: an approach based on genetic algorithms

Capturing and analysing customer experience data in real-time using machine learning technique

A new approach to manage data in manufacture Investigation of how operational data can be

repurposed to analytics

Managing customisation in digital manufacturing

Smart digital tracking solutions for manufacturing with Boeing

Warranty analytics using deep learning Physical Internet. [Horizon 2020]



Digitally linked activities in ecosystems, sectors, countries

Developing a public technology strategy for AM/3DP. Models/ Roles/ Functions of R&D centres/institutes. Potential for digital manufacturing case study. BSI digital standards. Digital built Britain. Innovate UK digital platforms. Developing skills and capabilities for 14.0 Emergence of digital infrastructure v(fab-spaces) to support entrepreneurship. Role of standards/IP in strategies for innovation of smart systems. Potential for digital manufacturing case study. Understanding impact of 3DP on redistribution of manufacturing. Impacts of (D)AM on sustainability. Inter-agency coordination for funding 'Grand Challenge R&D'. Multi-layer supply network formation & emergence [with Bristol Uni]. BM Configurations for DM – comparing their potential on several dimensions. Reconceptualising industrial sectors – SCAMPS (Supply Chains & Advanced Manufacturing Producer Services) Understanding the role of digital engineer services embedded software firms in (extended) definitions of sectors used by policy makers. Comparison of national multi-partner alliances for additive manufacturing strategy

Role of 3DP & DM in engineering education.