



MIDLANDS CENTRE

For Data-Driven Metrology

Introduction - What problem is MCDDM addressing?

Industry 4.0 (Digital Manufacturing) is an umbrella term for the application of digital information for the enhancement of manufacturing products, processes, supply chains and services. Industry 4.0 uses vast amounts of data to support the manufacturing of new products in more efficient, sustainable, agile and cost-effective ways. In order to embrace Industry 4.0, companies need help to use metrology (the science of measurement) to deliver data relevant to the quality of a manufacturing process which can be trusted and is traceable to national standards.

What is MCDDM?

The Midlands Centre for Data-Driven Metrology (MCDDM) is a multi-site centre established by the universities of Nottingham, Coventry and Loughborough, aimed at addressing gaps within the measurement capabilities of those high-value manufacturing companies seeking to incorporate Industry 4.0 within their operations.

Who is involved?

The UoN Team is Richard Leach, David Branson and Samanta Piano. In addition to the universities of Nottingham, Coventry and Loughborough, MCDDM partners include research institutes (e.g. NPL), HVM Catapult Centres (e.g. MTC, AMRC, NAMRC), and over 30 manufacturing companies. MCDDM's initial funding (3 years) is provided by the Research England Development Fund (REDF) in partnership with the academic partners.

Who can get involved?

MCDDM is seeking to engage with manufacturing companies of all sizes with facilities based in the English Midlands. This can either be achieved through direct membership of MCDDM, or via a participating industry association.

What will MCDDM do?

MCDDM will develop and offer services including **integration research**, **adoption methodologies** and **training** in data-driven measurement science and its application in digital manufacturing. This capability is new in that it has a **clear focus on digital manufacturing** and delivers the embedding of the specific research and dissemination strengths of the universities **matched to the needs of industry** partners. The project will provide a pipeline of **trained engineers** with relevant skills to ensure the UK is competitive in the Industry 4.0 economy.

What are the benefits?

The direct benefits to member companies will include the following:

- Reduction in costs (scrap & re-work)
- Reliable and informed communication throughout the supply chain
- Better understanding of processes and capability, leading to informed business decisions
- Higher process agility, productivity, throughput and more consistent product quality

What is the timeline?

MCDDM is scheduled to commence operations on 1 October 2020 (subject to UK Government COVID-19 restrictions). Initial funding will support MCDDM's activities until October 2023, after which sustainability will be achieved via membership subscriptions and project/research income. For more information, please contact:

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