

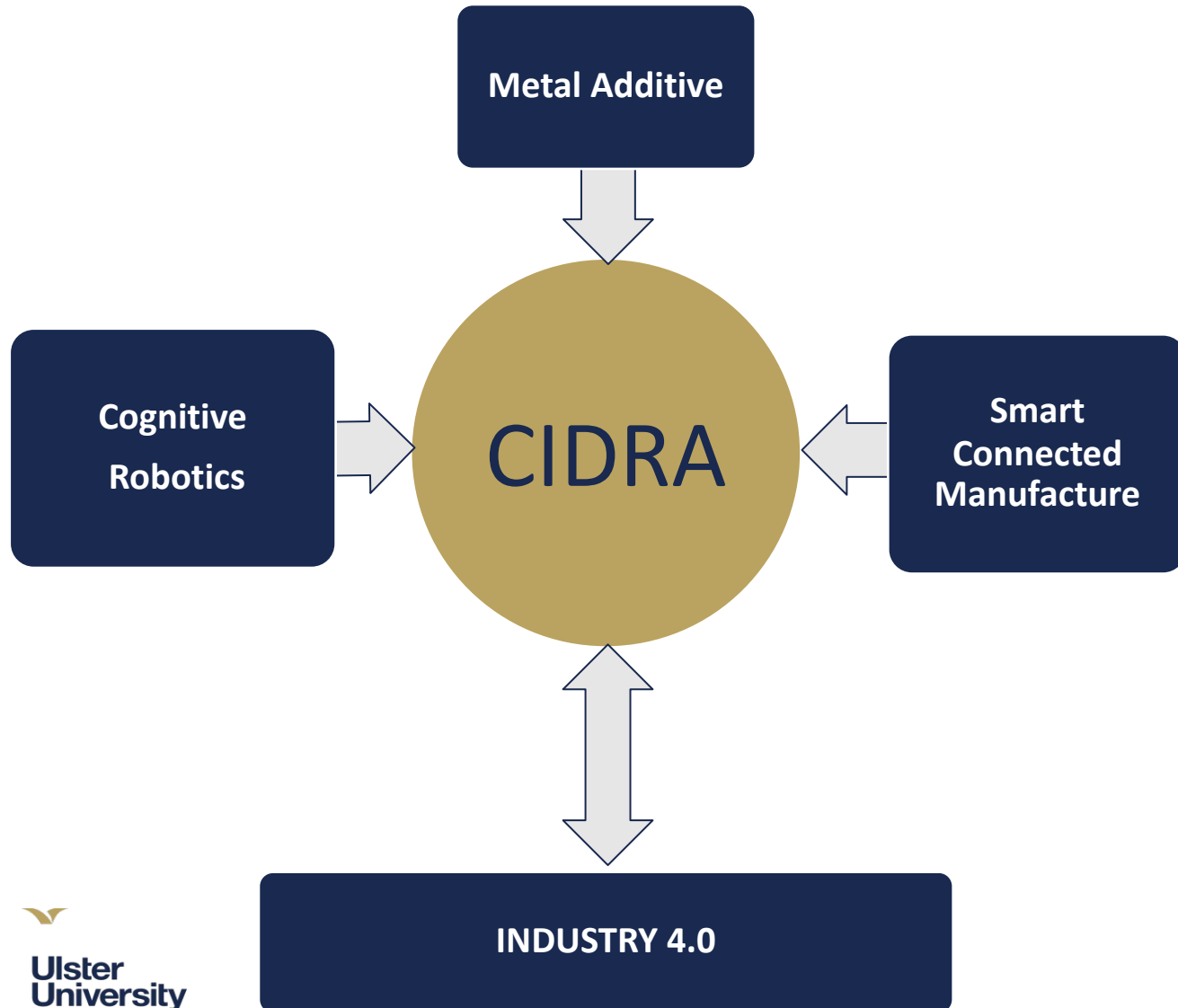
A man with a beard and glasses, wearing a yellow hard hat and a light blue work shirt, is looking down at a tablet computer. He is in a factory or industrial setting, with blurred lights and machinery in the background. The text 'CIDRA Intelligent Robotics and Automation for Industry' is overlaid in yellow on the right side of the image.

CIDRA

Intelligent Robotics and Automation for Industry

Professor Sonya Coleman
Dr Justin Quinn
Dr Dermot Kerr

CIDRA (Industry driven centre)



Proposal:

- £25 Million investment
- Part of £500 Million regional investment
- 20-30,000 Square feet of space
- 10,000 Square Feet of Open development and Showcase space
- Circa 9 million budget for equipment purchase
- 10 Year initial plan
- 30 Year sustainability model

What will CIDRA be to NI Manufacturing

A source of **advanced expertise in the five core technologies** in an industrial and commercial context for the benefit of N.I industry

A **template model factory demonstrating agile manufacturing**, integrating artificial intelligence, IIoT, robotics, automation, and digital communications into industrial manufacturing process

A facility to allow industry, to see, evaluate and gain hands-on experience in terms of what **digital technologies** can do for their company (a **Digital Transformation Demonstrator**)

A facility for **evaluation** of designs, rapid implementation and testing of prototypes

A facility for continuous professional development and **skills upgrading** for the existing workforce

What will CIDRA be to NI Manufacturing

A **testbed** for research and development in industrial digitalisation, robotics and automation for manufacturing and commerce.

A Centre that builds upon the extensive expertise in artificial intelligence, **machine learning and robotics** in the Centre of Excellence in Intelligent Systems at UU Magee campus (the Intelligent System Research Centre)

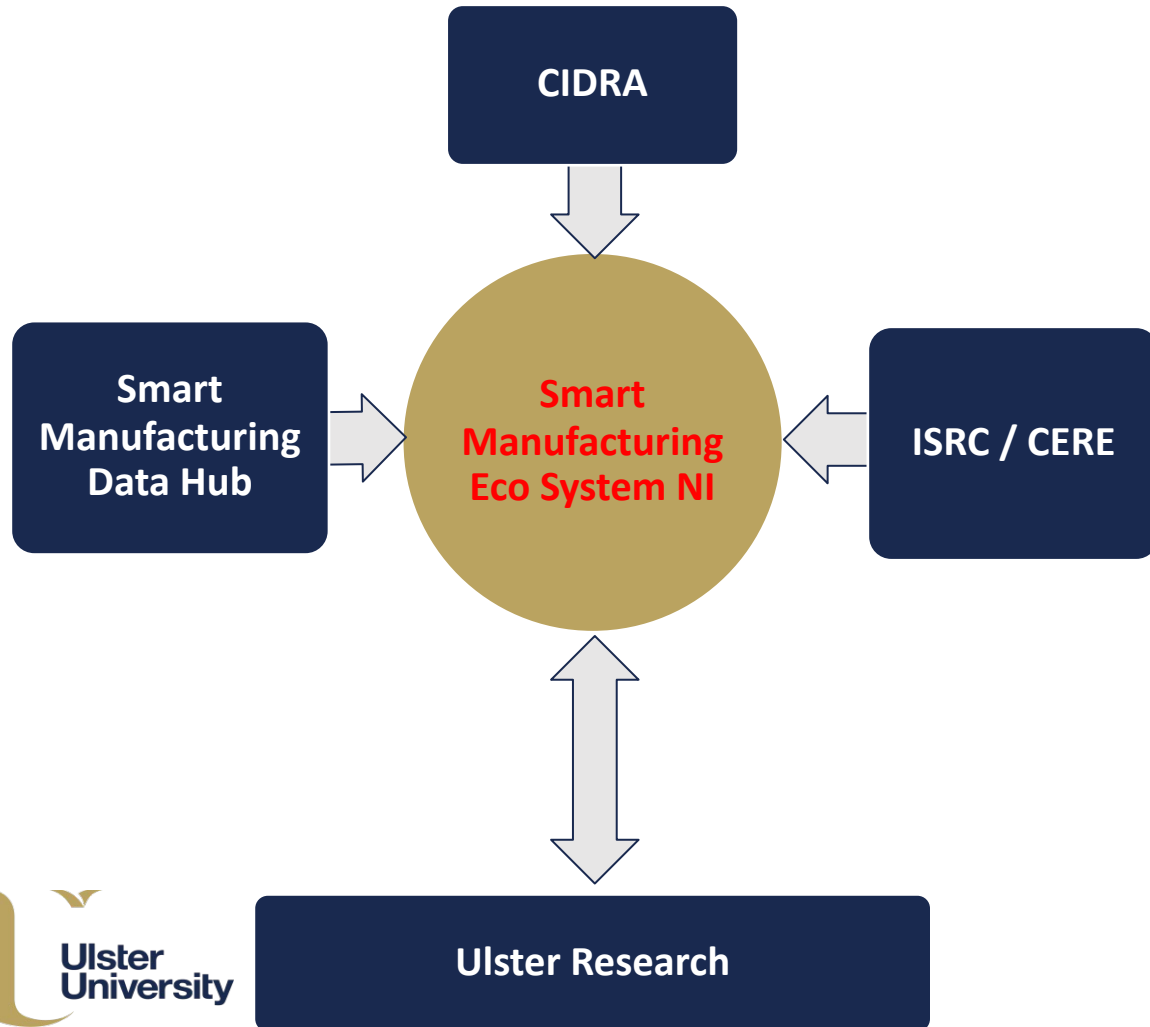
Addresses **innovation challenges** with the option for industry to be part of the delivery, thus accelerating new skills gained through accredited professional development

A **regional hub** from where University-Industry partnerships can be grown

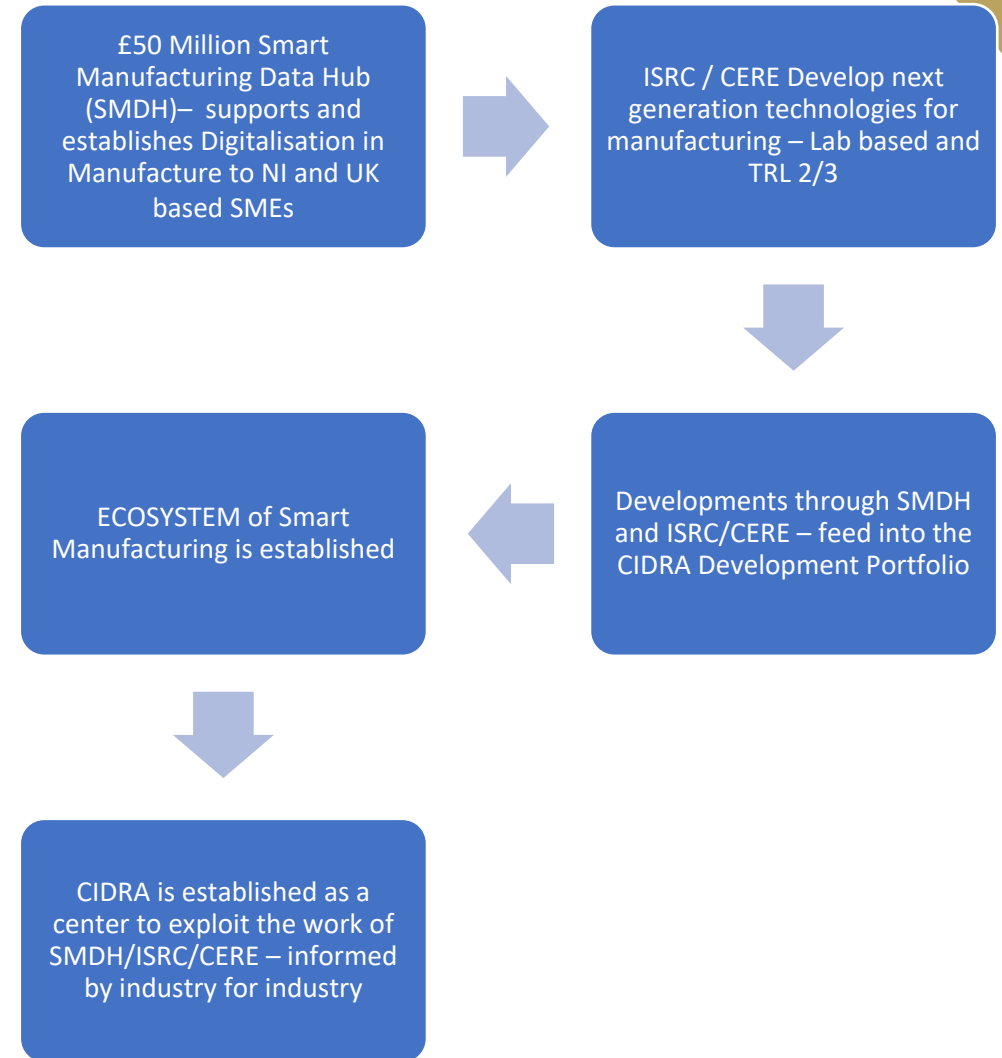
A location for ongoing technological developments in partnership with **industry and commerce** – not just manufacturing industry.

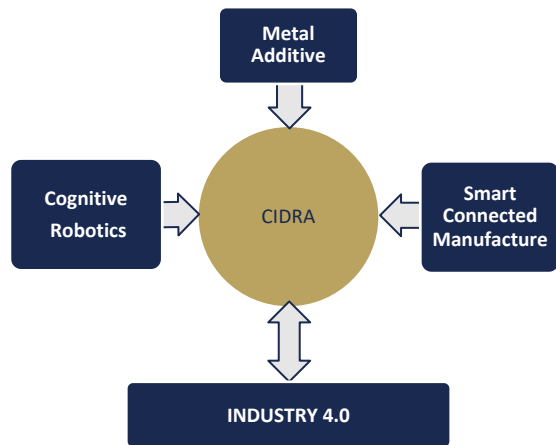
CIDRA Model and Establishment Roadmap

Model



Roadmap





Cognitive Robotics

- ISRC Expertise
- Development of automation systems to support manufacturing and other areas outside of the sector . Intelligent data driven systems with capability for AI integration and ML.
- Vision systems , handling , touch , recognition , haptic feed back, AR/VR systems integration and intelligence linked factory deployment

Metal Additive

- CERE Expertise
- High fidelity printing with laser systems and lower fidelity / higher volume printing with Arc Additive processes
- Process control and optimization for replacement of existing subtractive processes – road mapped to many industries

Smart Connected Manufacture

- Smart Manufacturing Data Hub
- Digital infrastructure development for manufacturing industry - 3 years of effort UK wide led by Ulster. Digital adoptions for data gathering and use. CIDRA – NI centre for digitalization of manufacture