

# Cloud Manufacturing

TOWARDS RESILIENT AND SCALABLE HIGH VALUE MANUFACTURING  
EPSRC Grant EP/K014161/1

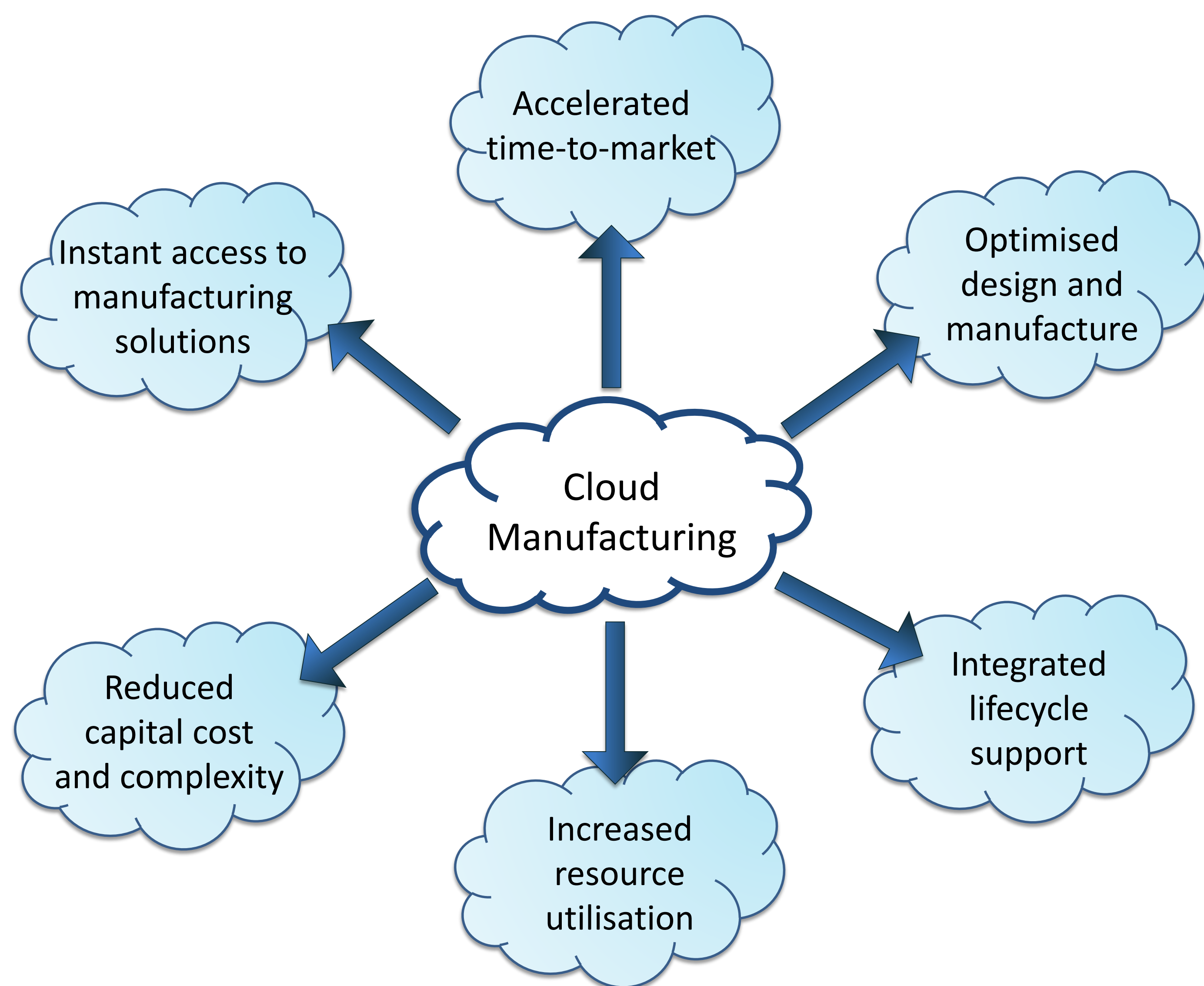


The University of  
Nottingham

UNITED KINGDOM • CHINA • MALAYSIA

## Vision

A platform to enable the provision of resilient, scalable, cost effective and knowledge-intensive distributed manufacturing capabilities, encompassing the whole life cycle of design, production, use, maintenance and recycling.



## Conceptual Architecture and Execution Model

### Access

Presentation interface for management, effective provision and control made available to cloud consumers.

### Services

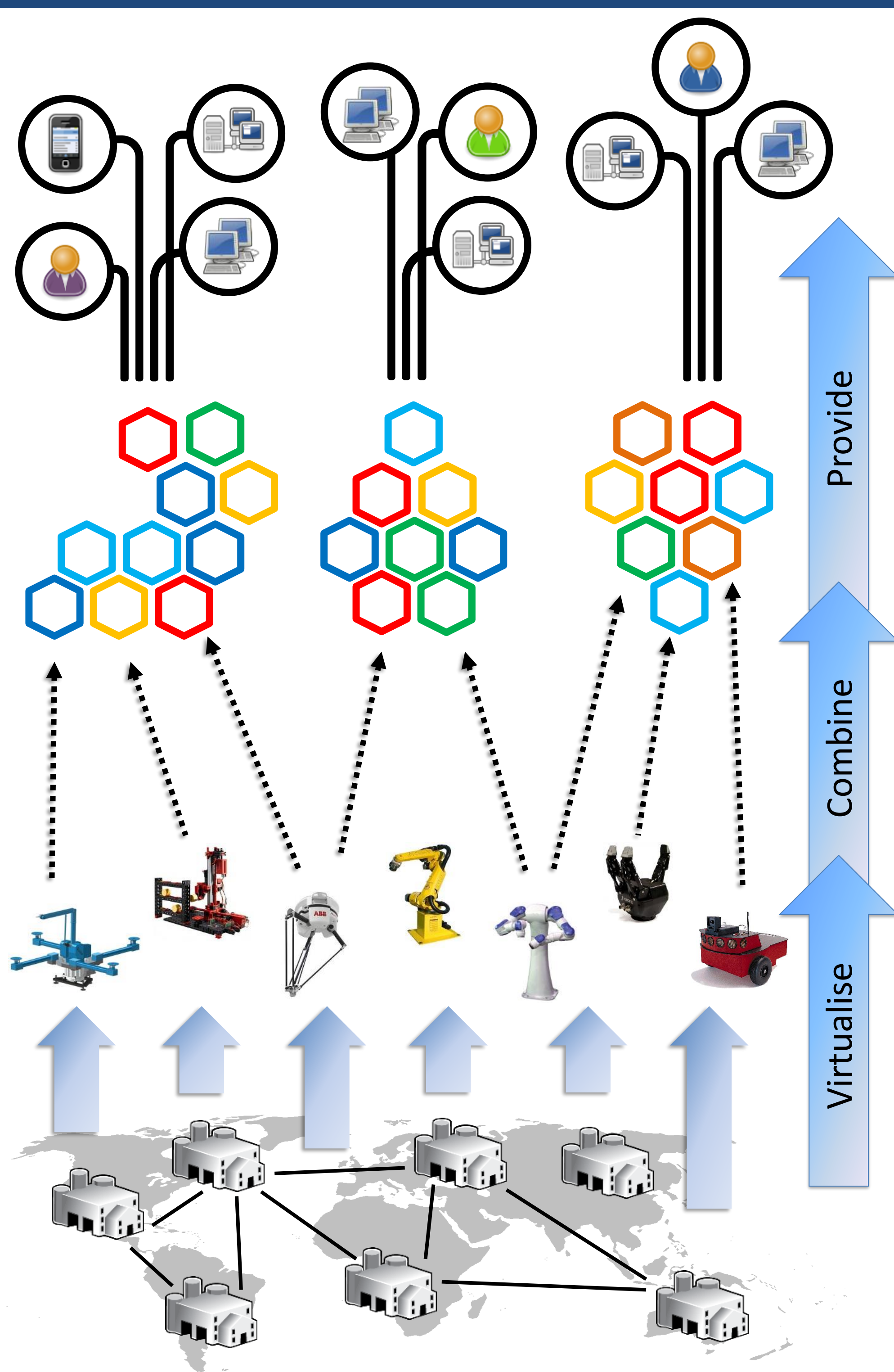
Loosely coupled services for search, match, combine, configure, packing and delivery.

### Virtualisation

Logical embodiments that abstract and describe functional capabilities and physical resources.

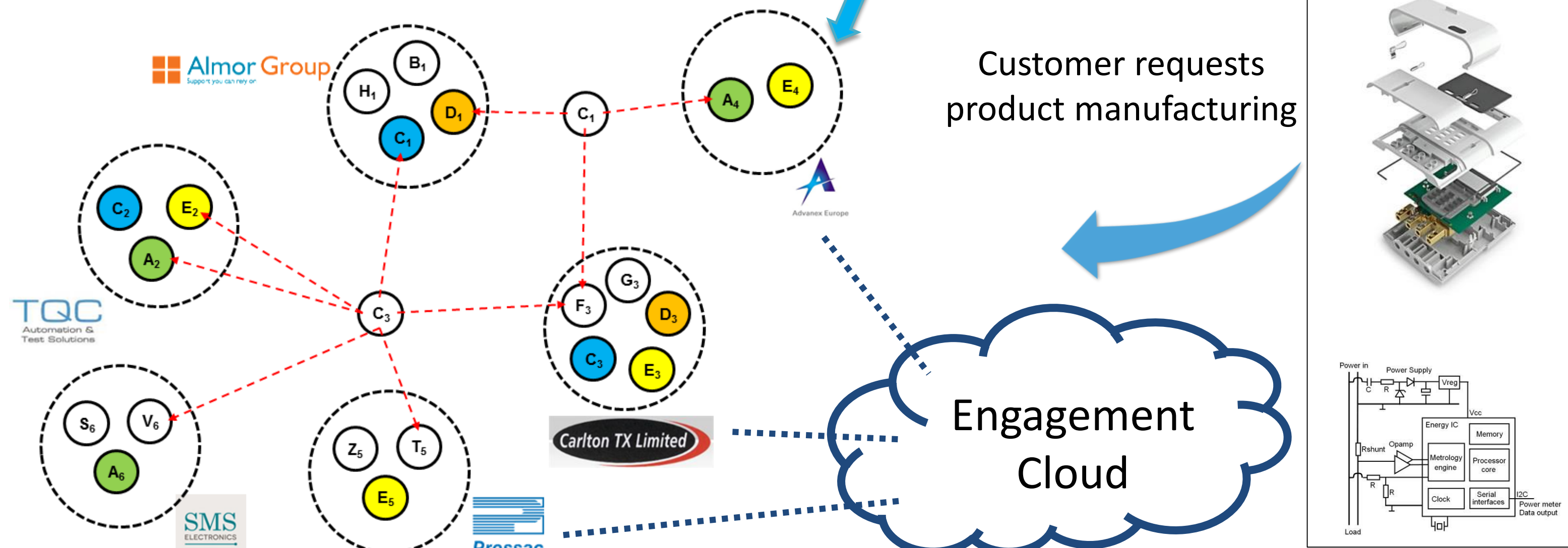
### Physical

Hardware and software equipment such as tools, robots, simulations, assembly lines, machines and materials.



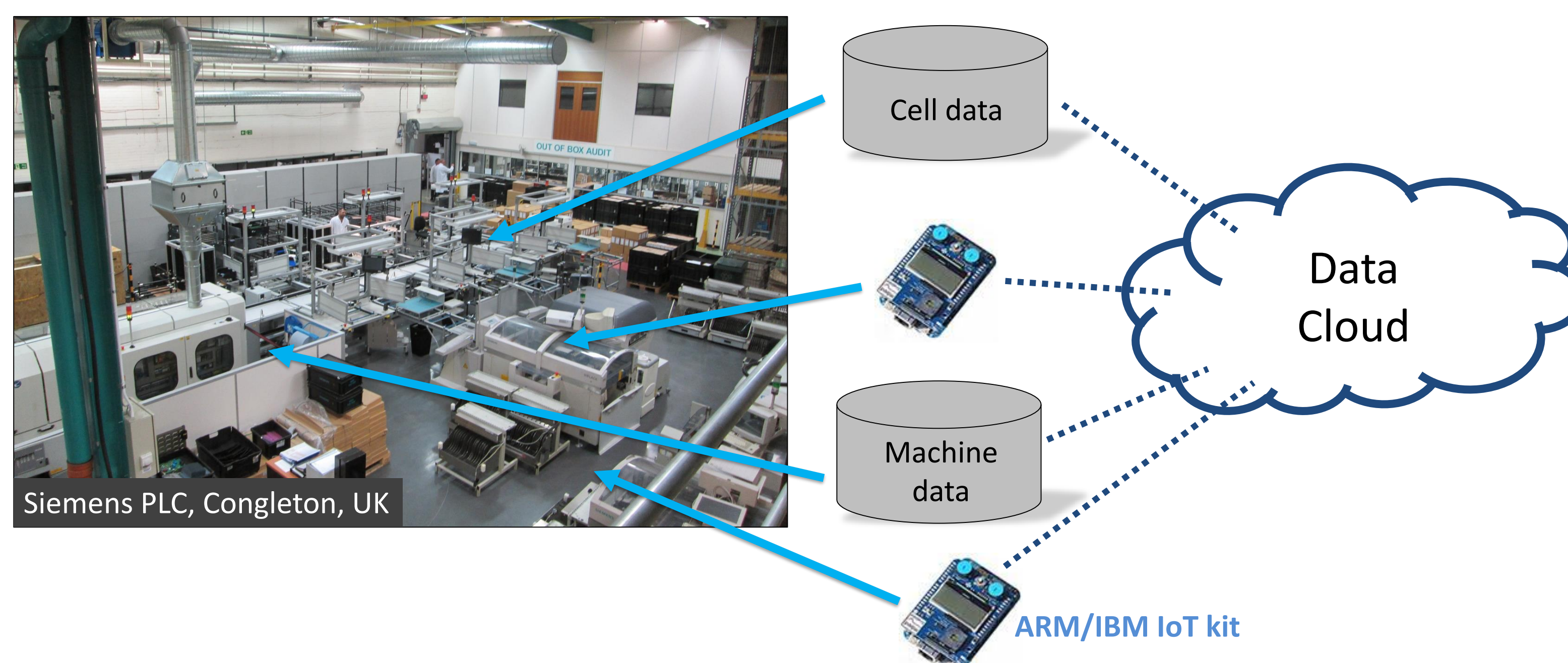
## Demonstrator 1 – The Nottingham Manufacturing Network

- How to join the cloud
- Manufacturing data management
- Technology integration
- Supplier social network
- Risk assessment & policing IP



## Demonstrator 2 – The Factory Cloud

- Highly reactive supply chain for low volume high complexity products
- Proactive and reactive data support systems
- Big data analytics platform to enhance shop floor productivity
- Consolidating in-house tools to SIMATIC IT, Pyramid Analytics and COBRA
- Automated integration of heterogeneous formats to reduce data processing time



## Demonstrator 3 – The UoN International Campuses

- Formation of a manufacturing cloud
- Joint capability offering and optimisation
- Data security
- Cloud manufacturing access
- Global logistics



## Investigators, Researchers, and Partners

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Institute for  
Advanced Manufacturing

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