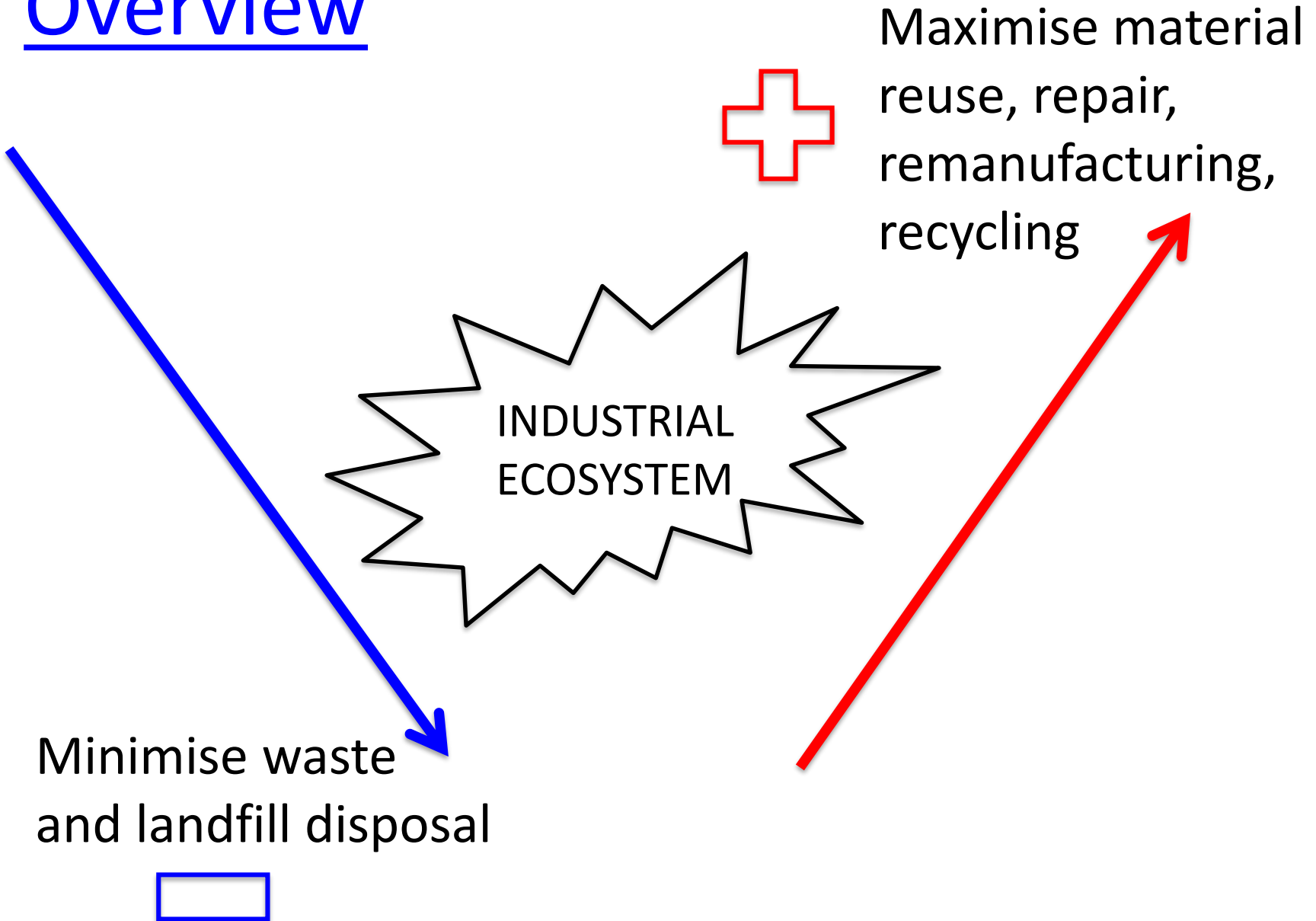


# UKMSN<sup>+</sup>

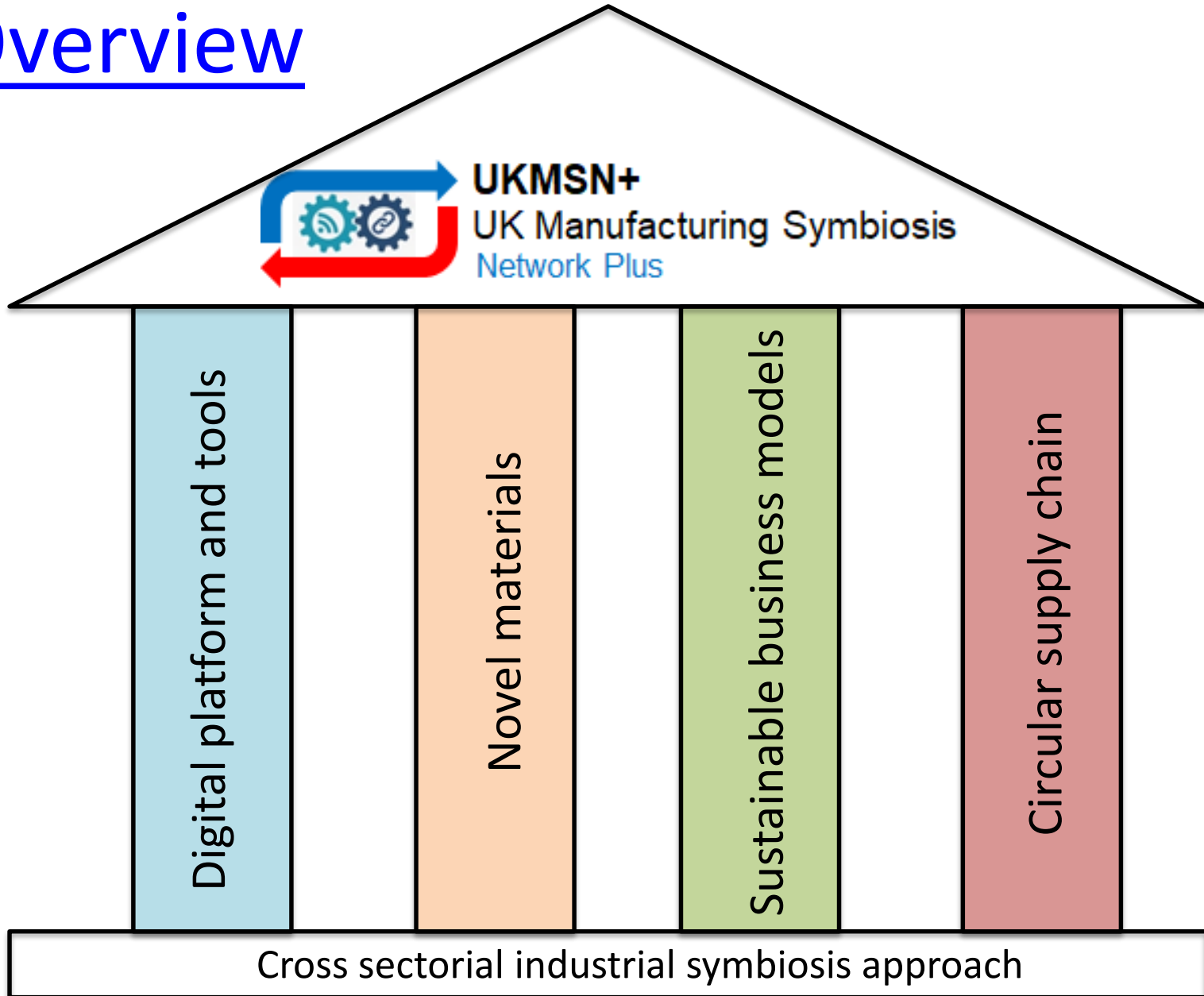
## Scientific Perspectives

Andrea Zisman  
The Open University

# Overview



# Overview



# Circular Economy

- Problems in circular economy:
  - sectorial silos
  - fragmentation
- Need:
  - Cross-sectorial industrial symbiosis approach

**Information technology and tools**

# Challenges

- Lack of information about available products, components, by-products, and waste
- Lack of information about geographical location, utility, provenance of resources
- Lack of support for smart manufacturing symbiosis ecosystems

# Digital Technologies

Network support:

- **Information platform** (cloud hub) about available and location of products/resources and waste
- **IoT devices** to capture real-time information about materials to be exchanged
- **AI technologies** for proactive creation of smart systems
- **Digital service apps** development
- Development of **models, simulators** and **integrators** for symbiosis ecosystems' behaviour

# Activities

- Sectoral-specific horizon scanning studies (digital technologies for circular economy)
- Sectoral-bridging feasibility studies (enabled by digital technologies)
- Development of strategic business collaborations, regulations, and policy frameworks (enabled by digital technologies)
- Knowledge transfer mechanisms

# Sectoral-bridging studies

## Deliverables:

- Restorative business model innovations enabled by technologies (IoT, AI, smart cloud)
- Integrated smart technologies to identify and facilitate manufacturing synergies across sectors



# Dissemination

- Web site, blogs, reports, newsletters, publications, social media
- Research outcomes: international conferences and academic journals (e.g., Int'l Conference on Service Oriented Computing; Future Generation of Computer Systems)
- Regular research seminars
- Main workshops and research forum organised by the network

**Thank you**

**Q & A**