

The Servitization of Manufacturing: An International Perspective

Professor Andy Neely

The Cambridge Service Alliance is a unique global partnership between businesses and universities. It brings together the world's leading firms and academics all of whom are devoted to delivering today the tools, education and insights needed for Complex Service Solutions tomorrow.

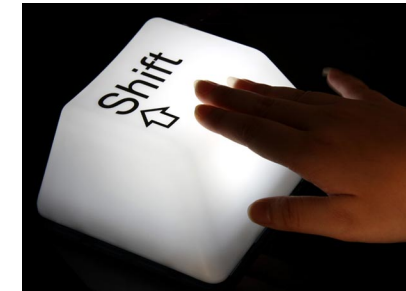


**UNIVERSITY OF
CAMBRIDGE**

Cambridge Service Alliance

Three starting premises...

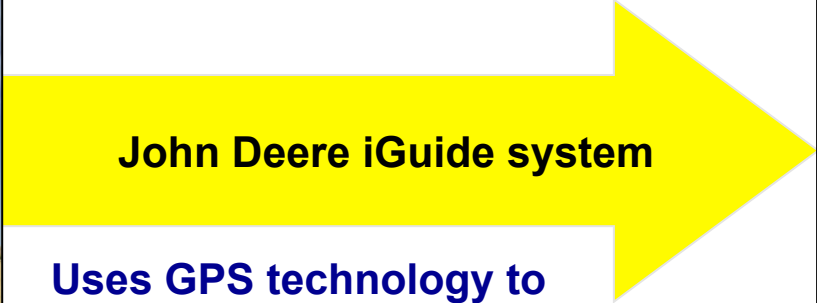
The shift to services is...



... (and data)...

... opportunities...

The shift to services (beyond power by the hour)



John Deere iGuide system

Uses GPS technology to automatically shift the steering pattern of the tractor to compensate for implement drift



Customers design and complete market research

Exploiting the internet to enable crowd sourcing

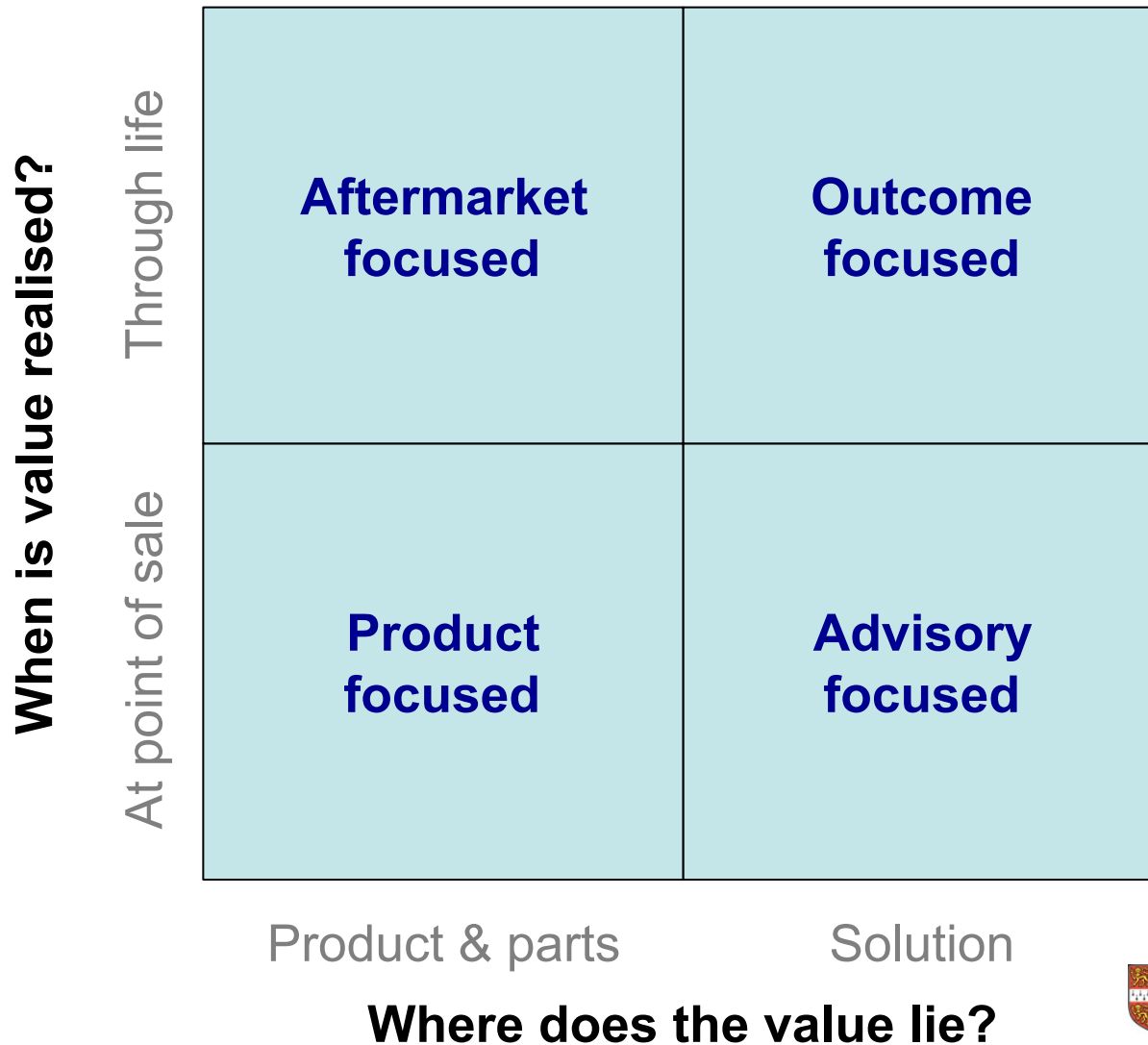


Why is manufacturing servitizing?

Economic rationale	<ol style="list-style-type: none">1. Manufacturing firms in developed economies cannot compete on the basis of cost (technological developments are enabling them to add innovative services)...2. The installed base argument (e.g. for every new car sold there are already 13 in operation, 15 to 1 for civil aircraft and 22 to 1 for trains)...3. Stability of revenues – services vs. products...
Strategic rationale	<ol style="list-style-type: none">1. Lock in customers (sell the original equipment at cost, make money on spares & suppliers - razor, printers)...2. Lock out competitors...3. Increase the level of differentiation (e.g. equipment provider offers to take customer's risk and give predictable maintenance costs)...4. Customers demand it (e.g. contracting for capability)...
Environmental rationale	<ol style="list-style-type: none">1. Environmental rationale (change notions of ownership and resource use – e.g. Mobility cars)...



Searching for new routes to capture value...



Some underlying trends...

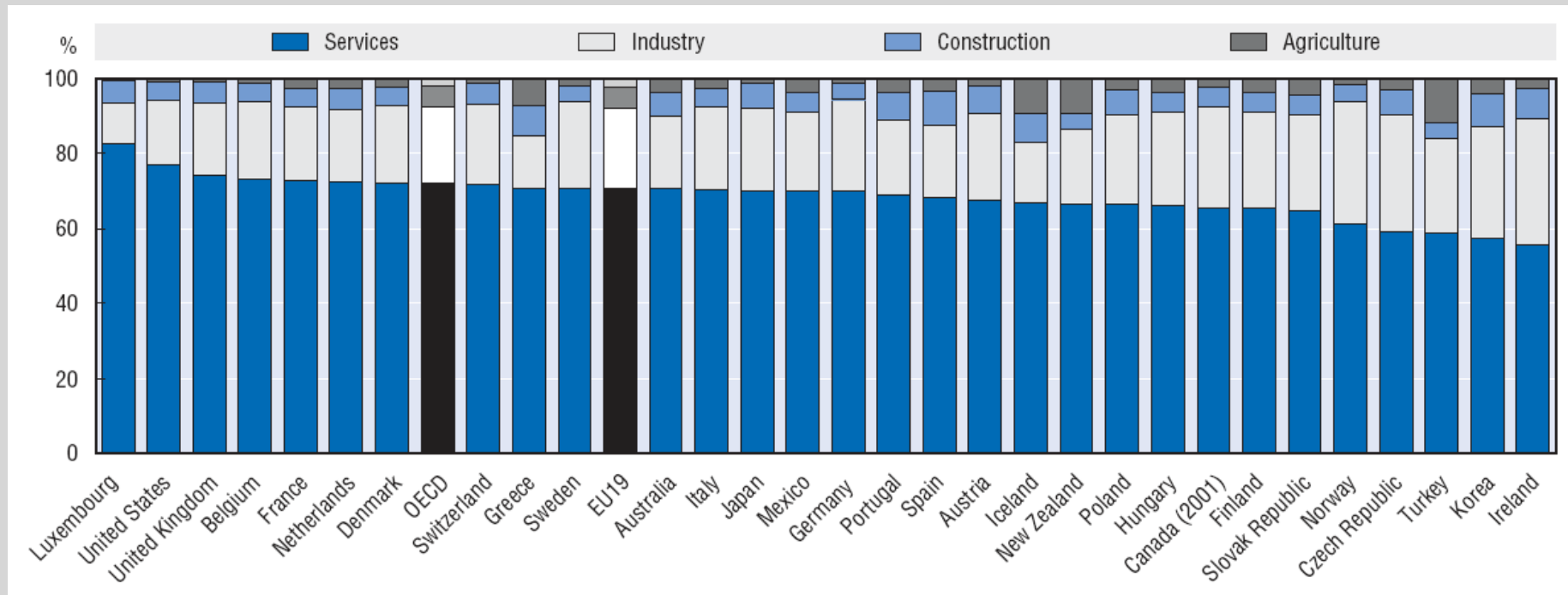


- **Services are not easy to scale – costs are high, margins are compressed**
- **Services often involve long term commitment and performance based contracts**
- **With multiple parties co-operating to ensure delivery**

We know the shift to service is global...

Major proportion of GDP and employment in western world...

- Service sector accounts for over 70% of EU' s economic activity
- Nearly 70% of EU' s workforce are employed in service sectors



China and India are also assessing their role in the service economy

So what can we find out about servitization?

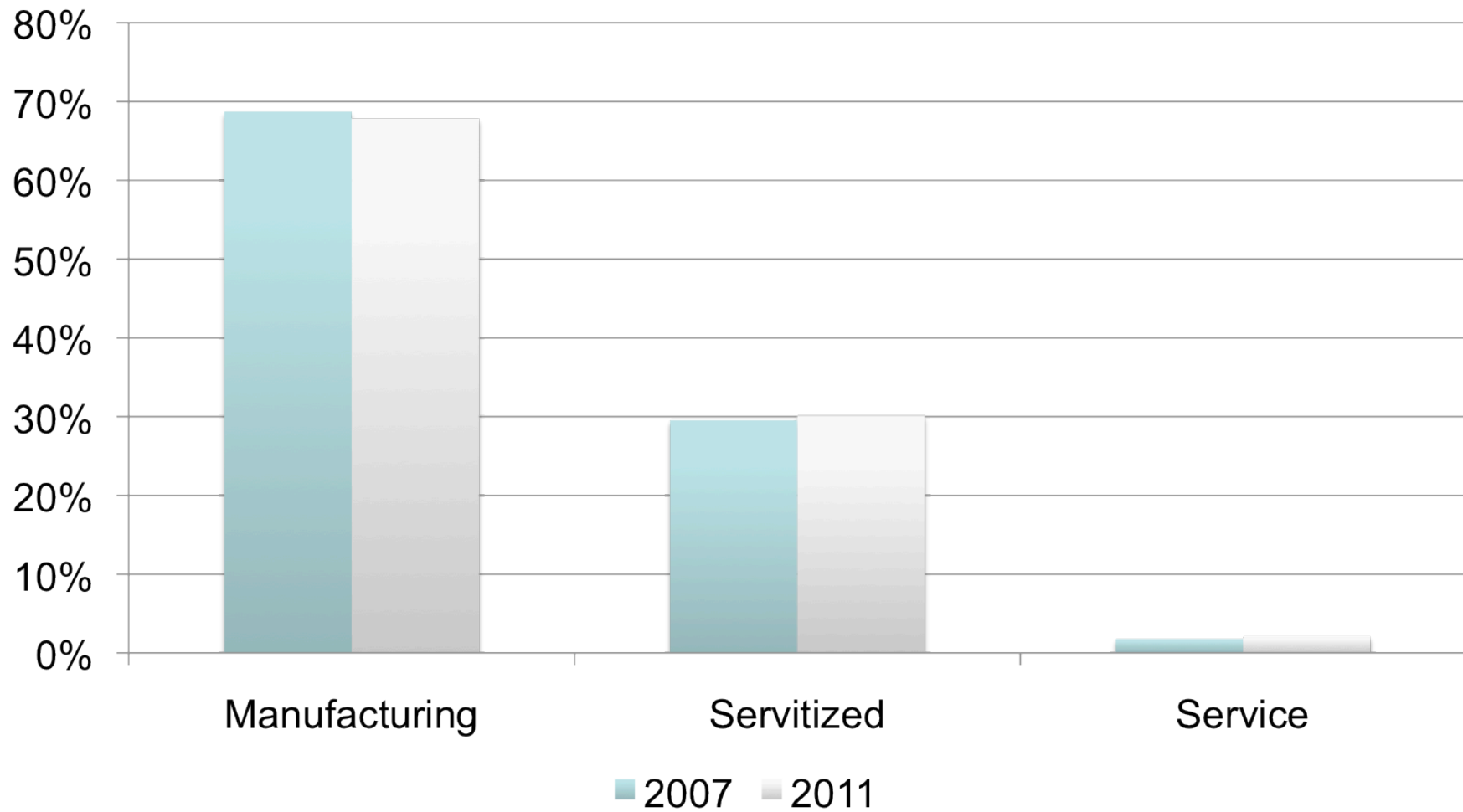
	2007 dataset	2009 dataset	2011 dataset
Source of data	OSIRIS database	OSIRIS database	OSIRIS database
Nos. companies	44,000 publicly listed firms	55,000 publicly listed firms	46,000 publicly listed firms
Nos. manufacturing firms (US SIC codes 10-39)	22,952 firms	27,670 firms	24,010 firms
Nos. manufacturing firms with over 100 employees	12,521 firms	13,259 firms	14,974 firms
Nos. firms with no business description	1,478 firms	706 firms	1,077 firms
Nos. firms declaring bankruptcy	216 firms	222 firms	122 firms
Useable sample	10,827 firms	12,331 firms	13,775 firms

Coding – identifying which firms have servitized

Coding – using business descriptions to identify whether firms classified as manufacturing offer:

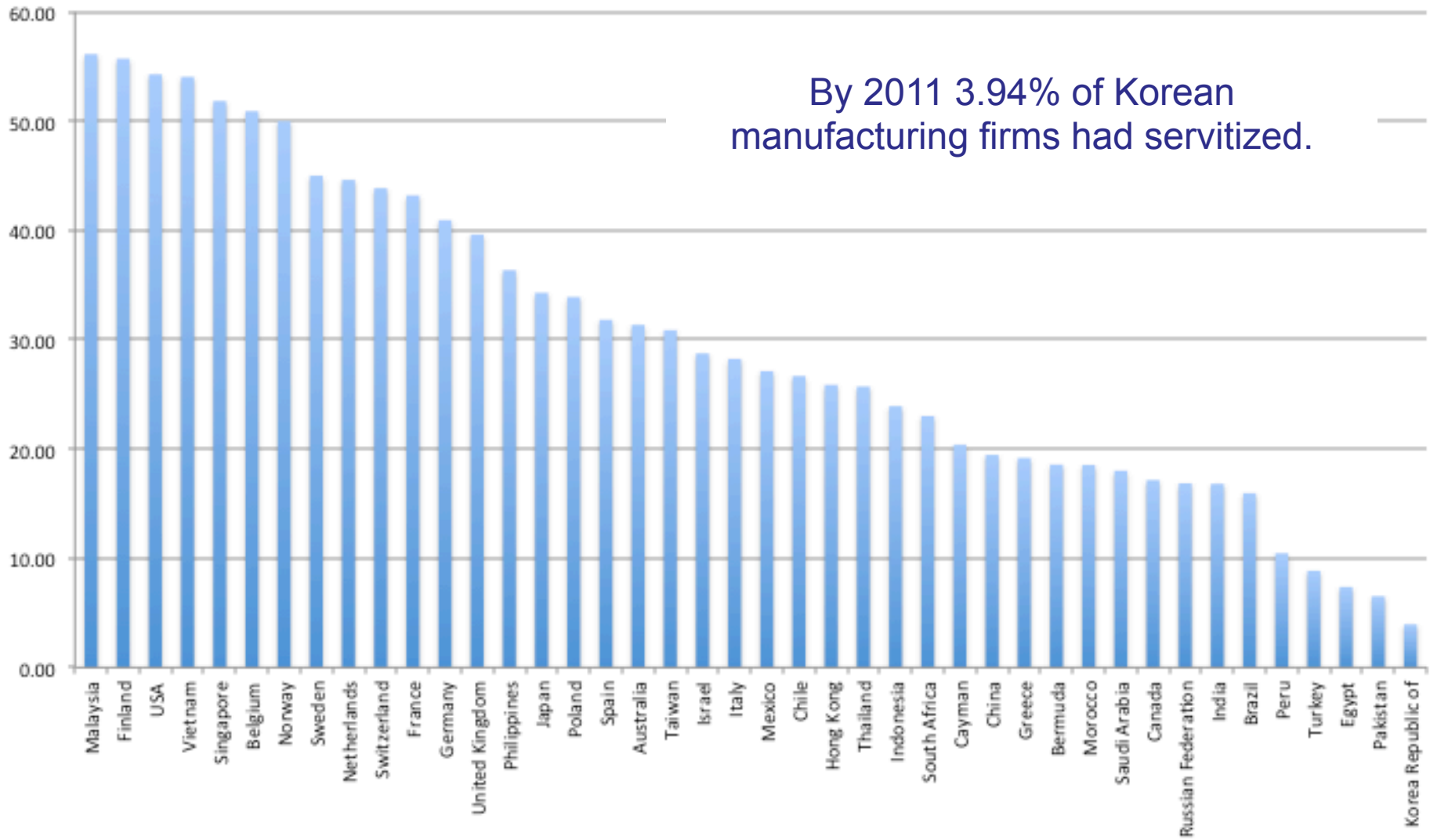
- Pure manufacturing, e.g. PetroChina principally engaged in a broad range of petroleum and natural gas-related activities.
- Some combination of manufacturing and service, e.g. Siemens - predominantly electronics and electrical engineering, but provides a wide variety of consulting, maintenance and other services.
- Pure service, e.g. The Brink's Company, conducts business in the security industry. The services offered by the Company include armoured-car transportation, automated teller machine (ATM) servicing, currency and deposit processing, coin sorting and wrapping, and arranging the secure air transportation of valuables.

Despite having manufacturing SIC codes...



The servitization of manufacturing is global

Proportion of manufacturing firms offering services in 2011



The shift to services is driven by technology



The smarter planet (IBM)

Instrumented



Inter-connected



Intelligent



Granular



Often the shift to services involves business model innovation, which creates opportunity

Information:

- Founded in Demark, 1898
- For 30 years has operated in the field of wind power
- Most global wind turbine manufacturer 50 GW of installed capacity, in 69 countries

Analytics:

- Needed better information about the use/distribution of wind
- Collects data from 35,000 meteorological stations

Recent Use:

- Better reliability, better warranties
- Improved response time to queries (3 weeks to 15 minutes)



Vestas

Implications for Korea

- **Are Korean manufacturing firms lagging behind the global shift to services?**
 - If so, why?
- **Can industrial policies facilitate the servitization of manufacturing:**
 - Creating the infrastructure and associated technologies?
 - Opening up and making available data?
 - Educating and raising awareness of the opportunity?
- **Should Government drive the servitization of manufacturing:**
 - Using its purchasing power to contract for outcomes?
 - Driving innovation and change in specific sectors?

For further details

Professor Andy Neely
Director, Cambridge Service Alliance
University of Cambridge
Institute for Manufacturing
17 Charles Babbage Road
Cambridge, CB3 0FS

Mobile +44 (0)7711 140198
E-mail adn1000@eng.cam.ac.uk
www.ifm.eng.cam.ac.uk/people/adn1000/

Cambridge Service Alliance
www.cambridgeservicealliance.org
LinkedIn Group – Cambridge Service Alliance