

Industry 4: The opportunity

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3 things...

1. Changing nature of UK manufacturing capability
2. Opportunities to (re)build UK manufacturing capability
3. 3 ways to (re)build UK manufacturing capability



Changing nature of UK manufacturing capability

In the 18th Century textiles were the basis of Coventry's economy...



- Origins on 1627 in silk weaving
- Extended to ribbon weaving circa. 1705
- 18:18: 5,483 hand looms, 3,008 engine looms, employing 10,000 people
- 1857: Peak employment, 25,000
- 1860's: Sudden end due to foreign imports



In 18th and 19th Century Coventry was a major UK centre of clock and watch manufacture



- Origins in late 17th Century, Samuel Watson and the astronomical clock
- 1740: Vale establishes
- 1750: Rotherhams establishes
- 1861: 2,307 involved in trade
- 1880: industry in decline from America and Switzerland
- Labour pool transferred to sewing machine and bicycle manufacture

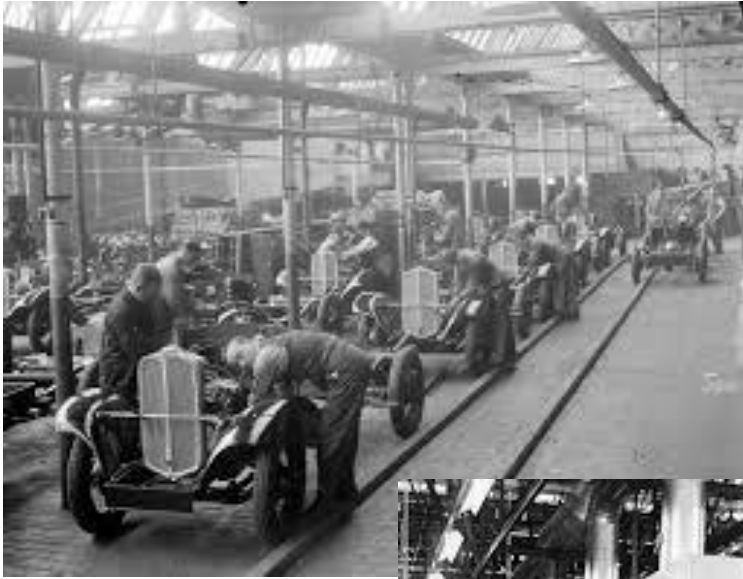


19th and 20th century saw Coventry develop as a global leader in cycle production



- 1861: Coventry machinists company established
- 1868: Started to make 'bone shakers'
- 1890's: Global dominance – 40,000 employees in 248 factories

Dawn of a new age: The motorcar...



- 1897: First British car made in Coventry by Daimler
- 1907: Employed 10,000
- 1939: Employed 39,000
- Established centre of British automotive industry
- Introduced wide range of subsidiary trade: general engineering, metal casting, drop forging, chain making, instruments and gauges, machine tools, electrical equipment

The British 'Detroit'...



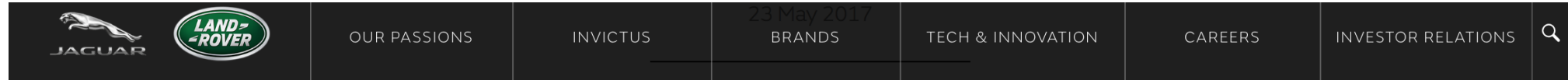
- Fuelled growth of city
- Plants: Jaguar, Standard-Triumph, Hilman-Chrysler and Alvis
- 335k: Peak population in late 1960's



Decline of auto-industry hit Coventry hard...



Post GEC West Midlands saw a resurgence in the car industry...



JAGUAR LAND ROVER FINISHES YEAR WITH RECORD SALES VOLUMES AND REVENUE AFTER STRONG FOURTH QUARTER

JAGUAR LAND ROVER AUTOMOTIVE PLC, THE UK'S LARGEST VEHICLE MANUFACTURER, TODAY REPORTED A STRONG FOURTH QUARTER TO FINISH THE FINANCIAL YEAR WITH SOLID RESULTS DEMONSTRATING ENCOURAGING DEMAND FOR BOTH NEW AND ESTABLISHED MODELS IN THE PERIOD TO MARCH 31, 2017.



More turbulent times ahead...

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Jaguar Land Rover confirms 4,500 job cuts

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Nissan chooses Japan over UK to build new X-Trail car

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Honda's Swindon factory closure threatens 7,000 jobs - as it happened

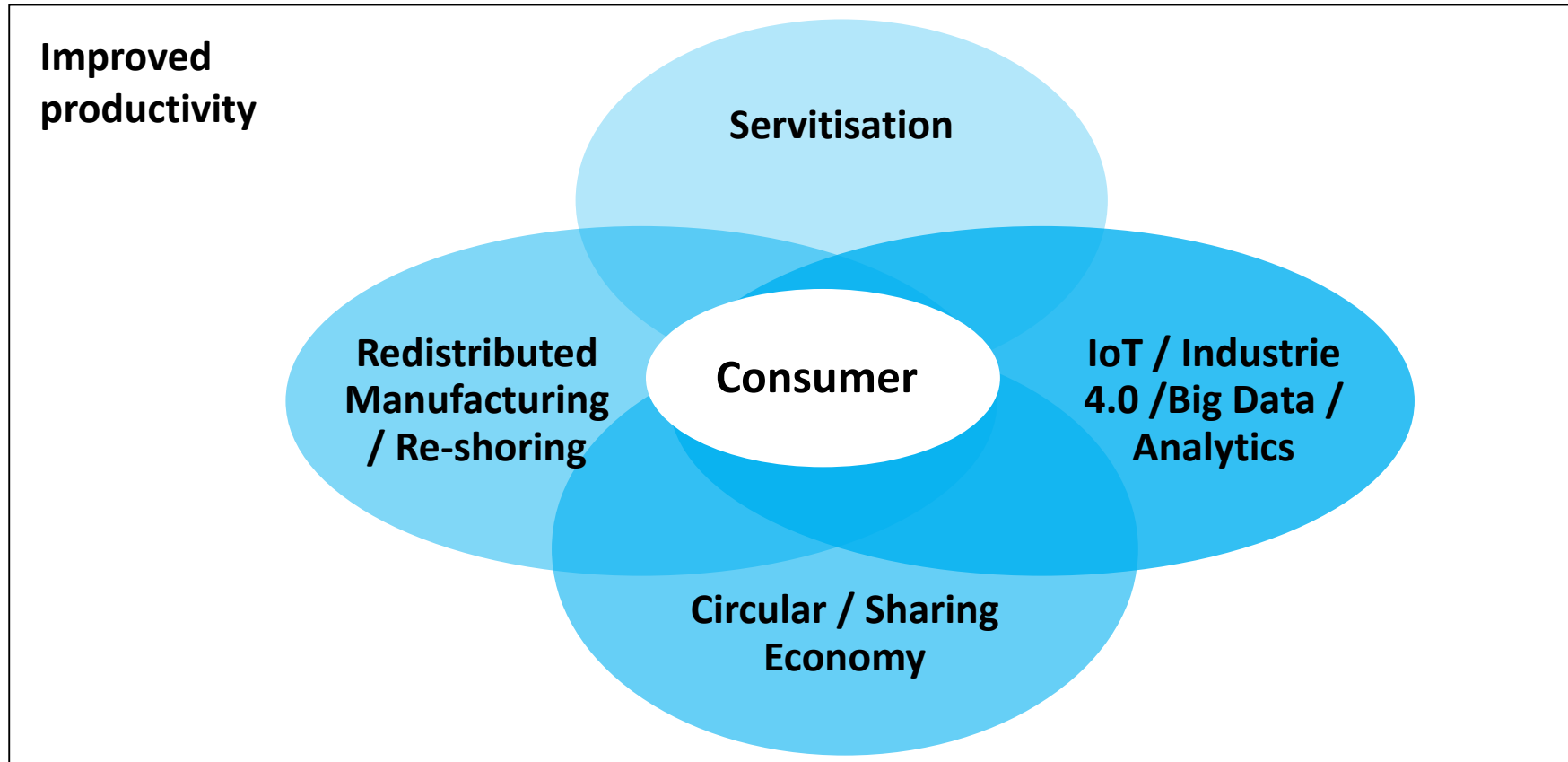
Jobs threatened for 3,500 at plant and 3,500 workers in supply chain

- **Honda's Swindon plant closure could lead to 7,000 job losses**



Opportunities to (re)build UK manufacturing capability

Underpinned by more substantial and inter-connected trends...



'ICT enabled convergence of technological and business processes will herald the next generation of (German) manufacturing'

Prof. Henning Kagermann
February 2014, RAE



Across a range of capabilities...



**Intelligent
Devices & Machines**



**Effective & Efficient
Manufacturing**



**Dynamic
Supply Chains**



**Connected
Products & Services**



**Innovative
Business Models**

Our competencies



Manufacturing performance



Protecting intellectual property



Systems security



Data analytics



Modelling and simulation



Design



Visualisation



Automation



Autonomous systems



Process workflow



Manufacturing processes



System integration



Product verification

Sustainable results



Leadership



Education and skills



Industrial impact



The Telegraph

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The rise of Mobility-as-a-Service models

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Dyson chooses Singapore for new electric car plant



Simon Jack
Business editor
@BBCSimonJack

23 October 2018



Dyson, the UK-based company best known for its vacuum cleaners, has chosen to build its new electric car in Singapore.

The company will break ground on its new factory in Singapore later this year with the first car scheduled to roll off the production line in 2021.

Dyson said the decision was based on the availability of engineering talent, regional supply chains and proximity to some key target markets.

Cost was not a consideration.

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Tesla launches long-awaited \$35,000 Model 3 as it closes dealerships to move all sales online



Save 163

3 ways to (re)build UK manufacturing capability

1. Proactively enable capability migration...

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Thursday, Apr 19th 2018

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1,000 jobs axed in factory closures

Up to 1,000 jobs are to be axed because of the closure of two electronics factories, stunned workers were told on Thursday.

LG Philips said its plant at Newport in south Wales will cease production in August, while a smaller site at Southport will close at the end of the year.

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GE to shed 500 jobs and close factory in Stafford

By [John Corser](#) | [Stafford](#) | [Business](#) | Published: Dec 7, 2017

Around 500 jobs are to go at General Electric's power division operation in Stafford.

 News • Somerset News • Yeovil

GKN closure - shutdown of factory has begun as union says it fears for the future of Yeovil

There was heartbreak last year with the announcement of closure - already most of the workforce is gone

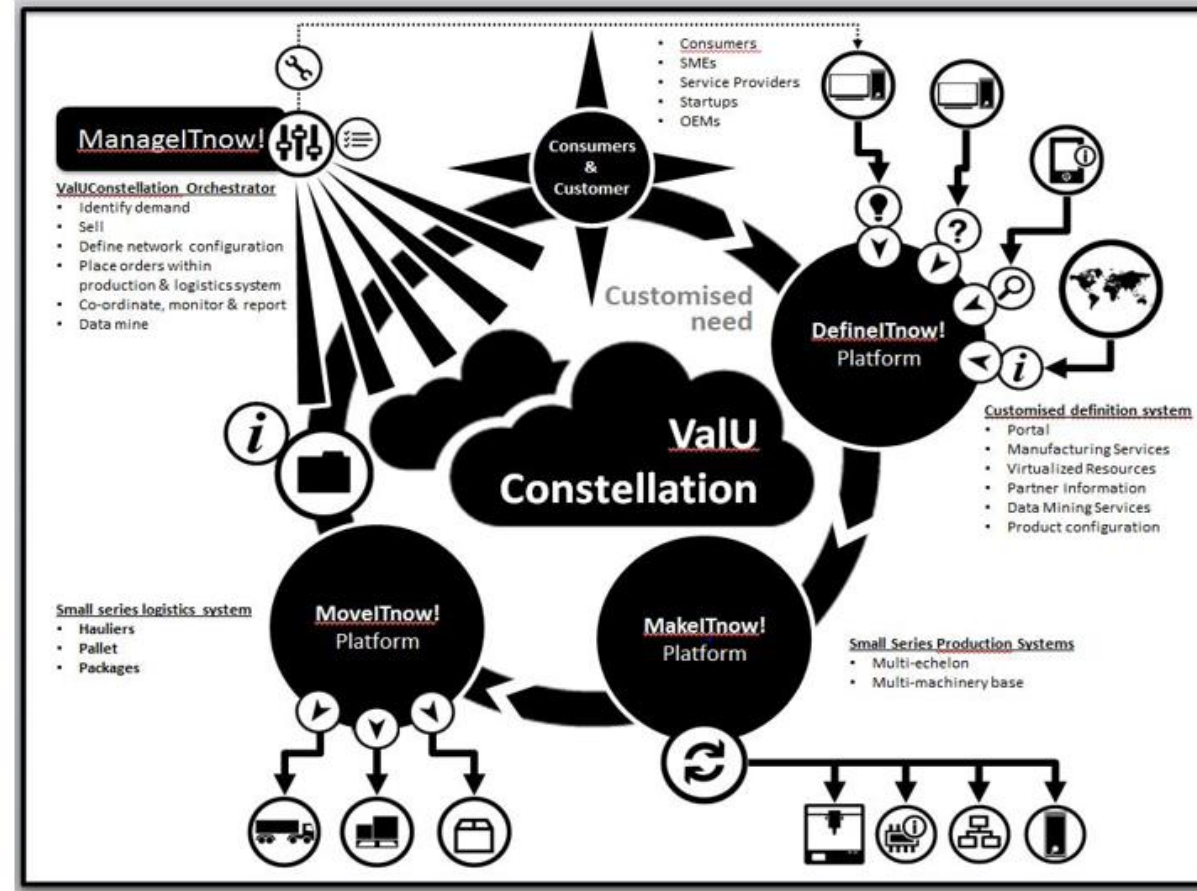
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By [Andrew Doyle](#)
20:02, 22 MAY 2017

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2. Provide support for the development of more 'future fit' solutions...



3. Support a global supply chain design perspective to understand the value add of UK...

Global vs Regional vs. Local

Finished good vs. sub-assembly vs. component

Strategic considerations	Business strategy • Generic strategy • Growth strategy		Decision type • Internal decision • Customer requirement	
Operational considerations	Why?	Internal competitive priorities • Cost • Quality • Time • Flexibility	External incentives • Tax • Subsidies	Risk mitigation • Cultural distance • Political risk • Social risk • IP risk
	What?	Product type • Finished good • Sub-assembly • Component	Product heritage • Original/Existing • Update or new variant • New product	Other • Remanufacturing • Product volume
	Where?	Proximity • R&D Centre • Head office • Registration country • Main market		
	How?	Governance • Our company • A joint-venture	• An existing supplier • An new supplier	
Impacts on suppliers	Local supply base • Local supply base increased • Local supply base decreased • No change			
Outcome/performance	Business performance • Market share • Market share growth • ROS • ROS growth		• ROI • ROI growth • Pre-tax return on assets (ROA) • Customer satisfaction	Manufacturing performance • Cost • Quality • Time • Flexibility



Summary

3 things...

1. Changing nature of UK manufacturing capability
2. Opportunities to (re)build UK manufacturing capability
3. 3 ways to (re)build UK manufacturing capability

