






SECURE AND RELIABLE DIGITAL INFRASTRUCTURE UNDERPINS MODERN MANUFACTURING

WHAT IS THE 4TH INDUSTRIAL REVOLUTION?

MANUFACTURING IS UNDERGOING A TRANSFORMATION
AS PART OF THE 4TH INDUSTRIAL REVOLUTION

Pre-industrial	1st	2nd	3rd	4th
				
Hand crafted	Mechanised and powered production	Mass production & division of labour	Automation with electronics and logic	Cyber-physical systems

This latest transformation would deliver a step change with estimates of over a **£350bn** boost by 2030 to the UK economy¹



80%

of manufacturers say the 4th industrial revolution will be a business reality by 2025²

THERE ARE 3 CORE COMPONENTS TO THIS TRANSFORMATION

1. The Industrial Internet of Things

2. Big data and real time data analysis

3. Secure and reliable digital infrastructure to support and trust machine autonomy

¹ Winning with the Industrial Internet of Things – Accenture, 2015

² Research conducted by research now on behalf of EEF in February 2015

All other statistics used come from EEF's 2015 Digital Connectivity Survey
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WHY IS CYBER SECURITY IMPORTANT TO MODERN MANUFACTURING?

CYBER ATTACKS ARE A RISK TO THE 4TH INDUSTRIAL REVOLUTION

No longer about just stealing customers records, the **cyber security** risks go wider to include:



Data theft - including new product specifications, customer order requirements or data held for ransom



Data manipulation - left undetected could lead to changes in product formulation or create health and safety risks



Data deletion - could lead to costly downtime while data is recovered

ATTACKS ARE ALREADY COSTING THE ECONOMY



90% of large businesses and **74%** of small businesses reported having a **security breach** in 2015, both figures up on 2014³



The average cost of these **breaches** was between £1.46m - £3.14m for a large firm and £75k - £311k for a small business⁴

³ HM Government 2015 Information Security Breaches Survey

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WHAT ARE MANUFACTURERS DOING TO REMAIN CYBER SECURE?

CYBER SECURITY IS A MUST HAVE FOR MODERN MANUFACTURING

80% of firms make employees aware of **cyber risks** in company policies

56% say **cyber security** is given serious attention by the board


Just **36%** of manufacturers have a **cyber breach** incident response plan in place


Only **24%** monitor **cyber threats** through business KPIs

MANUFACTURERS ARE INVESTING TO REMAIN SECURE

More than half of manufacturers have increased their investment in **cyber security** in the past 2 years (40% say no change)

Most likely to have increased investment in **cyber security**:


44% of small manufacturers


60% of mid-sized manufacturers


77% of large manufacturers

All other statistics used come from EEF's 2015 Digital Connectivity Survey
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THE 4TH INDUSTRIAL REVOLUTION WILL LEAD TO TRANSFORMATIONAL CHANGES

**MULTI-PURPOSE
PRODUCTION LINES**

UNIVERSAL DATA INTEGRATION NETWORKS

AUGMENTED REALITY

WITH REAL TIME INFORMATION

**RAPID ADDITIVE
MANUFACTURING/3D PRINTING**

CAPITAL EQUIPMENT WITH **NETWORKED CONTROL SYSTEMS**

CAPITAL EQUIPMENT WITH **EMBEDDED DATA ANALYSIS**

CAPITAL EQUIPMENT WITH EMBEDDED SENSORS, CLOUD SOLUTIONS

FULLY AUTONOMOUS ROBOTS

3D SIMULATION OF MANUFACTURING PROCESSES

WHAT ARE YOU DOING TO MANAGE THIS TRANSFORMATION?

Visit www.eef.org.uk/fourthindustrial to get involved

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manufacturers'
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120 YEARS
BACKING
BRITAIN'S
MAKERS

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