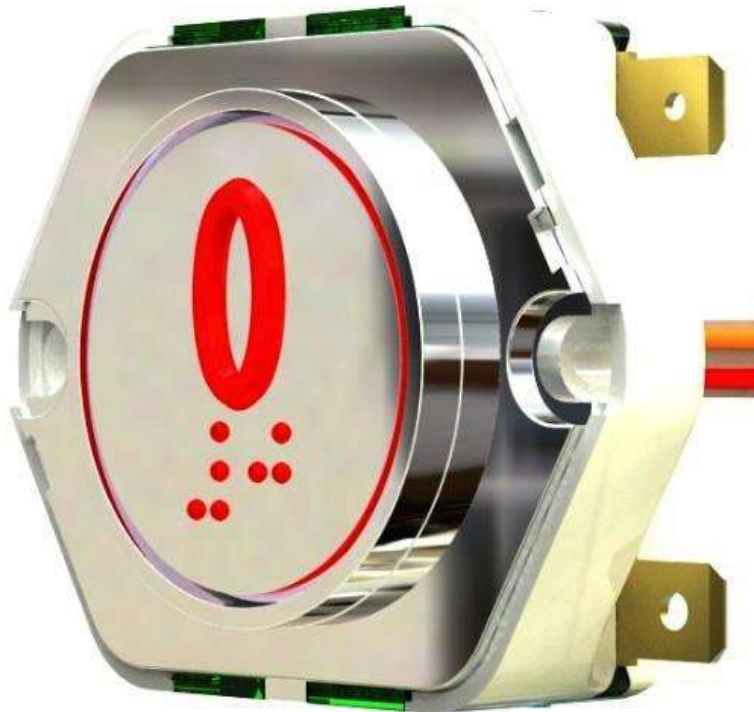


# CHALLENGES IN THE UK MANUFACTURING

CAN WE ADAPT TO OUR  
CHANGING ENVIRONMENT?





<http://www.bis.gov.uk/assets/foresight/docs/manufacturing/13-809-future-manufacturing-project-report.pdf>

- Manufacturing based on the number of Goods produced accounted for nearly 53% of all UK exports in 2012
- In 2010 44% of manufacturing oriented businesses undertook product innovations compared to 26% in non manufacturing sectors
- Most Companies are exploiting services as part of their end Product
- The UK's share of global manufacturing exports has fallen from 7.2% in 1980 to 2.9% in 2012



# Embracing the UK Economy

**OTIS**



- Triumph motor Cycles – Adopted Japanese manufacturing Techniques. Innovative, Trusted and Time tested British Parts and components available
- Caterpillar is a US manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric trains, with a strong UK presence.
- ROLLS ROYCE – Long Term Support and service agreements with their Engines
- OTIS New Technologies – Elevator Monitoring and World Wide Technical Support in Place if Lift or Escalator breaks down – One of the first to Exploit revenue generated from Service Sector.



# Sustaining Manufacturing Jobs



- There is a requirement to fund R&D and sustain manufacturing knowledge and Skills not easily transferable outside the UK. Graphene (Ics), carbon nanotubes (composite-fibres- improve structural, thermal and electrical properties of materials such as polymers), diamond-like carbon composites (ceramic, metallic and organic) with shape memory and healing properties, and copolymers are used more widely in applications including energy storage, computer and smart phone displays, enhanced chemicals and catalysts, consumer electronics, pharmaceuticals, aerospace, and many others
- Sustaining a circular economy : Caterpillar refurbished or remanufactured products at the end of their lives to same-as-new condition, and are continuously improving methods to reduce, reuse, recycle, and reclaim materials which once would have gone into a landfill. In 2012 Cat Reman took back over 2.2 million end-of-life units for remanufacturing.
- Need diversity in Funding. Funding for Lending Scheme makes it easier for banks to lend businesses especially SMEs
- Better methods required to capture industrial data based on suppliers and buyers relating to the whole life cycle of a product including raw materials, this helps forecast future trends
- Establish better partnerships with Industrial Sectors e.g. Aerospace, Automotive, chemical



# CURRENT AND FUTURE MEASURES



- More funding for Feasibility studies for New Business Models, which in turn will promote new innovations in high value manufacturing
- Awareness and the need to have cross functioning ability within an organisation
- Identify new technologies currently implemented and provide funds to further develop them e.g. integrating sensors in products to monitor their health world wide such as Rolls Royce.
- Design to achieve Recyclability of products

Ref: Future of manufacturing: a new era of opportunity and challenge for the UK - summary report



# References

- [1] Government Office for Science- The Future of Manufacturing
- [2] Regional Growth Fund Annual Reporting
- [3] <https://www.gov.uk/government/policies/using-industrial-strategy-to-help-the-uk-economy-and-business-compete-and-grow>
- [4] <https://www.gov.uk/government/speeches/industrial-strategy-cable-outlines-vision-for-future-of-british-industry>