



# Accelerating the Growth of the UK's PEMD Supply Chain Driving the Electric Revolution

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Interim Challenge Director – Driving the Electric Revolution

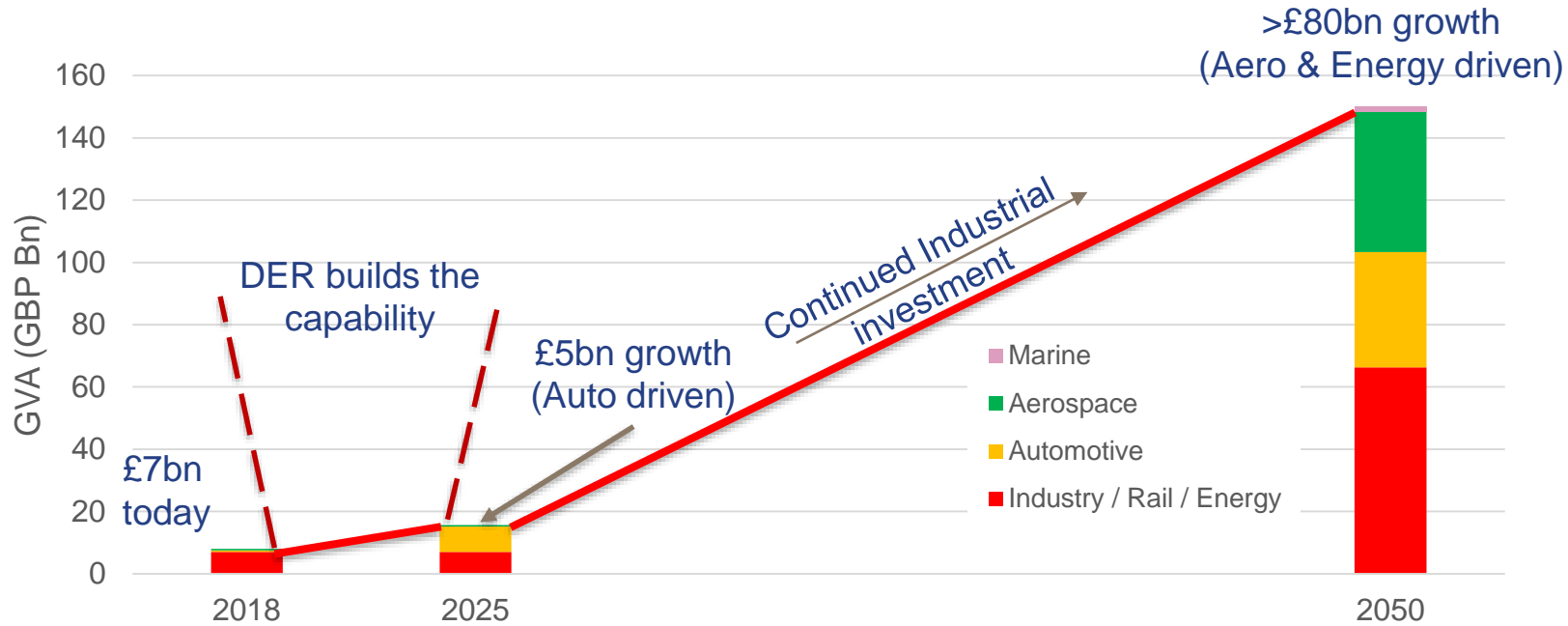
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management by measurement

I'm here to tell you this!



**DECARBONISATION is a MASSIVE Opportunity!**  
**AND it's time is NOW!**



## Why Now?

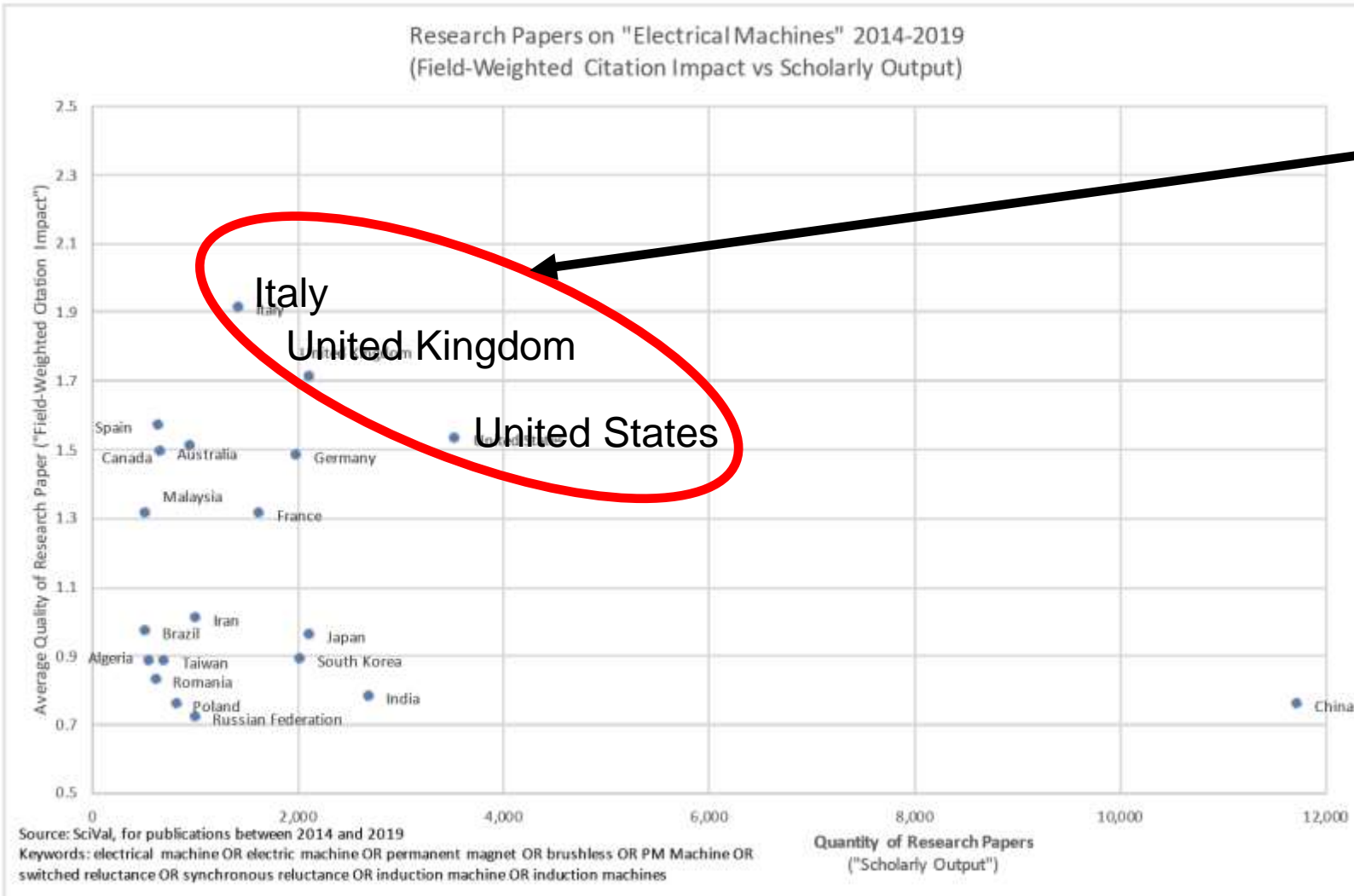
Transition from ICE accelerating –  
**Hybrids, Pure EVs, Decarbonisation**

International competition is strong – but **still no clear winners emerging**

**UK skills, research base and industry collaboration attractive to investors** while race continues...

Growth in Existing Markets → Development of New Product / Process → Development of New Markets

UK Research and Innovation



**This is no accident!**

There are three recognised locations globally in integrated electrification.

- Italy
- UK
- USA

# So! Driving the Electric Revolution!

*‘Driving the Electric Revolution will be the catalyst to building **£5bn more Power Electronics, Motors and Drives (PEMD) products in the UK by 2025**, encouraging industry across 7 sectors to invest and collaborate with academia to establish a **PEMD supply Chain.**’*

# The World needs more PEMD



Automotive



Energy



Off Highway



Industrial



Aerospace



Rail



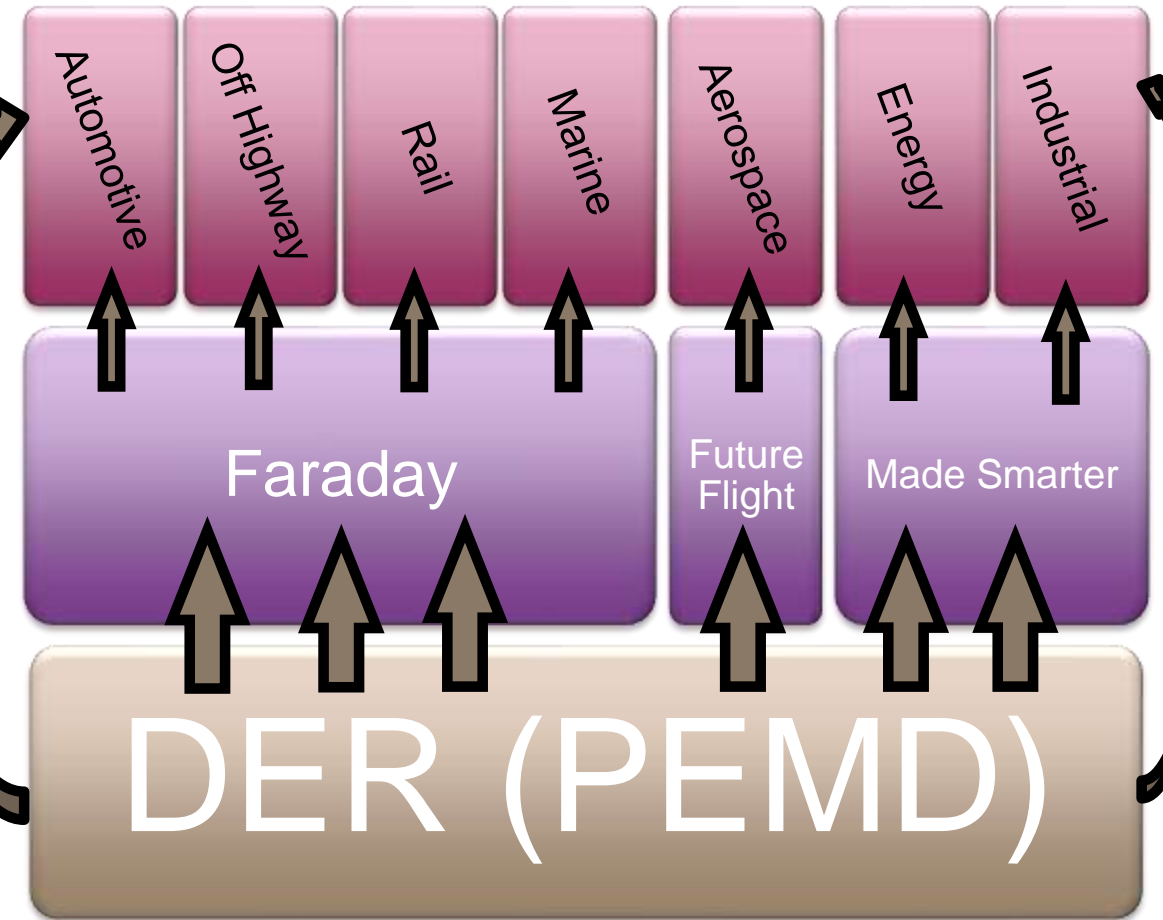
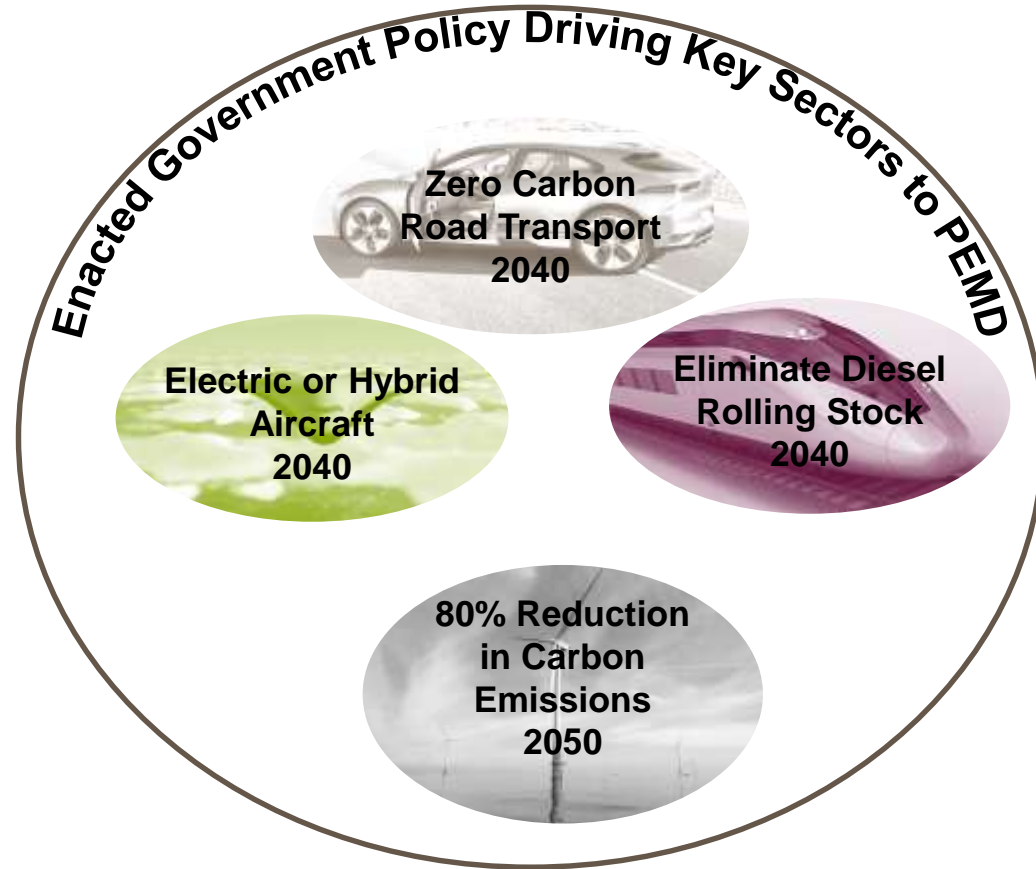
Marine



UK Research and Innovation

# Policy/Wider Context

Pull is from end users



# Ubiquitous



# Enhancing UK strengths to lead the world



## Focused across all Sectors

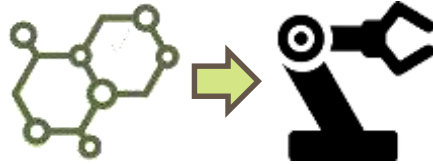


Maximise productivity

Enable cross fertilisation

Secure sufficient capacity

## Materials to Manufacturing



Covering full PEMD lifecycle from new materials to manufacturing

Driving innovation beyond our international competitors

## Supply Chain Development



Build new supply chain to support increase in electrification demand

Build UK SME's into credible Tier 1s and Tier 2s

## Developing World Leading Facilities



Prototyping and Scale-Up

Consolidating international leadership in UK academic base

## Training and Skills



Meeting industry requirements for PEMD specialists

Retraining, technical and dedicated PEMD degree programmes

UK Research and Innovation

Focused across all  
Sectors

Materials to  
Manufacturing

Supply Chain  
Development

Developing World  
Leading Facilities

Training and Skills



**3 Regional Centres** (£36m ISCF £36m Industry) utilising **existing clusters of UK expertise and infrastructure**:

- Each **focussed around specific problem spaces** (for example advanced manufacturing processes)
- Incorporating **co-located, cross-sector research, equipment** and £8m of **training**



**Fast Start Proof of Concept Programmes** (£19m ISCF, £13m Industry) to **fill key gaps** in the innovation pipeline:

- Focus on **cross-sectoral projects**, complimenting existing CR&D funds
- Examples: Materials, Manufacturing, Simulation, Life Cycle Analysis, Systems Integration, Supply chain mapping/design



**High Efficiency, High Volume Supply Chains** (£10.5m ISCF, £10.5m Industry), delivering cross sector high volume UK supply chain opportunity:

- Hard **focus on 2025 target to build £5bn additional PEMD products**, 40% local content
- Engage supply chain organisations to develop innovative and differentiated production methods optimising productivity.



**Low Volume, High Value Supply Chains and Tier N development** (£10m ISCF, £7m Industry); longer term, **niche markets, SME growth**:

- Design and development of **flexible low/medium volume manufacturing facilities** and supply chains
- Delivery of cost effective toolkits for production control, business improvement supplier network development

- Keep them up to date
  - Technology and markets are moving quickly
- Look forward with a commercial bias
  - We need to exploit opportunity
- Collaborate like never before
  - Cannot waste time and effort on wheel reinvention

# Driving the Electric Revolution

## Thank you.

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