



Innovate
UK

Global competitiveness: how does UK transport measure up?

A summary of the Transport Supply Base International Benchmarking Project



Introduction

The Transport Supply Base International Benchmarking Project benchmarks the UK transport supply chain against the performance of leading nations in different sub-sectors of the transport sector. The work was carried out by Innovate UK staff with considerable support from the innovation and transformation consultancy PA Consulting. We used a numerical 'score' rather than a ranking so we could show the size of the difference in capabilities between the UK and other nations.

The study is intended to support decision-making on investment but should not be used alone. The data has been collected and presented in a fashion that allows policymakers to interrogate it in a variety of ways to help them to fully understand how the UK transport sector measures up on the global stage.

We looked at objective measures of capability, using an empirical approach, quantifiable measures and noted sources. Subjective measures were deliberately excluded. However, we intend the results to be used alongside subjective measures to provide a comprehensive measure of strength.

The transport sector supply chain is vast. We focused on 29 segments we identified as strategically important and/or high growth areas.

We used a range of metrics. A source was identified for each metric, and we noted any issues that impact the data. Details of the metrics and sources can be seen in Figure 1 below. Some of these data sources are subscription-only services and we are unable to openly publish detailed findings. However, these are available for official government use by contacting Innovate UK.

Figure 1 – Metrics and data sources

	Metric	Data Source
Businesses	# small businesses (less than 50 employees)	Dun & Bradstreet
	# Accelerators	PitchBook
	# Medium-sized businesses (50-250 employees)	Dun & Bradstreet
	# Large businesses (250+ employees)	Dun & Bradstreet
	# Total Companies	Dun & Bradstreet
	# Organisations based on patent data	Dimensions
Skills	# Researchers	Dimensions
	Quality of Academic Institutions	Times Higher Education
	% Stem graduates	OECD
	Manoeuvrability between roles	Global Labour Flexibility Index
Outputs	# International patent families (inventor location)	Dimensions
	# Total granted patent families (inventor location)	Dimensions
	# Published research papers	Dimensions
	# Highly cited research papers	Dimensions
	Value of exports (GBP)	ComTrade
Funding	Internal R&D spend by companies	OECD
	# Funded Programmes	Dimensions
	Public Grant and Research Funding (GBP)	Dimensions
	Private Sector Funding (VC & PE investment)	PitchBook

The project had significant support from the Department for Transport. We also consulted groups including Department for International Trade, British Standards Institute, and others. A strategic advisory board supported the study. Its members were drawn from government and

arms' length bodies, and they gave insight and support to ensure the conclusions are of value to the wider community. We thank all of the contributors to this project – their work has improved the output and helped us to understand the potential impact.

Results

The project has shown that the UK has strength across all areas of the transport supply chain we analysed. We found considerable depth and breadth of capability in both traditional and emerging technology sectors. It demonstrates that the UK is well positioned to take advantage of upcoming opportunities in transport markets. However, strengths do vary.

We analysed each of the 29 segments independently. The results were brought together into two models:

- **absolute scores**
- **adjusted scores scaled by either GDP if they were financial metrics (for example, public research and development spending) or by population if they were numerical (for example, number of businesses).**

A weighting was used for each of the data sources based on Innovate UK's assessment of how important it was in indicating a country's strength.

These weightings can be adjusted by policymakers granted access to the detailed sources, allowing them to interrogate the data in different ways to improve their understanding of UK strengths and opportunities.

Absolute results

The UK finishes no lower than seventh across the 29 segments when its absolute score is compared with other countries. Typically, the USA and China lead most segments and a small cluster of other countries follow, depending on the segment. Germany, Japan and the UK are typically in and around the top of each segment. South Korea also performs strongly in several segments (see Figure 2, page 4).

Results adjusted for GDP and population

We divided data for each metric by either the population or GDP of each country in question. This indicates which countries are "punching above their weight" in each segment and potentially over-delivering relative to their size. The UK is in the top 10 across all segments, indicating an overall strong position relative to its size (see Figure 3 page 5).

Figure 2 – Absolute score of key countries across each transport segment analysed
(purple bar indicates spread of 3rd to 10th position and UK is marked in yellow with placing given)

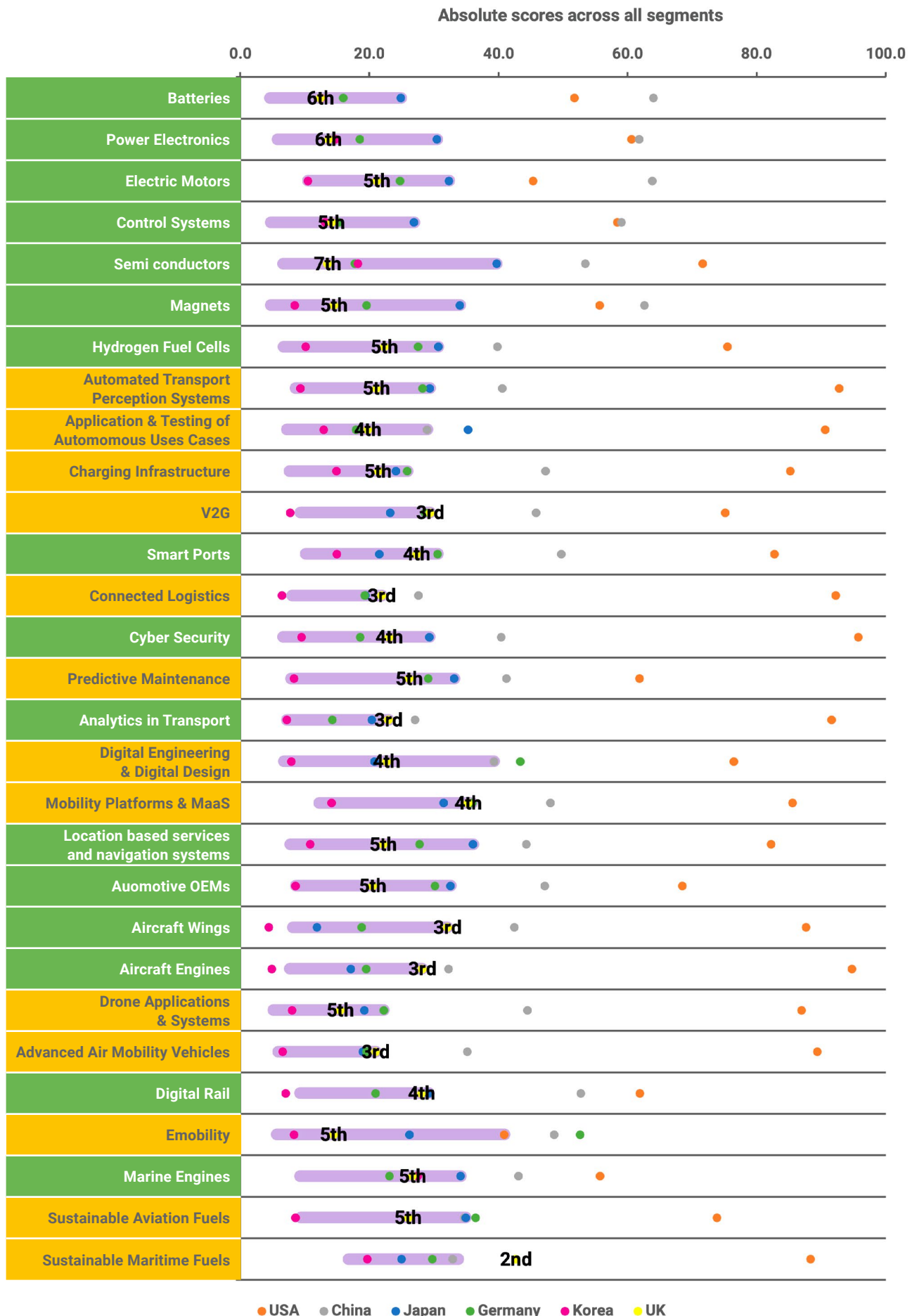
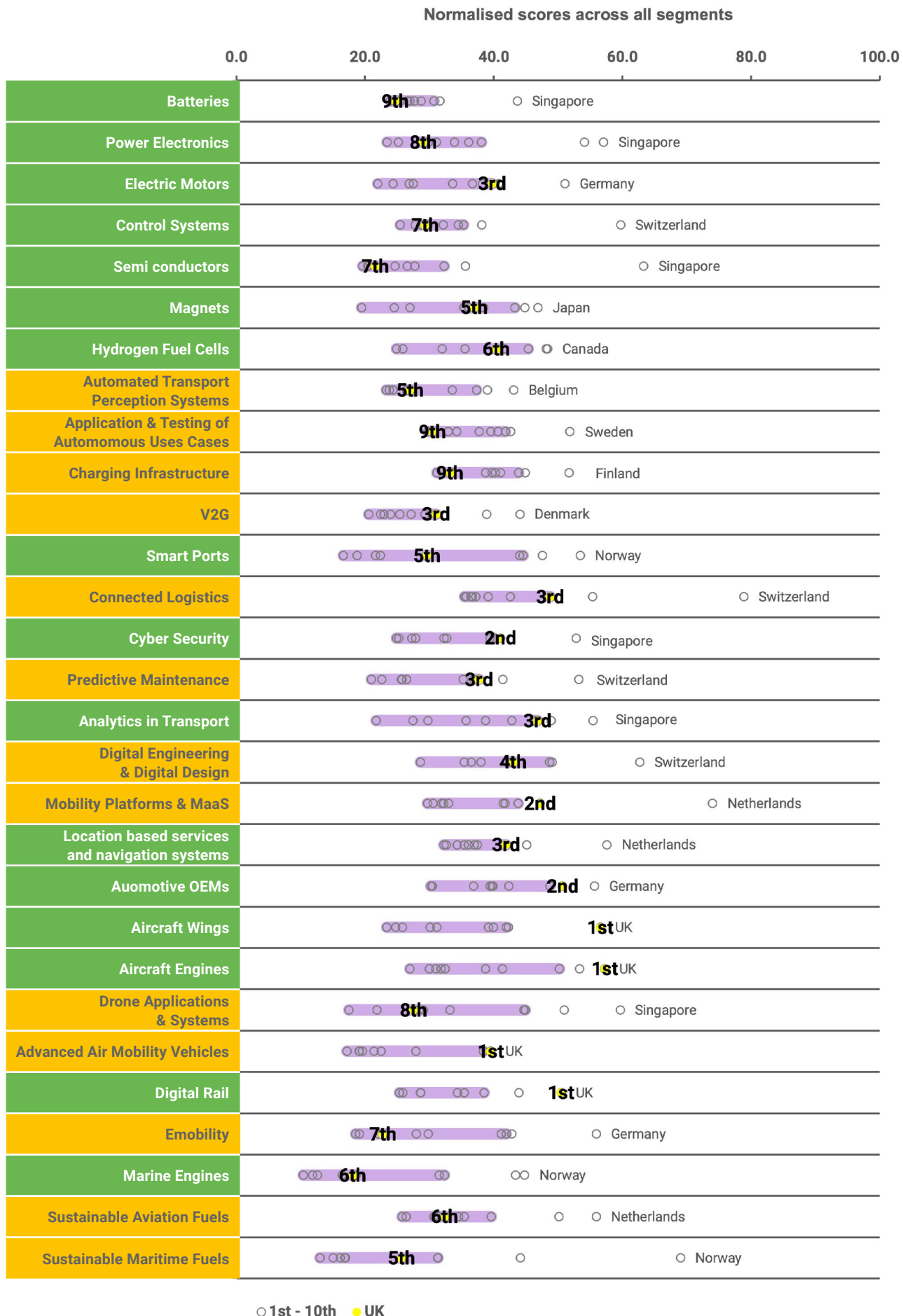


Figure 3 – Adjusted score of key countries across each transport segment (purple bar indicates spread of 3rd to 10th position and UK is marked in yellow with placing given)



Key considerations when interpreting results

In using these results, it is important to note that:

- the study is intended to be purely quantitative and avoids any qualitative metrics or inputs
- all the data is historical and was taken at a point in time. It does not indicate future trends
- the data comes from a variety of both publicly available and private subscription-based sources
- weightings were applied based on Innovate UK's assessment of the relative importance of the data but can be adjusted in the underlying model as required
- data is intended to be representative and comparative rather than comprehensive. Developing fully exhaustive lists across all segments and metrics was not feasible, but any inherent biases or challenges within individual datasets are consistently applied across all countries in a segment and so comparisons between nations are still valid
- whilst every effort has been made to ensure that data is as representative as possible across all metrics and segments, this was not always possible. Where data was not deemed to be representative, it was removed from the study and that metric did not contribute to the overall score in that segment.

Conclusions

There is much detail in the data that will help policymakers to consider where the UK can both build on its strengths and close critical gaps in its capabilities. The results of the project are intended to support decision-making across government by contributing to a common set of assumptions on the transport supply base. Importantly, we have built a model that can be used to interrogate this data in a variety of ways and can help decision-makers to both understand how the UK differs to other countries and consider the most appropriate interventions.

Innovate UK will use this alongside the recently published Transport Vision 2050, which looks at the opportunities ahead of the transport sector:

<https://www.ukri.org/news/innovate-uk-launches-uk-transport-vision-2050/>.

If you want to learn more or interact further with this work please contact louise.mothersole@iuk.ukri.org



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