TOWARDS A UNIFIED POLICY AND EVIDENCE CAPACITY FOR THE UK RESEARCH AND INNOVATION SYSTEM:

Lessons from selected OECD Countries

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Executive Summary

In an era of accelerating technological disruption, geopolitical uncertainty, and fiscal constraints, the United Kingdom faces a strategic imperative: to modernise its research and innovation (R&I) governance through evidence-driven policy. We derive insights from eight OECD countries - Belgium, Canada, Denmark, Germany, Ireland, the Netherlands, Spain, and Sweden - and distil lessons for the UK to strengthen its R&I policy and evidence system.

Global Context and Strategic Imperatives

Science, Technology and Innovation (STI) policy is no longer confined to academic excellence or long-term economic growth. It now underpins national missions such as climate neutrality, health resilience, and digital leadership, while serving as a lever for economic security and competitiveness. Governments worldwide are embedding mission-oriented approaches, integrating industrial policy with R&I strategies, and demanding robust evidence systems to steer investments and measure impact.

Governments are increasingly adopting mission-oriented approaches, integrating industrial policy with R&I strategies and placing greater demands on evidence systems to guide investments and evaluate impact. However, existing data infrastructures—often organised around sectors or disciplines—are not entirely suited to this task. Missions usually aim for broad societal outcomes but rely on a foundation of cross-cutting inputs such as education, research

funding, regulatory capacity, and more. Aligning these inputs with mission goals will require a more integrated and adaptable approach to evidence generation, capable of linking strategic priorities with the underlying policy levers that enable them.

Three global trends shape this imperative: (1) persistent productivity stagnation, requiring systemic innovation to drive growth; (2) mission-driven policies addressing grand challenges like the green transition and health resilience; and (3) rising geopolitical competition over critical technologies, prompting policies for strategic autonomy and technology sovereignty. These shifts demand evidence systems that go beyond tracking inputs and outputs to assess system health, mission progress, and societal impact.

UK Context: Strengths and Structural Gaps

The UK boasts world-class research institutions, a consolidated funding architecture under UKRI, and comprehensive R&D statistics. The Research Excellence Framework (REF) and Knowledge Exchange Framework (KEF) provide robust evaluation mechanisms for academia. However, systemic weaknesses persist: fragmented analytical capacity, absence of an annual 'State of Innovation' report, and limited integration of evidence into mission-oriented strategies. Analytical resources are dispersed across departments, UKRI, and external consultancies, creating silos and reducing responsiveness. Unlike Germany's EFI or Denmark's DFiR, the UK lacks a permanent independent body to provide impartial, system-level analysis and recommendations.

Comparative Insights from OECD Peers

International case studies reveal diverse governance models but common success factors:

- ***Germany***: Anchored by the High-Tech Strategy 2025 and EFI's annual reports, Germany exemplifies mission-oriented governance supported by independent, system-level analysis. Indicators track progress on strategic missions, ensuring adaptive policy.
- ***Sweden***: Embeds analytical capacity within agencies like Vinnova, enabling real-time learning and iterative policy design. Despite rich data, Sweden faces challenges in system-wide coordination and follow-through on evaluation insights.
- ***Denmark***: Combines registry-based data systems with an independent advisory council (DFiR), fostering evidence-based policymaking. Coordination gaps remain, but the culture of evaluation is strong.

- ***Ireland***: Demonstrates best practice in annual R&D budget reporting and KPI-driven prioritisation, linking evidence tightly to policy. Weaknesses include limited SME visibility and fragmented datasets.
- ***Netherlands***: Offers comprehensive data and strong analytical institutes (Rathenau) but lacks unified evaluation frameworks and societal impact metrics.
- ***Belgium***: Features robust regional data infrastructures (e.g., Flanders' ECOOM) but suffers from fragmentation across federal and regional tiers.
- ***Canada***: Data-rich but strategy-poor; absence of an overarching analytical body limits coherence and long-term impact assessment.
- ***Spain***: Centralised data systems and consistent monitoring, yet weak causal impact evaluation and integration of findings into policy cycles.

Lessons for the UK

- ***Integrate Analytical Capacity with Policy Delivery***: Co-locate evaluation and policy functions within UKRI or DSIT to create real-time feedback loops, mirroring Sweden's model. This would enable adaptive learning and reduce reliance on ad-hoc external reviews.
- ***Institutionalise Annual System-Level Reporting***: Establish a comprehensive, independent 'State of UK Innovation' report akin to Germany's EFI. This report should consolidate indicators, assess progress against missions, and provide actionable recommendations to government and Parliament.
- ***Develop a Shared Scoreboard of Indicators***: Introduce a concise dashboard tracking R&I inputs, outputs, and outcomes—covering diffusion, skills, regional impact, and inclusion. This would enhance transparency and accountability while enabling early detection of systemic weaknesses.
- ***Align Evidence with National Missions***: Embed mission-linked indicators and evaluations into strategic frameworks, ensuring adaptive policy responses to emerging challenges. For example, clean energy and AI leadership missions should have dedicated metrics and analytical reviews.
- ***Institutionalise Independence and Transparency***: Create an arm's-length advisory body to safeguard impartiality and enhance public trust. This body should have statutory authority to publish annual reports and convene stakeholders for evidence-based dialogue.

Implementation Considerations

Implementing these reforms would require investment in skills, data infrastructure, and governance mechanisms. This may involve strengthening analytical units within UKRI and

DSIT, with clear mandates for system-level evaluation and mission tracking. Data interoperability across agencies must be prioritised, utilising digital platforms for real-time analytics. Stakeholder engagement—including industry, academia, and regional actors—will be essential to co-design indicators and ensure relevance.

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Abbreviations

Abbreviation	Full Term
AI	Artificial Intelligence
BELSPO	Belgian Federal Science Policy Office
BMBF	Federal Ministry of Education and Research - Germany
BMWK	Federal Ministry for Economic Affairs and Climate Action – Germany
CBS	Statistics Netherlands (Centraal Bureau voor de Statistiek)
CANARIE	Canada's Advanced Research and Innovation Network
CCA	Council of Canadian Academies
CDTI	Centre for the Development of Industrial Technology (Spain)
CESE Wallonie	Conseil économique, social et environnemental de Wallonie
CFA	Centre for Studies in Research and Research Policy
CIHR	Canadian Institutes of Health Research
COTEC	Fundación Cotec para la Innovación
CRDCN	Canadian Research Data Centre Network
CRef	Conseil des Recteurs des Universités Francophones de Belgique
CSPC	Canadian Science Policy Centre
CSO	Central Statistics Office (Ireland)
Destatis	Federal Statistical Office of Germany
DETE	Department for Enterprise, Trade and Employment (Ireland)
DFHERIS	Department of Further and Higher Education, Research, Innovation and Science
DFiR	Danish Council for Research and Innovation Policy
DFHERIS	Department of Further and Higher Education, Research, Innovation and Science (Ireland)
DSIT	Department for Science, Innovation and Technology
ECOOM	Centre for Research & Development Monitoring
EFI	Expert Commission for Research and Innovation (Germany)
ERDF	European Regional Development Fund
ESRC	Economic and Social Research Council
ESRI	Economic and Social Research Institute (Ireland)
EU	European Union
EWI	Department of Economy, Science and Innovation (Flanders)
EZK	Ministry of Economic Affairs and Climate Policy (Netherlands)
FECYT	Spanish Foundation for Science and Technology
FEDEA	Foundation for Applied Economics Studies (Spain)
FRIS	Flanders Research Information Space
HESA	Higher Education Statistics Agency
IDA	Industrial Development Agency (Ireland)
INE	Instituto Nacional de Estadística (National Statistics Institute) - Spain
Innoviris	Brussels Institute for Research and Innovation
KEF	Knowledge Exchange Framework
KNAW	Royal Netherlands Academy of Arts and Sciences
KPI	Key Performance Indicator
M&E	Monitoring and Evaluation

Abbreviation	Full Term
NAO	National Audit Office
NRC IRAP	National Research Council – Industrial Research Assistance Program
NSERC	Natural Sciences and Engineering Research Council of Canada
NWO	Netherlands Organisation for Scientific Research
OECD	Organisation for Economic Co-operation and Development
OCW	Ministry of Education, Culture and Science
R&D	Research and Development
R&I	Research and Innovation
REF	Research Excellence Framework
R&I	Research and Innovation
RVO	Netherlands Enterprise Agency
SCB	Statistics Sweden
SEP	Strategy Evaluation Protocol (Netherlands)
SICTI	Spanish Science, Technology and Innovation Information System
SIIU	Integrated University Information System (Spain)
SIPs	Strategic Innovation Programmes (Sweden)
SME	Small and Medium-sized Enterprise
SSHRC	Social Sciences and Humanities Research Council
Statbel	Belgian Statistical Office
STI	Science, Technology and Innovation
Tillväxtanalys	Swedish Agency for Growth Policy Analysis
UKÄ	Swedish Higher Education Authority (Universitetskanslersämbetet)
UKRI	UK Research and Innovation
Vinnova	Swedish Agency for Innovation
VLAIO	Flemish Agency for Innovation and Entrepreneurship

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Thank you

The Innovation & Research Caucus

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