Written evidence from Dr Alina Vaduva, Senior Lecturer in Business Strategy at the University of East London; Professor Kirk Chang, Professor in Technovation, Director of the Centre of Innovation, Management and Enterprise (CIME) at University of East London, Centre of Innovation, Management and Enterprise (CIME), and Dr Siemon Smid, Director at PwC (SUK0015)

Key Points and Policy Recommendations

Mission-Oriented Innovation Approach:

- We recommend the UK Government adopt a **mission-oriented innovation strategy**, focusing on bold, strategic missions to align public investment, research, and regulation towards shared societal goals (e.g., health, AI, digital infrastructure).
- We recommend that the UK Parliament act as a proactive market shaper, creating long-term cross-sectoral collaborations that stimulate private sector innovation while ensuring public value creation.

Strengthening Intellectual Property (IP) Financing:

- Establish a **national IP financing framework** to enable businesses, particularly SMEs and start-ups, to leverage their IP assets as collateral for funding.
- Create an **IP Financing Agency** to provide advisory services, IP strategy development, and access to financing, inspired by Ontario's *IP Ontario* model.
- Introduce an **IP guarantee scheme** to de-risk lending for IP-rich businesses, promoting greater access to capital.

Reorganizing Innovation Infrastructure:

- **Redefine Innovate UK** as a **National Innovation Authority**, bringing together all innovation activity under one umbrella to improve policy coherence and resource efficiency.
- Align all strategic innovation efforts, including public and private investments, with the UK's long-term **national missions** to drive competitiveness and global leadership in science and technology.

Regional Innovation Support:

- Equip **regional innovation hubs** and **local enterprise partnerships** (LEPs) with **IP finance tools** and advisory capabilities to support SMEs, especially in underserved regions.

- Focus on **living labs** and **testbeds** to foster **public-private innovation partnerships**, particularly in high-priority sectors like green tech, AI, and health.

Incentivising Innovation Investment:

- Introduce **innovation vouchers**, **enhanced R&D tax relief**, and **challenge-based grants** (modelled on successful international models like Sweden, Germany, and the USA) to encourage collaboration between SMEs, universities, and R&D institutions.
- Expand R&D tax relief to support **green innovation**, **social enterprises**, and **digital public-good projects**.

Building Innovation Capacity with Strategic Tools:

- Leverage established innovation frameworks like **InnoSpice** to assess and improve innovation processes across universities, public R&D agencies, and regional hubs.
- Integrate AI to automate data analysis and optimize innovation strategies across multiple sectors, ensuring evidence-based policy at scale.

These recommendations aim to transform the UK into a global leader in science and technology by enhancing innovation financing, fostering collaboration, and ensuring that intellectual property is maximised as a strategic asset for growth.

About the proposers

Dr Alina Maria Vaduva is a Senior Lecturer in Business Strategy and a recognised innovation leader in AI-driven transformation across science, technology, and industry. With over 21 years of experience spanning academia, research, and consulting, she brings a strategic focus on scaling innovation through investment, digital capability, and policy alignment.

Her research and practice explore the intersections of AI, sustainability, and industrial competitiveness, with insights published in The Conversation and Open Access Government. Dr Vaduva has led major initiatives funded by the European Commission, advancing technological transfer, startup acceleration, and the innovation capacity of SMEs. As an Expert Evaluator for the European Innovation Council (EIC) Accelerator, she assesses frontier technology proposals, informing the allocation of public investment to scale high-impact ventures.

At the University of East London, she drives innovation-led pathways for sustainable business and entrepreneurship, collaborating closely with emerging companies to support access to finance, talent, and digital transformation strategies. Her recent research focuses on the role of AI in future-proofing supply chains, e-waste innovation, and smart governance.

Committed to bridging research, policy, and market application, Dr Vaduva is widely recognised for her contributions to global engagement, responsible innovation, and community impact. She advocates for a bold, inclusive approach to UK science and technology — one that embeds ethical AI, fosters public-private collaboration, and accelerates investment in scalable innovation.

Prof Kirk Chang is a leading expert in AI-empowered management, along with three decades of experience in the academic and consulting fields. His research explores technology and its influence on employees, teamwork, group dynamics and organisational performance.

Prof. Chang has held academic positions at top institutions, including the University of East London, Salford University, and Southampton University, and served as an examiner and PhD assessor. A Chartered Scientist (CSci) and Chartered Psychologist (CPsychol), he is also a Fellow of the Royal Society, CIPD, BPS, and HEA. Prof. Chang has collaborated with organisations on employee training, managerial intervention programmes and AI-driven management solutions.

He actively supports SMEs and MNEs across industries, from manufacturing to telecom. Recently, he has worked with the Chinese Telecom Industry and the Chinese Academy of Personnel Science to enhance recruitment efficacy and improve the performance reward system through AI-driven packages. Committed to expanding education and human capital development, Prof. Chang continues to shape the future of HR and technology integration worldwide.

Dr Siemon Smid is a Director at PwC with over 25 years of experience in project management, specializing in Intellectual Property Rights (IPR), technology transfer, innovation, and Industry 4.0. He has led numerous high-impact assignments, such as developing an IP-backed finance framework for SMEs in Luxembourg, working on the commercialization of IP in Alberta, and managing technology transfer at Tallinn University of Technology. He has also contributed to innovation labs and feasibility studies, including projects in Latvia and the creation of the European Centre of Excellence in Microwave, Millimeter Wave, and Optical Devices.

As a service provider, he supported the Manufacturing Advisory Services (MAS) in the UK, and he was an operational manager of Assystem UK (now

Expleo). Siemon has authored multiple articles on IPR and technology transfer, including publications on IP-backed finance in Luxembourg and technology transfer practices in Moldova and Estonia. He is skilled in leading multidisciplinary global teams, having directed large-scale projects such as the Copernicus MOOC, European Space Agency Business Incubation Centres, and the Policy Lab #GovLabLatvia. His leadership extends to managing EU-wide projects, such as the European Sustainable Construction Observatory and the SME Performance Review.

With a focus on user-centric development and design thinking, Siemon has promoted these principles in various EU projects, such as the Farmer Sustainability Tool for DG Grow. He is well-networked with over 8,500 active followers and over 2500 views per post. Siemon's expertise spans IPR support services, EU business missions, and experience in programme and portfolio management, driving innovation and global collaboration. The foundational message is: "To unlock the full potential of UK science and technology, we must align innovation, investment, and industry through bold collaboration that scales breakthrough ideas into impactful, sustainable growth."

A mission-oriented and state-controlled approach

In response to the UK Parliament's call for evidence on driving innovation, we advocate for **a mission-oriented approach**, as outlined by the OECD (2021), that positions the state not merely as a market fixer but as a proactive market shaper (Mazzucato, 2018). Such a framework enables governments to catalyse systemic change by setting bold, strategic missions that align public investment, research, and regulation toward shared societal goals. This approach fosters long-term, cross-sectoral collaboration, crowding in private sector innovation while ensuring that public value creation remains central to the innovation ecosystem.

To accelerate the UK's ambition to become a global science and technology leader, Innovate UK should be redefined as a centralised, **state-controlled National Innovation Authority** that brings together all strategic innovation activity under one coordinated umbrella (Gov.UK, 2021). This restructured body would have oversight of the national innovation strategy, aligning public and private investment with long-term missions such as Net Zero, AI, and digital infrastructure (Innovate UK, 2022). By consolidating fragmented efforts across departments and regions, the Authority would ensure a more coherent, agile, and mission-driven approach to innovation, supporting regional ecosystems, enhancing efficiency, and enabling the UK to respond swiftly to global challenges and technological opportunities.

We advise the UK to consider adopting an approach similar to the EU's Horizon Europe programme (European Commission, 2025) by establishing **a clear, mission-oriented innovation framework with annually defined**

strategic priorities. Horizon Europe exemplifies how state-led direction can effectively coordinate research, innovation, and investment across key societal challenges, balancing long-term public goals with dynamic industry needs. Horizon Europe has been complemented by a dedicated Innovation Agency, the European Innovation Council. The EIC has supported research projects that have generated over eight hundred innovations. EIC Programme Managers actively support the transition of emerging technologies into potential innovations through spinouts, intellectual property rights (IPRs), collaborations, and other pathways.

By defining yearly strategic priorities aligned with national missions such as health resilience, sustainability, or digital transformation, and engaging stakeholders across sectors, the UK can foster a more coherent and impactful innovation landscape. This dual alignment—between government ambitions and industry capabilities—would ensure both relevance and uptake of innovations, while maximising public value and international competitiveness.

A focus on Intellectual Property (IP) Financing

To strengthen the UK's position as a global innovation leader, it is essential to enhance **the role of intellectual property (IP) in financing business growth**. Drawing on international best practices, such as those implemented in Luxembourg, the UK should develop **a coordinated national IP financing framework** (The Government of the Grand Duchy of Luxembourg, Intellectual Property Office, 2023). This would enable innovative, asset-light businesses—particularly SMEs and start-ups—to leverage their IP portfolios as collateral for investment and growth funding. A key component of this framework should be the introduction of **an IP guarantee scheme, backed by the government,** to de-risk lending by financial institutions and encourage broader access to capital for IP-rich enterprises (The Government of the Grand Dutchy of Luxembourg, Intellectual Property Office, 2023).

A critical enabler of this framework is the development of a robust, standardised IP valuation and certification system. This function could be situated within a restructured Innovate UK or a specialised unit of the **UK Intellectual Property Office (UKIPO)**, working closely with financial institutions and investors. A transparent, publicly available IP valuation service would enhance investor confidence and facilitate more effective use of IP assets in licensing, mergers, and financing transactions. Furthermore, regional innovation hubs and local enterprise partnerships should be equipped with IP finance tools and advisory capabilities to ensure equitable access across the country, particularly in underserved areas (WIPO, 2023).

Finally, **IP-backed financing should be strategically aligned with the UK's national innovation mission**s—such as achieving Net Zero, advancing health technology, and strengthening digital sovereignty. Targeted financial

instruments could be used to support mission-oriented enterprises with high-value IP assets, reinforcing the UK's industrial strategy and delivering public value. In parallel, a national programme to raise awareness and build capacity around IP commercialisation and finance is essential, ensuring SMEs, investors, and lenders can fully participate in and benefit from this emerging dimension of the innovation economy.

Tools and frameworks for enhancing innovation

InnoSpice- a potential strategic tool for implementing national innovation strategies

InnoSPICE is a structured, ISO/IEC 15504-based model tailored for enhancing innovation and knowledge transfer processes in institutional and policy contexts developed in Germany.

The InnoSpice model offers a structured, ISO/IEC 15504-based framework designed to assess and improve innovation processes within academic and research institutions. By focusing on five core areas—innovation strategy, potential identification, development, realization, and culture—it enables organisations to build a comprehensive and sustainable innovation ecosystem (Woronowicz, Boronowski and Mitasiunas, 2012). Applied through structured assessments using stakeholder interviews, capability ratings, and continuous feedback loops, InnoSpice fosters a shared understanding of innovation maturity. Its adaptable, standards-driven approach makes it a valuable tool for aligning institutional innovation processes with broader national strategies (Mitasiunas et al., 2015).

In the UK context, InnoSpice could be instrumental in advancing the government's ambition to become a global innovation leader. By embedding InnoSpice into regional innovation programmes, policymakers could establish a common framework for measuring and improving innovation capacity across universities, public R&D agencies, and local innovation hubs. Artificial Intelligence (AI) could enhance this process by automating data analysis, identifying process inefficiencies, and recommending targeted interventions based on pattern recognition across multiple assessments. AI-enabled dashboards could offer real-time insights, helping policymakers allocate resources more effectively, track progress, and refine strategies dynamically, ensuring evidence-based innovation policy at scale.

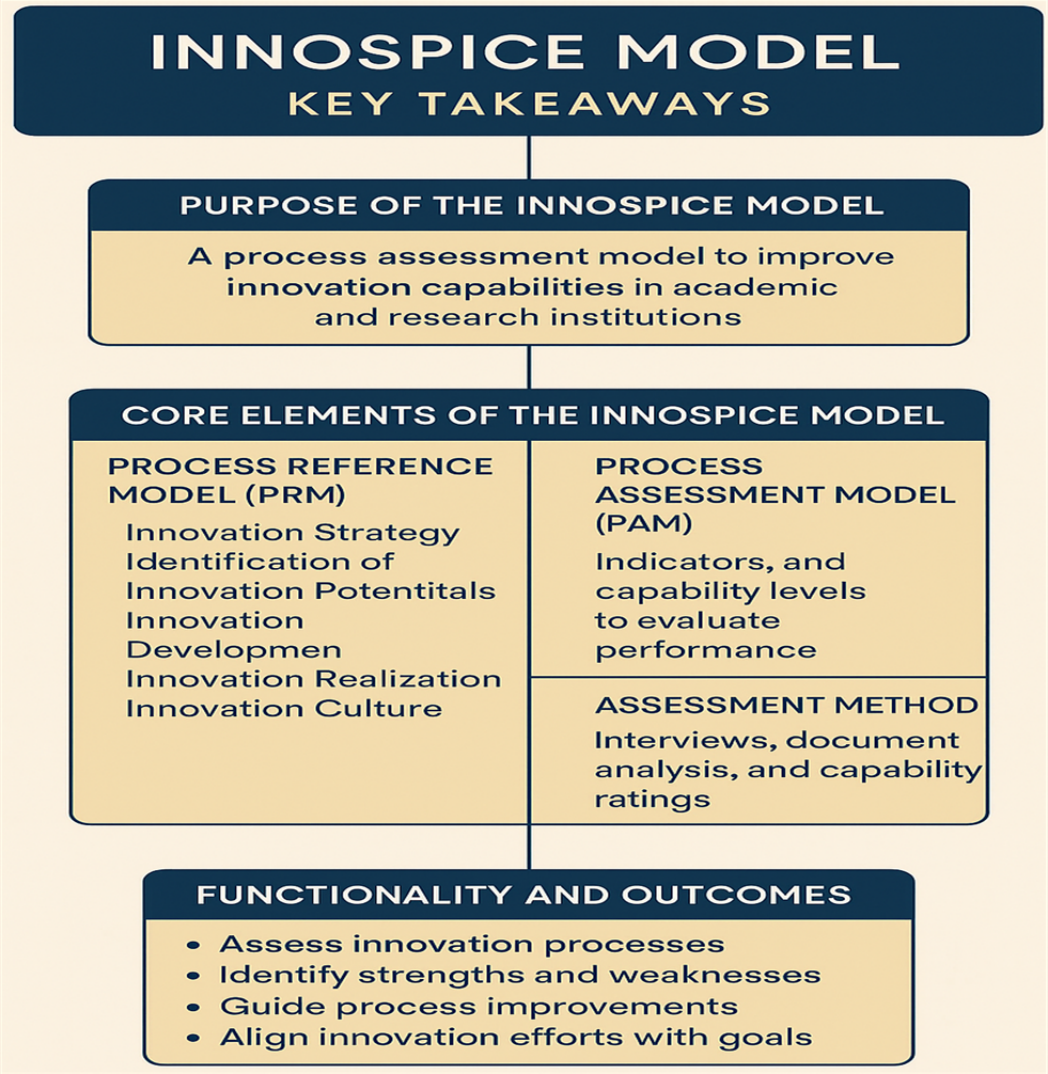

Figure 1: InnoSpice Model (Woronowicz, Boronowski and Mitasiunas, 2012)

Unlocking Intangible Assets: A UK Model for Strategic IP Financing Inspired by Ontario

The UK could explore the establishment of a dedicated **Intellectual Property (IP) Financing Agency**, drawing inspiration from Ontario's *Intellectual Property Ontario (IPON)* model (Intellectual Property Ontario, 2023). This agency would offer SMEs and research institutions specialised IP advisory services, guidance on IP strategy development, and access to financing mechanisms that position IP as a central business asset. By incorporating IP valuation, protection, and commercialisation into the scaling-up process—particularly for sectors such as deep tech, green innovation, and AI—the UK could unlock untapped intangible assets and mitigate risks associated with innovation investment, ultimately addressing the funding gap that hinders SME growth and international competitiveness.

Overall conclusion and recommendation

The aforementioned literature review and analysis will strengthen the UK's innovation ecosystem by improving access to capital, enhancing collaboration, and ensuring that IP is recognised as a strategic asset in scaling business growth. Detailed points of conclusion and recommendation (inc. intervention strategies) are outlined below.

Conclusion:

1. **Mission-Oriented Innovation Approach:** The UK must adopt a mission-oriented approach to innovation that actively shapes markets rather than merely correcting them. By adopting a strategic, mission-driven framework, such as those practiced by OECD and Horizon Europe, the UK can align public investment with long-term societal goals, enhancing global competitiveness.
2. **Strengthening IP Financing:** Intellectual property (IP) has the potential to be a critical lever for growth in the UK's innovation economy. The introduction of a national IP financing framework, inspired by successful models in Luxembourg and Ontario, can help SMEs and start-ups access capital by leveraging IP assets as collateral. This would be vital in unlocking value from intangible assets and ensuring sustainable growth for IP-rich enterprises.
3. **Collaborative Innovation Ecosystem:** To stimulate growth, the UK needs to foster collaboration between the public and private sectors, ensuring that innovation is directly aligned with national challenges like sustainability, AI, and digital infrastructure. This can be facilitated by creating innovation hubs, providing targeted financial instruments, and implementing tools like InnoSpice to assess and improve innovation maturity across regions.

Recommendation (inc. intervention strategies)**:**

1. **Establish a National Innovation Authority:** Redefine Innovate UK as a National Innovation Authority with oversight over all strategic innovation activities. This would streamline efforts across government departments, ensuring more coherent policy alignment, efficient use of resources, and faster response to global challenges.
2. **Implement a National IP Financing Framework:** Create a dedicated IP Financing Agency in the UK, drawing inspiration from Ontario's model, to provide SMEs and research institutions with specialized IP advisory services and access to financing mechanisms. Additionally, introduce an IP guarantee scheme to de-risk lending, enabling SMEs to leverage their IP for investment.

3. **Enhance Regional Innovation Capabilities:** Equip local enterprise partnerships (LEPs) and regional hubs with IP financing tools, ensuring equitable access to capital, particularly for underserved areas. This would help stimulate innovation and technology transfer across all UK regions.
4. **Adopt Strategic Innovation Incentives:** Introduce innovation vouchers, R&D tax credits, and challenge-based grants modelled after those in Sweden, Germany, and the USA to encourage SME collaboration with universities and R&D firms. These instruments should target key innovation sectors, such as AI, green tech, and health, to accelerate transformative change.
5. **Promote Public-Private Innovation Partnerships:** Invest in "living labs" and testbeds that foster real-world innovation testing, particularly in high-priority areas like sustainability and digital transformation. By creating public-private innovation zones, the UK can further integrate civic involvement and ensure the applicability of innovations to societal needs.

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