RAND EUROPE

RESEARCH BRIEFING

AI ecosystems in the Netherlands and the UK

Life sciences

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1. Purpose and context

This briefing highlights key findings on opportunities for UK–Netherlands collaboration in artificial intelligence (AI) for the life sciences and health technologies, drawing on RAND Europe's assessment for the Foreign, Commonwealth & Development Office (FCDO) of AI ecosystems in both countries. The report was commissioned by FCDO in 2025 to provide an evidence base on the strengths and challenges in both countries' national AI ecosystems, as well as to explore areas for complementary action and synergy in light of the 2025 UK–Netherlands Innovation Partnership.

2. Overview

The UK and the Netherlands are both strong AI ecosystems with complementary strengths. The UK offers scale, global connectivity and research depth, with a tech sector worth around £1 trillion and AI revenues growing by 68% in 2024.[1] Public institutions such as the Department for Science, Innovation and Technology (DSIT), UK Research and Innovation (UKRI) and the Alan Turing Institute anchor the ecosystem, while start-ups can benefit from greater investment depth and a more advanced hyperscale and data centre capacity compared to the Netherlands. The Netherlands has a smaller but highly networked ecosystem supported by strong public-private coordination and strategic importance in AI value chains through semiconductor and enabling technology strengths.

Both countries share similar strategic priorities around innovation-led growth, responsible regulation, compute and data resilience and skills development, while also facing similar constraints in talent and infrastructure. Existing cooperation through Horizon Europe, the G7 and the OECD AI Principles, alongside the 2025 UK–Netherlands Innovation Partnership, mean there is already a coherent foundation for bilateral cooperation between the two countries.

3. Sectoral overview and strategic positioning

This briefing is part of a wider analysis organised around three priority sectors for UK–Netherlands AI ecosystems: (1) **compute for AI**, (2) **life sciences and health technologies** and (3) **agrifood and agritech**. These sectors were selected because they capture different but complementary forms of bilateral opportunity and can demonstrate a strong industrial foundation and policy prioritisation in both countries. Compute functions as a foundational enabler of wider AI capability and resilience; life sciences and health technologies represent an area of shared strategic strength, with strong research, innovation and policy alignment in both countries; and agrifood and agritech represents a domain of complementary advantage, combining Dutch applied leadership with UK strengths in R&D and digital innovation.

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1 Department for Science, Innovation and Technology & UK Research and Innovation (2025). 'UK Compute Roadmap'. Department for Science, Innovation and Technology (2025). 'Artificial Intelligence sector study 2024'.



Compute for AI

Foundational enabler

- Underpins AI capability across sectors
- Combines UK compute scale with Dutch connectivity and sustainability strengths
- Relevant for sovereignty, interoperability, and infrastructure resilience



Life sciences & health technologies

Shared strategic strength

- Strong in both countries across research, innovation, and policy priorities
- Existing collaboration base in medical research and translational health AI
- Offers scope for deeper coordination, joint validation, and clinical adoption



Agrifood & agritech

Complementary strength

- Dutch leadership in applied agrifood innovation
- UK strengths in upstream R&D, sensing and digital tools
- Offers scope to combine different capabilities in joint pilots and testbeds

4. Life sciences and health technologies overview

Life sciences and health technologies are a clear area of shared strategic strength within the UK and Dutch AI ecosystems. The sector is well developed in both countries, supported by strong research and innovation institutions and identified as a national policy priority. Patent and publication analysis shows that medical or veterinary science and hygiene account for the largest share of AI-related patenting in both countries, with around 44,000 documents in the UK and 16,000 in the Netherlands, while medicine is also one of the leading fields of AI-related publication activity.

Across both ecosystems AI is expected to improve diagnostics, support more personalised medicine and increase efficiency in care delivery, while helping relieve pressure on health systems and workforces. An existing foundation of strong technological innovation and research activity supports the implementation of this ambition in both countries

At the same time the two countries differ in strategic orientation. The UK places greater emphasis on global competitiveness, commercial scale and attracting foreign direct investment, while Dutch strategies are more cautious, emphasising responsible innovation within European frameworks.

This creates a strong basis for deeper bilateral cooperation, particularly where shared strengths can be translated into coordination and the validation and adoption of AI-enabled technologies.

Key findings for the life sciences sector



4.1. Policy insights

Both countries treat AI in the life sciences and health as a strategic priority, but with different emphases. The UK focuses more on competitiveness, productivity and NHS transformation, while the Netherlands places greater weight on relieving workforce pressure and operating within European frameworks. Both face similar barriers including fragmented health data, uneven readiness for adoption, and regulatory and clinical-trial processes that slow deployment. Although the UK is outside EU frameworks, broad alignment remains. New EU initiatives, including the European Health Data Space (EHDS) and the EU Pharmaceutical Reform, could create opportunities for continued alignment but may also increase the risk of divergence over time.

Why this matters: Despite different priorities and strategic orientations, the UK and the Netherlands are aligned in seeing AI in life sciences and health as a source of both economic value and as a tool to improve their health systems. Fostering engagement between similar initiatives such as the EHDS and the UK's Health Data Research Service (HDRS) – as well as wider policy and ethics dialogues on data governance and regulatory frameworks – could provide support and momentum for continued alignment between the two countries.



4.2. Industry insights

As the larger and more globally competitive ecosystem, the UK attracted $4.1bn in life sciences VC in 2025 and aims to strengthen its position as a leading destination for life sciences investment. Major UK market actors include Google DeepMind and its connected venture in AI-enabled drug discovery Isomorphic Labs, alongside large pharmaceutical companies such as AstraZeneca and a broader base of AI-focused biotech firms. The Netherlands' ecosystem is smaller, attracting $822m in life sciences VC in 2025 but offering an ecosystem with established health technology innovators, particularly Philips.

Firms face similar commercial risks in both countries including fragmented access to health data, uneven readiness for adoption in care settings, and regulatory and clinical-trial processes that can slow deployment and scale-up. In the UK in particular, fragmentation across NHS trusts and unequal access to resources at trust level remain significant barriers to more consistent adoption.

Why this matters: For AI-enabled life sciences firms the UK is better positioned as a platform for scale and international market development, while the Netherlands can provide more direct access to European clinical, regulatory and market pathways. Because firms face many of the same AI-related barriers in both ecosystems there is also scope for shared learning and cross-border problem solving.

What industry can do now

- **Contribute to discussions on standards, data governance and interoperability.** Early industry engagement can help shape more practical approaches to validation, transparency and cross-border use of health data and AI-enabled tools.
- **Treat the other ecosystem as a complementary market and learning environment.** The UK and the Netherlands differ in scale, commercial orientation and clinical environments. Firms can use engagement in the other country's market not only to access new opportunities but also to learn from a different innovation culture and route to deployment.
- **Use targeted exchanges and secondments to build commercial and clinical links.** Direct exposure to the other country's ecosystem can help firms better understand validation, implementation and scale-up pathways.

What further support can provide

- **Structured industry–research exchange opportunities.** The report highlights the potential value of coordinated exchanges that bring together firms, researchers and clinical actors to identify common barriers and areas for collaboration, though uptake will depend on sustained interest and clear incentives. In particular, a shared capabilities tracker of new AI-enabled technologies in the life sciences and health could help provide insights into new technologies in both countries.
- **Support for cross-border networking and partnership development.** Bilateral matchmaking, workshops and secondment schemes could help firms build links with relevant partners in the other country's ecosystem, particularly in areas such as clinical validation, regulatory navigation and AI adoption in care pathways. Expanding existing policy initiatives such as the Innovator Passport (which enables the adoption of healthcare innovations across NHS trusts) for AI tools can facilitate easier distribution of AI technologies and facilitate easier access for international innovations.
- **Continued dialogue on standards, data governance and interoperability.** Ongoing bilateral engagement in these areas could help reduce practical barriers to deployment and make it easier for firms to operate across both ecosystems.

4.3. Academic and research landscape

Across the wider AI landscape, 5,885 joint UK–Netherlands publications in the sector were identified between 2016 and 2026. Joint activity between leading UK institutions such as University College London, Imperial College and Oxford University with Dutch university medical centres (UMCs) such as UMC Groningen, Erasmus MC and UMC Utrecht stands out. Life sciences and health are also prominent in publishing in each country. Medicine is a leading AI publication field in both ecosystems, with around 29,000 publications in the UK and 13,000 in the Netherlands.

The two systems differ in profile. The UK contributes greater scale, international visibility and a dense concentration of leading universities and biomedical research centres, while the Netherlands offers a more clinically embedded model in which UMCs play a central role in linking research, patient care and training.

Why this matters: Existing collaboration provides a strong foundation on which to build engagement. With strong research capacity and knowledge in both ecosystems there is potential to create value in fostering greater exchange and creating incentives for resource, data and knowledge sharing, as well as trialling research findings across different clinical settings.

What researchers can do now

- **Build on existing UK–Netherlands research links in life sciences and health.** Collaboration already exists between leading UK universities and Dutch UMCs, but room remains to deepen joint work through exchanges or joint bidding for work, especially in the context of Horizon Europe.
- **Use existing networks to identify complementary expertise and test settings in areas such as clinical validation, implementation and translational research.**

What further support can provide:

- **Support for data sharing and interoperability across research and clinical settings.** Further cooperation could be strengthened through mechanisms to improve interoperability and enable more consistent sharing and use of data across UK and Dutch research and healthcare contexts. The UK's Medicines and Healthcare Products Regulatory Agency is already conducting regulatory sandboxes to understand the novel regulatory challenges of implementing AI-enabled solutions in the health sector. Joint sandboxes could provide insights into how different regulatory systems respond to different innovations.
- **Joint training modules on trustworthy and clinically deployable AI.** These could help build shared skills across life sciences and health technologies, particularly at the intersection of technical development, clinical validation and implementation. Existing networks such as the National Innovation Center for Artificial Intelligence (ICAI) in the Netherlands and the UK Catapult Centres provide a strong foundation for this collaboration.

5. Opportunities for bilateral collaboration in the life sciences

The opportunities below are primarily areas where policy and institutional support could strengthen the conditions for collaboration between researchers, firms and clinical actors in both countries. Some, such as exchanges, networking and joint training, are also directly relevant to external stakeholders in the near term. Others, particularly those related to interoperability and data governance, are more likely to depend on coordinated policy action and longer-term institutional alignment.

Table 1. Life sciences and health opportunity matrix

	High impact	Low impact
High feasibility	**Targeted secondments linked to clinical deployment and commercialisation.** Secondments between UK AI firms, research institutes and accelerators and Dutch UMCs or hospital-linked research environments would help connect commercialisation pathways with clinical validation and implementation. **Bilateral 'AI in health' workshops and shared capability trackers**. A bilateral capability tracker could map relevant use cases, institutions and deployment-ready technologies, with workshops organised around these as targeted showcases for collaboration. **Joint training modules**, delivered through the ICAI network in the Netherlands and the UK Catapult Centres, building shared skills and ethical standards for clinical AI deployment.	**Shared policy and ethics dialogues on data governance and regulatory frameworks**. While alignment is limited by the Netherlands' integration into EU systems, maintaining open exchange can contribute to convergence and mutual understanding.
Low feasibility	**Regulatory sandboxes for AI-enabled health technologies.** Linked sandbox activity between UK and Dutch regulators could support testing of AI-enabled diagnostics, medical devices and decision-support tools but would require coordination across different regulatory systems. **Common metadata and annotation standards for priority use cases.** Joint work on standards for areas such as imaging, genomics or clinical trials would improve dataset comparability and support collaborative model development, although progress may still be slowed by legal and institutional barriers. **Expand the Innovator Passport to support AI-enabled technologies and tools.** An expansion could contribute to the diffusion and adoption in clinical healthcare and would be a pathway for Dutch technologies to benefit the UK healthcare system but would need to be subject to strict ethical and transparency conditions. **Structured exchange between HDRS- and EHDS-linked actors.** Exchange on standards, metadata and pilot approaches could improve compatibility between UK and Dutch health-data initiatives but would depend on wider multilateral governance routes.	

This brief describes work done by RAND Europe in *Mapping AI ecosystems in the Netherlands and the United Kingdom* by Shyam Krishna, Lara Marie Otto, Adam Urwick, Scott Warnier, Ishita Puri, Manuel Hernandez Gonzalez, RR-A4654-1, 2026 (available at www.rand.org/t/RRA4654-1). To view this summary online, visit www.rand.org/t/RBA4654-2. RAND Europe is a not-for-profit research organisation that helps to improve policy and decision making through research and analysis. RAND Europe's publications do not necessarily reflect the opinions of its research clients and sponsors.
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