



Scotland's AI Roadmap

Forging the Intelligent Nation: A Blueprint and Action Plan for Scotland as a World Leading AI Nation

Executive Summary

Scotland's AI Roadmap is a call to action—and a plan—for ensuring those choices reflect Scottish values: fairness, transparency, and a commitment to the common good.

It is written for policymakers who must regulate without stifling innovation, for entrepreneurs who see opportunity in ethical AI, for educators preparing the next generation, and for every citizen who wants a say in the algorithms that will shape their lives.

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Scotland's AI Roadmap

Artificial intelligence is no longer a distant prospect confined to research labs or Silicon Valley boardrooms. It is already rewiring healthcare diagnostics in Glasgow, optimising renewable energy grids in the Highlands, and helping Edinburgh's financial firms detect fraud in real time.

Yet the technology's potential is matched only by its complexity. AI can amplify prosperity or widen inequality; it can safeguard the environment or accelerate its degradation; it can empower citizens or erode their privacy. The difference lies in the choices we make now.

Scotland's AI Roadmap is a call to action—and a plan—for ensuring those choices reflect Scottish values: fairness, transparency, and a commitment to the common good.

It is written for policymakers who must regulate without stifling innovation, for entrepreneurs who see opportunity in ethical AI, for educators preparing the next generation, and for every citizen who wants a say in the algorithms that will shape their lives.

Over the following chapters, we will chart a course across five interconnected domains:

1. **Talent and Skills** – Building a world-class AI workforce through education, retraining, and global recruitment.
2. **Research and Innovation** – Strengthening Scotland's universities and start-ups as engines of breakthrough AI.
3. **Infrastructure and Data** – Creating secure, sovereign data trusts and compute resources that fuel progress.
4. **Adoption and Economic Impact** – Accelerating AI deployment in key sectors while protecting jobs and fostering new ones.
5. **Ethics, Governance, and Trust** – Embedding responsibility at the heart of every AI system we design or deploy.

This roadmap is pragmatic but unapologetically ambitious. It recognises that Scotland cannot—and should not—compete on scale alone. Instead, we will compete on speed of learning, depth of collaboration, and the quality of our moral compass. By aligning government, industry, academia, and civil society around a shared vision, we can create an AI ecosystem that is not just innovative, but unmistakably Scottish.

Public Sector Transformation

Artificial intelligence holds immense potential to revolutionize Scotland's public sector, enabling more efficient, responsive, and citizen-focused services.

By harnessing predictive analytics, automation, and intelligent data processing, AI can streamline administrative processes, reduce repetitive workloads, and free public servants to concentrate on complex, human-centred tasks that require empathy, creativity, and nuanced judgement.

Digital Strategy for Scotland

This transformation aligns closely with the refreshed Digital Strategy for Scotland: Sustainable Digital Public Services - Delivery Plan 2025-2028, which emphasises the ethical deployment of AI to deliver efficiencies, predict demand, streamline operations, and target interventions more effectively.

The Scottish Government is already piloting AI applications across areas such as health (for example, supporting early cancer diagnosis), local government (sensor-based detection of issues like damp in social housing), and administrative functions, with growing entries on the publicly accessible Scottish AI Register demonstrating increasing adoption and transparency in public sector AI use.

AI for Social Good

Beyond operational improvements, AI can drive broader societal benefits through an "AI for Social Good" approach that ethically empowers vulnerable populations and reduces inequalities.

By prioritising fairness, inclusion, and human oversight, AI can enhance equitable access to essential services in healthcare, education, and crisis support. In healthcare, predictive tools can identify at-risk individuals earlier, enabling preventative care and more personalised interventions that address disparities in outcomes. In education, AI-driven adaptive learning platforms can support tailored resources for pupils in remote

or disadvantaged areas, helping to close attainment gaps. During crises—whether environmental, health-related, or economic—AI can improve resource allocation, early warning systems, and targeted assistance to ensure vulnerable communities receive timely and proportionate support.

These applications build on Scotland's longstanding commitment to trustworthy, ethical, and inclusive AI, as outlined in the 2021 AI Strategy and reinforced through ongoing developments such as the forthcoming ethical framework for AI (targeted for 2026) and the cross-public sector collaboration via the Scottish Public Sector AI Taskforce.

Ethical AI Adoption

To realise this potential responsibly, the roadmap commits to accelerating ethical AI adoption in the public sector during the foundation-building phase (2026–2028). This includes expanding pilots in high-impact areas, mandating inclusion of all public sector AI systems on the Scottish AI Register, conducting annual ethics audits, and developing a national AI assurance framework.

By embedding human-in-the-loop oversight, robust privacy protections, and bias mitigation measures, Scotland can ensure that AI serves the public good without exacerbating existing inequalities. The approach will draw on the "Once for Scotland" principle, fostering unified policies and knowledge-sharing across government, local authorities, health boards, and other public bodies.

Ultimately, public sector transformation through AI is about more than efficiency—it is about rebuilding trust in institutions, delivering fairer outcomes, and creating a more resilient and inclusive society. By leading with ethical innovation and transparency, Scotland can set a global benchmark for how AI can genuinely enhance public services and support those who need it most, ensuring that technological progress advances social justice rather than widening divides.

This commitment will be a cornerstone of Scotland's journey to becoming the world's most trusted intelligent nation.

Empowering Business Innovation and Growing Startups

Artificial intelligence represents one of the most powerful levers for boosting Scotland's economy, equipping businesses of all sizes with transformative growth capabilities and fuelling the emergence of a new generation of high-potential startup ventures.

By integrating AI into operations, products, and services, Scottish companies can achieve dramatic improvements in productivity, efficiency, innovation speed, and market competitiveness.

Economic Growth

Research commissioned by Scottish Enterprise indicates that widespread AI adoption could increase Scotland's GDP by between £2.74 billion and £19.33 billion by 2035 compared to a no-AI scenario, with other estimates suggesting a potential uplift of up to £16.7 billion (or around 8.4% of GDP) by 2030 through enhanced data and AI capabilities.

This economic potential stems from AI's ability to automate routine tasks, unlock insights from vast datasets, personalise customer experiences, optimise supply chains, and enable entirely new business models across sectors such as fintech, life sciences, manufacturing, creative industries, and energy transition.

Venture Leaders

Scotland's vibrant startup ecosystem is already demonstrating significant momentum in AI, with Edinburgh and Glasgow emerging as key hubs for innovative ventures.

Recent highlights include AI legaltech companies like Wordsmith AI, which secured a substantial \$25 million Series A funding round, and other promising players in generative AI optimisation, conversational AI, and specialised applications such as video game LiveOps or maritime recovery technologies.

Lists of top startups to watch in 2025 and 2026 feature numerous AI-focused firms, underscoring Scotland's growing strength in attracting investment, talent, and global attention.

These successes build on the nation's academic excellence and collaborative environment, positioning Scotland to cultivate a cohort of startups with genuine 'unicorn' potential—high-growth companies capable of reaching billion-dollar valuations and scaling internationally.

Accelerating Momentum

To accelerate this momentum, the roadmap prioritises targeted support for startups and business innovation, particularly through the AI Scotland transformation programme.

Launched in 2025 with nearly £1 million in initial Scottish Government funding, this national initiative—delivered in partnership by Scottish Enterprise, Highlands and Islands Enterprise, South of Scotland Enterprise, The Data Lab, and the Scottish AI Alliance—provides SMEs and emerging ventures with tailored consultancy, grants, mentoring, and practical guidance to adopt or expand AI use.

The programme enables businesses to develop new AI-powered products and services, grow market share, and attract further investment, while workshops and ecosystem mapping efforts foster responsible, ethical adoption.

AI Scotland Phase 2

Building on this foundation, the roadmap proposes scaling support in the foundation-building phase (2026–2028) via "AI Scotland Phase 2," including dedicated innovation challenges, sector-specific accelerators, and expanded grant funding to help early-stage AI startups move from concept to commercial traction.

In the acceleration phase (2029–2032), Scotland will establish specialised AI clusters—such as fintech AI in Edinburgh and medtech AI in Dundee and Aberdeen—to concentrate resources, talent, and investment in high-growth areas. The proposed £200 million "Intelligent Nation Fund" (public-private partnership) will provide critical scale-up

capital for promising AI ventures, alongside incentives to attract inward investment and international partnerships.

University IP

By nurturing deep links between universities, research institutions, and industry, Scotland can ensure a steady pipeline of talent and intellectual property flows into commercial ventures, while ethical governance frameworks—such as the national AI assurance and "Trustworthy Scottish AI" certification—build investor and customer confidence.

Enabling startups and business innovation through AI is central to Scotland's ambition of becoming a world-leading intelligent nation. By empowering existing businesses to harness AI for growth and by catalysing a new wave of ambitious, ethical AI startups, Scotland can create high-value jobs, drive export-led expansion, and generate sustained prosperity.

This section of the roadmap commits to a supportive, inclusive environment where innovative ideas can flourish responsibly, ensuring that Scotland not only captures the economic benefits of AI but also produces globally competitive companies that reflect the nation's values of fairness and forward-thinking innovation.

Through collective action across government, agencies, academia, and the private sector, Scotland can transform its entrepreneurial landscape and position itself as a launchpad for the next generation of AI-powered global success stories.

Talent and Skills - Building a World-Class AI Workforce

Scotland's AI ambitions rest on one irreplaceable asset: people. Machines may learn, but humans decide what is worth learning, how it is applied, and who benefits.

To lead in artificial intelligence, Scotland must produce, attract, and retain a diverse pipeline of talent that is technically superb, ethically grounded, and deeply connected to the industries it serves.

This chapter outlines a three-pronged strategy—educate, retrain, recruit—designed to deliver 50,000 AI-literate workers by 2035, from school-leavers to senior executives, while ensuring no community is left behind.

From Classroom to Codebase: AI in Education

Every Scottish child should encounter AI not as a black box, but as a tool they can shape. By 2030, computational thinking and data literacy will be embedded across the Curriculum for Excellence, with mandatory modules introduced at three stages:

- **Primary 5–7: “AI Explorers”** – playful introductions using block-based coding, simple machine-learning kits (e.g., training a model to sort Highland wildlife photos), and discussions on fairness in algorithms.
- **S1–S3: “Data Citizens”** – probability, bias detection, and ethical case studies (e.g., why facial recognition fails certain skin tones). Pupils design micro-AI projects addressing local issues, such as optimising school bus routes.
- **Senior Phase:** Specialisations in AI & Mathematics, AI & Creative Industries, or AI & Climate Solutions. New National Progression Awards in Applied AI, co-certified by industry, guarantee workplace readiness.

Universities will expand capacity through a Scottish AI Scholarship Fund, targeting 2,000 fully funded MSc places annually by 2028, with 40 % reserved for women, 15 % for students from SIMD20 postcodes, and 10 % for career-changers over 35.

Fast-track PhD programmes, co-supervised by industry, will focus on priority areas: trustworthy AI, low-carbon computing, and Gaelic-language natural-language processing.

Lifelong Learning: The National AI Reskilling Platform

Technological change will not wait for graduation cycles. A National AI Reskilling Platform, delivered via a public-private partnership, will offer modular, stackable credentials recognised by employers. Key features:

Component	Description	Target Audience	Delivery Mode
AI Micro-Credentials	6–12 week online courses (e.g., “MLOps for SMEs”, “Prompt Engineering for Public Services”)	Professionals, SMEs	Flexible, asynchronous
Apprentice+ Programme	Paid 18-month placements blending 30 % classroom, 70 % on-the-job training	School-leavers, career switchers	Cohort-based, regional hubs
Executive AI Leadership	5-day intensives on governance, risk, and ROI of AI	C-suite, public-sector directors	In-person, peer learning

Funding will blend Scottish Government investment, a 0.1 % AI Skills Levy on firms with >250 employees, and matched EU Just Transition funds.

By 2035, 25,000 workers will transition into AI-enabled roles, with sectoral pathways for oil & gas engineers (into energy systems modelling), fisheries scientists (into sustainable aquaculture AI), and NHS staff (into clinical decision support).

Global Talent Pipeline: “Come Code for Scotland”

Scotland’s population is 5.5 million; the global AI talent pool is not. A Come Code for Scotland visa will grant two-year renewable work rights to AI specialists earning above the 75th percentile for their role, with a fast-track citizenship route after four years for those who mentor locally or launch start-ups. Complementary measures:

- **Reverse Brain-Drain Grants:** £25,000 relocation packages for Scottish diaspora returning with ≥3 years’ AI experience.
- **International AI Summer Schools:** Hosted in Orkney (edge computing), Dundee (life sciences AI), and Glasgow (creative AI), attracting 1,000 global students annually, 20 % of whom stay via graduate entrepreneur visas.
- **Ethical Talent Compact:** Signatory employers pledge living wages, transparent algorithms, and profit-sharing for AI-driven productivity gains—making Scotland the destination for talent that wants impact and integrity.

Measuring Success: The AI Skills Dashboard

Progress will be tracked via an open AI Skills Dashboard, updated quarterly, showing:

- AI-related enrolments by level and demographic
- Regional job postings requiring AI skills vs local supply
- Wage premia for AI-certified workers
- Diversity metrics (gender, ethnicity, disability, rural/urban)

Targets are ambitious but achievable:

- 2027: 10,000 school pupils completing AI projects; 5,000 adults reskilled.
- 2030: Gender parity in AI undergraduate intake; 50 % of public-sector tenders requiring AI literacy.
- 2035: Scotland ranked in global top 10 for AI talent concentration per capita (currently ~25th).

Risks and Safeguards

Automation will displace routine tasks—projections suggest 12 % of current jobs face high exposure. Mitigation includes a Just AI Transition Fund to support affected workers with income bridges, debt relief, and priority access to reskilling. Unions will co-design curricula to ensure human-centred automation.

Equally, we must prevent a two-tier system where elite AI roles cluster in Edinburgh and Glasgow. Regional AI Hubs in Aberdeen, Inverness, and the Borders will host satellite campuses, shared compute clusters, and incubator space, with transport subsidies for apprentices.

Call to Action

Talent is not a commodity; it is a community. Universities must open their labs to local SMEs. Tech giants must fund scholarships, not just poach graduates. Every employer must treat reskilling as core business, not a perk. And every citizen must see AI as a craft they can master, not a mystery to fear.

By investing in people first, Scotland will not merely participate in the AI revolution—it will author its most human chapter.