Artificial Intelligence Capability Census:

A Baseline Study of AI Adoption, Opportunity and Impact in Northern Ireland (2025)

Commissioned by the Artificial Intelligence Collaboration Centre (AICC)

Contents

Disclaimer: This report has been prepared using desk-based research and publicly available data sources. All interpretations and analysis are subject to the limitations of available data. Perspective Economics accepts no liability for any errors, omissions, or decisions made based on this report.

Foreword

The Artificial Intelligence Collaboration Centre (AICC) was established with a clear mission: to accelerate responsible and ethical AI adoption across Northern Ireland's industrial landscape, positioning our region as a global leader in intelligent industry.

This baseline study represents a pivotal moment in understanding where we stand and charting our course forward. The Programme for Government's recognition of the AICC underscores the Executive's commitment to positioning Northern Ireland at the forefront of AI innovation and productivity growth, aligning with the UK AI Opportunities Action Plan's transformative vision.

The findings reveal substantial foundations: nearly 200 companies actively engaged in AI development and deployment, employing over 1,300 specialists. This critical mass reinforces our conviction that Northern Ireland can accelerate its AI ambitions.

In commissioning Perspective Economics, we sought to demonstrate the transformation we promote. This study itself utilises cutting-edge AI methodologies, from data collection through to synthesis, showcasing AI's practical applications in professional services whilst producing robust findings.

Beyond measuring adoption rates, this research provides the first detailed mapping of Northern Ireland's AI ecosystem. It catalogues our indigenous capabilities whilst examining our talent pipeline, identifying strengths and gaps critical for attracting foreign direct investment. International investors require assurance they can access the AI-skilled professionals necessary to drive their businesses forward.

Our traditional strengths in manufacturing, agriculture, financial services, and creative industries provide solid foundations. However, global competitiveness increasingly depends on harnessing intelligent technologies. This study identifies where the greatest opportunities for transformative impact lie.

Crucially, our strengths emerge not in competing with global AI research centres, but in becoming the destination of choice for research translation and practical AI implementation at scale. The study reveals particular excellence in deployment and integration, with firms demonstrating sophisticated capabilities in translating AI potential into business value.

The timing is significant. As regions position themselves to capitalise on AI's transformative potential, those who act decisively will secure lasting competitive advantages. The pathway to

doubling our AI economy's contribution to £200 million GVA by 2028 is both ambitious and achievable.

Whilst Belfast emerges as our AI hub, democratising AI access across all of Northern Ireland remains central to our mission. The AICC's presence in both Belfast and Derry~Londonderry ensures businesses region-wide, from Fermanagh's agritech innovators to Mid Ulster's manufacturers, can access the tools, skills, and support needed to thrive.

Our goal extends beyond keeping pace with global developments. We aim to establish Northern Ireland as a recognised centre of excellence for intelligent industry, attractive to investors and entrepreneurs who see our region as the ideal location for AI-driven innovation.

I commend Perspective Economics for their innovative approach and look forward to working with stakeholders across government, industry, and academia to translate these insights into action.

Understanding where we are marks the beginning of our journey toward becoming an AI-enabled economy and this study provides that essential foundation.

David Crozier CBE
Director, Artificial Intelligence Collaboration Centre

Executive Summary

Perspective Economics was commissioned by the Artificial Intelligence Collaboration Centre (AICC) in April 2025 to establish a comprehensive baseline of Northern Ireland's AI ecosystem. This analysis provides the first regional assessment of AI activity across Northern Ireland, identifying firms actively developing, implementing, or adopting AI technologies. The research provides an assessment of the number and type of businesses engaged with AI across Northern Ireland, the ecosystem's current economic contribution (revenue, GVA, and employment), the geographic distribution and concentration of AI activity, the products, services, and sectors served by AI firms, and investment levels and growth trajectories

The research employs a mixed-methods approach, analysing all 94,000+ businesses registered in Northern Ireland through Companies House data, web analysis, AI classification, and stakeholder engagement. This baseline provides a comprehensive snapshot of Northern Ireland's AI ecosystem, deliberately broad in scope to capture the full range of AI activity across the region. This process established a list of 198 firms actively engaged in AI development or deployment, as set out in the methodology.

Key findings:

Number of companies

We identify **198 firms** currently active in Northern Ireland's AI ecosystem, comprising:

- 46 pure-play AI firms (23%) – focused exclusively on AI products and services
- 63 diversified AI firms (32%) – offering AI alongside broader technology services
- 89 AI-enabled firms (45%) – using AI to enhance existing operations

122 firms (62%) are indigenous to Northern Ireland, with 76 (38%) being international (FDI) operations, demonstrating both local growth and global reach.

AI-related employment

We estimate approximately 1,340 Full Time Equivalents (FTEs) working in AI-related roles across these firms:

- 201 FTEs (15%) in pure-play AI firms
- 648 FTEs (48%) in diversified AI teams within larger consultancies and IT firms
- 491 FTEs (37%) in AI-enabled firms driving internal transformation

Employment shows some concentration, with the top ten firms accounting for 541 FTEs (40%). We find 36 firms employ 10+ AI professionals ('anchor employers'), while 92 firms employ 0-2 ('early-stage'), with opportunity to grow the 'mid-market' of scaling firms building AI teams in Northern Ireland.

Economic contribution and growth potential

We estimated NI AI-related revenue reached £188 million (2024) and AI-related Gross Value Added reached £82 million (2024). **Given current momentum and AICC's planned interventions, we set out a range of scenarios for AI growth in Northern Ireland to 2028. The mid-scenario suggests that AI-related GVA could reach £200 million by 2028, employing over 2,000 AI professionals.**

Geographic distribution

Belfast is home to an estimated 73% of firms and 89% of AI employment. Derry/Londonderry hosts only 4%, while other council areas show limited activity, but could be enhanced where sectoral strengths in manufacturing and agritech are built upon with AI technologies.

Sectoral strengths and capabilities

The ecosystem demonstrates clear deployment and implementation strengths in:

- Services & Consulting (35% of firms): Major presence from Big Four firms and indigenous successful firms such as Kainos (securing £61m in public AI contracts)
- Software Development (33% of firms): A strong base for embedding AI into enterprise solutions, including Analytics Engines and Version 1
- Health & Life Sciences (9% of firms) including innovative firms such as Sonrai Analytics, Axial3D, and B-Secur developing AI-powered diagnostics
- Financial Services (6% of firms), and growing RegTech capabilities through firms such as Napier AI and FinTrU

Products and services

This analysis reveals Northern Ireland's focus on practical AI application:

- Just over half of companies (101, 51%) identified are primarily using AI to develop or enhance products, and 33% of firms identified provide AI implementation and advisory services
- Strong capabilities in conversational AI, data intelligence, and sector-specific solutions

- 63% of local firms working in the AI ecosystem report formal partnerships with universities or cloud providers

Key opportunities and recommendations:

Our analysis identifies four key areas where targeted intervention backed by AICC could help to accelerate ecosystem development and growth, including regional expansion, scaling the 'mid-market', deepening sectoral engagement to maximise use of AI, and expanding procurement opportunities.

We also set out eight recommendations for AICC and partners:

1. **Champion deployment led growth:**
   - Northern Ireland should position itself as an applied implementation leader in AI, focusing resources on practical AI adoption and use case development.
   - Build Northern Ireland's reputation as the place where AI solutions are successfully implemented at scale across private and public sectors.

2. Strengthen public sector AI leadership:

- Align with Ulster University's Strategic Overview for the Adoption of AI in Northern Ireland to accelerate public sector transformation alongside partners such as the Office for AI and Digital and support the NI Executive's current AI work to develop a comprehensive NI AI Strategy.

3. Supporting regional balance whilst growing the whole NI ecosystem:

- Further development and increased visibility of shared infrastructure (like ARTI and the NI-HPC) accessible to firms across all Northern Ireland and ensuring accessible programmes and roadshows across NI.

4. Facilitate strategic partnerships to complement, not replace:

- Act as a 'super-connector' and enabler rather than duplicating existing initiatives, through mapping existing accelerators, funding programmes, and support mechanisms that can be aligned to AI growth, and ensuring Northern Ireland is positioned, with right talent and resources, to bid and access for national funding initiatives where possible (e.g. AI Growth Zones, Shared Island).

5. Develop high-value talent pipelines recognising the need for quality as well as quantity in AI skills development:

- Undertake a tiered approach to understand levels of AI talent in Northern Ireland from advanced to introductory levels.
- Create clear progression pathways from foundation to expert level, with potential for accreditation or micro-credentials to demonstrate value, working alongside UK and Ireland skills partners.

6. Undertake an AI skills deep dive, moving beyond headcount to understand capability:

- Map skills and experience levels within the estimated 1,340 AI workforce alongside industry, including understanding of experience, credentials, and roles, and assess NI readiness for emerging AI governance, regulatory requirements, and technical progress.

7. Further examine levels of AI adoption across the NI economy:

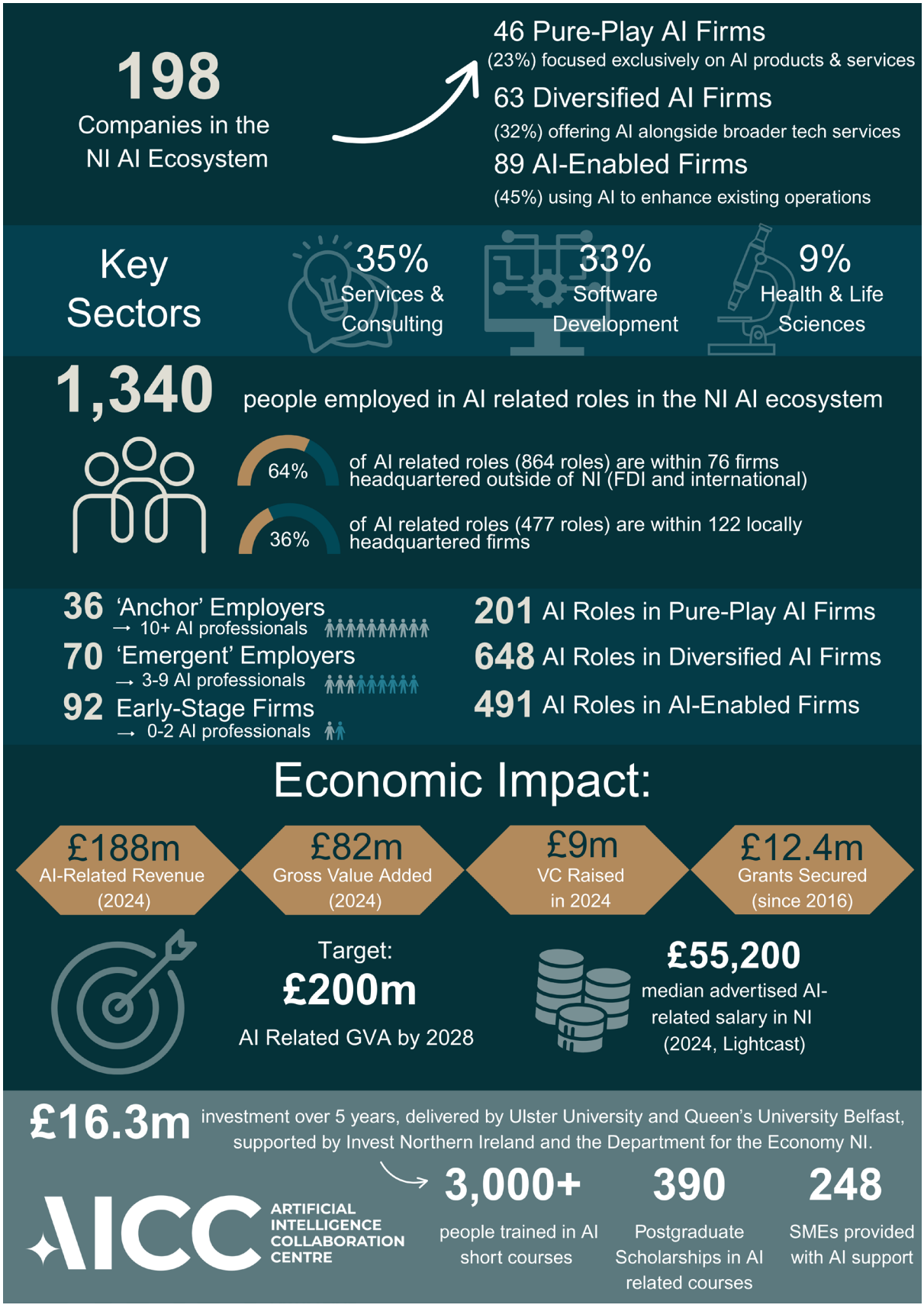
- Explore levels of AI adoption across the NI economy with survey or web data, potentially exploring increased NI sample sizes in UK wide adoption surveys.
- Run NI specific adoption research across all sectors and identify specific barriers to AI adoption for local businesses.
- Deep analysis of high potential sectors for NI and levels of AI adoption by agreed sectors.
- Identity the economic impact from AI adoption across the NI economy.

8. Create an Open Ecosystem Dashboard:

- Enable real-time monitoring of progress of the AI ecosystem in NI, and AICC's contributions, through hosting an online dashboard with leading indicators for the NI AI ecosystem (e.g. firms in scope, new job postings, partnerships or case studies).
- Publish quarterly updates to maintain momentum and host an active site for firms to share products and services offered to the market.

With strong foundations in AI implementation for software development, professional services, and sectoral expertise, the path to £200m GVA by 2028 is achievable through collaboration. Success requires positioning Northern Ireland not as an AI research hub, but as the place where research is translated into AI solutions which are successfully implemented at scale.

Key Numbers


198
Companies in the NI AI Ecosystem
46 Pure-Play AI Firms
(23%) focused exclusively on AI products & services
63 Diversified AI Firms
(32%) offering AI alongside broader tech services
89 AI-Enabled Firms
(45%) using AI to enhance existing operations
Key Sectors
35%
Services & Consulting
33%
Software Development
9%
Health & Life Sciences
1,340
people employed in AI related roles in the NI AI ecosystem
64%
of AI related roles (864 roles) are within 76 firms headquartered outside of NI (FDI and international)
36%
of AI related roles (477 roles) are within 122 locally headquartered firms
36 'Anchor' Employers
→ 10+ AI professionals
70 'Emergent' Employers
→ 3-9 AI professionals
92 Early-Stage Firms
→ 0-2 AI professionals
201 AI Roles in Pure-Play AI Firms
648 AI Roles in Diversified AI Firms
491 AI Roles in AI-Enabled Firms
Economic Impact:
£188m
AI-Related Revenue (2024)
£82m
Gross Value Added (2024)
£9m
VC Raised in 2024
£12.4m
Grants Secured (since 2016)
Target:
£200m
AI Related GVA by 2028
£55,200
median advertised AI-related salary in NI (2024, Lightcast)
£16.3m
investment over 5 years, delivered by Ulster University and Queen's University Belfast, supported by Invest Northern Ireland and the Department for the Economy NI.
AICC
ARTIFICIAL INTELLIGENCE COLLABORATION CENTRE
3,000+
people trained in AI short courses
390
Postgraduate Scholarships in AI related courses
248
SMEs provided with AI support

1. Introduction

The Artificial Intelligence Collaboration Centre (AICC) is the most concentrated investment in AI skills capacity and SME capability in the UK, with an investment of £16.3m over five years. AICC will work with businesses across all levels of AI skills and capability across the Northern Ireland economy. As such, this market and adoption baseline has been developed to inform how it can best understand and support the entire AI ecosystem, including enabling growth opportunities among existing AI leaders and encouraging businesses and individuals of all sizes and sectors to become involved in AI opportunities.

The AICC has commissioned Perspective Economics, a leading economic advisory firm that focuses on the economic contribution and impact of emerging and high-growth technology sectors, to develop this AI Ecosystem Baseline Analysis. Perspective Economics and the AICC have collectively developed national studies exploring the UK's AI sector through annual DSIT AI Sectoral Analysis research. This study aims to focus on the Northern Ireland ecosystem with greater detail, exploring all forms of AI rollout and adoption across the region's economy. Some key areas in focus include:

- How is AI being deployed currently among NI businesses and to what extent?
- How many businesses, employees and students are actively engaging with AI technologies, and to what extent?
- How can AI activity in Northern Ireland be segmented with regard to maturity, deployment, and economic contribution? Where are the structural opportunities or barriers for increasing AI adoption in Northern Ireland?
- How can this inform an AICC baseline, operational activity, and potential growth targets over the next four years?
- What might the economic opportunity for Northern Ireland look like and how can the AICC support this economic growth?
- What might distributional, equity and sectoral considerations include?
- How does the Northern Ireland AI ecosystem compare to its counterparts? Where are the unique opportunities for the region with regards to businesses, labour market, research and innovation, infrastructure and compute, and skills development?

This report provides a quantitative baseline for the AI ecosystem in Northern Ireland (as of July 2025) from which the AICC and partners, such as Invest Northern Ireland and the Department for the Economy, can measure and track progress in the coming years.

2. Methodology

This research uses a mixed methods approach, combining desk-based review, qualitative and quantitative research and analysis. The study recognises that artificial intelligence is a fast-moving domain, subject to emerging and evolving technologies, contested industry and academic interpretation, and varying levels of maturity and embeddedness. However, it is crucial for this study to develop a shared baseline regarding the overall state of AI as understood and deployed across the NI economy. In order to undertake this research, the team has utilised a multi-stage methodology. This research has been undertaken between April – July 2025.

1. Desk review and definitional update:

The research team (Perspective Economics with advisory support from the AICC) have led previous national AI studies on behalf of the Department for Science, Innovation and Technology (DSIT). As such, there is a well-established taxonomy (see Figure 2 in the Definition and Taxonomy section) of AI products, services, and terms utilised to help identify and segment relevant providers. The most recent analysis (2024) follows a flow logic, whereby UK companies are considered by the extent to which their business model focuses on, and commercialises the use of AI technologies, followed by the products and services and capabilities offered to market.

This taxonomy enables the research team to identity and segment relevant firms operating within the NI AI ecosystem. However, for this study, given the role of the AICC in enabling all firms to embed AI in the operational processes, the research team has applied a definitional update to take an economy wide approach to identify any firm active in AI product or service development or enriching an existing offering with AI technologies. This means that this NI AI ecosystem baseline takes a deliberately broader view than the DSIT AI Sectoral Analysis report to identity firms that the AICC can feasibly support, track, and grow over time.

As such, we broaden the definition to include a greater focus on adoption of AI technologies, covering three types of firms in the Northern Ireland economy:

- **Pure-play AI firms:** Firms primarily focused on AI-related products, services, and implementation e.g. developing models, AI safety, and direct AI implementation.
- **Diversified AI firms:** Firms using or developing AI (market facing), that also offer wider products or services e.g. consultancies and software development firms.

- **AI-enhanced adoption:** Firms across all sectors using AI to enhance or improve existing processes or solutions.

Please note that Artificial Intelligence activity in the UK is not defined by a formal Standard Industrial Classification (SIC) code[1]. This study therefore uses experimental methods to identify and quantify AI activity across traditional economic sectors. This is subject to interpretation; however, we set out the full methodology and definitions used for this research.

2. Review of company data:

In order to widen the scope of this study to capture any firm operating in Northern Ireland that could match the AI related criteria, the research team developed a longlist of all businesses operating within Northern Ireland. The most recent Inter Departmental Business Register (IDBR) statistics published by NISRA (2025) highlight there are an estimated 81,135 PAYE / VAT registered businesses operating in Northern Ireland, employing a combined 813,270 individuals.

The research team developed a full dataset including all relevant Companies House open data (identifying over 94,000 active businesses registered in Northern Ireland), and use of BvD FAME to identify over 6,000 other businesses with a presence in Northern Ireland but registered elsewhere (e.g. large consultancies registered in London with a Belfast office). All companies were enriched with known and estimated values from company accounts (where known), company websites (where held by the research team) and an initial review was undertaken to refine with respect to potential relevancy to this study.

Further, the research team also developed a list of firms through wider review including:

- **UK wide AI sectoral dataset:** Through its work with DSIT and partners, Perspective Economics currently tracks over 5,800 active UK companies involved in AI product and service development. The research team has reviewed this dataset to identity 75 companies active in Northern Ireland (with regional AI related employment). These companies include both dedicated AI start-ups, and some of Northern Ireland's largest IT, software, and consultancy firms with AI related headcount.
- **Review of wider sources:** The research team has reviewed an extensive range of additional data sources, including platforms such as Beauhurst (investment tracking database), Tussell (public procurement database), Lightcast (a labour market platform

[1] SIC codes are the current system of classifying business establishments and other statistical units by type of economic activity in which they are engaged.

including labour supply and demand data), FDI Markets (an FDI tracking database) to identify wider signals regarding firms operating in Northern Ireland with an AI related presence. This enables the team to consider firms within a long-list, and review for final inclusion in the full set of relevant firms for this study.

- **Review of web data:** The research team has also developed an AI-driven approach to match, enrich, and review all active firms in Northern Ireland with relevant web data. This approach has enabled the team to review thousands of firms and consider which firms (particularly at an early or stealth stage, or larger firms starting to embed AI transformation in their operations e.g. recruiting for AI Data Scientists) should be included within this baseline study.
- **AICC engagement:** The research team has also reviewed the AICC's engagement with industry and projects to inform this baseline exercise. All firms in scope have been reviewed with the AICC team to ensure best coverage of relevant firms.

3. Enrichment and final review:

The research team developed a bespoke dataset for this project. This includes enrichment with additional web data for high quality company descriptions, including products and services offered, in addition to how the firm appears to be engaging with AI solutions and the extent based on their offering and activity. The dataset also includes firm-wide and NI-level estimates for revenue, employment and Gross Value Added, and AI apportionment (whether the firm appears to be a dedicated pure-play AI firm or diversified or adoptive). Further, additional data on signals such as partnerships, customers, case studies, external investment, use of grants and R&D expenditure has also been collected (where available) for use within this analysis.

This data has also been used to validate the final set of firms included in this ecosystem review (n = 198 firms). The subsequent section (Definition and Taxonomy) sets out the thresholds for inclusion within this study.

4. Metrics:

This study develops a unique list of companies actively involved in the NI AI ecosystem. The research team has enriched this company set with over one hundred datapoints for each firm, including:

- **Companies House data:** Registered Name, Address, Estimated Size, Accounts (where available), Ownership and Directors, Incorporation Date.

- **Estimated size and scale:** Company (and NI level / AI related) estimates or known values for revenue, Gross Value Added, and employment.
- **What companies provide:** Overall and AI related company descriptions, classification by extent of AI offering, technologies, sectors, products and services offered, example customers, partnerships, and case studies.
- **Location(s):** Company headquarters, registered address, Northern Ireland related location(s) and trading, export signals.
- **AI related estimates (NI):** NI based AI related employment activity using web and firm-level data, and firm engagement.
- **Signals:** Recruitment (online vacancies and postings), workforce level data (Lightcast), and news articles and blogs related to AI and data science development.
- **Investment, grants, and R&D activity:** Levels of external investment (equity and VC investments) in NI AI companies, grants and funding awarded to firms by public funding e.g. Innovate UK, and levels of private research and development expenditure and activity.

Where relevant, the research team has classified text-based data into a structured format, as agreed with the AICC, to help classify and understand how firms are using AI and going to market.

5. Analysis:

This report sets out an analysis of the 198 firms identified as relevant and active in the NI AI ecosystem. The research team has applied economic estimates to the firms and employment identified to develop an economic and operational baseline for the AICC. All underlying data and analysis have been shared with the team to track growth and progress. Perspective Economics shall support AICC to update and track this progress over time.

Study interpretation and limitations:

This analysis employs experimental data methodologies, including use of web data analysis, combined with traditional sources such as Companies House filings and published accounts.

Web analysis can provide real-time insights into firms' AI activities, capturing information such as technical capabilities, partnerships, and projects relating to AI. The research team has used state-of-the-art large language models (including Claude 4 Sonnet API and local model Mistral Small 3.2), and to assist in processing unstructured text data at scale, identifying and classifying relevant signals across company websites, job postings, and wider web data.

However, we recognise that some firms may have more limited digital footprints, or less web data may be available where firms prohibit use of web crawling approaches. Further, some firms may provide higher detail or text regarding their AI related activities, and external validation may be necessary to confirm or assess the ‘true extent’ of this provision.

Company categorisation also requires judgment in interpreting business models, AI maturity, and technology applications, based on the data available. While standardised frameworks were applied using agreed LLMs, subjectivity may still apply in boundary cases or where firms provide limited detail regarding operations.

The research team has undertaken human review of the web data and classification models to verify and validate the findings and augmented the classification models accordingly. This provides a highly accurate assessment of visible firm-level data regarding AI provision but should be treated as experimental and indicative.

3. Definition and Taxonomy

Background and wider definitions

The annual DSIT AI Sectoral Analysis research focuses on UK registered firms that provide AI products or services to market and demonstrate evidence of AI-related employment (e.g. employment of data scientists). The purpose of this study is to identity relevant companies and undertake market research on the growth and potential of the sector at a national level.

This study has highlighted significant UK level growth since its 2022 baseline, as summarised below. In the most recent year (2024), Perspective Economics internally estimates there are 5,862 firms in scope, employing an estimated 86,139 individuals in AI related roles, with a combined direct economic contribution of £23.9bn in revenue and £11.8bn in GVA.

Figure 1. Summary of UK AI sectoral growth (2022-24)

Value	2022	2023	2024	2023-2024 (YoY Change)
Number of AI Firms	3,170	3,713	5,862	+ 58%
AI Related Revenue	£10.6bn	£14.2bn	£23.9bn	+ 68%
AI Related GVA	£3.7bn	£5.8bn	£11.8bn	+103%
AI Related Employment	50,040	64,539	86,139	+33%

Source: Perspective Economics, AICC *(Please note the 2024 analysis is unpublished at time of writing. It is expected to be published in Q3 2025 but may be liable to change. These figures are therefore Perspective Economics estimates only).*

This study also highlights the three key compounding growth factors shaping the UK's AI ecosystem, relevant to this study.

Firstly, the growth in the number of firms purporting to be involved in the AI ecosystem appears to be rapidly accelerating. Between 2023 and 2024, we estimate there has been a 58% increase in the number of firms in the UK AI sector, driven by a combination of new AI startups, but also where firms are potentially 'rebranding' and pivoting as AI companies, or are embedding AI into their existing business models.

Secondly, the growth in estimated AI related revenue and GVA has also been significant, growing by 68% and 103% respectively from 2023 to 2024. This suggests that, particularly among large, diversified firms, AI is increasingly being utilised to generate both new revenue streams (e.g. through AI transformation and implementation projects) and increase or improve

existing streams such as in software development and using AI to enhance existing solutions. This is clearly having an impact on productivity, as GVA is a measure of firm level profitability and staff remuneration.

Finally, there has been increased demand for AI talent within these firms, as reflected by a 33% increase in AI related employment in the last year to over 86,100 individuals[2]. Some of this increase may be driven by existing roles taking on AI related responsibilities within organisations, with other new roles being created to facilitate demand. However, this may be a nuanced area for consideration. The rate of growth within AI related employment, whilst high, is more limited than the growth in AI related revenue and GVA suggesting a potential for greater concentrated growth within capital than labour. The data also suggests that the AI related GVA per employee has increased from approximately £74,000 in 2022 to £137,000 in 2024 (+85%), meaning that AI is rapidly shaping productivity, but this activity may be concentrated among some of the largest AI firms.

Overall, the role of organisations such as the AICC will be critical in ensuring that the wider economy can access skilled and trusted teams when undertaking AI transformation, whilst maximising opportunities for everyone to upskill in AI, and to do so efficiently, equitably, and securely.

However, the research team recognises limitations with undertaking a national study and applying this to a regional setting. This includes:

- **Definition**: The national AI study focuses upon firms actively identified as developing or bringing AI related products and services to market. For this NI ecosystem study, the research aims to capture these firms in addition to firms that appear to be employing AI professionals or actively investing and embedding AI in their products and services. However, this goes beyond a simple definition of adoption (e.g. a business that has used an AI tool), as this may be too early-stage to capture or measure.

[2] This includes the identification of roles within businesses such as core AI development roles (e.g. AI/ML Engineers, Data Scientists, AI researchers, MLOps Engineers), novel leadership roles such as Directors of AI and transformation, in addition to individuals working in wider roles where profiles mention use of AI/ML skills for areas such as analytics, software development, ethics, compliance and management. As with the DSIT AI Sectoral Analysis, Artificial Intelligence activity in the UK is not defined by a formal Standard Industrial Classification (SIC) code at a firm level and is not defined by a formal Standard Occupational Classification (SOC) code at the employment level. As such, each firm has been considered individually to identify and review AI related employment, through direct consultation, review of accounts, and / or use of web data.

- **Granularity**: Undertaking a dedicated regional study can provide enriched granularity regarding businesses in scope, reviewing AI hubs and locations across the region (e.g. satellite offices set up in Belfast or Derry~Londonderry), and providing additional research capacity to explore Northern Ireland related headcount in AI (beyond UK level or registered level). This provides additional granularity and insight into the region's strengths and opportunities, verified by 'on-the-ground' knowledge.
- **AI adoption and maturity:** There are multiple studies exploring AI business adoption across the UK and global economy. These typically focus on broad adoption (e.g. if a business has interacted with ChatGPT or similar) but recognise that a tiered approach is required to explore extent of adoption within business models. However, these can be prone to interpretation and business feedback regarding their own maturity. For example, AWS (2025) has utilised a survey approach to explore UK business adoption of AI, which suggests that "*over half (55%) of large enterprises reported they are consistently using the technology, up from 41% last year, however, their use of AI remains surface-level, meaning they are focused on basic efficiency gains.*

In contrast, startups are integrating AI into the centre of their business strategy and using it to develop new products and services for their customers and transform their industries. ***59% of UK startups have adopted AI, and 36% said they are developing new AI-driven products and services, compared to 25% of large enterprises.***

Microsoft (2025) also report that up to 88% of businesses in Northern Ireland are using AI in some form for work purposes. However, only 26% report frequent usage, whilst 29% of NI respondents are in "the process of planning, developing, or have already instituted an AI policy", suggesting that maturity of adoption is set to significantly increase in the months ahead.

As such, this study seeks to capture those businesses that visibly appear to be developing or integrating AI into their products or services, with attributable commercial outcomes.

AI ecosystem definitional considerations

In line with the DSIT AI Sectoral Analysis, the analyses contained in this report are based on a commercially oriented taxonomy of AI activity in the UK. We adopt a flexible definition of AI that encompasses systems capable of performing tasks that typically require human intelligence, including pattern and vision recognition, decision-making, natural language processing, and predictive analytics.

This definition has space for a wide range of relevant technologies, from foundational machine learning applications to deployment of Generative AI and recognises that the commercial AI landscape in Northern Ireland includes firms at various stages of AI maturity and deployment. It also ensures that the study can track progress over time, as AI technologies evolve and change. This approach should also allow wider research to compare and benchmark AI ecosystems across regions and countries, similar to the All-Island Cyber Ecosystem research undertaken by Cyber Ireland and NI Cyber in June 2025.

We recognise that identifying 'AI firms' presents inherent challenges given the heterogeneous nature of AI usage across the Northern Ireland economy. Unlike other sectoral classifications, AI spans multiple industries and business models. However, the intention of this research is to take an economy-wide approach to identify **any firm active in AI product or service development or enriching existing offering with AI technology.**

For this NI ecosystem mapping, the research practically focuses on three main groups:

- **Pure-play AI firms:** Firms whose core business centres on developing AI models, algorithms, or platforms, or focusing on AI advisory and implementation solutions. These represent the technical leaders within the ecosystem, often emerging from university spinouts or dedicated AI startups.
- **Diversified AI firms:** Firms using or developing AI (market facing), that also offer wider products or services e.g. consultancies and software development firms. This typically includes organisations that specialise in deploying AI solutions for clients, bridging the gap between capability and commercial application. This category often captures firms involved in enabling wider AI adoption.
- **AI-enhanced adoption:** Established firms integrating AI capabilities to augment existing products or services. This can include firms across all sectors using AI to enhance or improve existing processes or solutions (with commercial evidence, including relevant expenditure, engagement, or employment) e.g. financial firms deploying fraud detection algorithms, or manufacturing firms implementing predictive maintenance system.

This framework acknowledges that some firms may transition between categories as their AI capabilities mature, and that classifications may be subject to interpretation based on the data available to the research team.

In order to define and identify relevant firms, the research team developed a market taxonomy with DSIT, validated by the AICC. Further, hundreds of relevant technical and market-facing

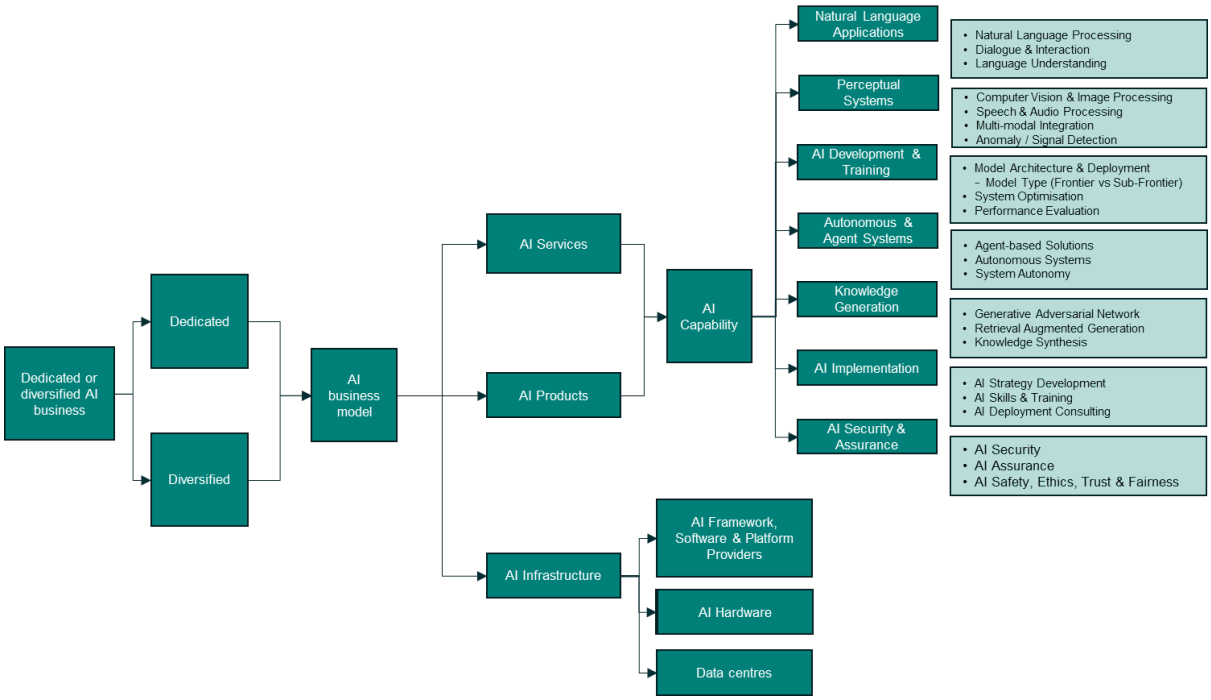
key terms have been identified (via initial web review and national workshops) to consider the types of technology, products and services, that should be scoped as 'AI related' (see annex).

Each firm identified as part of the long listing has been reviewed against the AI taxonomy (see overleaf) and the study definition for final consideration.

AI Taxonomy:

The DSIT AI Sectoral Analysis recognises that firms can be classified into a wide range of categories. As such, review of trading data considers firstly, whether a firm appears 'dedicated' or 'diversified' in its use and provision of AI technologies, followed by its business model (whether it provides services, products, or AI infrastructure), and its capabilities in relation to AI technologies. These are set out below. The research team also provides additional 'markers' for companies with respect to sectors served, consumer and market focus, and factors such as domicile and internationalisation, growth, and innovation.

Figure 2. National UK AI market taxonomy



Source: DSIT AI Sectoral Analysis (Perspective Economics)

- Dedicated vs diversified AI companies: at the highest level, the taxonomy segments the business population according to whether they are a dedicated AI company, or whether AI activity makes up a smaller proportion of a much broader commercial business offering. Dedicated AI companies are businesses that provide a proprietary AI technical service,

product, platform, or hardware as their primary revenue source, whereas diversified companies provide AI products or services as part of a broader business offer.

- AI business model: at a lower level, the taxonomy segments between creators of strategic AI infrastructure[3], developers of AI products[4] and AI service providers[5]. Adopters of AI products or services developed by others are outside the scope of this study. The distinction between using AI to produce a product or service (AI adoption) and building AI products and services on top of the AI technologies of others (AI product or service development) has become increasingly difficult to define. Consequently, granular web data has been collated on in-scope companies and analysed to better understand and assess the product and service offer of companies included in the dataset.

- AI capabilities: Technical capabilities apply across business models, and an AI business may have more than one capability. Core capabilities have been developed within the national study following a taxonomy workshop comprising industry and academic experts and policy representatives. This includes disaggregation of capabilities to reflect increasing specialisation in the market for AI products and services; and grouping of unique AI capabilities into a new set of higher-level categories. These capabilities are grouped into areas such as Natural Language, Perceptual Systems (including Computer Vision and Image Processing), AI Development and Training, Autonomous and Agentic Systems, Knowledge Generation, AI Implementation, and wider AI Assurance, Safety and Security solutions.

In addition, each in-scope company has been classified into industry sectors using a bespoke text classification model based on sectoral references contained within descriptive company information gathered from official accounts and websites. A total of 21 sectors are included in the study. A company may operate in one or more of the following sectors:

- Aerospace and Defence
- Agriculture and Food
- Automotive and Transportation
- Construction and Real Estate
- Consumer Goods
- Education and Training
- Energy and Utilities
- Entertainment and Media
- Environmental and Sustainability
- Financial Services
- Health and Life Sciences
- Information Technology
- Logistics and Supply Chain
- Manufacturing
- Marketing and Advertising
- Professional Services
- Research and Development
- Retail and E-commerce
- Security
- Telecommunications
- Travel and Hospitality

[3] Including hardware, frameworks, software, libraries and platforms.

[4] Companies producing bespoke, value adding AI solutions marketed and sold as products.

[5] Companies with AI expertise providing AI related services.

4. Mapping the Northern Ireland AI Ecosystem

This section sets out the findings of the research (July 2025) identifying relevant firms engaging within the Northern Ireland AI ecosystem. This is based upon Perspective Economics' own modelling within the Northern Ireland economy and serves as a baseline for AICC activity. We expect additional firms to be tracked in future months and years.

Businesses involved in the NI AI ecosystem:

The research team has identified 198 active companies involved in the Northern Ireland AI ecosystem. This includes 75 firms included within the DSIT AI Sectoral Analysis (registered and trading in Northern Ireland) but also identifies a further 123 firms operating in Northern Ireland with relevancy to this regional AI study. Based upon review of description and operational data, we estimate that:

- 46 firms (23%) can be considered pure-play or dedicated AI firms (e.g. focused on developing or selling AI solutions solely).
- 63 firms (32%) are diversified and offer wider products or services, but appear to have relevant AI teams and employment with commercial focus (e.g. IT consultancies offering AI advisory support); and
- 89 firms (45%) can be described as AI-enabled, and have demonstrated some evidence that they are using AI to develop or enhance their existing products or services (e.g. software firms including 'AI-powered' modules to existing SaaS products)

This highlights the importance of taking an economy-wide view of AI adoption across Northern Ireland. This estimate is also consistent with prior regional studies such as the Matrix (2019) report on AI Research in Northern Ireland which estimated there were *"80-90 NI companies of various sizes involved in AI developments, including Kainos, Allstate, Seagate Technology, Citi, BT and PwC".* Invest NI has also estimated that there are *"some 100 local companies already currently using AI technologies in their operations*[6]*".*

As such, whilst the DSIT AI Sectoral Analysis suggests that Northern Ireland captures approximately 1% of registered businesses in the UK ecosystem, broadening this definition to capture AI adoption, and the key role of embedding AI into global operations from Northern Ireland based offices highlights a wider array of opportunities for the local ecosystem.

[6] Available at: https://www.belfasttelegraph.co.uk/business/northern-ireland/multi-million-pound-ai-centre-to-open-in-ni/a1335060801.html

However, it also signals the size of the opportunity ahead for Northern Ireland, as increasing AI adoption will result in the commercial potential for the ecosystem to grow, and close potential productivity gaps with other regions and ecosystems.

We find that Northern Ireland's AI ecosystem spans a wide range of sectors, including software and IT services, financial services, cyber security, health and life sciences, agritech and manufacturing, and defence. This is explored in further detail within the Sectoral subsection; however, it again highlights the opportunity to utilise AI to enhance productivity across existing sectors, and to grow a supportive ecosystem.

The research has also explored how each of the 198 companies identified appear to be using or deploying AI within their organisation. Whilst this is subject to interpretation and best fit, and we recognise many firms may be operating across categories, we estimate that:

- Just over half of companies (101,51%) identified are primarily using AI to develop or enhance products (e.g., 'AI-powered health analytics'). This is expected given the relative ease by which existing companies with digital products or services can embed AI tools e.g., an OpenAI API to power a chatbot within existing solutions.
- A third (65,33%) of companies appear directly involved in AI Implementation and Advisory Solutions (e.g., supporting clients with using AI in their own products or services). This includes companies such as Kainos and Analytics Engines.
- We find a small subset (29,15%) of companies that have been included in this study where they are commercially involved in AI adoption or enablement (e.g., hiring AI Data Science teams). However, this may be for internal purposes to improve customer experience (e.g., an insurance firm building a fraud detection suite using AI). We include these in the study, as these firms will be involved in employing significant teams with AI capabilities and are a key component for the growth of the AI ecosystem in Northern Ireland.

Economic baseline:

This study sets out an economic baseline for the Northern Ireland AI ecosystem, based upon the direct estimates for the 198 firms identified. This data is estimated by Perspective Economics, informed by review of known accounts, and estimated values for AI related and NI related employment. The team has also reviewed workforce data from Lightcast to explore the estimated number of AI related roles in Northern Ireland across these companies, including those in related occupations such as Data Scientists, ML Engineers, AI Engineers, and AI leads with identifiable AI related skills.

Where possible, estimates have been reviewed with the AICC and industry partners and benchmarked against wider studies such as the DSIT AI Sectoral Analysis. These values are estimates only and reflect the potential value of these roles and activities for the Northern Ireland economy. They seek to capture the estimated value of Northern Ireland AI related activity; for example, if a firm registered in London employs individuals in Northern Ireland in AI related roles, apportionment is applied regarding AI and NI related activity for estimation purposes.

Overall, for the 198 firms identified, we estimate these firms employ approximately 1,340 individuals in AI related roles in Northern Ireland. Where a firm is considered pure play (dedicated), all staff are considered in scope. Where a firm is diversified, we estimate the number of individuals in AI related roles in Northern Ireland.

The definition of AI related employment is aligned to the UK study; however, this may be subject to interpretation, and we recognise the need to explore the workforce by levels of capability and experience. For example, a Machine Learning Engineer with a PhD in Artificial Intelligence and applied industry experience may command higher seniority and remuneration than a junior Data Analyst with a background in BSc Business Analytics that reports to use AI and Python for data wrangling and classification.

The subsequent sections explore the coverage of employment and roles within the ecosystem; however, an aggregate estimate demonstrates the breadth and potential for the overall workforce with the relevant skills to implement AI across organisations.

The following sections explore the 198 providers by size, employment, and estimated revenue and Gross Value Added.

Size:

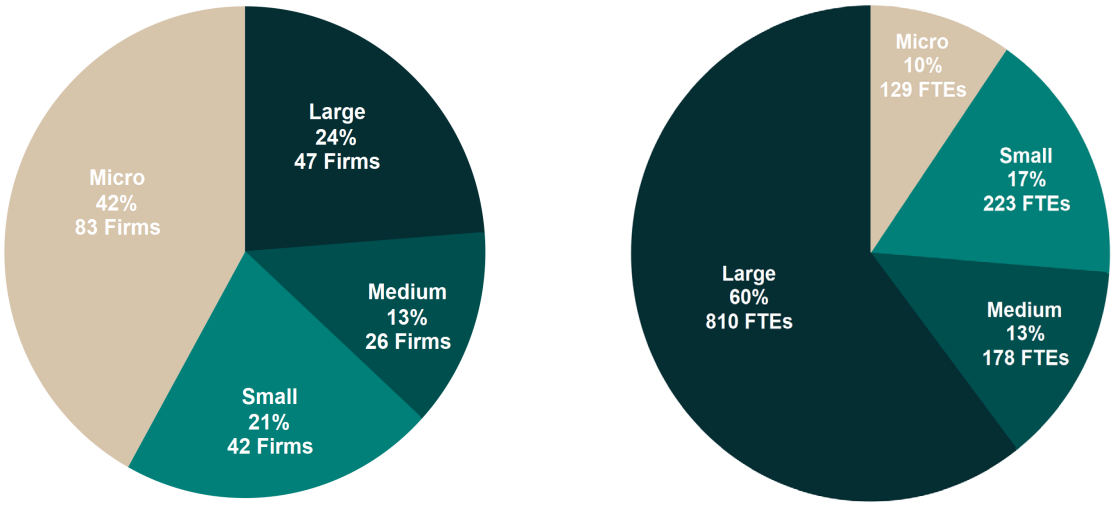
The research team has applied a size marker against each of the 198 firms, based on their overall global operations. We estimate that almost a quarter of firms in scope (24%, 47) are large (250+ employees). Of these large firms, the majority (83%, n = 39) are international firms with a FDI presence in Northern Ireland, demonstrating the importance of AI adoption and usage within firms that have invested and set up operations in Northern Ireland. This is explored further in the employment and location analysis.

We also find 26 medium firms (13%, 50-249 FTEs globally), and 42 small firms (21%, 10-49 FTEs), highlighting adoption and deployment of AI for growth among mid-market firms. This

includes 12 medium and 31 small NI headquartered firms, signally potential to grow the local base.

Further, we find that 83 firms are micro (1-9 FTEs), of which the majority (86%, n = 71) are NI headquartered. As explored in the following section, there are an estimated 1,340 employees in AI related roles in Northern Ireland in these firms. We estimate the majority of this employment is driven by the largest firms (810 FTEs, 60%), following by medium and small firms (30% combined with just over 400 FTEs). For the 83 micro firms engaged in the AI ecosystem, these average 1.5 FTEs per firm, highlighting a small builder community that could be stimulated through partnership, as well as firms potentially recruiting a 'single initial point of contact' for their AI growth and deployment, before spanning and scaling accordingly.

Figure 3. Estimated size of NI AI ecosystem (firm count, employment)



Source: Perspective Economics, AICC

Employment:

Across the **198** companies identified with the NI AI ecosystem, we estimated based on review of accounts and profile data, that there is a combined AI-related headcount of c. 1,340 FTEs based in Northern Ireland.

Of the 1,340 AI-related roles identified, we find:

- **201 FTEs (15%)** operate within pure-play AI firms, with these roles typically focusing exclusively on AI development, implementation, and commercialisation.
- **648 FTEs (48%)** work in diversified AI teams and are typically embedded within larger consultancies, IT services firms, and technology companies offering AI alongside broader service portfolios
- **491 FTEs (37%)** function within AI-enabled and adoptive firms, driving internal transformation and product enhancement across traditional sectors

We find that approximately 864 AI (64%) related roles are within 76 firms headquartered outside of Northern Ireland, and that 477 (36%) roles are within 122 locally headquartered firms.

The data also suggests that the Northern Ireland AI ecosystem exhibits some signs of employment concentration within the largest firms, with the top 10 firms accounting for 541 FTEs (40%) of the total 1,340 AI-related roles, whilst the top 25 firms capture 802 FTEs (60%). However, this is spread among several leading software and IT employers and suggests a robust local base upon which AI employment may feasibly be supported to grow.

The AI related employment data also highlights three distinct employment groups for AICC to collaborate and support:

- **Anchor Employers (10+ AI FTEs):** We find 36 firms in Northern Ireland employing ten or more AI related employees, covering a combined 920 FTEs (69%). This includes global professional services firms such as EY, PwC, Deloitte, as well as major technology hubs in NI such as Allstate, Citi, and Liberty IT. We also find several indigenous success stories developing AI teams such as Kainos, Analytics Engines, and Sonrai Analytics. These firms collectively employ more than 20,000 FTEs across all roles in Northern Ireland, and therefore this suggests that AI-related employment in these firms covers c. 5% of their total regional employment base, and signals potential room for growth and upskilling,

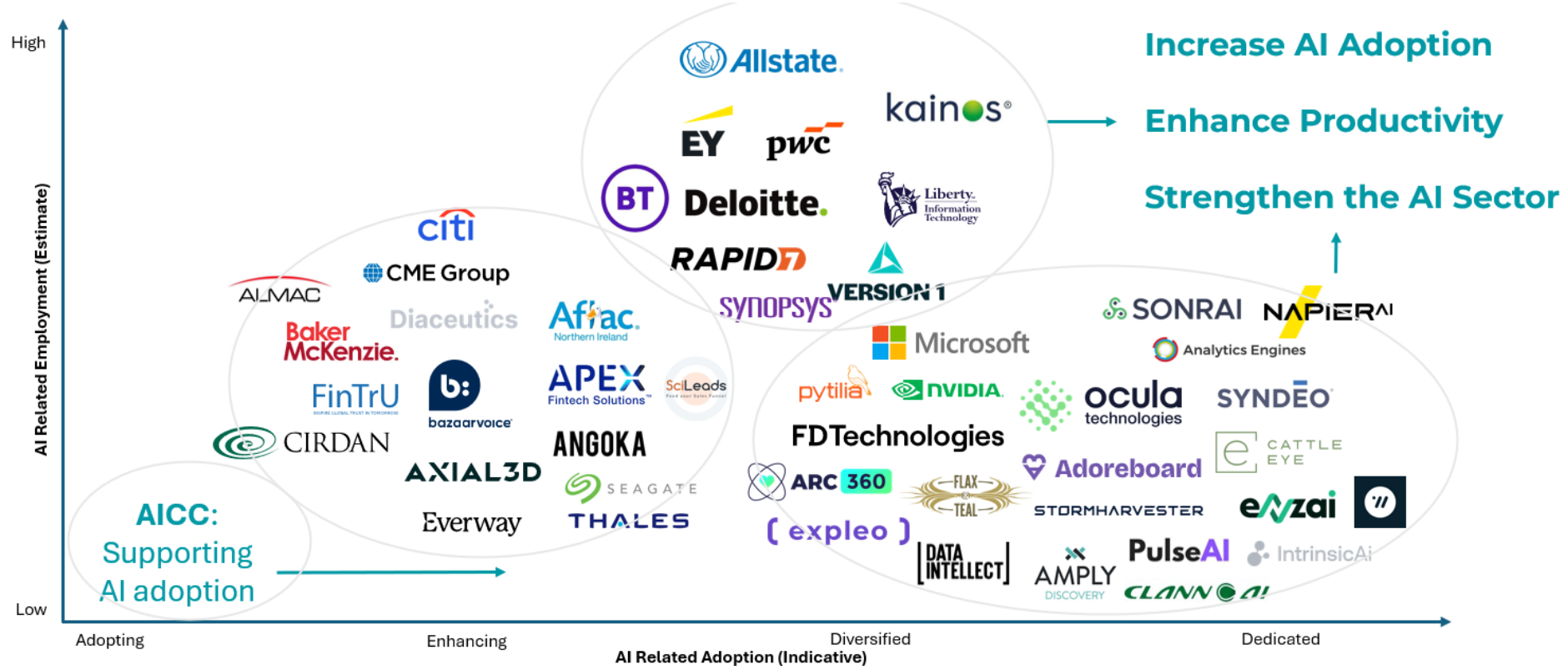
- **Emergent Employers (3-9 AI FTEs):** We find 70 firms employing smaller teams of between three and nine AI related employers, with a combined 315 FTEs (24%). This includes a mix of scaling local firms and smaller FDI operations seeking to recruit AI talent. These firms also tend to span a wide range of sectors and may be early in the process of using AI for growth. These will be a critical cohort for AICC and partners to support to enable ecosystem growth.
- **Early-Stage (0-2 AI FTEs):** We find 92 firms employing two or fewer AI related employees, covering a combined 106 FTEs. These are predominantly local micro firms, with early-stage AI adoption or founder-led operations, as well as some regional SMEs that have hired for a single point of AI related talent (e.g. Head of AI Operations) aligned to a wider business or IT function. We also find a small number (8) with no current AI employment but have indicated potential recruitment or partial projects deemed worth including in this baseline.

While the emergence of AI-Driven Enterprises (AIDEs)[7], firms leveraging AI at their core to achieve rapid growth with minimal headcount, represents a significant opportunity frontier in entrepreneurship, we find limited evidence of this model taking hold in Northern Ireland yet. Most early-stage AI adopters in our sample appear to be traditional firms adding AI capabilities rather than AI native startups. However, as the AIDE model matures and demonstrates companies reaching significant revenues with 'micro' teams or individuals, Northern Ireland's growing AI ecosystem may see similar ventures emerge.

Further, as shown in Figure 4, the AICC will work across the ecosystem to help support early-stage adoption of AI (increasing the supply and maturity of the ecosystem), in addition to supporting a wide range of firms currently using AI to grow and scale their activity and AI related employment.

[7] Cheek, P (2025) 'AI-Driven Enterprises: How AI is Redefining Innovation-Driven Enterprises' Available at: https://www.paulcheek.com/articles/ai-driven-enterprises

Figure 4. Increasing AI adoption and employment (indicative)



Source: Perspective Economics review of NI based AI activity (estimated). Please note this chart is to be viewed as indicative of AI related activity, based on assessment of web data and accounts. Firms should not be compared on an X-Y basis.

Revenue and GVA estimates:

Perspective Economics review of UK level data suggests that the UK AI sector's combined AI related revenue and Gross Value Added reached £23.9bn and £11.8bn respectively in 2024, driven by 86,139 employees[8]. However, this study does not provide regional estimates in relation to revenue or Gross Value Added, due to firms reporting annual accounts within a registered location (which can mean economic activity may be tracked in London or the South East, even when a proportion of the team work in a different region), as well as limitation in the use of estimated data at a regional level. Further, several of the largest firms will typically be registered in London and the South East despite operating across the UK.

An initial review of the AI Sectoral Analysis data highlights that AI firms identified and registered within Northern Ireland (n = 52) contributed a combined £51m in AI related revenue and £22m GVA across 363 FTEs. However, this only reflects approximately 0.2% of UK related activity, driven by an underestimation of regional employment, as well as a higher proportion of small and micro firms that may not submit full accounts.

As such, this study provides a regional estimate for AI related revenue and GVA based upon the reviewed regional headcount of 1,340 FTEs. Within the UK AI Sectoral Analysis, the data suggests that at a UK level, revenue per employee is approximately £277k and GVA per employee is £137k. The limited data available for Northern Ireland related estimates suggests a lower level per employee of £140k revenue and £61k GVA. Further, review of Lightcast vacancy data suggests that between January 2023 – May 2025, median advertised salaries for AI professional roles in Northern Ireland were approximately £55,200[9].

Review of DSIT Economic Estimates data for the wider Digital Sector in the UK (with a more significant sample size) suggests that these estimates for the AI sector are broadly aligned to official estimates for the UK's digital sector. The most recent estimates (2022) suggest Northern Ireland's digital sector comprises approximately 30,000 employees generating c. £1,868m in annual GVA (c. £62k GVA per employee), compared to 1.88m employees at the

[8] This is based upon the most recent internal estimates as part of an annual update to the DSIT AI Sectoral Analysis, expected to be published in Q3 2025.

[9] We note this has a small sample size (92 roles) of identified job vacancies in Northern Ireland with a known salary value. The Lightcast data estimates that less than 20% of AI roles in Northern Ireland include an advertised salary, reflecting that several employers may pay based upon an individual's experience, expertise, and seek talent via third parties such as recruitment agencies.

UK level generating £160.6bn in GVA (c. £85,300 GVA per employee). In other words, we might otherwise expect to see productivity levels approximately a third higher in the digital economy at a UK level than in Northern Ireland, driven by large established firms in major UK cities. This productivity gap may be more amplified in the AI sector, where some of the largest dedicated firms (e.g. Google DeepMind) have much higher levels of output than other firms across the UK.

Overall, applying these NI estimates against the full AI related employment population in NI suggests a potential current baseline (2024) of 1,340 AI related roles driving c. £188m in revenue and £82m in direct GVA.

Location:

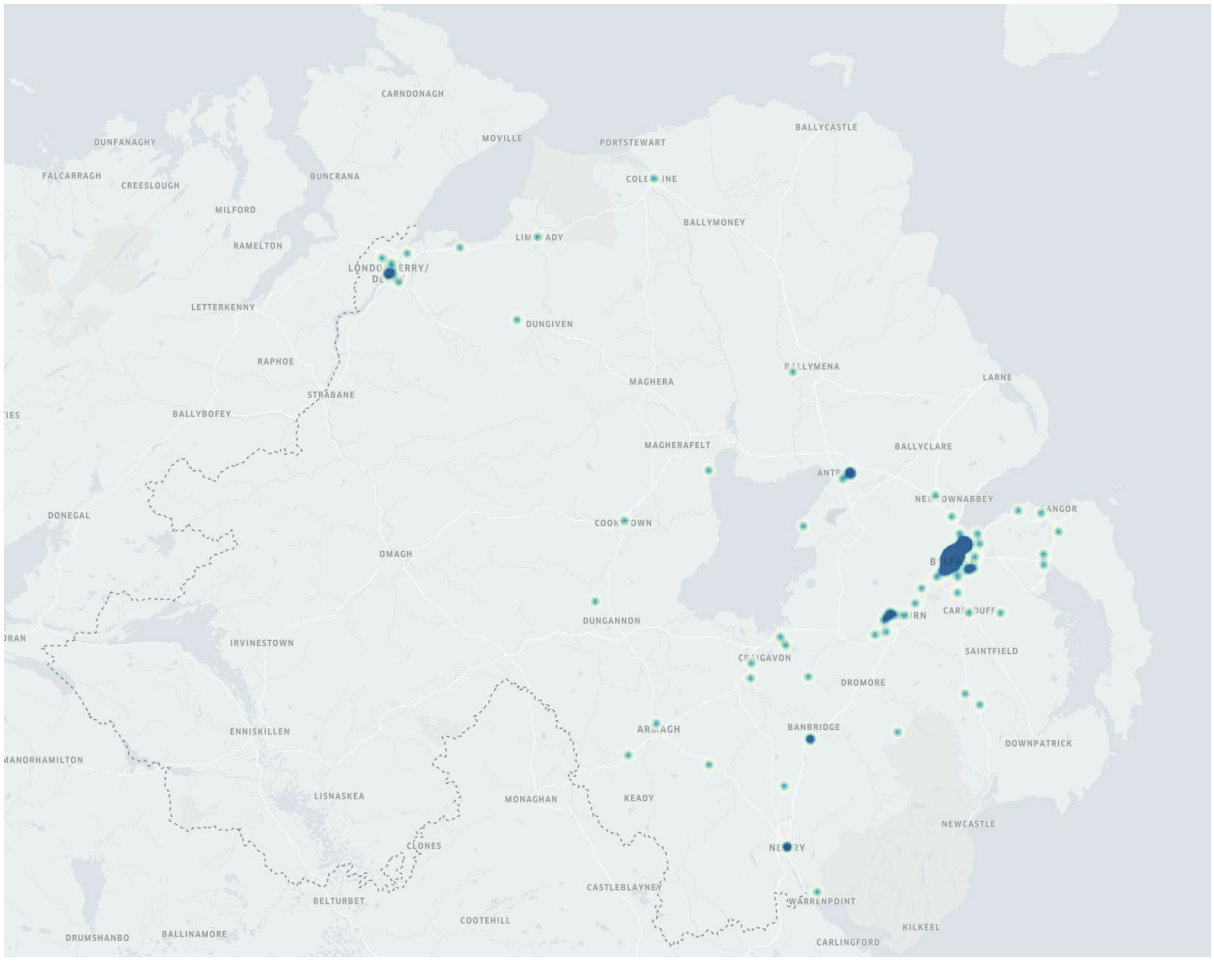
The research team has identified multiple registered and trading addresses for the 198 firms in scope of this study. This includes where companies are headquartered in Northern Ireland, the United Kingdom, or internationally. It also includes office level locations for international firms operating in Northern Ireland e.g. the Belfast office with identifiable AI-related employment for a United States headquartered firm.

Overall, we find that an estimated 122 firms (62%) can be considered ‘indigenous’ or ‘local’ to the NI ecosystem. These are firms that have been founded or headquartered in Northern Ireland. This includes a range of early-stage AI startups, as well as several established local firms building out their AI operations and teams. Collectively, these firms employ an estimated 580 individuals (43%) in AI related roles. Of the 122 NI headquartered firms, we find that over half (52%, 63) appear to export to international markers or sell externally, signalling a highly internationalised market.

We also find that the remaining 76 firms (38%) can be considered ‘international’ or ‘external’ (i.e. firms founded or headquartered outside of Northern Ireland). This includes 35 firms from the United States, 21 firms from the rest of the UK, and 8 firms from Ireland. Other countries with activity include firms based in India, France, Australia, Japan, Israel, Canada and the rest of the EU. Several of these firms have an established presence in Northern Ireland, driven by prior growth in FDI within sectors such as software, cyber security and professional services. For many of these firms, there has been visible demand for new roles in areas such as AI assurance, security, adoption and transformation. Collectively, these firms employ an estimated 760 individuals (57%) in AI related roles.

The research team has identified the primary office location for firms trading in Northern Ireland. This is highlighted in Figure 5 below, which highlights a heatmap of office locations.

Figure 5. NI AI ecosystem office locations



Source: Perspective Economics, AICC

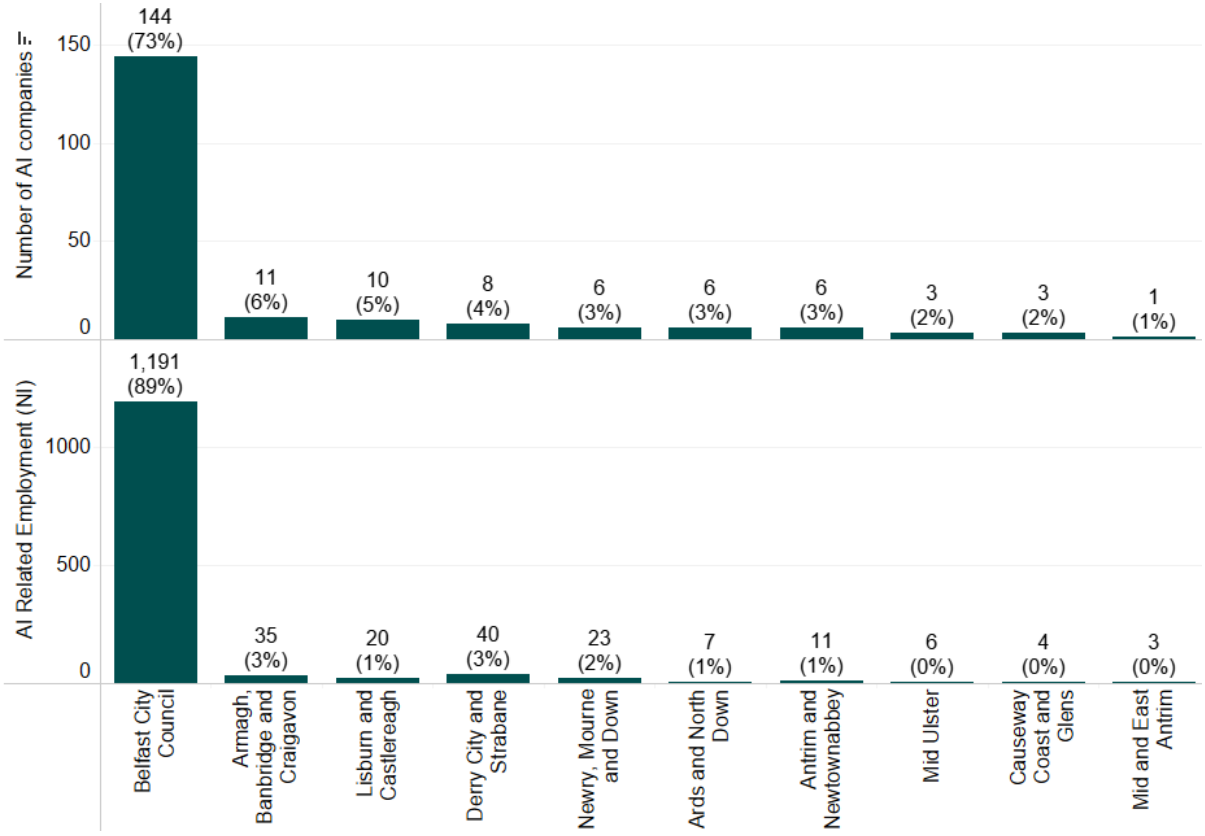
The data suggests that Belfast (the Belfast City Council area) is home to approximately 73% of all AI related firms (144) in Northern Ireland and 89% of AI related employment (1,191 FTEs). This concentration is comparable to wider sectors such as cyber security and can be anticipated given agglomeration of existing employers within the area.

However, this does highlight some opportunities and challenges for growing the ecosystem across Northern Ireland. Encouragingly, 27% of firms (54) are based in other council areas. For example, Armagh, Banbridge and Craigavon, and Lisburn and Castlereagh combined collectively account for 11% of firms involved in the ecosystem, but only 4% of the employment. This signals potential for increased adoption and scaling within large life sciences and manufacturing in these areas.

Further, Derry City and Strabane represents only 4% of firms and 3% of regional AI employment. The co-location of the AICC within Derry-Londonderry should represent a stimulus for collaboration with firms in the areas to promote regional AI growth. We also find

relatively low levels of activity and growth in other council regions, which may signal need for regional outreach, such as the AICC Roadshows, where businesses can learn more about AI adoption at any early stage prior to taking first steps in projects and recruitment.

Figure 6. NI AI ecosystem office locations (by Local Government District)



Source: Perspective Economics, AICC

Products, services and sectors served: How do firms engage with AI?

The research team has sought to better understand the capabilities of the AI ecosystem within Northern Ireland, exploring the products, services, and sectors served by the use of AI tools and infrastructure. In short, we wish to understand how these firms tangibly engage with AI, and how they use AI to go-to-market. Taking a broad view of the AI ecosystem (as set out within the Definition and Taxonomy section) means that firms will interact with a wide range of technologies and use cases. Further, these are continually being expanded in recognition that AI can be a general-purpose technology; for example, a firm using robotics and computer vision within a manufacturing plant should be in scope, as should a firm delivering AI-enhanced solutions for enterprise platforms.

Where possible, the research team has tagged firms according to products, services, and sectors served based on web and text data. We set out the thematic findings below. These should be viewed as indicative based on the classification of this text data and assumes sufficient coverage regarding how firms articulate their AI-based offering to the market. Overall, we find strong evidence of a diverse ecosystem with capability in developing horizontal (i.e. versatile tools that can be used across different business functions, e.g. software automation, communication and marketing etc) and vertical (specific sectoral tools e.g. diagnosis for healthcare) solutions.

Product findings:

Review of the companies identified suggests approximately six key areas of strength or opportunity for Northern Ireland to embed AI within products to market. These include:

- Health and Life Sciences
- Enterprise AI
- Financial Services and RegTech
- Customer Experience
- Cyber Security
- Agricultural, Industrial Automation, and IoT

Health and Life Sciences:

We find 28 companies primarily using or developing AI products and solutions aligned closely to Health and Life Sciences. Prior Matrix research has previously highlighted the importance of this sector, alongside strategic investments underpinned by the City and Growth Deals, and it is apparent that several NI firms in this sector are investing and engaging with AI in their

product development processes. For example, we find a range of companies using approaches such as:

- **Diagnostic AI**: PulseAI (Deep Learning powered ECG diagnostics to help improve cardiac diagnostics), Aflo Analytics (smart inhaler analytics, backed by funding from Innovate UK, Invest NI, QUBIS, and Ulster University), and Almac Group (using AI-assisted enzyme design)
- **Clinical tools**: Eolas Medical (an AI Knowledge Management platform for healthcare professionals to share information and save time, currently working with over 400 teams), Protos Healthcare (AI enabled retinal diagnostics), and Sonrai Analytics (an accelerated precision medicine platform, with strengths in algorithm development for bioinformatics)
- **Drug discovery**: AMPLY Discovery (AI drug discovery platform), Exploristics (now part of MMS) who provide biostatistics and data science support, and have developed KerusCloud, a clinical trial simulation software)
- **Medical devices**: Axial3D (a leader in AI-powered 3D medical imaging), B-Secur (HeartKey FDA-cleared ECG analytics), and NeuroCONCISE (AI enabled wearable neurotechnology).

Enterprise AI:

We find over 50 companies that typically appear to offer products or solutions focused on servicing other enterprise (B2B) requirements. There will be some overlap between firms in this domain, and those that provide service-based solutions, particularly as services firms seek to use agentic AI to productise approaches; however, areas of notable focus include:

- **AI/ML platforms**: Analytics Engines (AI Search Platform), KX (part of FD) (kdb Insights), EY's EY.ai agentic platform created with NVIDIA, Tungsten Automation (AI powered workflow automation with the TotalAgility platform)
- **Data quality & governance**: Datactics (self-service data quality, including Custom DQ Match), Enzai (AI governance platform), Napier AI (AI powered Anti-Money Laundering compliance platform)

Financial Services and RegTech:

We similarly find evidence of over 40 firms using AI for financial services and regulatory compliance product development. This includes areas such as:

- **Risk and markets**: Signifyd (AI fraud protection), and CME Group (analytics tools)

- **Financial and regulatory tech**: Apex Fintech (have developed 'Ask Ascend', an AI assistant to support with technical financial questions), FinTrU (released its TrU Label platform for intelligent document processing), Options Technology (helping firms to adopt AI via its AtlasWorkplace platform).
- **Insurance**: Firms such as Aflac Northern Ireland and Allstate Northern Ireland are using and deploying AI to enhance the delivery of insurance solutions, through automating claims and analysis, workflow engineering, processing legal couments, and using computer vision models to extract and analyse readings and customer claims.

Customer experience:

We find over 20 companies focusing on using AI to enhance customer experience, particularly in areas such as conversational AI, chatbots, virtual assistants, and customer and marketing analytics. This area may have significant growth opportunity across the economy, as firms from all sectors require support with chatbot integration, semantic analysis, and understanding how their customers interact with their solutions. Some examples active in Northern Ireland include:

- **Conversational AI**: Syndeo (LLM-powered Conversational AI platform for customer experience), Ripley Chat (AI powered 'Live Chat' for car dealerships, used by over 2,900 dealerships), and GCD Technologies (virtual assistants such as 'Ask Liv' for Propertynews)
- **Customer analytics**: Adoreboard (sentiment analysis at scale using AI to analyse open text data), Hurree (AI-powered dashboards), Concentrix (iX Hero platform to support with AI customer support)
- **Marketing intelligence**: Mintel (Leap AI marketing intelligence platform), Bazaarvoice (has developed the HarmonyAI engine to support retailers with branding, marketing, loyalty and scaling), Ocula (using AI with Ocula's AI Copywriter for Product Detail Page optimisation to help increase sales)

Cyber security:

Northern Ireland is home of the one of the UK's most concentrated cyber security clusters[10] with over 130 firms. We also find that several of these firms appear to be actively investing in

[10] Centre for Secure Information Technologies (CSIT) (2024) 'NI Cyber Security Snapshot' Available at: https://www.qub.ac.uk/research-centres/csit/filestore/QUB_Cyber%20Security%20Snapshot%202024%20(Digital).pdf

either using AI to enhance cyber security solutions or developing novel solutions for the area of securing AI systems. For example, CSIT at Queen's University Belfast has also developed a leading Cyber-AI Hub to help fund industry projects relating to AI security, in addition to Doctoral Training and Master's bursaries to support the skills pipeline. This includes industry consortium with **NVIDIA, Rapid7, Thales, Ampliphae (now Arqit), Angoka, Pytilia and Controlsoft.** We also find strengths with respect to AI and security in Northern Ireland in relation to threat detection and intelligence from firms such as **Rapid7 (**integrating AI into its InsightPlatform to improve SOC and Managed Defence and Response (MDR) tools) **Proofpoint**'s AI-driven email protection, **Imperva**'s Data Security Fabric platform to counter AI-generative attacks), **Smarsh**'s AI assistant for cyber compliance), **iManage** (AI driven threat management), and **Arqit** (encryption intelligence).

Agricultural, Industrial Automation, and IoT:

We also find approximately 30 firms engaging with AI applications for physical world challenges, particularly in areas such as agritech, manufacturing, and use of IoT and infrastructure. This includes:

- **Agritech**: CattleEye (using AI for autonomous livestock monitoring, acquired by German firm GEA), MachineEye (specialising in Computer Vision platforms for controlling risk and compliance in industrial settings), and Genysys Engine's Botanical Agent, using AI to help grow plants.
- **Manufacturing and infrastructure**: Sensoteq (remote machine health analytics), StormHarvester (AI analytics for wastewater), ControlSoft Automation Systems (recently announcing a software engineering, mechanical and electrical hub, including AI skills in East Belfast with 27 new jobs), Camlin (using AI and ML algorithms to analyse signals from LV cables), and Seagate (supporting enterprise storage for large AI models).

Overall, review of how AI is being used for product development in the NI ecosystem suggests:

- **Vertical focus:** Northern Ireland appears to focus on use of domain-specific AI rather than general-purpose models, as reflected by the use of AI in areas of sectoral expertise such health and life sciences, finance, and manufacturing. There are clearly opportunities to build upon this baseline across the wider economy.
- **B2B focus**: Most products appear to focus on enterprise customers rather than consumers, reflecting the NI ecosystem's focus on FDI and growth in professional services and software. There is potential to grow the underlying economic base through increasing commercial adoption of AI locally.

- **Integration rather than replacement:** Several of the products identified focus on using AI within, or enhancing existing workflows, such as embedding conversations AI, platforms integrating with legacy systems, and tools augmenting rather than replacing existing processes.
- **There is limited evidence of novel model development** (beyond a small number of life sciences firms), and the data suggests that Northern Ireland's ecosystem growth may be focused more on the application and commercialisation layer rather than fundamental AI research.

Services and Advisory Solutions:

Review of the service providers in Northern Ireland's AI ecosystem suggests a further three areas where firms are building capabilities to support AI adoption across enterprises, and where AICC can support enable providers to secure new opportunities to grow the whole ecosystem. These include:

- AI Implementation & Consulting
- Data & Analytics Services
- Training & Capability Building

AI implementation & consulting:

We find 65 companies offering comprehensive AI implementation and advisory services, representing the largest category in the ecosystem. This reflects significant market demand for practical AI adoption support. Areas of notable activity include:

- **Strategic advisory**: Northern Ireland is home to all of the 'Big Four' firms in professional services, including EY, PwC, Deloitte, and KPMG (providing AI strategy development and services), alongside firms such as PA Consulting and Accenture.
- **Implementation services**: Northern Ireland has a strong reputation in software and AI solutions providers. This includes firms such as Kainos (end-to-end AI deployment working with hundreds of customers globally), Version 1 (Microsoft partner with data and AI implementation focus), and Analytics Engines (AI search platform implementation)
- **Proof of concept development**: IntrinsicAI (specialise in guiding organisations through AI transformations), GCD Technologies (virtual assistant development), and Scaffold Digital (supporting firms with prototypes and leveraging LLMs)
- **AI readiness assessment:** Several firms also provide maturity and evaluation services, reflecting the need for enterprises to develop their own AI adoption pathways, grounded in successful approaches.

- **Digital transformation services:** We also find over 60 companies offering broader transformation services with embedded AI components, suggesting AI is increasingly viewed as part of wider digital transformation and business improvements rather than standalone AI projects. Key areas include cloud migrations, legacy modernisation, and process automation, provided by data engineering firms such as Egen, Magna Software, and Anaeko.

Data & analytics services:

We find approximately 50 companies providing foundational data services that enable AI adoption, highlighting the critical importance of data readiness in successful AI implementation. Several of these firms will have specialisms in areas such as RegTech and finance. This includes examples such as:

- **Data engineering**: Rubik (specialised data development), Data Intellect (analytics consultancy), and Pytilia (data integration for manufacturing)
- **Analytical and data quality advisory**: Advanced Analytics Labs (statistical modelling expertise), Datactics (self-service data quality platform with consulting services), Inqdata (data governance consulting), addressing the fundamental challenge of data readiness, Telefonica Tech (supporting digital transformation)

Training & capability building:

We find a small number of companies involved in building AI literacy and technical capabilities through training and workshops. Examples include:

- **AI literacy training**: e.g. firms such as Luminai offer staff training and leadership workshops focused on practical AI adoption, addressing an executive education gap
- **Specialist skills**: Firms such as Coding Fury (data science training), and Instil (AI accelerated training for engineering teams) and Neueda (AI training for technology leaders) help to ensure technical capability development
- **Wider training**: Firms such as IBM, Google, AWS and Microsoft offering AI certification programmes, which can be maximised and used by the local ecosystem in collaboration with partners.

Overall, review of AI services provision in the Northern Ireland ecosystem emphasises:

- **Implementation focus:** The services portfolio heavily favours practical AI deployment rather than research or theoretical consulting, positioning Northern Ireland as a delivery hub for AI technologies that can be integrated into global firms
- **Service capability:** There appears to be talent from across strategy development through implementation, which means the ecosystem can offer AI lifecycle support, representing an opportunity for engaging enterprise clients. However, it will be crucial that clients know what they are buying, and who they can work with to maximise their own AI opportunities. Further, a supply-side review may help to ensure firms can work with clients that can progress and challenge their own AI capabilities, helping to lift productivity across all organisations.
- **Mutual complementarity between service and product provision:** Increasing investment in areas such as training and capability building may help to create a virtuous cycle, where local expertise increases, whilst also generating local revenue streams and addressing the AI skills gap and overall sectoral productivity in NI.
- **Developing a base for ethical AI:** We find a strong emphasis on compliance, governance, and security within AI services which reflects a pragmatic understanding of enterprise concerns about AI adoption risks, and the need to embed solutions securely and fairly. For example, Kainos recently led on creating the DSIT Code of Practice for AI Cyber Security.
- **Vertical integration:** Industry-specific services in healthcare, financial services, and manufacturing rely upon leveraging existing sectoral expertise. This means that the NI AI ecosystem can potentially be built and grown upon defensible market credibility rather than competing on broader AI capabilities which may be driven by cost, scale or compute.
- **Services to product evolution:** We also find that several service firms appear to be developing proprietary IP e.g. consultancies developing agentic AI models, suggesting potential transition pathways from services to product companies over time.

Internal AI adoption within Northern Ireland companies

Analysis of internal AI deployment highlights 63 companies actively using AI to enhance their own operations (with some firms using AI internally and externally), representing approximately 32% of the ecosystem. This demonstrates that beyond developing AI solutions for market, a significant portion of firms are leveraging AI internally to create competitive advantages through operational transformation. This figure may be an underestimate, as firms using AI within the market may be likely to also undertake internal usage. However, we find evidence of AI being used internally to support process automation, improve operational intelligence, and enhance research and development activities.

We find the dominant use cases focus on automating routine operations and enhancing analytical capabilities. For example, Baker McKenzie (deploying AI for eDiscovery and document analysis in legal processes), Allstate's NI Digital Centre of Excellence (implementing comprehensive AI across insurance operations including speech-to-text processing, emotion extraction from call transcripts, text summarisation for legal documents, and computer vision models for extracting VIN and odometer readings from customer-submitted images), and BT (using AI for network optimisation and customer service automation). Liberty IT has developed AI-powered digital tools for Liberty Mutual's operations, whilst Talent Route AI applies AI for candidate screening and recruitment processes.

Other firms are using AI to accelerate innovation and enhance core business capabilities. AMD (conducting AI research and performance optimisation as part of their semiconductor development), and Thales (implementing AI for supply chain management across their defence and aerospace operations) demonstrate how established technology firms are embedding AI into fundamental business processes.

Internal AI adoption serves as a critical indicator of ecosystem maturity and competitive positioning. The adoption rate, whilst respectable, indicates substantial headroom for growth across the broader business community. Companies with sophisticated internal AI deployment demonstrate accelerated innovation cycles, enhanced operational efficiency, and stronger market competitiveness, creating a compelling case for supporting increased adoption across Northern Ireland's ecosystem. Further, encouraging internal AI usage should create applied learning environments, upskilling employees through practical application rather than theoretical training alone.

Sectoral reach:

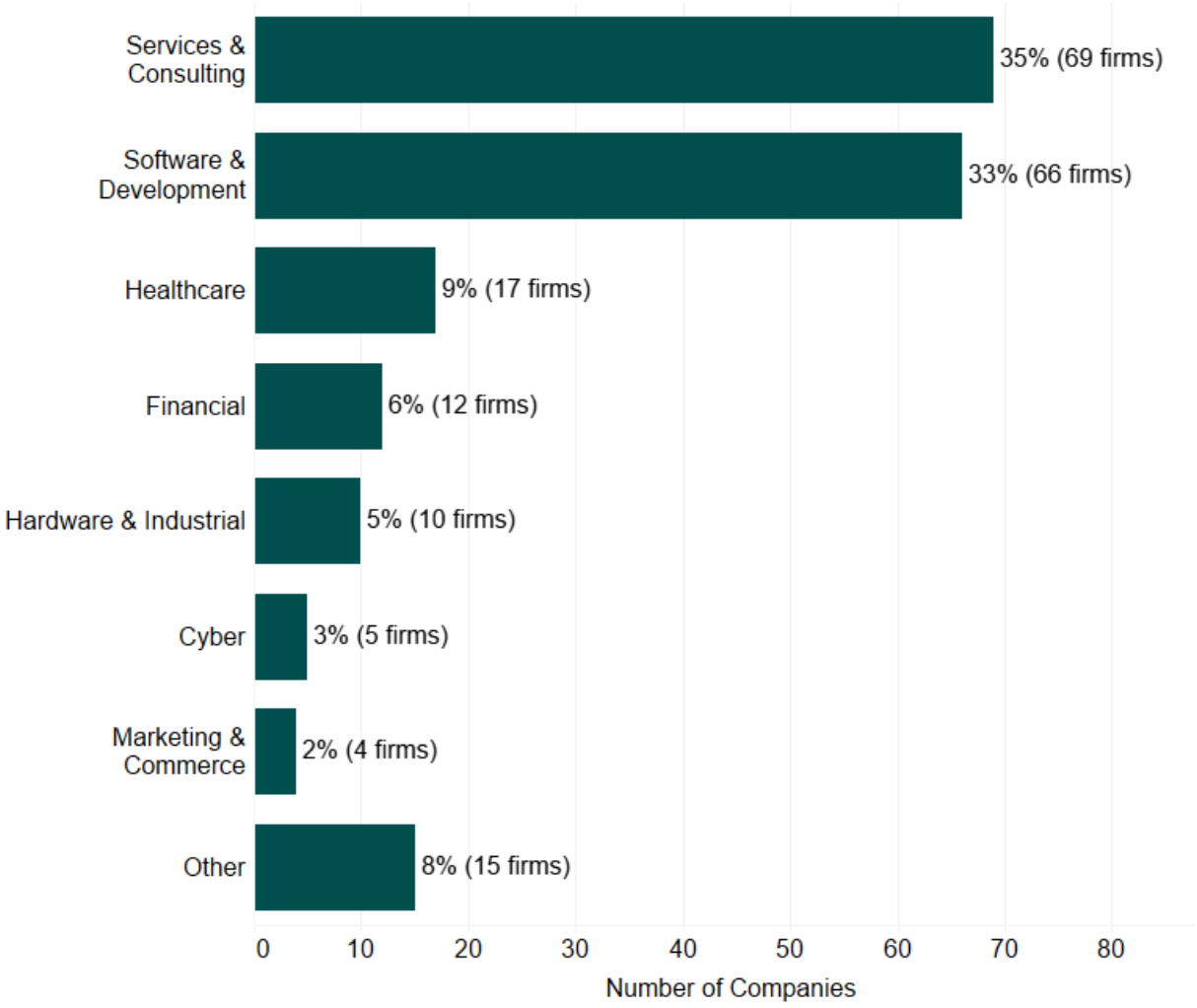
The Northern Ireland AI ecosystem demonstrates clear concentration in technology-enabled services, with **Services & Consulting** (35%, 69 firms) and **Software Development** (33%, 66 firms) collectively accounting for 68% of all AI companies. The prominence of advisory firms including global players (e.g. EY, PwC, Deloitte, Accenture) and indigenous IT consultancies may position Northern Ireland as strongest in AI implementation. These firms serve as critical intermediaries, translating AI capabilities into business value across sectors.

The presence of Software Development companies (66 firms) also indicates a technical foundation upon which AI can be embedded within other firms. This includes established software houses pivoting to AI, pure-play AI developers, and emerging startups building AI-

first solutions. These firms could potentially work in tandem with AICC efforts to encourage SMEs to 'try' AI solutions and then build and maintain them with local commercial providers.

Beyond the technology core, we find vertical specialisation in health and life sciences (9% of firms), financial services (6%), and some emerging growth in using AI within hardware and industrial controls (5%) with relevancy to areas such as national security and defence.

Figure 7. NI AI ecosystem: Primary sector served



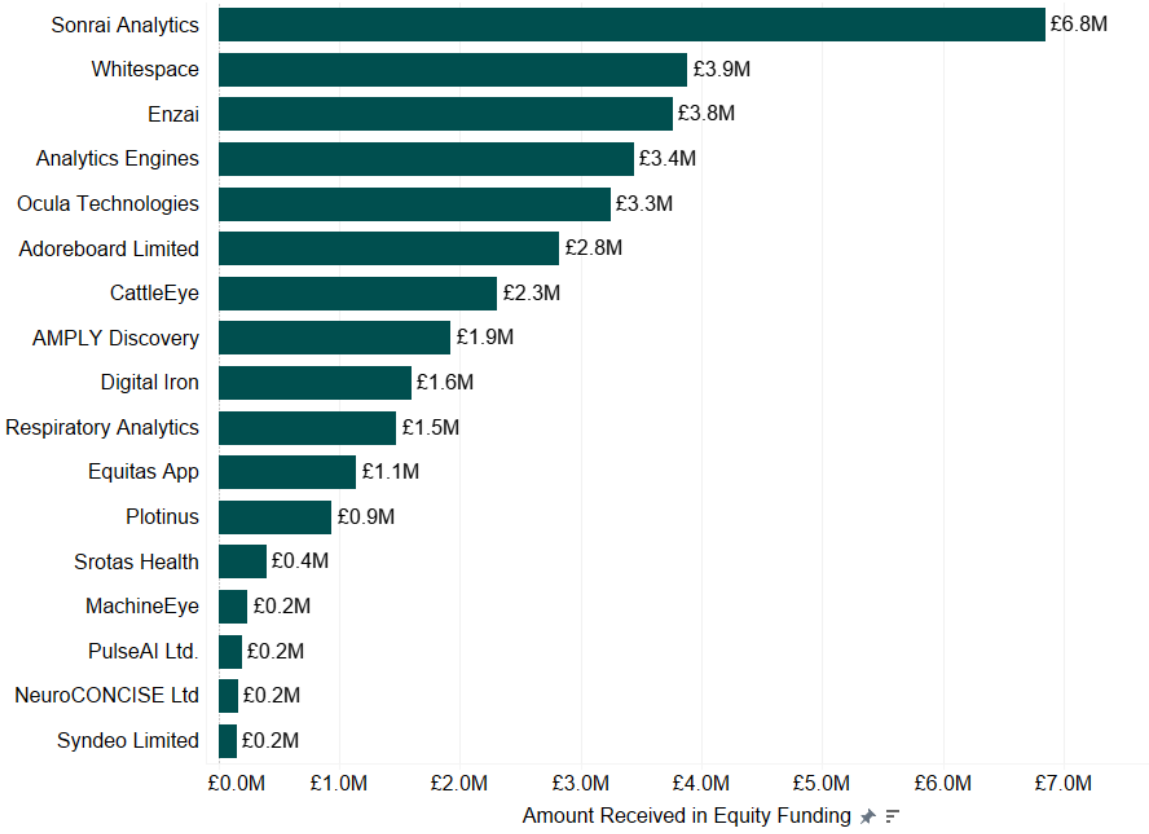
Source: Perspective Economics, AICC

Investment and grants:

The research team has reviewed all 198 firms within the Beauhurst platform, a leading tracker of investment and grants raised by high growth UK firms. We find that 63 firms (32%) have been tracked by platform due to either receiving external investment from a VC or angel investor, securing of grants from bodies such as Innovate UK, or are marked as 'high growth' and have grown at more than 20% year-on-year for the last three years. Of these firms, 17 can be considered local dedicated AI firms, where we focus the analysis upon to avoid double-counting or overlap with other sectors or regions outside of Northern Ireland. Collectively, these 17 firms have raised a combined **£34.5m since incorporation across 48 deals.** A further 26 indigenous NI firms (diversified using AI) have also raised a further £123m since incorporation across 106 deals.

Analysis of equity funding reveals some notable successes, with Sonrai Analytics leading at £6.8m, followed by a cluster of firms including Whitespace (£3.9m), Enzai (£3.8m), Analytics Engines (£3.4m), and Ocula Technologies (£3.3m). This concentration demonstrates investor confidence in specific AI applications, particularly in healthcare, cyber security, and data intelligence.

Figure 8. VC investments since firm incorporation



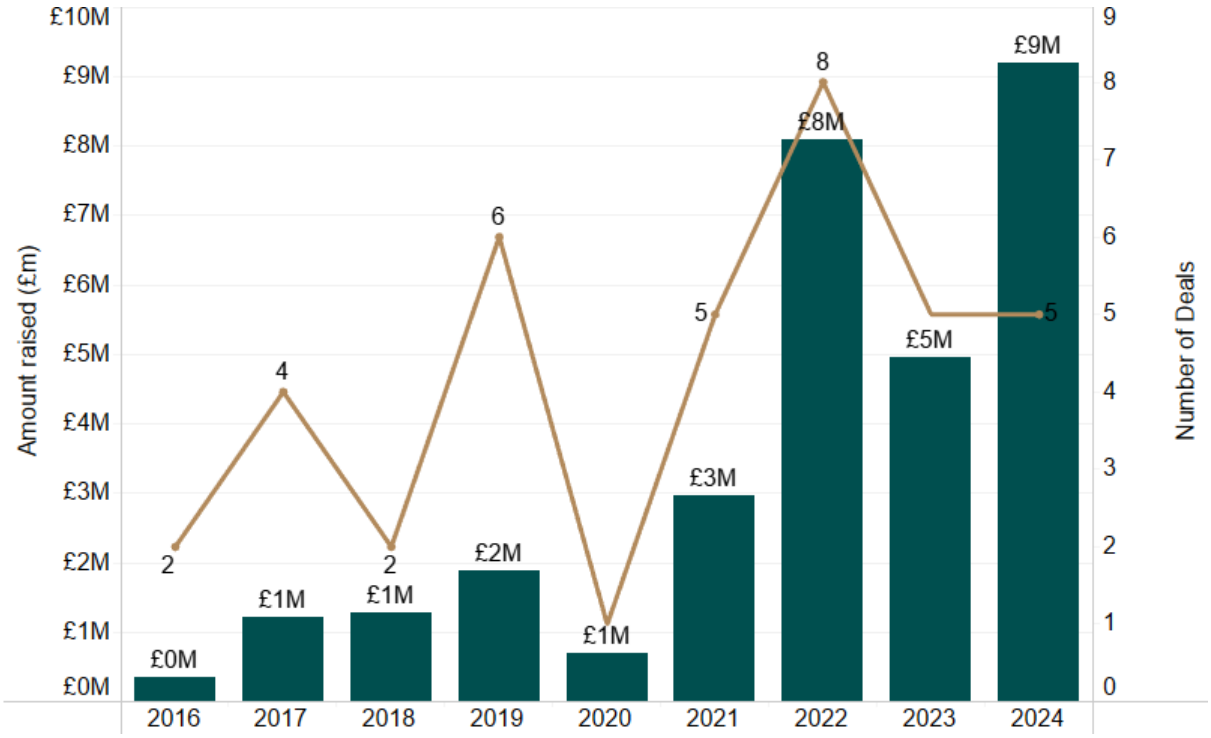
Source: Perspective Economics analysis of Beauhurst data

Analysis of investment into AI firms in Northern Ireland over time should be treated with caution given the limited sample size. However, we find some signs of growth momentum despite wider contractions in VC investment across the wider tech sector.

Following early-stage investments through 2017-2020, the ecosystem experienced growth in 2022 with £8m raised across 8 deals, before consolidating slightly to £5m in 2023. However, in 2024, there has been an increase to £9m in 2024 across 5 deals indicating both increasing deal sizes and confidence in the maturity of NI's AI sector. This trajectory aligns with broader UK AI investment trends whilst demonstrating local ecosystem maturation. The transition from multiple smaller deals in 2022 to fewer, larger transactions in 2024 suggests firms are moving beyond seed stages to growth capital rounds.

However, the most recent review of AI sectoral data using Perspective Economics and Beauhurst data tracks over £2.9bn of VC and equity investments across 496 deals in the UK in 2024. As such, Northern Ireland appears to be receiving approximately 1% in deal volumes and <0.3% of deal values as a proportion of UK activity highlighting significant regional disparity and challenge compared to other regions, particularly outside of London, South East and North West.

Figure 9. VC investments since firm incorporation



Source: Perspective Economics analysis of Beauhurst data

Grants:

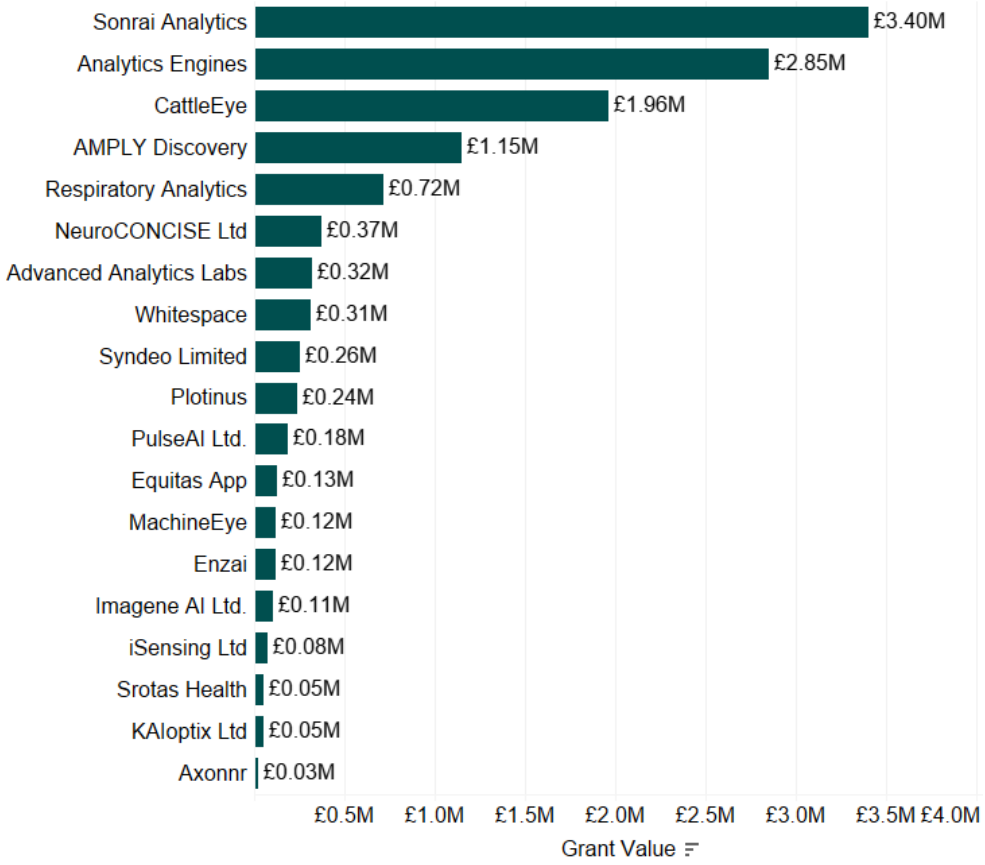
Grant funding provides crucial capital for R&D and innovation activities across the ecosystem. Analysis of Beauhurst data reveals 56 grants have been secured by 19 indigenous AI firms since incorporation. Sonrai Analytics leads with £3.4m in grant funding, followed by Analytics Engines (£2.85m) and CattleEye (£1.96m), indicating these firms' relative success in securing grant funding for innovation. The distribution of grant funding shows a long tail pattern, with others accessing smaller awards for proof-of-concept and collaboration.

Grant sources primarily include Innovate UK, which remains the dominant funder for AI innovation, alongside some regional support through Invest NI and sector-specific programmes. Several firms have successfully leveraged multiple grants over time, with Analytics Engines and CattleEye demonstrating success in multiple rounds to support R&D and scaling. The combination of equity investment (£34.5m) and grant funding (over £12.4m) across dedicated AI firms creates a need for a blended approach, enabling firms to maintain equity, secure early-stage custom, and advance technical development. This is particularly important for deep-tech AI companies with extended development timelines before revenue generation.

However, when contextualised against UK-wide grant distribution for AI innovation, Northern Ireland's share remains disproportionately low relative to its research capabilities and talent base. This also aligns with wider research and innovation funding activity, where only approximately 1% of UKRI funding is invested in Northern Ireland[11]. This suggests opportunities for increased engagement with national funding programmes and the need for enhanced support in grant application processes to build capacity and capture an improved share of UK innovation funding.

[11] UKRI (2025) 'Geographical distribution of UKRI funding, financial years 2022 to 2023 and 2023 to 2024' Available at: https://www.ukri.org/publications/2022-to-2023-and-2023-to-2024-geographical-distribution-of-funding/geographical-distribution-of-ukri-funding-financial-years-2022-to-2023-and-2023-to-2024/

Figure 10. Grants received since firm incorporation



Source: Perspective Economics analysis of Beauhurst data (56 grants since 2014)

Partnerships and supply chains:

The research team has reviewed the 198 firms in scope of this study to identify, where possible, where firms are mentioning partnerships, customers, and wider supply chains within the economy. This can provide valuable insight into the demand side (i.e. the organisations purchasing AI products and services), as well as market concentration or high levels of engagement on the supply side (e.g. where firms work closely with market infrastructure providers, universities, or certain client types). This is experimental analysis based on web data where available; however, can provide insight into indicative partnerships and areas to further develop.

Partnerships:

For the 122 locally headquartered firms, we find 77 (63%) mentioning a formal or informal partnership with an external organisation. This can typically be segmented into three types including **academic partnerships** (where they work with, or have been supported or spun-out by a university or research institution), **technical and vendor partnerships** (where they are a licenced or agreed partner with a larger tech platform e.g. AWS, NVIDIA, or have integration with relevant platforms), and **wider partnerships** (e.g. where firms have a partnership with other complementary firms, or work with charities, civil groups, government or accelerator schemes). Please note this does not include customers, which are explored in the next section. Further iterations of this research shall also seek to capture the number and proportion of firms engaging in partnership with AICC.

Academic partnerships:

We find 23 firms mentioning an academic partnership, signalling the importance of collaborations and spinout activity from local universities. Within the NI ecosystem, Ulster University and Queen's University Belfast can serve as innovation hubs, whilst wider partnerships with universities across the rest of UK and globally can also help to advance the ecosystem.

These partnerships can stimulate ecosystem growth in four key ways, namely through support with research and development as well as enabling spinouts and commercialisation of academic ideas, developing a talent pipeline, and sharing of physical and compute infrastructure.

For example, within the dataset, we find:

- **Seagate Technologies** has worked closely with Queen's University to develop next generation nano-photonic devices, which has supported the creation of the Smart Nano NI Consortium, awarded over £60m to develop new technology for medical devices, communication and data storage
- **StormHarvester** was developed by Brian Moloney, who worked with Queen's University to develop a prototype platform before launching to market. This platform is now used by wastewater utilities across the UK.
- Queen's University has also spun-out AI companies such as **Analytics Engines**, **Adoreboard**, and **Sonrai Analytics**. Sonrai has partnered with Queen's University alongside major companies such as Roche to help improve cancer outcomes.
- Firms such as Axonnr, an AI Robotics start-up company which specialises in using robotics to improve the lives of those with prosthetic limbs, have also been founded by local PhD talent.
- Established firms are also working closely with local universities to maximise opportunities within AI and new research. For example, in early 2025, Queen's University announced a new partnership with Celerion, a global leader in early clinical research, which will see the firm relocate its research operations to the new £64m iREACH Health innovation centre.
- Ulster University also has deep experience in supporting spinouts and academic partnerships. For example, NeuroCONCISE has been developed 'in partnership with Ulster University's Intelligent Systems Research Centre and Spatial Computing and Neurotechnology Innovation Hub (SCANi-hub)', and Aflo Analytics was spun out of Ulster University which will support people with asthma and COPD to take inhaled medicines correctly.
- Further, several companies cite the local universities as key partners for workforce development, with close relationships for upskilling, training, and placements, as well as a strengthening focus on developing clusters in Derry/Londonderry in relation to the use of AI and RegTech and wider cluster development.
- We also find the importance of UK academic partnerships. Firms such as **Srotas Health** have collaborated with Imperial College, Cranfield University, and the University of Hertfordshire. Coventry University also signed a two-year collaboration agreement with Whitespace, to utilise AI for national preparedness against attacks on digital and energy networks.

Technical and vendor partnerships:

We find 45 firms mentioning a technical or vendor partnership. These partnerships predominantly involve integration with major cloud infrastructure providers, software platforms, and technology ecosystems, signalling the importance of aligning with established technology infrastructure to scale AI capabilities and reach broader markets. This figure may be higher and relies upon formal mention of a third-party. However, this does provide some insight into how NI based firms offering AI products or solutions are engaging with infrastructure providers.

The most prevalent partnerships are with cloud service providers, with AWS, Microsoft Azure, and Google Cloud emerging as key infrastructure partners. This reflects the critical need for scalable compute resources and enterprise-grade infrastructure in AI deployment. Several firms have achieved certified partner status, indicating deeper technical integration and market credibility.

For example, within the dataset, we find:

- Kainos has a range of strategic partnerships with Workday, AWS, Microsoft, and Google Cloud, highlighting their capacity in delivering enterprise-scale digital transformation. In June 2025, they launched their Microsoft AI Centre of Excellence, following their recent status as a Microsoft Fabric Featured Partner.
- Several firms leverage AI-specific partnerships, such as Learning Pool's integration with OpenAI, MachineEye's participation in the NVIDIA Inception Program
- Several firms have achieved formal certification or select tier status, such as Anaeko's AWS Select Tier Partner status and GCD Technologies' AWS Select Partner status, which provides access to advanced technical resources and go-to-market support.
- We also find evidence of local firms working collaboratively on AI solutions. For example, in June 2024, Kainos and Enzai announced a key strategic partnership to enable Kainos customers access Enzai AI governance platform. This signals a maturing local ecosystem for growing AI deployment.

These vendor partnerships serve multiple strategic purposes, including providing essential access to infrastructure for AI workloads, enabling integration with customers' existing stacks, offering credibility through certification, and facilitating access to technical support and growth opportunities. While these partnerships demonstrate growing technical maturity, there appears to be potential to amplify Northern Ireland's AI capabilities through more formalised cluster activity e.g. developing an 'AI NI Team of Teams' approach that enables local firms to collaborate on joint solutions, share best practices, and explore larger opportunities.

Wider partnerships:

We find 20 firms mentioning wider partnerships beyond academic and vendor relationships. These partnerships include strategic collaborations, industry memberships, and support programmes demonstrating the diverse ecosystem connections required to develop and scale AI solutions. Such relationships can be essential for accessing expertise, securing funding, navigating regulatory environments, and establishing market credibility within specific sectors, as well as supporting firms with areas such as social value.

For example, within the dataset, we find:

- Government and funding support remains essential. For example, Invest NI support recently enabled inward investment from Napier AI to set up a new Belfast office in February 2025.
- Strategic business partnerships enable market expansion and innovation, such as StormHarvester's partnership with HydroDigital announced in March 2024 to enhance wastewater management solutions, and inico DIGITAL's long-standing partnership with Metadeck, enabling collaboration between a Lisburn and Derry-Londonderry firm to benefit across Northern Ireland.
- Industry programme participation can provide validation and market access, with firms such as TalkTerms (an AI powered claims and disputes platform) joining Guidewire's Insurtech Vanguards programme for technology innovation, and Workstream (an AI powered app to help construction and engineering firms with project management and budgets) achieving RICS Tech Partner Programme membership for the property sector
- Specialised sector partnerships can also enrich growth in sectors such as robotics, space and deep tech. For example, ANGOKA is trusted by 50% of government-funded autonomous vehicle projects in the UK, and recently has partnered with Belfast Harbour on the Harlander shuttle, now being tested in Belfast's Titanic Quarter.
- Social impact is also a key area with local firms keen to use AI in a fair and inclusive way. For example, DiverseTalent has partnered with Equitas.ai (a fair and inclusive interview software), as well as Cara-Friend and Inclusive NI to promote diversity in recruitment.

Customers and NI level adoption of AI

The research team identified 153 firms (77% of the 198 firms in scope) with evidence of external customers, providing insight into market demand and the reach of Northern Ireland's AI ecosystem. This data emphasises Northern Ireland's ability to service global markets, particularly through its established FDI base, as well as the emergent strength of the local ecosystem.

FDI Operations - Servicing the world from Northern Ireland:

Foreign direct investment firms in software, tech and professional services have successfully leveraged Northern Ireland as a base for serving global customers, and improving internal operations in recent years, with the region seeking to compete globally with respect to talent, infrastructure, and value. As these firms increasingly invest in AI, there is potential for Northern Ireland to improve its reputation as a viable location for AI and technology services delivery. Some notable examples include:

- Rapid7's operations support 11,000+ customers globally including Adobe, Air France, Comcast, and HPE, whilst Intapp serves 95% of Am Law 100 firms and 1,700+ private capital and investment banking firms.
- Napier AI serves leading financial services firms such as Starling Bank, Banco do Brasil, and State Street, whilst firms such as Aflac Northern Ireland and Allstate Northern Ireland supports millions of customers across their insurance portfolio.
- Technology giants including Microsoft, NVIDIA, and AMD maintain Northern Ireland operations that contribute to their global delivery, reinforcing the region as a technology hub. For example, in May 2025, AMD were actively seeking several AI Engineering staff for its team in Northern Ireland.

Building from local strength:

Northern Ireland headquartered firms demonstrate a different customer profile, with stronger representation in public sector and local SME markets, with others achieving international expansion in specialised domains. Key patterns include:

- Public sector penetration is particularly strong, with firms such as Anaeko serving 30+ UK councils alongside NI Water, Scaffold Digital working with the Department of Education NI, and multiple firms supporting NHS trusts and UK government departments through G-Cloud frameworks. In 2025, Tussell (a procurement data tracker) also named Kainos as one of the Top 5 AI Suppliers to the UK public sector, with £61m in public awards.

- Regional SME focus in software support is evident through firms like Allsop Software serving local distributors such as Sysco and Frylite, ubloquity supporting companies such as Trans-Bridge Freight Services and Finnebrogue, and Magna Software working with Dyno-Rod in NI, and Patterson Oil. Analytics Engines has also worked with firms such as Dale Farm and organisations such as AFBI. This is particularly important for providing access to AI skills and opportunity across the whole economy.

This analysis highlights some complementary strengths in Northern Ireland, where FDI operations can help to strengthen Northern Ireland's capability and skills pipeline, whilst indigenous firms build from strong local foundations in public sector and SME markets before expanding and partnering for growth. In tandem, the role of the AICC will be to help both sets tap into a rapidly expanding customer base locally and help facilitate the development of specialised solutions that can scale and help Northern Ireland grow.

To achieve this, the data emphasises the importance of public procurement (with several firms identified as working with the public sector locally to improve services and build revenue), and to tackle significant issues in areas such as the environment, health, and education. This is also important for helping local firms to scale and grow – from servicing regional and devolved departments, to building out larger scale solutions for national security and defence.

Further, it highlights the importance of working with local firms to build out AI propositions. The evidence shows that firms in key sectors for Northern Ireland such as agriculture, food production, retail and distribution, and professional services are already engaging with software providers to embed AI solutions; however, it will be crucial to increase adoption from single or double-digit case studies into the hundreds over the coming years.

5. Opportunities for Growth

This analysis establishes a current baseline (2024) of 1,340 AI-related roles driving c. £188m in revenue and £82m in direct GVA across Northern Ireland's AI ecosystem.

The UK AI sector has demonstrated exceptional growth, with GVA increasing 103% year-on-year (2023-24) whilst employment grew 33%, highlighting AI's role in driving productivity gains rather than proportional job creation. Whilst Northern Ireland's ecosystem structure is characterised by smaller firms and limited presence of AI unicorns, this suggests more modest growth but that AI in the region could grow by double-digit estimates over the coming years from a relatively low base.

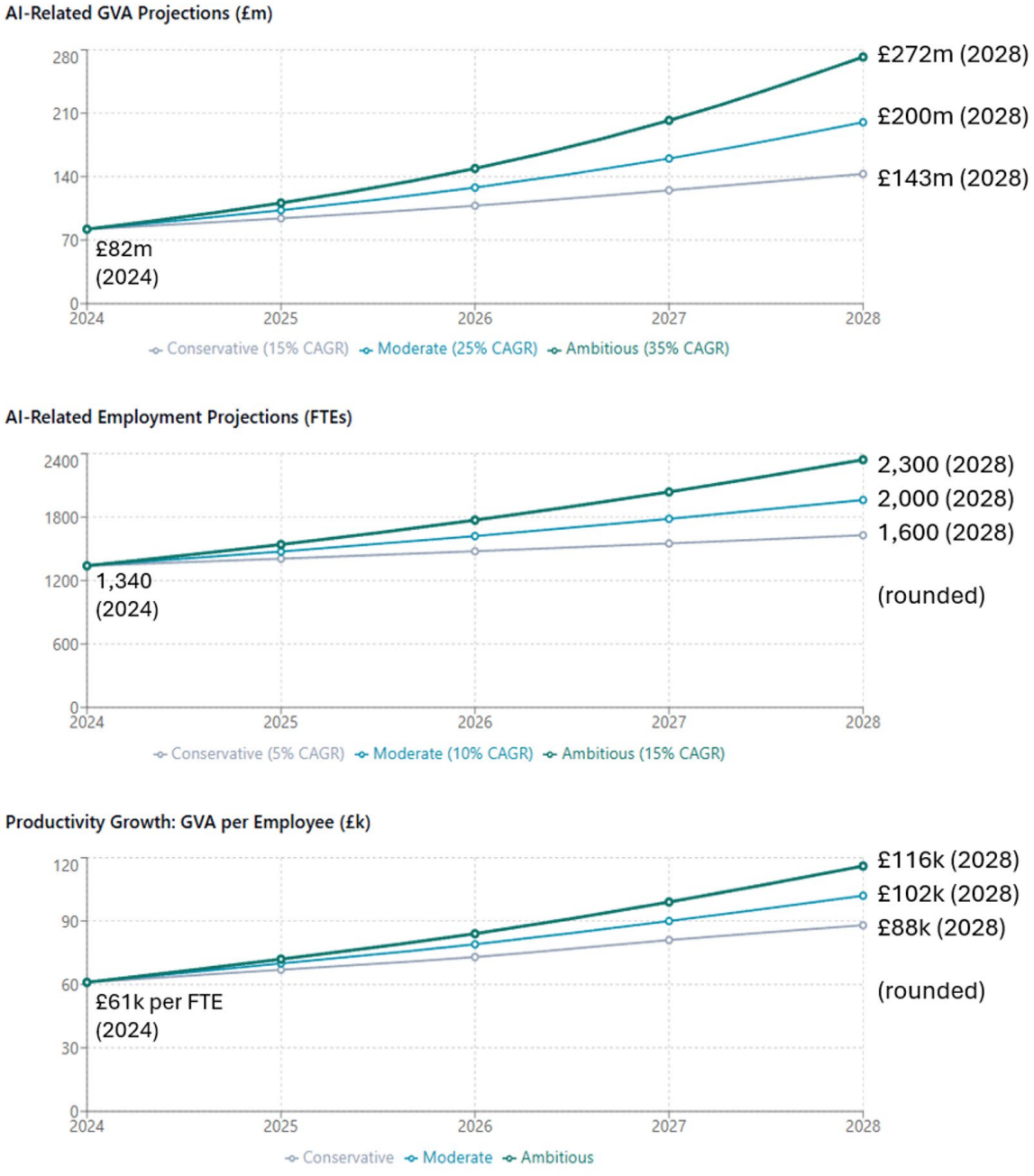
We suggest three potential growth trajectories for NI's AI ecosystem through to 2028:

- **Conservative Growth (15% GVA, 5% Employment CAGR):** Reflecting organic growth without significant intervention, could see AI-related GVA reach £143m by 2028, supporting approximately 1,650 FTEs.
- **Moderate Growth (25% GVA, 10% Employment CAGR):** This trajectory with AICC's planned activities and support, would deliver £200m in GVA by 2028, with employment expanding to c. 2,000 FTEs. This reflects approximately 150-160 additional roles annually whilst productivity per employee increases by 67%.
- **Ambitious Growth (35% GVA, 15% Employment CAGR):** Achievable with enhanced collaboration, increased investment, and accelerated adoption across sectors, would reach £272m in GVA by 2028, supporting approximately up to 2,500 AI-related roles. This represents 250-300 new roles annually.

Given the ecosystem's current momentum and AICC's intervention, a **potential ambition to grow direct AI-related GVA in Northern Ireland to £200m by 2028 (supporting over 2,000 FTEs) represents a realistic target.** This aligns with the moderate-to-ambitious scenarios, emphasising that success should be measured primarily through productivity rather than employment volumes alone.

These scenarios reflect AI's potential impact on workforce productivity, where existing professionals enhance their output through AI tools whilst high-value roles are created. These are scenarios only and shall be tracked annually to consider how AI adoption and growth is translating within the local economy.

Figure 11. Potential growth scenarios for NI AI ecosystem



Source: Perspective Economics forecast scenarios to 2028

Unlocking growth opportunities:

Our analysis identifies four key areas where targeted intervention backed by AICC could help to accelerate ecosystem development and growth:

- **Regional expansion:** With 73% of firms located in Belfast (representing 89% of employment), working with partners to unlock regional growth could help to grow the wider ecosystem across Northern Ireland. For example, Derry/Londonderry hosts only 4% of firms, whilst other council areas show minimal AI activity. This concentration risks creating regional inequality and missing opportunities for growth. AICC's strategic location in Belfast and Derry/Londonderry positions it to democratise AI access through regional roadshows, satellite programmes, and allowing firms from across NI to utilise compute infrastructure such as ARTI and the NI-HPC. Given the current low base, engagement with a small number of firms outside Belfast could add several AI roles in regional locations, particularly leveraging strengths in manufacturing, health and life sciences, agritech, and logistics, and in turn, help to catalyse regional investment.
- **Scaling the middle market:** With almost 200 companies identified but only 36 employing 10+ AI professionals, the ecosystem potentially exhibits a 'missing middle', with firms seeking to move between early adoption and scaling for commercial growth. The current data suggests approximately 70 firms employing 3-9 AI staff, suggesting readiness for growth but requiring support (or investment) to scale accordingly. AICC's programmes and hands-on SME support can address specific scaling challenges, such as initial access to talent, integration, and safe AI deployment at scale. In practice, helping a dozen of these firms from fewer than 10 AI related employees to 20+ operations would add over a hundred high-quality roles whilst creating regional firms capable of scaling at a national and global level.
- **Deepening sectoral engagement and AI use cases**: Whilst technology and software firms represent most of the NI AI ecosystem (68% of firms), we find significant opportunities exist to maximise use of AI in Northern Ireland's traditional strengths. Life sciences, manufacturing, agritech, and financial services appear somewhat under-penetrated despite strong sectoral presence and some strong case studies of adoption. AICC's ability to support sector specific initiatives e.g. from computer vision in manufacturing to regulatory navigation for health and life sciences firms could help to stimulate adoption, and help these firms work with wider industry partners to embed AI in their business models.
- **Public procurement opportunities**: We find evidence of strong public sector engagement across the ecosystem, with firms such as Kainos alone securing £61m in

public AI contracts. However, wider studies have suggested that internal public sector AI adoption remains nascent in Northern Ireland. There should be further opportunities to support local firms through early-stage contracts using AI, and particularly where public services can be improved accordingly. The AICC's role in facilitating public-private collaboration could unlock new procurement opportunities, and or increase the range of suppliers to work with government at all levels.

Northern Ireland could explore priority challenges in areas such as healthcare pathway optimisation, personalised medicine and education, and infrastructure management. Further, working with early-stage firms and public clients to creating innovation sandboxes for proof-of-concepts could de-risk adoption whilst providing initial revenue for emerging firms, building on the success of initiatives such as SBRI.

Addressing challenges:

The AICC will also work to address several identifiable challenges that could restrict growth opportunities. These may vary over time in line with market and technical conditions; however, are likely to include:

Skills and talent pipeline:

The current analysis reveals 1,340 AI professionals with some noted variation in capability and accreditation. At present, this report establishes a baseline only, but further research shall explore the ecosystem's volume and quality, recognising that talent can include varying degrees of experience, accreditation, technical background, and that there is a need to expand the talent pool whilst ensuring professionals understand ethical, effective AI deployment.

AICC's tiered approach will help to address this systematically:

- Foundation layer: AI literacy for 3,000+ professionals annually through accessible programmes with a continuum approach to learners' technical development.
- Technical layer: Advanced postgraduate training for almost 400 new specialists in high-demand areas such as MLOps and AI security, including fully funded AI postgraduate scholarships in collaboration with Ulster University and Queen's University Belfast
- Leadership layer: Executive education ensuring C-suite understanding of AI opportunities and governance

This will help support clear progression pathways, enabling firms and individuals to evolve from 'AI-curious' to 'AI-native' with appropriate support at each stage.

Regional innovation and infrastructure:

The research highlights that Belfast has a much greater concentration of AI related activity than other parts of Northern Ireland. However, Northern Ireland may still appear to be lagging other UK regions as shown within the UK study. As such, the AICC and partners should seek to encourage agglomeration where it can grow the whole ecosystem through knowledge transfer and talent mobility, whilst also ensuring regional balance is considered to widen access and increase growth across all of Northern Ireland. The AICC will work with partners to ensure a physical and accessible presence, as well as supporting access to infrastructure and bringing events and solutions to customers to maximise uptake.

Investment readiness:

As shown in the investment section, whilst there are encouraging case studies with respect to NI AI firms securing external investment, this represents <1% of UK investment activity in the UK. The AICC will seek to work with partners to pitch training, support access to investors, and improve the overall quality of deal flow for potential seed and early-stage investors.

These interventions, delivered through AICC's programmes in collaboration with partners, can help transform Northern Ireland from an AI participant to an AI leader in specific domains, helping to leverage regional strengths whilst addressing recognised constraints.

6. Emerging Recommendations

Based on this baseline analysis, we set out eight initial recommendations for the AICC and the wider Northern Ireland AI ecosystem:

1. Champion deployment-led growth:

Northern Ireland should position itself as an applied implementation leader in AI:

- Focus resources on practical AI adoption and use case development
- Build Northern Ireland's reputation as the place where AI solutions are successfully implemented at scale across private and public sectors
- Develop a portfolio of demonstrable case studies across key sectors (health, agritech, finance, manufacturing) demonstrating value created across the whole economy

2. Strengthen public sector AI leadership

Align with Ulster University's strategic overview for the adoption of AI in Northern Ireland to accelerate public sector transformation:

- Support a cohesive AI procurement framework enabling local firms to partner with government at various levels of maturity and scale, working with partners such as the Office for AI and Digital
- Support the development of applied 'sandbox' environments for public sector AI pilots with reduced risk
- Support and align NI to AI governance frameworks for public sector commissioning
- Identify specific public service challenges where AI can demonstrate immediate value (e.g. in health, personalised medicine and care, infrastructure) and identify potential gaps or omissions that could be addressed to create more inclusive AI policy and services
- Support the NI Executive's current AI work to develop a comprehensive NI AI Strategy

3. Supporting regional balance whilst growing the whole NI ecosystem

Balance regional inclusion with coherent recognition of market dynamics:

- Develop shared infrastructure (like NI-HPC and ARTI) accessible to firms across all Northern Ireland
- Create accessible and moving programmes and roadshows across NI, rather than requiring firms to travel to Belfast or Derry/Londonderry

- Identify opportunities for sector-specific opportunities in regional areas (e.g. agritech in rural councils, manufacturing etc).
- Recognise opportunities for clustering and agglomeration, ensuring that resources are not 'thinly spread'.

4. Facilitate strategic partnerships to complement, not replace

Act as a 'super-connector' and enabler rather than duplicating existing initiatives:

- Map existing accelerators, funding programmes, and support mechanisms that can be aligned to AI growth.
- Ensure Northern Ireland is positioned, with right talent and resources, to bid and access for national funding initiatives where possible (e.g. AI Growth Zones).
- Broker partnerships between local firms and international vendors (e.g. AWS, Microsoft, NVIDIA) to maximise opportunities for co-investment and access to skills, compute, and growth support from industry.
- Focus AICC resources on gaps and collaboration to prevent competing with existing provision.
- Enable or support the formalisation of an AI NI ecosystem cluster with industry and public partners.

5. Develop high-value talent pipelines

Recognition of the need for quality as well as quantity in skills development:

- Undertake a tiered approach to understand levels of AI talent in Northern Ireland from advanced to introductory levels. Create clear progression pathways from foundation to expert level, working with UK skills partners.
- Ensure industry-aligned postgraduate programmes.
- Track the 'productivity gap' identified between NI and other regions in AI (across regions and over time) to understand productivity and value.

Recommendations for research:

6. Undertake an AI skills deep dive

Move beyond headcount to understand capability:

- Map skills and experience levels within the estimated 1,340 AI workforce alongside industry, including further granularity regarding experience, credentials, and how roles are evolving and changing in the ecosystem.
- Identify specific skills or wider gaps hindering team growth
- Identify areas of potential workforce changes over time (due to demand, supply or factors such as AI automation).
- Assess NI readiness for emerging AI governance and regulatory requirements.

7. Support a Northern Ireland AI adoption study

Understand the demand side:

- Explore levels of AI adoption across the NI economy with survey or web data, potentially exploring increased NI sample sizes in UK wide adoption surveys
- Run NI specific adoption research across all sectors and identify specific barriers to AI adoption for local businesses.
- Deep analysis of high potential sectors for NI and levels of AI adoption by agreed sectors.
- Analyse the economic impact from AI adoption across the NI economy.

8. Create an open ecosystem dashboard

Enable real-time monitoring of progress of the AI ecosystem in NI, and the AICC's contributions:

- Host an online dashboard with leading indicators for the NI AI ecosystem (e.g. firms in scope, new job postings, partnerships or case studies)
- Publish quarterly updates to maintain momentum, and host an active dashboard for firms to share products and services offered to the market
- Work with funders and policy leads to share progress and insight into the AICC delivery model.

7. Conclusion and Next Steps

This baseline represents a snapshot of Northern Ireland's AI ecosystem in 2025, and the methodology uses an intentionally broad initial mapping to establish foundational metrics for the ecosystem. As AI technologies and business models evolve rapidly, this baseline must be continuously reviewed and refined. This baseline will be rightly subject to debate, regarding the type of activity considered in scope, and the extent to which activity may be estimated as 'AI-related'.

This research has required development of a definition and taxonomy, and review of roles and skills that may work today but will change at pace. Further, whilst this study aligns to the national DSIT AI Sectoral Analysis, the research team recognise that there is no standardised approach for identifying AI related activity, and this report requires the use of experimental methods such as web analysis to capture as much of the NI AI ecosystem as possible.

Therefore, this report provides a 'high-level' assessment of the core AI related activity in Northern Ireland as of August 2025. It is a short overview, providing the building blocks for monitoring and evaluation activity. It explores how example firms across the ecosystem are using AI and recruiting talent and considers a series of potential scenarios for growth. These are not forecasts but rather serve as a yardstick to explore impact in the years ahead.

This research should expand and continue to evolve over the coming years, particularly as engagement and deployment of AI technologies by local businesses develops. We set out some initial next steps and considerations for monitoring, evaluation and research activity below, where understanding of adoption and impact can be furthered through enhanced data and evidence in the coming months and years.

- **Regular tracking of the NI AI ecosystem:** The AICC and the research team have developed a baseline considered reflective of firms involved in the local AI ecosystem. We anticipate that there will be several new inflows into the ecosystem, including new AI start-ups, inward investment into Northern Ireland, as well as other firms adopting and embedding AI into the products and services. The AICC and the research team will continue to track new firms into the ecosystem and will also undertake regular review and adaption of definitions and scope used for the research. A firm-level database will be updated regularly, enhanced with ongoing consultation with employers and firms to explore ongoing growth and activity.

- **Deepening ecosystem analysis:** We recognise this study is an initial baseline exercise. It provides high-level estimates of AI related activity in Northern Ireland; however, there is significant opportunity for deepened and more granular analysis. This could include 'sector-specific' uses of AI (e.g. how AI is being used in certain domains), absolute and relative activity in Northern Ireland compared to other regions, futures-based analysis of opportunities for Northern Ireland, and deeper analysis into areas such as technical and comparative advantage for Northern Ireland in the current and longer term.

  Further, areas such as investment, skills, and technologies used in relation to AI may all benefit from further granularity and analysis beyond that set out within this baseline report. As stated, this provides an initial high-level assessment; the AICC and the research team shall work with partners to develop a prioritisation of research areas, and tailored engagement with industry and policymakers.

- **Developing an attribution framework:** This report sets out potential growth scenarios for Northern Ireland's AI ecosystem over the next four years. This will enable the team to explore how the ecosystem is performing year-on-year and will be benchmarked to other regional and national studies. AICC will also develop an Impact and Attribution Framework, alongside the research team and partners, to help identify how any changes in the wider ecosystem may be attributed to the work undertaken by the AICC (e.g. number of AI-driven enterprises, and associated changes in productivity or employment).

- **Broadening impact assessment:** This baseline focuses upon the data available at the time of writing, which includes the use of estimated values for the extent of AI activity within firms (e.g. AI related employment, extraction of AI related products and services from web data etc).

  These have been used to build an initial baseline of core metrics relating to firm count, employment, revenue and Gross Value Added. Where possible, these are undertaken at a Northern Ireland level; however, future research will be expected to expand upon the data available (e.g. through direct engagement with firms, surveys or qualitative engagement, and increased use of web or secondary data).

  Further, we may find over time that some metrics may grow or change in a non-linear pattern. For example, the count of firms using AI may increase, but the employment impact could vary depending on technical and adoption-based approaches from firms and wider

demand. For example, future scenarios could include a greater volume of employees becoming 'AI native' or could potentially result in increased Gross Value Added amidst a smaller pool of employees as scenarios such as Agentic AI placed downward pressure upon demand for human labour.

As such, the research should track these factors over time but also consider broadening the impact metrics used from primarily 'economic' to include measures such as ecosystem maturity, extent of AI adoption, how the Northern Ireland ecosystem interacts with wider domestic and global demand, and environmental impact. It may also be broadened to consider wider factors within the ecosystem itself (e.g. social inclusion, technical depth within the workforce), as well as wider displacement or impacts across society.

- **Developing dynamic indicators:** The metrics within this analysis reflect a 'current snapshot' of activity. However, the AICC and the research team shall work with industry and policymakers to develop more 'real-time' leading indicators, that can help to track the progress of the ecosystem, as well as share opportunities and data to inform further research. For example, this may include firms actively offering AI products and solutions within Northern Ireland, and a summary of their solutions for end customers. It may also include job postings, or funding and investment opportunities, in addition to key current statistics from the ecosystem analysis.

- **Active feedback:** As stated, this report seeks to inform the baseline and debate regarding how AI can be used and deployed to grow the NI economy. It draws upon the methodology used within the DSIT AI Sectoral Analysis, with further refinement and breadth to capture almost two hundred relevant firms and their activity. The AICC and the research team will work with industry, policy, and civil society to gather ongoing feedback regarding how this research can keep pace with evolving definitions, scope, and integration with wider local economic strategy.

- **Methodological refinements:** This baseline aims to capture a wide array of AI activity across Northern Ireland. We recognise definitional and data limitations but will work collectively in future iterations to explore areas in further depth and refine the methodology accordingly. This may include tiered definitions of AI intensity within firms, standardised metrics for the emergent impact of AI on the NI economy (and for whom), and work in tandem with other regional and national research for comparability.

- **Testing assumptions over time:** The AI landscape will change dramatically over the next few years. The research team does not view this as a limitation, but rather an opportunity as the core value of longitudinal tracking. We will use this baseline to explore and evidence where scenarios prove accurate or obsolete, the emergence of new and evolving business models and technologies, shifts in required skills, capabilities and compute, and assess the performance of the ecosystem with respect to considerations such as international competitiveness, regional growth, and distributional impacts.

The AICC shall also work collaboratively across Northern Ireland to build the skills pipeline through the following project key actions and KPIs and will share progress accordingly.

Project Key Action	KPI	Target
Building the skills pipeline	Postgraduate Scholarships in AI Related Courses	390
	Professional Short Courses in AI Foundations for Business	2,000
	People Provided with Classroom-Based or Online AI Skills Training	1,100
Business Engagement	SMEs provided with hands on data science / AI support	248
	New academic-industry connections	100
Events and Leadership	High quality events focused on knowledge sharing, showcases and insights	48
	National and international events attended, building international networks	60
Research & Development	R&D funding submissions totalling £10m	24
	R&D projects with NI based businesses	12

About the AI Collaboration Centre (AICC)

The AI Collaboration Centre is a pioneering £16.3m initiative led by Ulster University, in partnership with Queen's University Belfast. Their mission is to advance awareness and adoption of Artificial Intelligence (AI) technologies among businesses, specifically SMEs, across Northern Ireland.

Supported by Invest Northern Ireland and the Department for the Economy NI, they aim to enhance competitiveness, boost productivity, and promote the ethical and responsible use of AI across diverse industries. Their vision is to accelerate AI adoption within SMEs, build AI skills capacity, foster collaboration, and drive innovation across key sectors, creating meaningful impact.

Perspective Economics was commissioned by the Artificial Intelligence Collaboration Centre (AICC) to establish this comprehensive baseline of Northern Ireland's AI ecosystem.

To discuss this report please get in touch with the AICC at **aicc@ulster.ac.uk** or on **+44 (0) 2895 367 014** or the Perspective Economics research team at **info@perspectiveeconomics.com**

Perspective Economics

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