

Edinburgh and South East Scotland City Region Deal Joint Committee

10am, Friday 1 March 2024

Data-Driven Innovation Programme Annual Update

Item number 6.2

Executive Summary

This report reviews progress in delivery of the Data Driven Innovation (DDI) initiative in the period to July 2023. The initiative remains one of the single biggest innovation investments in UK academic institutions and is designed to enhance the data capability of the region, drive economic growth, social change and inform and improve public services.

Commensurate with the level of investment, the initiative set ambitious KPIs agreed with City Region Deal partners. These included themes of Talent, Research, and Entrepreneurship. As we enter the sixth year, milestones that far exceed original expectations have been achieved:

Talent: 35,000 course completions have been achieved, representing 24% of the overall target.

Research: In the last year, £127 million in research activity has been delivered, surpassing the planned £57 million by 125%. As a result, total research expenditure to date has reached £399 million, exceeding the plan by 42%.

Entrepreneurship: 41 data-centric technology companies have been supported, bringing the total number supported to date to 433. That is 329 companies ahead of plan.

The Deal offers unique benefits that come from linking organisations across the private sector, academia, and public sector to develop innovation opportunities with tech and data at their heart.

For researchers and innovators, this provides the opportunity to leverage the scale and resources of large organisations through collaboration, while delivering economic and social benefits in the region where they live and work.

With every year that passes, there are more projects that have benefited from DDI support in one form or another. For example, in 2023, 10 projects focused on DDI have been

supported to tackle 'social change through innovation' with the £191,000 DDI research open call. These included improving wildlife conservation through immersive technology, data-driven models for local energy storage and consumption, and audience insights from the Edinburgh Festival.

The Students as Change Agents initiative which is part of the University of Edinburgh's curriculum transformation programme, continues to be supported, and has gone from strength to strength in bringing real-world challenges to cross-disciplinary student groups. There is more information about this, and many other projects, in the case studies section.

The original vision for the DDI initiative was to position the city region as data capital of Europe. Five years later: the city region is home to the UK's National Robotarium; the region has been selected to host the UK's first Exascale supercomputer; Europe's largest Internet of Things network is being rolled out, and the University of Edinburgh is opening the Generative AI Laboratory to develop safe artificial intelligence solutions for industry and government.

In the coming year, the remaining DDI hubs will be opened. First, the new Usher Building, followed by the Edinburgh Futures Institute. This will complete an innovation platform in Edinburgh comprising six hubs (five at the University of Edinburgh and one at Heriot-Watt University).

This will constitute a fantastic and unique innovation that will further propel the strong record of delivery achieved to date.

The Joint Committee is asked to endorse this report, and to support the programme in four areas:

- Help to secure sustainable long-term funding for the Data Skills Gateway;
- Support efforts to secure long-term funding for the Data Skills Gateway initiative;
- Support efforts to ensure the success of the Internet of Things (IoT) in schools initiative; and
- Support the successful delivery of the DDI initiatives identified in the Regional Prosperity Framework (RPF) Delivery Plan.

Jarmo Eskelinen

DDI Programme Director, University of Edinburgh

Report

1. Recommendations

- 1.1 Note progress to date in the delivery of the DDI Programme;
- 1.2 Endorse efforts to secure long-term funding for the Data Skills Gateway initiative;
- 1.3 Endorse efforts to ensure the success of the Internet of Things (IoT) in schools initiative;
- 1.4 Promote the successful delivery of the portfolio of DDI initiatives identified in the Regional Prosperity Framework (RPF) Delivery Plan; and
- 1.5 Support the ambition to utilise the **CRD Benefits Realisation Plan** to build evidence to back up future innovation investment for the region.

2. Background

- 2.1 Progress in the delivery of the DDI Programme is presented in the 2023 Annual Review that is available at www.ddiannualreport23.com.

3. Main Report

- 3.1 The DDI initiative is now in its sixth year, and solid foundations that have been established. By expanding the portfolio of data courses and enhancing delivery capabilities significant strides have been made in nurturing a data-literate local talent pool. The focus upon data-centric research has positioned the region at the forefront of thought leadership in data and artificial intelligence (AI), and the associated societal considerations. By supporting both deep science and service ventures, local job creation and investment continues to be supported.
- 3.2 2022/23 was a year of significant milestones. The University of Edinburgh (UoE) celebrated 60 years of research in computer science and artificial intelligence, and the DDI Programme reached its halfway milestone. Despite some delays in construction works caused by the pandemic, we have made excellent progress, moving from business case writing to securing the first large-scale Anchor Projects and building and equipping six DDI Innovation Hubs across two universities.
- 3.3 The effectiveness of the DDI initiative is in part due to the early establishment of clear and measurable key performance indicators (KPIs). The DDI Programme had an outstanding year, and continues to perform ahead of plan in all respects:
 - **Talent:** 35,000 course completions have been achieved, representing 24% of the overall target.

- **Research:** In the last year, £127 million in research activity has been delivered, surpassing the planned £57 million by 125%. As a result, total research expenditure to date has reached £399 million, exceeding the plan by 42%.
- **Entrepreneurship:** 41 data-centric technology companies have been supported, bringing the total number supported to date to 433. 69% of companies are still active (average in the UK 30% after 3 years), with 159 (54%) located in South-East Scotland.

3.4 A major focus for the year was preparing to launch the next phase of the DDI initiative. The strategic direction, governance and management to unlock the full potential of the DDI platform of six Innovation Hubs has been assessed, to ensure maximum leverage of the CRD investment. External engagement is being ramped up to drive inclusive growth, solidifying integrated ways of working and embedding the drivers of Data Driven Innovation permanently in the universities and the region more broadly.

3.5 Selected highlights include:

- External evaluations show the growing significance of DDI in the region. The [Data Capital](#) report by Accenture (April 2023) highlighted the growing reputation of Edinburgh as a top European location for AI. The impact on entrepreneurial activity is visible, and FinTech Scotland reported that Scottish fintech companies had received over £300 million in funding in 2022 – an increase of over 200% on the previous year.
- The September 2022 launch of the National Robotarium attracted significant national interest, and a significant strategic alliance with Tata Consultancy Services across multiple disciplines was agreed.
- In October 2023, The UK Government [announced that the UK Exascale Supercomputer will be located in the region](#). Exascale supercomputing is the next generation of high-performance computing and will help researchers model all aspects of our world, test scientific theories and improve products and services in areas such as drug discovery, climate change and advanced engineering.
- The [Data Skills Gateway](#) is a major contributor to collective inclusive growth ambitions. Since its inception in 2018, the Data Skills Gateway has reached over 34,000 participants from school-aged children to woman returns to the workforce. The Data Education in Schools has boosted data literacy in more than 850 schools. In partnership with the Scottish Sensory Centre British Sign Language gestures for cyber security, computing and data science were developed.
- The Innovation Hubs are establishing a new Centre for Purpose-Driven Banking in partnership with NatWest Group. The Centre will draw upon expertise from more than 100 academics to harness data for the public good and climate education.

- The Advanced Investor Readiness (AIR) initiative has opened for applications from potential high-growth start-ups. AIR is an intensive development course that equips entrepreneurs with advanced skills and insights to support their investment journey. The programme will take place in spring 2024, culminating in the EIE24 technology investor showcase in May.

- 3.6 In 2024, the last two buildings for DDI Hubs will be opened. [Edinburgh Futures Institute](#) (EFI) is the larger one, located in the iconic former Royal Infirmary Hospital. EFI will be a new landmark and centre for collaboration and innovation in the city centre. The home base for five of the ten DDI industry sectors, EFI has the broadest educational programme of our Hubs, bringing people, data, and diverse disciplines together in the open, 'what-if' environment. The first wings of the building opened in the autumn of 2023, with the entire building becoming ready in spring/summer 2024.
- 3.7 The [Usher Building](#) will become ready at the start of 2024. It will host health and social care research teams collaborating with partners from public, private and third-sector organisations to deliver data-driven health and social care advances. The Usher Hub is a crucial step in developing the Edinburgh Bioquarter, one of the fastest-growing biomedical innovation areas in the UK. Bioquarter's vision is to grow into a vibrant mixed-use neighbourhood rapidly, centred around a world-leading community of healthcare innovators.
- 3.8 To secure a permanent position as a data capital, outputs of DDI initiatives and activities must lead to long-term outcomes and lasting impact, evolving after the DDI delivery period ends. The strong partnerships established in the first phase of DDI are being built on. DDI Hubs are joining forces behind an integrated entrepreneurship strategy, collaborating with the Tech Scaler coordinated by Codebase to deliver against the ambition of the Entrepreneurial Campus report by the Scottish Government and scale up the Edinburgh tech ecosystem to become self-sustainable.
- 3.9 Collaboration between the HE/FE sector and regional partners has been enhanced to accelerate the delivery of the [Regional Prosperity Framework](#) (RPF), and there is an intention to launch a Regional Intelligence Hub (RIH) as and when funding allows. This pioneering collaboration will unify data, analytical insights, and specialised expertise to support inclusive and evidence-informed policymaking on a regional scale. RIH will stimulate greater cooperation and collaboration among governmental institutions, enhance citizen engagement, and promote accountability and transparency in the policymaking process. It will achieve this by collecting and linking powerful data assets, engaging leading experts in policymaking, cultivating interdisciplinary expertise and collaboration in the public sector, and establishing a structured process to support the participation of different stakeholders and citizen groups.
- 3.10 The success of the DDI initiative to date underscores our commitment to delivering substantial regional impact. As the initiative embarks on its next phase, the platform

that has been created in the last five years will enable us to achieve even greater heights.

4. Financial impact

- 4.1 At the end of Government financial year (03/2023) the cumulative capital grant draw-down amounted to £207 million, £79 million ahead of the agreed city region deal funding profile. Together the DDI hubs add 55,000 square metres of innovation space to the city region.

5. Alignment with Sustainable, Inclusive Growth Ambitions

- 5.1 The DDI initiative fully supports the aims and ambitions of the CRD.

6. Background reading/external references

- 6.1 [DDI Programme Annual Review](#)

7. Appendices

- 7.1 None.