

Public Document Pack

Notice of meeting and agenda

Edinburgh and South East of Scotland City Region Deal Joint Committee

10am, Monday, 17 December 2018

Dean of Guild Room, City Chambers, High Street, Edinburgh

This is a public meeting and members of the public are welcome to attend.

Contact

Email: allan.mccartney@edinburgh.gov.uk

Tel: 0131 529 4246

Membership

The City of Edinburgh Council
Councillor Adam McVey

Scottish Borders Council
Councillor Shona Haslam

East Lothian Council
Councillor Willie Innes

West Lothian Council
Councillor Lawrence Fitzpatrick

Fife Council
Councillor David Alexander
Councillor David Ross

High/Further Education Consortium
Professor Charlie Jeffrey

Midlothian Council
Councillor Derek Milligan

Regional Enterprise Council
Leeann Dempster
Claire Patullo

1.	Order of Business 1.1 Including any notices of motion and any other items of business submitted as urgent for consideration at the meeting.
2.	Declarations of Interest 2.1 Members should declare any financial and non-financial interests they have in the items of business for consideration, identifying the relevant agenda item and the nature of their interest.
3.	Previous Minute (Pages 3 - 6) 3.1 Minute of the Edinburgh and South East Scotland City Region Joint Committee meeting 2 November 2018 – submitted for approval as a correct record (circulated).
4.	Items for Consideration
	4.1 City Region Deal Dashboard (Pages 7 - 14) Report by Andy Nichol, Programme Manager, Edinburgh and South East Scotland City Region Deal (circulated).

	<p>4.2 Bayes Centre Project Business Case (Pages 15 - 50) Report by Hugh Edmiston, Chair, Data Driven Innovation Delivery Board, Edinburgh and South-East Scotland City Region Deal (circulated).</p>
	<p>4.3 World Class Data Infrastructure Project Business Case (Pages 51 - 68) Report by Hugh Edmiston, Chair, Data Driven Innovation Delivery Board, Edinburgh and South-East Scotland City Region Deal (circulated).</p>
	<p>4.4 National Robotarium Project Final Business Case (Pages 69 - 90) Report by Prof Gillian Hogg, Senior Responsible Officer for National Robotarium Project, Heriot Watt University (circulated).</p>
	<p>4.5 Integrated Regional Employability and Skills Programme Business Case (Pages 91 - 160) Report by Chair, Integrated Employability and Skills Board, Edinburgh and South East Scotland City Region Deal (circulated).</p>
	<p>4.6 IMPACT Centre Business Case (Pages 161 - 176) Report by Sir Ewan Brown, Chairman, IMPACT Scotland (circulated).</p>
	<p>4.7 Forward Plan for Business Case Approvals (Pages 177 - 180) Report by Andy Nichol, Programme Manager, Edinburgh and South East Scotland City Region Deal (circulated).</p>

Minutes

Edinburgh and South East of Scotland City Region Deal Joint Committee

Edinburgh, 12.00pm, Friday 2 November 2018

Present:

City of Edinburgh Council:- Councillor Adam McVey

East Lothian Council:- Councillor Willie Innes

Fife Council:- Councillor David Alexander

Midlothian Council:-Councillor Derek Milligan

Scottish Borders Council:- Councillor Shona Haslam

Higher/Further Education Consortium: - Professor Charlie Jeffrey

Regional Enterprise Council:- Leann Dempster and Claire Pattullo

1. Appointment of Convener

Decision

To appoint Councillor McVey (City of Edinburgh Council) as Convener.

2. Appointment of Vice-Convener

Decision

To appoint Councillor Innes (East Lothian Council) as Vice-Convener.

3. Appointment of Clerk

Decision

To appoint Gavin King (City of Edinburgh Council) as clerk.

4. Appointment of Chief Officer

Decision

To appoint Andrew Kerr (City of Edinburgh Council) as Chief Officer.

5. Welcome

The Convener welcomed members and officers to the first meeting of the Joint Committee.

6. Standing Orders

Draft operational Standing Orders for the Joint Committee were presented.

Decision

- 1) To approve the Joint Committee's Standing Orders.
- 2) To note that these would be reviewed annually.

(Reference – report by the Chief Executive, CEC), submitted)

7. Dashboard and Thematic Updates

Andy Nichol, Programme Manager, provided details of the Dashboard used to monitor progress across all aspects of the City Region Deal. This used RAG (Red/Amber/Green) status guidelines to monitor the progress of individual workstreams, and was updated weekly. The overall status of the City Region Deal was currently assigned as "Amber".

Decision

To note the progress across the City Region Deal Programme.

(Reference – report by the Programme Manager, submitted)

8. Data Driven Innovation – Presentation

Professor Charlie Jeffery, Higher/Further Education Consortium, gave a presentation on data driven innovation. He explained the region's key advantages in data innovation, including Edinburgh University's long history with supercomputing; informatics and Artificial Intelligence; the robust tech infrastructure, including the UK's largest tech incubator (CodeBase); the quality of life within Edinburgh and beyond; strong government support (eg Scottish Enterprise investment, and now City Region Deal funding and leverage), and cross-sector capacity. He noted that business cases were currently being developed for the Bayes Centre; the National Robotarium, and the World Class Digital Infrastructure (item 10 refers).

Decision

- 1) To note the presentation.
- 2) To note the intention to submit Data Driven Innovation business cases to the next meeting of the Joint Committee for approval.

9. Integrated Regional Skills Programme - Presentation

Angela Leith (East Lothian Council) provided an overview of the Integrated Regional Skills Programme. Ken Shaw, the Programme Lead, then gave a detailed presentation on its various elements. He noted the employability challenges within the City Region area, including slow growth; regional disparities in job density; and housing, transport and connectivity issues. The Programme aimed to deliver an inclusive workforce to support City Region Deal initiatives; help future proof the regional economy by promoting positive changes in equality, capacity and responsiveness to changes in the economy; encourage wider participation by stakeholders, and deliver at least 14,700 Skills improvements, with 5,300 into employment.

Responding to questions from members, Ken Shaw confirmed that the Programme would be addressing the potential for community based schemes (eg remote working in rural areas), as well as the scope for more flexible transport arrangements.

Decision

To note the presentation.

10. Forward Plan – Business Case Approvals

Information was provided on the planned dates for City Region Deal business case approvals for the Joint Committee. The programme matched the timeline for drawing down funds from Government, and was dependent on prior approval by the Scottish and UK Governments; the relevant City Region Deal Boards, and the relevant Council committees and/or Higher and Further Education Courts.

Decision

To note the Forward Plan for business case approvals.

(Reference – report by the Programme Manager, submitted)

Edinburgh and South East Scotland City Region Deal Joint Committee

10am, Monday 17 December 2018

City Region Deal Dashboard

Item number 4.1

Executive Summary

The Edinburgh and South East Scotland City Region Deal dashboard gives an indication of progress across the City Region Deal programme.

In this update, the overall status is assigned as “Amber”. There are no actions required from the Joint Committee.

Andrew Kerr

Chief Officer, Edinburgh and South East Scotland City Region Deal

Contact: Andy Nichol, Programme Manager, Edinburgh and South East Scotland City Region Deal

E-mail: andy.nichol@edinburgh.gov.uk | Tel: 0131 529 4461



Report

City Region Deal Dashboard

1. Recommendations

1.1 To note the progress across the City Region Deal Programme.

2. Background

2.1 This Dashboard is being used across the City Region Deal's Governance structure to monitor progress across all aspects of the City Region Deal. It is updated on a weekly basis and shared with Government. A RAG (Red, Amber, Green) scale is assigned to programmes and projects by the Programme Management Office (PMO).

2.2 Table 1 shows the guidelines that the PMO uses when determining the RAG status, and the action required:

Table 1: RAG Status Guidelines

RAG Status	Projects/Programme Status	Action Required
Green	On track for completion within desired timescales.	No management action required.
Amber	Project may be at risk to meet deadlines if issues are not addressed.	Management action is in place by PMO and/or senior management to address issues.
Red	Project is at risk to miss a scheduled completion date.	Immediate action is required by senior management and relevant Boards as appropriate to address issues.

3. Main report

3.1 The Dashboard is shown in Appendix 1. The overall status of the City Region Deal is assigned as "Amber". There are no actions required from the Joint Committee.

4. Financial impact

4.1 There is no financial impact relating to this report. The overall financial status of the City Region Deal programme is shown on Page 4 of the Dashboard.

5. Equalities impact

- 5.1 There are no impacts on equalities relating to this report. Inclusion is a key driver for the City Region Deal. Business cases for projects included will demonstrate how they will reduce inequalities and tackle the inclusion challenges specific to the city region.
- 5.2 A Monitoring and Evaluation Framework is being developed for the programme, which will incorporate clear indicators to align with the Scottish Government Inclusive Growth Framework, also under development. This will form part of the annual reporting process from 2019.
- 5.3 Partners are working with the Scottish Government and Equalities and Human Rights Commission to develop and Equalities Impact Assessment for the City Region Deal programme. Integrated Impact Assessments are also being undertaken for individual projects relating to local authorities and will be reported at the respective council meetings.

6. Background reading/external references

- 6.1 [City Region Deal Document](#): August 2018

7. Appendices

- 7.1 Appendix 1: City Region Deal Dashboard

Overall Status Last Period	Overall Status This Period
Amber	Amber

Page 1: Programme Management Updates

Executive Highlights

- In the last period, partners focused on:
- establishing the new governance structure;
 - Finalising the first five business cases;
 - developing a regional procurement strategy; and
 - establishing a position on regional partnership working.

PMO Updates

Implementing Governance Structure	G	<ul style="list-style-type: none"> • Regional Enterprise Council has been formed and will meet on 7 December for the first time. • Joint Committee has formed and will have its second meeting on 17 Dec. • Discussion on regional partnerships took place on 6 December with Government and key agencies. • First IRES Board meeting took place on 4 Dec. • Discussions on role/remit of Transport Appraisal Board ongoing with Transport Scotland. • Regional Housing Board Terms of Reference have been drafted. • PMO to be enhanced.
Finance	G	<ul style="list-style-type: none"> • Financial Agreement has been agreed between partners and Government. • Grant offer letter is being finalised and expected before Joint Committee meeting on 17 Dec.
Reporting	A	<ul style="list-style-type: none"> • Shared approach to community benefits is being worked up with partners. • Reporting cycle and process (inc. inclusive growth measures) is being agreed with Govt. Bi-monthly meetings have been scheduled.
Communications	G	<ul style="list-style-type: none"> • BIG partnership is assisting with communications. • Sub-group on Skills has been formed.

Upcoming Milestones

Upcoming Milestones	Target Date
First business case approvals by Joint Committee (Bayes, Robotarium, WCDI, IMPACT, IRES programme/projects)	Dec 18
Third Joint Committee meeting: EFI, Fife Industrial Estates and Central Borders Innovation Park	1 Mar 19
Approach on Regional Partnerships to be agreed by Joint Committee	1 Mar 19

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Red	Project is at risk to miss a scheduled completion date.	Immediate action is required by senior management and relevant Boards as appropriate to address issues.

Overall Status Last Period	Overall Status This Period
Amber	Amber

Page 2: Thematic/Project Updates

DDI Programme	G	<ul style="list-style-type: none"> Feedback on business cases being sent between partners and Govt. Discussions taking place at bi-weekly phone calls. 	Integrated Regional Employability and Skills Programme	G	<ul style="list-style-type: none"> First IRES Board meeting took place on 4 Dec 18 and the next is due on 5 Feb 2019. Scot Govt has signed off IRES Programme Business Case and it is due to be presented to Joint Committee on 17 Dec for approval. Scot Govt and Executive Board have agreed to regularity review the cashflow requirement for the programme to ensure its goals are not compromised by funding constraints.
Bayes Centre	G	<ul style="list-style-type: none"> Business case approved by Govts and being considered by Joint Committee on 17 Dec 18. 		G	<ul style="list-style-type: none"> Range of systems presented to the working group ahead of business case being prepared. Project Proposition expected to be considered by IRES Board in Mar 19 and Joint Committee in Jun 19.
Robotarium	G	<ul style="list-style-type: none"> Business case approved by Govts and being considered by Joint Committee on 17 Dec 18. 		G	<ul style="list-style-type: none"> Regional Skills Assessments being produced yearly by SDS, supplemented by Regional Skills Investment Plan and developments will build on this work. Project Proposition expected to be considered by the IRES Board in Mar 19 and Joint Committee in Jun 19.
Edinburgh Futures Institute	A	<ul style="list-style-type: none"> Some issues will require amendment to business case. Targeting completion and Joint Committee approval in Mar 19. 		A	<ul style="list-style-type: none"> Integrated employer engagement (CEC)
Usher Institute	A	<ul style="list-style-type: none"> Some additional work required to finalise business case required. Targeting completion and Joint Committee approval in Sep 19. 		G	<ul style="list-style-type: none"> Intensive family support (Fife C)
Easter Bush	A	<ul style="list-style-type: none"> Some additional work required to finalise the case, including finalisation of A701/A702 road infrastructure project. Targeting completion and Joint Committee approval in Sep 19. 		A	<ul style="list-style-type: none"> HCI Skills gateway (ENU)
WCDI	G	<ul style="list-style-type: none"> Business case approved by Govts and being considered by Joint Committee on 17 Dec 18. 		G	<ul style="list-style-type: none"> DDI skills gateway (UoE)
Edinburgh Innovation Park (QMU Food and Drink Hub)	G	<ul style="list-style-type: none"> Feedback on business case from both Governments received and response in hand. East Lothian LDP recently approved. Aiming for Joint Committee approval Sep 19. 		A	<ul style="list-style-type: none"> Concessionary travel (SBC)
Fife Industrial Estates	G	<ul style="list-style-type: none"> Monthly meetings taking place between SG, SFT, Fife & Borders. Process is well understood and forward plan is in place. Aiming for Joint Committee approval in Mar 19. 		G	<ul style="list-style-type: none"> Project Proposition being developed and expected to be considered by IRES Board in Feb 19 and Joint Committee in Mar 19.
Central Borders Innovation Park	G			G	<ul style="list-style-type: none"> Discussion with employability partners and Council transport colleagues ongoing. Project Proposition being developed and expected to be considered by IRES Board in Apr 19 and Joint Committee in Jun 19.

Overall Status Last Period	Overall Status This Period
Amber	Amber



West Edinburgh Transport	A	<ul style="list-style-type: none"> Discussions ongoing with Transport Scotland and West Lothian Council.
A720	A	<ul style="list-style-type: none"> Discussions ongoing with Transport Scotland. Transport Appraisal Board will help progress discussions when formed in 2019.
IMPACT	G	<ul style="list-style-type: none"> Government have given approval for business case to be submitted to Joint Committee on 17 Dec. Planning application is under consultation and will be considered in March 19.

Regional Housing Programme	A	<ul style="list-style-type: none"> Regional housing meeting held on 29 November. Workshop to be held on 29 January 2019 to discuss regional housing priorities, cross boundary delivery opportunities and future joint working. 6 month programme to finalise Terms of Reference and governance arrangements.
Affordable housing programme	A	<ul style="list-style-type: none"> Each partner has produced a Strategic Housing Investment Plan (SHIP) outlining investment priorities for affordable housing over the next 5 years. SHIPs will be analysed to produce a regional affordable housing profile. Profile will enable engagement with Scottish Government to highlight regional track record of delivery and to strengthen case for greater certainty over future funding levels for affordable housing.
Housing Infrastructure funding & 7 strategic sites	A	<ul style="list-style-type: none"> Business cases for seven sites at various stages of development. Partners are working together to share best practice.
Construction innovation, SME growth, skills & jobs	A	<ul style="list-style-type: none"> Work ongoing to align with the IRES Programme and specifically the Housing and Construction Skills Gateway. Workshop on 29 January will explore opportunities and challenges around offsite and modern methods of construction.
Maximising the public sector estate	G	<ul style="list-style-type: none"> Edinburgh Land Commission - draft statement of intent developed.
Housing company – MMR & low cost MR	G	<ul style="list-style-type: none"> First homes anticipated by end of 2018. The City of Edinburgh Council and SFT will continue to share learning and financial models with partners, to explore regional delivery models.

ESESCR Deal Monthly Dashboard – 17 December 2018

Page 4: Summary of financial performance



Project performance: December 18

Project Name	Total Budget £000	CRD Grant £000	Total spend to date £000	CRD grant claimed £000	CRD grant claimed £000	CRD grant balance £000	Financial Plan spend 18/19 £000	Financial Plan Grant 18/19 £000	Financial Plan spend Variance £000	RAG
DDI - Bayes Centre	45,000	32,545	36,887	0	0%	32,545	42,911	22,412	(6,024)	G
DDI - National Robotarium	22,469	22,469	0	0	0%	22,469	70	70	(70)	G
DDI – EFI	131,208	57,920	34,132	0	0%	57,920	47,436	15,107	(13,304)	G
DDI - Usher Institute	68,000	49,205	77	0	0%	49,205	2,720	0	(2,643)	G
DDI - Easter Bush	34,983	17,366	12,583	0	0%	17,366	13,368	0	(785)	G
DDI - Easter Bush – A701 & A702	30,000	10,900	0	0	0%	10,900	0	0	0	G
DDI – WCDI	109,997	79,595	237	0	0%	79,595	17,718	0	(17,481)	G
DDI Total	441,657	270,000	83,916	0	0%	270,000	124,223	37,589	(40,307)	
Food and Drink Hub	52,003	30,000	0	0	0%	30,000	4,000	0	(4,000)	G
Business Innovation – Fife	49,425	35,000	0	0	0%	35,000	213	0	(213)	G
Business Innovation – Scottish Borders	29,050	15,000	481	0	0%	15,000	9,525	0	(9,044)	G
Business Innovation Total	78,475	49,998	491	0	0%	49,998	9,738	0	(9,257)	
Skills – IRES	25,000	25,000	0	0	0%	25,000	250	250	(250)	G
Transport - Sheriffhall Roundabout	120,000	120,000	0	0	0%	120,000	0	0	0	G
Transport – WETA	36,000	20,000	0	0	0%	20,000	1,800	1,000	(1,800)	A
Transport Total	156,000	140,000	0	0	0%	140,000	1,800	1,000	(1,800)	
Culture - IMPACT Concert Hall	44,990	20,000	2,631	0	0%	20,000	4,121	0	(1,490)	G
Housing – Housing Company	263,000	15,000	0	0	0%	15,000	71,878	4,100	(71,878)	G
Housing – Infrastructure	50,000	50,000	0	0	0%	50,000	0	0	(0)	G
Housing Total	313,000	65,000	0	0	0%	65,000	71,878	4,100	(71,878)	
CRD Programme Total	1,111,125	600,000	87,028	0	0%	600,000	216,010	42,939	(128,982)	



Spend performance

- Spend figures represent the cumulative spend for projects from 2017/18 to the end of November 2018.
- WETA (Amber): Unlikely to deliver spend as forecast in Financial Plan.

Accountable Body

- Work is underway to develop and detail the processes that will be required to carry out the role of the Accountable Body (largely informed by grant offer letter).
- Draft grant offer letter received from Scottish government and shared with partners for comment
- A final version of the grant offer letter will be signed and backed off with each individual partner agreement so that grant can be claimed for 2018/19
- Recruitment is underway for an Accountant post to manage all financial aspects of the City Region Deal – post should be in place for February.

Edinburgh and South East Scotland City Region Deal Joint Committee

10am, Monday 17 December 2018

Bayes Centre Project Business Case

Item number 4.2

Executive Summary

This report seeks approval to secure funding for, and enact, the Bayes Centre project (as set out in the Bayes Centre Final Business Case). The preparation of this business case has been led by the University of Edinburgh (UoE) on behalf of City Region Deal consortium partners and has been prepared in accordance with the HM Treasury 5 Cases model.

Hugh Edmiston

Senior Responsible Officer, Data Driven Innovation Delivery Board, Edinburgh and South-East Scotland City Region Deal

E-mail: hugh.edmiston@ed.ac.uk | Tel: 0131 650 9845



City Region Deal Checklist

Criteria	Details/Link to Document
<p>Contribution to City Region Deal commitments and Inclusive Growth Framework</p>	<p>The Bayes Centre project supports the Inclusive growth ambitions of the partnership including:</p> <ul style="list-style-type: none"> • Accelerating inclusive growth through unlocking new talent pools for business, promoting fair work, and equipping disadvantaged citizens with the skills they need to succeed; • Removing the barriers to growth by putting in place intensive family support and targeted skills development to help disadvantaged individual access and progress in work; • Community benefits through procurement by integrating our approach to employer engagement and procurement to increase the value achieved from our collective investments; • Targeted skills interventions that builds workforce capacity and capability in the “Data Driven Innovation” and “Housing, Construction and Infrastructure” sectors; and, • Social benefit through Innovation through close working between the IRES and DDI programmes to fully utilise the technological (data visualisation insights) and employment opportunities that will be generated by the sector. <p>The UoE has committed (in its Procurement Strategy) to add value to local and regional communities by identifying and achieving robust, relevant and proportionate Community Benefits (CBs) from the:</p> <ul style="list-style-type: none"> • University’s Procurement Strategy: <i>“For every procurement over £4million, the delegated authority of the University will consider how the acquisition can improve the economic, social or environmental wellbeing of our area through inclusion of community benefit clauses, to assist with our strategic objective of Community Engagement.”</i> • Procurement Category Strategies: <i>“Contributing locally [by] applying community benefits to major contracts, engagement in local collaborations in the city and with Scottish peer groups, including shared services and collaborative framework agreements.”</i> <p>Consequently, within the Bayes Centre project, robust, relevant and proportionate community benefits will be incorporated in future procurements of £4million and above and will be considered in regulated procurements below £4million at strategy stage (i.e. at £50,000 and above).</p> <p>Where community benefit requirements are included in a DDI contract, the contracting authority must include in the award notice a statement of the benefits it considers will be derived from those requirements.</p> <p>The project sponsors, procurement manager and any other participating University entity must agree who will be responsible post-contract award for the initiation of engagement with the supplier to achieve the CB commitments, as well as who will be responsible for delivering, monitoring and reporting the achieved CB.</p> <p>At the discretion of the University, CBs offered as part of the tender response may be enforceable as part of the final contract (or where submitted after contract award, pursuant to a legally compliant contract variation process). On high risk projects, written commitments</p>

Criteria	Details/Link to Document														
	<p>may be required from suppliers that obligate them to follow through with offered CBs, which include means to penalise suppliers who are non-compliant.</p> <p>In addition, the projects will also specifically address – once fully defined by Scottish Government – agreed inclusive growth objectives. Based on the Universities existing inclusive growth-related policies and programmes (as detailed in the table below) and current understanding of Government policy, objectives and related output measures being considered include:</p> <ul style="list-style-type: none"> • Improving access to DDI training to those already in work; • Supporting - via the City Region Deal Skills Group programme - the role out of DDI training to schools and FE and HE partners across the City Region; • Contributing to more efficient and effective public service delivery through extended collaboration with public bodies; and, • Developing DDI products that reach and benefit the most vulnerable in society. 														
<p>Alignment, integration with, or dependence on, other City Region Deal activities</p>	<p>The other City Region Deal activities offer tremendous scope for integration with the suite of DDI projects, and potential areas of future collaboration are summarised in the table below.</p> <table border="1" data-bbox="395 898 1503 1249"> <thead> <tr> <th data-bbox="395 898 868 931">CRD Theme</th> <th data-bbox="868 898 1503 931">Scope of Potential Collaboration</th> </tr> </thead> <tbody> <tr> <td data-bbox="395 931 868 1043">Skills</td> <td data-bbox="868 931 1503 1043"> <ul style="list-style-type: none"> • Establish DDI Skills Gateway extending from school-age to life-long learning • Establish point where DDI skills end and scale-up activities commence </td> </tr> <tr> <td data-bbox="395 1043 868 1077">Housing</td> <td data-bbox="868 1043 1503 1077"> <ul style="list-style-type: none"> • Establish DDI housing 'living lab' </td> </tr> <tr> <td data-bbox="395 1077 868 1111">Transport</td> <td data-bbox="868 1077 1503 1111"> <ul style="list-style-type: none"> • Establish DDI transport infrastructure 'living lab' </td> </tr> <tr> <td data-bbox="395 1111 868 1144">Culture</td> <td data-bbox="868 1111 1503 1144"> <ul style="list-style-type: none"> • Establish culture venue living labs </td> </tr> <tr> <td data-bbox="395 1144 868 1178">Food & Drink Hub</td> <td data-bbox="868 1144 1503 1178"> <ul style="list-style-type: none"> • Establish 'farm to fork' DDI living lab </td> </tr> <tr> <td data-bbox="395 1178 868 1249">Business Innovation Parks</td> <td data-bbox="868 1178 1503 1249"> <ul style="list-style-type: none"> • Establish parks as DDI start-up and scale-up company locations within targeted areas (e.g. the Borders) </td> </tr> </tbody> </table>	CRD Theme	Scope of Potential Collaboration	Skills	<ul style="list-style-type: none"> • Establish DDI Skills Gateway extending from school-age to life-long learning • Establish point where DDI skills end and scale-up activities commence 	Housing	<ul style="list-style-type: none"> • Establish DDI housing 'living lab' 	Transport	<ul style="list-style-type: none"> • Establish DDI transport infrastructure 'living lab' 	Culture	<ul style="list-style-type: none"> • Establish culture venue living labs 	Food & Drink Hub	<ul style="list-style-type: none"> • Establish 'farm to fork' DDI living lab 	Business Innovation Parks	<ul style="list-style-type: none"> • Establish parks as DDI start-up and scale-up company locations within targeted areas (e.g. the Borders)
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<p>Scale and regional distribution of expected outcomes, benefits, and leverage, from activity</p>	<p>As illustrated, in the table below, a range of (“net additional”) outcomes have been identified for the Bayes Centre over the period of CDR funding, namely:</p> <ul style="list-style-type: none"> • Talent: using the teaching resources within the UoE School of Informatics, around 42,000 people will be engaged across a range of online and on campus DDI, CPD and other courses; • Research: Bayes research facilities will host world-leading applied researchers, and convene projects with talented students and industry worth £59 million; • Adoption: staff from the various organisations within the Bayes Centre will undertake over 300 collaborative assignments, including early stage and scale-up companies, to increase their level of data adoption; and, • Entrepreneurship: using the expertise of organisations such as Informatics Ventures and Edinburgh Innovations, the fast-growth company pipeline will be refreshed through the establishment of 250 new high-growth start-ups utilising a new, targeted, Pre-Incorporation Accelerator Programme, and support equity investment through an investor-readiness programme: Engage Invest Exploit. <p>Based on the distribution of current activities across the areas of talent, research, adoption and entrepreneurship the anticipated direct net economic benefits of the Bayes Centre have been projected to be in the region of £251 million for the whole of the UK of which a minimum of £73 million will accrue to the City Region. These benefits exclude – by definition – the wider ecosystem effects of the Programme on the current DDI cluster within the Region. While no explicit quantitative analysis has been undertaken of these wider impacts they are likely to be</p>														

Criteria	Details/Link to Document																	
	<p>significant if the Programme achieves one of its longer term objectives of the City Region becoming a world-leading centre of excellence for applied data science.</p> <table border="1" data-bbox="395 338 1522 698"> <thead> <tr> <th data-bbox="395 338 850 418">Outcome or benefits</th> <th data-bbox="850 338 1099 418">Baseline (without DDI)</th> <th data-bbox="1099 338 1351 418">Target Uplift (with DDI)</th> <th data-bbox="1351 338 1522 418">Date</th> </tr> </thead> <tbody> <tr> <td data-bbox="395 418 850 499">Total learners engaging with DDI Programme</td> <td data-bbox="850 418 1099 499">5,000</td> <td data-bbox="1099 418 1351 499">42,000</td> <td data-bbox="1351 418 1522 698" rowspan="4">Programme lifetime</td> </tr> <tr> <td data-bbox="395 499 850 544">DDI research funding</td> <td data-bbox="850 499 1099 544">£186m</td> <td data-bbox="1099 499 1351 544">£59m</td> </tr> <tr> <td data-bbox="395 544 850 624">DDI collaborative adoption assignments</td> <td data-bbox="850 544 1099 624">0</td> <td data-bbox="1099 544 1351 624">312</td> </tr> <tr> <td data-bbox="395 624 850 698">New spin out, scale-up and spin in companies</td> <td data-bbox="850 624 1099 698">0</td> <td data-bbox="1099 624 1351 698">253</td> </tr> </tbody> </table>	Outcome or benefits	Baseline (without DDI)	Target Uplift (with DDI)	Date	Total learners engaging with DDI Programme	5,000	42,000	Programme lifetime	DDI research funding	£186m	£59m	DDI collaborative adoption assignments	0	312	New spin out, scale-up and spin in companies	0	253
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Compliance with financial requirements and agreed expenditure profile	<p>The vision of the City Region Deal regional partners is for Edinburgh to become the Data Capital of Europe. To realise this vision, UoE is proposing a combined capital £45 million and revenue £70 million investment totalling £115 million in its underlying data science innovation capabilities, and by developing a new centre of Data Science excellence in the heart of Edinburgh which will be known as the “Bayes Centre”. This business case is specifically seeking £32.5 million towards the £45 million capital investment in the Bayes Centre.</p>																	
Equalities Impact	<p>This programme of work sits within the Equalities framework laid out by the Edinburgh and South East Scotland City Region Deal, through its Inclusive Growth Framework, which has five key themes aimed at accelerating inclusive growth and social benefit through innovation, with specific regard to minorities and disadvantaged population. The University of Edinburgh also has an Equality and Diversity Strategy, Outcomes and Action Plan, which outlines the University’s continuing commitment to equality and diversity for both students and staff. These frameworks highlight the central concepts of fair and equitable treatment regardless of race, disability, ethnicity, gender (including transgender), age, sexual orientation or beliefs. These will be key principles governing the development and delivery of programme activities outlined in this document. For all projects carried out within the programme of work, an equalities screening will be carried out to ensure that these issues are raised and addressed from project inception through to delivery and evaluation.</p>																	
Alignment and fit with City Region Deal governance arrangement	<p>The ESES City Region Deal programme has the following tiers of governance:</p> <ul style="list-style-type: none"> • Joint Committee that is responsible for delivering increased value for money from the Edinburgh and South East Scotland City Region deal and wider regional collaboration; and, • DDI Delivery Board that is responsible for the overall direction and management of all DDI programme activities. <p>The DDI Delivery Board is responsible for commissioning the Bayes Centre investment including identifying the Bayes Centre Senior Executive, establishing the Bayes Centre Project Board and defining the key resources, financial and KPI delivery parameters within which the Bayes Centre will operate.</p> <p>The Bayes Steering Group will be the Project Board, and is responsible for the overall direction and management of the Bayes Centre activities described in this document. As such, it is ultimately accountable for success of the Bayes Centre project, and providing unified direction to the project.</p>																	

Criteria	Details/Link to Document
PMO compliance check	All evidence provided.
Government approval	Scottish and UK Governments have confirmed their agreement to this Business Case progressing in this form for formal approval.
Partner sign-off	The DDI Delivery Board agreed on 29 November 2018 that this Business Case can progress for formal approval.”
Advisory Board sign off	The business case was approved by the DDI Delivery Board on 29 November 2018.
Executive Board sign off	The business case was approved by the Executive Board on 22 November 2018.
PMO Recommendation	That Committee approves the Bayes Centre business case.

Bayes Centre Project Business Case

1. Recommendations

- 1.1 To approve the Bayes Centre final business case and implementation of its activities and organisational structure.
- 1.2 To note that the individual activities to be undertaken as part of Bayes will be approved separately by the DDI Delivery Board and reported to the Joint Committee.

2. Background

- 2.1 As evidenced in various Scottish and UK Government policy documents, and in publications by the OECD and global consultancies, Data-Driven Innovation has become a key pillar of 21st century growth with the potential to significantly enhance: productivity; resource efficiency; economic competitiveness; and, social wellbeing.
- 2.2 The [Edinburgh and South East Scotland Science and Innovation Audit \(SIA\)](#), published in 2016, identified that:
 - The city region is already a powerhouse in Data-Driven innovation with a fast-growing cluster;
 - Cluster growth is at a tipping point and requires further investment to meet demand; and,
 - There are a number of industry sectors that are key to the local economy and which align to national areas of focus and opportunity, providing an opportunity for inclusive growth.
- 2.3 The University of Edinburgh's (UoE) vision is to be a world leader in Data Science. It will do this by playing to its strengths in education and research and boosting its commercial activity. Furthermore, it will enable these activities to maximum effect by creating a hub for informatics and data-driven innovation activity within the region thus driving further development and growth in inter-disciplinary and translational data-driven research.
- 2.4 For the first time in its history, it will drive innovation at scale, by physically integrating over 600 students, university, industry and public-sector researchers in a single location to establish and grow the city region's critical mass of interdisciplinary researchers with expertise in Digital Technology (Digitech),

Robotics, Space & Satellite (S&S), statistics and modelling, informatics, computer science, data governance, ethics and economics.

- 2.5 Through this business case UoE seeks approval for capital investment of £45 million (of which Government is asked to fund £32.5 million) in total, for the Bayes Centre build, by the UK and Scottish Governments. The total investment in the Bayes Centre is £115 million.
- 2.6 This Business Case has been endorsed by UK and Scottish Governments and is now presented to the Joint Committee for approval.

3. Main report

- 3.1 The city region has a long history of data excellence and leadership, including: the largest computing school in Europe; the UoE School of Informatics; the UK's principal super-computing facility - the Edinburgh Parallel Computing Centre (EPCC); and, the largest concentration of internationally significant and world-leading informatics research in the UK.
- 3.2 Moreover, in the last four years, the local DDI capability has grown significantly as multiple new initiatives within the data science, robotics and computer systems areas have been secured. The city region hosts Scotland-wide initiatives like the Data Lab, the Farr Institute, the Centre of Excellence for Cyber Security Research, and Administrative Data Research Centre, as well as hosting four doctoral training programmes in Data, Robotics, Systems and Analysis. It hosts the UK's most successful computing start-up community around a university and has joined an elite group of key UK universities in data science.
- 3.3 As with the Data Driven Innovation programme as a whole, the Bayes Centre is designed around five key areas of intervention (or "TRADE" themes):
- **Talent:** Develop a world-flow of talent in data driven entrepreneurship and the application of DDI;
 - **Research:** Develop, in conjunction with industry, a world-leading research capability in data science;
 - **Adoption:** Undertaken a range of industry engagements focused on building collaborative partnerships to enable new research and innovation activity;
 - **Data:** Support initiatives such as IoT and City Data Exchanges to encourage and enable the creation of new forms of data asset; and,
 - **Entrepreneurship:** Generate a pipeline of new high-growth start-ups and scale-ups, and support equity investment.
- 3.4 By demonstrably improving innovation and incrementally enhancing the City Region DDI ecosystem the Bayes Centre will, over the next 15 years, deliver:
- **Talent:** Using the teaching resources within the UoE School of Informatics, engage with over 40,000 people across data-driven entrepreneurship, digital technology, space and satellite data driven innovation and robotics;

- **Research:** Bayes research facilities will host world-leading applied researchers, and convene projects with talented students and industry worth £59 million;
- **Adoption:** staff from the various organisations within the Bayes Centre will undertake over 300 collaborative adoption assignments, including early stage and scale-up companies to increase their level of data adoption;
- **Data:** Through EPCC, The Data Lab and Alan Turing Institute, Bayes will support private, public and third sector organisations to utilise the World Class Data Infrastructure (WCDI) platform to enable the creation and utilisation of new forms of data asset; and,
- **Entrepreneurship:** Using the expertise of organisations such as Informatics Ventures and Edinburgh Innovations, refresh the fast-growth company pipeline through the establishment of 250 new high-growth start-ups utilising a new, targeted, Pre-Incorporation Accelerator Programme, and support equity investment through an investor-readiness programme: Engage, Invest Exploit.

Intervention 1: Talent

- 3.5 A vibrant and innovative talent pipeline is essential if UoE is to grow high-quality employment in the city region and meet its inclusive growth ambitions. UoE is investing £2.5 million in more lecturers and content development, to expand its data-related course content and teaching delivery capacity. The Bayes Centre will provide around 42,000 people with the skills via a mix of:
- On-campus 10-point MSc level module/course targeting students within the University;
 - A MOOC targeting corporate employees, alumni and students situated in local colleges;
 - Talks delivered by entrepreneurs and promoted to those in the Edinburgh City Region; and,
 - Continued Professional Development activities – offering industry and public sector staff opportunities to benefit from focused courses that educate them on data-driven technology innovations and associated business models.
- 3.6 The Bayes Centre will also undertake public outreach activities at both the Primary and Secondary School level as well as local colleges in the city region, aiming to attract a minimum of 10,000 students to these events over a ten-year period. Working in collaboration with initiatives like the Digital Xtra Fund, UoE will co-fund activities that support the delivery of extra-curricular computing and digital activities to young people, aged 16 and under, within the city region. One particular aim of the DDI inclusion agenda is to improve participation of girls and underrepresented groups in digital, dispel negative perceptions about computing science, and promote digital as an attractive career path. Content developed through these initiatives would be made available to other groups across Scotland.

Intervention 2: Research

- 3.7 Scotland lags the UK as a whole in business research and development investment. Private sector research is viewed as a weakness within the Scottish economy: R&D spend per head was £400 in 2015, versus £486 for the UK. Since the opening of the Informatics Forum in 2008, UoE has seen many new research and innovation activities form across multiple institutes. The Bayes Centre aims to advance this further in two ways: by co-location of an even broader range of academic units with intersecting interests; and, by inviting strategic industry partners to co-locate within the enriched research and innovation ecosystem.
- 3.8 The organisations hosted in the Bayes Centre will also work closely with groups in other innovation hubs in healthcare and medicine, arts, social sciences and humanities as well as business and law. Through new forms of research collaboration the aim is to accelerate innovation and advance future research agendas.

Intervention 3: Adoption

- 3.9 Over the next ten years UoE is investing £7 million - which is expected to attract a further £12.8 million external funding - to build business development teams that will target the sectoral initiatives being delivered via the Bayes Centre – digital technology, robotics and space & satellite. Historically, the UK has not been as successful at commercialisation as it has been at early-stage research. Overseas competitors are investing more in research and development: the UK invests a total of 1.7% of GDP and the OECD average is 2.4%. UK public funding is also relatively concentrated on early-stage research as opposed to commercialisation. (Source: Industry Strategy Green Paper January 2017).
- 3.10 The Bayes Centre's business development teams will actively engage with industry partners and will also help to scout for opportunities to interact and work with Scotland's burgeoning start-up and scale-up company network. The primary focus for this team, however, is to build industry relationships with corporates. This team will be supported by a Chief Data Technologist who will help shape the technical components and engage relevant groups within the University as well as technical partners externally. This role will interface between various groups in Informatics, EPCC, Information Services and The Data Lab. An administrator and community/events manager will be required to support contract execution and deliver events within the Bayes Centre.
- 3.11 Funding will also be applied to industry days, marketing, travel and seed-funding small collider-style events. A key focus is on marketing the city region to a global audience and encouraging new inward investment opportunities.

Intervention 4: Datasets

- 3.12 Gaining convenient access to "real" data is a recurring problem. The Open Research Data Task Force has recognised that a number of technical, cultural and behavioural issues need attention to make data sharing more accessible. To enable greater levels of innovation in the local economy, the SIA highlighted the need for

“real” data to inform talent development and research, and for access to this data to be made more straightforward. The organisations and facilities hosted in the Bayes Centre, together with the WCDI, will increase the City Region’s ability to manage, access and utilise a vast pool of diverse data assets, and the associated value that it generates by:

- Developing the skills needed to securely store and manipulate data;
- Agreements to share data with public and private sector data owners;
- Improving the utility of data assets to enable their wider use to drive higher levels of research, adoption and entrepreneurship activity; and,
- Promoting the data assets available to attract investment and talent.

Intervention 4: Entrepreneurship

- 3.13 Over the next ten years the UoE will invest £12.9 million directly into salaries and mentoring activity to support start-up growth and is expecting to attract a further £15.5 million equity type funding from external funders. A strong pipeline is required to attract corporate capital and other forms of inward investment. Many of the corporate partners involved in research and innovation are also interested in engaging with early-stage high-growth ventures that may be acquisition targets or who offer increased competitive advantage. Access to quality deal flow is frequently cited as the main challenge from an investor’s perspective.
- 3.14 A core objective of the Entrepreneurship activity is to help build the next generation of ‘data entrepreneurs’ and data-driven companies of scale. The focus will be on building a sustainable pipeline of high-growth start-up and spin-out data-driven innovation companies operating from the broader ecosystem the Bayes Centre will support, that leverage new enabling data science technologies, helping the city region to maintain and strengthen its entrepreneurial ecosystem. This will help increase future deal flow leading to increased investment in new high-growth companies as well as creating high-value jobs in the region. All of this activity sits squarely within UoE’s inclusive growth ambitions.
- 3.15 Building the Engage Invest Exploit (EIE) investor readiness programme by Informatics Ventures has latterly focused on connecting scale-up companies with investors (mainly angel and VC). Further emphasis will be placed on identifying customer development opportunities with larger corporates and developing relationships with corporate venture groups. Since 2008, through the EIE investor readiness programme, Informatics Ventures has engaged with around 300 early-stage high-growth ventures. UoE will continue to grow this pipeline by opening up EIE to companies outwith Scotland and further refining the number of sectors that companies can apply from (such as the Internet of Things, energy, climate and cleantech, digital health, and robotics and autonomous systems). The UoE has strong, long-standing relationships with several local, national and international investor groups e.g. Archangel Informal, Pentech, Kelvin Capital, Scottish Equity Partners, Par Equity, Beringea, IBM Ventures and Robert Bosch Venture Capital GmbH who all recognise the value of EIE as a source of deal flow.

4. Financial impact

- 4.1 As part of the City Region Deal and recognition of the Data Science opportunity identified by the SIA, UoE is investing c. £70 million in its underlying data science capabilities over the next 15 years, comprising £33 million of revenue expenditure by the Universities and £37 million in matched contributions from third parties.
- 4.2 Consolidating these capabilities into one location is a critical part of the overall strategy, hence UoE is building a hub for data science innovation that is known as the Bayes Centre providing the catalyst for innovation at scale. Through this business case UoE seeks approval for capital investment of £45 million (of which Government is asked to fund £32.5 million) for the Bayes Centre build. The total investment in Bayes is £115 million.
- 4.3 The commitment and continuation of funding to Projects will be subject to the approval of detailed Project Propositions by the DDI Delivery Board and will be subject to the projects demonstrating satisfactory progress against agreed objectives and targets.
- 4.4 Funded activity will be subject to regular review (e.g. monthly progress and annual review) by partners through the DDI Delivery Board and associated City Region Deal governance structures that have been established to manage the City Region Deal.
- 4.5 The actual spend profile will vary across the funding period and will be regularly updated in response to learning and changing circumstances to ensure maximum impact against its programme and wider inclusive growth goals.

5. Equalities impact

- 5.1 The Bayes Centre project is actively seeking to improve the flow of disadvantaged individuals into good employment and careers. Its overarching objective is to:
- Be central to maximising the value of City Region Deal investments by delivering the workforce element;
 - Future proof the regional economy through stimulating a positive step change in equality, capacity and productivity;
 - Encourage meaningful participation by stakeholders in designing and delivering services and interventions;
 - Provide opportunities to strengthen career progression routes for those who face significant labour market disadvantage; and,
 - Seek to address poverty and social exclusion by increasing the financial awareness, capacity and inclusion of the most disadvantaged households.

6. Background reading/external references

- 6.1 [Edinburgh and South-East Scotland City Region Deal Document](#), August 2018

- 6.2 [Enabling a World-Leading Regional Digital Economy through Data Driven Innovation](#), Edinburgh & South East Scotland City Region Science and Innovation Audit, November 2016

7. Appendices

- 7.1 Bayes Centre Project Summary

Appendix 1: Bayes Centre Project Summary

Overview

The vision of the City Deal regional partners is for Edinburgh to become the Data Capital of Europe. To realise the vision, the University of Edinburgh [UoE] is proposing a combined capital [£45 million] and revenue [£70 million] investment totalling £115 million in its underlying data science innovation capabilities, and by developing a new centre of Data Science excellence in the heart of Edinburgh which will be known as the “Bayes Centre”. This business case is specifically seeking £32.5 million towards the £45.0 million capital investment in the Bayes Centre.

The Bayes Centre will provide the physical capacity to address capability gaps in five key areas which translate **innovation at scale** from a concept into tangible activity that can produce economic impact - talent, research, adoption, data and entrepreneurship [TRADE]. UoE capabilities are exemplified by the principal actors who will be housed in the Bayes Centre including; the School of Informatics, Design Informatics, International Centre for Mathematical Sciences (ICMS), The Data Lab [TDL], Alan Turing Institute [ATI] and Edinburgh Parallel Computing Centre [EPCC]. Through the Bayes Centre, these DDI priorities will be pursued with organisations in three emerging sectors of strength in the City Region economy – Digital Technology, Space & Satellites, and Robotics and Autonomous Systems.

From September 2018, a 9,000 square metre facility will provide the regional focal point for the development and deployment of Data-Driven Innovation (DDI). The Bayes Centre will do this by establishing the core data science innovation capability within the wide portfolio of DDI projects and will become a globally recognised destination in which innovative companies come together with world-leading applied researchers, talented students, existing data science institutes and dedicated adoption resource supporting outreach activities, to ‘breathe the same air’ and realise commercial value from their data science and artificial intelligence (AI) collaborative innovations.

Within an inclusive growth context, over the next fifteen years, the university expects to:

- engage over 40,000 learners; of which over 3,000 will hold a University degree;
- secure an additional £59 million of public and private sector research funding;
- work on adoption strategies with ~300 companies and support ~1,000 CPD learners;
- nurture approximately 250 spin in/out companies, and create employment opportunities for around 400 graduates in micro and SME businesses.
- Delivery will be overseen by a dedicated team and governed by a Bayes Steering Group that will report to the overall DDI Programme Board. Overall the Project, its envisioned growth and associated risk profile, is affordable and capable of being self-sustaining over the longer term if the capital costs are substantively met by capital grant. Both the capital investment and Programme activities proposed can be accommodated within current University business procurement and estates management processes.

In economic terms UoE expects, as illustrated in Table 1 below, over the fifteen years of the DDI Programme, to deliver a forecast net present value (NPV) of gross value added (GVA) of £251 million¹ with a UK Cost Benefit ratio is likely to be around 1 to 5.6.

Table 1: UoE Bayes Centre GVA benefits

Benefit Ratio for Bayes Centre based on Govt funding contribution: 1:5.6				
	City Region	Rest of Scotland	Rest of UK	UK, as a Whole
GVA (£ million)	73	32	146	251

For the benefit of the reader and to provide some background context, the following points should be noted:

- The preparation of this business case has been led by the University of Edinburgh (UoE) on behalf of City Deal consortium partners, and it has been prepared in accordance with the HM Treasury 5 Cases model.
- In terms of University structure, the University of Edinburgh has three Colleges;
 1. Arts, Humanities and Social Sciences
 2. Medicine and Veterinary Medicine
 3. Science and Engineering

At the next level down are Schools and there are twenty Schools within the three Colleges. This business case sits within the College of Science and Engineering and whilst it principally refers to the Schools within this College, it also reaches across to Schools within other Colleges. References are made to Schools throughout the document.

- Throughout this document references are also made to the National Robotarium, which is a collaborative initiative between Heriot Watt University (HWU) and UoE. For the purposes of this business case UoE present the business case for its facilities. The business case for the facilities at HWU is described separately in the National Robotarium Business Case. This business case should therefore be read in conjunction with the business case for the National Robotarium.
- The document references “innovation at scale”. HBR² analysis defines this as “the ability to create repeatable and sustainable organic growth from new products, services and business models that build on the core business”. It is incredibly difficult to achieve with just 6% of companies that HBR analysed being able to do this. UoE is uniquely placed; large volumes of talent with deep expertise coupled with data access and supporting infrastructure as well as established links to a diverse range of high quality external partners and customers, when combined with investment in a collocated inter disciplinary capability gives the University a huge opportunity to create **innovation at scale**.

¹ All benefit streams are captured over a fifteen year period except talent effects which, given the pervasive impact of DDI upon future productivity account for uplifts in graduate lifetime GVA (discounted back to present day values).

² <https://hbr.org/2012/11/innovating-innovation-at-scale>

- Detail has been provided in this business case where it is materially relevant and known, some of which is being worked through and consequently still to be determined. The Bayes Centre opened in summer 2018 and has a steering group in place. Most of the tenants are signed up but there is a degree of fluidity as a consequence of negotiation. There is a good degree of understanding of how all the tenants will work together to optimise the benefits but some of the specifics of how this happens commercially are still to be agreed.

Aligned and material opportunity realised through UoE vision

Opportunity

We are now entering an era when the generation, collection, analysis and monetisation of huge volumes of data underpins the Digital Economy. The value of data comes from its use in real time, or aggregation over long periods, to understand and predict behaviour. Whilst data has become ubiquitous, the challenges for all organisations are to use this data effectively to shape, develop and deliver innovative digital products and services to consumers and citizens. This is what we call Data-Driven Innovation (DDI) and is the focus of this outline business case.

As evidenced in various Scottish and UK Government policy documents, and in publications by the OECD and global consultancies, Data-Driven Innovation has become a key pillar of 21st century growth with potential to significantly enhance; productivity, resource efficiency, economic competitiveness and social wellbeing. The Edinburgh and South East Scotland Science and Innovation Audit (SIA) identified that:

1. The region is already a **powerhouse** in Data-Driven innovation with a fast growing cluster;
2. Regional growth is at a **tipping point** and requires further investment to meet demand; and,
3. There are a number of industry sectors that are key to the local economy and which align to national areas of focus and opportunity, providing an opportunity for **inclusive growth**.

Vision

The University of Edinburgh's **vision** is to be a world leader in Data Science. It will do this by playing to its strengths in education and research and boosting its commercial activity. Furthermore, it will enable these activities to maximum effect by creating the Bayes Centre as a hub for informatics and data-driven innovation activity within the region. The Bayes Centre will drive **innovation at scale**, by physically integrating over 600 students, university, industry and public-sector researchers in a single location to establish and grow the region's critical mass of interdisciplinary researchers with expertise in Digital Technology (Digitech), Robotics, Space & Satellite (S&S), artificial intelligence, statistics and modelling, informatics, computer science, data governance, ethics and economics.

Current Position – good, but further investment needed

The city region has a long history of data excellence and leadership, including the largest computing school in Europe – the UoE School of Informatics, the UK's principal super-computing facility - the Edinburgh Parallel Computing Centre (EPCC) and the largest concentration of internationally significant and world-leading informatics research, in the UK.

Moreover, in the last four years, the local DDI capability has grown significantly as multiple new initiatives within the data science, robotics and computer systems areas have been secured. The city region hosts Scotland-wide initiatives like the Data Lab, the Farr Institute, the Centre of Excellence for

Cyber Security Research, and Administrative Data Research Centre, as well as hosting four doctoral training programmes in Data, Robotics, Systems and Analysis. It hosts the UK's most successful computing start-up community around a university and has joined an elite group of key UK universities in data science.

In addition, in conjunction with Scottish Enterprise, the Bayes Innovation Programme (BIP) is delivering activities targeted at:

- Adoption: attracting and embedding R&D focused corporates; and,
- Entrepreneurship: forming and nurturing companies with high-growth potential.

Engagement support will create and sustain new corporate R&D partnerships, and attract corporate venture capital to help boost entrepreneurship. Entrepreneurship support will inspire and nurture a new generation of entrepreneurs to form companies, and refresh the investor readiness programme that takes them to scale. UoE has an existing strength in entrepreneurship and commercialisation but this will be further amplified by BIP and the City Deal.

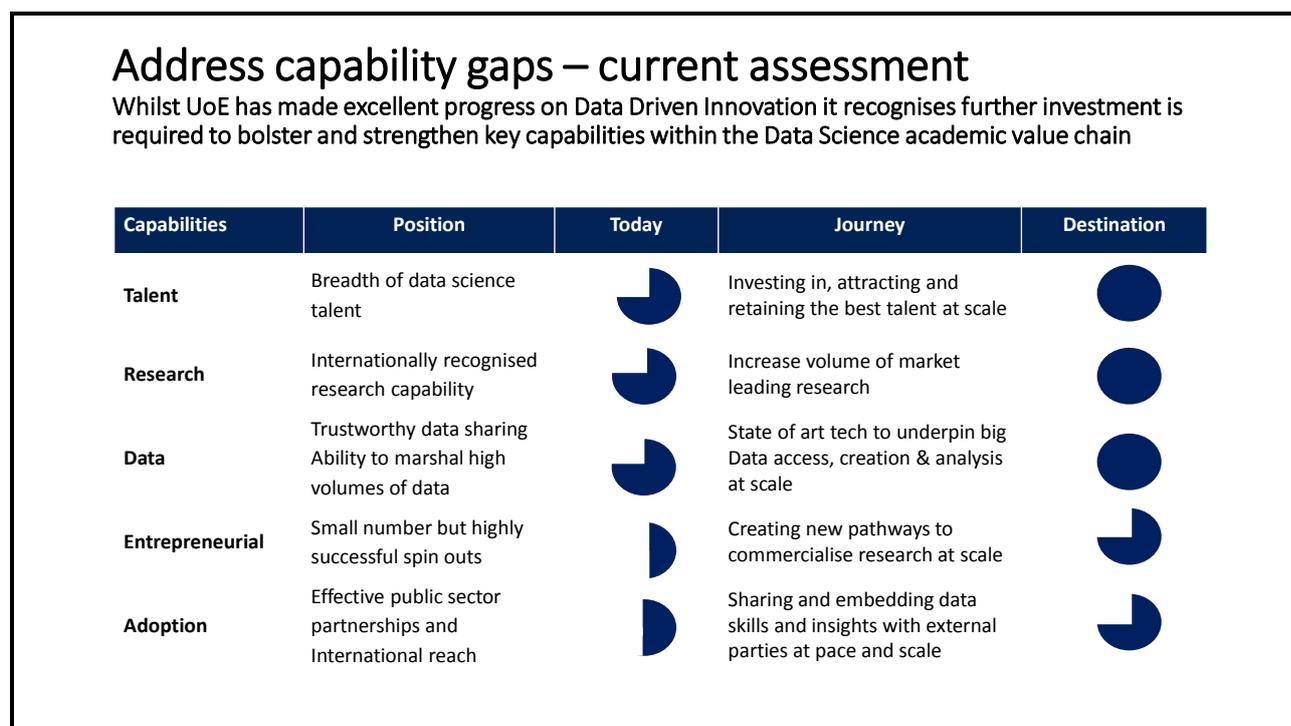
Underpinning UoE's success and reputation are **well-established TRADE³ strengths**, although these require further development and organised focus. Additionally, many of the UoE schools are geographically dispersed across Edinburgh, inhibiting the opportunity to collaborate and innovate, and potentially resulting in sub-optimal outcomes. Colocation will not only counter this but will become a catalyst for innovation.

Figure 1 below represents a current view of UoE capabilities and demonstrates, and reinforces the SIAs finding that there are well established capabilities in the University, however, it also identifies where gaps exist and what is required to improve the position.

UoE has an excellent platform and opportunity from which to grow and consolidate for the future but investment is needed to robustly respond to the DDI opportunity. The SIA highlighted the data opportunity but also recognised that growth was at a tipping point and, without substantive investment, there is significant risk that the region and Scotland is unable to maintain its global position resulting in a detrimental impact on both the University and the local economy.

³ TRADE; Talent, Research, Adoption, Data and Entrepreneurship

Figure 1: Capability assessment



How UoE will achieve its vision

Given the SIA findings that UoE is aligned nationally and has a local strength in DDI, this business case proposes an overall investment of **£115 million** to develop world-class data science capabilities and a hub for Data Science in the region. Given the complexity of this business case, which combines a both capital and operational investment, achieving the vision is best articulated as three distinct components, all of which are intrinsically linked and, importantly, interdependent:

- 1. Address capability gaps:** Enhance and develop capabilities in five key areas identified in the Edinburgh and South East Scotland Science and Innovation Audit (SIA) - talent, research, adoption, data and entrepreneurship [TRADE - **£70 million** UoE and partner revenue investment]
- 2. Organise activities effectively:** create an effective operating model to successfully organise, optimise and execute all these activities [in point 1] underpinned by the creation of strong governance with clear accountabilities and delivery plans,
- 3. Strategic asset development:** Construction and fit-out of the Bayes Centre facility, providing physical space and facilities for the relevant UoE schools and external partners to collaborate, innovate and deliver on said activities [**£45 million** capital investment, of which Government is asked to fund £32.5 million]

The following sections describes each of the above in more detail.

Investing in and addressing core capabilities and gaps: TRADE

Through the SIA it was recognised that UoE is strong across a range of capabilities. However, in order to grow and prepare for the future it needed to improve. Investments for Bayes, totalling £70 million, will be made across the TRADE capabilities to enhance and develop its position. These investments will be managed and overseen through the Bayes Steering Group (BSG, described later).

Figure 2 shows the UoE Schools and external partners that will play a role in core data science activities within Bayes, where their main TRADE focus is presently and how much will be invested in each capability. It also shows how the £70 million is broken down at TRADE level as well as giving a view of where UoE versus external partners are concentrated in TRADE activities.

Figure 2: “Who does what?”

Address capability gaps – who and what
 UoE and partners are investing £69.8m¹ to bolster and strengthen its TRADE capabilities, leveraging and recognising the collective and current relative strengths

	Bayes Centre – Occupants	Talent	Research	Adoption	Data ²	Entrepreneurship
	DDI Investment £m	£2.5m	£m	UoE £7.0m + Ext £12.8m	UoE £5.2m + Ext £8.5m	UoE £12.9m + Ext £15.5m
UoE	EPCC	✓		✓	✓	
	School of Informatics: Design Informatics	✓	✓	✓		
	School of Informatics: Informatics Ventures (BIP)			✓		✓
	School of Informatics: Robotics	✓	✓	✓		
	Maths: Maxwell Institute	✓	✓			
	Maths: ICMS	✓	✓			
External	Alan Turing Institute		✓	✓		
	The Data Lab	✓		✓	✓	✓
	External Industry			✓	✓	✓
	Total	6	5	7	3	3

✓ Key Activity Note: 1. includes £5.3m for Programme costs 2. Data investment is an allocation of WCDCI revenue, held in its business case

The detail of this investment in TRADE activity is outlined below.

Talent: A vibrant and innovative talent pipeline is essential if UoE is to grow high-quality employment in the City Region and meet its inclusive growth ambitions. UoE is investing £2.5 million in more lecturers and content development, to expand its data related course content and teaching delivery capacity. Over a ten-year period, the Bayes Centre will provide over 40,000 people with the skills needed to commercialise data-driven innovations through a mix of:

- On-campus 10-point MSc level module/course targeting students within the University;
- A MOOC targeting corporate employees, alumni and students situated in local colleges;
- Talks delivered by entrepreneurs and promoted to those in the Edinburgh City Region; and,
- Continued Professional Development activities – offering industry and public sector staff opportunities to benefit from focused courses that educate them on data-driven technology innovations and associated business models.

The Bayes Centre resources will also undertake public outreach activities at both the Primary and Secondary School level as well as local colleges in the Edinburgh City Region, aiming to attract a minimum of 10,000 students to these events over the ten-year period.

Working in collaboration with initiatives like the Digital Xtra Fund⁴, UoE will co-fund activities that support the delivery of extra-curricular computing and digital activities to young people, aged 16 and under, within the Edinburgh City Region. One particular aim on the inclusion agenda is to improve participation of young women and underrepresented groups in digital, dispel negative perceptions

⁴ <http://www.digitalxtrafund.scot/>

about computing science, and promote digital as an attractive career path. Content developed through these initiatives would be made available to other groups across Scotland.

Research: Scotland lags the UK as a whole in business research and development investment. Private sector research is viewed as a weakness within the Scottish economy where R&D spend per head was £400 in 2015, versus £486 for the UK. Since the opening of the Informatics Forum in 2008, UoE has seen many new research and innovation activities form across multiple institutes. The Bayes Centre aims to advance this further in two ways: by co-location of an even broader range of academic units with intersecting interests; and by inviting strategic industry partners to co-locate within the enriched research and innovation ecosystem. This will address the currently fragmented physical inhibitor to innovation.

The organisations hosted in the Bayes Centre will also work closely with groups in other innovation hubs in healthcare and medicine, arts, social sciences and humanities as well as business and law. Through new forms of research collaboration, the aim is to **accelerate innovation** and advance future research agendas.

Adoption: UoE is investing £7 million which is expected to attract a further £12.8 million external funding to build business development teams that will target the sectoral initiatives being delivered via the Bayes Centre – digital technology, robotics and autonomous systems and space & satellites. Historically, the UK has not been as successful at commercialisation as it has been at early-stage research. Overseas competitors are investing more in research and development; the UK invests a total of 1.7% of GDP and the OECD average is 2.4%. UK public funding is also relatively concentrated on early-stage research as opposed to commercialisation. (Source: Industry Strategy Green Paper January 2017). Bayes business development teams will actively engage with industry partners and will also help to scout for opportunities to interact and work with Scotland’s burgeoning start-up and scale-up company network. The primary focus for this team, however, is to build industry relationships with corporates. This team would be supported by a Chief Data Technologist who will help shape the technical components and engage relevant groups within the University as well as technical partners externally. This role would interface between various groups in Informatics, EPCC, Information Services and The Data Lab. An administrator and community/events manager would be required to support contract execution and deliver events within the Bayes Centre.

Budget would also be required for running industry days, marketing, travel and seed-funding small collider-style events. A key focus is on marketing the Edinburgh City Region to a global audience and encouraging new inward investment opportunities.

Datasets: Gaining convenient access to “real” data is a recurring challenge. The Open Research Data Task Force has recognised that a number of technical, cultural and behavioural issues need attention to make data sharing more accessible. To enable greater levels of innovation in the local economy, the SIA highlighted the need for “real” data to inform talent development and research, and for access to this data to be made more straightforward. The organisations and facilities hosted in the Bayes Centre, together with the World Class Data Infrastructure (WCDI), will increase the City Region’s ability to manage, access and utilise a vast pool of diverse data assets, and the associated value that it generates by:

- Developing the skills needed to securely store and manipulate data;
- Agreements to share data with public and private sector data owners;
- Improving the utility of data assets to enable their wider use to drive higher levels of research, adoption and entrepreneurship activity; and

- Promoting the data assets available to attract investment and talent.

Entrepreneurship: UoE is investing £12.9 million directly into salaries and mentoring activity to support start-up growth and is expecting to attract a further £15.5 million equity type funding from external funders. A strong pipeline is required to attract corporate capital and other forms of inward investment. Many of the corporate partners involved in research and innovation are also interested in engaging with early-stage high-growth ventures that may be acquisition targets or who offer increased competitive advantage. Access to quality deal flow is frequently cited as the main challenge from an investor’s perspective.

A core objective of the Entrepreneurship activity is to help build the next generation of ‘data entrepreneurs’ and data-driven companies of scale. The focus will be on building a sustainable pipeline of high-growth start-up and spin-out data-driven innovation companies operating from the broader ecosystem the Bayes Centre will support, that leverage new enabling data science technologies, helping the Edinburgh City Region to maintain and strengthen its entrepreneurial ecosystem. This will help increase future deal flow leading to increased investment in new high-growth companies as well as creating high-value jobs in the region. All of this activity sits squarely within UoE’s inclusive growth ambitions.

Building the Engage Invest Exploit investor readiness programme by Informatics Ventures has latterly focused on connecting scale-up companies with investors (mainly angel and VC). Further emphasis will be placed on identifying customer development opportunities with larger corporates and developing relationships with corporate venture groups. Since 2008, through the EIE investor readiness programme, Informatics Ventures has engaged with around 300 early-stage high-growth ventures. UoE will continue to grow this pipeline by opening up EIE to companies’ outwith Scotland and further refining the number of sectors that companies can apply from, sectors such as Internet of Things, energy, climate and cleantech, digital health, and robotics and autonomous systems. UoE has strong, long-standing relationships with several local, national and international investor groups that recognise the value of EIE as a source of deal flow.

Table 2 below outlines UoE main objectives for TRADE in Bayes and how it will measure success. It provides an initial draft, outlining what might or might not form some of the “benefit measures” that either Government might want the University to capture as part of any future funding agreement.

The selection of investment returns is, however, deliberate as the Universities will capture initial investment levels (in the form of grants, direct expenditure by third parties etc.) and at minimum can ask partners about the returns they have secured.

Table 2: DDI Programme investment objectives and KPI’s

Theme	Investment Objective(s)	KPIs
Talent	Develop a world-flow of talent in data driven entrepreneurship and the application of DDI in the digitech, S&S and robotics sectors	<ul style="list-style-type: none"> • 3,234 - Total numbers trained and retained in the UK
Research	Develop, in conjunction with industry, a world-leading research capability in data science.	<ul style="list-style-type: none"> • £59 million – Total funding

Theme	Investment Objective(s)	KPIs
Adoption	Undertaken a range of industry engagements focused on building collaborative partnerships to enable new research and innovation activity.	<ul style="list-style-type: none"> • 312 – Collaborative adoption assignments
Data	Support initiatives such as IoT and City Data Exchanges to encourage and enable the creation of new forms of data asset.	<ul style="list-style-type: none"> • ~180 – New data sets utilised
Entrepreneurship	Generate a pipeline of new high-growth start-ups and scale-ups, and support equity investment	<ul style="list-style-type: none"> • 253 – number of start-ups

Organising activities effectively

Understanding how UoE can effectively capitalise on the data opportunity is best explained by setting out who the **key players** are, how they will work without falling over each other, through a new **operating model** and which market opportunities they will focus on. Further, by instituting rigorous, but agile governance, it is intended to ensure well-orchestrated management, aligned to the overall City Deal governance, thus harnessing the collective opportunity outlined in this business case.

In order to understand this, the following sections describes who the key resources are and what they do and then articulates the operating model that will enable these resources to effectively deliver TRADE to meet market demand.

Key Players [per Figure 2]

Critically, the Edinburgh region already has a number of centres of excellence in data science which has underpinned its reputation and brand to date. The central vision of this business case is to achieve and maintain world class data driven innovation. It will do this by bringing together the main groups and institutes that have been responsible for enabling many of the region’s recent successes. These organisations, and their key defining characteristics, are outlined below.

1. The **School of Informatics** is Europe’s largest centre for informatics and computing science research with over 250 academic and research staff and 1400 students from 70+ countries. Informatics is ranked 1st in the UK for research power, given the combination of quantity and quality and, in the most recent national research assessment, authored over 50% of all AI publications submitted to by all UK universities. Informatics currently hosts over 300 MSc students and around 360 PhD students, including three Centres for Doctoral Training in Robotics, Data, and Systems. The School of Informatics is physically connected to the Bayes Centre, enabling ready interaction between industry, students and researchers.

Informatics is a world-leading research institution in Data Science and AI with unparalleled breadth, diversity that is at the forefront of new advances in the field. It will enable Bayes to deliver its research and talent agenda, ensuring data-driven innovation capitalises on high-quality computing research and a world-class talent pipeline, which feeds into the national and regional skills base and aligning with UoE inclusive growth agenda.

2. **Informatics Ventures**, part of the School of Informatics’ Commercialisation and Industrial Engagement programme has enabled £360 million in early-stage capital. Its Engage Invest Exploit

conference attracts over 200 investors each year and features 60 early-stage companies. Over the last decade, Informatics has helped create 67 new technology start-ups including a 'Unicorn' company with over £1 billion valuation, contributing to the University's track record in producing more start-up and spin-out companies than any other UK university. Informatics Ventures is currently located within dedicated offices at Wilkie House that is located 100 yards from the site of the Bayes Centre, physically separating commercialisation support activities from technology innovation activities.

This knowledge transfer and commercialisation capability provides linkage to industry, investment, and the local tech community, which enables us to accelerate innovation by leveraging existing and building new partnerships across all sectors.

3. **Design Informatics** is a collaboration between the School of Informatics and the Edinburgh College of Art that focuses on designing with data. It combines the power of massive connectivity and information processes with design thinking to generate, develop, and test new physical objects, capabilities and human-centric processes. Design Informatics designs tangible products and intangible services to transform the ways we work, live at home, care for each other, and play. Exploring design from, with, and by data: the central concern is the design of flows of data which sustain and enhance human values. Relevant technologies range from the internet of things, through blockchains, to robotics, speech recognition, data visualisation, interaction design, and social computing. Design Informatics is currently located approximately one mile from the Bayes Centre.

Design Informatics provides a unique perspective on how to develop transformative products and services, applying creative problem-driven thinking to data-driven technologies. This enables us to discover entirely new value propositions based on imaginative concepts of how people, data, and systems might interact in the future and to evaluate their viability by working closely with users in all stages of design.

4. The **Edinburgh Parallel Computing Centre (EPCC)** is an international centre of excellence in all aspects of high-performance and data-intensive computing, accelerating the effective exploitation of novel computing throughout industry, academia and commerce for over 25 years. This is achieved through a range of activities spanning advanced expert-led teaching and training programmes, service provision, industrial affiliation, research, and contract work. EPCC houses an exceptional range of supercomputers, with 90 staff committed to the solution of real-world problems using world-class systems, data storage and support services for industry and researchers. EPCC is located at King's Buildings – some 2 miles from the Bayes Centre site.

EPCC provides state of the art computing and data storage infrastructure that is needed to develop the new technologies that underpin data-driven innovation, and the capability to deploy highly skilled R&D-focused data scientists, architects, and engineers to support innovation projects.

5. **Robotarium East** is part of the Edinburgh Centre of Robotics (ECR), a collaboration among four Schools of the University of Edinburgh and Heriot-Watt University, which comprises several integrated and interconnected components, available to researchers inside and outside ECR.

These include spaces for humans and robots to work together, humanoids, and unmanned vehicles, underpinned by rapid prototyping and micro-assembly facilities, and state of the art computing accelerators with programmable hardware. Robotics researchers are currently located

in the School of Informatics, and co-location into the Bayes Centre will increase available physical space.

Jointly with HWU, the Robotarium is part of the strongest Robotics research group in the UK, and takes a data-centric approach to developing robots and other autonomous systems (RAS). Their unique expertise and equipment will accelerate innovation by allowing us to test new RAS technologies and combine them with other data-driven innovations into new products and services.

6. The **International Centre for Mathematical Sciences (ICMS)**, one of the two national centres for mathematical research, develops and organises international workshops and conferences in all areas of mathematics. The **Maxwell Institute for Mathematical Sciences** brings together research activities in the mathematical sciences at Edinburgh and Heriot-Watt Universities.

The two institutions bring expertise to Bayes that opens up new opportunities for utilising statistics, computational mathematics, operations research, and other applied mathematics disciplines for data science and AI, with concrete benefits for innovation in financial, engineering, and environmental applications. As with The Data Lab, ICMS is located at South College Street currently.

Extending core Informatics capability with deep mathematics expertise will enable new research collaborations, and create new opportunities to use maths in data-driven innovation (providing a conduit, in particular, to statistics expertise), while also providing access to UK-wide excellence.

7. The **Alan Turing Institute (ATI)**, an external partner whose Edinburgh node will be hosted in the Bayes Centre, is the national institute for data science, headquartered at the British Library in London. ATI is a joint venture between eleven universities and the UK Engineering and Physical Sciences Research Council. Its mission is to make great leaps in data science research in order to change the world for the better, investigating the hardest questions in data science and working with key industrial partners to drive innovation in the area. ATI has also recently become the UK's national centre for AI, which extends its mission to leverage the opportunities for the UK economy that arise from the growth of AI research and innovation.

The ATI allows us to leverage data science and AI expertise across the UK, facilitating new collaborations across academia, industry, and government, and shaping future strategy and policy at a UK level. It acts as a multiplier for both fundamental and translational research by providing access to partners, data, and funding.

8. **The Data Lab**, an external partner, is Scotland's Data Innovation Centre funded by the Scottish Funding Council. It enables industry, public sector and world-class university researchers to innovate and develop new data science capabilities in a collaborative environment. Its core mission is to generate significant economic, social and scientific value from big data. With a Scotland-wide presence, and close proximity to leading industry and university institutions, it focuses on building relationships locally and delivering a range of activities that span across three key areas – collaborative innovation, skills & training, and community building.

The Data Lab enables industry and government in Scotland to create value from data, matching innovation needs with the expertise, skills, and partnerships needed to exploit new data-driven technologies. It focuses on knowledge transfer and skill/capability development, complementing the Informatics knowledge exchange activities with an industry-driven focus.

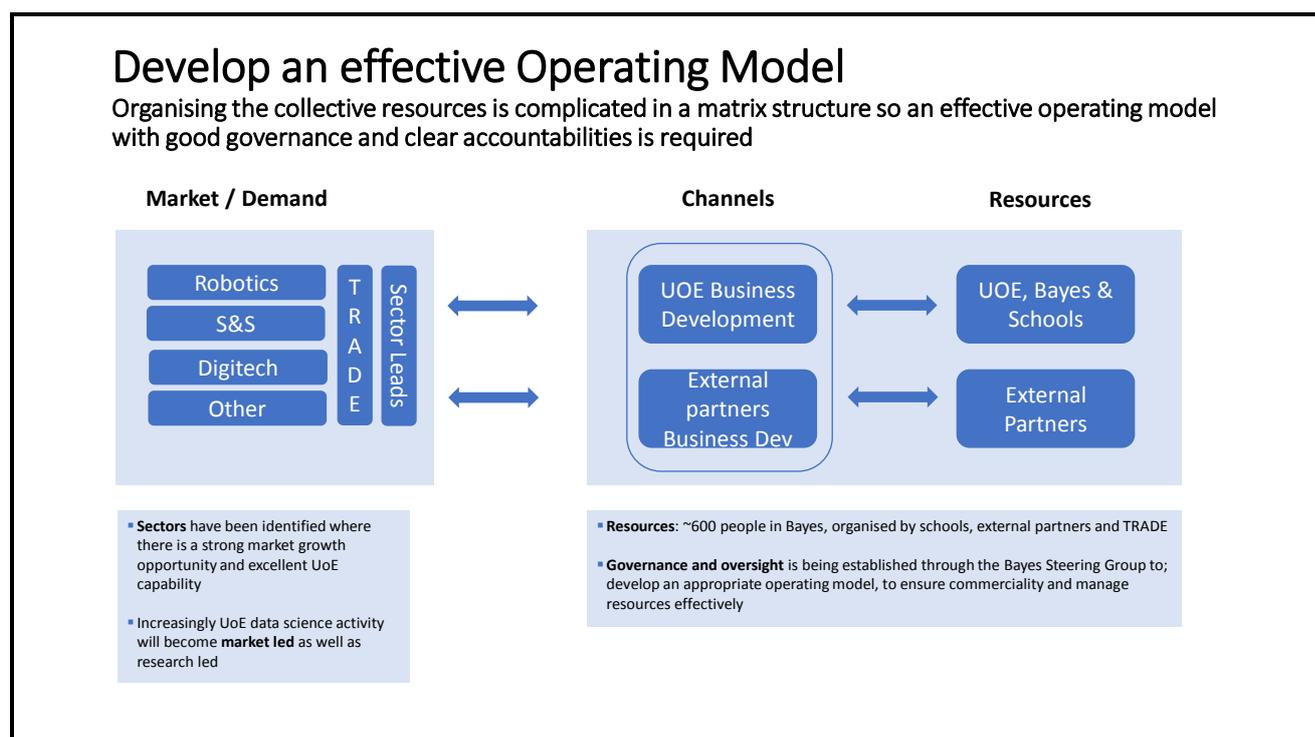
Operating Model

The above list of resources at an individual level is very impressive, recognised nationally and internationally. The challenge is being able to further leverage this to drive innovation so that the collective is significantly greater than the individual parts. The objective, as a starting point, is to co-locate all of the above but a strategy will only ever be as good as its delivery mechanism. Given the complicated nature of the cross-matrix organisation structures described above which will, going forward, have a specific data-driven innovation remit and thus will need to collaborate and organise to be effective, a defined operating model is being instituted to facilitate strategy delivery. Figure 3 below depicts the high-level view of the operating model. This depicts the basic organisation of resources and how Bayes will face of into its chosen sectors. Importantly, in the first instance, sectors leads are being hired to amplify the City Deal within those sectors, pump prime the pipeline from those sectors and develop sector specific plans.

In parallel the institutes located within the Bayes Centre will communicate and collaborate through various management fora (e.g. Bayes Centre Innovation Group). Events (e.g. brown bag sessions, seminars, webinars and town halls) will also be convened to foster collaborations across and between client organisations within the Bayes Centre. In addition a membership model is currently in development to facilitate wider collaboration with organisations that wish to interact with, but are not physically located in, the Bayes Centre.

Building on the above various joint programmes will be put in place – with resident and non-resident organisations to ensure substantive on-going collaborative working and project development. A collaboration lead role has been established for this purpose. The collaboration lead appointee will be in place by December 2018.

Figure 3 Bayes operating model



The Bayes Centre will undertake a range of activities that are different and additional:

1. It will physically co-locate, and enable new and innovative multi-disciplinary (and data) interactions between, a range of data-centric institutes and departments that previously existed within narrow disciplines;
2. It will foster new collaborations between academia and industry in order to better connect world-class research with the global marketplace (i.e. as addressed under the ADOPTION theme activities); and,
3. Through activities such as the Wayra Accelerator, it will bring industry together with entrepreneurs in order to increase the flow of fast-growth companies within the region (i.e. as addressed through the ENTREPRENEURSHIP theme).

A key aspect of the DDI Programme is outreach outwith the City of Edinburgh. The University already has a sophisticated outreach capability that attracts thousands of foreign students, and millions of pounds of international research funding, every year. The DDI Programme will build upon this in order to provide outreach capabilities in support of ADOPTION and ENTREPRENEURSHIP activities.

Outreach activities will be undertaken across the city region (e.g. via local councils), across Scotland (e.g. in conjunction with The Data Lab), across the UK (e.g. via existing and new partnerships with relevant government Departments (and supporting policy initiatives), academic institutions and personal networks) and internationally (e.g. via UoE, SDI and UK Government trade missions). These activities will be defined and co-ordinated through sectoral leads, four of which are in-post currently. In this role sector leads will identify, create and establish sector focus, outreach priorities and an associated engagement plan.

It should be noted that the UoE brand is extremely strong, and business readily engage with UoE. As a result it has not been difficult to attract a pipeline of activity as described below. Historically this type of engagement has tended to be reactive. With target sectors identified and sector leads secured, the DDI Programme has and will continue to actively engage target organisations in a more pro-active manner.

As a result, the response from industry to the opportunities within Bayes is strong. The current pipeline has over 200 opportunities. This traction has been achieved by industry interaction from the Bayes Business Development team (funded by the Bayes innovation Programme - Project A) and the School of Informatics Business Development team (funded by the School and national research bodies). Current pipeline projects include companies who wish to engage directly with the academics within the School of Informatics and, what makes the offering unique, companies who wish to engage with multiple Bayes partners in a single project.

2018 has seen significant pipeline conversions including laboratory programmes with values of over £1 million, together with other projects being undertaken with a range of global organisations. Examples of cross-Bayes projects include a joint research project involving a US satellite system company, ICED (international Centre for Earth Data), EPCC, School of Geosciences and the School of Informatics and a programme framework agreement that has recently been secured with a global telecoms equipment company.

Similarly the Bayes “Accelerator” programme is an example of an exciting recent DDI initiative. Funded by the University of Edinburgh, Bayes Innovation Programme - Project A) and WAYRA (part of Telefonica) the accelerator focuses upon AI and Blockchain technologies. The first cohort of companies (10 places) was significantly oversubscribed – over 140 applications were received from throughout

the UK and Europe. The combination of the market reach of Telefonica, its experience of accelerator management, and the attraction of Bayes and the School of informatics has produced a very strong initial cohort of 6 Scottish based companies, 3 from England and 1 from Switzerland.

The pipeline is being further enhanced by specific campaigns. These include trade missions, working with Scottish Development International and using external business development organisations such as Intralink which is funded through the Bayes Innovation programme - Project A. As a result a strong project pipeline with Japanese companies is emerging.

Further evidence of this of this new approach to outreach is reflected in the scale of some of the collaboration opportunities which would not have happened pre-City Deal (including the Global open banking centre of excellence bid to Strength in Places Fund (>£20 million)).

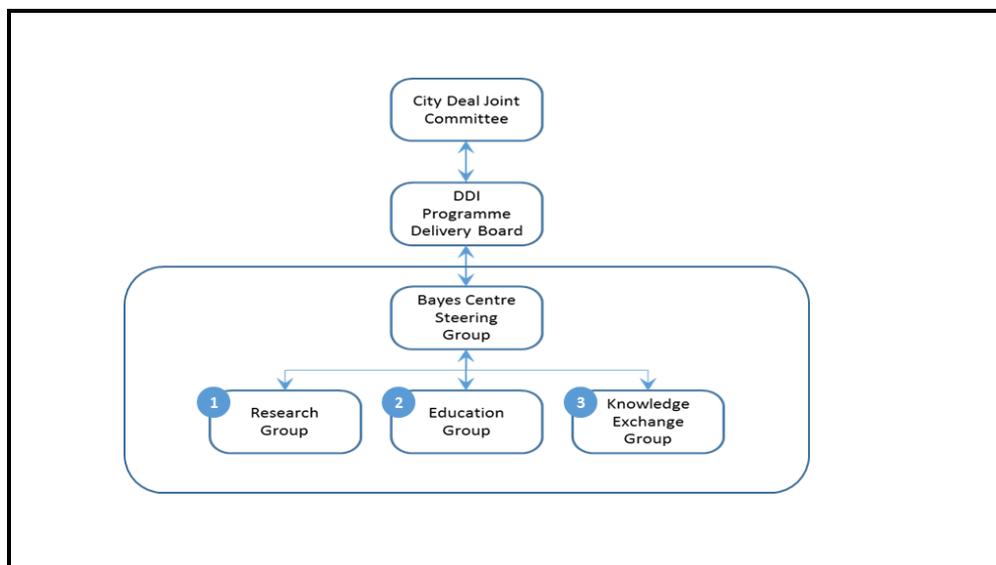
These activities build upon existing successful outreach activities including the Engage, Invest, Exploit (EIE) technology investment conference that attracts annually over 50 organisations seeking investment and 700 delegates.

The Bayes Centre will also interact with other similar initiatives (e.g. ATI) as a strategic collaborator in areas where UoE has a distinctive data capability that complements those of its partners. Traditionally, this will have occurred predominantly in a research context. As indicated by all the above, the Bayes Centre allows new and stronger quality collaborations to occur at scale across the different TRADE themes, for example through:

1. Talent (e.g. global professional services company graduate apprenticeship programme);
2. Adoption (e.g. major commercial organisation seeking to innovate later-life care provision);
3. Data collaborations encompassing, for example, provision of child health care; and,
4. Entrepreneurial support programmes that are delivered in conjunction with key industry partners (e.g. WAYRA accelerator).

Sitting below the operating model will be robust governance (see Figure 4) to ensure alignment with the overall City Deal programme as well as giving clarity to roles and remits for Bayes Centre occupants. Note that Knowledge Exchange deals with Adoption and Entrepreneurship.

Figure 4: Bayes governance structure



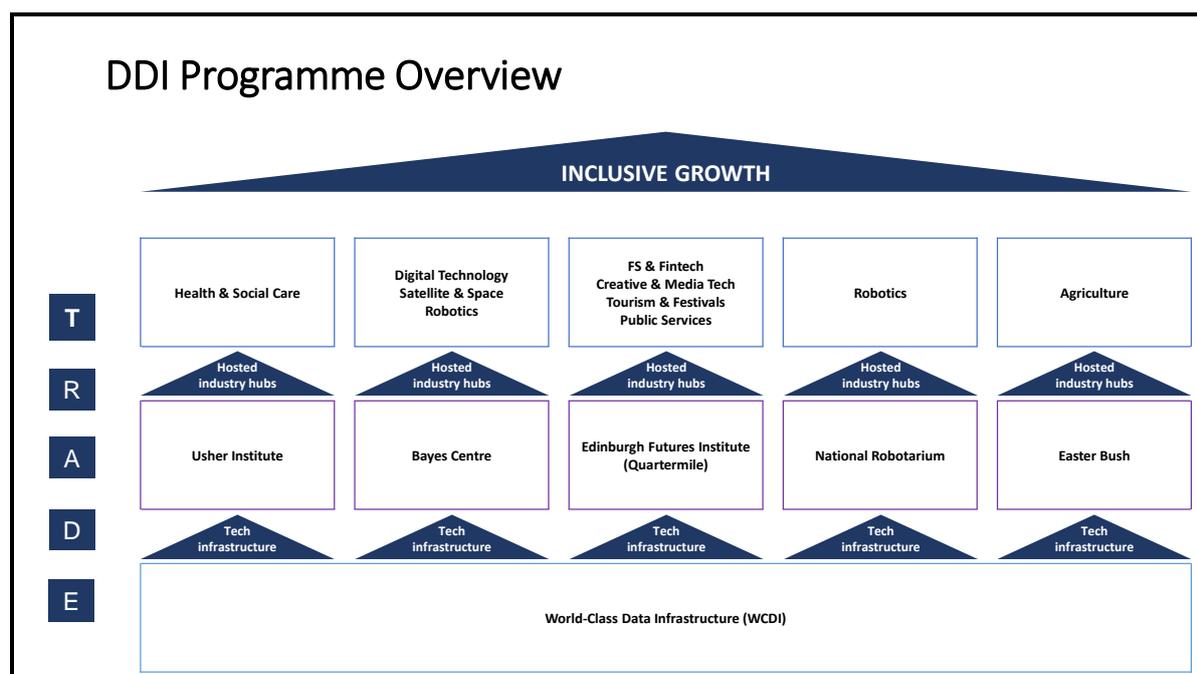
Investing in sectoral activities: Digitech, Space & Satellites and Robotics and Autonomous Systems

Having identified the main actors, described how they will operate and be governed and consequently organised through channels to the market, the final element is to understand UoE chosen sectoral participation.

The overarching intent of the UoE DDI vision is to drive innovation by harnessing the collective expertise of the various actors already outlined and then packaging this for industry in a practical and commercial format. Typically, industry and external consultants do not have the depth of talent and expertise of universities. Conversely universities often struggle to commercialise their expertise. The challenge being addressed by UoE is to improve its capabilities right along the academic value chain i.e. TRADE, thus being able to innovate successfully and becoming an attractive source of innovation for industry partners and investment.

The SIA identified local assets and capabilities that could be exploited to create a competitive advantage. Through this analysis ten target sectors (see Figure 5) were selected in order to align with regional priorities. Edinburgh is recognised as one of the UK's fastest growing and most productive cities. New areas where the UoE could engage further include financial services, technology & software, creative industries, life sciences and tourism (all of which are key sectors of local strength). As one example of realising these opportunities, engagement has started within Financial Services organisations, both large corporate as well smaller Fintech companies. The initial response has been positive with multiple areas to collaborate in terms of talent supply and technology issues such as portfolio optimisation in asset management, helping with lending credit models to looking at people performance data from both a tech and organisational leadership perspective.

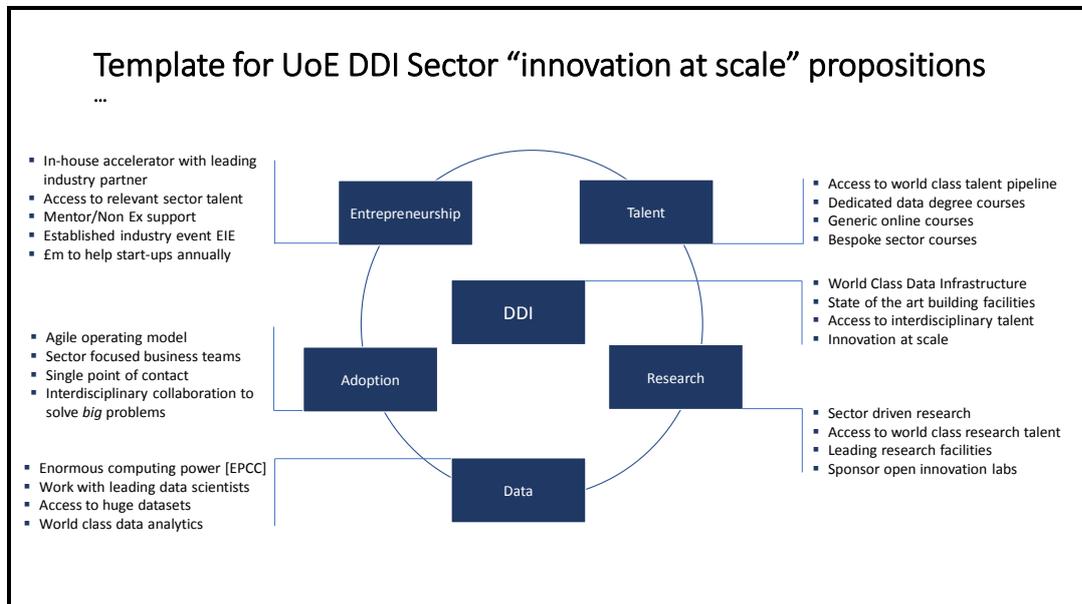
Figure 5: DDI overall programme



Similarly by focussing on space and satellite, digital technology (e.g. - blockchain, AI, Software engineering and Data science) and robotics, the Bayes Centre will build on existing talent, research, data (software) and adoption strengths in these sectors. Given the UoE expertise in informatics and geoscience and an already established presence in these markets combined with the opportunity, these sectors are a good strategic fit for future proofing success.

In addition, to develop a proposition approach, and recognising TRADE capabilities, a generic DDI proposition template is being developed, which is outlined below in Figure 6. At a DDI level the TRADE proposition could be summarised as; access to expertise (T) and world class research (R), huge computing power and datasets (D), sector specific engagement teams in place to navigate the world of academia (A) and mechanisms and funding in place to commercialise ideas (E). This generic TRADE framework will be adopted and tailored to individual sectors.

Figure 6: DDI Proposition Template



The innovations arising from the Bayes Centre will be data science-led, the applications of which will be found in existing markets and/or new markets enabled by technological disruption. Examples of technological innovation areas that will be explored through the Bayes Centre include:

- Digital Technology: the Blockchain Technology Lab is focused on developing distributed ledger technologies including smart contracts and cryptography across multiple cross sector applications;
- Artificial Intelligence: Machine learning, expert systems and natural language systems;
- Space & Satellite: Real-time big data management and analysis; and,
- Robotics: Autonomous systems with applications for vehicles on earth and in space.

In addition, support for the manufacturing sector is also a key focus. Discussions on opportunities afforded by data-led, automated, advanced manufacturing are currently underway with local councils. Global organisations are seconding staff to the University to develop factory automation approaches, and the University has recently established a professorship specialising in factory automation and layouts.

Given the above **clusters of new activity** are already emerging. For example:

- In the BONSEYES consortium machine learning and computer systems experts are working with companies to create a platform for the open development of distributed AI systems emerging as a key growth driver in cyber physical systems;
- The Blockchain Technologies Lab, a collaboration between leading cryptocurrency company IOHK and the School of Informatics, is pioneering technologies such as multi-party

computation, which allows several organisations to perform a joint computation without sharing their data with each other;

- As part of the Prosperity Partnerships programme, experts at the University's supercomputing centre, EPCC, are leading a project with Rolls-Royce to develop a detailed simulation of a gas-turbine engine in operation. The research aims to lead to the virtual certification of gas turbine engines and will be used to develop the next generation of engineering simulation and modelling techniques;
- The Edinburgh Huawei Research Lab is developing the next generation of AI and computer science technologies using expertise from Informatics researchers in areas such as natural language processing, machine learning, computer networks, computer architecture, and cybersecurity addressing a host of important technical challenges of importance to the digital technology sector; and,
- A cluster of activity is emerging in Scotland around space and satellite applications that includes downstream data analysis, satellite devices and satellite launch capabilities.

Sector Leads

As described above each sector will have a sector lead role, the role of which is to provide a sector specific focus which will align the market and commercial opportunity with the delivery capability. Sector leads are the key mechanism for driving engagement in emerging segments of opportunity that lie beyond the organisations with whom the university currently engages. The sector leads roles have been created to:

- Amplify the City Region Deal within the sector;
- Pump-prime the opportunity pipeline with sector and data related projects; and,
- Develop sector specific activity plans.

These roles are being recruited from the sectors where the individuals already have deep sector knowledge and will utilise their wide networks to drive engagement beyond those organisations with whom the University would typically engage. We will continue to recruit sector leads in additional sectors that we consider to be rich areas of opportunity.

Sector leads will work with The Data Lab to leverage data science skills across Scotland. More broadly, sector leads will engage with ATI - and institutions such as the Universities of Newcastle and Leeds, ONS, NHS, the Police Service and GCHQ - in order to diffuse our domain knowledge across the UK.

Sector leads will also engage with UK trade missions in order to export AI and data science expertise, and encourage inward investments by international organisations.

Bayes Sectors

The three sectors are described below as follows:

1. **Digittech**, is a new revolution that will be driven by cyber-physical systems and includes areas such as: Driverless Cars, The Internet of Things, Robotic Services, Smart Cities, Wearable Internet, Ubiquitous Computing, and Blockchains. Estimates of market sizes and growth rates are formidable. For instance: computer vision is predicted to reach \$49 billion by 2022, with a CAGR of 33%; AI-based analytics to reach \$70 billion by 2020, with a CAGR of 36%; natural language

processing to reach \$13.3 billion by 2022 (CAGR 18.4%) and IoT to be worth £81 billion to the UK Economy by 2020.

The University has strengths that underpin a string of enabling technologies with pervasive reach, fuelling the fourth industrial revolution. These technologies can be organised into a three-level stack, where new Interaction is supported by new Data, which is supported in turn by new Systems:

- **Interaction:** Robo-Advisors, Cognitive Computing, Design Informatics, Personal & Care-Bots, Manufacturing Robotics, Computer Vision, Natural Language Processing;
- **Data:** Predictive Analytics, Machine Learning, Social CRM, Database Systems & Analytics, NoSQL, AI-Based Analytics; and,
- **Systems:** Microprocessor, graphics processors & peripherals, Internet of Things, Sensors, Semiconductors, High Performance Computing.

Talent: the UoE will develop an under-graduate/MSc level course on data-driven entrepreneurship; an online course in data-driven entrepreneurship; a Public engagement programme that includes a data-driven entrepreneurship series; Schools and outreach programmes aimed at students, Universities (recruiting from local talent base), Companies (hiring). In addition a series of events, co-funded projects and various engagements through existing channels will be held to improve adoption. Finally a new start-up accelerator programme and Mentoring & Providing Financial Support for entrepreneurs, investors, Universities and companies will aim to boost deal flow for the region.

Adoption: significant investments from companies such as Huawei, IOHK and Intel have been announced with many other partner organisations in the pipeline discussing strategic partnerships around Bayes. Bayes aims to promote the Edinburgh City Region's innovation and tech cluster to all partners to help strengthen the case for investing locally. The current UoE pipeline of existing and new industry projects is healthy and growing with over 50 notable opportunities with companies of all sizes. As part of Adoption, the plan is to establish an industry engagement group under the Bayes Steering Group that will operate within the Bayes Centre, working in collaboration with existing business development groups to increase the capacity for converting this pipeline into actual projects. They will engage with industry partners and also help to scout for new opportunities to spin-out or start-up new ventures that can be directed into the company formation activities. The primary focus for this team is to build industry relationships with corporates.

Entrepreneurship: In addition to the above, one of the major challenges the University of Edinburgh is currently facing is a decreasing pipeline of new start-up and spin-out companies. In order to capitalise on significant growth markets that are enabled by the technologies developed within the Bayes Centre, it is intended to establish a new start-up accelerator that focuses on creating new companies from the significant talent pool within the Edinburgh region.

2. **Space & Satellites:** London Economics and the OECD reports together show that Scotland has the potential to generate £3.2 billion of revenue from Space Data business by 2030. Central to delivering on this opportunity is the University of Edinburgh and its nexus of high-growth space data companies that deliver Earth Observation (EO) Services. **Of major concern is the skills shortages in EO Science**, which is the principal challenge reported by space companies in

Scotland, and new talent and talent retention could inhibit the capacity of the region to realise the DDI opportunity. Interest in relocating to a strong Space Data Analytics hub in Edinburgh has recently been expressed by S&S industry incumbents and complements the current ramp-up activities happening for the start of the Higgs Centre for Innovation (UoE partnership). The focus of the Higgs Centre is on Space and Big Data – these themes having been chosen after market analysis showed a need for public-sector support to remove barriers to entry into these markets for start-ups and SMEs.

The primary focus, aligned to UoE capability, is on downstream services which are data-oriented rather than the upstream activity of putting satellites in space and industry interest has already been evidenced, recognising the insights that the University could bring. Partners are willing to provide access to their platforms for training and research, but are unable to provide direct funding until the ability to train large cohorts simultaneously is proven. They are very excited at the prospect of a highly scalable delivery capability that could train hundreds of space related experts whilst maintaining group working ethos.

Although not wholly dependent, the market for climate services represents the biggest growth application area for satellite data, and it is presently unproven. There is evidence of a nascent global market for demand-driven climate services for both climate change mitigation and adaptation needs. Satellite data is an essential technology to harness this opportunity and strengthen the UK's capacity to respond and to improve resilience to climate change.

To address the opportunity UoE will build on its existing capabilities. Specifically to ignite the **(Talent)** programme in Year 1 it will take advantage of existing courses and design a series of course modules, for the 'Data Science' Masters students in each of the climate 'EO' services; forests, agriculture, infrastructure and atmosphere and employ 2 new staff to deliver it . By Year 4 it will develop more innovative learning and evolve this into a hybrid online/group work-based model that allows us to deliver the course with cohorts of up to 100 from year 6 onwards. UoE will develop a new master's-level programme of modules drawing together Earth Observation and data analytics. An investment in **(Data)** computing power and budget will increase capacity to receive and handle very large data volumes for both students and business. A more computationally efficient approach will increase capacity to run more sophisticated modelling scenarios to support a range of market driven applications including, for example, climate-informed decision-making for government and industry.

The key beneficiaries will be the students enrolled on the courses, the government and regulatory authorities and the SME application providers.

3. **Robotics:** McKinsey has estimated that by 2025, advanced Robotic and Autonomous Systems (RAS) could have a worldwide economic impact of \$1.7 trillion to \$4.5 trillion annually. The potential and importance of RAS to the UK economy and its future growth is fully recognised in Government and through the UK RAS 2020 Strategy.

One of the strengths in the area of robotics lies in the synergies between HWU and UoE robotics research and skills training that have been strengthened over that last 5 years, and the collaboration has been formalised in the Edinburgh Centre for Robotics. The HWU team brings to the collaboration industrial connections and industry-informed problems, as well as the engineering and manufacturing expertise and technical staff, and this is complemented by the

strong algorithmic and artificial intelligence expertise and experience at UoE. The Edinburgh ecosystem has the potential to become the UK's lead player in this revolution across the prioritised healthcare, hazardous environment and manufacturing sectors through the research and innovation activities of the Edinburgh Centre for Robotics⁵ already producing 100 innovation-ready PhD students.

In the first three years Bayes will establish the core physical infrastructure and run first challenges. Expansion in the training (Talent) provision that currently exists will commence using the facilities once ready. A spiral development approach is envisaged on a 3-year timeframe establishing and then expanding each of the 5 strands from embryonic activity to world-class centre. Initial challenges will be in infrastructure inspection, repair and maintenance for subsea, nuclear and civil sectors and healthcare for assisted living. It is intended to work closely (Adoption) with Scottish Enterprise in particular but Scottish Development International and Scotland Europa also link their activities into the National ROBOTARIUM so as to leverage from their considerable networks in Scotland and internationally. Similar links to UKTI and FCO Science Innovation Network will also be leveraged to fuel growth through international sponsorship and further possible inward investment in future years.

The key beneficiary groups include; new generations of graduates and postgraduates, scientifically trained and also 'innovation ready', with access and support (Entrepreneurship) to start businesses from their research, start-ups creating the next generation of RAS businesses within and across sectors that will play a leading role in the next wave of disruption affecting everything that moves, spin-in business seeking technical support for their business endeavours, SMEs at various scales seeking a technological edge, knowledgeable about their marketplace and prepared/able to invest in order to scale and have international competitive advantages, technical staff in local high-tech business, through training in technical subjects and innovation, local economy through inward investment of large international businesses co-locating facilities and people for access to talent, ideas and markets and schools across the central belt and potentially Scotland-wide through robotics outreach programmes.

Investing in infrastructure: Bayes Centre Construction

The third and final component of the investment is a £45 million investment for the construction of the Bayes Centre. Formally approved in 2015 to ensure regional competitiveness in DDI, the Bayes Centre opened in September 2018. The 9,000 square metre facility provides additional space required to grow DDI capacity, by hosting 600 staff and associated facilities, which will be deployed to support acceleration of DDI in the region. Located next to the existing School of Informatics, this will create a world-class DDI powerhouse capable of attracting data services companies to the City Region. It will anchor a full facility approaching 2000 people across the integrated centres as shown in Figure 7 overleaf.

⁵ Edinburgh Centre for Robotics: <http://www.edinburgh-robotics.org/>

Figure 7: The Bayes Centre



The Bayes Centre has been designed to facilitate delivery of the TRADE activities. The major commercial components of the Bayes proposition relate to building construction and fit-out, and equipment procurement.

The total project cost of the Bayes Institute is £45 million and the gross floor area, across five floors, within the new facility is 9,000m². The design ethos for the building is to create an open plan building which encourages collaboration. The occupants of the building are PhD students, academic, support staff and external partners. City Deal activities will be distributed throughout the building and they will also have the benefit of sharing the communal collaboration spaces, meeting spaces and break out facilities incorporated into the development.

The overall identity of the Bayes Centre will be lively, high quality (to reflect its status and outward-facing approach), exciting, connected, innovative, open, flexible and adaptable. Internally, there may be a need to support separate identities for specific occupiers within their fitting-out arrangements.

Organisational Structure of the Bayes Centre

The Bayes Centre will be managed and run by the Bayes Steering Group (BSG). Much of the activity in the Centre will build on the strengths of Informatics as the key data science centre of research excellence. Whilst the School of Informatics activity will be prevalent in the Bayes Centre, it will be strongly interdisciplinary with a focus on translational research and education. Much of its activity will be outward-facing, working across a range of application domains and engaging directly with industry, government, and the third sector.

Inside the building: the BSG will establish a focal point for data intensive technologies of all kinds; entrepreneurial and innovation activities surrounding this; and data intensive technology for education. This will include:

- The data-intensive component of the **Edinburgh Parallel Computing Centre** (the UK's major academic supercomputing centre), connecting to off-site data and high performance computing and data facilities;
- The **Informatics** technology transfer operation, embedding an innovation culture in Bayes, providing business development support across the University;
- International Centre for Mathematical Sciences (ICMS), bringing core mathematics and computation expertise into the Centre;
- Design groups from ECA and Informatics (extending the **Design Informatics** initiative);
- Sensor and robotics researchers, including the **Edinburgh Centre for Robotics**; bringing in related researchers in School of Engineering and connecting to the Sensors Innovation Centre;
- **The Data Lab** acting as a lynchpin for community building, training, and data-driven innovation projects activities across Scotland;
- Connecting and facilitating Data Science and AI across the UK, the **Alan Turing Institute** will help align the relevant stakeholders across the UK;
- Incubation space, company engagement space and company engagement activities; and,
- External partner organisations, students, and academic researchers hosted as part of the broader data science activity across the University (see below).

Across the University: the Bayes Centre will act as a hub supporting data technologies, data-intensive research and data analytics in education. Examples of high impact areas within Schools are:

- Physics: through joint interest in EPCC and data-intensive and high-performance computing;
- Engineering: through joint research in sensors and robotic systems;
- Mathematics: on the statistical aspects of data at scale;
- Biology: in collaboration with its DNA synthesis research, and Bioinformatics more generally;
- Geosciences: connecting to the prospective NERC environmental big data centre and **Higgs**;
- Edinburgh College of Art: through the joint Design Informatics initiative;
- Social Sciences: through the Institute for the Study of Science, Technology and Innovation;
- Molecular, Genetic and Population Health Sciences: through joint work on Data Safe Havens (a **secure** place used to store particular research **data**, for access exclusively by approved colleagues) and analytics;
- Clinical Sciences: image analysis via the Centre for in vivo Imaging Sciences and, through this, engaging with the Scottish SINAPSE imaging network; and,
- Education: through joint work on learning analytics, educational media, and data-driven educational technology.

Beyond the University: the Bayes Centre will form alliances with like-minded organisations to develop a shared agenda nationally and internationally. This will be driven through strategic themes and Grand Technologies including:

- Healthcare (building on Farr and the Digital Healthcare IC);
- Medicine (building on research at Molecular, Genetic and Population Health Sciences and regenerative medicine);
- Synthetic and systems biology (building on DNA synthesis and synthetic biology);
- Finance and economy (exploiting links to London and the CDEC Catapult);
- Design (building on Design Informatics and the Edinburgh Centre for Robotics);
- Data Science (e.g. working with The Higgs Centre for Innovation);

- Education (adding an analytics and social computation element to MOOCs and other media); and,
- Government and public sector (via open data and administrative data efforts).

By consolidating activities, creating a hub for innovation at scale and collaboration, the Bayes Centre will convene, in one location for the first time, world-leading applied researchers with talented students and industry supported by existing data science expertise.

As part of the overall £45 million investment, £5 million is sought to equip robotics Living Labs. A significant component of the robotics activity in the Bayes Centre will focus on the development of Living Labs that bring together world class cutting-edge research with industry buy-in for de-risking disruptive technologies in various domains. These activities will complement the activities undertaken by the Robotarium, and is documented in the National Robotarium business case for investment.

The Bayes facility will house field robots designed to work in extreme and hazardous environments, including construction of mock-ups, plus associated supporting systems for:

- the offshore and built environment infrastructure asset inspection sector (Total Argos Challenge mock-up with ANYmal quadruped robot for sensor deployment); and,
- fuselage co-assembly and manipulation mock-up (multi-arm manipulators on omnidirectional mobile base) for the airline assembly and maintenance sector
hospital / operating theatre mock-up (realistic OT setup, motion trackers -- kinect, cameras) along with reconfigurable hospital and smart home settings.

Bayes Centre Target Outcomes – the “so what”

Through the investment in capability, the effective organisation of resources to face the market and housing all of them in a single centre the UoE expects to make a substantial impact.

By taking the above approach, UoE will fuel inclusive growth by demonstrably improving innovation and incrementally growing its capabilities which will transform the City Region DDI ecosystem over the next 15 years delivering:

- **Talent:** using the teaching resources within the UoE School of Informatics, train and engage with over 40,000 people across data-driven entrepreneurship, digital technology, space and satellite data driven innovation and robotics;
- **Research:** Bayes research facilities will host world-leading applied researchers, and convene projects with talented students and industry worth £59 million;
- **Adoption:** staff from the various organisations within the Bayes Centre will undertake around 300 new company engagements, including early stage and scale-up companies, to increase their level of data adoption;
- **Data:** through EPCC, The Data Lab and Alan Turing Institute, Bayes will support private, public and third sector organisations to utilise the WCDI platform to enable the creation and utilisation of new forms of data asset; and,
- **Entrepreneurship:** using the expertise of organisations such as Informatics Ventures and Edinburgh Innovations, refresh the fast-growth company pipeline through the establishment of 250 new high-growth start-ups utilising a new, targeted, Pre-Incorporation Accelerator Programme, and support equity investment through an investor-readiness programme: Engage Invest Exploit.

Overall Summary

The Bayes Centre, and the diverse range of groups and activities that it will host, is an ambitious and complex undertaking. It will provide a huge boost to innovation at scale in the region and beyond, leveraging world-class capabilities within its resource organisations and appropriate sectoral targeting, driving inclusive growth. Robust governance and financial arrangements have been outlined and will be developed further in the cases below, along with the strategic, commercial and economic considerations.

Edinburgh and South East of Scotland City Region Deal Joint Committee

10am, Monday 17 December 2018

World Class Data Infrastructure Project Business Case

Item number 4.3

Executive Summary

This report seeks approval to secure funding for, and enact, the World Class Data Infrastructure (WCDI) facility (that underpins the five Innovation Hubs, as part of the Data Driven Innovation Programme, as set out in the WCDI Business Case).

The preparation of this business case has been led by the University of Edinburgh (UoE) - on behalf of City Region Deal consortium partners - in accordance with the HM Treasury Green Book Five Cases model.

Hugh Edmiston

Senior Responsible Officer, Data Driven Innovation Delivery Board, Edinburgh and South-East Scotland City Region Deal

E-mail: hugh.edmiston@ed.ac.uk |

Tel: 0131 650 9845



Report

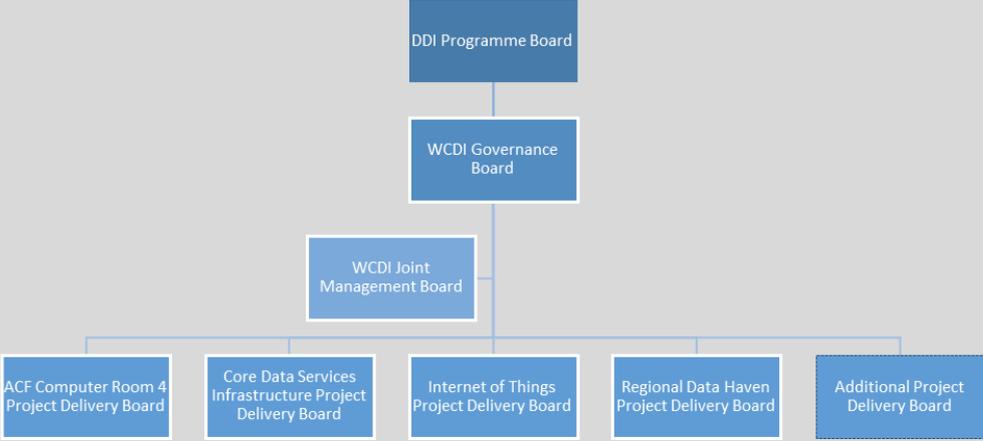
City Region Deal Checklist

Criteria	Details/Link to Document
<p>Contribution to City Region Deal commitments and Inclusive Growth Framework</p>	<p>The WCDI project (as part of the wider DDI Programme) is an innovation programme that supports the inclusive growth ambitions of the partnership including:</p> <ul style="list-style-type: none"> • Accelerating inclusive growth through unlocking new talent pools for business, promoting fair work, and equipping disadvantaged citizens with the skills they need to succeed; • Removing the barriers to growth by putting in place intensive family support and targeted skills development to help disadvantaged individual access and progress in work; • Community benefits through procurement by integrating our approach to employer engagement and procurement to increase the value achieved from our collective investments; • Targeted skills interventions that builds workforce capacity and capability in the “Data Driven Innovation” and “Housing, Construction and Infrastructure” sectors; and, • Social benefit through Innovation through close working between the IRES and DDI programmes to fully utilise the technological (data visualisation insights) and employment opportunities that will be generated by the sector. <p>The UoE has committed (in its Procurement Strategy) to add value to local and regional communities by identifying and achieving robust, relevant and proportionate Community Benefits (CBs) from the:</p> <ul style="list-style-type: none"> • University’s Procurement Strategy: <i>“For every procurement over £4million, the delegated authority of the University will consider how the acquisition can improve the economic, social or environmental wellbeing of our area through inclusion of community benefit clauses, to assist with our strategic objective of Community Engagement”;</i> and, • Procurement Category Strategies: <i>“Contributing locally [by] applying community benefits to major contracts, engagement in local collaborations in the city and with Scottish peer groups, including shared services and collaborative framework agreements.”</i> <p>Consequently, in the context of the WCDI project, robust, relevant and proportionate community benefits will be incorporated in future procurements of £4million and above, and will be considered in regulated procurements below £4million at strategy stage (i.e. at £50,000 and above).</p>

Criteria	Details/Link to Document
	<p>Where community benefit requirements are included in a WCDI DDI contract, the contracting authority must include, in the award notice, a statement of the benefits it considers will be derived from those requirements.</p> <p>The project sponsors, procurement manager and any other participating University entity must agree who will be responsible post-contract award for the initiation of engagement with the supplier to achieve the CB commitments, as well as who will be responsible for delivering, monitoring and reporting the achieved CB.</p> <p>At the discretion of the University, CBs offered as part of the tender response may be enforceable as part of the final contract (or where submitted after contract award, pursuant to a legally compliant contract variation process). On high-risk projects, written commitments may be required from suppliers that obligate them to follow through with offered CBs, which include means to penalise suppliers who are non-compliant.</p>
Alignment, integration with, or dependence on, other City Region Deal activities	<p>The WCDI project provides the underpinning technological base for all DDI Programme activities delivered via the other DDI projects.</p>
Scale and regional distribution of expected outcomes, benefits, and leverage, from activity	<p>The WCDI represents a practical, flexible and cost-effective approach to the delivery of the diverse technological requirements for the five Innovation Hubs of the DDI Programme.</p> <p>The WCDI will develop-the most cost-effective, performant, flexible data infrastructure of any region in Europe to allow public and private data to be used in a multitude of ways to develop the Edinburgh City Region into the Data Capital of Europe.</p> <p>The region will benefit from the creation of a regional civic data haven, providing different levels of data access, including an open data store¹ and secure data safe havens for more sensitive data for research, from both the public and private sector.</p> <p>Aligned to the creation of the Regional Data Haven will be an investment in Smart data assembly. This will deliver the capability to access data from existing legacy systems used across the City Region, and to look at innovations around the capture of data supported and supporting collaborative research and service redesign approaches. A range of capital investments in middleware or other data tools and expertise will be undertaken to unlock the data from existing system configurations.</p> <p>As part of this, the region will benefit from the deployment of a LPWAN-based IoT platform and network, covering an area of approximately 7,780 square kilometres. The primary hosts for LoRaWAN gateways within each locality outside of the central city of Edinburgh will be higher and further education establishments and secondary schools, who will have access to the network for educational purposes.</p>
Compliance with financial requirements and agreed expenditure profile	<p>This business case is specifically seeking £80 million towards the £110 million WCDI capital investment.</p>
Equalities Impact	<p>The DDI programme of work sits within the Equalities framework laid out by the Edinburgh and South East Scotland City Region Deal, through its Inclusive Growth Framework, which has five key themes aimed at accelerating inclusive growth and</p>

¹ WCDI will act as a Regional Hub for Open Data, supporting easier access to this data.

Criteria	Details/Link to Document										
	<p>social benefit through innovation, with specific regard to minorities and disadvantaged population groups.</p> <p>The University of Edinburgh also has an Equality and Diversity Strategy, Outcomes and Action Plan, which outlines the University's continuing commitment to equality and diversity for both students and staff. These frameworks highlight the central concepts of fair and equitable treatment regardless of race, disability, ethnicity, gender (including transgender), age, sexual orientation or beliefs.</p> <p>These will be key principles governing the development and delivery of programme activities outlined in this document. For all projects carried out within the programme of work, an equalities screening will be carried out to ensure that these issues are raised and addressed from project inception through to delivery and evaluation.</p>										
Anticipated significant risks and mitigation measures	<p>A risk and mitigation approach has been prepared, and will be updated as the programme develops. The top 4 (current) risks and mitigation approaches are illustrated below:</p> <table border="1" data-bbox="448 824 1394 1384"> <thead> <tr> <th data-bbox="448 824 839 875">Risk</th> <th data-bbox="839 824 1394 875">Mitigation</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 875 839 958">Capital project risks</td> <td data-bbox="839 875 1394 958">Build in adequate contingencies and apply good procurement practices.</td> </tr> <tr> <td data-bbox="448 958 839 1196">Ability to demonstrate sustainable income generation</td> <td data-bbox="839 958 1394 1196">Prudent financial analysis with recognition that opportunities may exist to improve the base case position through wider fund-raising, such as targeting philanthropic donations from businesses and individuals supported by the University, or seeking returns from investment in successful spin-outs.</td> </tr> <tr> <td data-bbox="448 1196 839 1272">Major data loss from WCDI</td> <td data-bbox="839 1196 1394 1272">Ensure adequate security precautions and limit damage via data encryption.</td> </tr> <tr> <td data-bbox="448 1272 839 1384">Negative PR associated with City Region Deal expenditure</td> <td data-bbox="839 1272 1394 1384">Develop communications strategy in line with and a part of overall Programme communications and marketing.</td> </tr> </tbody> </table>	Risk	Mitigation	Capital project risks	Build in adequate contingencies and apply good procurement practices.	Ability to demonstrate sustainable income generation	Prudent financial analysis with recognition that opportunities may exist to improve the base case position through wider fund-raising, such as targeting philanthropic donations from businesses and individuals supported by the University, or seeking returns from investment in successful spin-outs.	Major data loss from WCDI	Ensure adequate security precautions and limit damage via data encryption.	Negative PR associated with City Region Deal expenditure	Develop communications strategy in line with and a part of overall Programme communications and marketing.
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Major data loss from WCDI	Ensure adequate security precautions and limit damage via data encryption.										
Negative PR associated with City Region Deal expenditure	Develop communications strategy in line with and a part of overall Programme communications and marketing.										
Alignment and fit with City Region Deal governance arrangement	<p>WCDI Governance, as agreed 7 August 2018, is aligned with the City Region Deal under the DDI Programme Board.</p> <p>The Board is responsible for commissioning the WCDI investment including establishing the WCDI and defining the key resources, financial and KPI delivery parameters within which the WCDI will operate.</p> <p>The WCDI Governance Board is responsible for the overall direction and management of the WCDI activities described in this document. As such, it is ultimately accountable for the success of WCDI and providing unified direction to</p>										

Criteria	Details/Link to Document
	<p>the project.</p>  <pre> graph TD DDI[DDI Programme Board] --> WCDI_Gov[WCDI Governance Board] WCDI_Gov --> WCDI_JMB[WCDI Joint Management Board] WCDI_JMB --> ACF[ACF Computer Room 4 Project Delivery Board] WCDI_JMB --> Core[Core Data Services Infrastructure Project Delivery Board] WCDI_JMB --> IoT[Internet of Things Project Delivery Board] WCDI_JMB --> RDH[Regional Data Haven Project Delivery Board] WCDI_JMB --> APD[Additional Project Delivery Board] </pre>
PMO check	All evidence provided.
Government approval	UK and Scottish Government approved the final business case on 29 November 2018.
Partner sign-off	The business case is expected to be approved by the Joint Committee on 17 December 2018.
Advisory Board sign off	The business case was approved by the DDI Delivery Board on 29 November 2018.
Executive Board sign off	The business case was approved by the Executive Board on 22 November 2018.
PMO Recommendation	That Committee approves the implementation of the WCDI programme as set out in this business case.

Report

World Class Data Infrastructure Business Case

1. Recommendations

- 1.1 To approve the WCDI final business case and implementation of its activities and organisational structure.
- 1.2 To note that the individual activities to be undertaken as part of WCDI will be approved separately by the DDI Delivery Board and reported to the Joint Committee.

2. Background

- 2.1 As detailed at in the attached project description appendix the [Edinburgh and South East Scotland Science and Innovation Audit \(SIA\)](#), published in November 2016 detailed how the ability to collect, store and analyse data from an array of diverse sources will become increasingly important in driving economic growth, social change and public services. By harnessing this challenge, a Data-Driven Innovation (DDI) Programme was established to ensure that the city region can become the Data Capital of Europe.
- 2.2 Within the DDI programme there are five data-driven innovation research, development and innovation sectoral hubs: Bayes Centre; National Robotarium; Edinburgh Futures Institute; Usher Institute; and Easter Bush, which each draw upon the World Class Data Infrastructure (WCDI) project to provide the required underpinning data capability, computing and data storage infrastructure.
- 2.3 To support the development and operation of the five Innovation Hubs, that form the DDI Programme, the programme has designed a shared infrastructure, the WCDI.
- 2.4 Through this business case, the University of Edinburgh seeks approval for capital investment of £110 million, of which UK and Scottish Governments are asked to fund £80 million in total for the WCDI build.
- 2.5 This Business Case has been endorsed by UK and Scottish Governments and is now presented to the Joint Committee for approval.

3. Main report

- 3.1 We are now entering an era when the generation, collection, analysis and monetisation of huge volumes of data underpins the Digital Economy. The value of data comes from its use in real time, or aggregation over long periods, to understand and predict behaviour. Whilst data has become ubiquitous, the challenges for all organisations are

to use this data effectively to shape, develop and deliver innovative digital products and services to consumers and citizens. This is what we call Data-Driven Innovation (DDI) and is the focus of this outline business case.

3.2 As evidenced in a wide variety of Scottish and UK Government policy documents, and in publications by the OECD and global consultancies, Data-Driven Innovation has become a key pillar of 21st century growth with potential to significantly enhance; productivity, resource efficiency, economic competitiveness and social wellbeing. The Edinburgh and South East Scotland Science and Innovation Audit (SIA) identified for the region, in broad terms, that:

- It already is a powerhouse in Data-Driven innovation with a fast growing cluster;
- Growth is at a tipping point and requires further investment to meet demand; and,
- There are a number of industry sectors that are key to the local economy and which align to national areas of focus and opportunity, providing an opportunity for inclusive growth.

3.3 The vision is for Edinburgh to be recognised as a world leader in Data Science. It will do this by playing to its strengths in education and research and boosting commercial activity. Furthermore, it will enable these activities to maximum effect by creating a hub for informatics and data-driven innovation activity within the region thus driving further development and growth in inter-disciplinary and translational data-driven research.

3.4 In order to deliver this ambitious programme for growth, there is a need for the university to invest in high performance computing, data analytics services and IoT that can act as a catalyst for the Data Driven Innovation Programme, enabling the growth of new talent, research, adoption and entrepreneurship, all focused on data.

3.5 The city region has a long history of data excellence and leadership, including the largest computing school in Europe – the UoE School of Informatics, the UK's principal super-computing facility - the Edinburgh Parallel Computing Centre (EPCC) and the largest concentration of internationally significant and world-leading informatics research, in the UK.

3.6 Moreover, in the last four years, the local DDI capability has grown significantly as multiple new initiatives within data science, IoT and analytical capabilities areas have been secured. The city region hosts Scotland-wide initiatives like the Data Lab, the Farr Institute, the Centre of Excellence for Cyber Security Research, and Administrative Data Research Centre, as well as hosting four doctoral training programmes in Data, Robotics, Systems and Analysis.

3.7 The City Region already hosts the UK's most successful computing start-up community around a university and has joined an elite group of key UK universities in data science. However, there are a number of existing challenges for the delivery of future growth

industries, led by data, across the existing infrastructure. These challenges fall largely into two categories:

- **Capacity:** a significant number of sectors display similar patterns of capacity constraint, when it comes to testing and adopting new approaches around data. This relates to the effort required to identify relevant data sets, wrangle them into a state that allows for use and the technical capacity to test value propositions at a low cost of entry; and
- **Capability:** as with the capacity challenges, there are a number of capability constraints facing the city region, particularly in new and emerging fields of analytics. This relates to the techniques and practices required to identify relevant data sets, the expertise to manipulate these into a workable state and to extract value from them.

3.8 The capital investment will enable the region to establish a strong position to flourish in new, data-driven markets by providing the right infrastructure to deliver the programme objectives of the DDI Programme and provide the right conditions for future business growth across the region.

3.9 Underpinning the existing success and reputation of the city region are well-established **TRADE** (i.e. **T**alent, **R**esearch, **A**doption, **D**atasets, and **E**ntrepreneurship) strengths, although these require further development and organised focus. Additionally, considering the delivery of the DDI programme across the region, infrastructure needs to be built to support these activities over the upcoming programme of work.

3.10 The University of Edinburgh has an excellent platform and opportunity from which to grow and consolidate for the future, but investment is required to, robustly, respond to the DDI opportunity. The SIA highlighted the early investments in IoT infrastructure, data and interpretation, that have been made to develop the current critical national infrastructure, but it recognises that the importance for maintaining the data infrastructure cannot be overstated.

3.11 Given the SIA findings, that University of Edinburgh is aligned nationally and has a local strength in DDI, the WCDI business case proposes an overall investment of £110m to develop the world-class data infrastructure required to deliver the programme for growth across the Edinburgh and South East Scotland city region. The significant capital required by this business case, will provide six core components, all of which are intrinsically linked in the delivery of the DDI programmes of activity:

- **Regional Data Haven:** infrastructure to provide a data store for public and private sector data and the integration, combination and leveraging of private/public data for programme purposes.

- **Regional Internet of Things (IoT) network:** a regional IoT innovation network operating at scale i.e. 100,000 sensors deployed to meet the needs of different sectors and develop new services.
- **Smart data assembly:** enabling connectivity to legacy public data systems to support the Regional Data Haven.
- **Data services and analytics capability:** software to enable the region access to the best tools available to operate against the data available in the World Class Data Infrastructure platform.
- **Resilient data compute, networking and storage:** expand the data-hosting environment of the ACF and the necessary IT equipment to support the transformation of data into value.
- **Dedicated Computer Room:** a new data centre room and associated plant room to extend the ACF to house the WCDI IT equipment and IT systems from other stakeholders from the public and private sector.

3.12 In summary, the World Class Data Infrastructure (WCDI) project will provide the enabling data infrastructure platform for the Data Driven Innovation (DDI) Programme. The DDI Programme requires an extremely powerful, high capacity and flexible infrastructure capable of responsive delivery of an expanding array of complex and bespoke data and analytical services.

3.13 By leveraging prior investments in the Edinburgh Parallel Computing Centre (EPCC), and specifically its Advanced Computing Facility (ACF), WCDI represents a practical, flexible and cost-effective approach to the delivery of the diverse technological requirements of the DDI Programme.

3.14 WCDI will be constructed, equipped and delivered by the University of Edinburgh, and will be made available for use to all parties engaged with the DDI Programme. As an enabling investment, WCDI is not directly accountable for DDI Programme outputs rather it will provide the enabling technology infrastructure through which **TRADE** outputs – identified in all the other DDI Business Cases - will be achieved.

4. Financial impact

- 4.1 Through this business case UoE seeks approval for capital investment of £110 million (of which Government is asked to fund £80 million) for the WCDI.
- 4.2 The commitment and continuation of funding will be subject to the approval of detailed Project Propositions by the DDI Delivery Board and will be subject to the projects demonstrating satisfactory progress against agreed objectives and targets.
- 4.3 The actual spend profile will vary across the funding period and will be regularly updated in response to learning and changing circumstances to ensure maximum impact against the DDI programme and wider inclusive growth goals.

5. Equalities impact

- 5.1 The WCDI will support all Hub activities to improve the flow of disadvantaged individuals into good employment and careers across various objectives:

- Be central to maximising the value of City Region Deal investments by delivering the workforce element;
- Future proof the regional economy through stimulating a positive step change in equality, capacity and productivity;
- Encourage meaningful participation by stakeholders in designing and delivering services and interventions;
- Provide opportunities to strengthen career progression routes for those who face significant labour market disadvantage; and,
- Seek to address poverty and social exclusion by increasing the financial awareness, capacity and inclusion of the most disadvantaged households.

6. Background reading/external references

- [Edinburgh and South East Scotland City Region Deal Document](#): August 2018

7. Appendices

Appendix 1: WCDI Project Summary

Appendix 1: World Class Data Infrastructure Project Summary

Overview

This is the Business Case for Investment (BCI)¹ in a World Class Data Infrastructure (WCDI), the foundation component of the Data Driven Innovation (DDI) Programme, an integral part of the Edinburgh and South East Scotland City Deal investment proposition.

This business case has been developed by the City Deal consortium partners, in accordance with the HM Treasury Green Book Five Cases model. This business case is specifically seeking £80 million towards the £110 million capital investment in WCDI.

Strategic Intent

WCDI is the enabling data infrastructure platform. To achieve the target outcomes of the various DDI programme delivery projects requires an extremely powerful, high capacity and flexible data infrastructure capable of responsive and secure delivery of an expanding array of complex and bespoke data and analytical services spanning the DDI programme and its multiple industry sectors.

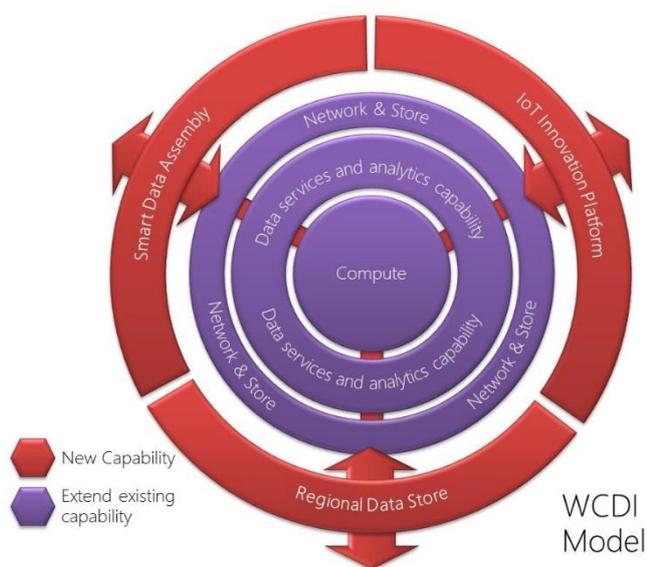
The DDI Programme – and its private, public and third sector stakeholders - will demand a level of service (e.g. resiliency to the loss of power, redundancy of equipment to mitigate the impact of sudden failures) that is not normally required for research computing applications and is not currently supported by existing facilities.

Figure 1: WCDI Model - Explained

What will be Different?

By leveraging prior investments in the recognised national research asset of the *Edinburgh Parallel Computing Centre (EPCC)*, and specifically its *Advanced Computing Facility (ACF)*, WCDI represents a practical, flexible and cost-effective approach to the delivery of the diverse technological requirements for the five Innovation Hubs of the DDI Programme.

We will build on the world class infrastructure the ACF provides in order to be cost effective. Sharing this capability and capacity in support of all five of the Innovation Hubs, utilising our knowledge and skills, our focussed capital investment will allow us to develop the most cost-effective, performant, flexible data innovation infrastructure of any region in



¹ Equivalent to the OGC Outline Business Case: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

Europe. Our ambition is to develop this data infrastructure such that it allows public and private data to be used in a multitude of ways to develop the Edinburgh City Region into the Data Capital of Europe.

To address the requirements of its varied target sectors, the DDI Programme seeks to support DDI activities at scale. These activities require a range of data creation, analytics and secure storage capabilities that are not readily and cost-effectively available, across the five themes of innovation (Talent, Research, Adoption, Datasets and Entrepreneurship) within the DDI programme, in the City Region currently. As such, they represent significant barriers to increased levels of data utilisation by organisations.

To overcome these barriers the WCDI infrastructure will provide:

- **Regional Data Haven:** infrastructure to provide a data store for public and private sector data and the integration, combination and leveraging of private/public data for programme purposes;
- **Regional Internet of Things (IoT) network:** a regional IoT innovation network operating at scale i.e. circa 100,000 sensors deployed to meet the needs of different sectors and develop new services;
- **Smart data assembly:** enabling connectivity to legacy public data systems to support the Regional Data Haven;
- **Data services and analytics capability:** software to enable the region access to the best tools available to operate against the data available in the World Class Data Infrastructure platform; and,
- **Resilient data compute, networking and storage:** expand the data hosting environment of the ACF and the necessary IT equipment to support the transformation of data into value.
- **Dedicated Computer Room:** a new data centre room and associated plant room to extend the ACF to house the WCDI IT equipment and IT systems from other stakeholders from the public and private sector.

The region will benefit from the creation of a regional civic data haven, providing different levels of data access, including an open data store² and secure data safe havens for more sensitive data for research, from both the public and private sector.

Aligned to the creation of the Regional Data Haven will be an investment in Smart data assembly. This will deliver the capability to access data from existing legacy systems used across the City Region, and to look at innovations around the capture of data supported and supporting collaborative research and service redesign approaches. A range of capital investments in middleware or other data tools and expertise will be undertaken to unlock the data from existing system configurations.

As part of this the region will benefit from the deployment of a LPWAN based IoT platform and network, covering an area of approximately 7,780 square kilometres. The primary hosts for LoRaWAN gateways within each locality outside of the central city of Edinburgh will be higher and further education establishments and secondary schools, who will have access to the network for educational purposes.

² WCDI will act as a Regional Hub for Open Data from City Deal partners, supporting easier access to this data.

The WCDI proposed investment will enable the programme outcomes by:

- Enabling the work of the Innovation Hubs (Bayes, Usher, EFI, Robotarium, Easter Bush) through the expansion of the range of innovative data service and analytical capabilities offered, building on the existing delivery of trusted data safe haven systems for handling sensitive public data within strong proven governance arrangements;
- Leveraging the local expertise in the management of complex data infrastructures and services, in the governance of the programme, and;
- Adding to the existing data storage and processing capacity of the Advanced Computing Facility as a national Data infrastructure asset.

In all of this, the focus is on ensuring that the right data infrastructure is in place to achieve the Programme thematic outcomes of Talent, Research, Adoption, Datasets and Entrepreneurship.

Through this capital investment, the World Class Data Infrastructure will provide an innovation platform that supports data access, data support & inclusive technologies that allow broad public and stakeholder engagement, and a capability to provide rapid scaling of projects to underpin the City Deal delivery programmes and their public and private sector partners.

In assessing the WCDI proposition, we have confirmed that on-going WCDI operation and associated risk profile is affordable, and is capable of being self-sustaining over the longer term if the initial capital costs are met in full by capital grant.

Delivering the DDI programme, underpinned by WCDI

Opportunity

We are now entering an era when the generation, collection, analysis and monetisation of huge volumes of data underpins the Digital Economy. The value of data comes from its use in real time, or aggregation over long periods, to understand and predict behaviour. Whilst data has become ubiquitous, the challenges for all organisations are to use this data effectively to shape, develop and deliver innovative digital products and services to consumers and citizens. This is what we call Data-Driven Innovation (DDI) and is the focus of this outline business case.

As evidenced in various Scottish and UK Government policy documents, and in publications by the OECD and global consultancies, Data-Driven Innovation has become a key pillar of 21st century growth with potential to significantly enhance; productivity, resource efficiency, economic competitiveness and social wellbeing. The Edinburgh and South East Scotland Science and Innovation Audit (SIA) identified for UoE, in broad terms, that:

- It already is a **powerhouse** in Data-Driven innovation with a fast growing cluster;
- Growth is at a **tipping point** and requires further investment to meet demand; and,
- There are a number of industry sectors that are key to the local economy, and which align to national areas of focus and opportunity, providing an opportunity for **inclusive growth**.

Vision

The University of Edinburgh's **vision** is to be a world leader in Data Science. It will do this by playing to its strengths in education and research and boosting its commercial activity. Furthermore, it will enable these activities to maximum effect by creating a hub for informatics and data-driven

innovation activity within the region thus driving further development and growth in interdisciplinary and translational data-driven research. In order to deliver this ambitious programme for growth, there is a need for the university to invest in high performance computing, data analytics services and IoT that can act as a catalyst for the Data Driven Innovation Programme, enabling the growth of new talent, research, adoption and entrepreneurship, all focused on data.

Current Position – future growth restricted by the existing infrastructure

The city region has a long history of data excellence and leadership, including the largest computing school in Europe – the UoE School of Informatics, the UK's principal super-computing facility - the Edinburgh Parallel Computing Centre (EPCC) and the largest concentration of internationally significant and world-leading informatics research, in the UK.

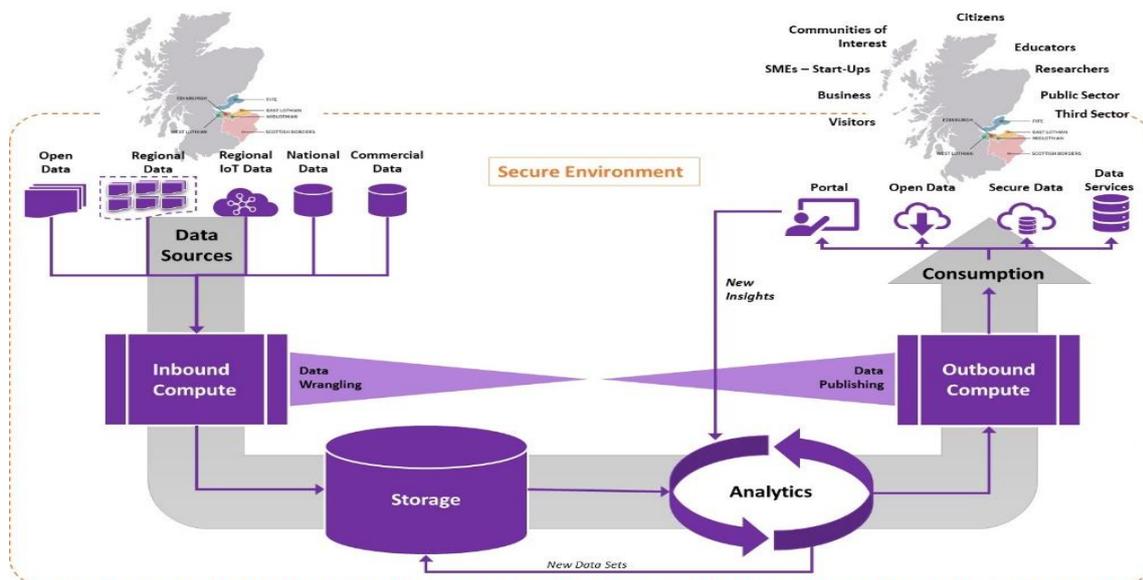
Moreover, in the last four years, the local DDI capability has grown significantly as multiple new initiatives within data science, IoT and analytical capabilities areas have been secured. The city region hosts Scotland-wide initiatives like the Data Lab, the Farr Institute, the Centre of Excellence for Cyber Security Research, and Administrative Data Research Centre, as well as hosting four doctoral training programmes in Data, Robotics, Systems and Analysis. It hosts the UK's most successful computing start-up community around a university and has joined an elite group of key UK universities in data science. However, there are a number of existing challenges for the delivery of future growth industries, led by data, across the existing infrastructure. These challenges fall largely into two categories:

- **Capacity:** a significant number of sectors display similar patterns of capacity constraint, when it comes to testing and adopting new approaches around data. This relates to the effort required to identify relevant data sets, wrangle them into a state that allows for use and the technical capacity to test value propositions at a low cost of entry; and
- **Capability:** as with the capacity challenges, there are a number of capability constraints facing the city region, particularly in new and emerging fields of analytics. This relates to the techniques and practices required to identify relevant data sets, the expertise to manipulate these into a workable state and to extract value from them.

The capital investment will enable the region to establish a strong position to flourish in new, data-driven markets by providing the right infrastructure to deliver the programme objectives of the DDI Programme and provide the right conditions for future business growth across the region.

Underpinning the existing success and reputation of the city region are **well-established TRADE strengths**, although these require further development and organised focus. Additionally, considering the delivery of the DDI programme across the region, the infrastructure must be developed to support these activities over the upcoming programme of work. Figure 1 overleaf represents an indicative model of how the WCDI may be delivered.

Figure 1: WCDI Indicative Model



The University of Edinburgh has an excellent platform and opportunity from which to grow and consolidate for the future, but investment is needed to robustly respond to the DDI opportunity. The SIA highlighted the early investments in IoT infrastructure, data and interpretation that have been made to develop the current critical national infrastructure, but it recognises that the importance for maintaining the data infrastructure cannot be overstated.

How UoE will achieve its vision

Given the SIA findings that UoE is aligned nationally and has a local strength in DDI, this business case proposes an overall investment of **£110 million** to develop the world-class data infrastructure required to deliver the programme for growth across the Edinburgh city region. The significant capital required by this business case, will provide 6 core components, all of which are intrinsically linked in the delivery of the DDI programmes of activity:

- **Regional Data Haven:** infrastructure to provide a data store for public and private sector data and the integration, combination and leveraging of private/public data for programme purposes;
- **Regional Internet of Things (IoT) network:** a regional IoT innovation network operating at scale i.e. 100,000 sensors deployed to meet the needs of different sectors and develop new services;
- **Smart data assembly:** enabling connectivity to legacy public data systems to support the Regional Data Haven;
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- **Resilient data compute, networking and storage:** expand the data hosting environment of the ACF and the necessary IT equipment to support the transformation of data into value.

- **Dedicated Computer Room:** a new data centre room and associated plant room to extend the ACF to house the WCDI IT equipment and IT systems from other stakeholders from the public and private sector.

Investing in and addressing core capabilities and gaps: TRADE

Through the SIA, it was recognised that strengthening the world-class infrastructure for data science research & teaching will help enhance the commercialisation of DDI activities. However, in order to grow and prepare for the future it needs to improve. These WCDI investments, totalling £110 million, will be managed and overseen through the WCDI Governance Board. The detail of this investment in TRADE activity is outlined below.

Talent: WCDI will provide the platform that will enable new training and skilling activities associated with the attraction, development and retention of a high volume, higher quality talent pipeline, covering pre-employment and post-employment. Students will be able to develop their talent through a range of “hands-on” activities whether these are credit bearing, extracurricular, Living Labs, or CPD. Sector based training and skilling activities, enabled by sector-based data (10 economic priority sectors) will enable the activities related to talent development to be much broader than is currently possible.

Acquisition of easy-to use intelligent analysis tools will enable these training and skilling activities to drive deeper into sectoral talent pools across both the private and public sector. WCDI will attract industry, delivering more activities associated with DDI projects that engage students to help them can gain experience, increasing inclusivity and employability. New courses in key emerging areas of data management technology including IoT (end-to-end from device build to data analysis), data management, data engineering, data science, deliverable remotely online.

Research: This will deliver a platform for a facility to access IoT infrastructure through Innovation Consortium membership. This will also include a secure facility to access data in the City Data Store. By strengthening the breadth and depth of our data assets and infrastructure we will strengthen our research activities, particularly those with a DDI component. By strengthening our data assets, we will strengthen our international collaborative activity, because data will increasingly become a crucial factor in the selection of international research consortia.

We will increase the level of DDI translational activities enabled by WCDI and increase industry and public sector participation. The WCDI will deliver a significant effort in attracting and retaining more research talent and improving the multidisciplinary DDI research activity.

Adoption: Scotland has a critical challenge to deliver effective matching of talent to industry adoption opportunities and projects. This will look to cover the effective use of the WCDI platform to enable the adoption efforts of companies and public sector organisations - our partners do not have access to these facilities, or the expertise necessary to build them and drive value from them.

By helping cluster organisations to where possible and delivering a series of engagement events and workshops, this will foster closer working relationships and dissemination of best practices, underpinned by the WCDI available. This work will also include, where appropriate, outreach to

schools, additional IoT network gateway placement, STEM learning activities (addition of IoT to Micro:Bit³).

Datasets: Gaining convenient access to “real” data is a recurring problem. The Open Research Data Task Force has recognised that a number of technical, cultural and behavioural issues need attention to make data sharing more accessible. -To enable greater levels of innovation in the local economy, the SIA highlighted the need for “real” data to inform talent development and research, and for access to this data to be made more straightforward. The organisations and facilities hosted in the Bayes Centre, will be enabled by WCDI, to increase the City Region’s ability to manage, access and utilise a vast pool of diverse data assets, and the associated value that it generates by:

- | | |
|---|---|
| <ul style="list-style-type: none">• Regional Data Haven open data and secure data provision and access• Data acquisition• Data curation• Data sharing• Data integration• Data ethics and Information Governance• Design using data• Marketplaces associated with data services | <ul style="list-style-type: none">• Data partnerships• Data management• Data archiving• Auditing the quality of data• Data cataloguing• Data analysis• Data visualisation• App development to exploit data |
|---|---|

Entrepreneurship: The University has expanded and produced a number of new sectoral initiatives for Entrepreneurship using our DDI assets within WCDI. It has also delivered an expanded range of corporate partnerships associated with Entrepreneurships₂ enabled by increase deal flow. A strong pipeline is required to attract corporate capital and other forms of inward investment, while long-term relationships with entrepreneurs are essential due to assistance to scale-up via the talent pipeline and ongoing innovation capacity.

Many of the corporate partners involved in research and innovation require careful access to IoT infrastructure through Innovation Consortium membership. This would also extend to having appropriate access to data in the City Data Haven. The IoT Accelerator activity is a crucial element of this delivery, as it would utilise a variety of methods to assist in the acceleration of IoT focused company development, e.g. Linkage to CivTech[®] initiative.

Although there are a number of activities taking place to bring the ecosystem of data innovators together across the Edinburgh region, this work will not be possible without the appropriate infrastructure to support growth. As the city region continues to grow its growth pipeline by opening up EIE to company’s outwith Scotland and further refining the number of sectors that companies can apply from, sectors such as IoT, energy, climate and cleantech, digital health, and robotics and autonomous systems, it all hinges on having the supporting infrastructure in place.

³ Micro:bit is a tiny programmable computer, designed to make learning and teaching easy and fun. See: <http://www.microbit.org/>

World Class Infrastructure Target Outcomes – the “so what”

Through significant investment in the infrastructure, the opportunities afforded by and the subsequent impact of the DDI programme will be significantly felt across the region.

Overall Summary

The WCDI is an ambitious and complex undertaking. It will provide a huge boost to innovation at scale in the region and beyond, leveraging world-class capabilities across the city to help drive inclusive growth.

Edinburgh and South East of Scotland City Region Deal Joint Committee

10am, Monday 17 December 2018

National Robotarium Project Final Business Case

Item number 4.4

Executive Summary

This report seeks approval to secure funding for, and enact, the National Robotarium project (as set out in the National Robotarium Final Business Case). The preparation of this business case has been led by Heriot-Watt University (HWU) on behalf of City Region Deal consortium partners and it has been prepared in accordance with the HM Treasury Five Cases model.

It also seeks to devolve operational management of the project to the Senior Responsible Owner (SRO) of the National Robotarium.

Professor Gillian Hogg

Senior Responsible Officer, National Robotarium

Deputy Principal Engagement and Staff Development

Heriot Watt University

E-mail: g.hogg@hw.ac.uk



City Region Deal Checklist

Criteria	Details/Link to Document
<p>Contribution to City Region Deal commitments and Inclusive Growth Framework</p>	<p>The vision of the City Region Deal regional partners is for Edinburgh to become the Data Capital of Europe. The National Robotarium project supports the Inclusive growth ambitions of the partnership including;</p> <ul style="list-style-type: none"> • Accelerating inclusive growth through unlocking new talent pools for business, promoting fair work, and equipping disadvantaged citizens with the skills they need to succeed • Removing the barriers to growth by putting in place targeted skills development to help upskill and reskill individuals to access and progress in areas impacted by RAS • Community benefits through procurement by integrating our approach to employer engagement and procurement that increases the value achieved from our collective investments • Targeted skills interventions that builds workforce capacity and capability in the “Data Driven Innovation” sector. • Social benefit through Innovation through close working between the IRES and DDI programmes to fully utilise the technological and employment opportunities that will be generated by the sector. <p>A significant programme of construction is planned linked to the National Robotarium. Through an agreed approach to City Region Deal procurement, Community Benefit clauses will be used to target inclusive employment practices and other opportunities. A consistent approach will be taken to applying the principles laid out in the Scottish Government’s Business Pledge;</p> <p>The University’s Procurement Policy outlines in more detail the community benefits policy. To summarise, for every procurement over £4m, the University will consider how it can improve the economic social or environmental wellbeing of the area through inclusion of community benefit clauses, to assist with its strategic objective of sustainable development. An example of a community benefit used is the requirement of a main construction contractor to employ an additional apprentice for the duration of a major project such as this.</p> <p>In support of inclusive growth, Heriot-Watt’s patterns of student recruitment indicate the likelihood of substantial uptake of these opportunities by students from Scotland, including significant recruitment of students from wider access backgrounds, as well as the national and international recruitment characteristic of a centre of excellence. Heriot-Watt also has significant outreach programmes in advancing the number of women in STEM with several key research leaders in RAS being female.</p>
<p>Alignment, integration with, or dependence on, other City Region Deal activities</p>	<p>The National Robotarium project forms a component of the Data Driven Innovation programme of the City Region Deal, delivering leading edge research and support for business creation and growth, as well as data skills, new undergraduate and postgraduate programmes, and continuous professional development. The National Robotarium is a development of the existing partnership between University of Edinburgh and Heriot Watt University, the Edinburgh Centre for Robotics (ECR). Through the City Region Deal we aim to build upon this partnership and create the UK’s National Robotarium, with the aim of building the world leading centre for Robotics and Autonomous Systems (RAS) within this City Region.</p>

Criteria	Details/Link to Document												
	<p>In addition it supports, via the City Region Deal Skills Group programme and Integrated Regional Employability and Skills Programme, interventions proposed which will maximise the value realised from other City Region Deal investments and ambitions in Data Driven Innovation by supporting the creation of a diverse and well skilled population that can benefit from and help drive the future growth of the regional economy.</p> <p>This includes the role out of DDI training and robotics outreach to schools and FE and HE partners across the City Region.</p>												
<p>Scale and regional distribution of expected outcomes, benefits, and leverage, from activity</p>	<p>The programme is designed around five key areas of intervention – TRADE – as follows:</p> <ul style="list-style-type: none"> • Talent: Develop a world-flow of talent in data driven entrepreneurship and the application of DDI; • Research: Develop, in conjunction with industry, a world-leading research capability in data science; • Adoption: Undertaken a range of industry engagements focused on building collaborative partnerships to enable new research and innovation activity; • Data: Support initiatives such as IoT and City Data Exchanges to encourage and enable the creation of new forms of data asset; and, • Entrepreneurship: Generate a pipeline of new high-growth start-ups and scale-ups, and support equity investment. <table border="1" data-bbox="596 1111 1460 1395"> <thead> <tr> <th data-bbox="596 1111 884 1144">Outcome benefits</th> <th data-bbox="884 1111 1171 1144">Without DDI</th> <th data-bbox="1171 1111 1460 1144">Uplift with DDI</th> </tr> </thead> <tbody> <tr> <td data-bbox="596 1144 884 1234">Total Learners engaging incl outreach activities</td> <td data-bbox="884 1144 1171 1234">972</td> <td data-bbox="1171 1144 1460 1234">47,344</td> </tr> <tr> <td data-bbox="596 1234 884 1296">DDI Research Funding</td> <td data-bbox="884 1234 1171 1296">£32.4</td> <td data-bbox="1171 1234 1460 1296">£58.8</td> </tr> <tr> <td data-bbox="596 1296 884 1395">No. teams entering DDI accelerator programme</td> <td data-bbox="884 1296 1171 1395">0</td> <td data-bbox="1171 1296 1460 1395">40</td> </tr> </tbody> </table>	Outcome benefits	Without DDI	Uplift with DDI	Total Learners engaging incl outreach activities	972	47,344	DDI Research Funding	£32.4	£58.8	No. teams entering DDI accelerator programme	0	40
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No. teams entering DDI accelerator programme	0	40											
<p>Compliance with financial requirements and agreed expenditure profile</p>	<p>This business case is specifically seeking £22.4m capital investment in the National Robotarium in return for which HWU commits to invest £31m revenue expenditure in operating the Robotarium and delivering the impacts described above.</p>												
<p>Equalities Impact</p>	<p>This programme of work sits within the Equalities framework laid out by the Edinburgh and South East Scotland City Region Deal, through its Inclusive Growth Framework, which has five key themes aimed at accelerating inclusive growth and social benefit through innovation, with specific regard to minorities and disadvantaged population.</p> <p>HWU also has an Equality and Diversity Strategy, Outcomes and Action Plan, which outlines the University's continuing commitment to equality and diversity for both students and staff. Both of these Equalities frameworks highlight the central concepts of fair and equitable treatment regardless of race, disability, ethnicity, gender (including transgender), age, sexual orientation or beliefs.</p> <p>These will be key principles governing the development and delivery of programme activities outlined in this document. For all projects carried</p>												

Criteria	Details/Link to Document												
	out within the programme of work, an equalities impact assessment will be carried out to ensure that these issues are raised and addressed from project inception through to delivery and evaluation.												
Anticipated significant risks and mitigation measures	<p>As detailed in Programme Business Case a risk and mitigation matrix has been prepared and will be updated as the programme develops. The top three risks and mitigations are shown in the table below.</p> <table border="1"> <thead> <tr> <th>Risk</th> <th>Response</th> <th>Mitigation</th> </tr> </thead> <tbody> <tr> <td>Not able to recruit the right staff (either because they do not exist or are unaffordable)</td> <td>Mitigate</td> <td>Develop job descriptions and institute soft market search to assess availability/wage rates.</td> </tr> <tr> <td>Negative PR associated with City Region Deal expenditure</td> <td>Mitigate</td> <td>Develop communications strategy in line with and a part of overall Programme communications and marketing.</td> </tr> <tr> <td>Negative public and government perception towards automation, productivity and the future of work</td> <td>Mitigate</td> <td>Continue public engagement and awareness /inclusivity activities.</td> </tr> </tbody> </table>	Risk	Response	Mitigation	Not able to recruit the right staff (either because they do not exist or are unaffordable)	Mitigate	Develop job descriptions and institute soft market search to assess availability/wage rates.	Negative PR associated with City Region Deal expenditure	Mitigate	Develop communications strategy in line with and a part of overall Programme communications and marketing.	Negative public and government perception towards automation, productivity and the future of work	Mitigate	Continue public engagement and awareness /inclusivity activities.
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Criteria	Details/Link to Document
Alignment and fit with City Region Deal governance arrangement	<pre> graph TD A[City Deal Joint Committee] <--> B[DDI Programme Delivery Board] B <--> C[National Robotarium Management Board] C <--> D1[1 Research Group] C <--> D2[2 Education Group] C <--> D3[3 Knowledge Exchange Group] </pre> <p>The diagram above describes the framework through which the National Robotarium will interact with DDI Programme governance, and how activities undertaken within the Robotarium will be managed.</p>

Criteria	Details/Link to Document
	<p>The ESES City Region Deal programme has the following tiers of governance:</p> <ul style="list-style-type: none"> • City Region Deal Joint Committee that is responsible for delivering increased value for money from the Edinburgh and South East Scotland City Region deal and wider regional collaboration • DDI Delivery Board that is responsible for the overall direction and management of all DDI programme activities. <p>The DDI Delivery Board is responsible for commissioning the National Robotarium investment including identifying the National Robotarium Senior Executive (a joint appointment with University of Edinburgh), establishing the National Robotarium Project Board and defining the key resource, financial and KPI delivery parameters within which the National Robotarium will operate.</p> <p>The Robotarium Management Group will be the Project Board, and is responsible for the overall direction and management of the National Robotarium activities described in this document. As such, it is ultimately accountable for success of the National Robotarium project, and providing unified direction to the project.</p>
PMO compliance check	All evidence provided.
Government approval	Scottish and UK approval of the business case was obtained on 11 December 2018.
Partner sign-off	The business case is expected to be approved by the Joint Committee on 17 December 2018.
Advisory Board sign off	The business case was approved by the DDI Delivery Board on 29 November 2018.
Executive Board sign off	The business case was approved by the Executive Board at the meeting of 22 November 2018.
PMO Recommendation	That Committee approves the implementation of the National Robotarium project as set out in the business case.

Report

1. Recommendations

- 1.1 To approve the National Robotarium project final business case and implementation of its activities and organisations structures.
- 1.2 To note that the individual activities to be undertaken as part of National Robotarium will be approved separately by the National Robotarium Management Board for reporting via the DDI Delivery Board to the Joint Committee.

2. Background

- 2.1 As evidenced in various Scottish and UK Government policy documents, and in publications by the OECD and global consultancies, Data-Driven Innovation has become a key pillar of 21st century growth with potential to significantly enhance: productivity, resource efficiency, economic competitiveness and social wellbeing.
- 2.2 The [Edinburgh and South East Scotland Science and Innovation Audit](#) (SIA), published in 2016, identified that:
 - The city region is already a powerhouse in Data-Driven innovation with a fast growing cluster;
 - cluster growth is at a tipping point and requires further investment to meet demand; and,
 - there are a number of industry sectors that are key to the local economy and which align to national areas of focus and opportunity, providing an opportunity for inclusive growth.
- 2.3 The National Robotarium is an integral part of the Data Driven Innovation (DDI) theme of the Edinburgh and South East Scotland City Region Deal delivering leading edge research and support for business creation and growth, as well as data skills, new undergraduate and postgraduate programmes, and continuous professional development. Robots are autonomous or semi-autonomous machines that can act independently of external commands making use of artificial intelligence to improve their autonomous functions by learning from the data acquired through sensing of the environment in which the robotic system is operating. The vision for the National Robotarium is to create the UK's leading innovation hub for the practical application of robotics and autonomous systems, and through this centre to drive a wave of wealth-creation and inclusive-growth by enabling the increases in productivity, innovation, capability and economic activity that are possible with the practical application of robotics and autonomous systems.

- The National Robotarium will provide a unique capability to allow researchers and industry to interact, where 'Living Labs' will provide a partnership structure to test products and systems for industry, bridging from fundamental research to product development, enabling researchers to gain insights into novel research challenge, and providing a pathway for companies, including SMEs, to tackle procurement and supply chain problems.
- HWU's vision and DDI are consistent with the UK Industrial Strategy and the Science & Innovation Audit for the Edinburgh & South East Scotland City Region and focus on the wealth-creation and inclusive-growth these seek to create.

2.4 This Business Case has been endorsed by UK and Scottish Governments and is now presented to the Joint Committee for approval.

3. Main report

3.1 The vision for the National Robotarium is to create the UK's leading innovation hub for the practical application of robotics and autonomous systems. The National Robotarium will open up new industrial opportunities through focused challenge-led interventions that support the UK Government's Industrial Strategy. We will lead the development of new technologies in the fields of subsea and hazardous environments, healthcare, additive manufacturing, human computer interaction and asset integrity all focused on exploiting data driven innovation to enhance productivity in these domains. Specifically, we will meet existing and future industrial need by **accelerating the generation of knowledge and flow of RAS technologies into the economy** through targeted research, industry collaboration, living laboratories, demonstrator and incubation facilities. The living lab facilities envisaged within the Robotarium will enable companies ranging from SMEs (from across the UK) to multinationals to access to RAS equipment and facilities at scale allowing the technology implementation to be de-risked for them in a realistic environment.

3.2 The National Robotarium will deliver a range of outcomes focused on the areas of talent, research, data, adoption and entrepreneurship (TRADE) over the 15 years of the City Region Deal. As a result we will establish and grow the innovation pipeline across the UK from a Regional and Scottish base, uplift local academic capability and develop advanced RAS skills by integrating and exploiting advances in robotics, software, artificial intelligence and manufacturing.

1. **Talent:** developing STEM and technical skills at Doctorate, Graduate and CPD levels, both in-University and online.
2. **Research:** developing new research at the frontiers of robotics hardware and software, artificial intelligence and autonomy, and their integration in robotics systems targeting a range of sectors important to the Scottish and wider UK economy.
3. **Adoption:** bringing together business, finance and industry to deliver the early "proof of product", bringing novel ideas to life through adoption and scale-up.
4. **Data:** generation of data sets that can be further exploited by researchers and industry to further develop both the Internet of Things (IoT) and RAS.
5. **Entrepreneurship:** support budding entrepreneurs at all stages via the 'Entrepreneurial Journey', creating a pipeline of high growth RAS start-ups.

3.3 In particular the wealth creation and inclusive growth will be in the fields of subsea and hazardous environments, healthcare, manufacturing, human computer interaction,

asset integrity, and exploiting data driven innovation to enhance productivity in these domains.

Talent

- 3.4 The facility and the academic leadership it houses will have the capacity to deliver research, development, educational programmes and training. This will be consistent with HWU's standards and core activities relevant to the National Robotarium proposition in the City Region Deal and the Scottish Government's Inclusive Growth policy priorities. This educational capacity and capability will include new RAS courses at different qualification levels; increased capacity to deliver training; improved access to in-work training through CPD; better scope for informal learning through realising opportunities for co-location; a leading training offer in the City Region through ability to access the latest research and facilities; facilities to attracting talent from outside of the City Region to study and relocate; and increased ability to apply data to "real world" problems.
- 3.5 Specifically, we will design and deliver new courses at different accreditation levels. We will create new DDI-centred full undergraduate and postgraduate courses, including distance learning, and expand existing courses in RAS and related subjects. The RAS Doctoral Training centre will be able to provide continuing professional development to upskill those already in work or whose work will change with the rollout of RAS technologies. We will deliver data skills courses, available to all HWU students, resulting in 1,500 students each year graduating with DDI skills.

Research

- 3.6 Research and development will be enabled by improving the range, quality and critical mass of facilities available to leverage more research and investment, enabling the improvement of pathways through which research translates into economic and social outcomes through Living Lab approaches, and creating the conditions for chance interaction and co-production.
- 3.7 We will maintain and develop the city region's reputation in RAS and the translation of research via Living Labs and create RAS solutions in key industry sectors. We will increase the research investment in RAS and generate over 75 new Impact case studies illustrating the direct impact of our research on industry in Scotland.

Adoption

- 3.8 The new facility will stimulate adoption by increasing the awareness and uptake of RAS amongst businesses, the public sector and the general public. This will be achieved by extending the number and level of partnerships with public and private sector partners; enabling closer collaboration and dissemination of best practice through realising opportunities for co-location; increasing size of industry research contributions; providing access to Living Lab capability to help test and develop products in real world, safe, conditions which can be hard to produce in isolation; extending the reach of RAS into local schools; enabling better public access to the activity being undertaken to build awareness of and trust in the RAS economy; and demonstrating the potential of data to unlock opportunity.

Data

- 3.9 The benefits of data dissemination will be enabled by providing the facilities needed to securely store and manipulate data; enabling more data partnerships; increasing the breadth of datasets available for correlation and interrogation; improving the accessibility, usability and cost of access to data assets for wider user groups to underpin more research, adoption and entrepreneurship activity; and promoting the data-assets available to attract investment and talent.

Entrepreneurship

- 3.10 The development of entrepreneurship within the city region, Scotland, and the wider UK economy will be enabled by: identifying and encouraging the formation, support and space available to spin-outs; promoting better industry awareness of, participation in and investment in spin-out activity; improving access to support services; organising more events that support the creation of an entrepreneurial ecosystem; and widening access to data assets and reducing the cost of access to foster entrepreneurial activity.

4. Financial impact

- 4.1 As part of the City Region Deal and recognition of the Data Science/Robotics opportunity identified by the Science and Innovation Audit (SIA) HWU is investing £31 million in Robotics and Autonomous systems over the next 15 years.
- 4.2 The current Robotics facilities have recently been refurbished at a cost of over c.£1 million but these facilities are constrained by space. In order to expand the facilities to include the Living Labs that are at the heart of the DDI development in Robotics and Autonomous Systems allowing close working with industry partners, new facilities costing £22.5 million are required.
- 4.3 Funded activity will be subject to regular review (e.g. monthly progress and annual review) by partners through the DDI Delivery Board and associated City Region Deal governance structures that have been established to manage the City Region Deal.

5. Equalities impact

- 5.1 There is alignment between Heriot-Watt University's core activities relevant to the National Robotarium proposition in the City Region Deal and the Scottish Government's Inclusive Growth policy priorities, with emphasis on the University's local and regional engagement and within that on the promotion of inclusion, equalities and diversity. We believe this provides strong evidence of engagement in our core educational activities with the Inclusive Growth priorities (see Scotland's Economic Strategy) of "Promoting equality and tackling inequality" and "Place and regional cohesion" at both our Edinburgh and Scottish Borders campuses. Additionally, we have adopted a set of institutional policies that respond positively to the Fair Work and Scottish Business Pledge priorities.
- 5.2 Heriot-Watt intends to build on strong links with Colleges in Scotland to help develop important non-graduate skills provision relevant to RAS, and to build on existing outreach to schools in exciting and attractive aspects of robotics to help fuel the pipeline of future STEM skills, in keeping with the Regional Skills Investment Plan 2017.

5.3 In support of the inclusive growth agenda, Heriot-Watt's patterns of student recruitment indicate the likelihood of substantial uptake of these opportunities by students from Scotland, including significant recruitment of students from wider access backgrounds, as well as the national and international recruitment characteristic of a centre of excellence. Heriot-Watt also has significant outreach programmes in advancing the number of women in STEM with several key research leaders in RAS being female. The National Robotarium offers an opportunity to develop specific outreach and engagement programmes that will accelerate uptake of undergraduate and postgraduate programmes by females.

6. Background reading/external references

- 6.1 [Edinburgh and South-East Scotland City Region Deal Document](#), August 2018
- 6.2 [Enabling a World-Leading Regional Digital Economy through Data Driven Innovation](#), Edinburgh & South East Scotland City Region Science and Innovation Audit, November 2016

7. Appendices

- 7.1 National Robotarium Project Summary

Appendix 1: National Robotarium Project Summary

The material opportunity to deliver the vision of leadership in RAS

Vision

Heriot Watt University's will build leadership in robotics and autonomous systems (RAS) on the strong foundations of our existing capability in RAS research, excellence in teaching and talent development; collaboration with key stakeholders, other universities and industry; and facilitating adoption and deployment in the wider economy.

The vision for the National Robotarium is to create the UK's leading innovation hub for the practical application of robotics and autonomous systems, and through this centre to drive a wave of wealth-creation and inclusive-growth by enabling the increases in productivity, innovation, capability and economic activity that are possible with the practical application of robotics and autonomous systems.



The National Robotarium will provide a unique capability to allow researchers and industry to interact, where 'Living Labs' will provide a partnership structure to test products and systems for industry, bridging from fundamental research to product development, enabling researchers to gain insights into novel research challenge, and providing a pathway for companies, including SMEs, to tackle procurement and supply chain problems.

The National Robotarium is one project within, and an integral part of, the Data Driven Innovation (DDI) theme of the Edinburgh and South East Scotland City Region Deal delivering leading edge research and support for business creation and growth, as well as data skills, new undergraduate and postgraduate programmes, and continuous professional development.

HWU's vision and DDI are consistent with the UK Industrial Strategy, the Scottish Industrial Strategy, and the Science & Innovation Audit for the Edinburgh & South East Scotland City Region, and focus on the wealth-creation and inclusive-growth these seek to create. Further detail of the alignment with UK and Scottish Government Priorities is contained within the full business case as is inclusive Growth.

The Robotarium will deliver a range of benefits focused on five main 'TRADE' strengths:

1. **Talent:** developing STEM and technical skills at Doctorate, Graduate and CPD levels, both in-University and online.

2. **Research:** developing new research at the frontiers of robotics hardware and software, artificial intelligence and autonomy, and their integration in robotics systems targeting a range of sectors important to the Scottish and wider UK economy.
3. **Adoption:** bringing together business, finance and industry to deliver the early “proof of product”, bringing novel ideas to life through adoption and scale-up.
4. **Data:** generation of data sets that can be further exploited by researchers and industry to further develop both the Internet of Things (IoT) and RAS.
5. **Entrepreneurship:** support budding entrepreneurs at all stages via the ‘Entrepreneurial Journey’, creating a pipeline of high growth RAS start-ups.

In particular the wealth creation and inclusive growth will be in the fields of subsea and hazardous environments, healthcare, manufacturing, human computer interaction, asset integrity, and exploiting data driven innovation to enhance productivity in these domains.

The Robotarium will create a return to the UK economy of £12.73 for each £1 of public sector capital funding over the next 15 years.

Opportunity

The opportunity is to capitalise on Robotics and Autonomous Systems (RAS) that are transforming industry and lives worldwide. These RAS technologies transform productivity, create new materials and capabilities, and enable new products and services.

There is also the opportunity to build on:

1. **Edinburgh’s academic capability:** the capability and achievements already delivered through the collaborative initiative on RAS between University of Edinburgh (UoE) and Heriot Watt University (HWU), the Edinburgh Centre for Robotics (ECR), together with the support of the Engineering and Physical Sciences Research Council (EPSRC) and the City of Edinburgh.
2. **UK academic capability:** the UK capability in Universities with major Robotics research: Oxford (researches all aspects of land-based mobile autonomy); Bristol (with a 4,600sqm state-of-the-art centre of excellence for multi-disciplinary robotics research); and Imperial College (with whom we collaborate and who are heavily supported by Dyson in the home automation arena). Through the new EPSRC funded ORCA Hub which will be part of the National Robotarium, HWU is leading collaboration with all major UK universities (with significant industry support)
3. **Private Sector capability:** the innovative UK companies including BAe Systems, Rolls Royce, BP, Subsea7 and Renishaw interested in RAS leadership.
4. **Political appetite:** the appetite and ambition contained in the UK and Scottish industrial strategies, and the desire for inclusive growth.

Current position – strong foundations to build upon

Potential in robotics

Recent figures from the Office of National Statistics show that UK productivity has consistently been lower than most of the rest of the G7 for the past 20+ years. There is general acceptance that increasing the number of robots in use will drive-up productivity.

The UK adoption of robotics lags international competition. There is an opportunity to build awareness and understanding of RAS capability, enable innovation and adaptation, build expertise and capability, and promote RAS application.

A recent National Audit Office report (2017) into Robotics and Autonomous Systems Research identified that there is not a strategic, joined-up approach to investment and there is no evidence of any top-down action to set, coordinate or align priorities. Relative to our international competitors, UK market issues - in designing, building and using Robotics and AI across a range of sectors - include lack of understanding by UK industry of the international situation, consequent lack of industrial investment, under investment by UK Government in underpinning Robotics and AI R&D, and lack of innovation skills education and access for researchers.¹

Countries measured in terms of utilisation of RAS in 2017 (Number of industrial robots per 10,000 persons employed)	
• Republic of Korea	631
• Singapore	488
• Germany	309
• Japan	303
• Sweden	288
• US	189
• UK	71

Overcoming barriers

There appear to be six major barriers to RAS investment and adoption, each of which the Robotarium can actively address:

1. **Asymmetric information:** lack of cross-sector open-innovation and information on adoption of RAS solutions, and resultant uplifts in efficiency and market growth.
2. **Lack of scale:** fragmented innovation infrastructure linked to R&D investment, and lack of clustering of research with innovative companies, start-ups and venture finance.
3. **Risk aversion:** reluctance to invest in and apply new robotics technologies and relevant business processes.
4. **Information:** private sector markets tending to “use up” current sources of research, leading to convergence and irreversibility, and locking society into particular technological options.

¹ <https://www.nao.org.uk/wp-content/uploads/2017/11/Research-and-development-case-study-Robotics-and-autonomous-systems-research.pdf>

5. **Matching technologies and investors:** limited options available to firms, the public sector and wider society.
6. **Cross-fertilisation:** few interdisciplinary and cross industry approaches, limiting the likelihood of such options being selected to address a wider range of sectoral needs.

Wide Support

For these reasons, the private sector supports the need to increase research in robotics and autonomous systems, particularly in healthcare, manufacturing and asset integrity, at HWU. Further details of the support for the Robotarium from the private sector, and potential research and development projects, are included within the case.

Track record of delivery

HWU is uniquely placed to lead the development of HWU education, research and development. The University has:

- a history of research that is of societal and economic benefit. Our performance in REF2014, where we were 1st in Scotland for impact and 9th overall in the UK, confirms that our strategy is delivering impact where it is required.
- pioneered the use of Living Labs to connect background discovery science with integration, adaptation, demonstration and deployment.
- developed strong relationships with industry stakeholders and partners to make significant contributions to economic and industrial development in key sectors like oil and gas.
- commitment to educate graduates who are appropriately skilled in RAS but who also have the capability to apply these skills in multiple application domains ranging from healthcare to manufacturing to asset management.
- achieved UK TEF silver.
- employability scores consistently placing us in the upper quartile of all UK Universities, with 95% of Heriot-Watt students in employment or further study within six months of graduation.

HWU's existing facilities however are overstretched and do not provide the facilities required for developing new activities.

How HWU will achieve the vision

The vision of a leading innovation hub for the practical application of robotics and autonomous systems will be achieved through the creation of a centre to enable robotics and autonomous system innovation and development, and to lead a wave of wealth-creation and inclusive-growth.

This is more than a building; it is a centre of expertise and capability that stimulates minds, facilitates innovation, trains and develops future engineers and innovators, and drives technology and innovation in to the wider economy.

To ensure delivery of the vision it will be necessary to build the capacity and capability to extend research and development in to RAS, and to organize resources, staff, students and researchers to deliver effectively both within the Robotarium and out in to the wider community. There will be strong

focus in the Robotarium's target outcomes and KPIs, ensuring continuous realignment of resources and effort to ensure delivery.

Investing in capacity and capability

To provide the capacity and capability to develop RAS and bridge the technology out to the wider economy, an additional 2600sqm facility will facilitate RAS development, train and develop researchers and students, and engage industry in practical and commercial application.

The facility will meet appropriate building regulations and BREEAM Excellent standards, employ renewable energy systems, and facilitate optimised flexibility for future reconfiguration to meet change needs.

The facility will provide the capacity to deliver the talent, research, adoption, data, entrepreneurship, inclusive growth and investment needed to necessary to economic growth and sustain it for the long term.

1. **Developing Talent:** The facility and the academic leadership it houses will have the capacity to deliver research, development, educational programmes and training. This will be consistent with HWU's standards and core activities relevant to the National Robotarium proposition in the City Region Deal and the Scottish Government's Inclusive Growth policy priorities.

This educational capacity and capability will include new RAS courses at different qualification levels; increased capacity to deliver training; improved access to in-work training through CPD; better scope for informal learning through realising opportunities for co-location; a leading training offer in the City Region through ability to access the latest research and facilities; facilities to attracting talent from outside of the City Region to study and relocate; and increased ability to apply data to "real world" problems.

Specifically, we will design and deliver new courses at different accreditation levels. We will create new DDI-centred full undergraduate and postgraduate courses, including distance learning, and expand existing courses in RAS and related subjects. The RAS Doctoral Training centre will be able to provide continuing professional development to upskill those already in work or whose work will change with the rollout of RAS technologies. We will deliver data skills courses, available to all HWU students, resulting in 1,500 students each year graduating with DDI skills.

2. **Leading research and development:** Research and development will be enabled by improving the range, quality and critical mass of facilities available to leverage more research and investment, enabling the improvement of pathways through which research translates into economic and social outcomes through Living Lab approaches, and creating the conditions for chance interaction and co-production.

We will maintain and develop the City Region's reputation in RAS and the translation of research via Living Labs, and create RAS solutions in key industry sectors. We will increase the research investment in RAS and generate over 75 new Impact case studies illustrating the direct impact of our research on industry in Scotland.

3. **Encouraging adoption and application:** The new facility will stimulate adoption by increasing the awareness and uptake of RAS amongst businesses, the public sector and the general

public. This will be achieved by extending the number and level of partnerships with public and private sector partners; enabling closer collaboration and dissemination of best practice through realising opportunities for co-location; increasing size of industry research contributions; providing access to Living Lab capability to help test and develop products in real world, safe, conditions which can be hard to produce in isolation; extending the reach of RAS into local schools; enabling better public access to the activity being undertaken to build awareness of and trust in the RAS economy; and demonstrating the potential of data to unlock opportunity.

4. **Sharing data:** The benefits of data dissemination will be enabled by providing the facilities needed to securely store and manipulate data; enabling more data partnerships; increasing the breadth of datasets available for correlation and interrogation; improving the accessibility, usability and cost of access to data assets for wider user groups to underpin more research, adoption and entrepreneurship activity; and promoting the data-assets available to attract investment and talent.
5. **Stimulating entrepreneurship:** The development of entrepreneurship within the City Region, Scotland, and the wider UK economy will be enabled by identifying and encouraging the formation, support and space available to spin-outs; promoting better industry awareness of, participation in and investment in spin-out activity; improving access to support services; organising more events that support the creation of an entrepreneurial ecosystem; and widening access to data assets and reducing the cost of access to foster entrepreneurial activity.

Delivering industry-ready research

There will be three key areas of new activity, and in each the focus will on delivering industry-relevant and industry-ready research in applications critical to the Scottish and UK economies, with key industrial partners who are already identified.

1. **Robotics and Autonomous Systems:** we will develop RAS for hazardous environments including underwater, subsurface and offshore asset integrity capability for the offshore industry that will, for example, create a step-change in current practice of inspection, repair and maintenance. The National Robotarium will house Living Lab spaces for industrial partners, research laboratory spaces, and an instrumented and serviced outdoor space to enable testing and development of innovative autonomous systems.
2. **Manufacturing:** we will establish ULTRA-LAB, a "one-stop-shop" UK Centre of Excellence for ultrafast laser processing, which will enable UK researchers and the industrial community to access the unique capabilities of ultrafast laser-processing for their specific manufacturing applications. Two ultrafast laser automated manufacturing systems will combine with automated beam manipulation systems to enable the development of data-driven industrially relevant and autonomous ultrafast laser manufacturing processes. ULTRA-LAB will provide important support for the high precision manufacturing industry in the UK and Scotland, and form a key complement to and collaborator with NMIS.
3. **Healthcare:** we will establish a realistic domestic environment Living Lab to explore how RAS will support the elderly. The Living Lab will host collaboration with industry health services and charities. The collaboration will deliver cross-disciplinary projects involving new assistive medical aids and increase the usefulness of assistive living environments by producing

exemplar data sets by enabling experimentation with data-driven support mechanisms. The methods developed from the analysis of the Living Lab data will result in costs savings by decreasing the number of staff required and making staff time more efficient.

The capability and capacity provided by the Robotarium and its Living Labs will be the enabler to extend research and development to industrial scale and application in all three areas.

Delivering in the wider economy

These activities will have impact beyond the University and indeed beyond the City region, and our work will be configured to ensure benefits to the wider region in three main areas: inclusive growth, investment, and gross value added.

- **Inclusive growth:** the new facility will enable HWU to unlock benefits from RAS for all parts of our society by improving access to RAS training to those already in work; supporting the roll out of RAS training to schools and further education partners across the City Region via City Deal skills group; contributing to more efficient and effective public service delivery through extended collaboration with public bodies and supporting the development of products that reach the most vulnerable in society. Whilst concerns have been expressed that the exponential growth of autonomous systems will impact on the nature of work and availability of jobs, this project will address this in three ways. First the supply of highly trained graduates into the workforce in the Region, Scotland and the UK more generally, will ensure this Region is at the forefront of the exploiting the growth of new technologies. Second, it is likely that whilst the total number of jobs may reduce, the nature of work and the skills required by those in work will change. The McKinsey Global Institute (Nov 2017) predict that up to one-third of the workforce in richer nations like the UK may need to retrain for other jobs. The National Robotarium CPD programme will up-skill and re-skill the existing workforce for these new jobs that will be required in the economy. Third, the National Robotarium will provide thought leadership, both in research and application by examining the nature of the change required in the workforce. To ensure that, as in the past, technological change leads to real benefits the concept of what constitutes work will have to be rethought. The National Robotarium, will lead examination and preparation for the changing nature of work, making this Region the most advanced in readiness to address the revolution approaching in autonomous systems and data driven innovation.

The scale of the UK talent gap for skills in robotics and autonomous systems is very significant and is expected to continue to be a challenge in the medium to long term, and can be characterised by a combination of:

- New technologies having a significant impact on the nature of work;
- UK businesses already perceive a significant skills gap; and,
- Most businesses do not yet fully understand the implications of advanced technologies

Many reports have characterised the impact of automation. For example, the OECD estimates that 14% of jobs in developed countries were highly automatable, while a further 32% of jobs were likely to experience significant changes to the way they were carried out. In this context the ability to apply such technologies will be of key importance to UK citizens and the wider economy. Irrespective of whether the skills gap grows in the future, the Institute of Mechanical Engineers (IME) found that

growing gap between numbers of roles in science, technology, engineering and mathematics (STEM) is costing UK businesses £1.5 billion annually in recruitment, short-term staffing and training expenses. Indeed, 89 per cent of British STEM businesses had difficulty hiring staff with the necessary skills in the last year, leading to a shortfall of over 173,000 workers. In response, 2018 was declared by the UK government to be the “Year of Engineering”, and estimates that the engineering sector would need to recruit around 186,000 skilled engineers each year until 2024 in order to gain enough candidates to reduce the skills gap.

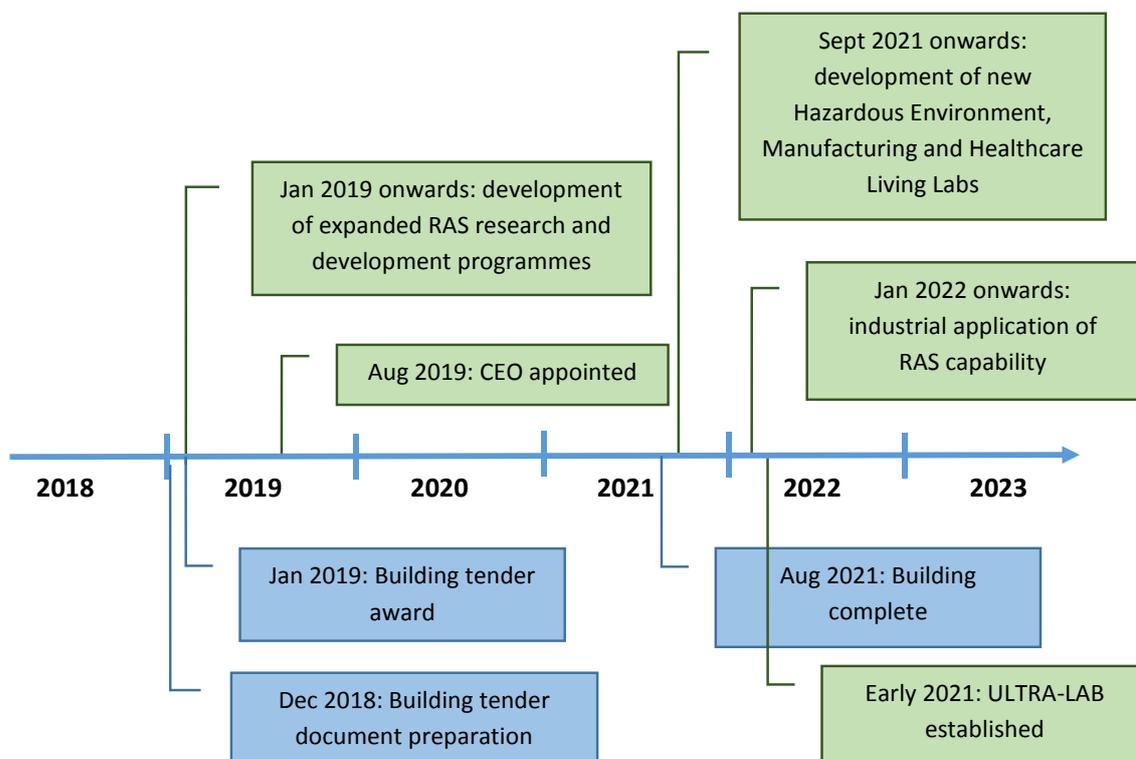
Yet, this massive skills gap is not yet understood, or validated, by UK industry as it does not have the knowledge necessary to manage technology adoption. The 2017 edition of the Deloitte Global Human Capital Trends survey found that business leaders in the UK acknowledge the challenge to commercialise innovation inputs and hence benefit from the associated productivity gains. Only 16 per cent of UK business leaders surveyed considered themselves ready to exploit innovative technologies like robotics, cognitive computing and artificial intelligence. This was lower than both the Global (17%) and West Europe (17%), India (and China. In contrast, business leaders in rapidly emerging economies were most likely to consider themselves ready to implement innovation.

Training an additional 1,500 skilled graduates will contribute to addressing the skills shortage, whilst providing the individual concerned with a skill-set that will continue to be highly prized by industry.

- **Investment:** we will develop a cluster of RAS activity in the City Region that is attractive to investors by providing a sustainable supply of talent; improving access to research; improving access to facilities (especially Living Labs) and data; raising the profile of the City Region as a centre of excellence for RAS; maintaining and extending the reach of the City Region’s international networks; and facilitating the supply of floor space for potential relocations.
- **Gross value added:** we will support our researchers and students to engage with the local economy, and through our new facilities we will invite the local economy and community in to engage with us. Through this approach, embodied in our Living Labs, we will inspire economic activity, seed new innovation and investment, and enable new growth.

The specific investment and activity that enables the realisation of these benefits is the Robotarium facility, which will be constructed, equipped and staffed over a four year period at a total cost of £22.5 million.

- **Construction:** all this capacity and capability is conditional upon building the new facility to house the Robotarium. Construction will commence in 2019 following a 2-stage tendering process in line with Crown Commercial Services guidelines and RIBA Stage 4 employer requirements.
- **Timeline:** the facility will be completed over the period August 2019 – August 2021.



- **Cost:** the facility will cost £22.5 million (in 2018 prices). The impacts on the Income and Expenditure Account, and the Balance Sheet, have been assessed with appropriately-qualified independent verification.

Organising and delivering effectively

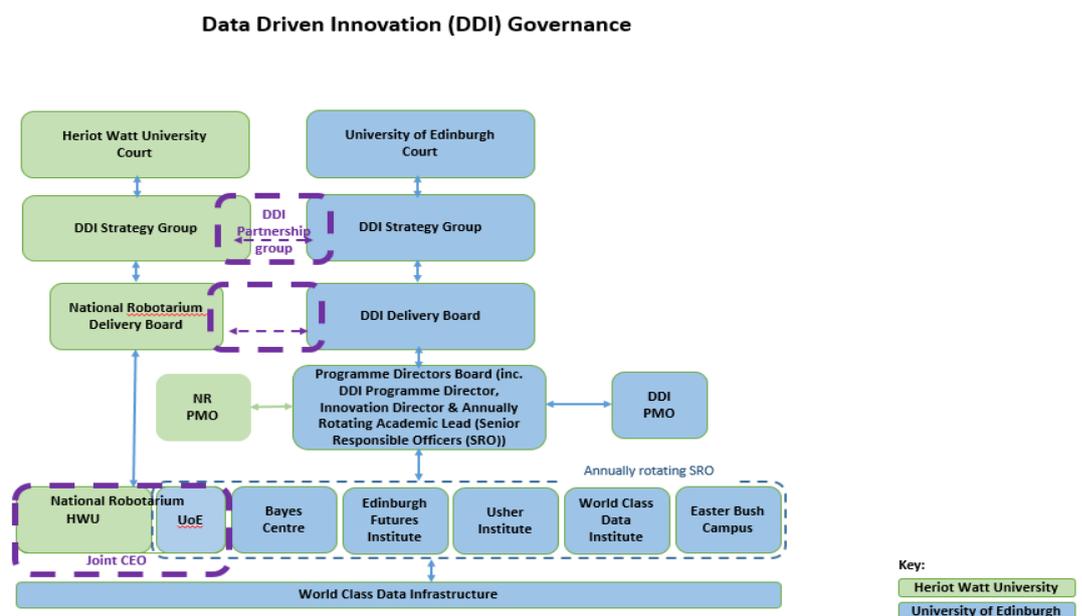
HWU will operate the Robotarium at the highest levels of academic excellence, operational efficiency and delivery professionalism. A strong governance framework will be put in place to ensure the appropriate design, delivery, cost-management and operational management of the Robotarium. An executive management team with the appropriate experience will be appointed to deliver the project. Risk mitigation will be ensured through an appropriate risk mitigation framework. Quality will be assured through appropriate working practices, appraisal techniques and organisational policy. And focus will be maintained on key deliverables and KPIs through the governance framework, management structure and work programmes.

Governance: HWU has a strong governance framework which has proven capability to deliver investment projects and new research and development programmes. This comprises six levels of supervision and control.

1. The **University Court** (“Court”) will provide assurance on the DDI Programme capital and revenue spending, through well-established and proven mechanisms of major project governance.
2. A **DDI Programme Strategy Group** will be responsible for management of DDI programme activities and delivery of agreed outcomes.
3. A **DDI Partnership Group** will ensure, in consultation with senior university officers from the partners, that the overall direction of the DDI is clear and meets its strategic objectives.

4. The **National Robotarium Delivery Board** will be responsible for the operational management of the Robotarium. This board will report to the DDI Programme Delivery Board at each university.
5. A new **Chief Executive Officer (CEO)** will be jointly appointed by both universities deliver the specific outcomes of the National Robotarium.
6. An **Industrial Steering Committee** will advise the Management Board on the strategic development of the National Robotarium and ensure that it functions in partnership with Industry.

Data Driven Innovation (DDI) Governance



Risk Mitigation: the CEO and management team will be accountable for implementing HWU’s established procedures for managing risk through the University’s **Risk and Internal Audit Office**.

Risks are identified in a **Risk Register**, and **Risk Owners** manage the risk and ensure that any mitigation plans are implemented. Risk is a standing agenda item at monthly project team meetings and a section on risk is contained within monthly progress reports, with a risk workshop also held at each stage of the project.

Although we don’t expect to need it, there is a contingency plan for delay, based on the University’s Business Continuity Plan.

Quality: the Robotarium will be operated in line with HWUs consistently high standards for research and education.

Target outcomes and KPIs

Full details of the KPIs and milestones are detailed in the DDI Programme document. Headline key deliverables and impacts for this project include

- Skills engagement with 47,000 individuals (students, school pupils industry personnel);
- Over 60 companies using the living labs to develop their technologies;

- Over 420 companies involved in RAS outreach activities in the form of seminars, engagement events and lectures;
- Over 75 new Case Studies generated illustrating the direct impact of the research in local industry; and,
- 40 teams entering DDI accelerator programme.

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Edinburgh and South East Scotland City Region Deal Joint Committee

10am, Monday 17 December 2018

Integrated Regional Employability and Skills (IRES) Programme Business Case

Item number 4.5

Executive Summary

This report seeks approval to implement the Integrated Regional Employability and Skills (IRES) programme (as set out in the IRES Programme Business Case) which has been developed through collaboration between the region partners and Scottish Government to drive progress toward a more inclusive labour market.

It also seeks to devolve operational management of the programme to the Chair of the IRES Board.

Angela Leitch

Chair, Integrated Employability and Skills Board, Edinburgh and South-East Scotland City Region Deal

E-mail: aleitch@eastlothian.gov.uk | Tel: 0162 0827413

PMO Lead Contact: Ken Shaw,
ken.shaw@edinburgh.gov.uk, Tel: 0131 529 3476



City Region Deal Checklist

Criteria	Details/Link to Document
Contribution to City Region Deal commitments and Inclusive Growth Framework	<p>The IRES Programme is a cross cutting programme that is supporting the Inclusive growth ambitions of the partnership including;</p> <ul style="list-style-type: none"> • Accelerating inclusive growth through unlocking new talent pools for business, promoting fair work, and equipping disadvantaged citizens with the skills they need to succeed • Removing the barriers to growth by putting in place intensive family supports and targeted skills development to help disadvantaged individual access and progress in work • Community benefits through procurement by integrating our approach to employer engagement and procurement that increases the value achieved from our collective investments • Targeted skills interventions that builds workforce capacity and capability in the “Data Driven Innovation” and “Housing, Construction and Infrastructure” sectors. • Social benefit through Innovation through close working between the IRES and DDI programmes to fully utilise the technological (data visualisation insights) and employment opportunities that will be generated by the sector.
Alignment, integration with, or dependence on, other City Region Deal activities	<p>The IRES Programme is built around a series of thematic pillars;</p> <ul style="list-style-type: none"> • strengthening regional leadership and improvement capacity • better understanding need and opportunity, • building stronger relationships with employers, investors and citizens, • targeted skills development, and • improved matching to opportunities for disadvantaged individuals, <p>Interventions proposed within the programme will maximise the value realised from other City Region Deal investments and ambitions in the innovation space (e.g. Data Driven Innovation) and enabling infrastructure (e.g. Housing, Construction and Infrastructure) by supporting the creation of a diverse and well skilled population that can benefit from and help drive the future growth of the regional economy.</p>
Scale and regional distribution of expected outcomes, benefits, and leverage, from activity	<p>The IRES Programme Business Case details a number of programme benefits throughout the report. These are summarised in Appendix 2 of this report.</p>
Compliance with financial requirements and agreed expenditure profile	<p>IRES Programme Business Case complies with financial requirements and profile. The Financial Case can be viewed on pages 37 to 40 of the Business Case (Appendix 1).</p>
Equalities Impact	<p>See cover report</p>

Anticipated significant risks and mitigation measures	A risk and mitigation matrix has been prepared and will be updated as the programme develops. This can be viewed on pp. 53 to 55 of the Programme Business Case (Appendix 1).
Alignment and fit with City Region Deal governance arrangement	The Management Case of the IRES Programme Business Case demonstrated that the programme is fully integrated with current City Region Deal governance arrangements. This can be viewed on pp 41-45 of the Programme Business Case (Appendix 1).
PMO check	All information provided
Government approval	Scottish Government signed off on IRES Programme Business Case on 30 November 2018
Partner sign-off	Not required at this stage. Partner sign off will be dealt with as part of Project Proposition approvals
Advisory Board sign off	Agreed at IRES Board of 4 December 2018
Executive Board sign off	Agreed at meeting of 22 November 2018
PMO Recommendation	That Committee approves implementation of the IRES Programme as set out in the business case

Integrated Regional Employability and Skills (IRES) Programme Business Case

1. Recommendations

- 1.1 To approve the IRES programme business case and implementation of its programme of activity.
- 1.2 To delegate operational responsibility to implement the IRES programme to the chair of the IRES Board, currently Angela Leitch (Chief Executive, East Lothian Council).
- 1.3 To note that the seven projects outlined in the programme will be presented separately to committee for approval once they have been fully developed and considered by the IRES (Advisory) Board.

2. Background

- 2.1 Edinburgh and South-East Scotland's regional labour market is a low unemployment, high inequality environment, with significant issues of entrenched and persistent poverty and disadvantage, while the mechanisms available at regional level to tackle these inequalities and fully exploit the potential of the economy are weak.
- 2.2 The ESES City Region Deal provides an opportunity to develop a collaborative approach that enhances our capacity and capability to tackle these inequalities and support the partners ambition of inclusive growth.
- 2.3 In 2015 the Skills and Innovation workstream was formed (led by Angela Leitch, East Lothian Council's Chief Executive) to bring together the expertise and knowledge of the local authorities, Scottish Government, Skills Development Scotland, DWP Jobcentre Plus, Scottish Funding Council, the regional Universities and Colleges, and other key stakeholders to develop a regional programme.
- 2.4 The output of this workstream is the Integrated Regional Employability and Skills (IRES) Programme and it seven proposed change projects detailed in the IRES programme business case.
- 2.5 This Programme Business Case has been endorsed by Scottish Government, meeting the condition set in the City Region Deal document governing release of

skills funding to the partnership, and it is now presented to Joint Committee for approval.

3. Main report

- 3.1 The IRES Programme seeks to incrementally improve the currently complex and weakly connected regional employability and skills service infrastructure with the goal of;
- Increasing the visibility of job and learning opportunities to our citizens and put in place the support required to help more disadvantaged citizens succeed
 - Opening-up new and diverse talent pools to business that help minimise skills gaps and shortages, while demonstrating the value of an inclusive approach
 - Improving the capacity and capability of partners to work collaboratively on building a more inclusive (Fair Work), innovative, and future proofed job market.
- 3.2 This programme is anticipated to help an additional 5,300 people across the region into employment and deliver 14,700 skill improvements, with a focus on closing the opportunity and employment gap for our most disadvantaged sections of society (e.g. People with a disability, workless, low-income families) and tackle gender imbalances within two of our key sectors (“Data Driven Innovation”, and “Housing, Construction and Infrastructure”).
- 3.3 The IRES programme is built around five improvement pillars, with seven change projects, that seek to strengthen our collective capacity and capability to drive inclusive growth.

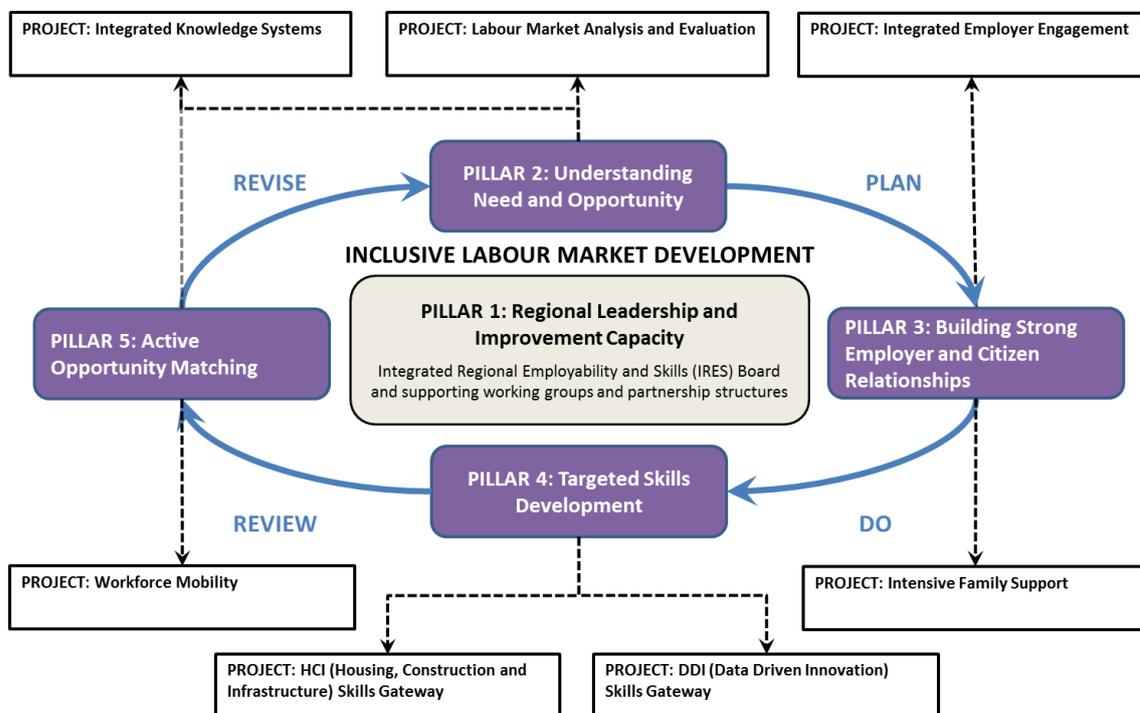


Figure 1: IRES Programme Model and Change Projects

Pillar 1: Regional Leadership and Improvement Capacity

- 3.4 Creating the right leadership and collaborative environment to stimulate the unified ambition, whole system thinking, and shared commitment to improving the quality and quantity of outcomes will be important to making progress against our goals.
- 3.5 The IRES Board and Project Delivery groups are the first steps in building this targeted and collaborative approach.

Pillar 2: Understanding of Labour Market Need and Opportunity

- 3.6 Developing a mutual understanding of key trends in the regional labour market, dynamics, the impact of our services in helping people succeed, and identifying successful models will be vital to targeting our work, designing services, and demonstrating value for money.
- 3.7 Therefore, the programme includes two projects to improve our collective understanding and dissemination of critical intelligence and insights.
- 3.8 The Integrated Knowledge Systems project led by The Capital City Partnership seeks to align and integrate our client and business relationship systems to improve our ability to collectively target and tailor services to the needs of citizens and employers. Areas being explored include;
- a shared talent bank and opportunity promotion (CRM) system to support collective working.
 - the use of distance learning or remote working technologies to open-up good opportunities to a more diverse section of the population
 - an integrated performance management system and data analysis tools to help capture collective impact and identify areas for improvement
- 3.9 The Labour Market Analysis and Evaluation project led by Skills Development Scotland seeks to proposition is to bring together the knowledge, expertise and resources of the partners into a virtual team that will increase our collective understanding of the labour market. Areas being explored include;
- Additional research on cross cutting skills issues within the region's key sectors to inform the curriculum and training development
 - Gathering additional primary data on the needs of regional employers to give a clearer view of sector skills demand
 - Collaborating with the Data Driven Innovation programme to develop innovative approaches to labour market analysis and evaluation
 - Horizon scanning exercise to identify best practice employability and skills approaches that could be more widely applied across the region
 - Developing accessible regionally tailored guidance materials for individuals and those who help prepare people for jobs and careers

Pillar 3: Building Strong Employer and Citizen Relationships

- 3.10 Businesses and citizens are the engine of the economy and the primary beneficiaries of our employability and skills system so strengthening our relationships with the regions employers and disadvantaged citizens will be important to ensure our activities are fit for purpose and make the most of opportunities that arise across the partnership.
- 3.11 Therefore, the programme is therefore developing two project propositions to improve our reach and enhance our services to citizens and employers.
- 3.12 The Integrated Employer Engagement project led by the City of Edinburgh Council aims to build better relationships with the regions employers that unlock good opportunities for our disadvantaged citizens, while also helping to minimise skills shortages and gaps. Areas being explored include;
- Establishing a shared set of values and operating principles (“No wrong door”) that can help integrate and simplify the offer to employers
 - Pooling and aligning employer engagement capacity to help increase our collective reach into the region’s business base and reduce duplicate effort
 - Integrating the Community Benefit approaches of partners to streamline the ask of contractors (providers) and maximise the inclusion impact our expenditure
 - Strengthen the regions Recruitment and Skills Centre network to help improve business relationships and service delivery in key employment centres
- 3.13 The Intensive Family Support service led by Fife Council will target significant pockets of persistent, entrenched worklessness and poverty that has significant impact on individuals, families and communities. In many families the parents or guardians have additional support needs and often complex, multiple barriers to employment. As a result, it is likely that the young people do not receive the necessary support and encouragement to access, achieve and sustain employment or a positive destination- compounding poverty and disadvantage across generations.
- 3.14 Current provision does not suitably address the complex and varied needs of our disadvantaged families and this investment provides an opportunity to take a different approach to breaking generational cycles of poverty and disadvantage.
- 3.15 The project will therefore offer additional targeted support for vulnerable families living in the most deprived areas of the region. This support will comprise a combination of intensive general and specialist support tailored to help support individuals within families to progress towards their own goals, as well as developing “whole family” activities that build a support network and improve the family dynamic and ability to provide effective support for each other.

Pillar 4: Targeted Skills Development

- 3.16 Supporting all sections of society to acquire the knowledge and skills and secure the supports they need to develop and progress in work will be critical to

maximising the talents of our citizens and unlocking the full potential of our economy.

- 3.17 Consequently, creating integrated, flexible, and universally well-understood career pathways (interlocked with tailored supports) into our key industries will be important to allowing the talents of all our citizens to blossom and help minimise skills shortages and gaps that could impact on future growth.
- 3.18 The partnership is therefore developing two projects to streamline and inclusion proof the routeways into the “Data Driven Innovation” and “Housing, Construction and Infrastructure” sectors. This is to exploit the significant opportunities that are anticipated to be generated in these sectors, and act as a testbed for other key sectors in future.
- 3.19 The DDI (Data Driven Innovation) Skills Gateway led by the University of Edinburgh will help develop the skills pipeline capacity to ensure all our citizens get maximum benefit (jobs, wealth, health) from the growth of this emerging sector. Areas being explored include;
- Support the development of knowledge sharing schools to help embed data skills in the curriculum and unlock opportunities in Data sector to all our citizens
 - Help develop a coherent data science curriculum across SCQF level and stages supported by high-quality learning materials
 - Support the creation of coherent and visible data career pathways into advanced data careers that can flex to the needs of all sections of society
 - CPD learning and Learning Networks for teachers, FE lecturers, Executives, employability professionals, those in changing job roles and data scientists
 - Inclusive learning, coaching, mentoring and support for disadvantaged and under-represented groups within the sector.
 - Engagement with data employers to promote an inclusive (Fair work) practice and culture.
- 3.20 The HCI (Housing, Construction and Infrastructure) Skills Gateway led by Edinburgh Napier University aims to capitalise on the current strength of the construction sector along with additional proposals for increased housing building and retrofitting through City Region Deal investment to create a skills pipeline into sector opportunities. Areas being explored include;
- Linking education and employability providers with sectoral opportunities to unlock opportunities for all our citizens and help reduce skills shortages.
 - Piloting new approaches to enhance productivity and support inclusive economic growth
 - Develop inclusive employment pathways that enhance outreach to disadvantaged and under-represented populations and accelerate progression into good careers.

- Engagement with Housing, Construction and Infrastructure employers to promote an inclusive (Fair work) practice and culture.

Pillar 5: Active Opportunity Matching

- 3.21 The physical, personal, and psychological barriers that disadvantaged individuals face in achieving their potential means that an active approach must be taken to supporting the transition into rewarding and fulfilling careers.
- 3.22 Therefore, the partnership is developing a project to looking at the role of travel in opening up opportunity to disadvantaged individuals.
- 3.23 The Workforce Mobility (Concessionary Travel) project led by Scottish Borders Council focuses on removing the barriers to full mobility faced by the regional workforce, beyond their personal skills and capabilities.
- 3.24 Regular travel by public transport across the city region can be expensive, especially for those travelling long distances, coming from rural areas, or for those that are already disadvantaged in terms of income. To broaden the labour market and to increase employment flexibility throughout the city region there is a need to find ways to reduce this problem.
- 3.25 Although there is a range of transport subsidy schemes, particularly for young people (Young Scot), job seekers (DWP Discount Travel Scheme), and those with disability issues (Local Authority Taxi-card scheme), these are often fragmented with considerable restrictions in their use.
- 3.26 Areas to be explored include;
- integration of existing concessionary travel subsidies for disadvantaged groups to improve targeting and weave them into a tailored package of support.
 - gain intelligence on the latent regional demand patterns for the job-seeking individuals that supports the case for new active travel routes.
 - Inform the development of a unified smart infrastructure that improves the efficiency of travel schemes and reduces the administrative burden

3.27 An Integrated Approach

- 3.28 The programme has been conceived as a whole system (whole person) approach to deliver culture and practice changes that will have significant qualitative benefits other than the additional 14,700 people with improved skills and 5,300 moving into employment over the course of the (£25 million) 8-year investment period.
- 3.29 This focused system approach will generate significant, synergies, cost efficiencies, improved inclusion outcomes, and enhance responsiveness to changing need and opportunity in our regional labour market that will have a lasting benefit for the region and the Scottish Economy.
- 3.30 The Projects detailed above will be developed in more detail over the next 6-months and presented to the IRES Board and Joint Committee for consideration and approval prior to moving to implementation.

4. Financial impact

- 4.1 The Scottish Government have allocated £25million of grant funding which that will be made available over the next eight years to develop and deliver the aspirations set out in the IRES Programme Business Case, with a focus on not just delivering project activity, but informing how existing investments can be better targeted and aligned to help deliver enhance inclusive growth for the region.
- 4.2 It is proposed to use this funding on seven change projects to an indicative level given in the below table:

Indicative Funding Profile	Indicative Total (£,000)	Anticipated External Leverage
Integrated Knowledge Systems	1,500	To be detailed in the Project Proposition
Labour Market Analysis and Evaluation	300	To be detailed in the Project Proposition
Integrated Employer Engagement	3,500	To be detailed in the Project Proposition. Private Sector contributions through Community Benefits and trusted relationship are being explored
Intensive Family Support	4,700	50% match funding from the ESF Poverty and Social Inclusion fund on eligible activities is being sought
DDI Targeted Skills Gateway	6,500	To be detailed in the Project Proposition. Private Sector and philanthropic contributions are being explored
HCI Targeted Skills Gateway	6,500	To be detailed in the Project Proposition. Private Sector and philanthropic contributions are being explored
Workforce Mobility	2,000	To be detailed in the Project Proposition
TOTAL:	25,000	

Table 1: Indicative Project Funding Breakdown

- 4.3 The commitment and continuation of funding to Projects will be subject to the approval of detailed Project Propositions following UK Treasury Green book principles by the IRES Board and Joint Committee and satisfactory progress against agreed objectives and targets.
- 4.4 Funded activity will be subject to regular review (e.g. quarterly progress, annual review, and mid-programme evaluation) by the partners through the Project Delivery, IRES Programme, and City Region Deal governance structures that have been established to manage the programme.
- 4.5 The actual spend profile will vary across the funding period and will be regularly updated in response to learning and changing circumstances to ensure maximum impact against its programme and wider inclusive growth goals.
- 4.6 It is recognised that over the eight-year timeframe of the programme the projected spend and the agreed profile of grant from Government does not fully reconcile. As a solution, Scottish Government have agreed in principle that where there is the

headroom within their wider resources budget, funding may be flexed in the financial year in question to better align expenditure to grant.

- 4.7 The Executive Board and Accountable Body are satisfied that this approach is realistic, practicable and achievable and that any required flexing of the profile can be accommodated.

5. Equalities impact

- 5.1 The IRES Programme is actively seeking to improve the flow of disadvantaged individuals into good employment and careers. Its overarching objective is to;
- be central to maximising the value of City Region Deal investments by delivering the workforce element
 - future proof the regional economy through stimulating a positive step change in equality, capacity and productivity
 - encourage meaningful participation by stakeholders in designing and delivering services and interventions
 - provide opportunities to strengthen career progression routes for those who face significant labour market disadvantage
 - seek to address poverty and social exclusion by increasing the financial awareness, capacity and inclusion of the most disadvantaged households
- 5.2 It includes geographic and client group inclusion targets as detailed in the following table that will be refined and built upon as the approach matures.

Measure	Client Group Target	LA Profile Target
<p>ENHANCED OUTREACH: Improved outreach attracts additional people from following disadvantaged or under-represented groups into the programme;</p> <ul style="list-style-type: none"> • People with a disability or enduring health conditions • People in workless or low-income (< 60% median wage) families • Care Experienced and disadvantaged young people • People from minority ethnic communities • Women entering or advancing within DDI or HCI related careers 	20% increase on baseline established in Year 1	CEC: 32% ELC: 8% Fife: 33% Mid: 5% SBC: 10% WLC: 12%
<p>EMPLOYMENT: Additional people moving into employment</p> <ul style="list-style-type: none"> • Sustaining employment for at least 13 weeks • Sustaining employment for at least 6 months 	5,300	CEC: 36% ELC: 9% Fife: 29% Mid: 7%
<ul style="list-style-type: none"> • Enhanced targeting supports additional people from the above disadvantaged or under-represented groups secure and sustain employment 	20% increase on baseline established in Year 1	SBC: 7% WLC: 13%
<p>CAREER PROGRESSION: Additional people progressing into and sustaining (13 weeks and 6 months) better employment, earnings and careers</p> <ul style="list-style-type: none"> • Moving into higher earning role (Scottish Living wage or above) 	500	CEC: 32% ELC: 8% Fife: 33% Mid: 5%

Measure	Client Group Target	LA Profile Target
<ul style="list-style-type: none"> Moving from existing into Medium to High Skills roles Moving from temporary (insecure) work into a permanent role 		SBC: 10% WLC: 12%
<ul style="list-style-type: none"> Enhanced targeting supports additional people from the above disadvantaged or under-represented groups into and sustaining better employment 	20% increase from the baseline established in Year 1	
ENABLERS: Additional accredited training and skills improvements	14,700	
<ul style="list-style-type: none"> Enhanced targeting supports additional people from the above disadvantaged or under-represented groups achieve skills improvements that unlock latent talents and help secure higher earnings. 	20% increase from the baseline established in Year 1	

6. Background reading/external references

- 6.1 [Edinburgh and South-East Scotland City Region Deal Document, August 2018](#)

7. Appendices

- 7.1 Appendix 1 – An Integrated Regional Employability and Skills Pipeline for the Edinburgh and South East Scotland City Region, Programme Business Case for Investment, Final Business Case, approved by Government 28 November 2018.
- 7.2 Appendix 2 – Scale and regional distribution of expected outcomes and benefits



An Integrated Regional Employability and Skills (IRES) Pipeline for the City Region

Programme Business Case for Investment

Final Draft for Joint Committee Approval

17 December 2018

ACCELERATING GROWTH

**EDINBURGH AND SOUTH EAST SCOTLAND
CITY REGION DEAL**

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1 Executive Summary

Since the economic recession in 2008 the Scottish economy has been steadily improving, with the Edinburgh and South-East City Region its engine room, generating high value growth and employment.

However, this rosy picture of prosperity and opportunity masks issues of slowing regional growth and widening inequality and disadvantage that manifests in persistent worklessness, insecure work, and entrenched poverty for some communities and groups of citizens.

Reinforcing this negative dynamic are increasing skills gaps and polarisation (hollowing out) within our key industries that is constraining inclusive growth, gender and age inequalities that are limiting innovation potential, and a lack of affordable housing and transport connectivity that is impacting on the ability of our vulnerable citizens to sustain learning and work.

Given the nature of these challenges it is impossible for any single organisation to respond effectively, highlighting the need to collaborate to improve the long-term prospect for disadvantaged citizens and help businesses find the talent they need to grow.

However, our current regional capacity to collaborate regionally is limited and the service environment is cluttered and misaligned, meaning the £1 billion plus yearly public investment in employability and skills has no unifying focus and coherence at a regional level.

Our vision is for a thriving, sustainable city region economy, internationally recognised as an outstanding area to live, work and do business.

It will be a global centre of **innovation** for all of Scotland and beacon of **inclusion** where all section of society can share in the benefits of growth, but also an economy that is **resilient** to external shocks and able to harness strong cross-sector **collaboration** to deliver sustained inclusive growth.

This Programme business case sets out the partnership's proposition to start the journey of change in employability and skills services and supports that will make a tangible and positive difference to citizens, businesses, and other stakeholders.

The Integrated Regional Employability and Skills (IRES) Programme will incrementally strengthen and streamline regional delivery to achieve better outcomes for all the region and particularly those people facing significant disadvantages to securing and sustaining meaningful, high quality employment- delivering better impact from existing public, private and third sector investments

Using the £25 million City Region Deal investment available over the next 8 years, new pilot approaches and enablers will be put in place to deliver a step change in performance and inclusion that will create a legacy for generations to come.

The direct impact of this investment will be an **additional 14,700 people with improved skills and 5,300 moving into employment** although the real legacy will be the sustained improvement in the quality of outcomes for the most disadvantaged people in our region, the reinvigoration of communities, and more innovative business due to the greater diversity of talent working within their industry.

2 Introduction

2.1 About this Document

This Programme Business Case sets out a Treasury “Green Book compliant investment case and delivery proposal for the Integrated Regional Employability and Skills (IRES) programme and its underpinning strategic partnership in the Edinburgh and South-East Scotland (ESES) City Region.

It articulates the ambition of the partners and outlines how it plans to use the £25million fund being provided by Scottish Government to stimulate changes in the way regional Employability and Skills Services are designed and organised that will enhance the inclusive growth impact of the collective investment of national and local partners.

This Programme Business case is one of a suite of business cases that have been developed as part of the ESES City Region Deal to articulate and drive Inclusive Growth ambitions and it is the enabling mechanism that releases Scottish Government funding to the partnership for use on the change projects outlined in the business case.

The programme business case will be built on by the development of Project Propositions (following UK Treasury Green Book principles) that articulate our proposals to an implementable stage.

Through this approach the partners aim to make best use of limited resources to deliver the outputs and outcomes sought within the Programme Case, but rooted within an inclusive, innovative, and collaborative environment that actively aids the mainstreaming of success and is responsive to changes in our regional labour market.

The family of Business Cases, Propositions, and agreements and how they interlink is given below.

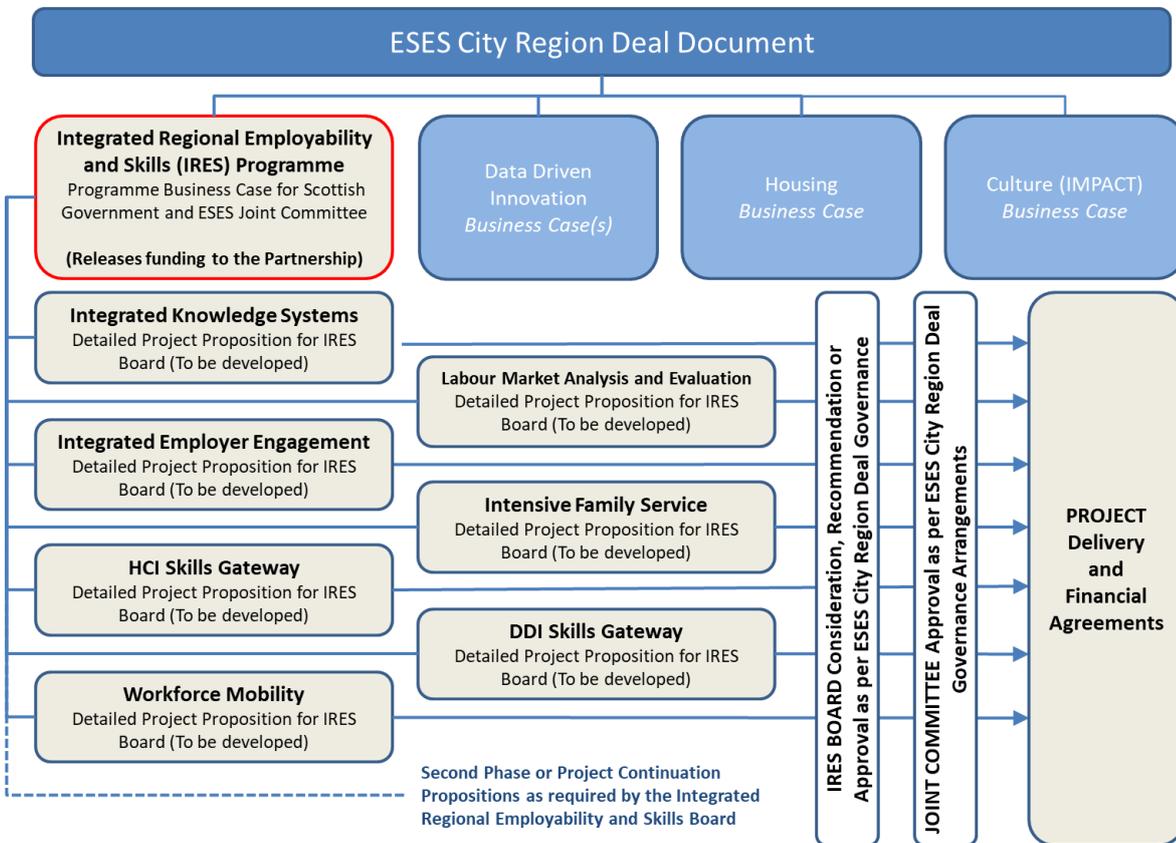


Figure 1: Suite of IRES programme documents

2.2 Programme Vision and Model

The City Region Deal Partnership has agreed an ambitious vision for the future;

In a fast-changing world we will create a region where investment, intellect and culture will fuse to create new ways of doing things.

In the next 20 years the Edinburgh and South-East Scotland City Region will become the most connected, most creative, most inclusive and most entrepreneurial place in Europe.

We will build a network of businesses, universities, technical and creative skills attracted by a great lifestyle and cultural offer.

With innovation at the heart of the City Region Deal stimulating the good careers and jobs of tomorrow and our strong inclusion focus seeking to link these opportunities to the most disadvantaged in society will require us to harness the world-class research of the region's universities, the excellent skills training and supports of our school and colleges, the local knowledge and services of local authorities, the creativity of our third and social enterprise sector, and the insights and support from businesses to drive tangible progress.

Achieving this inclusive growth vision will require not just a step change in what we do collectively, but also a change in how we do it, and that is why the Integrated Regional Employability and Skills (IRES) programme envisages an incremental re-engineering and augmenting of the currently fragmented regional service landscape to;

- Increases the visibility of regional opportunities to our citizens and puts in place the tailored supports required by disadvantaged sections of society¹ to unlock good careers
- Opens-up new and diverse talent pools to businesses that helps minimises skills gaps and demonstrates the value of an inclusive approach to recruitment and workforce development
- evolve, streamline, and integrate the regions employability and skills system to increase its capacity to adapt to an increasingly dynamic economy and labour market.
- Deliver 14,700 net additional skill improvements and 5,300 into employment with a priority on closing the opportunity and employment gap for;
 - people with a disability or enduring health conditions,
 - those from workless or low-income (< 60% median) families,
 - disadvantaged young people including "Care Experienced" individuals, and
 - people from minority ethnic communities
 - women entering or advancing within DDI or HCI careers

The IRES programme model has been developed by using the extensive knowledge of the city regional partners and their stakeholder network to consider the options available to us to drive additional long term value, and the preferred five pillar (Plan-Do-Review-Revise) incremental improvement methodology² (see [Economic Case](#)) that has emerged is judged to be the optimal way to drive greater inclusive growth ("whole person" and "whole system") and efficiency, with fewer negative transitional impacts for the disadvantaged citizens currently being supported.

¹ Including the nine groups protected under the Equality Act 2010, <https://www.equalityhumanrights.com/en/equality-act/protected-characteristics>

² Social Work Inspection Agency: Guide to Managing and Improving Performance: Taking a closer look at managing and improving performance in social work services

The change projects that have been identified under each of the five pillars have emerged from a further deeper consideration (using research and stakeholder knowledge) of the weaknesses, inefficiencies or sub-optimal outcomes within the current system under each of the thematic pillars and a consideration of the range options (see [ANNEX](#)) that could be pursued as part of an integrated set of proposals that will help drive progress towards our overarching goals.

These five programme pillars and the associated change projects that have been identified to strengthen our collective capacity and impact are as follows:

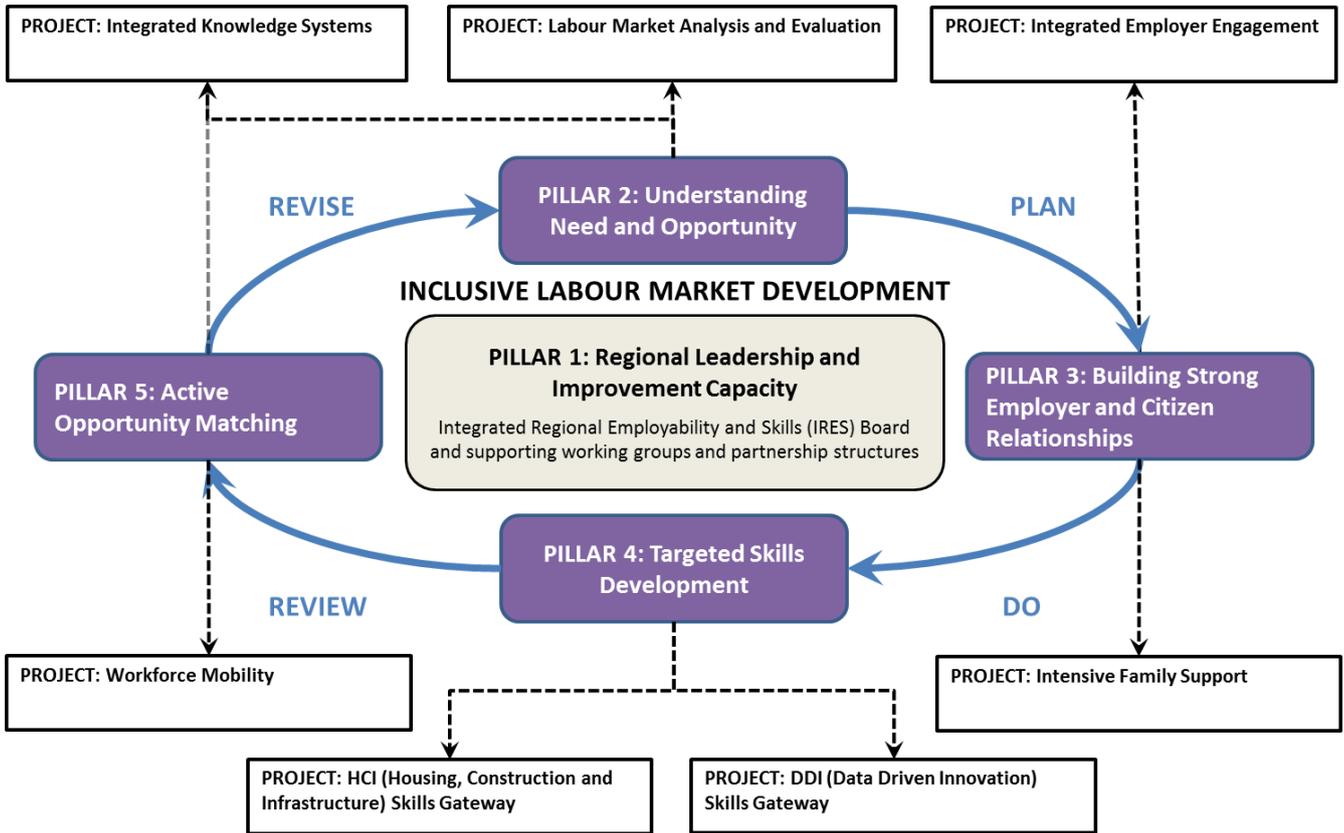


Figure 2: IRES system improvement model and initial change projects

2.2.1 Pillar 1: Regional Leadership and Improvement Capacity

The barriers and obstacles that disadvantaged sections of society face in accessing and progressing in employment are complex and typically cut across disciplines and stakeholders.

This multiplicity of stakeholder involvement, although important for stimulating innovative solutions to our challenges, can also lead to service misalignment and an opaque service offer (for beneficiaries and service professionals alike) that creates barriers and inertia in the pipeline of support and an increased likelihood of sub-optimal outcomes.

Therefore, a critical part of making progress towards an inclusive labour market will be the creation of the right leadership and collaboration environment to stimulate whole system thinking and a shared commitment to improving the quality and quantity of collective outcomes.

The structure that will be created to support this collaboration is outlined in the [Management Case](#).

2.2.2 Pillar 2: Understanding of Labour Market Need and Opportunity

The visibility, mutual understanding, and active (collective) response to changing regional labour market dynamics, service impact, and new innovative approaches is vital to the creation of a citizen-centred, demand-led, integrated, and value for money approach.

Therefore, the partnership will focus on developing two project propositions under this pillar to improve our collective understanding of the regional labour market and the impact of investment, with the aim of improving the targeting of collective resources and increasing effectiveness and efficiency. These are;

2.2.2.1 Project: Integrated Knowledge systems

This proposition is exploring the options to link or integrate the key organisational client and customer relationship (employer) management systems across the partnership to support the targeting and tailoring of services to citizens and employers including;

- **A shared talent bank** and opportunity promotion (CRM) system to support collective working.
- Exploring the use of **distance learning or remote working technologies** to open-up good opportunities to a more diverse section of the population
- An integrated/aligned **performance management system** and data analysis layer (Visualisation) to help articulate organisational and collective impact and identify areas for improvement

2.2.2.2 Project: Labour Market Analysis and Evaluation

This proposition is to bring together the knowledge, expertise and resources of the partners into a virtual team that will increase our collective understanding of labour market needs and opportunity that can be inform the strategy and tactics of the partnership. Areas that will be explored include;

- **Cross-cutting skills:** Additional research and analysis of cross cutting skills issues within the region's key sectors to inform the curriculum and training
- **Employer skills demand:** Gathering additional primary data on the needs of regional employers to give a more nuanced view of sector skills demand
- **Innovation:** Collaborating with the Data Driven Innovation programme to identify opportunities to develop innovative approaches to labour market analysis and evaluation
- **Analysis of best practice:** Horizon scanning exercise to identify best practice approaches to labour market intelligence gathering and utilisation to be applied in the region
- **Guidance materials:** Develop accessible regionally tailored labour market guidance materials (building on existing) for individuals and those who help prepare people for jobs and careers

2.2.3 Pillar 3: Building Strong Employer and Citizen Relationships

Businesses and citizens are the engine of the economy and the primary beneficiaries of our employability and skills system.

Therefore, strengthening our (bilateral) relationships with employers and citizens to; enhance our collective knowledge of opportunities and blockers to success, tackle misconceptions and promote culture change within stakeholders, maximise inclusive growth impact³, and ensuring that we work with people not “do unto them” in the journey to success will be important for setting and adjusting our strategic and tactical direction.

³ P8 Edinburgh and South-East Scotland Inclusive Growth Framework, <http://www.acceleratinggrowth.org.uk/new-blog/2018/8/7/historic-13bn-edinburgh-and-south-east-city-region-deal-agreed>

The partnership will therefore develop two project propositions under this theme.

2.2.3.1 Project: Integrated Employer Engagement

This project aims to enhance our trusted relationships with the regions employers and investors to increase the flow of disadvantaged groups into good employment (reducing current inequalities), promote Fair Work and the Scottish Living Wage⁴, minimising skills shortages and gaps that could impact on inclusive growth ambitions, and increase cohesion and efficiency across partners. The areas being explored are;

- **Integrating Employer Engagement:** Establishing a set of values and operating principles to ensure wider access to employers, promote a “no wrong door” approach and avoid the confusion of duplicated offers from multiple partners
- **Pooling Employer Engagement Capacity:** To organise engagement and co-ordinate activity with employers to widen our collective reach into the region’s business base, while improving our capacity to respond to emerging opportunities, recruitment, refocusing declining industries, and redundancy
- **Generating and Aligning Community Benefits:** Using procurement process to ensure the expenditure of the partners fully utilises any opportunity to drive inclusive growth (e.g. Community Benefit, Fair Work, and Scottish Living Wage requirements).

The community benefit work is part of the implementation of the partnership “inclusive growth framework (theme 3)⁵” that will work with employers, developers, and contractors to maximise and realise community benefit, while ensuring that people we are targeting for support are the primary beneficiaries.

- **Recruitment and Skills Centres Network:** Using our experience of Recruitment Centre public/private partnerships (e.g. Fort Kinnaird RSC) to expand our physical footprint that can improve employer relationship building and enhancing service delivery

2.2.3.2 Project: Intensive Family Support

This project will target significant pockets of persistent, entrenched worklessness and poverty that has significant impact on individuals, families and communities. In many families the parents or guardians have additional support needs and often complex, multiple barriers to employment. As a result, it is likely that the young people do not receive the necessary support and encouragement to access, achieve and sustain employment or a positive destination- compounding poverty and disadvantage across generations.

Current provision does not suitably address the complex and varied needs of our disadvantaged families and this investment provides an opportunity to take a different approach to breaking generational cycles of poverty and disadvantage.

The project will therefore offer additional targeted support for vulnerable families living in the most deprived areas of the region. This support will comprise a combination of intensive general and specialist support tailored to help support individuals within families to progress towards their own goals, as well as developing “whole family” activities that build a support network and improve the family dynamic and ability to provide effective support for each other.

⁴ What is the Living Wage?, Living Wage Scotland https://scottishlivingwage.org/what_is_the_living_wage

⁵ P8, Edinburgh and South-East Scotland City Region Deal, August 2018

2.2.4 Pillar 4: Targeted Skills Development

Supporting all sections of society to acquire the knowledge and skills and secure the complementary supports they need (throughout their working lives) to develop and progress will be critical to maximising the talents of our citizens and unlocking the full potential of our economy.

Therefore, developing integrated, flexible, and universally well-understood career pathways (i.e. academic, blended, and vocational) for our key industries, that are interlocked with other enabling services (e.g. Health, care, and, financial) will be important to allowing the talents of all our citizens to blossom and help minimise skills shortages and gaps that could impact on future growth.

The partnership will therefore develop two project propositions to streamline and inclusion proof the routeways (using a blend of existing and new resources) into the “Data Driven Innovation” and “Housing, Construction and Infrastructure” sectors to exploit the significant opportunities that are anticipated to be generated. They will also test methodologies for developing collaborative, cohesive, and impactful service pipelines that spread the benefits of growth into disadvantaged and under-represented populations, which can be rolled out to other key sectors.

2.2.4.1 Project: DDI (Data Driven Innovation) Skills Gateway

Data Driven Innovation (DDI) touches upon all our major employment sectors and impacts on the everyday lives of our citizens, so it is important that the region develops not just the physical and business infrastructure, but the skills development capacity to ensure all our citizens get maximum benefit (jobs, wealth, health) from the growth of this emerging sector.

Areas being explored by the DDI Skills Gateway include;

- Support the development of **knowledge sharing schools** to help embed data skills in the curriculum and unlock opportunities in Data sector to all our citizens
- Help develop a coherent **data science curriculum** across SCQF level and stages supported by high-quality learning materials- working with School Improvement Collaborative(s)
- Support the creation of coherent and visible **data career pathways** into advanced data careers that can flex to the needs of all sections of society
- **CPD learning and Learning Networks** for teachers, FE lecturers, Executives, employability professionals, those in changing job roles and data scientists to maximise impact.
- **Inclusive learning, coaching, mentoring and support** for disadvantaged and under-represented groups within the sector (e.g. women returners, people facing redundancy, the unemployed, care experienced individuals, and disabled individuals)
- Engagement with **data employers** to promote an inclusive (Fair work) practice and culture including the creation of placements opportunities, developing inclusive recruitment and working environments, and embedded talent development programmes.

2.2.4.2 Project: HCI (Housing, Construction and Infrastructure) Skills Gateway

The current strength of the construction sector along with additional proposals for increased housing building and retrofitting through City Deal investment is creating significant and increasing skills gaps and workforce shortages, in both new building and repair and maintenance sectors.

There are also related opportunities beyond the jobs created by the construction phase to associated opportunities in the low carbon field, where innovation in housing products and construction techniques can open up additional high-quality employment opportunities in the regional supply chain.

The City Region Deal provides an opportunity to accelerate and invest in key skills, develop new training opportunities resulting in a transformational step change and 'regional inclusive approach'.

Areas being developed by the HCI Skills Gateway include;

- Linking education (in association with DDI knowledge sharing schools and existing DEC ambassador network) and employability providers with sectoral opportunities to unlock opportunities for all our citizens and help reduce sectoral skills shortages and gaps.
- Piloting **new approaches to enhance productivity** and support inclusive economic growth
- Develop **inclusive HCI employment pathways** which will include enhanced outreach to disadvantaged and under-represented populations, upskilling and career progression opportunities, and targeted actions to reduce inequalities within higher level jobs, that will all include flexibilities and supports that increase the likelihood of success.
- Engagement with **Housing, Construction and Infrastructure employers** to promote an inclusive (Fair work) practice and culture including the creation of placements opportunities, developing inclusive recruitment and working environments, and embedded talent development programmes.

2.2.5 Pillar 5: Active Opportunity Matching

The physical, personal, and psychological barriers that disadvantaged individuals face in achieving their potential means that an active approach must be taken to supporting the transition into rewarding and fulfilling careers.

Therefore, it will be important that we make the best use of trusted relationships, career services, digital technologies, active travel, and childcare services to ensure disadvantaged individuals do not face practical barriers to progression.

The partnership will therefore develop one project propositions under this theme looking at the role of travel in opening up opportunity to disadvantaged individuals.

2.2.5.1 Project: Workforce Mobility (Concessionary Travel)

This project focuses on removing the barriers to full mobility faced by the regional workforce, beyond their personal skills and capabilities.

Regular travel by public transport across the city region can be expensive, especially for those travelling long distances, coming from rural areas, or for those that are already disadvantaged in terms of income. To broaden the labour market and to increase employment flexibility throughout the city region there is a need to find ways to reduce this problem.

Although there is a range of transport subsidy schemes, particularly for young people (Young Scot), job seekers (DWP Discount Travel Scheme), and those with disability issues (Local Authority Taxi-card scheme), these are often fragmented with considerable restrictions in their use.

The Workforce Mobility project will explore the;

- integration and augmentation of existing concessionary travel to better focus and combine subsidies for disadvantaged groups and weave them into a tailored support package.
- gain intelligence on current and latent demand patterns for the job-seeking disadvantaged individuals throughout the region that supports the case for new active travel routes to open up new talent pools.

- Inform the development of a unified smart infrastructure that improves the efficiency of travel schemes (inc. school, school-college transport, and disability), while reducing the administrative burden and cost of concessionary travel schemes

2.2.6 An Integrated Approach

The programme has been conceived as a whole system (whole person) approach to deliver culture and practice changes that will have significant qualitative benefits other than the **additional 14,700 people with improved skills and 5,300 moving into employment** over the course of the (£25 million) 8-year investment period.

This focused system approach will generate significant, synergies, cost efficiencies, improved inclusion outcomes, and enhance responsiveness to changing need and opportunity in our regional labour market that will have a lasting benefit for the region and the Scottish Economy.

3 Strategic Case

The Programme strategic case is set out in two parts:

Part A: The Strategic Context – indicating the alignment of the IRES Programme proposals with government policy and the Partnerships existing assets and strengths; and,

Part B: The Case for Change – which summarises the objectives to be addressed by the Programme, existing arrangements and identified investment needs and operational risks, constraints and dependencies.

3.1 PART A: The Strategic Context

3.1.1 National Context and Strategy Alignment

Scotland's Economic Strategy (Scottish Government, 2015)⁶ sets out the Scottish Government's purpose "to create a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth" and has two key goals- increasing competitiveness and tackling inequality.

Allied to this the Creating a Fairer Scotland (Employability)⁷ policy seeks to promote greater fairness and equality in employment while also driving continuous service improvement through strong productive partnerships.

No One Left Behind, Next Steps for the Integration and Alignment of Employability Support in Scotland⁸ urges the need to incrementally develop an integrated regional employability and skills system that is more

- flexible, tailored, and takes a 'whole person' approach
- straightforward for people to navigate;
- better integrated and aligned or interwoven with other supporting services;
- provides pathways into sustainable and fair work;
- is driven by evidence to supports people into the right job at the right time
- designed, delivered, and improved in partnership
- responsive to those with high needs (e.g. young care leavers, workless, and those in low paid or insecure jobs) who are at major risk of missing out on the benefits of economic growth; and
- minimises skills shortages and gaps or gender imbalances in our key growth sectors, while promoting greater workforce diversity

These developments include a strong committed to helping reduce the disability employment gap by using the levers available to us to remove barriers to employment and equip disabled people with the skills that are in demand within the current and future regional labour market.

Fair Work is central to the delivery of economic growth and social justice, including the collective ambition to eradicate child poverty⁹, by being grounded in the principles of human dignity and respect with work offering workers an effective voice, fulfilment, opportunity, respect and security.

⁶ Scotland's Economic Strategy, Scottish Government, 2015, <https://beta.gov.scot/publications/scotlands-economic-strategy/>

⁷ Creating a Fairer Scotland: A New Future for Employability Support in Scotland, Scottish Government, <https://beta.gov.scot/publications/creating-fairer-scotland-new-future-employability-support-scotland/>

⁸ No One Left Behind - Next Steps for the Integration and Alignment of Employability Support in Scotland, Scottish Government, <https://www.gov.scot/Publications/2018/03/5358/downloads>

⁹ Child Poverty Act (Scotland) 2017, Scottish Government

The collaboration, interventions, and changes proposed by the IRES Programme (and the wider City Region Deal) offer an opportunity to significantly support the realisation of this Fair Work ambition by;

- providing support for businesses to offer quality jobs and fair work for everyone
- assisting the development of a globally competitive, entrepreneurial, inclusive and sustainable economy
- respecting, protecting and fulfilling human rights and tackling discrimination
- tackling poverty by sharing opportunities, wealth and power more equally
- supporting local people to gain the skills they need to fully contribute to society

It is also recognised that the gender pay gap is a drag on growth and that the collaborations, targeted training, skills development, and support being developed by the partners will unlock employment and progression opportunities within our key industrial sectors that will help reduce this pay gap, while also making our businesses more productive.

The IRES programme tightly aligns with these policy aims by focusing attention on strengthening and streamlining the progression routeways into work for disadvantaged individuals, while it also establishes the much-needed collaboration across all regional partners to deliver better impact from existing (public, private and third sector) investments that will support accelerated progress towards a more inclusive economy.

3.1.2 Local Strategy Alignment

The Community Empowerment (Scotland) Act 2015¹⁰ changed arrangements for Community Planning Partnerships (CPP). Local authorities are now equally responsible with a wider group of partners and as such CPP structures across the City Region are becoming more dynamic and participative, more enabling participants to showcase what they are doing in the context of Partnership and their respective Local Outcome Improvement Plans (LOIP).

CPP structures are already closely aligned with City Region Deal and IRES, informing, engaging and sharing parity of esteem between community representatives and public authority partners to shape and inform developments.

Local economic strategies across each of the partner authority areas are currently being reviewed to address the key inclusive growth challenges and support the delivery of National Policy and City Region Deal ambitions for the region and all Regional Employability partners have collaborated to agree a comprehensive Regional Skills Investment Plan (RSIP)¹¹ with a clear Mission, Strategic Outcomes and Areas of Action.

The IRES programme labour market analysis and evaluation proposition has already produced a very detailed Regional Skills Investment Plan (RSIP) to help inform such direction and alignment.

3.1.3 Alignment with other City Region Deal Streams

The IRES Programme is built around a series of thematic pillars; strengthening regional leadership and improvement capacity, better understanding need and opportunity, building stronger relationships with employers, investors and citizens, targeted skills development, and improved matching to opportunities for

¹⁰ Community Empowerment (Scotland) Act, Scottish Government, <https://beta.gov.scot/publications/community-empowerment-scotland-act-summary/>

¹¹ Skills Investment Plan for Edinburgh and South East Scotland 2017, Skills Development Scotland, https://www.skillsdevelopmentscotland.co.uk/media/43648/edinburgh-sip-2017_digital-version.pdf

disadvantaged individuals, which is closely aligned with the wider ESES City Region Deal ambition to drive “Inclusive” growth through regional collaboration.

Interventions proposed within the programme will maximise the value realised from other City Region Deal investments and ambitions in the innovation space (e.g. Data Driven Innovation) and enabling infrastructure (Housing, Construction and Infrastructure) by supporting the creation of a diverse and well skilled population that can benefit from and help drive the future growth of the regional economy.

3.2 PART B: Case for Change

3.2.1 Case for Government Intervention (Market failure)

The HM Treasury Green Book indicates that the rationale for government intervention is founded: “either in market failure or where there are clear government distributional objectives that need to be met. Market failure refers to where the market has not and cannot of itself be expected to deliver an efficient outcome; the intervention that is contemplated will seek to redress this. Distributional objectives are self-explanatory and are based on equity considerations”.

The 2018 Regional Skills Assessment Summary Report for Edinburgh and South-East Scotland City Region¹² concludes that although the outlook for the local economy is positive there are some key inclusive growth challenges that still remain. Despite expected jobs growth across most sectors and occupations providing opportunities for people at all skills levels, a key challenge facing employers in the region will be sourcing people to fill these vacancies, particularly in the context of Brexit and the resultant constraints on the future supply of labour from Europe. A further challenge is the forecast ageing of the population and associated contraction of the working age population which, although not as pronounced as in other areas, could put further pressure on labour supply in the region.

Although less acute than the Scottish Average, similar trends of disparity remain across the region particularly in measures of job density, skills inequality, gender and age inequalities, low income and low pay. These are highlighted in the below figure.

		EL	ED	FI	ML	SB	WL	Region	Scot
Employment in high skilled occupations	% of workers in managerial roles (SOC 1, 2 & 3), Jun 2018	44.6	56.8	41.9	38.3	39.1	40.9	43.6	42.4
Unemployment	Unemployment rate (%), Sept 2017	4.2	2.9	3.0	1.8	4.0	3.7	3.3	4.1
Earnings	Median FT weekly earnings (£), 2017	595.0	583.8	530.5	540.6	513.8	519.0	578.5	547.7
Male Earnings	Weekly median gross pay male full time (£), 2017	607.8	622.8	554.8	557.7	572.9	554.7	578.5	580.2
Female Earnings	Weekly median gross pay female full time (£), 2017	554.1	550.4	496.5	518.3	403	479.1	500.2	498.3
Difference between Male and Female Earnings	Male Earnings as a % of female earnings, 2017	110%	113%	112%	108%	142%	116%	116%	116%

¹² Regional Skills Assessment Edinburgh & South East Scotland City Region: Summary Report, Skills Development Scotland, <https://www.skillsdevelopmentscotland.co.uk/media/44990/rsa-edinburgh-and-south-east-scotland-city-deal-region.pdf>

		EL	ED	FI	ML	SB	WL	Region	Scot
Economic participation	Economic activity rate (%) aged 16-64, 2017	82.3	78.9	78.1	82	77.2	79.1	79.6	77.8
Male Economic participation	Economic activity rate (%) aged 16-64, 2017	85.6	83.6	82.8	83	83.3	85	83.9	82.4
Female Economic participation	Economic activity rate (%) aged 16-64, 2017	79.4	74.4	73.7	81.1	71.4	73.5	75.6	73.3
Male to Female Economic participation GAP	percentage point gap between male and female, 2017	6.2	9.2	9.1	1.9	11.9	11.5	8.3	9.1
Low skills	% with no qualifications (NVQ) aged 16-64, 2017	6.3	3.2	7.3	7.3	7.9	8.8	6.8	8.7
Male Low skills	% with no qualifications (NVQ) - males aged 16-64, 2017	4.8	2.3	8.5	8.3	9.6	8.6	7.0	8.8
Female Low skills	% with no qualifications (NVQ) - females aged 16-64, 2017	7.7	4.0	6.2	6.4	6.4	9.0	6.6	8.6
Difference between Male and Female Low skills	percentage point gap between male and female, 2017	-2.9	-1.7	2.3	1.9	3.2	-0.4	0.4	0.2
Low pay occupations	% of workers in elementary occupations (SOC 9), 2017	8.2	9.0	13.8	10.2	14.9	10.1	11.0	11.0

Figure 3: Regional Economic Comparators¹³

The IRES programme is designed to redress these disparities through a strong focus on providing disadvantaged groups with tailored support not just to access fair work, but to help them progress into higher responsibility and earnings. It also aims to address sector specific inequalities, such as gender imbalances within the Data Innovation and Construction sectors.

3.2.2 Existing Arrangements, Challenges & Business Needs

Despite the current arrangements and ways of working, around only 40% of working age disabled adults are in employment, compared with more than 80% of adults with no disability¹⁴. Regional partners are committed to supporting disabled people of all ages to progress towards and into work.

Maximising economic opportunities for women to participate fully in the regional economy and recognising the wider social role they provide also remains a priority¹⁵. Regional partners are focused on promoting the fair work agenda and encouraging employers to mitigate the gendered barriers, such as occupational segregation, which prevents the development of a strong, innovative, and inclusive economy.

¹³ Regional Employment Patterns in Scotland: Statistics from the Annual Population Survey 2017, <https://www.gov.scot/Topics/Statistics/Browse/Labour-Market/Local-Authority-Tables>

¹⁴ Job support for disabled people (Policy), Scottish Government 2018, <https://beta.gov.scot/policies/disabled-people/job-support-disabled-people/>

¹⁵ Scotland's Economic Strategy, Scottish Government 2015, <https://beta.gov.scot/publications/scotlands-economic-strategy/pages/5/>

Almost one in four of Scotland’s children are officially recognised as living in poverty¹⁶. Regional Partners have a clear duty to help and support all our children and young people to give them the best start we can.

Although slightly better than the national position, people from the region’s minority ethnic communities still experience a significant employment gap compared to the wider population (circa 10%). Regional partners are therefore committed to supporting minority ethnic citizens access and succeed in work.

The below figure provides further insight to the key regional challenges set against the Scottish Government’s draft Inclusive Growth Framework, which has been used by the City Region Deal Partnership to inform the ESES CRD partnership’s Inclusive Growth Framework¹⁷ the delivery of which (where relevant) is embedded in activities of the IRES Programme.

Inclusive Growth Theme	Regional Challenges
Economic Performance and Productivity: Economic growth is resilient, sustainable, and inclusive	Slow Growth ^{18 19} <ul style="list-style-type: none"> Slow productivity growth in recent years Regional disparities in job and outputs growth Forecast growth concentrated in Edinburgh Regional disparity in job density ^{20 21} <ul style="list-style-type: none"> Wide variations in job density 0.55 in East Lothian, 1.02 in Edinburgh Strong cross region commuting flows
Labour Market Access: Fulfilling, secure and well-paid jobs, where employees’ contributions are encouraged, respected and valued	Group, Gender, and Age inequalities ^{22 23} <ul style="list-style-type: none"> Gender pay gap – men earn 14% more than women on average Female participation rate – lower than male Female employment rate – very low in Fife Care Experience and those with a disability
Fair Work: Improved access to labour markets and jobs, inequality of opportunity to access work is addressed, and everyone is able to maximise their potential;	Low income and low pay ²⁴ <ul style="list-style-type: none"> 22% of children live in low income households Very wide local inequalities (9 wards with poverty rates >30%, 16 wards with poverty rate <15%)
People: Economic benefits and opportunities are spread more widely across Scotland’s population, with lower poverty levels, and more equal income and wealth distribution	Skills Inequality and Polarisation ^{25 26 27} <ul style="list-style-type: none"> High skilled jobs – varies from 55% in Edinburgh to 38% in Scot Borders Projections – fastest growth in high skilled jobs, increased ‘hollowing’ of labour market
Place: More economic opportunities across Scotland’s cities, towns, regions and rural areas, ensuring sustainable communities.	Housing, transport and connectivity ^{28 29 30} <ul style="list-style-type: none"> High House price to earnings ratios Rapid growth in cost of private rented accommodation

¹⁶ Poverty and Income Inequality in Scotland: 2014-17, Scottish Government, <https://www.gov.scot/Publications/2018/03/3017/downloads>

¹⁷ City Region Deal, Edinburgh and South-East Scotland City Region Deal Partnership, 2018, p8

¹⁸ Scottish Government <https://www.gov.scot/Topics/Statistics/Browse/Economy>,

¹⁹ Regional Skills Assessment, Skills Development Scotland <https://www.skillsdevelopmentscotland.co.uk/media/44990/rsa-edinburgh-and-south-east-scotland-city-deal-region.pdf>

²⁰ Jobs density 2016, Office for National Statistics

²¹ Scotland Census 2011, <https://www.scotlandscensus.gov.uk/>

²² Annual Population Survey (APS) 2017, Office for National Statistics

²³ Annual Survey of Hours and Earnings (ASHE), Office for National Statistics

²⁴ End Child Poverty Local Poverty Estimates: November 2016

²⁵ Annual Population Survey (APS) 2017, Office for National Statistics

²⁶ Annual Population Survey (APS) 2017, Office for National Statistics

²⁷ Skills Development Scotland - Regional Skills Assessment for Scottish Local Authorities

²⁸ Registers of Scotland, <https://www.ros.gov.uk>

²⁹ Scottish Household Survey (growth in private rental) <https://www.gov.scot/Topics/Statistics/16002/LATables2017/2017Excel>

³⁰ Transport Scotland 2017 <https://www.transport.gov.scot/publication/transport-and-travel-in-scotland-2017/>

Inclusive Growth Theme	Regional Challenges
	<ul style="list-style-type: none"> Satisfaction with public transport varies widely

Figure 4: Regional inclusive growth challenges

This above set of challenges highlights that, although the scale of need is not as acute as other parts of the country, there are persistent and entrenched problems currently locked into our economy that present significant blockers to inclusive growth and fully realising the potential of our people and economy.

Consequently, action to enable a shift to a more resilient and balanced regional economy in which inequality in income and opportunity are reduced and the benefits of growth are shared equally by all our citizens is needed. The IRES programme has an ambition to be this catalyst for positive change and be an exemplar for sustainable living that can be more widely applied.

3.2.3 Fragmentation

The current Employability and Skills landscape is complex. The knowledge base and focus of investment across the regional partners is fragmented, patchy, and misaligned. Public interventions are sub-optimal in meeting the labour market needs and opportunities in the region.

It is estimated that the region’s public and educational bodies annually invest over £1 billion in employability and skills services, with the Private and third (charitable bodies) sectors also making a significant contribution. This collective investment is made however without an explicit unifying focus or structures to support collaboration that would extract additional benefits and lasting impact.

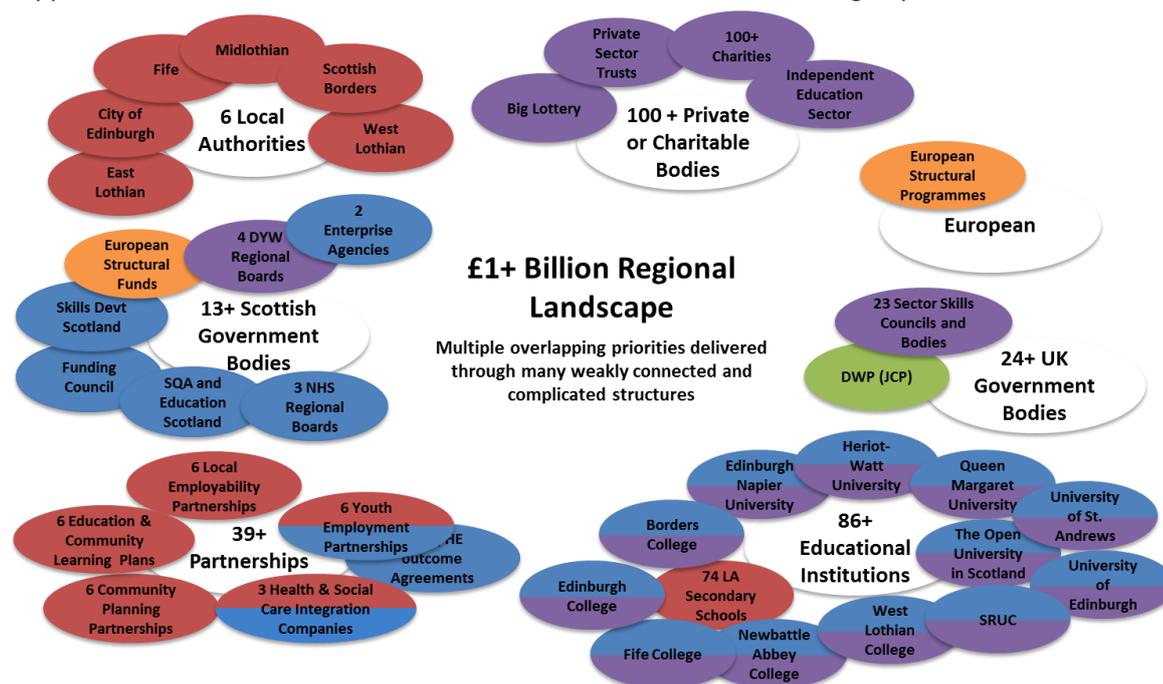


Figure 5: The ESES regional employability and skills landscape³¹

Factors that reinforce the need for change include;

- **Skills Demand:** growing shortages and gaps in key sectors such as electronics, engineering, software and care.

³¹ ESES City Region Deal Partnership 2016

- **Productivity:** persistent productivity gap with benchmark cities such as London, Copenhagen, and Munich
- **Poverty and Inequality:** four of the six authority areas have below median earnings and 22% of children born into poverty³²
- **Clarity:** lack of unified approach across the natural economic area, creating confusion and dissatisfaction for citizens, employers and other stakeholders
- **Knowledge and Key Relationships:** are fragmented impacting on effectiveness of investment over the long term and ability to fully unlock opportunities.
- **Service Efficiency:** The pipeline of employability, skills & learning services operate in silos, face budget pressure with often duplication, misalignment and instability

3.2.4 Objectives & Benefits

The overarching objective for the IRES Programme is to ensure the strengthened collaboration, resulting streamlining, and targeted additional investment from City Region Deal significantly boosts the quality and quantity of outcomes (impacts) achieved by the collective investment of the national and local partners.

The IRES proposal will give greater regional coherence and empowered decision making around a natural labour market area and

- be central to maximising the value of City Region Deal investments by delivering the workforce element
- future proof the regional economy through stimulating a positive step change in equality, capacity and productivity
- improve the focus of limited resources through target and collaboration around a natural economic geography
- encourage meaningful participation by stakeholders in designing and delivering services and interventions
- Return significant impact for minimal extra investment and will help stimulate additional value for money for partners in future years

The programme will provide opportunities to achieve better economies of scale and a strengthening of career progression routes for those who face significant labour market disadvantage.

The Proposed Activities will seek to address poverty and social exclusion by increasing the financial awareness, capacity and inclusion of the most disadvantaged households.

3.2.5 Scope of Investment Requirements

Government investment of up to £25m (over eight years) to enable the regional partnership to implement the IRES Programme and its Project components (see [Programme Vision and Model](#)) and deliver incremental system-wide improvements to boost the flow of disadvantaged individuals into secure and meaningful high-quality employment.

³² End Child Poverty Local Poverty Estimates: November 2016

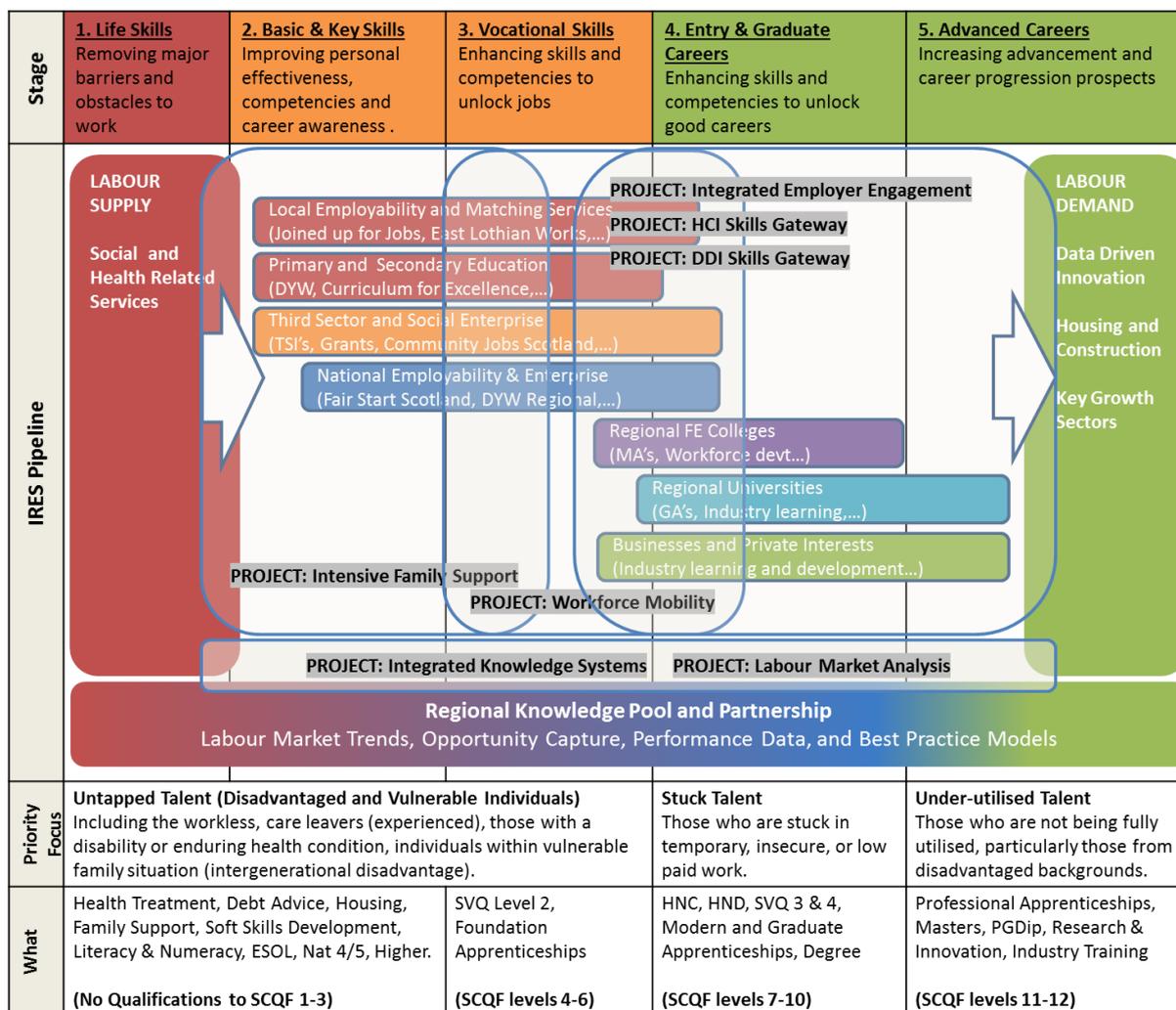


Figure 6: Change projects mapped against IRES pipeline and significant existing provision

It will also allow a multi-partner partnership and performance structures to be created that will establish a strong leadership culture that will challenge (and support) partners and other stakeholder to continually seek opportunities to improve services and the lasting impact that is achieved, particularly for those who are disadvantaged or vulnerable in the economy.

3.2.6 Risk Management

Risk management is an integral feature of the IRES Programme and the programme risk register [ANNEX](#) covers all aspects of the business case- Strategic, Commercial, Financial and Management.

The IRES Board are ultimately responsible for managing all aspects of programme and project risk and plans will be reviewed on an ongoing basis by a sub group of the IRES Board to ensure they satisfactorily capture the up to date risk profile and ensure there are appropriate mitigation procedures in place.

New risks will be highlighted to the Board and where escalation is required mitigating actions will be agreed and implemented along with agreed timescales for review.

The Strategic risks and mitigating measures that have been identified at this stage are as follows;

Strategic Risk	Mitigation Measures
<p>Programme fit, cohesion, and impact</p> <p>The programme does not secure sufficient partner (stakeholder) buy-in and control to ensure an integrated set of interventions and satisfactory progress towards long terms Inclusive Growth and system change (VfM) goals</p>	<ul style="list-style-type: none"> • Joint committee and Executive Board provide senior level leadership and support of programme goals • Early establishment of an empowered IRES Board with strategic oversight and responsibility for programme delivery. • Work with the Scottish Government Cities team on developing and implementing the Inclusive Growth Framework • ESESCRD PMO to develop the IRES programme as a rolling programme with additional detail on activity, modeling and costings developed as required to ensure strategic fit, satisfactory progress, and VfM • Strong and interlinked Project working groups established to drive development, implementation, adjustment and mainstreaming • Integrated Knowledge System and Labour Market Analysis and Evaluation project strands in place to support cohesion and good decision-making • Quarterly progress reports and annual progress reviews will be undertaken throughout the programme implementation period • The partnership will conduct a mid-programme evaluation in 2021 to check the direction of travel is still right
<p>Performance and good practice learning</p> <p>IRES is expected to deliver a significant impact across the whole City Region Deal in terms of Inclusive Growth, however, the detail of the monitoring framework and expectations/outputs and outcomes are still being developed.</p>	<ul style="list-style-type: none"> • ESESCRD PMO to develop the IRES programme as a rolling programme with additional detail on activity developed as required to ensure satisfactory progress against outcomes and measure to ensure VfM • The IRES Partnership structures and engagement and communication activity that will be developed will capture, disseminates, and mainstreams learning • The IRES Programme Structures, Integrated Knowledge System, and Labour Market Analysis and Evaluation project strands in place to support the capture and dissemination and mainstreaming of learning. • Quarterly progress reports and annual progress reviews will be undertaken throughout the programme implementation period • The partnership will conduct a mid-programme evaluation in 2021 to check the direction of travel is still right
<p>Disadvantaged citizens and low-income families benefit from the change</p> <p>There is a risk that disadvantaged citizens and families do not see tangible long-term benefits from the programme, projects or changes in culture and practice stimulated by the IRES programme</p>	<ul style="list-style-type: none"> • Work with the Scottish Government Cities team on developing and implementing the Inclusive Growth Framework • Early establishment of an empowered IRES Board with strategic oversight and responsibility for programme delivery and support of inclusive growth goals. • Project propositions and implementations plans will detail how delivery against inclusion targets will be assured.

Strategic Risk	Mitigation Measures
	<ul style="list-style-type: none"> • Analysis of the impact of interventions on benefit eligibility and financial circumstances along with any mitigation measures will be built into project proposition narratives. • The Intensive Family Support Service and Workforce Mobility projects will aim to engage with vulnerable families and connect them into the opportunities being made available in the region • Quarterly progress reports and annual progress reviews will be undertaken throughout the programme implementation period • The partnership will conduct a mid-programme evaluation in 2021 to check the direction of travel is still right

Figure 7: Strategic Risks and Mitigations

3.2.7 Constraints

In developing the proposed IRES Programme investment and activities, consideration has been given to various constraints particularly that each element of the IRES Programme must become self-financing (sustaining) in the longer term. This is to satisfy respective Partners governance and charitable obligations to maintain a surplus and also the technical, ethical and legal constraints of collecting and accessing appropriate data sets.

The Edinburgh and South-East Scotland region is large and diverse with the opportunities and challenges varying both between and within local authority areas. To reflect this complexity, some areas within the region are also planning to develop local skills plans.

Another significant constraint will be the level and local flexibility of resources available through public, private and third sector partners (Inc. potential loss of access to European Structural Funds) to deliver the ambition, as this will limit the development and delivery capacity of the employability and skills system and its ability to adapt to changing need and opportunity.

3.2.8 Dependencies

The future success of the IRES Programme will depend on close alignment with other City Region Deal work streams and integration with existing services and interventions, to ensure a viable and sustainable pipeline of people with the foundation skills required to exploit the range of tailored training, learning and employment opportunities being made available.

This approach will require an ongoing review and the active support of local and national stakeholders to;

- review, align, and integrate key policies impacting on skills and employment in the region
- consult with key skills partners across the region through individual interviews and (where appropriate) group sessions
- undertake workshop sessions with the City Region Deal Skills and Innovation Workstream to discuss and agree the mission, strategic outcomes and actions
- Build on the evidenced-based RSIP that sets out the vision, ambitions and aspirations for the City Region in terms of skills and employment

4 Economic Case

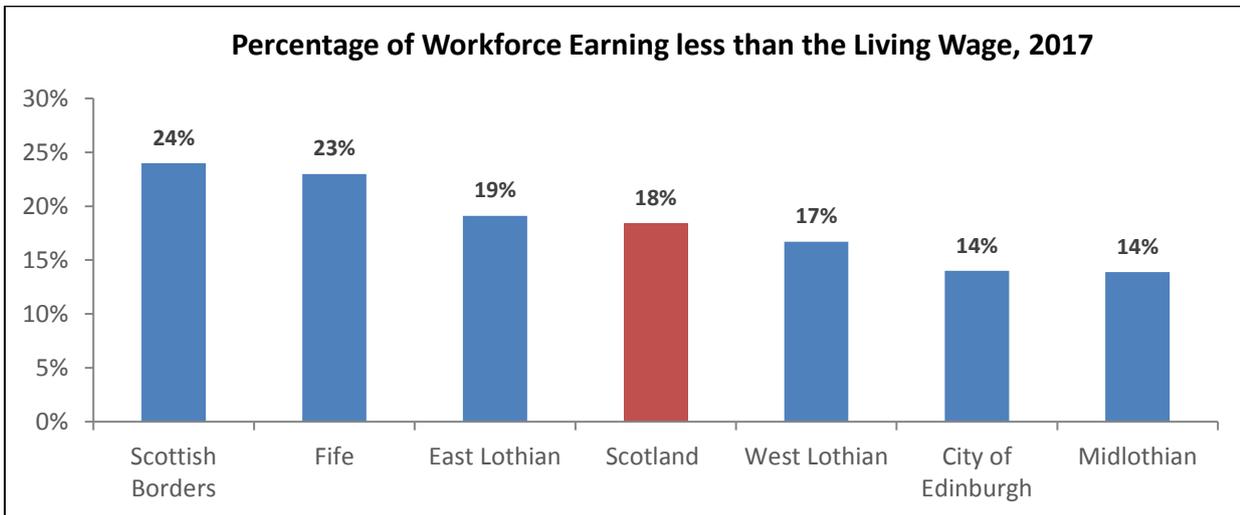
This section provides an overview of the:

- Regional Employability and Skills context informing business case for investment
- Success factors that have informed the development of the overall IRES Programme;
- Selection process involved to identify those (short-listed) delivery options which are most likely to realise Programme benefits against the “fixed budget constraint” implied by the current Heads of Terms;
- Assessment of the anticipated types and levels of economic costs and benefits that might be generated by the programme overall and,
- How the preferred delivery model, links into the skills pipeline and provides access to opportunities through other aspects of the City Region Deal.

4.1 Programme Level Context

The strategic case has already outlined the need for closer alignment and integration across local, regional and National levels for employability and skills interventions. Examination of associated economic indicators also point to the need for change in order to bring about the necessary improvements in the way that employability and skills are delivered across our public services.

For example, a significant percentage of the local workforce earn less than the Living Wage³³. In 2017, Edinburgh, Midlothian and West Lothian had a smaller proportion of the workforce earning less than the living wage, the Scottish average and the other areas in the City Region. This has improved since 2013, when only Edinburgh was below the Scottish average. Despite this improvement, there has been an increase in the percentage of the workforce earning less than the living wage in Scottish Borders – from 21% in 2013 to 24% in 2017 and there is currently a 10% gap between the best and worst performing areas for this indicator in 2017, outlining the disparity across the city region



Source: Annual Survey of Hours and Earnings (2017)

Figure 8: Percentage of Regional Workforce Earnings less than the Living Wage, 2017

³³ Annual Survey of Hours and Earnings Scotland 2017, Scottish Government, <https://www.gov.scot/Topics/Statistics/Browse/Labour-Market/Earnings/ASHE-SCOT-2017>

There is also significant variability in earnings across the region. The City of Edinburgh has a significantly higher GVA per capita, while each of the other local authority partners is below the Scottish Average.

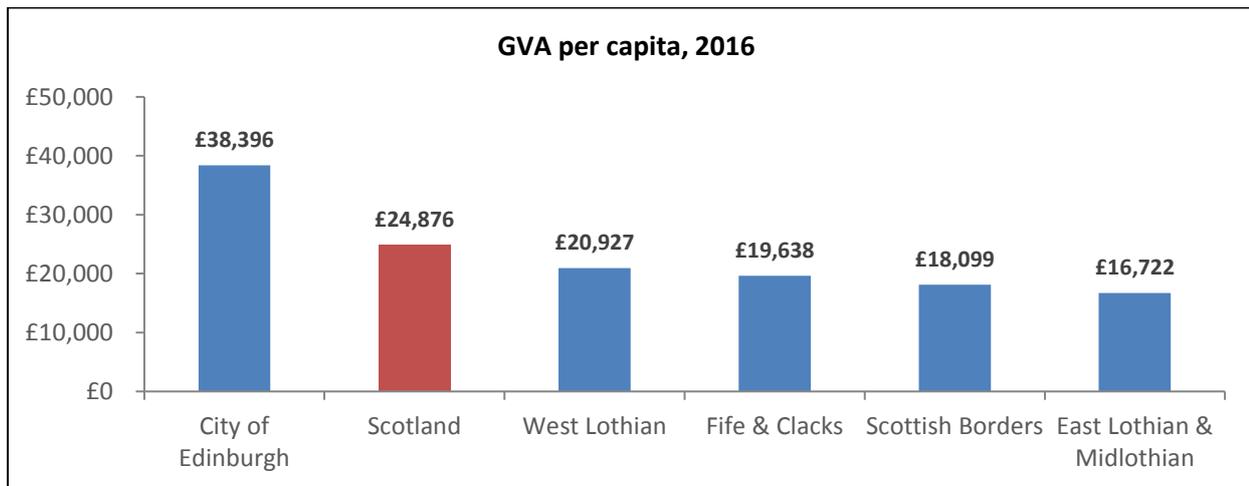


Figure 9: GVA per capita by NUTS3 Regions, 2016 ³⁴

According to the ONS (Annual Population Survey 2017/18):

- The gap between the male economic activity rate and the female economic activity rate for Scotland was 9.1 percentage points (June 2018). The city region’s average for the same period was 8.3 percentage points. Scottish Borders had the largest gender gap for economic activity with 11.9 percentage points, followed by West Lothian with a gap of 11.5 percentage points.
- The lowest economic activity rates in the region were for Fife (78.1%) and Scottish Borders (77.2%) (June 2018).
- Only Edinburgh and East Lothian have more than the Scottish Average (42.4%) in employment in high skilled occupations (June 2018), with Scottish Borders and Midlothian both having less than 40%.

This highlights significant scope for improvement in the inclusive growth performance of the Edinburgh and South-East Scotland labour market.

Certain significant threats are also apparent:

Supply – many of those currently unemployed are not able to access existing vacancies for a variety of reasons, such as: lack of skills, experience, chaotic lifestyles and health and disability issues.³⁵

Demand – skills shortages and gaps in the labour market have developed due to the requirement for higher skilled employees in technical roles³⁶; and the reliance on key industry sectors such as retail, hospitality and tourism in certain geographies, that are characterised by low wages and temporary/flexible contracts³⁷. Meaning many of the roles are either unattainable, or undesirable for those in the labour supply chain.

³⁴ GVA per capita by NUTS3 Regions, 2016, Office for National Statistics

³⁵ Scotland’s Labour Market Strategy <https://beta.gov.scot/publications/scotlands-labour-market-strategy/pages/1/>

³⁶ UKCES Employer Skills Survey 2015, from Jobs and Skills in Scotland 2017, Skills Development Scotland <https://www.skillsdevelopmentscotland.co.uk/media/43852/jobs-and-skills-in-scotland-2017-main-report.pdf>

³⁷ In the latest Regional Skills Assessment 2018, Retail trade and Food and beverage service activities are some of the largest employing sectors in the Region’s economy. These are also some of the lowest paid sectors in Scotland as shown in the Scottish Annual Business Statistics 2016.

Future Proofing – the city region is characterised by an aging workforce (between 2016 and 2041 the Region will experience an increase of 24% in people aged 65-74 and an 88% increase in people aged over 75, compared with only a 5% increase in 30-49 year olds and 6% increase in 50-64 year olds)³⁸ and high levels of underemployment (the region has a 9% underemployment rate compared with 8% for Scotland)³⁹.

There is a necessity to build better career pathways from education into employment and on into advanced careers that are a blend of academic and vocational options to maximise the types of people who can access and progress, be responsive and flexible to economic circumstances and affordable.

The UK's impending exit from the European Union is highly likely to affect the availability of skills through reduced access to migrant labour and increased competition with other UK regions for available talent, so maximising the utilisation of our indigenous talent and making our region attractive to new talent will be increasingly important to the future health of our economy.

Economic disruptors, such as automation, will be a threat to many existing jobs and will result in a range of new, highly skilled opportunities (such as; data analytics, software and hardware design and programming) emerging in this sector. Innovation investments (e.g. DDI) arguably will cause some of this disruption, but it is our intention that driving this disruption will allow us to manage the change more closely and develop the relevant skills necessary to fill these new roles.

4.1.1 *The change we want to effect*

Any future employability and skills programme must enhance and help to future proof the regional economy by combining and augmenting existing resources. It must increase the employment rate and close the opportunity gap between different sections of society. It also must increase productivity and earnings and help reduce the gap between the lowest and highest earners.

4.2 Identification of Options

Through the existing contributions that each of the partners already spend on employability, skills and training interventions, there was clear recognition that it was not just one partner who was responsible for delivery of employability and the skills provision, but rather the full partnership involving public, private and voluntary sector representation.

Recent research by The Association for Public Service Excellence (APSE)⁴⁰ suggests that integration between local authorities, JCP, the health sector and private or voluntary sector providers is important for employability support to be best joined up at the local level and to ensure that people do not fall through the net.

The ESECRD Skills & Innovation Workstream involving all partner representation was therefore established in May 2015 with remit to consider and recommend improvements for a future employability and skills programme across the 6 partner local authority areas.

Following deliberation best options were selected for appraisal as follows:

- **Status Quo (Business as Usual)** - Continuous improvement actions within individual organisations, but no integration of alignment between organisations

³⁸ Skills Development Scotland (2018), Regional Skills Assessment Edinburgh & South East Scotland City Region Summary Report 2018

³⁹ Regional Employment Patterns in Scotland, Statistics from the Annual Population Survey 2017

<https://www.gov.scot/Topics/Statistics/Browse/Labour-Market/Local-Authority-Tables>

⁴⁰ Work it out: Creating local systems of employability support, APSE 2018, <http://apse.org.uk/apse/index.cfm/research/current-research-programme/work-it-out-creating-local-systems-of-employability-support/>

- **Increased Local Resourcing** - Increase resources for existing local delivery activity, but no integration or alignment between organisations
- **Full Restructure of delivery into Regional level projects** - Zero budgeting approach with all activities ceases and is redesigned from scratch
- **Regional Employability and Skills Activity** - Introducing regional employability and skills services to augment current activity
- **Integrated Regional/Local Model** - Integrated and aligned activity from community level to authority and regional scale as part of an inclusive, multi-agency, whole system, and whole person progression approach to services, interventions, and allied supports

4.3 Appraisals Approach

Pros and cons of each option were assessed against impact criteria linked to the identified goals for an improved future Employability & Skills programme.

4.3.1 Status Quo (Business as Usual)

Continuous improvement actions within individual organisations, but no integration of alignment between organisations

Pros	Cons
Minimal disruption to service	Scope for duplication and progression bottlenecks. Limited option to shared capacity across partners. Limited opportunity to achieve economy of scale. Service capacity will reduce over time due to financial constraints. Current system for improving employability and delivering skills training has led to disparities and inequalities within the region. Continuing the status quo this trend is likely to continue, resulting in a widening of the skills and productivity gap.

4.3.2 Increased Local Resourcing

Increase resources for existing local delivery activity, but no integration or alignment between organisations

Pros	Cons
Additional capacity Minimal disruption to service	Public Expenditure limited ability to increase Adds to complexity of combined service offer Lack Regional coherence and alignment with wider city region deal Limited capacity to respond to changes in labour market Difficult to sustain due to affordability

4.3.3 Full Restructure of delivery into Regional level projects

Zero budgeting approach with all activities ceases and is redesigned from scratch

Pros	Cons
Reduced fragmentation from start Single integrated offer from start	Significant disruption to services and beneficiaries Loss of best practice and expertise during transition Risk of disconnect from local priorities

4.3.4 Regional Employability and Skills Activity

Introducing regional employability and skills services to augment current activity

Pros	Cons
Adds additional capacity	Add to complexity and fragmentation
Minimal disruption	Difficult to sustain due to affordability
Can be aligned with wider city region deal activity	Will not be able meet the employment and skills demand from the wider City Region Deal activities
	Risk of disconnect from local priorities

4.3.5 Integrated Regional/Local Model

Integrated and aligned activity from community level to authority and regional scale as part of

Pros	Cons
Adds additional capacity	Requires cultural change and strong buy in from all partners
Minimal disruption	Coordination and sequencing is challenging
Aligned with wider city region deal activity	Requires investment in collaboration infrastructure (e.g. management systems)
Reduced fragmentation over time	

4.3.6 Programme Option Analysis

Impact Criteria (0=None, 1-Low, 2-Medium, 3-High)	Status Quo	Increased Local	Full Restructure	Regional Activity	Integrated
Positive impact for service beneficiaries	1	2	3	2	3
Ease of Transition	3	3	1	2	2
Builds on established good practice	2	2	1	2	3
Targeting progression of disadvantaged groups	1	2	3	1	3
Increases value for money achieved	1	1	2	1	2
Aligned with key growth sectors	0	0	3	2	3
Promotes Regional collaboration	0	0	3	2	3
Contributes to City Region Deal commitments	0	0	3	2	3
Drives service streamlining and agility	0	0	3	0	3
Affordable and sustainable	2	1	3	1	3
COMBINED (# out of 30):	10	11	25	15	28

Figure 10: Programme Options Appraisal

Four options were selected on the basis that each scored more highly than business as usual and generated, on aggregate, a positive score (implying that each of these options is more likely than not to deliver the intended aims and objectives).

Workstream members also considered those specific projects that would best support those in the City Region who were under-utilised in the workforce into higher skilled, higher paid jobs, to create new opportunities and deliver inclusive growth and the overall appraisal and evaluation approach is outlined below.

The longlist and shortlist ideas generated (see [ANNEX](#)) informed the proposed set of Projects (see [Programme Vision and Model](#)) that sit under the thematic pillars of the preferred programme option.

4.4 Preferred Option

The Integrated Regional Employability & Skills (IRES) programme compared to the as-is position and other alternatives considered is the preferred option for best public-sector delivery approach moving forwards.

The analysis highlighted that the full restructure and integrated options were both viewed as potentially the most impactful, but the significant disruption and unknowns associated with the full restructure make it difficult to implement. These include the;

- political and social consequences of radical change, particularly the negative transitional impacts it could have for those vulnerable individuals currently being supported
- ability to get the right structure in place following a full restructure given the complexities of the current landscape and therefore the significant scope for unintended consequences
- ability to quickly aligning with wider City Region Deal investments that could be significantly disrupted by the hiatus that is inevitable with a full restructure

The preferred option will help mitigate the significant supply, demand and system threats previously outlined, while minimising the negative transitional impacts of change on the primary beneficiaries of employability and skills services.

A more integrated and focused system approach built around five pillars (see [Programme Vision and Model](#)) of a properly functioning labour market system;

- **Regional Leadership and Improvement Capacity:** Improving collaboration and co-ordinated action on Inclusive growth (see [Management Case](#)).
- **Understanding of Labour Market Need and Opportunity:** Improving mutual understanding of labour market needs and opportunities along with the collective impact of our activities.
- **Building Strong Employer and Citizen Relationships:** Ensuring partnership activity is rooted in the employability and skills needs of our citizens and businesses, while enhancing our capacity for co-production, co-delivery, and co-financing with our stakeholders.
- **Targeted Skills Development:** Supporting all sections of society to acquire the knowledge and skills they need (throughout their working lives) to succeed in the regional economy.
- **Active Opportunity Matching:** Improving our ability to remove practical barriers to progression for disadvantaged individuals and communities.

will over time, generate cost efficiencies, improved inclusion outcomes, and enhance responsiveness to changing need and opportunity in our regional labour market.

The IRES programme will help increase the employment rate and close the opportunity gap between different sections of society, while also helping to increase productivity and earnings and help reduce the gap between the lowest and highest earners.

This targeted and collaborative system approach is anticipated to make a significant contribution to reducing the disability employment gap and gender pay gap experienced in the region, while creating the trusted business relationships that will help advance the Scottish Living Wage and Fair Work ambitions set out in the [Strategic Case](#).

4.4.1 Introduction of initial portfolio of projects

The IRES Improvement model is based on the “Plan-Do-Review-Revise” improvement cycle with a focus on five pillars that are judged as critical to creating a more inclusive and impactful regional employability and skills service.

A partnership workshop was held to identify an initial set of project ideas (see [ANNEX](#)) aimed to support the IRES Programme. As the IRES programme has developed these project ideas have become more refined.

Each are planned to help address gaps, weakness or inefficiencies in the regional system of employability and skills support and will help deliver progress against the overall IRES programme goals.

The set of Projects that have emerged from this programme development phase for further development into [Project Propositions](#) are;

- **Integrated Knowledge systems:** integrating multiple knowledge systems to support collaboration and reveal additional insights on labour market trends and service performance
- **Labour Market Analysis and Evaluation:** bringing together the knowledge, expertise and resources of the partners into a virtual team to support our evidence-led approach
- **Integrated Employer Engagement:** enhancing our relationships with the regions employers and investors to fully exploit the inclusive growth potential of our economy
- **Intensive Family Support:** target significant pockets of persistent, entrenched worklessness and poverty in a “whole family” approach that aims to tackle intergenerational disadvantage
- **Targeted Skills Gateways:** creating streamlined and inclusive career pathways into the “Data Driven Innovation” and “Housing, Construction and Infrastructure” sectors to maximise the inclusive growth impact of other City Region Deal investments
- **Workforce Mobility:** focusing on the barriers to full mobility faced by the regions workforce (beyond personal skills and aptitudes), with an initial exploration of concessionary travel.

These will be worked up into detailed Project Propositions for consideration by the IRES Board (Joint Committee) to ensure they offer the best option to deliver on City Region Deal and IRES programme objectives and targets.

4.4.2 Why the IRES programme and initial portfolio of projects is preferred

- A strong collaborative ethos as a consequence of the City Region Deal affords new opportunity to not only align policy where appropriate but to initiate step-change improvements as a collective that would not be possible through local funding alone.
- The Regional Skills Investment Plan (RSIP) produced by Skills Development Scotland (SDS) built on research by the University of Glasgow’s Training and Employability Research Unit (TERU) provides strong validation to support the IRES model.
- The IRES programme will capitalise on existing key industry sectors throughout the City Region, invest in sectors such as HCI Skills and DDI and create a range of opportunities linked to other Deal investment areas such as Innovation, Housing and Infrastructure.
- The programme will supplement the wider education, skills and training landscape to ensure increased efficiency through better understanding of the regional labour market; the creation of integrated talent pools; joined up client management and employer engagement systems.
- The programme is strongly linked to Capital investment projects for Housing, Culture, Infrastructure, and Innovation Hubs will create employment opportunities, reduce travel times, provide the potential for increased productivity and greater access to higher skilled/higher paid work for the region’s citizens.
- The IRES Programme activity puts skills and inclusion at the heart of the ESES City Region Deal to ensuring inclusive growth, reducing poverty and widening equality.

The IRES programme will be underpinned by a “regional skills partnership” consisting of; public, private, third sector and education representatives that will actively shape the regional skills offer to meet the current and future needs of the Edinburgh and South-East Scotland’s labour market.

This Partnership will:

- Use more rigorous use of regional labour market intelligence and performance data to provide a **clarity of purpose** that will influence future profiling and activity to ensure greatest impact for our investment
- Strengthen our **relationships with employers and investors (including Social Enterprises)** to enhance our knowledge, create new opportunities, promote inclusive recruitment and workforce upskilling approaches to help drive future growth and innovation
- Fully exploit the potential to generate **Community Benefits from Procurement** across all the regional partners, which will offer additional opportunities and support for citizens and local businesses from the early phases of City Region Deal implementation
- Enhance access to **higher paid, higher skilled jobs for those from vulnerable and disadvantaged sections of society**. Raising aspirations, developing resilience and stimulating lifelong career-focused learning and progression routes that will reduce labour market inequalities and increase productivity.
- Drive **improvements in school, college and university curriculum** that are better aligned to the needs of the region's key industries sectors and equip individuals with the skills that are essential for stimulating innovation
- Reduce the practical barriers to a **flexible and mobile workforce** that will enable us to make maximum use of the talent pool throughout the region and minimise skills gaps and shortages

The IRES model that has been developed is an evidence based, citizen and employer-centric, and outcome-focused approach that will make an impact by:

- Generating additional value from existing local and national skills investments and help identify new sources of funding that can build additional capacity.
- Maximising the social impact of wider Edinburgh and South-East Scotland City Region Deal capital investments
- Focusing on fair work and increasing the flow of talent from disadvantaged groups and communities into the healthy, sustainable career opportunities
- Reducing skills shortage and gaps in our key sectors

4.4.3 Impact of implementing IRES

The IRES programme has been allocated £25 million over an eight-year period to help facilitate a step change in inclusive growth by stimulating a change in culture and regional approach, that when combined with the development of new skills content, enablers, and pilot activity, ensures our economy continues to generate good opportunities that these are open and attainable by all sections of society.

In addition to the qualitative impacts outlined in the [Strategic Case](#) and the inclusion impact pathway detailed in the [ANNEX](#) it is expected that the following high-level quantitative outcomes will be delivered over the investment period by the programme.

Stage	Measure	Client Group Target over 8 Years	LA Profile Target over 8 Years ⁴¹
1-4	<p>ENHANCED OUTREACH: Improved outreach attracts additional people from following disadvantaged or under-represented groups into the programme</p> <ul style="list-style-type: none"> • People with a disability or enduring health conditions • People in workless or low-income (< 60% median wage) families • Care Experienced and disadvantaged young people • people from minority ethnic communities • Women entering or advancing within DDI or HCI related careers 	20% increase on baseline established in Year 1	CEC: 32% ELC: 8% Fife: 33% Mid: 5% SBC: 10% WLC: 12%
3-4	<p>EMPLOYMENT: Additional people moving into employment</p> <ul style="list-style-type: none"> • Sustaining employment for at least 13 weeks • Sustaining employment for at least 6 months 	5,300	CEC: 36% ELC: 9% Fife: 29%
3-4	<ul style="list-style-type: none"> • Enhanced targeting supports additional people from the above disadvantaged or under-represented groups secure and sustain employment 	20% increase on baseline established in Year 1	Mid: 7% SBC: 7% WLC: 13%
4-5	<p>CAREER PROGRESSION: Additional people progressing into and sustaining (13 weeks and 6 months) better employment, earnings and careers</p> <ul style="list-style-type: none"> • Moving into higher earning role (Scottish Living wage or above) • Moving from existing into Medium to High Skills roles • Moving from temporary (insecure) work into a permanent role 	500	CEC: 32% ELC: 8% Fife: 33%
4-5	<ul style="list-style-type: none"> • Enhanced targeting supports additional people from the above disadvantaged or under-represented groups into and sustaining better employment 	20% increase from the baseline established in Year 1	Mid: 5% SBC: 10% WLC: 12%
2-5	<p>ENABLERS: Additional accredited training and skills improvements</p>	14,700	
2-5	<ul style="list-style-type: none"> • Enhanced targeting supports additional people from the above disadvantaged or under-represented groups achieve skills improvements that unlock latent talents and help secure higher earnings. 	20% increase from the baseline established in Year 1	

Figure 11: Anticipated Programme Outcomes

These targets will be refined as the partnership matures and project propositions are developed to implementation stage, to ensure that they remain relevant to the inclusion challenges of the region and are stretching and delivering value for the money.

⁴¹ Profile based the proportion of the regions unemployed (modelled) citizens for employment and low paid (below living wage) citizens (Source Nomis Jul 2017)

5 Commercial Case

5.1 Output-Based Specification

We know that public sector investment in employability and skills provision spanning schools, colleges, universities, National Training Programmes etc. is substantial. It is therefore vital moving forwards that outcomes are maximised and delivered by the most effective and efficient means.

Critical to making progress towards an inclusive labour market will be the creation of the right leadership and collaboration environment to stimulate whole system thinking and a shared commitment to improving the quality and quantity of collective outcomes. The IRES Board structure to lead this collaboration is outlined in the [Management Case](#)

The IRES programme proposes an eclectic mix of public, private and 3rd sector interventions, co-produced and collaboratively managed by all stakeholders at strategic level. The programme Board will oversee and ensure an evolving and flexible procurement strategy in order to provide the highest level of value for money outcome performance over the programme lifecycle. Individual projects or indeed particular aspects of individual projects may therefore be managed or procured in different ways dependant on context. All procurement will uphold the overarching principle to achieve best value.

5.2 Sourcing Options

5.2.1 Sourcing Approach

It is widespread recognised that there is lots of good practice already operating in the region, with many public, private and third sector working to create better opportunities for people. The challenge we have is to develop more collective leadership across the main funders, Scottish Government, UK Government, Local Government and the Third Sector to fully exploit this expertise and resource base.

This is a time of real opportunity and change for the region with a wealth of opportunities across a range of key sectors such as construction, retail, tourism, financial services, health and social care, construction and data and digital innovation. However, to support continued economic growth and diversification it is vitally important to ensure that skills supply can keep pace with demand.

Strategic collaboration therefore, across public, private and third sector agencies is recognised as the most cost-effective means to achieve this. The IRES programme has been developed by using the extensive expertise and knowledge of the regional partners to create a development structure, programme and set of mutually supporting projects that not only add value to current services and interventions, but also creates the conditions to incrementally improve the inclusive growth impact of our collective investment in the regional labour market.

Additionally, the creation of the multi-partner IRES board and supporting development structures along with the [Project Proposition](#) (following UK Treasury “Green Book” principles) consideration process gives greater certainty that funded activities will add value (not duplicating, competing or displacing existing effective services) and offer the most cost-effective means of achieving the goals.

5.2.2 Overview of Responsibilities

Employability and Skills partners are committed to working together to align provision with agreed priorities. Partners already collect and share information on current and future skills needs and the effectiveness of provision. They work together to identify the non-skills issues that act as an inhibitor to the effective

functioning of the region’s labour market (for example, wages, transport and connectivity, rurality, migration policy, etc.) and engage with national government around how these could be resolved.

Recognising there is a need to widen access, to address skills shortages and gaps, to deliver improvements to boost the flow of individuals from disadvantaged groups into career opportunities the IRES programme prioritises five thematic pillars to address the challenges ahead. It is important that impacts are felt over the short, medium and long term and that not only the benefits of the city deal investment but the responsibilities to deliver are shared as widely as possible across our stakeholder network.

5.3 Payment Mechanisms

The effective identification and planning of the City Region Deal investments’ employment and skills needs will be largely met by the region’s residents. Partners already employ a range of robust service delivery models to maximise the talents of our citizens and unlock the full potential of our economy e.g. Procurement, contracting, co-commissioning and co-production. Community Benefit clauses by way of another example will open up employment and training opportunities to residents from priority groups who would not otherwise not be able to access.

Partners propose to build on this good practice approach and the IRES Board with robust governance arrangements will ensure that future services are consistent with Best Value and Value for Money principles.

5.4 Risk Mitigation

Risk management and mitigation is an integral feature of the IRES Programme and the programme risk register [ANNEX](#) covers all aspects of the business case- Strategic, Economic, Commercial, Financial and Management.

The IRES Board are ultimately responsible for managing all aspects of programme and project risk and plans will be reviewed on an ongoing basis by a sub group of the IRES Board to ensure they satisfactorily capture the up to date risk profile and ensure there are appropriate mitigation procedures in place.

New risks will be highlighted to the Board and where escalation is required mitigating actions will be agreed and implemented along with agreed timescales for review.

In addition to programme level risk management, Project leads will have responsibility for identifying project level risks and putting place effective mitigation measures to ensure they are well managed.

Risk mitigation will be built into Project Propositions and be reported through the quarterly progress and annual review processes that will be set up to steer and manage the IRES programme.

The Commercial risks and mitigating measures that have been identified at this stage are;

Commercial Risks	Mitigation Measures
<p>Project fit and impact</p> <p>Developments in the economy, operational environment, performance factors, or good practice developments mean projects within the programme (or existing services) are no longer required in their</p>	<ul style="list-style-type: none"> • The ESES partnership and IRES Board structures will be established to oversee the programme, constituent projects and wider change ambitions. • Progress will be regularly reviewed and the project portfolio and implementation plan amended as appropriate to ensure alignment with changes in the labour market and operational context. • Programme and Project activity will draw extensively upon collective partner knowledge and utilise co-production and community engagement techniques to ensure activities are fit for purpose.

Commercial Risks	Mitigation Measures
current format or there is evidence of under/over provision	<ul style="list-style-type: none"> • The Partners/IRES Board will review resources available and ensure the programme of investment that can be delivered (inc. IRES change fund, partner resources, and external leverage). • Release of ESESCRD IRES change funds for Projects will be subject to the recommendations of the IRES board and approved by Joint Committee who will be satisfied that no other funding (as funder of last resort) or effective delivery mechanism exists. • Project delivery agreements define measures of success and funding arrangements and where under performance is identified this will be referred to the IRES Board for agreement on the course for action. This may include redesigning the programme or ceasing delivery. • Where there is evidence of poor performance, unnecessary duplication or complexity in the wider employability and skills system an analysis and report will be submitted to the IRES Board for consideration and action. This action may include redesigning the project, exiting from the project, or advocating for change in the wider service environment.

Figure 12: Commercial Risks and Mitigations

5.5 Contract Length

The IRES Programme (revenue change funding) is subject to various constraints and particularly that each element of the IRES Programme requires to become self-financing and sustainable in the longer term and certainly within the eight-year profile period. As detailed above, individual projects or indeed particular aspects of individual projects within the IRES programme may be managed or procured in different ways dependant on context. The IRES Board will oversee and ensure an evolving and flexible procurement strategy in order to provide the highest level of value for money outcome performance over the programme lifecycle

Considering the significant changes in the external political and economic environment (e.g. Brexit, further devolution of employability services, and changes emerging from the recent review of the Enterprise and Skills Agencies) flexibility and agility are critical to the successful implementation of the plan. The programme also provides opportunity to enable, encourage and attract further leverage and to consolidate this in mainstream funding.

Given that objectives of the programme are to help drive an inclusive labour market that would enable disadvantaged individuals to move from entrenched worklessness to advanced occupations (based on ability) it is possible that Project activity may last for the full 8-year investment period.

However, any commitment on this basis would be subject to a robust case being made within the Project proposition for this length of intervention and continued support being subject to satisfactory progress.

The City Deal governance arrangements already require quarterly progress report, annual reviews to track progress and the IRES Programme will mirror these arrangements. However, it is also proposed to undertake a mid-point review to ensure the direction of travel is right and funding priorities are still as originally envisaged.

5.6 Personnel Issues

Not applicable

5.7 Implementation Timescales

The main investment period for the IRES programme is from 2019 to 2027 (8-years) and comprising four key stages as set out in the [Programme Plan](#), but is anticipated to create a significant legacy beyond this period as the collaboration matures and develops.

- Phase 1: Establish
- Phase 2: Programme Delivery
- Phase 3: Review and Deliver Next Step Change Projects
- Phase 4: Reinforce, Embed, and Further Develop

The IRES Board and individual Project Development and Implementation groups have an agreed Monitoring and Evaluation Framework in place to measure and assess progress against the key milestones as set out in the Regional Skills Investment Plan.

Key tasks, stages and reporting structure required to deliver a project in accordance with the necessary governance and sign off is tabulated and each Project Implementation Group is required to report regularly against design, budget, risk and programme.

If a realignment to agreed parameters is required the IRES Board will sign off progress to the next stage. This will ensure the implementation of any necessary changes, resolve any major problems or respond to any major opportunities that could affect the delivery of the plan. Refer to individual project implementation plans for more detailed description of key milestone stages.

6 Financial Case

6.1 Introduction

The local partners voluntarily make significant contributions to employability and skills services in the Region to support and augment the statutory services and other investments made by national partners.

It is recognised that the collaborative structures that have and will be developed under the City Region Deal Partnership provide an opportunity to more regionally tailor, better align, and integrate the collective activity of partners to improve our capacity to exploit emerging growth or innovation opportunities, while making in-roads on the labour market inequalities within the region.

Through this co-production and co-delivery approach the partners will be able to; deliver quick win efficiency gains on which additional investment can be applied, identify areas for step change reform that will require bridge funding, or expose critical gaps or constraints in the service offer.

6.2 Impact on the Balance Sheet

The baseline employability and skills expenditure by the main public partners in the region has been estimated as follows.

Regional Employability and Skills Investment Profile	Year 1-3 (£,000)	Year 4-6 (£,000)	Year 7-8 (£,000)	8 Year Total (£,000)
Scottish Government (Fair Start, DYW Regional Boards) ⁴²	60,000	60,000	40,000	160,000
Local Authority (Employability, but exc. schools) ⁴³	63,000	63,000	42,000	168,000
University and Colleges (additional to SFC funding) ⁴⁴	60,000	60,000	40,000	160,000
Skills Development Scotland ⁴⁵	114,000	114,000	76,000	304,000
Scottish Funding Council ⁴⁶	879,000	879,000	586,000	2,344,000
TOTAL EXISTING PUBLIC INVESTMENT (est.)	1,176,000	1,176,000	784,000	3,136,000

Figure 13: Key funder estimated investment profile

For illustrative purposes it has been assumed that partner expenditure will remain static over the IRES programme period, but it is recognised that financial allocations cannot be guaranteed beyond 2021 for Scottish Government programmes, the availability of European Social Funds will affect resource levels, while other organisations are subject to yearly settlements that will alter the actual resources available to the partners at any particular point in time.

The Scottish Government have allocated £25million of grant funding which that will be made available over the next eight years to develop and deliver the aspirations of the City Region Deal Partners, as described in the [Programme Vision and Model](#), and is focused on not just delivering project activity to boost our capacity in areas of weakness and opportunity, but to also leave a lasting legacy through informing how existing investments can be better focused and aligned to deliver to enhance inclusive growth for the region.

⁴² Estimates derived from publicly available sources

⁴³ Estimates provided by ESES CRD Local Authority Representatives

⁴⁴ Estimates provided by University and College partners

⁴⁵ Figures provided by Skills Development Scotland and published on their website

⁴⁶ Estimates derived from publicly available sources

It is recognised that over the eight-year timeframe of the programme the projected spend and the agreed profile of grant from Government does not fully reconcile. As a solution, Scottish Government have agreed in principle that where there is the headroom within their wider resources budget, funding may be flexed in the financial year in question to better align expenditure to grant.

The Executive Board and Accountable Body are satisfied that this approach is realistic, practicable and achievable and that any required flexing of the profile can be accommodated.

From the Programme and Project development work undertaken by the partnership, it is anticipated that funding will be used in the following profile over an eight-year period and across the seven identified change project areas.

This profile will be subject to the approval of detailed Project Propositions by the IRES Board/Joint Committee and satisfactory progress against objectives and targets.

Funded activity will be subject to regular review (quarterly progress and annual review) by the partners through the IRES Board and working group structure as described in the [Management Case](#).

Therefore, the actual spend profile may vary across the timeline and project areas as the ESESCRD Partnership adapts in response to learning and changing circumstances that ensures the IRES Change fund achieves maximum impact against its inclusive growth and regional integration goals.

IRES Change Fund (Indicative Funding Profile)	Year 0-3 (£,000)	Year 4-6 (£,000)	Year 7-8 (£,000)	Total (£,000)	Anticipated External Leverage
Integrated Knowledge Systems	855	605	40	1,500	To be detailed in the Project Proposition
Labour Market Analysis and Evaluation	150	150	0	300	To be detailed in the Project Proposition
Integrated Employer Engagement	1,000	1,500	1,000	3,500	To be detailed in the Project Proposition
Intensive Family Support	1,764	1,764	1,172	4,700	Anticipated approval of 50% match funding from the ESF Poverty and Social Inclusion fund on eligible activities
DDI Targeted Skills Gateway	4,310	1,652	538	6,500	To be detailed in the Project Proposition. Private Sector and philanthropic contributions are being explored within the proposal.
HCI Targeted Skills Gateway	2,537	2,562	1,401	6,500	To be detailed in the Project Proposition. The HCI Skills Gateway is currently anticipating a £1.8m industry contribution to support its activities.
Workforce Mobility	572	858	570	2,000	To be detailed in the Project Proposition
TOTAL:	11,188	9,091	4,721	25,000	

Figure 14: IRES change fund indicative investment profile

It is an expectation that the City Region Deal IRES Change Fund will leverage additional money in to support the ambitions and activities set out in the [Project Proposition](#) (e.g. 50% match funding by ESF Poverty and Social Inclusion Fund for the Intensive Family Support or Private Sector funding of HCI Skills Gateway training pilots) presented to the IRES Board (Joint Committee) for consideration and support.

6.3 Impact on Income and Expenditure (I&E) Accounts

The City Region Deal IRES Change fund will be held by City of Edinburgh Council on behalf of the partnership. This will be advanced to lead partners for the delivery of agreed activities upon approval of detailed business cases (or similar detail required by the IRES Board to make the case for funding) and the conclusion of any legal agreements or due diligence deemed necessary to ensure accountability and proper use of funds.

6.4 Financial Risks

The City of Edinburgh Council is the lead accountable body and will ensure that all management accounting is in accordance with the relevant statutory procedures. The Programme Management Office will provide secretariat support to the IRES Board with strict monitoring of programme income, expenditure and performance outcomes against project delivery profiles. The Programme Management Office together with project leads will be responsible for reporting performance outcomes to the IRES Programme Board and the wider ESES City Deal governance structures and supporting the annual audit process.

The Accountable Body will put in place individual agreements with partners, as required, to ensure that project grant allocations are fully compliant including any overarching terms and conditions where appropriate. Any variations to the programme will be notified by the accountable body and reviewed by Government in accordance with the following proposed agreement chain.

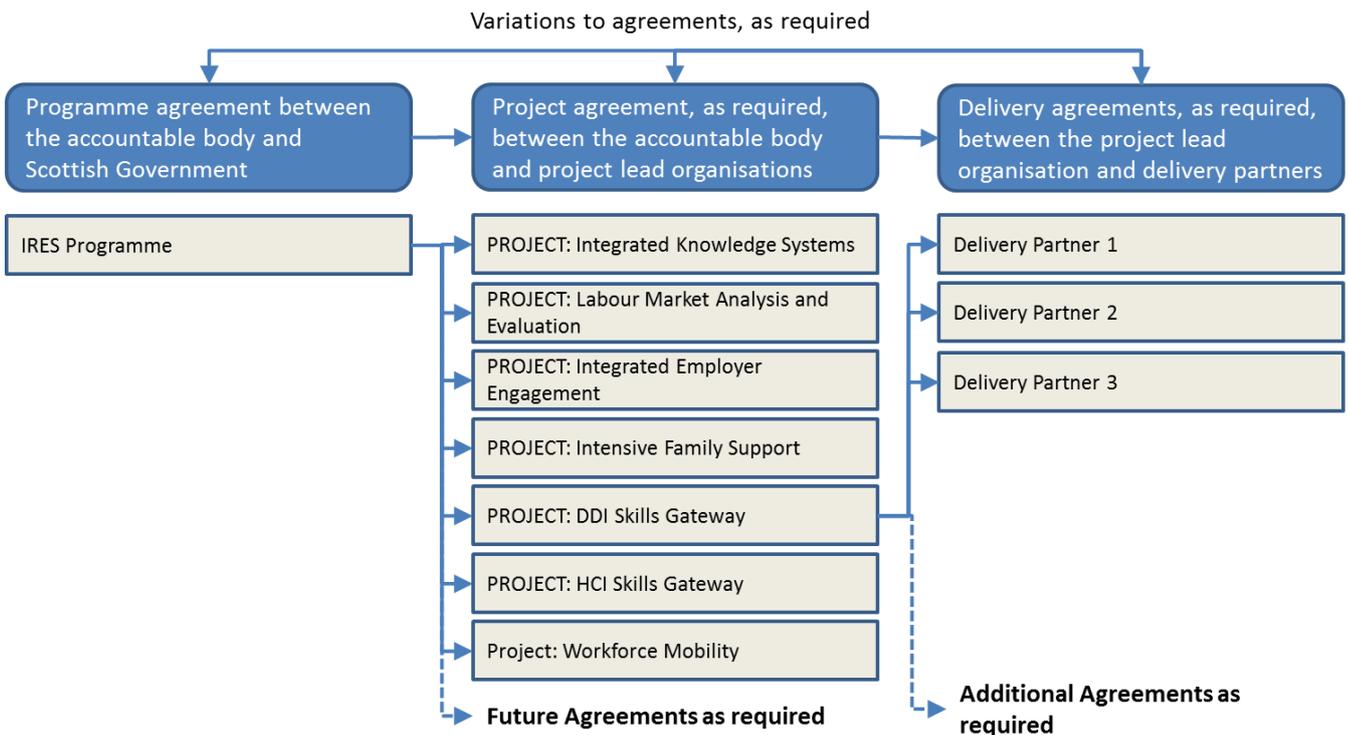


Figure 15: Agreement chain

The IRES board will regularly review progress with decision made on continuation, adjustment or withdrawal of funding. The IRES Programme fund is a gap fund (funder of last resort) that is matched against existing resources and any leverage secured by partners. Risk is therefore proportionate across partners and collaboratively managed to ease mainstreaming of all successful approaches developed.

IRES programme underspends or de-commitments will be reserved to the IRES Board while project overspends will remain the responsibility of the relevant project lead organisation and delivery partners. In

exceptional and extenuating circumstances request for additional support can be made to the IRES Board for consideration.

The IRES programme board business case and proposition development processes encourage ongoing dialogue and mutual support to mitigate many of the risks associated with the IRES Programme.

The full risk register is included in the [ANNEX](#) , but the current financial risks and mitigating measures that have been identified are;

Financial Risks	Mitigation Measures
<p>Availability of public finance</p> <p>The potential loss of external funding arising from Brexit (e.g. ESF), Public Sector funding restraint and inflation can over time erode the capacity of the partners to fund services and projects needed by citizens and businesses</p>	<ul style="list-style-type: none"> • Work with the partners to quantify the potential risk and seek strategies to minimize this, accepting there will be no recourse to additional CR funding to plug such gaps. • Partners will decide and agree an acceptable level of risk to carry. • The costs of the projects will be agreed at the outset and will be delivered within the agreed cash envelope. • Where the delivery cannot be made within the existing project budget, due to reasonably unforeseen circumstances, this will be notified through the PMO to determine appropriate set of remedial actions
<p>Private sector investment and support for inclusion</p> <p>There is a risk that the private sector buy-in and investment cannot be achieved</p>	<ul style="list-style-type: none"> • Early engagement with potential investors. Stakeholder Engagement Strategy to be developed in parallel with the Business Case • The Integrated Employer Engagement and DEC/DDI Skills Gateway Projects aim to nurture employer relationships to demonstrate the business benefits of inclusive practices and the value of the services that have been put in place to encourage future direct and indirect investment.

Figure 16: Financial Risks and Mitigations

6.5 Overall Affordability

The IRES Programme creates the structures to support collaboration and best use of existing resources as well as the optimum use of City Region Deal IRES change funds.

The anticipated financial profile for the IRES programme has been constructed using the estimated cost of proposed project activity and anticipated funding gaps, but appropriately proportioned across the programme to ensure cohesion and balanced delivery against overall programme goals.

These costing will be refined during the [Project Proposition](#) development stage (using UK Treasury “Green Book” principles) and will draw upon recognised costing models and, where relevant, historic expenditure data from similar type activity to create a realistic and affordable financial profile.

Affordability and mainstreaming will also be part of the detailed project proposition approval process to provide an extra check on the optimum return on investment and progress towards programme goals.

7 Management Case

7.1 Introduction

Regional partners recognise that delivering the twin ambitions of innovation and inclusive growth through the City Region City Deal requires alignment between local, regional and national ambitions, policies and resources. The governance arrangements proposed in this document will empower local authorities to:

- operate strategically with their partners to fully realise the economic potential of the region;
- respond to issues critical to the economic health and wellbeing of the region;
- unlock economic assets; and
- decide on the alignment of resources in projects and programmes with the greatest economic potential for the city region.

As the IRES programme is seeking to drive cultural and practice changes in addition to piloting new approaches the partners have developed the governance and development structure to encourage strong leadership, broad-based collaboration, and an evidence-based and long-term performance approach to collective investment.

The City of Edinburgh Council will act as the accountable body for the finances, and funds from Government will be transferred to the City of Edinburgh Council. As the lead authority it will have the power to hold others to account should projects present a risk to the overall programme.

This section describes the governance and management structures for the IRES programme and Programme Delivery Office, which builds on the detail provided within the ESES City Region Deal Governance Arrangements.

7.2 City Deal Governance

7.2.1 *Joint Committee*

The governance framework for the IRES programme is integral to the overall governance for ESES City Region Deal as shown below.

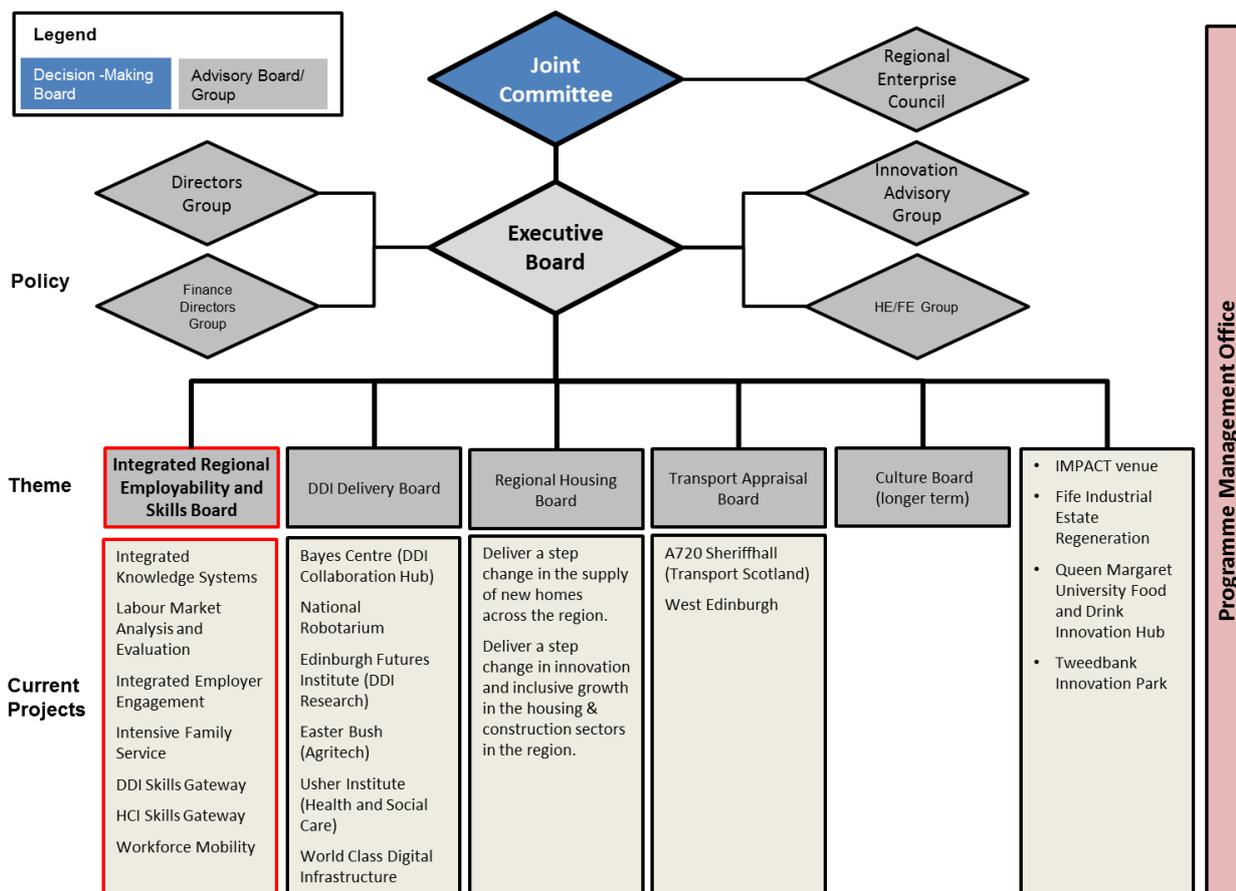


Figure 17: ESESCRD governance arrangements

The Deal is led and overseen by the Joint Committee (currently comprising Leaders of the six local authorities and a higher/further education representative – with a business/third sector representative(s) to be added) and supported by the Executive Board (comprising local authority Chief Executives and a HE/FE representative).

Delivery groups including an Integrated Regional Employability and Skills Board, Regional Business Leadership Council, Directors’ Group and Programme Management Office will support the structure, liaise with Government and feed into the Joint Committee and Executive Board as appropriate.

The IRES Board has been defined to ensure strong cross-organisational leadership and governance of the Employability and Skills programme and ensure best use of limited additional funding. Also, to strengthen our regional capacity to deliver more inclusive outcomes particularly, economic performance and productivity, labour market access, fair work, people, and place from the significant collective investment already made by partners.

7.2.2 Integrated Regional Employability and Skills (IRES) Board

The IRES Board will provide leadership and make recommendations to the Joint Committee on strategic and operational decisions relating to the City Region Deal IRES Programme that drive progress towards intermediate milestones and long-term ambitions set out in the [Programme Vision and Model](#)

Its remit and actions will be exercised with the parameters of the ESES City Region Deal Governance framework and any standing orders, assurance protocols, or priorities set by the Joint Committee or Executive Board and the IRES programme Business Case.

The aim is to create the strong senior cross-sector leadership necessary to drive progress towards the most dynamic and inclusive regional labour market in Scotland

The IRES board will be the recognised regional forum for collaboration on employability and skills matters within the City Region. It will augment and build upon existing structures without superseding them, unless by agreement with relevant partners or recognised groups, and its responsibilities can be amended at any time by the Joint Committee, Executive Board, or by IRES Board with agreement of the Executive Board or Joint Committee, as appropriate.

It can draw upon expert advisors, City Region Deal resources, or create working groups to take forward the IRES programme and the fulfilment of its responsibilities.

The IRES Board membership will consist of 18 individuals nominated by the organisations or groups listed below to support the delivery of the IRES Programme and other activity remitted to it.

This organisation (group) list may be adjusted at any time by the Executive Board and any changes to designated nominees must be made in writing to the chair, who will maintain a list of current IRES board nominees.

Organisation or Stakeholder Group	Role	Board Members
Chair of the Board	Nominated by Executive Board	1
Local Authority Partners (also provides Schools Improvement Collaboratives link)	Strategic Co-ordination, Implementation and Operational Delivery of employability and skills training activity across the city region	6
Scottish Government, Fair Work Directorate	Integration and alignment with Scottish Policy Objectives and related interventions (e.g. Developing the Young Workforce, Fair Start Scotland, Apprenticeship Levy) to achieve Inclusive Growth	1
Scottish Funding Council	Ensure regional priorities are informing FE/HE sector delivery priorities	1
Department for Work and Pensions	Integration and alignment with UK Policy Objectives and related interventions (e.g. Universal Credit, Welfare, and Flexible Support Funds) and alignment of the region's Fair Start provision through consistency of referrals.	1
Skills Development Scotland	Provision of Labour Market Intelligence, performance analysis, National Training Programmes and careers advice and guidance in line with current and future labour market demand	1
NHS representative	Integration and alignment to wider health and wellbeing agenda to promote "fair/healthy" sustainable employment	1
Developing the Young Workforce (nominated by the 4 DYW Regional Boards)	Influence innovative and responsive curriculum to ensure sustainable relationships between schools and business/industry sectors. Champion changes in business culture and practice to support Inclusive Growth	1
Higher Education Universities (nominated by HE/FE Roundtable)	Provision of skills and qualifications relevant to current and future labour market demands while investing in new technologies and higher education relevant to meet those needs	1

Organisation or Stakeholder Group	Role	Board Members
Further Education Colleges (nominated by HE/FE Roundtable)	Provision of skills and qualifications relevant to current and future labour market demands while investing in new technologies and higher education relevant to meet those needs	1
Industry Representation (nomination by Regional Enterprise Council)	Support for development and delivery of project activity through existing engagement structures and project delivery teams. Champion changes in business culture and practice to support Inclusive Growth	1
Third Sector Representation (nominated by Third sector Interface Group)	Provision of training and support activity to support Inclusive Growth.	1
Lay member (selected for their knowledge and expertise)	Providing additional expertise, knowledge or lived experience, to aid improvement	1

Figure 18: IRES Board membership

The IRES Board Chair will be nominated by the Executive Board and the Vice Chair will be drawn from the IRES board members and it is expected that each nominated member will have the ability (within the relevant legal, CRD or organisational governance obligations) to commit their organisation to collective decisions.

Irrespective of their background or geography, it is the duty of all Board members to act in the best interests of the Edinburgh and South-East of Scotland City Region. All private and third sector members act in their individual capacity and not as a representative of their organisation.

All members are expected to comply with the code of conducts of their respective organisations and the values and aspirations of the city regional partnership.

Each member of the IRES Board has equal status and the principle of “one member-one vote” (made in person at the meeting) will apply. Whilst the IRES Board will endeavour to work through issues and differing points of view to achieve a consensus on any recommendations, where this is not immediately possible, option exists to either continue discussion at a future Board meeting or escalate to the Executive Board to resolve before presenting to the joint committee for final approval.

To be quorate at least nine board members must be present at the meeting and members will declare any pecuniary or non-pecuniary interest they may have on the agenda items being considered.

It is anticipated that the board will meet on a regular basis in step with the wider schedule of governance meetings to support effective and quick decision making.

The support and secretariat to the board will be provided by the Project Management Office and will have officers in attendance, but only in an advisory and support (non-voting) capacity.

7.2.3 IRES Working Groups

To support the board and aid programme development the following multi-partner working group structure has been established.

It is anticipated this structure will evolve as required by the board and the needs of the programme, or to support the wider City Region Deal programme.

Group membership will be tailored to the work being undertaken, drawing from partners or external expertise as necessary.

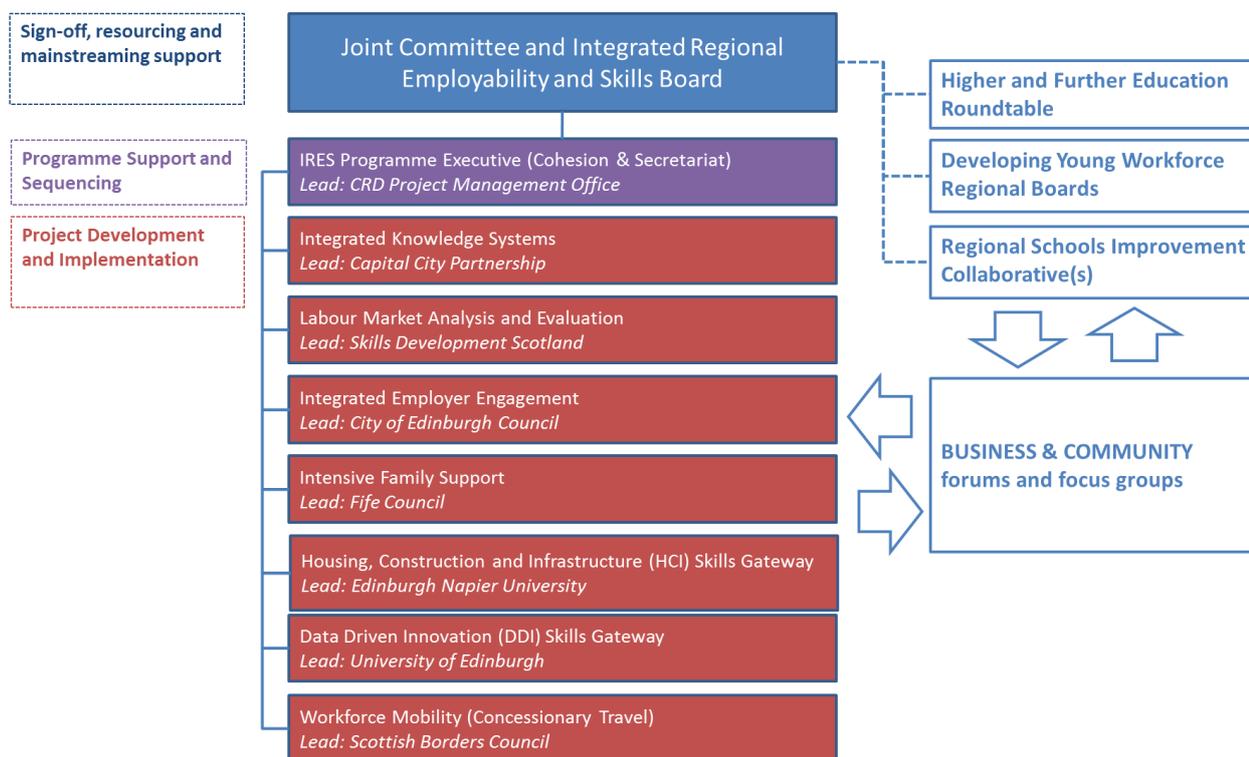


Figure 19: IRES programme working groups

Engagement of private and third sectors are integral to the region’s governance arrangements. The IRES governance model combines the best of private sector commerciality and expertise with public sector capacity, transparency and accountability. Business and third sector involvement will shape and inform the correct environment for economic growth, to tackle barriers and lead to greater efficiency and inclusive growth.

The detailed management and governance structures for the IRES Programmes funded Projects will be expanded upon within the individual [Project Propositions](#) as it is expected they will be adjusted based on evidence from the quarterly progress and annual reviews.

7.3 Procurement Strategy

Please refer to the [Commercial Case](#) of this document.

7.4 Programme Plan

The employability and skills landscape is a complex environment with many interdependencies, variables and unknowns. It is therefore proposed to undertake changes on an incremental basis to minimise disruption to businesses and citizens, but at the same time drive steady improvement in the inclusive outcomes delivered.

Development and implementation of the programme will fall into four distinct phases over the eight-year investment period and beyond;

Programme Milestones	Due Date
Phase 1: Establish	
Ratify IRES Board's remit and membership and then establish the board along with any supporting structures and processes.	Nov 2018
Agree the existing programmes and services that will be overseen by the new board along with City Region Deal Projects.	Jan 2019
Finalise the IRES Programme Business Case with Government, ratify with IRES Board, and approved by Joint Committee.	Dec 2018
Phase 2: Programme Delivery	
Project Propositions developed, considered by IRES Board, approved by Joint Committee, commitment made by funding partners, and delivery of first phase activity initiated ensuring fit with the wider employability and skills funding and delivery landscape, avoiding duplication or competition.	By March 2019
Review and refine governance and partnership arrangements based on operational experience gained.	Nov 2019
Review intelligence from programme activity and labour market research to identify progress against targets, changes to funded activity, next step projects, service adjustments, or other changes	As per Project progress review schedule
Set out mainstreaming plan to sustain successful interventions, end redundant/ineffective activity, and create headroom for next step projects.	Nov 2019 onwards
Review and update implementation plan and other documents as required	As per Governance Framework
Phase 3: Review and Deliver Next Step Change Projects	
Mainstream successful activity ensuring fit with the wider employability and skills funding and delivery landscape, avoiding duplication or competition, end poorly performing interventions, and agree next step projects.	As per Project progress review schedule
Undertake mid-term review to determine that direction of travel is still appropriate given changes to context and learning	During early 2021
Develop next step propositions, identify funding sources, consideration by IRES Board, approved by Joint Committee, commitment made by funding partners, and delivery of second phase activity initiated	Mar 2020 onwards
Review intelligence from programme activity and labour market research to identify next step projects, service adjustments, or other changes	As per Project progress review schedule
Review and update implementation plan and other documents as required	As per Governance Framework
Phase 4: Reinforce, Embed, and Further Develop	
Embed new system components, monitor and adjust	March 2019 onwards
Review intelligence from programme activity and labour market research to identify next step projects, service adjustments, or other changes	As per Project progress review schedule
Review and update implementation plan and other documents as required	As per Governance Framework

Figure 20: Programme Plan

The programme and project plan will evolve as the City Region Deal and IRES Programme develops and matures. These will be supplemented with project level plan (detailed with individual [Project Propositions](#))

to articulate how individual projects will develop, realizes the agreed benefits and outcomes, support the delivery of programme aspirations, and leave a lasting legacy.

7.5 Contract Management

In [Commercial case](#)

7.6 Risk Management Strategy

Risk management is an integral feature of the IRES Programme and the programme risk register [ANNEX](#) covers all aspects of the business case ie. Strategic, Economic, Commercial, Financial and Management.

The IRES Board are ultimately responsible for managing all aspects of programme and project risk and plans will be reviewed on an ongoing basis by a sub group of the IRES Board to ensure they satisfactorily capture the up to date risk profile and ensure there are appropriate mitigation procedures in place.

New risks will be highlighted to the Board and where escalation is required mitigating actions will be agreed and implemented along with agreed timescales for review.

It is expected as part of the Project Proposition development that management risks at project level will be identified and mitigation measures put in place and monitored as part of the quarterly progress monitoring and annual review processes.

The management risks and mitigation measures that have be identified at this stage in the development process are as follows

Management Risks	Mitigation Measures
<p>Programme and project management capacity</p> <p>Inadequate programme or project management results in failure to deliver agreed outcomes</p>	<ul style="list-style-type: none"> • Ensure appropriate Project Management and delivery oversight is in place and adopt programme and project management best practice. The management arrangements will be reviewed on an annual basis to ensure they are sufficient for purpose • Experienced employability project managers to oversee and deliver the projects. Robust data will be interrogated on an ongoing basis and community/employer liaison will underpin delivery. • Project propositions and implementations plans will detail how delivery against targets will be assured. • Risk management is an integral feature of the IRES Programme and the programme risk register covers all aspects of the business case i.e. Strategic, Economic, Commercial, Financial and Management • The IRES Board are ultimately responsible for managing all aspects of programme and project risk and plans will be reviewed on an ongoing basis by a sub group of the IRES Board to ensure they satisfactorily capture the up to date risk profile and ensure there are appropriate mitigation procedures in place • New risks will be highlighted to the Board and where escalation is required mitigating actions will be agreed and implemented along with agreed timescales for review • The partnership will conduct a mid-programme evaluation in 2021 to check the direction of travel is still right

Figure 21: Management Risks and Mitigations

7.7 Benefits Realisation Plan

The IRES improvement model (**Plan → Do → Review → Revise**) outlined the programmes approach to build on good practice. The below figure builds on this and illustrates how project benefits will be realised and mainstreamed for each independent project lifecycle.

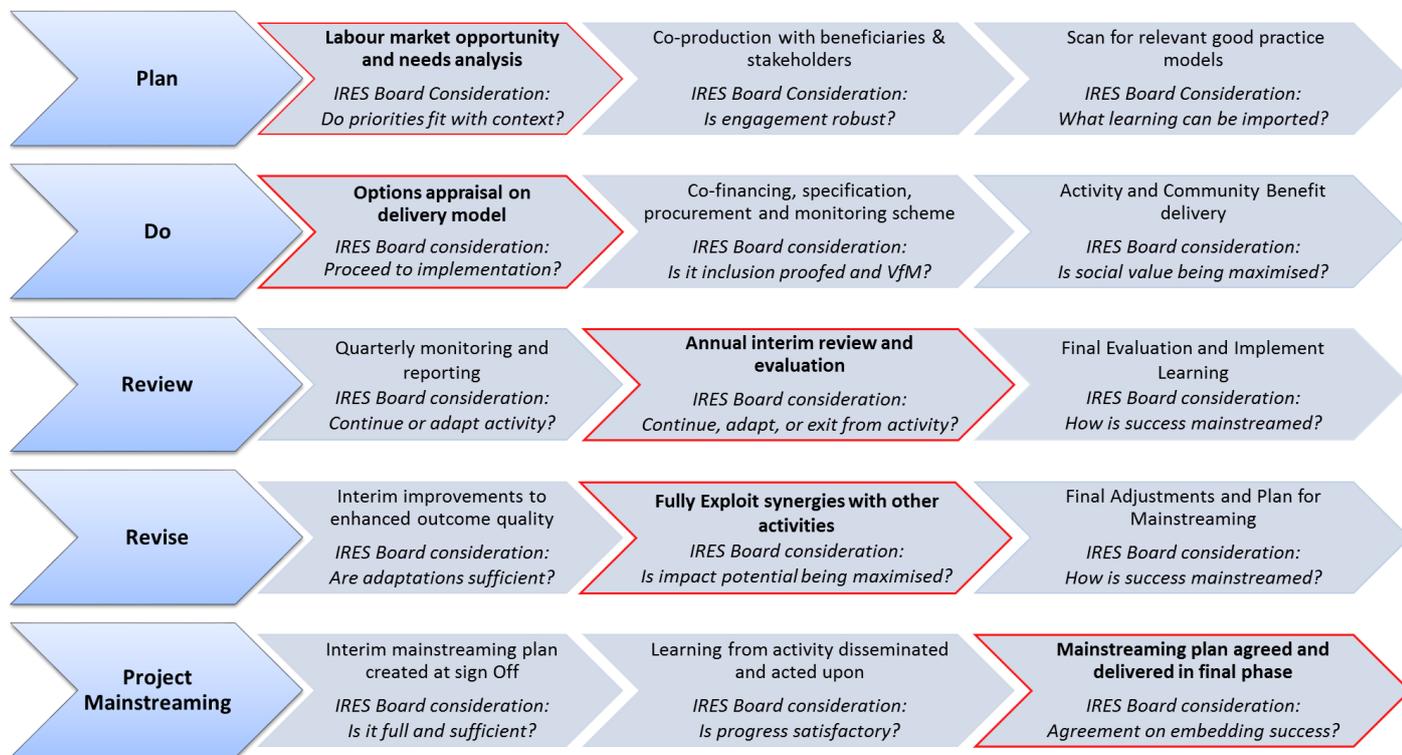


Figure 22: Programme/Project Lifecycle

Benefits realisation management (BRM) will include consistent BRM definitions across the IRES Programme and help guide investment decisions. BRM evaluation and monitoring reports will incorporate clear indicators to measure progress in accordance with Scottish Government’s Inclusive Growth monitoring framework with specific focus on inclusive growth outcomes; Economic Performance and Productivity, Labour Market Access, Fair Work, People, and Place

7.8 PIR/s and PER

Project implementation review (PIR) and Project evaluation review (PER) process that will be put in place will ensure rigorous project implementation and evaluation with both based on good practice principles within the Scottish Government Gateway Review process. The Local Authorities existing process for project implementation and evaluation (for major capital and revenue investments) will be template for the IRES Programme. This approach is firmly rooted in the “Plan-Do-Review-Revise” methodology described earlier.

The IRES Programme Board will regularly monitor and review performance with improvement plans introduced where performance is behind profile. Review timetables will align as appropriate with other wider City Region Deal reviews (e.g. Quarterly Progress report, Annual Reviews, and mid-term review).

7.9 Contingency Plan

The IRES Board have overall responsibility for the development and management of the IRES Programme Contingency Plan. This Plan has three main functions:

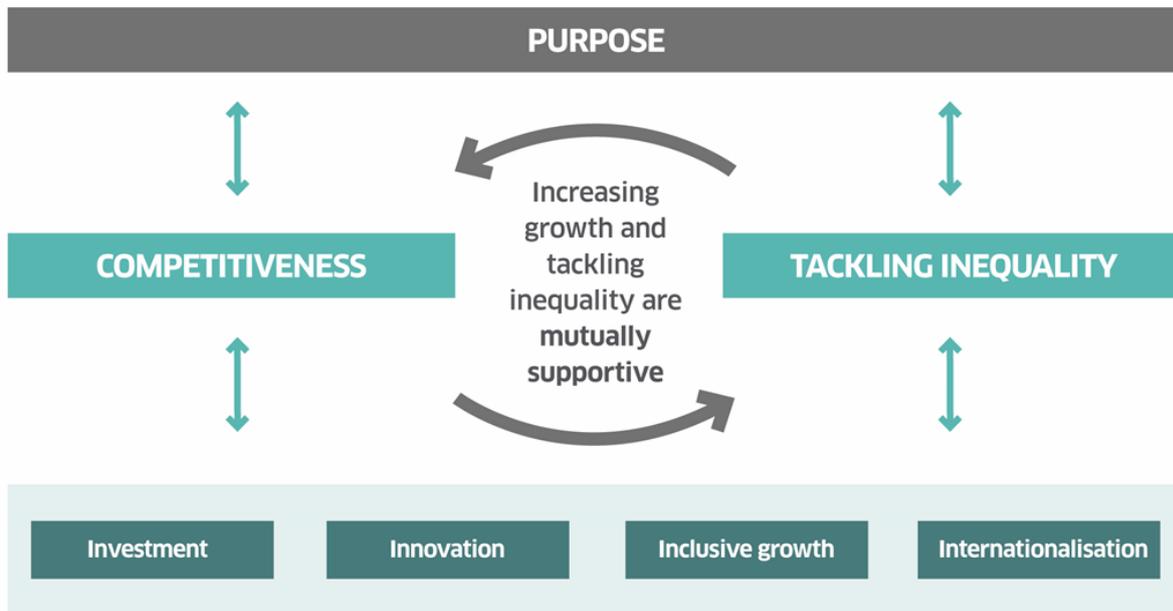
- clear and unequivocal statement of commitment from each of the IRES partners to ensure that contingency planning is taken seriously throughout the partnership
- establishment of a structure whereby strategic, emergency co-ordination can be achieved, by identifying key people, allocating resources and formulating policies and procedures
- identification and confirmation of dependent relationships between strategic and operational level plans and the dependant response structures across the partnership.

The contingency plan ensures a direct response to emergencies and the model of response and is structured across 3 levels:

- **Strategic:** Senior Management of each strategic Partner, (dealing with events which have the potential to have a Region-wide impact)
- **Local:** where the impact effects one of more of the partners, but does not have region-wide consequences, almost inevitably involving a contribution from agencies external to the partnership (such as Police, Fire Service etc.)
- **Operational:** Where this may affect programme level and delivery partners (e.g. highly focussed objectives such as achieving key target objectives, working in areas of disadvantage and deprivation).

ANNEX 1: Scottish Government Inclusion Framework and Diagnostic

Figure E.1: Scotland’s Economic Framework



Inclusive Growth Definition

“Growth that combines increased prosperity with greater equity; that creates opportunities for all and distributes the dividends of increased prosperity fairly” - **Scotland (SES)**

Inclusive Growth Measurement Framework

Five Core Draft Outcomes, underpinned by indicators:

- **Economic Performance:** *Economic growth is resilient, sustainable, and inclusive;*
- **Fair Work:** *Fulfilling, secure and well-paid jobs, where employees’ contributions are encouraged, respected and valued;*
- **Labour Market Access:** *Improved access to labour markets and jobs, inequality of opportunity to access work is addressed, and everyone is able to maximise their potential;*
- **People:** *Economic benefits and opportunities are spread more widely across Scotland’s population, with lower poverty levels, and more equal income and wealth distribution; and,*
- **Place:** *More economic opportunities across Scotland’s cities, towns, regions and rural areas, ensuring sustainable communities.*

Assessment of Opportunities and Constraints to Inform Priorities

Constraint	Inclusion		Growth		Sustainability		Trade-off /Synergies	Feasibility (SG power)	Ranking
	Impact	Evidence	Impact	Evidence	Impact	Evidence			
X	Large	Strong	Small	Strong	Medium	Weak	Positive	Yes	1
Y	Medium	Weak	Medium	Weak	Large	Weak	Negative	Yes	2
Z	Small	Strong	Medium	Medium	Small	Weak	Neutral	No	3

ANNEX 2: Project Longlist/Shortlists

In identifying projects to help deliver address gaps, weakness or inefficiencies in the regional system of employability and skills support that help deliver progress against IRES programme goals, the partners consider the various activities that could be undertaken by the partnership to identify common themes and activities that would add value rather than duplicate well-functioning services or act an innovation testbed for the future.

Project Ideas and Clustering

A partnership workshop helped identified the initial set of ideas to develop, following discussion and testing against selection criteria to inform a collective decision on the projects that would be taken forward, into a short-list and detailed development.

LA Partner Initial Project Ideas	Project	East	Edin	Fife	Mid	Bor	West
Pillar 1: Regional Leadership and Improvement Capacity							
• Adult Learning Partnership	0				X		
• Local Authority Guarantee	0		X			X	
• Universal employability service	0	X			X		
Pillar 2: Understanding of Labour Market Need and Opportunity							
• Labour Market Supply and Demand Analysis	2	X	X	X	X	X	X
• Intervention Impact & Improvement Analysis	1,2	X	X				
• Workforce Modelling and Future Proofing	2,3,5,6			X			
Pillar 3: Building Strong Employer and Citizen Relationships							
• Integrated Business Support Service	3,5,6		X	X		X	X
• Reducing inequalities and promoting employment across communities/ families	4,5,6,7	X	X	X			X
• Supported Employment Service	3,4,5,6	X	X				
• Specialist Support for those with Health/ Disability Issues	3,4,5,6			X			X
• Working for Families approach	4				X		
• Looked-after young people service	4			X			
Pillar 4: Targeted Skills Development							
• Alternative Curriculum review	0	X					
• Business Led Academies	5,6	X	X	X			X
• Developing the Young Workforce	5,6	X			X	X	
• STEM Initiative	5,6						X

LA Partner Initial Project Ideas	Project	East	Edin	Fife	Mid	Bor	West
<ul style="list-style-type: none"> Future Technologies Centre 	6	X					
<ul style="list-style-type: none"> Workforce upskilling fund (individual/SME) ERI 	3,5,6	X	X	X	X		X
<ul style="list-style-type: none"> MiTech 	6				X		
<ul style="list-style-type: none"> STEM - Services in Training and Employment 	5,6				X		
<ul style="list-style-type: none"> Develop Employability Support Pipeline 	All					X	
Pillar 5: Active Opportunity Matching							
<ul style="list-style-type: none"> Integrated Case Management (Client) System 	1	X	X	X	X		X
<ul style="list-style-type: none"> Improving Access to Regional Opportunities 	7						
Clustering of Project Ideas 0. IRES Board, 1. Integrated Knowledge System, 2. Labour Market Analysis and Evaluation, 3. Integrated Employer Engagement, 4. Intensive Family Support, 5. DDI Skills Gateways, 6. HCI Skills Gateways, 7. Workforce Mobility							

ANNEX 3: Risk Matrix (October 2018)

Risk	Mitigation Measures
<p>Programme fit, cohesion, and impact</p> <p>The programme does not secure sufficient partner (stakeholder) buy-in and control to ensure an integrated set of interventions and satisfactory progress towards long terms Inclusive Growth and system change (VfM) goals</p>	<ul style="list-style-type: none"> • Joint committee and Executive Board provide senior level leadership and support of programme goals • Early establishment of an empowered IRES Board with strategic oversight and responsibility for programme delivery. • Work with the Scottish Government Cities team on developing and implementing the Inclusive Growth Framework • ESESCRD PMO to develop the IRES programme as a rolling programme with additional detail on activity, modeling and costings developed as required to ensure strategic fit, satisfactory progress, and VfM • Strong and interlinked Project working groups established to drive development, implementation, adjustment and mainstreaming • Integrated Knowledge System and Labour Market Analysis and Evaluation project strands in place to support cohesion and good decision-making • Quarterly progress reports and annual progress reviews will be undertaken throughout the programme implementation period • The partnership will conduct a mid-programme evaluation in 2021 to check the direction of travel is still right
<p>Performance and good practice learning</p> <p>IRES is expected to deliver a significant impact across the whole City Region Deal in terms of Inclusive Growth, however, the detail of the monitoring framework and expectations/outputs and outcomes are still being developed.</p>	<ul style="list-style-type: none"> • ESESCRD PMO to develop the IRES programme as a rolling programme with additional detail on activity developed as required to ensure satisfactory progress against outcomes and measure to ensure VfM • The IRES Partnership structures and engagement and communication activity that will be developed will capture, disseminates, and mainstreams learning • The IRES Programme Structures, Integrated Knowledge System, and Labour Market Analysis and Evaluation project strands in place to support the capture and dissemination and mainstreaming of learning.
<p>Disadvantaged citizens and low-income families benefit from the change</p> <p>There is a risk that disadvantaged citizens and families do not see tangible long-term benefits from the programme, projects or changes in culture and practice stimulated by the IRES programme</p>	<ul style="list-style-type: none"> • Work with the Scottish Government Cities team on developing and implementing the Inclusive Growth Framework • Early establishment of an empowered IRES Board with strategic oversight and responsibility for programme delivery and support of inclusive growth goals. • Project propositions and implementations plans will detail how delivery against inclusion targets will be assured. • Analysis of the impact of interventions on benefit eligibility and financial circumstances along with any mitigation measures will be built into project proposition narratives.

Risk	Mitigation Measures
	<ul style="list-style-type: none"> • The Intensive Family Support Service and Workforce Mobility projects will aim to engage with vulnerable families and connect them into the opportunities being made available in the region
<p>Project fit and impact</p> <p>Developments in the economy, operational environment, performance factors, or good practice developments mean projects within the programme (or existing services) are no longer required in their current format or there is evidence of under/over provision</p>	<ul style="list-style-type: none"> • The ESES partnership and IRES Board structures will be established to oversee the programme, constituent projects and wider change ambitions. • Progress will be regularly reviewed and the project portfolio and implementation plan amended as appropriate to ensure alignment with changes in the labour market and operational context. • Programme and Project activity will draw extensively upon collective partner knowledge and utilise co-production and community engagement techniques to ensure activities are fit for purpose. • The Partners/IRES Board will review resources available and ensure the programme of investment that can be delivered (inc. IRES change fund, partner resources, and external leverage). • Release of ESESCRD IRES change funds for Projects will be subject to the recommendations of the IRES board and approved by Joint Committee who will be satisfied that no other funding (as funder of last resort) or effective delivery mechanism exists. • Project delivery agreements define measures of success and funding arrangements and where under performance is identified this will be referred to the IRES Board for agreement on the course for action. This may include redesigning the programme or ceasing delivery. • Where there is evidence of poor performance, unnecessary duplication or complexity in the wider employability and skills system an analysis and report will be submitted to the IRES Board for consideration and action. This action may include redesigning the project, exiting from the project, or advocating for change in the wider service environment.
<p>Availability of public finance</p> <p>The potential loss of external funding arising from Brexit (e.g. ESF), Public Sector funding restraint and inflation can over time erode the capacity of the partners to fund services and projects needed by citizens and businesses</p>	<ul style="list-style-type: none"> • Work with the partners to quantify the potential risk and seek strategies to minimize this, accepting there will be no recourse to additional CR funding to plug such gaps. • Partners will decide and agree an acceptable level of risk to carry. • The costs of the projects will be agreed at the outset and will be delivered within the agreed cash envelope. • Where the delivery cannot be made within the existing project budget, due to reasonably unforeseen circumstances, this will be notified through the PMO to determine appropriate set of remedial actions
<p>Private sector investment and support for inclusion</p>	<ul style="list-style-type: none"> • Early engagement with potential investors. Stakeholder Engagement Strategy to be developed in parallel with the Business Case • The Integrated Employer Engagement and DEC/DDI Skills Gateway Projects aim to nurture employer relationships to demonstrate the business benefits

Risk	Mitigation Measures
<p>There is a risk that the private sector buy-in and investment cannot be achieved</p>	<p>of inclusive practices and the value of the services that have been put in place to encourage future direct and indirect investment.</p>
<p>Programme and project management capacity</p> <p>Inadequate programme or project management results in failure to deliver agreed outcomes</p>	<ul style="list-style-type: none"> • Ensure appropriate Project Management and delivery oversight is in place and adopt programme and project management best practice. The management arrangements will be reviewed on an annual basis to ensure they are sufficient for purpose • Experienced employability project managers to oversee and deliver the projects. Robust data will be interrogated on an ongoing basis and community/employer liaison will underpin delivery. • Project propositions and implementations plans will detail how delivery against targets will be assured. • Risk management is an integral feature of the IRES Programme and the programme risk register covers all aspects of the business case i.e.. Strategic, Economic, Commercial, Financial and Management • The IRES Board are ultimately responsible for managing all aspects of programme and project risk and plans will be reviewed on an ongoing basis by a sub group of the IRES Board to ensure they satisfactorily capture the up to date risk profile and ensure there are appropriate mitigation procedures in place • New risks will be highlighted to the Board and where escalation is required mitigating actions will be agreed and implemented along with agreed timescales for review • The partnership will conduct a mid-programme evaluation in 2021 to check the direction of travel is still right

ANNEX 4: IRES Programme, Inclusion Impact Pathway

Strategic Context	Inputs	Outputs		Outcomes		
Situation	Investments	Activities	Beneficiaries	Short-term (1-3 years)	Medium-term (3-6 years)	Long-term (7-10 years)
<ul style="list-style-type: none"> Market Demand Needs Assets Symptoms Problems Stakeholder Engagement 	Development of Regional Enablers to support an integrated employability and skills offer	Integrated Regional Skills and Employability Programme:		Deliver system-wide improvements through the Implementation of IRES Programme	Increase opportunities from disadvantaged groups into healthy, sustainable employment	Enhanced career opportunities in higher skilled, higher paid jobs, reducing earnings / productivity gap
		Enablers:		<ul style="list-style-type: none"> Labour Market Intelligence Integrated Employer Engagement Integrated Knowledge Management Active Opportunity Matching Concessionary Travel 	<ul style="list-style-type: none"> Skills Providers and Businesses Business Skills Providers Businesses and beneficiaries Beneficiaries 	LMI and expertise is fully utilised / commissioned activity adds value
Alignment <ul style="list-style-type: none"> Vision Objectives Resources Local Dynamics Collaborators Intended Outcomes 	Commitment from Partners to align local employability and skills spend to avoid duplication	Programmes:		Stronger relationships with employers providing better understanding of needs	Increase flow of disadvantaged groups into employment, reducing inequalities and skills shortages	Ensure maximum value and social benefit is generated from wider City Deal Investment
		<ul style="list-style-type: none"> Intensive Family Support Service Targeted Skills Gateway (Housing and Construction) Targeted Skills Gateway (Digital Driven Innovation) 	<ul style="list-style-type: none"> Families, deprived communities Beneficiaries, Businesses Beneficiaries, Businesses 	Aligned digital systems to support access to opportunities, regardless of geography	Effective pooling, analysis and tailored distribution of performance information to inform decision making	Better utilisation of resources to track & trace opportunities into enhanced career opportunities, reducing the earnings gap
		<ul style="list-style-type: none"> Complimentary City Deal Investments: <ul style="list-style-type: none"> Housing Infrastructure DDI 	<ul style="list-style-type: none"> Expansion of Skills and Recruitment and Hubs 	Online sector specific talent pools shortlisting candidates	Minimal hard to fill vacancies within City Region due to efficiency of job matching	
		<ul style="list-style-type: none"> Identify a range of rural areas for mobility / transport pilots 	Pilot approaches in several rural areas to reduce barriers to full mobility	More flexible workforce accessing opportunities across the City Region		
		<ul style="list-style-type: none"> Introduce approach to breaking generational cycles of poverty Address skills shortages by linking education & providers in key growth sector Address skills shortages by linking education & providers in key growth sector 	<ul style="list-style-type: none"> Families, deprived communities Beneficiaries, Businesses Beneficiaries, Businesses 	Increase flow of people from disadvantaged families into positive destinations	Enhance opportunities for those from all sections of society to progress into higher skilled/paid jobs	Reduce inequalities & minimise skills shortage that could impact inclusive growth
		<ul style="list-style-type: none"> Address skills shortages by linking education & providers in key growth sector 	<ul style="list-style-type: none"> Beneficiaries, Businesses 	Enhance opportunities for those from all sections of society to progress into higher skilled/paid jobs	Enhance opportunities for those from all sections of society to progress into higher skilled/paid jobs	Creation of new jobs, improved productivity and increased GVA

Scale and regional distribution of expected outcomes and benefits

The Integrated Regional Employability and Skills (IRES) programme envisages an incremental re-engineering and augmenting of the currently fragmented regional service landscape to;

- Increases the visibility of regional opportunities to our citizens and puts in place the tailored supports required by disadvantaged sections of society¹ to unlock good careers
- Opens-up new and diverse talent pools to businesses that helps minimises skills gaps and demonstrates the value of an inclusive approach to recruitment and workforce development
- evolve, streamline, and integrate the regions employability and skills system to increase its capacity to adapt to an increasingly dynamic economy and labour market.
- Deliver 14,700 net additional skill improvements and 5,300 into employment with a priority on closing the opportunity and employment gap for;
 - people with a disability or enduring health conditions,
 - those from workless or low-income (< 60% median) families,
 - disadvantaged young people including “Care Experienced” individuals, and
 - people from minority ethnic communities
 - women entering or advancing within DDI or HCI careers

The IRES proposal will give greater regional coherence and empowered decision making around a natural labour market area and

- be central to maximising the value of City Region Deal investments by delivering the workforce element
- future proof the regional economy through stimulating a positive step change in equality, capacity and productivity
- improve the focus of limited resources through target and collaboration around a natural economic geography
- encourage meaningful participation by stakeholders in designing and delivering services and interventions
- Return significant impact for minimal extra investment and will help stimulate additional value for money for partners in future years

The programme will provide opportunities to achieve better economies of scale and a strengthening of career progression routes for those who face significant labour market disadvantage.

In addition to the qualitative impacts outlined in the [Strategic Case](#) and the inclusion impact pathway detailed in the [ANNEX](#) it is expected that the following high-level quantitative outcomes will be delivered over the investment period by the programme.

Stage	Measure	Client Group Target over 8 Years	LA Profile Target over 8 Years ²
1-4	ENHANCED OUTREACH: Improved outreach attracts additional people from following disadvantaged or under-represented groups into the programme	20% increase on baseline established in Year 1	CEC: 32% ELC: 8% Fife: 33% Mid: 5%

¹ Including the nine groups protected under the Equality Act 2010, <https://www.equalityhumanrights.com/en/equality-act/protected-characteristics>

² Profile based the proportion of the regions unemployed (modelled) citizens for employment and low paid (below living wage) citizens (Source Nomis Jul 2017)

Scale and regional distribution of expected outcomes, benefits, and leverage, from activity

Stage	Measure	Client Group Target over 8 Years	LA Profile Target over 8 Years ²
	<ul style="list-style-type: none"> • People with a disability or enduring health conditions • People in workless or low-income (< 60% median wage) families • Care Experienced and disadvantaged young people • Disadvantaged people within the BME Community • Women entering or advancing within DDI or HCI related careers 		SBC: 10% WLC: 12%
3-4	EMPLOYMENT: Additional people moving into employment <ul style="list-style-type: none"> • Sustaining employment for at least 13 weeks • Sustaining employment for at least 6 months 	5,300	CEC: 36% ELC: 9% Fife: 29%
3-4	<ul style="list-style-type: none"> • Enhanced targeting supports additional people from the above disadvantaged or under-represented groups secure and sustain employment 	20% increase on baseline established in Year 1	Mid: 7% SBC: 7% WLC: 13%
4-5	CAREER PROGRESSION: Additional people progressing into and sustaining (13 weeks and 6 months) better employment, earnings and careers <ul style="list-style-type: none"> • Moving into higher earning role (Scottish Living wage or above) • Moving from existing into Medium to High Skills roles • Moving from temporary (insecure) work into a permanent role 	500	CEC: 32% ELC: 8% Fife: 33%
4-5	<ul style="list-style-type: none"> • Enhanced targeting supports additional people from the above disadvantaged or under-represented groups into and sustaining better employment 	20% increase from the baseline established in Year 1	Mid: 5% SBC: 10% WLC: 12%
2-5	ENABLERS: Additional accredited training and skills improvements	14,700	
2-5	<ul style="list-style-type: none"> • Enhanced targeting supports additional people from the above disadvantaged or under-represented groups achieve skills improvements that unlock latent talents and help secure higher earnings. 	20% increase from the baseline established in Year 1	

Figure 1: Anticipated Programme Outcomes

These targets will be refined as the partnership matures and project propositions are developed to implementation stage, to ensure that they remain relevant to the inclusion challenges of the region and are stretching and delivering value for the money.

Edinburgh and South East of Scotland City Region Deal Joint Committee

10am, Monday 17 December 2018

IMPACT Centre Business Case

Item number 4.6

Executive Summary

This report summarises the business case for the IMPACT Centre, a new concert hall and performance venue, home to the Scottish Chamber Orchestra in St Andrew Square that will comprise a 1,000 seat auditorium, 200 seat studio, rehearsal and recording space delivering performance, educational and outreach programmes to inspire and support both young and old.

It is recommended that the Joint Committee approves the business case and recognises that the project is dependent on approval by the City of Edinburgh Council's Planning Committee, currently scheduled for consideration by the March 2019.

Sir Ewan Brown

Chairman, IMPACT Scotland

E-mail: [e-mail address](#)



City Region Deal Checklist

Criteria	Details/Link to Document
Contribution to City Region Deal commitments and Inclusive Growth Framework	<p>The IMPACT Programme will generate significant economic benefits. The business case estimates that the Centre will attract 350,000 to 400,000 attendees a year, and directly employ 29 FTE staff.</p> <p>The Programme also supports the inclusive growth framework set out in the Deal Document.</p> <p>Two of the five framework themes in particular are pertinent to the current proposals namely: “a significant programme of construction”; and, “social benefit through innovation”:</p> <ul style="list-style-type: none"> • A significant programme of construction: The Trust will, in the construction and subsequent operating phase of the Centre, use agreed City Region Deal procurement Community Benefit clauses to support inclusive employment practices and other opportunities to meet inclusive growth targets; and, • Social benefit through innovation: consideration has been given to how the project can make a positive contribution to inclusive growth by influencing and supporting the cultural sector in building audiences that reflect the true, diverse nature of the City Region.
Alignment, integration with, or dependence on, other City Region Deal activities	<p>The site will be located at St Andrew Square, ideally placed to take maximum advantage of the public and active transport system.</p> <p>Through the IMPACT Scotland Group (to be set up post approval of the project) and through further engagement with government and agencies, partners will consider how to focus on collaboration regarding tourism across the city region. In particular the management of the new venue will collaborate with other venues in the region to maximise diversity of performances of all genres throughout the City Region.</p>
Scale and regional distribution of expected outcomes, benefits, and leverage, from activity	<p>Over the first fifteen years of operation the venue is projected to attract steady state annual audience levels of around 350,000 to 400,000 generating a total net economic impact in the region of £98 million (gross value added)based on:</p> <ul style="list-style-type: none"> • Direct employment benefits at the Centre of 26 full time and 6 part time people (and a further estimated 16 full time franchised catering staff); • Performer spend within the City Region economy through the attraction of new UK and international touring companies; • Additional knock on employment gains to the City Region transport, hotel and tourism sectors; • Free or very low cost usage of the venue for educational purposes; • The inclusion of state of the art digital facilities to allow public service delivery, collaborative digital music opportunities and online streaming of performances nationally and internationally; and; • An educational and community programme engaging with people from the very youngest to the elderly, addressing the needs of all through different stages of life.
Compliance with financial requirements and agreed expenditure profile	<p>The IMPACT business case complies with the financial requirements and agreed expenditure profile from both Governments.</p> <p>See cover report for more detail on the financial impact.</p>
Equalities Impact	See cover report.

Criteria	Details/Link to Document
Anticipated significant risks and mitigation measures	A full risk register has been conducted as part of the business case.
Alignment and fit with City Region Deal governance arrangements	<p>The Trustee Board the IMPACT Centre, consists of: Sir Ewan Brown (chair), Colin Buchan, Morag Campbell, Carol Grigor, Fergus Linehan, James Naughtie, Donald MacDonald, Keith Miller, Karine Polwart, and Gavin Reid.</p> <p>Subject to Committee approval, the IMPACT Centre Project Board will also be formed. This will ensure strong links with the wider City Region Deal programme. The Terms of Reference for the Board, agreed as part of the Governance Framework for the Deal on page 49 of the Deal document.</p>
PMO check	All evidence provided.
Government approval	Both UK and Scottish Governments approved the business case on 29 November 2018.
Partner sign-off	The business case is expected to be approved by the Joint Committee on 17 December 2018.
Advisory Board sign off	The IMPACT Trustee Board approved the Business Case on the 8 May
Executive Board sign off	The business case was signed off by Executive Board on 22 November.
PMO Recommendation	That Committee approves the IMPACT project as set out in the business case, subject to approval by Planning Committee in March 2019.

IMPACT Centre Business Case

1. Recommendations

- 1.1 To approve the business case for the IMPACT Centre, recognising that it has been approved by both UK Government and Scottish Government.
- 1.2 To note that consultation is underway and that the project is dependent on approval by the City of Edinburgh Council's Planning Committee, currently scheduled for consideration by the March 2019.

2. Background

- 2.1 There has been a long-term unmet market need for a new mid-scale music venue in Edinburgh as reflected by: The City of Edinburgh Council's 2006 Review of Music Provision¹; the 2009 Cultural Venues Study²; the EKOS Music Sector Study of 2014³; the 2015 Thundering Hooves 2.0 study⁴; and, audience research by Scottish Chamber Orchestra in 2011, 2012 and 2013 (which highlighted that only 44.4% of respondents believed that current venues were of a high quality). As a result, several promoters report that many artists choose not to perform in Edinburgh due to the lack of appropriate facilities⁵.
- 2.2 The opportunity to address this long term need arose in 2015 with the potential availability of the Royal Bank of Scotland site at St Andrew Square. During 2015 and 2016, work was undertaken by the steering group of the project, known as the Project Board, to validate the key questions of affordability, site space sufficiency and

¹ http://www.edinburgh.gov.uk/download/meetings/id/13977/mid-scale_music_venue_review

² http://www.edinburgh.gov.uk/download/downloads/id/4174/city_cultural_venues_study.pdf

³ Which highlighted: "There is however a particular issue around a **mid-scale venue for Edinburgh**. In comparison with Glasgow, the capital city is very limited for year-round promotion of high quality music at the mid-scale, despite the Festival Fringe's imaginative use of all manner of spaces in the summer. The Usher Hall, although it has been receiving acclaim for its programme, is generally too big - and its layout prevents the intimacy with the audience the repertoire requires - for the entire spectrum of music that will attract audiences of between 300 and 900". Music Sector Review: Final Report for Creative Scotland March 2014, EKOS Limited.

⁴ <https://www.edinburghfestivalcity.com/about/thundering-hooves> (which identified, as a key action, the promotion of new thinking around development and refurbishment of venues and specifically that: "The Festivals Forum should consider supporting proposals for new venues including a new Concert Hall").

⁵ Which has a knock on effect in terms of indigenous promoters as emphasised in the EKOS report: "Scotland is well-served in general by the range and geographical scope of music promoters - and the venue stock is generally good. The breadth of provision for audiences, however, is limited in some areas - especially the minority interests such as contemporary classical and world music and jazz - in which the lack of promoters was particularly noted".

operational viability. Architects, Allies & Morrison, were commissioned and produced a costed Masterplan which satisfactorily addressed the questions of affordability and site space sufficiency and set the brief for the subsequent tendering process for the appointment of an architect-led design team.

- 2.3 In April 2016, a charitable trust was formed: the International Music and Performing Arts Charitable Trust Scotland (known as IMPACT Scotland) to undertake the building of the Centre and, through a wholly owned subsidiary, to operate the Centre after completion.
- 2.4 Following extensive preliminary viability studies, completed in 2016, a design team led by David Chipperfield Architects was appointed alongside world-renowned acousticians, Nagata Acoustics, led by Dr Yasuhisa Toyota. Project managers and cost consultants Turner & Townsend were also appointed to advise the Trustees of IMPACT Scotland. There are 10 Trustees led by their Chairman Sir Ewan Brown providing a wide range of expertise and experience who meet regularly to assess progress.
- 2.5 In July 2017, [Heads of Terms](#) were signed for the Edinburgh and South East Scotland City Region Deal. These stated that the UK and Scottish Governments would each provide up to £10 million of capital funding to support the delivery of a new IMPACT concert hall that will reinforce Edinburgh's position as a pre-eminent Festival City. This commitment was reiterated in the [Deal Document](#), signed in August 2018.
- 2.6 The City of Edinburgh Council's approved 2018/19 five-year Capital Investment Programme includes a budget provision £5 million as a contribution to support the delivery of the IMPACT project.

3. Main report

- 3.1 IMPACT Scotland, a Scottish registered charity, plans to build and operate a new world-class performance venue in the heart of Edinburgh comprising a 1,000 seat auditorium and 200 seat rehearsal and small performance studio delivering a wide range of performance, education and outreach programmes. The site will be enhanced by the provision of a restaurant, cafe and bar facilities.
- 3.2 The IMPACT Centre will be immediately adjacent to a historic building on St Andrew Square and will provide a new home for the Scottish Chamber Orchestra (SCO), the only Edinburgh-based National Performing Arts Company. It will also provide an additional premier performance space for the Edinburgh International Festival.
- 3.3 This will be the first new facility of its kind to be built in Edinburgh for 100 years and is the culmination of a 25-year search by the City of Edinburgh Council and the SCO for a much-needed mid-sized music venue in the City.
- 3.4 The Centre will rival the best in Europe for acoustics and audience experience and will host a wide range of musical performance from orchestral to jazz and folk as well as being a significant base for education, learning and outreach programmes and a welcome addition to the Edinburgh conference market.

- 3.5 The Centre will be ideally placed to take maximum advantage of the public transport system and will contribute to the opening up of the East End of the city complementing the revival of the St James Centre and the Register Lanes project.
- 3.6 The site on which the new venue will be built has been provided by the Royal Bank of Scotland on a 120-year lease at nominal cost and will provide a linkage to their historic registered office, Dundas House, which includes one of the finest domed banking halls in the UK.
- 3.7 An operational business plan has been prepared from research carried out by an eminent cultural consultant, Graham Devlin, which shows that the Centre will be self-sustainable on an annual basis within three years.
- 3.8 Extensive engagement with a wide range of interested parties and two public consultations have taken place. Support for the project is widespread. Discussions with existing venues have confirmed that the Centre will be complementary to existing provision and will not displace any of their future planned activities.
- 3.9 The appended business case states that over the first 15 years of operation, the venue is projected to attract steady state annual audience levels of around 350,000 to 400,000 generating a total net economic impact in the region of £98 million (Gross Value Added). The resultant public sector cost-benefit ratio is 1: 4.06. Sensitivity analysis indicates that the Centre is sufficiently robust to any significant downside risk.

Outputs

- 3.10 The current proposals for the new building envisage the creation of a 1,000-seat concert hall - together with a 200-seat studio - for public performances, rehearsal and the delivery of a wide range of education programmes and a resource for extensive public engagement.

Outcomes

- 3.11 As a result the Centre will:
- Provide a new home for the SCO, one of the Scottish Government's national performing companies, with the opportunity for the SCO to reach out and build new audiences across the City Region and beyond;
 - Be a principal, all-day performance venue each August for the Edinburgh International Festival (EIF): the world's leading arts festival;
 - Be a much-needed high quality, mid-sized performance venue which will attract touring companies, many of whom do not currently include Edinburgh in their plans due to a lack of suitable facilities;
 - Have the potential to attract (and sustainably operate at) audience levels of between 350,000 to 400,000 per annum.
 - Directly employ 26 full time and six part time staff (and a further estimated 16 full time franchised catering staff);
 - Host educational facilities, a recording studio and digital technology that will all be transformational for young artists;

- Facilitate creative learning and participatory opportunities, releasing individual potential and enabling residents, as well as visitors, to share in the City's remarkable artistic achievements;
- Provide access to the finest musical accommodation for school and youth musicians to perform, train and receive coaching from SCO, other musical experts and EIF performers;
- Be an excellent opportunity to build new audiences across age groups by programming a wide range of music as well as other forms of entertainment; and,
- Ensure a year round vibrant and busy focal point complementing the opening up of the East End of the New Town at the revived St. James Centre.

3.12 Planning consultation for the project is underway. The project is dependent on approval by the City of Edinburgh Council's Planning Committee and is currently scheduled for consideration in March 2019.

4. Financial impact

4.1 The total capital funding requirement for the project is £45m, of which £25m will come from the City Region (£10 million from the UK Government, £10 million from the Scottish Government and £5 million from the City of Edinburgh Council. These funds have all been agreed, subject to business case approval by Governments and the Joint Committee.

4.2 A further £10 million has been pledged by the Centre's major benefactor the Dunard Fund. The remaining £10m will be raised from a fund-raising campaign which has already exceeded 50 per cent of this target. In addition, the Dunard Fund has committed to meet the cost of any capital overruns and design changes, provide its funds ahead of City Region Deal support and underwrite any annual deficits of the Centre of up to £1 million in each year over the first three years of trading. There will, therefore, be no further call on public funds for this project over this period.

5. Equalities impact

5.1 All City Deal partners recognise the importance of ensuring that inclusive growth ambitions are embedded in their plans and respond to the particular challenges faced across the region. To address these challenges five themes were identified in the [Deal Document](#) by the partners of which two are pertinent to the current proposals namely: "a significant programme of construction"; and, "social benefit through innovation".

5.2 In regard to the former theme the Trust will (in the construction and subsequent operating phase of the Centre) use agreed City Region Deal procurement Community Benefit clauses to support inclusive employment practices and other opportunities to meet inclusive growth targets.

5.3 In respect of the latter theme (social benefit through innovation), consideration has been given to how the project can make a positive contribution to inclusive growth by influencing and supporting the cultural sector in building audiences that reflect the true, diverse nature of society.

5.4 Through the delivery of a wide ranging educational and community programme the Centre will develop opportunities - with a range of City Region Deal and other partners

- to involve those socio-economic groups currently under-represented as participants and (in) audiences. A key aspect of this programme will be to engage people through lifelong learning, from the very youngest to the elderly, addressing the needs of all through different stages of life. Such activities will be run by performing companies (i.e. the SCO, EIF etc.) and supported by IMPACT through the appointment of a full time education officer and the letting of rehearsal space for educational outreach activities at no or little cost.

6. Background reading/external references

- [City Region Deal Document](#): August 2018

7. Appendices

1. IMPACT Centre Project Summary and Strategic Case

The IMPACT Centre

Summary and Strategic Case



**The creation of a new world-class performance venue in Edinburgh:
the first new venue of its kind to be built in the City in 100 years.**

**A new home for the internationally acclaimed Scottish Chamber Orchestra,
world-class space for the Edinburgh International Festival and a year-round
bustling Arts destination for performance, audiences and the wider
community.**

**A 1,000 seat auditorium, 200 seat studio, rehearsal and recording space
delivering performance, educational and outreach programmes to inspire
and support both young and old.**



SUMMARY

- a) IMPACT Scotland, a Scottish registered charity, plans to build and operate a new world-class performance venue in the heart of Edinburgh comprising a 1,000 seat auditorium and 200 seat rehearsal and small performance studio delivering a wide range of performance, education and outreach programmes leading to extensive public engagement. The IMPACT Centre will be the new home for the internationally acclaimed Scottish Chamber Orchestra (SCO) and provide an additional premier performance space for the Edinburgh International Festival (EIF).
- b) This will be the first new facility of its kind to be built in Edinburgh for 100 years and is the culmination of a 25-year search by the City of Edinburgh Council and the SCO for a much needed mid-sized music venue in the City.
- c) The Centre will rival the best in Europe for acoustics and audience experience and will host a wide range of musical performance from orchestral to jazz and folk as well as being a significant base for education, learning and outreach programmes and a welcome addition to the Edinburgh conference market.
- d) Sited in St Andrew Square the Centre is ideally placed to take maximum advantage of the public transport system and will contribute to the opening up of the East End of the City complementing the revival of the St James Centre and the Register Lanes project.
- e) Following extensive preliminary viability studies, completed in 2016, a design team led by David Chipperfield Architects has been appointed alongside world renowned acousticians, Nagata Acoustics, led by Dr Toyota. Project managers and cost consultants Turner & Townsend have also been appointed to advise the Trustees of IMPACT Scotland. There are 10 Trustees led by their Chairman Sir Ewan Brown providing a wide range of expertise and experience who meet regularly to assess progress.
- f) The site on which the new venue will be built has been provided by the Royal Bank of Scotland on a 120-year lease at nominal cost and will provide a linkage to their historic registered office, Dundas House, which includes one of the finest domed banking halls in the UK.
- g) The total capital funding requirement for the project is £45m of which £25m will come from the City Deal and a further £10m has been pledged by the Centres major benefactor the Dunard Fund. The remaining £10m will be raised from a fund-raising campaign which has already exceeded 50% of this target. In addition, the Dunard Fund has committed to meet the cost of any capital overruns and design changes, provide its funds ahead of City Deal support and underwrite any annual deficits of the Centre of up to £1m in each year over the first 3 years of trading. There will, therefore, be no further call on public funds for this project over this period.
- h) An operational business plan has been prepared from research carried out by an eminent cultural consultant, Graham Devlin, which shows that the Centre will be self-sustainable on an annual basis within three years.
- i) Extensive engagement with a wide range of interested parties and two public consultations have taken place. Support for the project is widespread. Discussions with existing venues have confirmed that the Centre will be complementary to existing provision and will not displace any of their future planned activities.
- j) Over the first fifteen years of operation the venue is projected to attract steady state annual audience levels of around 350,000 to 400,000 generating a total net economic impact (under the preferred Centre option) in the region of £98 million (gross value added). The resultant public sector cost-benefit ratio is 1: 4.06. Two alternative options were examined but both generated lower ratios. Sensitivity analysis indicates that the preferred option is sufficiently robust to any significant downside risk.

1. The Strategic Case

Introduction

Significant work has been undertaken in progressing the Centre proposals as evidenced by various plans and background studies already provided to City of Edinburgh Council and respective Scottish and UK Government representatives¹. This outline business case builds upon this previous work by summarising the rationale - and implementation and operational plans - for the IMPACT Centre and the resultant wider economic and social benefits that will be generated.

Strategic Context

As reflected in previous reviews of cultural provision in the City, and wider City Region, there has been a long-term unmet market need for a new mid-scale music venue in Edinburgh. These reviews include: The City of Edinburgh Council's 2006 Review of Music Provision²; the 2009 Cultural Venues Study³; the EKOS Music Sector Study of 2014⁴; the 2015 Thundering Hooves 2.0 study⁵; and, audience research by SCO in 2011, 2012 and 2013 which highlighted that only 44.4% of respondents believed that current venues were of a high quality. As a result several promoters report that many artists choose not to perform in Edinburgh due to the lack of appropriate facilities⁶.

Organisational Context

The opportunity to address this long term need arose in 2015 with the potential availability of the Royal Bank of Scotland (RBS) site at St Andrews Square in the centre of Edinburgh. During 2015 and 2016 work was undertaken by the steering group of the project, known as the Project Board, to validate the key questions of affordability, site space sufficiency and operational viability. This involved the commissioning of Architects, Allies & Morrison, who produced a costed Masterplan which satisfactorily addressed the questions of affordability and site space sufficiency and set the brief for the subsequent tendering process for the appointment of an Architect led Design Team.

In April 2016, a charitable trust was formed: the International Music and Performing Arts Charitable Trust Scotland (known as IMPACT Scotland) to undertake the building of the Centre and, through a wholly owned subsidiary, to operate the Centre after completion.

¹ Including: the IMPACT Scotland Operational Business Plan May 2016; the IMPACT Report and Financial Statements for the period from 5 April 2016 to 31 March 2017; the Turner & Townsend Procurement Report For The (IMPACT) Executive Committee; and, the Turner & Townsend IMPACT Risk Register.

² http://www.edinburgh.gov.uk/download/meetings/id/13977/mid-scale_music_venue_review

³ http://www.edinburgh.gov.uk/download/downloads/id/4174/city_cultural_venues_study.pdf

⁴ Which highlighted: "There is however a particular issue around a **mid-scale venue for Edinburgh**. In comparison with Glasgow, the capital city is very limited for year-round promotion of high quality music at the mid-scale, despite the Festival Fringe's imaginative use of all manner of spaces in the summer. The Usher Hall, although it has been receiving acclaim for its programme, is generally too big - and its layout prevents the intimacy with the audience the repertoire requires - for the entire spectrum of music that will attract audiences of between 300 and 900". Music Sector Review: Final Report for Creative Scotland March 2014, EKOS Limited.

⁵ <https://www.edinburghfestivalcity.com/about/thundering-hooves> (which identified, as a key action, the promotion of new thinking around development and refurbishment of venues and specifically that: "The Festivals Forum should consider supporting proposals for new venues including a new Concert Hall").

⁶ Which has a knock on effect in terms of indigenous promoters as emphasised in the EKOS report: "Scotland is well-served in general by the range and geographical scope of music promoters - and the venue stock is generally good. The breadth of provision for audiences, however, is limited in some areas - especially the minority interests such as contemporary classical and world music and jazz - **in which the lack of promoters was particularly noted**".

In May 2017 a Design Team was appointed by the Trust led by David Chipperfield Architects with acoustic consultants, Nagata Acoustics and Turner & Townsend (as project managers and cost consultants).

In parallel to the above and to assess further the viability of the Centre at the St Andrews Square site:

- a highly experienced arts consultant, Graham Devlin, was commissioned⁷ to research the rationale and demand for the Centre. This work – (as summarised at Appendix I) - resulted in the preparation of an Operational Business Plan which satisfactorily addressed the question of operational viability; and,
- two public consultations were held the first on 7th November 2017 and the second on 15th March 2018. As detailed at Appendix II each event attracted over one hundred attendees and evidenced – through questionnaires – wide spread support for the Centre proposals⁸.

Current Proposals

The IMPACT Centre will be built on the site immediately to the rear of and adjacent to the registered office of RBS, Dundas House at 36 St Andrew Square. RBS has agreed to grant IMPACT Scotland a 120 year ground lease at a nominal rent. In addition Dunard Fund is purchasing the building at 35 St Andrew Square and will lease it to IMPACT Scotland to house the administration offices of IMPACT, the SCO and The National Youth Choir of Scotland as well as providing facilities for other Arts organisations. The use of number 35 as administration offices means that there is no need to include such offices within the new building thereby utilising all space in that building for performance purposes.

The current proposals for the new building envisage the creation of a 1,000-seat concert hall - together with a 200-seat studio - for public performances, rehearsal and the delivery of a wide range of education programmes and a resource for extensive public engagement. As a result the Centre will:

- be Edinburgh's first new performance venue in 100 years;
- rival the best facilities in Europe for acoustics and audience experience;
- be a thrilling home for all kinds of musical performance – from orchestral to jazz and folk – welcoming chamber groups, soloists, choirs and dance ensembles;
- help to maintain Edinburgh's position as an International Festival City and leading centre for music and the performing arts;
- be an exceptionally well-located venue with (in): easy walking distance from Waverley Station; immediate access to local and national bus services and adjacent to tram stops; and, excellent access for audiences from both the City of Edinburgh and surrounding regions; and,
- on the basis of the above, has the potential to attract (and sustainably operate at) audience levels of between 350,000 to 400,000 per annum.

Consequently, the Centre will provide:

- an exciting new home for the SCO, one of the Scottish Government's national performing companies, with the opportunity for the SCO to reach out and build new audiences across the City Region and beyond;

⁷ This research was funded by the Dunard Fund with additional support from the Scottish Government and Creative Scotland.

⁸ With between 95% (event two) and 98% (event one) supporting the idea of a new international music and performance venue to be located in central Edinburgh.

- a much-needed high quality, mid-sized performance venue which will attract touring companies, many of whom do not currently include Edinburgh in their plans due to a lack of suitable facilities;
- a principal, all-day performance venue each August for the Edinburgh International Festival (EIF): the world’s leading arts festival;
- educational facilities, a recording studio and digital technology that will all be transformational for young artists;
- creative learning and participatory opportunities, releasing individual potential and enabling residents, as well as visitors, to share in the City’s remarkable artistic achievements;
- access to the finest musical accommodation for school and youth musicians to perform, train and receive coaching from SCO, other musical experts and EIF performers;
- an excellent opportunity to build new audiences across age groups by programming a wide range of music as well as other forms of entertainment;
- improved performance space for community arts companies from Edinburgh and further afield; and,
- a year round vibrant and busy focal point complementing the opening up of the East End of the New Town at the revived St. James Centre.

Alignment with Inclusive Growth Policy

All of the Edinburgh and South East Scotland City Region Deal partners recognise the importance of ensuring that inclusive growth ambitions are embedded in their plans and respond to the particular challenges faced across the region. To address these challenges five themes have been identified⁹ by the partners of which two are pertinent to the current proposals namely: “*a significant programme of construction*”; and, “*social benefit through innovation*”.

In regard to the former theme the Trust will (in the construction and subsequent operating phase of the Centre) use (agreed) City Deal procurement Community Benefit clauses (to support inclusive employment practices and other opportunities to meet inclusive growth targets).

In respect of the latter theme (social benefit through innovation¹⁰) consideration – throughout the development of the Centre proposals - has been given to how the project can make a positive contribution to inclusive growth by influencing and supporting the cultural sector in building audiences that reflect the true, diverse nature of society.

Through the delivery of a wide ranging educational and community programme the Centre will develop opportunities - with a range of City Deal and other partners - to involve those socio-economic groups currently under-represented as participants and (in) audiences. A key aspect of this programme will be to engage people through lifelong learning, from the very youngest to the elderly, addressing the needs of all through different stages of life.

The important ambitions outlined above - for education, learning, inclusiveness and outreach - are, to a large extent, exemplified by the experience of the RSNO in Glasgow that moved in 2015 to a new custom built rehearsal hall. Similar to the IMPACT Centre these new facilities allowed the RSNO to

⁹ Namely: “*Accelerating Inclusive Growth, Removing the Physical Barriers to Growth, A significant programme of Construction, Targeted skills interventions; and, Social benefit through innovation*”. Our Approach to Ensuring Inclusive Growth, City Deal PMO, City of Edinburgh Council, 2018.

¹⁰ “*Recognising the potential presented by a significant investment in DDI, opportunities to drive out challenged-based social benefit across the region, over the medium and long term, will be explored*”.

embark on a series of initiatives - which had not been possible in their previous accommodation - resulting in their new venue attracting some 30,000 additional people per year many of whom had not been engaged previously with the RSNO.¹¹

These initiatives included 'Music for Life' which caters for every stage of life from primary school to the elderly by (for example) delivering a:

- concert and education programme for primary school children (which annually attracts some 1,800 children) involving special concerts and interaction with teachers and within the schools; and, at the other end of the age spectrum,
- 'symphony, soup and sandwich' programme for the elderly who were not keen or able to come to evening concerts. 3 such annual performances attracted some 800 people.

In addition new digital facilities have also greatly increased the RSNO's ability to reach out to wider audiences and retain contact with further flung communities in Scotland.

It is envisaged that such initiatives will be replicated and perhaps even widened by the creation of the IMPACT Centre. Activities will be run by performing companies (i.e. the SCO, EIF etc.) supported by IMPACT through the appointment of a full time education officer and the letting of rehearsal space for educational outreach activities at no or little cost.

Project Benefits

The creation of a world class performance venue in the heart of Edinburgh – attracting around 350,000 to 400,000 attendees per year when the venue is fully operational - will generate a range of benefits to the City Region including:

- direct employment benefits at the Centre of 26 full time and 6 part time people (and a further estimated 16 full time franchised catering staff);
- performer spend within the City Region economy through the attraction of new UK and international touring companies;
- additional knock on employment gains to the City Region transport, hotel and tourism sectors;
- free or very low cost usage of the venue for educational purposes;
- the inclusion of state of the art digital facilities to allow public service delivery, collaborative digital music opportunities and online streaming of performances nationally and internationally; and,
- an educational and community programme engaging with people from the very youngest to the elderly, addressing the needs of all through different stages of life.

Constraints

This business case has been prepared under various key constraints:

- the potential funding profile and envelope likely to be set through any final City Region Deal Heads of Terms;
- the location and size of existing site facilities and lack of any potential (under planning regulations) to expand the current footprint; and,

¹¹ www.rsno.org.uk/engage

- a requirement that the IMPACT Centre becomes self-financing over the longer term to satisfy both funder requirements and charitable obligations to seek to maintain a surplus.

Dependencies

The future success of the Centre will depend on:

- engaging with promoters and attracting performers to the Centre;
- access to the wider EIF programme and associated marketing programme;
- attracting and maintaining audience levels at a commercially sustainable level; and,
- City Deal centralised programme-level support for delivery of schools and other relevant outreach activities.

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Edinburgh and South East of Scotland City Region Deal Joint Committee

10am, Monday 17 December 2018

Forward Plan for Business Case Approvals

Item number 4.7

Executive Summary

This paper outlines the planned dates for City Region Deal business case approvals by Joint Committee.

Andrew Kerr

Chief Officer, Edinburgh and South East Scotland City Region Deal

Contact: Andy Nichol, Programme Manager, Edinburgh and South East Scotland City Region Deal

E-mail: andy.nichol@edinburgh.gov.uk | Tel: 0131 529 4461



Forward Plan for Business Case Approvals

1. Recommendations

- 1.1 To note the planned dates for City Region Deal business case approvals for the Joint Committee.

2. Background

- 2.1 The City Region Deal partners and Government are working towards business case approval timelines as set out in this report. This matches with the timeline for drawing down funds from Government over the 15 years of the City Region Deal as set out in the Financial Plan agreed in summer 2018.
- 2.2 The dates are subject to business cases being approved by: The Scottish Government; the UK Government; the relevant Boards within the City Region Deal structure; and the relevant Council committees and/or Higher and Further Education Courts, prior to Joint Committee approval.

3. Main report

- 3.1 The forward plan for Joint Committee meetings that partners are currently working towards is shown in Table 1:

Table 1: Business Case Approval Forward Plan

Joint Committee Date	Business Case(s) for Approval
1 March 2019	<ul style="list-style-type: none"> • Central Borders Innovation Park • Edinburgh Futures Institute • Fife Industrial Estates Regeneration Programme
7 June 2019	<ul style="list-style-type: none"> • None
6 September 2019	<ul style="list-style-type: none"> • Easter Bush • Edinburgh Innovation Park (Queen Margaret University) • Usher Institute
To be confirmed	<ul style="list-style-type: none"> • Housing projects • West Edinburgh transport

3.2 The A720 City Bypass grade separation of Sheriffhall Roundabout will be managed and delivered by Transport Scotland. Transport Scotland will provide updates on progress to the Transport Appraisal Board, as well as the Executive Board and Joint Committee as and when appropriate.

4. Financial impact

4.1 There is no financial impact relating to this report. Financial cases will be set out in detail in the respective business cases. Financial contributions that are required by partner organisations for projects will be requested in separate reports to councils or courts prior to being taken to Joint Committee for approval.

5. Equalities impact

5.1 There is no equalities impact relating to this report. Inclusion is a key driver for the City Region Deal. Business cases for projects included will demonstrate how they will reduce inequalities and tackle the inclusion challenges specific to the city region.

5.2 A Monitoring and Evaluation Framework is being developed for the programme, which will incorporate clear indicators to align with the Scottish Government Inclusive Growth Framework, also under development. This will form part of the annual reporting process from 2019.

5.3 Partners are working with the Scottish Government and Equalities and Human Rights Commission to develop and Equalities Impact Assessment for the City Region Deal programme. Integrated Impact Assessments are also be undertaken for individual

projects relating to local authorities and will be reported at the respective council meetings.

6. Background reading/external references

6.1 [City Region Deal Document](#): August 2018

7. Appendices

None.