

City Chambers DUNDEE DD1 3BY

3rd December, 2021

TO: ALL MEMBERS OF THE TAY CITIES REGION JOINT COMMITTEE

Dear Sir/Madam

TAY CITIES REGION JOINT COMMITTEE

Will you please attend a MEETING of the **TAY CITIES REGION JOINT COMMITTEE** on Friday, 10th December, 2021 at 10:00am, to be held remotely.

Please submit any apologies to Veronica Thomson, Committee Services Officer on telephone (01382) 434205 or by e-mail at <u>veronica.thomson@dundeecity.gov.uk</u>.

Members of the Press or Public wishing to join the meeting should contact Veronica Thomson, Committee Services Officer on telephone (01382) 434205 or by e-mail at by <u>12 noon on</u> <u>8th December, 2021</u>.

Yours faithfully

ROGER MENNIE

Clerk to the Joint Committee

1 WELCOME AND APOLOGIES

2 CHANGE OF CHAIR FOR TCRJC

In terms of Clause TWELVE of the Governance Agreement, and Article II of the minute of meeting of this Joint Committee of 18 May, 2018, the Joint Committee are asked to note that Councillor David Fairweather of Angus Council becomes Convener in succession to Councillor John Alexander of Dundee City Council. The Joint Committee are also asked to appoint Councillor Murray Lyle, Vice-Convener from Perth and Kinross Council.

3 DECLARATION OF INTEREST

4 MINUTE OF MEETING OF 17TH SEPTEMBER, 2021 - Page 1

(Copy enclosed).

5 TAY CITIES REGION DEAL

(Update by Mo Saunders, Programme Manager, PMO).

6 BENEFITS REALISATION PLAN (BRP) PRESENTATION

(Dr Mark Graham, Senior Economist & Consultant for TCRD BRP)

7 TAY CITIES REGION DEAL – TCD029 STRETCH DOME SIMULATOR BUSINESS JUSTIFICATION CASE FOR APPROVAL - Page 5

(Report No TCRJC15-2021 enclosed and presented by Keith Winter, Management Group Sponsor and Presentation by Project Lead Geoff Morris).

8 TAY CITIES REGION DEAL – ANNUAL ACCOUNTS - Page 35

(Report No TCRJC16-2021 - Update by Robert Emmott, S95 Officer).

9 TAY CITIES REGIONAL ECONOMIC STRATEGY - ACTION PLAN UPDATE - Page 37

(Report No TCRJC17-2021 enclosed for information and presented by Alison Smith, Heads of Economic Development Group).

10 AOCB

11 PROPOSED PROGRAMME OF MEETINGS 2022

Friday, 18th February, 2022, to be held remotely TO BE CONFIRMED BY CHAIR

Friday, 18th March, 2022, to be held remotely

Friday, 17th June, 2022, venue to be confirmed

Friday, 23rd September, 2022, venue to be confirmed

Friday, 9th December, 2022, venue to be confirmed

13 DATE OF NEXT MEETING

Friday, 18th February, 2022, to be held remotely TO BE CONFIRMED.

TEM No ...4......

At a MEETING of the **TAY CITIES REGION JOINT COMMITTEE** held remotely on Friday, 17th September, 2021.

Present: -

Angus Council

Councillor Bill DUFF Councillor David FAIRWEATHER Councillor Angus MACMLLAN DOUGLAS

Dundee City Council

Councillor John ALEXANDER Councillor Lynne SHORT Councillor Richard McCREADY

Fife Council

Councillor David ROSS Councillor Tim BRETT Councillor Karen MARJORAM

Perth & Kinross Council

Councillor Murray LYLE Councillor Colin STEWART

Non-Elected Members

Councillor Andrew PARROTT, TACTRAN Alison HENDERSON, Dundee and Angus Chamber of Commerce Ronnie PALIN for Michael WRIGHT, Scottish Enterprise Hayley MEARNS, Third Sector

Also Present

Greg COLGAN, Dundee City Council Robert EMMOTT, Dundee City Council Gregor HAMILTON, Dundee City Council Paul THOMSON, Dundee City Council Margo WILLIAMSON, Angus Council Vivien SMITH, Angus Council Rory YOUNG, Angus Council Keith WINTER, Fife Council Mark SPEED, TACTRAN Barbara RENTON, Perth and Kinross Council David LITTLEJOHN, Perth and Kinross Council Roger MENNIE, Tay Cities Deal Legal Officer Mike BOYLE, Tay Cities Deal Comms Lorna EDWARDS, Abertay University Julie CRAIK, Dundee City Council Kris BRYCE, Pitlochry Festival Theatre Cheryl TORANO, cyberQuarter Clare SLATER, Tay Cities Deal Project Manager Mo SAUNDERS, Tay Cities Deal Programme Manager Lauren HOLLAS, Tay Cities Project Officer

Councillor John ALEXANDER, in the Chair.

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I APOLOGIES

Apologies for absence had been intimated from Councillor Grant Laing of Perth and Kinross Council, Nigel Seaton of Abertay University, Michael Wright of Scottish Enterprise, Gordon McGuinness of Skills Development Scotland and Robin Presswood of Dundee City Council.

It was noted that Councillor Colin Stewart had replaced Councillor John Duff as a member on the Joint Committee.

II DECLARATION OF INTEREST

Councillor Richard McCready declared a non-financial interest in the item of business at Article VII by virtue of his Council appointment as a Director of Dundee Rep and Scottish Dance Theatre.

III MINUTE OF MEETING OF 18TH JUNE, 2021

The minute of meeting of 18th June, 2021 was submitted and approved.

IV TAY CITIES REGION DEAL UPDATE

A presentation by Programme Manager, Mo Saunders, was given to the Joint Committee outlining the current position with regards to the Tay Cities Region Deal, a copy of which is attached to this minute as Appendix I.

The updated Business Cases timetable was tabled, along with a timeline for their submission to the Joint Committee for approval. It was noted that all projects were on schedule for this financial year. It was noted that the skills programme which was initially scheduled to be tabled in September outlining the governance pathway for projects would now be submitted to the December meeting.

In conclusion, an update was given advising that the Grant offer for 2021/2022 had been agreed with a total Year 2 Capital drawdown of £40.832m and Revenue Profile drawdown of £1.650m. This included Accelerated Capital Funding of £9m from the profile agreed at Deal signing. The Delivery of the Programme would be challenging, with a current underspend of £7.740% being forecast. The Programme was currently being monitored and managed within the Partnership governance and through regular reporting and dialogue with both governments. Information was also provided on the Annual Report and it was explained that the purpose of the Annual Performance Report was to provide a summary of progress over the period of the report and a look at the key milestones in the Deal for the year ahead. The Programme Manager had received confirmation from both Governments of the Tay Cities Region Deal Annual Performance Report requirements and dates. The Annual Performance Report would cover the end of Q2 (2020/2021) to the end of the Q2 (2021/2022). A first draft was required to be submitted to the Governments by the 15th of December 2021 with a final agreed version to be completed by the end of March 2022.

On behalf of the Joint Committee the Chair thanked Ms Saunders for her presentation.

V TAY CITIES REGION DEAL – AUDITED AND UNAUDITED ACCOUNTS - VERBAL UPDATE

The Section 95 Officer, Robert Emmott gave a verbal update on the position in relation to the Audited and Unaudited Annual Accounts.

It was noted that the Accounts were available on the website. Audit Scotland provided External Audit Services to the Joint Committee and they would report in due course.

VI TAY CITIES REGION DEAL – BUSINESS JUSTIFICATION CASE FOR APPROVAL

(i) TCD007 5G DIGITAL TESTBEDS

There was submitted Report No TCRJC13-2021 by Robin Presswood, Executive Director of City Development, Dundee City Councilseeking approval for Business Justification Case (BJC) for TCD007 5G Digital Testbeds.

A joint presentation was given to the Joint Committee by Gregor Hamilton, Management Group Sponsor Representative and the Project Lead Officers Rory Young and Julie Craik, a copy of which is attached to this minute as Appendix II.

The Joint Committee agreed: -

- to consider the report and the BJC for TCD007 5G Digital Testbeds. (An Executive Summary was contained at Appendix 2 of the report and the full BJC would be available on request via Sharefile);
- (ii) to note the changes in outputs since deal signing and the rationale for these which were outlined in section 6 of the report; and
- (iii) to approve the BJC subject to final joint Government approval.

The Joint Committee further agreed to note that a briefing session on progress would also be arranged for the members of the Joint Committee

VII TAY CITIES REGION DEAL – PRESENTATION BY PITLOCHRY FESTIVAL THEATRE

A presentation was given by Project Lead Kris Bryce, Executive Director of Pitlochry Festival Theatre providing an update in relation to the Pitlochry Festival Theatre Project, a copy of which is attached to this minute as Appendix III.

Background to the Theatre was provided together with key milestones since its establishment in 1951. Work had commenced in 2021 on a second performance space as part of a larger redevelopment project. Work undertaken over the Covid Period was outlined together with activities programmed and scheduled since the reopening of the Ampi-Theatre. Many productions had been planned and scheduled attracting audiences from outwith the area and from a variety of age groups and backgrounds contributing to tourism within the region. Innovative activities such as the Digital Audio Theatre were outlined.

Renovation works at the Theatre were developed with support from outside agencies and stakeholder engagement was explained. The initial phase of works enabling future business operation continuity were commenced in 2020. These works would create more public space for activity and engagement. Facilities were also being upgraded.

In conclusion the next steps of redevelopment would involve the completion of Phase 1 works allowing for the reopening of the Theatre Buiding, the development of the Full Business Case with Tay Cities. A public findraising appeal would also be launched. There was also substantial investment being provided from the Tay Cities Deal and privately pledged. Phase 2 of construction would commence in 2023.

On behalf of the Joint Committee the Chair thanked Mr Bryce for his presentation.

VIII TAY CITIES REGION DEAL – CYBERQUARTER UPDATE

A joint presentation was given by Project Lead Lorna Edwards, Head of Business Development, Abertay University and Cheryl Torano, Business Development Manager for cyberQuarter providing an update in relation to the CyberQuarter Project.

It was reported that NHS Scotland's cybersecurity agency was the first tenant to be confirmed for the new cyberQuarter research and development hub at Abertay University in Dundee.

This would bring around 30 highly skilled cybersecurity jobs to the city. The team from NHS NSS (National Services Scotland) would take up office accommodation in the cyberQuarter when the building on Abertay University's Bell Street campus opened early 2022, providing cybersecurity operations to cover all of Scotland's health services.

The cyberQuarter was designed to attract new and existing cybersecurity firms to the region and was funded through the Tay Cities Deal and the new jobs were the first positions to be announced since the Deal was signed. The cyberQuarter would also support the creation of new companies, boost the security and resilience of the Scottish business community and facilitate the creation of new products and services through innovation-led research.

The Scottish Government had committed up to £6 million and the UK Government up to £5.7 million to the project, with Abertay University the other main funder.

As part of their tenancy, NHS NSS would invite Abertay cybersecurity students to gain work experience alongside their staff, ensuring valuable hands-on industry experience for the students and access to the very best graduate talent for the organisation.

It was expected that other cybersecurity organisations would either locate in the cyberQuarter or take up flexible working spaces in the building as the project rolled out, with some negotiations already underway.

Further awareness of cyber security was being expanded through visits to schools.

On behalf of the Joint Committee the Chair thanked Ms Edwards and Ms Torano for their presentation.

IX AOCB

The Joint Committee noted that there were no other matters which required to be brought to the attention of the Joint Committee.

X DATE OF NEXT MEETING

The Joint Committee noted that the next meeting of the Joint Committee would be held remotely on Friday, 10th December, 2021.

John ALEXANDER, Chair.

ΈΜ Νο …7……



- **REPORT TO:** TAY CITIES REGION JOINT COMMITTEE 10TH DECEMBER 2021
- REPORT ON: TCD029 STRETCH DOME SIMULATOR BUSINESS JUSTIFICATION CASE FOR APPROVAL
- REPORT BY: KEITH WINTER, FIFE COUNCIL
- REPORT NO: TCRJC15-2021

1.0 PURPOSE OF REPORT

1.1 This report seeks approval of the Business Justification Case (BJC) for the Stretch Dome Simulator, noting that the Tay Cities Management Group approved the BJC on 28th October 2021.

2.0 RECOMMENDATIONS

- 2.1 The Joint Committee is asked to:
 - a. Note that the Management Group has approved the BJC for the Stretch Dome Simulator on 28th October 2021 for recommendation to the Joint Committee.
 - b. Consider this report and the BJC for TCD029 Stretch Dome Simulator, attached at Appendix 2.
 - c. Approve the BJC.

3.0 INTRODUCTION

3.1 The TCD029 Stretch Dome Simulator project was awarded up to £300,000 at Deal Signing on 17th December 2020. It will deliver a powerful simulation facility at Eden Campus, as described below. The Business Justification Case is presented for approval which, if granted, will enable the project to draw down the allocated funding.

4.0 DESCRIPTION OF PROJECT

- 4.1 The simulator will be able to analyse historic data and, running at very high speed, provide a visualisation of systematic long-term trends in data, removing short term deviations. This can be used to create a forecast of future trends in climate change, coastal ecology, marine mammals, underwater acoustics, numerical modelling, clean energy, low carbon and new materials, among other things.
- 4.2 It will be used by companies working in energy systems, smart cities, sub-sea environments, terrestrial natural environments, advanced materials, and climate change solutions. It will allow them to undertake early-stage modelling and testing of the way their products might work, but without the expense, time constraints and complexity of testing in real environments.
- 4.3 The information contained at Appendix 1 summaries the key information for the project.

5.0 FINANCIAL IMPLICATIONS

5.1 This project is currently profiled to spend a total of £300,000 capital and no revenue from the Tay Cities Region Deal funding. The project entered into Deal as a year 10 (2029/2030) project. However, in September 2021 the Tay Cities Management Group agreed to prioritise the Stretch Dome Simulator project for accelerated funding to support the management of the Deal Profile. Therefore, the funding is anticipated to be drawn down as follows: over one year (2021/22) and for the full amount of £300,000, subject to Joint Committee approval. The project is designed to prove that the simulator is a powerful modelling tool that will support a range of policy makers and will in time lever in additional funding once established.

6.0 IMPLEMENTATION PLAN

- 6.1 This is a proof of concept project that utilises a powerful physics engine as a means of modelling different scenarios quickly, safely and in a cost effective manner. It has many applications that can help inform decision-makers in a risk-free environment and, if successful, will lead the way to a large-scale facility in Scotland.
- 6.2 To note, the number of jobs to be created identified in the BJC is 2; this is a variance of -1 from what was committed to at Deal Signing. However, the project owner has provided updated information that, since the BJC was approved by Governments, the creation of 3 jobs has been achieved, with the potential for a 4th job to be created in 2022.

Milestones

ID No.	Milestone	Due Date	Status
1.	Business Justification Case approved by Governments	2021	Approved
2.	Business Justification Case approved by the Tay Cities Partnership	2021	On target
3.	Space refurbishment to host the Stretch Dome Simulator	2020	Complete
4.	Installation of the Stretch Dome Simulator	Sept 2021	Complete
5.	Benefits Realisation Plan/reporting / Report on Proof of Concept	2022/23	On target

Outcomes and Targets

ID No.	Targets	Baseline	Target Uplift	Date
1.	New jobs	0	3	2021
2.	Leverage of additional investment through the Tay Cities Investment	0	tbc	2029
3.	Inclusive growth target/s	0	Targets will be based upon University D&I data and incoming clients will receive free training and advice workshops from the Head of D&I, if requested	From first project targeted for completion in December 2021.

6

Key Project Risks and Mitigations

Risk	Mitigation
The University of St Andrews is unable to fund the Full-Scale Simulator even though the pilot proves successful.	Development of a fundraising plan to bid for the investment in medium-sized simulator as a stepping stone towards the Full-Scale Simulator.
Loss of European research partners	Participation in the UN SMART Cities alliance will open up opportunities for further research partners.
The anticipated benefits from the Stretch Dome Simulator don't materialise	Recruitment of right mix of skilled staff to include: technical, research (including data analytics) and development skills as well as marketing and business to work on the Stretch Dome Simulator to fully realise the benefits and help make the case for the full-scale model. Build a pipeline of projects within academic communities and industry before the simulator is acquired to demonstrate early success.
Covid- 19 impacts to development projects from resource issues of materials and staffing to site closures with construction sector lock downs.	Ensure Eden Campus contingency planning and multi-disciplinary team approach with our contractors will minimise impacts throughout the design & build stages of projects. During the Simulator installation, specific COVID risk assessments will be in place by the contractors and reviewed by our EHSS team to ensure all Scot Gov requirements are complied with.
Brexit impacts negatively on ability to continue to attract the best academics from Europe and secure the best price for materials and services in development of the Campus.	The key risks associated with Brexit were divested amongst topic specific risks on the corporate risk register in order to embed those within the new 'business as usual' reality which is now in situ. This enables us to anticipate, plan and mitigate against those risks to the University and Eden Campus in a more agile way. With regard to construction projects the main mitigation is to ensure early engagement with contractors and where lead times of materials are constrained, to place orders as early as possible to secure price and delivery.

7.0 DECISION PATHWAY

7.1 The project has met the decision pathway milestones as follows.

Decision pathway milestones

Stage	Milestone	Date achieved
BJC	Governments' Endorsement	26 August 2021
	Thematic Board recommendation	6 September 2021
	Management Group approval	28 October 2021
	Joint Committee approval	Planned for 10 December 2021

8.0 CONDITIONS

8.1 Confirmation of position on Subsidy Control supplied by the University of St Andrews and evaluated by Dundee City Council as low risk.

9.0 POLICY IMPLICATIONS

9.1 This report has been subject to an assessment of any impacts on Equality and Diversity, Fairness and Poverty and Environment.

10.0 CONSULTATIONS

- 10.1 Keith Winter, Management Group Sponsor, and Andy Goor, Chief Finance Officer for University of St Andrews, have approved this paper.
- 10.2 The paper has also been approved by the Tay Cities Region Deal Programme Manager and S95 Officer.

11.0 BACKGROUND PAPERS

11.1 None.

Keith Winter, Executive Director of Enterprise & Environment Date: 22nd November 2021

8

APPENDIX 1

Project Information	
Project number	TCD029
Project name	Stretch Dome Simulator
Project owner	Geoff Morris, University of St Andrews
Responsible Finance Officer	Andy Goor, CFO, University of St Andrews
Management Group Sponsor	Keith Winter, Executive Director, Fife Council
Award amount under TCD	Up to £300,000
Jobs - target number of jobs to be created	2 new jobs per BJC
Leverage to be achieved	£0









Eden Campus Stretch Dome V3

SINGLE-STAGE BUSINESS CASE - MEDIUM VALUE AND RISK - (£250K TO £2 MILLION VALUE OF PROCUREMENT)

SRO:	Geoff Morris
Project Manager:	Karen Primrose
Organisation:	University of St Andrews

	Name	Signature	Date
Prepared by:	lan Hill	I Hill	June 2020
Reviewed by:	Karen Primrose	K Primrose	June 2020
Approved by:	Geoff Morris	G Morris	June 2020

This template is based on the Five Case Model and follows the Better Business Case Guidance. It has been developed by the International Better Business Case Programme.





Eden Campus Stretch Dome

0 INTRODUCTION

Our funding ask from the Tay Cities Deal is for £300k for the procurement and associated enabling works for a stretch dome simulator to establish SIMULATION-LED as a service with support of collaborative partners across industry, academia and local government. This advanced physics engine and visualisation suite would operate as a demonstrator for a larger full-scale immersive simulator sphere.

The simulator will be based around three guiding principles:

- Method novel virtual biosphere that operates across air, land, sea and built environment.
- Integrity collaborative partners working together in openness and transparency.
- Cohesion providing a data and knowledge framework in which ecological stewardship, communities, technologies and business are brought together.

It will pioneer Simulation-Led as a business and research approach to increase the certainty of outcome, by conveying systems' behaviour, in situ, from the outset of the design and planning process. It also specifically addresses the human and financial challenges surrounding innovation, by bringing to market a unique Sustainability Readiness Level Tool used that overcomes the well documented 'valley of death' in the traditional Technology Readiness Level (TRL) process.

The simulator will be able to analyse historic data and, running at very high speed, provide a visualisation of systematic long-term trends in data, removing short term deviations. This can be used to create a forecast of future trends in climate change, coastal ecology, marine mammals, underwater acoustics, numerical modelling, clean energy, low carbon and new materials, among other things. It will be used by companies working in energy systems, smart cities, sub-sea environments, terrestrial natural environments, advanced materials, and climate change solutions. It will allow them to undertake early-stage modelling and testing of the way their products might work, but without the expense, time constraints and complexity of testing in real environments.

1 STRATEGIC CASE

1.1 Context

The Stretch Dome Simulator will be located at Eden Campus, University of St Andrews (UStA), to help drive the implementation and development of Entrepreneurial St Andrews. This is one of four core themes of UStA's strategy (2018-2023). It will also contribute towards UK, Scottish and regional economic strategies.

At a regional level, there is the Tay Cities Economic Strategy and at a UK level the principal driver is the UK Industrial Strategy (<u>https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future</u>); the development of the simulator responds to three of the 'four grand challenges' posed:

- artificial Intelligence and data
- clean growth
- future of mobility

It will do this through the building of new infrastructure that will integrate people, from multiple disciplines and with a wide range of experience, by creating a supportive business environment, in which ideas, products and services can be rapidly developed, and knowledge exchanged.

Simulation and modelling allows SMEs to bring products to market more quickly, and at lower cost, than traditional field testing. It supports SMEs in technological sectors to become more competitive, encouraging the development of technological innovations here in the UK. The Simulator is an integrated simulation and visualisation suite that can be used to test research and innovation into for example: climate change; coastal ecology; underwater acoustics; low carbon and new materials. It will give user companies the ability to test solutions in rapid time, while also giving them the capability to demonstrate the impact of their work to a wider audience. For each of the ISCF challenges:

Artificial Intelligence and data - the simulator will support SMEs to use modelling and simulation as tools to support growth, encouraging digital innovation in SMEs. SMEs will have access to expertise in the University's School of Computer Science to allow them to work further on digital innovation and scientists within the trans-disciplinary, Scottish Oceans Institute. Use of the simulator will allow the development of new data sets from other institutions and settings, allowing the simulator to become a 'learning tool' for modelling real-world issues. During Q1 2021 strategic partners have been identified to develop the first project which will be focused on creating a digital twin of Eden Campus and St Andrews applying a Smart Cities approach on how to innovate efficient energy usage through the distribution networks in NE Fife. This will involve SP Energy Networks, Fife Council and Scottish Power Smart Solutions. Another similar project with the National Energy Research & Demonstrator (NERDS) project in East Ayrshire is also being discussed with Council members and the project's University of Strathclyde leads.¹

Clean growth - permits SMEs developing products in energy systems and energy storage to model the deployment of their products in a 'digital twin' of a smart city. The University is part of the Tay Cities Clean Growth group, allowing sharing of information and approaches between clean growth projects in the region and developing a coordinated approach to Scotland's Energy Strategy.

Future of mobility - low-carbon transport innovations can be tested and modelled in a virtual urban or rural environment, allowing SMEs to short-cut expensive and time-consuming field testing or the use of test beds. Close links with SMEs at the new MSIP facility will permit those companies to use the simulator for modelling of complex low-carbon power trains.

The 2050 Vision of the Scottish Government, is guided by three core principles of a whole-system view; an inclusive energy transition and a local energy model.

The project will also assist in delivering Scotland's Energy Strategy

(<u>https://www.gov.scot/Resource/0052/00529523.pdf</u>); by specifically addressing planning issues (including socio-economic issues) associated with offshore wind; the technology qualification and certification of hydrogen technologies for use in marine transportation; and taking a holistic, lifetime engineering approach to the energy sector as a whole, by placing the biodegradability/and or incorporation of materials into ecosystems at the heart of design.

At a local level, Fife's Economic Partnership (<u>https://www.fifeeconomypartnership.com/economic-information/</u>) sets out how Fife Council, Fife Economy Partnership and Opportunities Fife will work together towards achieving stronger, sustainable and more resilient economic growth for Fife which is shared by all. The Council's Economic Strategy 2017-2027 is aligned with the Scottish Government's Economic Strategy.

The simulator proposal is also guided by the University of St Andrews Strategy 2018-2023, which is structured across four distinct but equally important themes: World-leading St Andrews, Diverse St

¹ See Annex V2 UK/SCOT Gov Feedback reference SGV2_2 for reference.

Andrews, Global St Andrews, Entrepreneurial St Andrews. The D'Arcy Thompson Simulator at the Eden Campus aligns with the Entrepreneurial theme, by creating opportunities for businesses to develop and grow in collaboration with the University.

1.2 Case for Change 1.2.1 Spending objectives

The key objectives for the Stretch Dome will be:

- 1. To develop, by 2021, a dedicated simulator facility which will be the first of its kind in the UK
- 2. To create a new service for up to 30 innovative companies each financial year to access cuttingedge simulation facilities to test and assess innovations.
- 3. To demonstrate and prove the economic viability of a simulator for further business development in 2022 and beyond.

These objectives were tested and further refined at a stakeholders' workshop on 22 January 2020, attended by 11 people from within the University and from other stakeholders in the TCD area. This workshop was used to develop the business case below. The output from the workshop is attached as Annex B.

1.2.2 Existing Arrangements

The simulator facility will offer a wholly new service, which will provide opportunities for companies of a kind which does not currently exist anywhere in the UK.

The current proposal is for a 'proof of concept' facility in which one of the goals is to prove demand for a larger facility. However, we currently have a pipeline of prospective users for the new simulator. A full business plan has been created which shows that the simulator will be financially viable. This TCD proposal is for the initial capital for the equipment.

However, development work by the University with innovating companies since 2019 has created the conditions in which it is possible to create such a facility and to see a potential demand pipeline for the services offered.

It builds on an existing body of spin-out activity, and engagement in the blue economy, in particular, in which UStA is a leader. Five marine-focussed spin-out companies have been formed, making the marine biosphere a natural choice as a focus for enterprise intensification through Eden Campus. Relationships are mature, and trust and respect has been created.

In addition, one of these spin-out companies, the SOI Group Limited, is already a collaborative partner in two research projects in the OSC Simulator in Ålesund, Norway. On the back of this interaction, UStA has signed a Memorandum of Understanding with the Norwegian University of Science and Technology (NTNU) with a view to undertaking joint research at local, regional and global levels.

This collaboration allows the two institutions to share data and expertise in different fields, allowing a wider range of potential benefits for Scottish companies.

Additionally, our development work to date has stimulated interest from research activity at universities in the TCD area and created a demand pipeline from researchers for the proposed facility.

The UStA has also compared the proposed facility with services offered at the National

Decommissioning Centre in Aberdeen (<u>https://www.ukndc.com</u>), and we are satisfied that the two are not competitors: UKNDC has a focus on maritime decommissioning, and with no involvement in

terrestrial industries. It is also geographically quite focussed, whereas the proposals for the St Andrews Simulator would attract a wider variety of companies from across Scotland (and further afield).

Each company project will span several days of simulator time. Additionally, each project will require set-up and review time, so it is unlikely that there will be more than one user in any given week.

1.2.3 Business Needs

At present, any company wishing to introduce innovations into harsh or complex environments faces a lengthy and expensive testing period in real-life conditions, which can severely constrain new and growing companies.

Companies operating in our target sectors (of maritime and low-carbon) often locate in peripheral or dispersed areas, away from innovation support services and technological facilities. The facility will be aimed specifically at:

- SMEs developing products in:
 - o maritime
 - energy, low carbon, climate change & sustainability
 - o transport & logistics
 - o sensors & smart city applications
- Researchers looking to model scenarios, where the use of the simulator is built into research grants (and may reduce the cost of expensive fieldwork)

The lack of critical mass of innovation activity in areas such as North-east Fife does not facilitate technological innovation.

SME Focus

The user pipeline for the simulator is not composed of multi-national energy companies, but of the supply chain for offshore and energy technologies. It is aimed at the SMEs making components for the industry, and permits SMEs seeking to operate in such supply chains with an opportunity for a faster, cheaper route to market for their products.

The simulator offers an affordable route to testing for SMEs, at a facility they themselves could not afford to establish, but which can save them costs in the test and development process by testing in a simulator suite, rather than, say, hiring a ship for several days with the huge attendant costs. Our knowledge and understanding of companies operating in these target sectors suggest that what is needed is:

- A place to test and develop new innovative products at low cost, without the need for expensive prototyping.
- Access to high-quality R&D facilities which are above and beyond anything currently available in Scotland.
- Proximity to University knowledge and expertise to assist in the process of product testing and development.

Potential Scope and Services

The simulator development team are already in discussions with environmental assurance and compliance bodies, such as DNVGL for maritime technologies, to ensure that testing of technologies at the simulator is compliant with current environmental standards. This provides an additional service which client's may wish to add to the scope of work. In some cases, the simulator provides a low-cost, easy-access solution for early-stage testing, which will be followed by full scale verification which will be performed by the necessary regulation bodies - the simulator time permits a faster route to full regulation. In the case of consenting for offshore permitting, the simulator will not replace the necessary compliance requirements, but will enable SMEs to get there quicker.

The case for the simulator is based upon early engagement work with a range of companies who have expressed an interest in how the facility will help them to accelerate product development and shorten time to market. These companies will be using the simulator for product development, scenario planning and decision making. Possible applications include:

- Design and deployment of new vessels; e.g. autonomous boats
- New maritime industries; e.g. creation of artificial reefs, seaweed farming
- Smart cities planning: energy, low-carbon transport, urban planning, deployment of sensors
- Training operatives in virtual environments
- Modelling food systems and land use
- Ocean energy devices
- Biodiversity impacts; e.g. supporting investors to make sustainable investment decisions, or modelling impacts of climate change on species.
- Offshore Wind & floating wind

On this basis, the requirements will be:

	Core: essential requirements	Desirable: additional requirements	Optional: possible requirements
Potential business scope	Facility which permits companies to visualise new products or simulate data models in real-life settings.	Facility with full scope of VR tools to allow detailed testing and verification of data models in simulated environments.	Additional meeting rooms and development space to allow companies to establish a presence at Eden Campus during product development.
Key service requirements	Establish a space within one of the existing buildings on Eden Campus to offer a single room for companies to use simulator.	Refurbish existing building space to create a dedicated simulator suite with separate access and clear identity for private users.	Develop and build a stand-alone simulator centre with dedicated VR space, plus more advanced co-location facilities and meeting rooms.

1.2.4 Main Benefits²

Investment objectives	Main benefits criteria by stakeholder group
1. To open, by July 2021, a	Cash releasing (£s) Income from users
dedicated simulator facility which will be the first of its kind in the UK	Non cash releasing (£s) Enables other development on Eden Campus
	Qualitative University is more attractive to Marine and Low-Carbon researchers Improved attractiveness of the area to investors
 To create a new service for up to 10 innovative companies by the end of 2021 to access cutting- edge simulation facilities to test and assess innovations. 	 Cash releasing (£s) Income from users of the Simulator Additional research income associated with departments using the simulator Non cash releasing (£s) Improved facilities for staff research Improved commercialisation of university and company technologies Multiplier effects associated with the operation of the Simulator Economic impact of additional research funding to the university Effect of increased knowledge transfer with industrial clients Qualitative May lead to significant reductions in CO2emissions due to new technologies
 To demonstrate and prove the economic viability of a 	Cash releasing (£s) Income from users
full-scale simulator for	

 2 See Annex V2 UK/SCOT Gov Feedback reference UKV2_3 for reference

Investment objectives	Main benefits criteria by stakeholder group
further business	Non cash releasing (£s)
development in 2022 and	Multiplier effects related to the operation of the Enterprise Hub
beyond.	Economic impact of tenants of the Enterprise Hub
	Qualitative
	Increased entrepreneurialism in the area

1.2.5 Main Risks

Risk	Likelihood (L/M/H)	Impact (L/M/H)	Mitigation	Contingencies
Building/space not ready for stretch dome simulator.	L	L	Building and space has been allocated at Eden Campus and is currently being developed under the Tay Cites Deal Year 1 & 2 programme of works. The smaller (stretch dome) simulator requires only limited space.	There is a contingency plan in place that if the allocated building is not ready in time for early 2021 then the simulator will be placed in the Walter Bower House at Eden Campus on a temporary basis until permanent building is ready. Space has been identified and reserved.
Simulator design and technical requirements cannot be met by potential providers	L	Н	A detailed technical requirements will be scoped and defined and procurement will be through the Universities Procurement Office and follow the Procurement Strategy.	Our main contingency is to phase the development of the simulator from stretch dome to full size which will allow the development of the technical, data and software in a managed manner in strategic relationships.
Software technician expertise not found in Fife to level required.	М	М	Part of the procurement exercise there will be a requirement to provide full installation and training to our nominated staff.	Contingency plan would be to have a software technician on contract provided by simulator provider.
Lack of interest from potential user companies	L	Н	Wide programme of engagement and promotion planned during development of simulator. Links with other stakeholders in TCD (e.g. other universities) will broaden user audience. Introductions from OSC in Norway also promised.	Contingency planning will be part of the wider Eden Campus marketing campaign and website to ensure a wider audience is reached.
Focus on marine science	L	М	Scoping already undertaken for the wide range of applications	Contingency planning will be part of the business plan for

limits the possible applications and users			and possible users. Wide engagement across university to identify likely sources of data for non-marine applications.	operations of the simulator which will have operating targets and performance measures put in place.
			During the changed ways	Set a 2 year service level
No UK provider & maintainer of simulator found and reliance on outside of UK expertise. ³	Н	L	businesses function under COVID, the geographical boundaries and need for face to face communication has been lifted with the use of Video Conferencing facilities and remote access capabilities factored into simulator technical specification.	agreement with simulator provider to allow for time to develop in house expertise.

1.2.6 Constraints

• Successful conclusions of a service contract, following procurement exercise, with the identified delivery partners who will provide equipment, software, and IT back-up.

1.2.7 Dependencies

- Availability of appropriate refurbished space which is accessible for external users.
- Development of user pipeline of interested companies.
- Development of detailed specification for service contract.

2 OPTIONS ANALYSIS

2.1 Critical Success Factors

	The extent to which the simulator creates a portfolio of successful case studies with real-world impact.
Strategic fit and business needs	Engaging with a wide range of users from multiple sectors.
	Demonstrating positive results that are cost effective, timely and make a difference.
Potential value for money	Building a user base with diverse income streams, that will swiftly move the simulator to commercial viability - while demonstrating the potential scope for a larger facility.

³ See Annex V2 UK/SCOT Gov Feedback reference UKV2_2 for reference

Supplier capacity and capability	Developing working relationships with other stakeholders across the TCD area. Creating the case for growth and extension of the simulator and services after the TCD investment.
Potential affordability	Demonstrating the case for external sources of fundraising, such as research funding in addition to commercial income.
Potential achievability	Develop proven applications of the simulator beyond its core business of marine science and low carbon into other fields.

2.2 Main Options

Table 1: Summary of Options Appraisals

OPTION 1	BUSINESS AS USUAL (BAU)
Description	 No simulator exists in Scotland. Companies needing the research and development services of such a facility are facing either: a) Using facilities in England (particularly those in Grimsby) which are difficult to access and tied up for training purposes for much of the time b) Travelling to Norway to use the facilities at NTNU c) Expensive real-life testing of new products and prototypes, entailing field testing costs
Net Costs	Current costs across a range of companies are difficult to estimate. As an example of the high opportunity cost of current arrangements, any company wishing to test maritime sector equipment in an offshore setting faces a cost of several hundred thousand pounds for boat hire and associated technician support.
Advantages*	Defers the cost of developing a simulator in Eden Campus and leaves ongoing revenue costs with other partners' facilities
Disadvantages*	Expensive current R&D costs for companies, missed opportunity to build a cluster of high- tech expertise in the TCD area.
Conclusion	This option does not meet the spending objectives, and delivers none of the critical success factors identified. It would not build additional economic activity in the TCD area.
OPTION 2	DO MINIMUM: Develop small-scale stretch dome simulator
Description	Development of a small-scale version of the simulator which can occupy space within one of the existing Eden Campus buildings. This initial investment will build a user base and establish Eden Campus as a hub for innovation and R&D in a range of sectors, based on expertise in a variety of operating environments (marine and terrestrial, natural and urban).
Net Costs	The Capital Expenditure to purchase and install the Stretched Dome Simulator, and provide supporting meeting facilities is estimated at £300k.

Advantages*	Allows the University to make an early start on developing a facility, at a time when Eden Campus is undergoing major development and establishing a reputation as a hub for business interactions. Demonstrates the proof of viability for the simulator at low risk.						
Disadvantages*	Given the levels of interest already demonstrated, the smaller stretch dome simulator could become fully-booked very quickly, and could reduce opportunities for research use, as opposed to corporate use, thereby limiting users and the range of data which can be incorporated.						
	This option would address the stated objectives in a timely manner, and would deliver the required benefits at low cost.						
Conclusion	The stretch dome will demonstrate the speed and competence with which UStA and the TCD area can establish and support new, internationally orientated, knowledge-led companies.						
OPTION 3	Full-scale stand-alone simulator						
	The initial 'stretch dome' model will establish proof of concept and make the business case for further expansion.						
	Larger examples (e.g. at NTNU in Norway) offer an integrated suite of multiple simulators to allow for testing of many products within a system, or for multiple users.						
Description	Scale-up is dependent upon:						
	Greater hardware capability (more projectors, more and bigger screens, larger computing capacity)						
	• Software – a wider variety of applications with more diverse sources of data.						
	Developing the business case for a scaled-up facility will depend on effective outreach with users and stakeholders						
Net Costs	A full stand-alone simulator suite with multiple screens and rooms for users has been previously estimated at £7m (2018 estimates).						
Advantages*	Would create a high-profile facility which would be a significant addition to the TCD area and would attract interest from around the UK.						
	Greater impact on jobs and wealth creation.						
Disadvantages*	High initial expenditure on a facility, anticipating a level of demand which is as yet unproven.						
	Requirement for space would outstrip the physical development of Eden Campus, creating problems for housing of the full simulator.						
Conclusion	This option would have the greatest impact on jobs and wealth creation. It would address the first two of the objectives, and would deliver all of the main benefits, but at higher cost and risk.						

2.3 Recommended option

The recommended option is **Option 2:** to develop the smaller stretch dome simulator in existing buildings within Eden Campus. The rationale for this is that it:

- Delivers the stated objective to create a wholly new facility which would be unique in Scotland and which would attract interest from a wide range of user companies
- Delivers the objective to support companies to innovate, by creating and testing new products and solutions in a controlled environment

- Allows the University to test and demonstrate the market for the simulator before moving on to a larger-scale development
- Allows for an early start on developing a simulator, building company engagement at an early stage in the Eden Campus development.

3 PROCUREMENT ROUTE

Procurement of equipment, works and services has been conducted in full compliance with the University's procurement strategy and procedures and in compliance with the provisions of EU directives and Scottish legislation.

All procurement within the University is carried out in compliance with the following strategy and operating procedures, which are contained within the Annexes:

- Annex C Procurement Strategy and Action Plan
- Annex D Procurement Financial Operating Procedure
- Annex E Methods of Ordering Goods and Services

The TCD ask is £300k of which an estimated £240k will be for equipment and the service contract, with the remainder used for refurbishment/enabling works of a building/space at Eden Campus. As the EU threshold for Goods & Services is £189K, the procurement was actioned through the University's procurement route. An initial decision will be whether or not the project requires two stages (prequalification then tender) or whether single stage is viable. If it's to be two stage then the initial document required to be completed is an ESPD (European Single Procurement Document) which is the PQQ, then it's Invitation to Tender.

The decision on whether the project requires a single stage or two stages depends on the following factors:

- Value of the contract
- Complexity of the requirement
- Timescales for the project
- Supplier market (anticipated level of interest)
- Criteria for appraisal and award

The minimum timeline for each of these stages is around 30 days.

We have drafted a procurement notice for the stretch dome which is included as an Annex.

• Annex F – Draft Procurement Notice Stretch Dome

Update December 2020

The procurement notice was put out to market in October 2020 and the procurement exercise and assessment criteria included measuring sustainability which includes, energy, the environment and wider community. This is a highly specialised piece of kit and when we went to the market nobody in the UK submitted a tender, (the procurement process is on hold pending the outcome of this submission) Community benefits are very important to all our work and benefits will be derived from the purchase of the simulator. For example, benefits will accrue from utilisation of the simulator for

natural coastal defence systems in collaboration with the Eden Campus Biodiversity expert. The simulator will be able to address a range of issues of importance to the wider community such as transport modelling or energy systems management.

The University has discussed a service level agreement with the simulator provider that includes training and software support. In addition, the University's own Computer Sciences Dept and IT Services professional staff will be available (and indeed are keen) as well as a wider consortium of people contributing to the business case that includes for example Prof Ruth Falconer who is Head of Computing and Mathematics at Abertay University.

4 FUNDING AND AFFORDABILITY

This abbreviated business case is to support the capital funding of the stretch dome simulator which will be used as proof of concept for a larger more immersive simulator.

As part of the proof of concept period the University is underwriting the revenue costs for the first year (FY 21/22). We can confirm that an order has been placed to purchase the simulator and the University acknowledges it will be operating at risk.

However, as would be expected, we are creating a Joint Venture to run the proof of concept stage and are comfortable that our business model takes into account the operating costs, for which we have accurate estimates.

Lifespan (YRS of TCD)		Year 1	Year 2	Year 3	Year 4	Year 5	Total
		2020/21	2021/22	2022/23	2023/24	2024/25	
Capital Expenditure							
1	Fixed assets (equipment)		230,000				230,000
2	Software (service & software updates)		10,000				10,000
3	Other Capital item (building enabling works)		60,000				60,000
4	Total Capital costs (CAPEX)		300,000				300,000
Oper	ating Expenditure						
5	Personnel		60,000				60,000
6	Depreciation		57,500				57,500
7	Maintenance		2,000				2,000
8	Operating licences etc.		31,000				31,000
9	Training		5,000				5,000
10	Other Operating costs		2,500				2,500
11	Total Operating costs (OPEX)		158,000				158,000
Total	Expenditure						

Table 2: Cost and Funding for the Recommended Option⁴

⁴ See Annex V2 UK/SCOT Gov Feedback reference SGV2_5 & 6 for reference.

Lifes	pan (YRS of TCD)	Year 1	Year 2	Year 3	Year 4	Year 5	Total
		2020/21	2021/22	2022/23	2023/24	2024/25	
12	Total Project Costs (CAPEX + OPEX)		458,000				458,000
Fund	ling						
13	CAPEX funding (TCD expected by 2030)		0	0	0	0	0
14	OPEX funding (UStA)		158,000	0	0	0	158,000
15	Third party funding (CAPEX if any)		0	0	0	0	0
16	Third party funding (OPEX)						
17	17 Total funding		158,000	0	0	0	158,000
Affore	dability Assessment						
18	Shortfall/Overage CAPEX (CAPEX		300,000	0	0	0	300,000
	Costs – Total CAPEX Funding)						
19	Shortfall/Overage OPEX (OPEX		0	0	0	0	0
	Costs – Total OPEX Funding)						

The grant funding associated with the simulator currently sits towards the end of the TCD financial profile. This is, however, a highly innovative project that cannot wait ten years for funding; by definition it would no longer be innovative at that point, whereas it is currently nationally best-in-class. The University will be requesting that the TCD Joint Committee brings forward this investment into the current year (as noted), especially as we are under pressure to contribute to the overall TCD spend targets. For clarity, the University would not take out a loan for this amount (£300k), so that the business case does not reflect any interest charges and the University is prepared to proceed at risk in the knowledge that the drawdown of funding may not be forthcoming until Year 10 of the TCD Spending Profile.

5 DELIVERY ARRANGEMENTS

The University is experienced in delivering estates schemes and already has in place a dedicated and experienced inter-disciplinary Eden Campus Programme Board, led by Derek Watson, Quaestor and Factor. The Board is overseeing both the construction phase of all Eden Campus projects and delivery of successful end uses for the completed spaces.

5.1 Project management

All projects, whether funded through the Tay Cities Deal or through other funding streams, are managed with the same governance and approach as utilised by the Universities Estates delivery team. The Large Capital Projects Governance Guide describes its purpose is to ensure that all major capital development projects on the University's Estate are governed, appraised, scoped, approved and delivered in a consistent and effective manner, with consideration of best practice in project delivery and value for money.

The guide has been designed for use on all projects above the gross capital threshold of £1m. Some governance elements are optional for projects with value less than £1 million and with lower risk but the structure of the process should be followed. The stretch dome project will follow the same process for delivery and will go through the governance process via the Eden Campus Board.

Other governance arrangements and details of key project management team members are provided in the Annexes as follows:

Annex G - Large Capital Projects Governance Guide

Annex H - Project Management Process Procurement Engagement Model

5.2 Project assurance

Within Eden Campus, all projects (independent of value) will be overseen by the Eden Campus Programme Board on behalf of the University, with delegated authority to manage the projects through the approvals gateways and escalate to PARC and Court at the appropriate stages. The Board has been formed from members of the University Executive, Non-Executive Court members and Strategic Stakeholders whose membership is as follows:

- Derek Watson, Quaestor and Factor (Programme Sponsor)
- Professor Lorna Milne, Master and Deputy Principal
- Professor Tom Brown, Vice-Principal (Research & Innovation)
- Professor Brad MacKay, Vice Principal (International Strategy and External Relations)
- Andy Goor, Chief Financial Officer
- Geoff Morris, Director of Eden Campus (Programme Director)
- Mark Simpson, Director of Estates
- Ester Ruskuc, Director of Strategy and Policy
- Tim Allan, Non-Executive Member of University Court
- Eve McCurrich, Non-Executive Member of University Court
- Keith Winter, Executive Director Enterprise & Environment, Fife Council

The governance arrangements within the University and the Tay Cities Joint committee are as follows:



The governance of the stretch dome project will be direct through the Eden Campus Programme Board and the programme team, as the project is smaller in value than the other Tay Cities Deal projects and so will not have its own dedicated project board.

The Eden Campus Programme Board will hold responsibility for change control, quality assurance and risk management for the lifecycle of the project, understanding the variance between delegated authority at project level and the need to escalate to the Eden Campus Programme Board where agreed tolerance levels would be breached.

5.3 Change management

The change management processes are structured to achieve two key objectives:

- Manage the baseline (i.e. cost, time, specifications);
- Comply with governance structure that caters for appropriate authority/approvals levels.

Change is managed on a day-to-day basis by the project manager in compliance with the Large Capital Projects Governance Guidance, escalating as and when required to the appropriate governance Board/Committee for resolution. This is presented below.



Change control with regard to a minor or major change, will follow the key process steps described below (all major changes will also comply with any procedures set by the Tay Cities Joint Committee):

- 1. Capture: description of the change and expected benefits or other reason for the change;
- 2. Priority: priority is assigned to assist in the resolution timescales;
- 3. Analyse: change is reviewed;
- 4. Escalation: may occur due to unexpected change impacts;
- 5. Recommend and Decide/Authorise: determine the course of action;

6. Implement & Document: document the outcome within minutes of Board/Committee & change register;

- 7. Update plan and schedule: inform stakeholders affected by the change;
- 8. Report: Change details reported.

5.4 Benefits realisation and plans

This Proof of Concept project will directly create 2 jobs in the development and operation of the simulator. Indirect jobs will accrue in user companies, and will be dependent on the nature of the projects delivered at the simulator. Performance indicators for this project will include:

- 1. To open, by July 2021, a dedicated simulator facility which will be the first of its kind in the UK
- 2. To create a new service for up to 10 innovative companies by the end of 2021 to access cutting-edge simulation facilities to test and assess innovations.
- 3. To demonstrate and prove the economic viability of a full-scale simulator for further business development in 2022 and beyond.

The benefits of the stretch dome are related to the overall Tay City Deal projects and Eden Campus as a whole. The main key benefits are listed below.

BENEFIT CATEGORY	BENEFIT CLASS	BENEFIT DESCRIPTION
DIRECT PUBLIC SECTOR BENEFITS (TO ORIGINATING ORGANISATION):	Cash releasing benefits	Income from users of the Stretch Dome Additional research income associated with the use of the stretch dome.

	Monetisable non-cash releasing benefits	Enables other development on Eden Campus. Improved commercialisation of university technology. Economic impact of additional research funding to the university.				
	Quantifiable but not readily monetisable benefits	Improved facilities for research staff and students.				
	Qualitative but not readily quantifiable benefits	University is more attractive to scientists carrying out research due to enhanced facilities.				
INDIRECT PUBLIC SECTOR BENEFITS (TO OTHER PUBLIC SECTOR ORGANISATIONS):	Cash releasing benefits	Economic impact of users of facilities in Tay Cities Region.				
	Monetisable but non cash releasing benefits	Multiplier effects associated with the operation of the stretch dome.				
	Quantifiable but not readily monetisable benefits	Improved retention of trained simulator staff in Tay Cities Region.				
	Qualitative but not readily quantifiable benefits	Improved attractiveness of the area to investors, industry and tenants to Eden Campus.				
WIDER BENEFITS TO UK SOCIETY (E.G. HOUSEHOLDS, INDIVIDUALS, BUSINESSES):	Monetisable including cash benefits	Enables economic boom to the area with commercial companies seeking out Stretch Dome services and access to Tay City Region partners.				
		Reduction in time and cost to research projects and commercial simulations.				
		Effect of increased knowledge transfer with industrial clients.				
	Quantifiable but not readily monetisable	Increased entrepreneurialism in the area.				
	benefits					
	Qualitative but not readily quantifiable costs and benefits	May lead to significant reductions in CO2 emissions due to new technologies.				

5.5 Risk management arrangements

Risk management within the stretch dome project will follow the overall Eden Campus projects under the Tay Cities Deal and all risks will be included in the overall risk register. The key principals of risk management are to identify and manage risk through a structured approach that focuses management attention on early identification, effective risk mitigation and stringent control informing recommendations for risk provision and contingency allocation. Risk management aims to maximise the results or positive events (opportunities) and minimise the impact of adverse events (threats).

5.6 Post evaluation arrangements and plans

At project completion the projects will be evaluated to measure the benefits realised against those expected as outlined in the Business Case, culminating in a report to the Eden Campus Programme Board and Tay Cities Joint Committee, on the achievements of the project, as well as lessons learned for future projects. Evaluations will normally take place a minimum of 6 months after project handover and will be managed by the Eden Campus programme team.

5.7 Contingency plan

The contingency plan is contained within the overarching Eden Campus risk register with associated contingencies identified for each risk.

Annex B: Workshop – Making the case for change

As suggested in the guidance we conducted a workshop and invited attendees from across the University, external subject matter experts and academic partners from Tay Cities Region.

Eden Campus: D'Arcy Thompson Simulator Meeting Note Wednesday 22 January 2020

Attendees

Derek Watson (Quaestor, UoSA); Keith Millican (SOI Group, UoSA); Mike Gettinby (Legal Services, UoSA); David Stevenson (Research funding, UoSA); Duncan Robertson (Physics & astronomy, UoSA); Ian Miguel (Computer Science, UoSA); Moya Crawford (D'Arcy Thompson Simulator); Geoff Morris, Ken Primrose & Ian Hill (Eden Campus, UoSA); Ruth Falconer (Abertay University)

Introduction

The Stretch Dome Simulator is a technological tool to support companies and academic collaborators to test and model new innovations in a simulated environment.

The simulator will be able to analyse historic data and, running at very high speed, provide a visualisation of systematic long-term trends in data, removing short term deviations. This can be used to create a forecast of future trends in climate change, coastal ecology, marine mammals, underwater acoustics, numerical modelling, clean energy, low carbon and new materials

Potential applications of the simulator

Supporting behavioural change, scenario planning & decision making, or product development. Possible applications include:

- · Design and deployment of new vessels; e.g. autonomous boats
- · New maritime industries; e.g. creation of artificial reefs, seaweed farming
- · Smart cities planning: energy, low-carbon transport, urban planning, deployment of sensors
- · Training operatives in virtual environments
- \cdot Modelling food systems and land use
- · Ocean energy devices

• Biodiversity impacts; e.g. supporting investors to make sustainable investment decisions, or modelling impacts of climate change on species.

Target users

SMEs developing products in:

- maritime
- · energy, low carbon, climate change & sustainability
- transport & logistics
- sensors & smart city applications

Researchers looking to model scenarios, where the use of the simulator is built into research grants (and may reduce the cost of expensive fieldwork)

Technical requirements

The simulator is built on a 3-D visual model and a mathematical model. The computing engine underpinning the simulator can be built on a bespoke system, or an existing game-based model, e.g. existing Unreal Engine. At the moment, the University is exploring the latter due to greater credibility and a wider range of detailed data.

In either case, it will be important for the University to develop a platform which has a terrestrial model, based on St Andrews, to allow companies & other users to test in a simulated real environment.

Extending the range of applications of the simulator will depend on the availability of data to create an offer of the right quality. The data sets must be validated to ensure that what is offered has external credibility.

Scalability

The initial 'stretch dome' model will establish proof of concept and make the business case for further expansion.

Larger examples (e.g. at NTNU in Norway) offer an integrated suite of multiple simulators to allow for testing of many products within a system, or for multiple users.

Scale-up is dependent upon:

· Greater hardware capability (more projectors, more and bigger screens, larger computing capacity)

· Software – a wider variety of applications with more diverse sources of data.

Developing the business case for a scaled-up facility will depend on effective outreach with users and stakeholders:



Critical success factors

- · Portfolio of successful case studies with real-world impact
- · Going beyond the core business of marine science into a wider range of applications
- \cdot Developing working relationships across the TCD area

- \cdot Building a wide level and range of participation
- · Proving engagement of research, and strengthening bids for research funding
- · Successfully demonstration case for a larger simulator suite

ITEM No ...8......



REPORT TO: TAY CITIES DEAL JOINT COMMITTEE – 10th DECEMBER 2021

REPORT ON: ANNUAL ACCOUNTS

REPORT BY: ROBERT EMMOTT, TAY CITIES S95 OFFICER

REPORT NO: TCRJC16-2021

1.0 PURPOSE OF REPORT

- 1.1 This report seeks to:
 - Provide an update on Annual Accounts and Audit requirements for the Tay Cities Deal.

2.0 RECOMMENDATIONS

2.1 The Joint Committee is asked to note the contents of this report.

3.0 ANNUAL ACCOUNT AND AUDIT REQUIREMENTS

- 3.1 The Dundee City Council Draft Annual Accounts 2020-21 and Audit Report were considered and approved at the Scrutiny Committee held on the 17th November 2021.
- 3.2 As previously reported to the Joint Committee in September 2021, it is considered that financial reporting and audit requirements can be satisfied in the following ways: -
 - The Financial Statement included in the Tay Cities Region Deal Annual Report.
 - The summary financial disclosure within the Accountable Body's annual accounts, which are subject to external audit.
 - Partner organisation financial statements, where they have an obligation to report on the grant claimed and received, which are also subject to external audit.
- 3.3 Accordingly, the relevant information relating to the Tay Cities Region Deal can be found in Note 50 on pages 137-138 of the Draft Annual Accounts 2020/21. The Draft Annual Accounts can be accessed <u>here.</u>

4.0 CONSULTATIONS

4.1 Corporate Finance Service of Dundee City Council have been consulted on this report.

Robert Emmott, Tay Cities S95 Officer

Date: 26th November 2021

ITEM No ...9......



REPORT TO: TAY CITIES REGION DEAL JOINT COMMITTEE – 10TH DECEMBER 2021

REPORT ON: TAY CITIES REGIONAL ECONOMIC STRATEGY – ACTION PLAN UPDATE

- REPORT BY: ALISON SMITH, ANGUS COUNCIL (FOR HOED)
- REPORT NO: TCRJC17-2021

1.0 PURPOSE OF REPORT

1.1 This report provides an update to the Joint Committee on the progress of delivery of the Action Plan and the proposed reporting mechanism. It was agreed at Management Group on 25th November 2021 for presentation to the Joint Committee.

2.0 RECOMMENDATIONS

- 2.1 The Joint Committee is asked to consider this report and
 - a. Note the progress reported on the Regional Action Plan (Appendix 1)

3.0 BACKGROUND

- 3.1 The Tay Cities Regional Economic Strategy Action Plan seeks to implement approaches arising from the Regional Economic Strategy agreed in 2019 and was developed through an initial event in January 2020 with the four partner councils, Dundee and Angus, Fife and Perth & Kinross and Tactran, Chambers of Commerce, Scottish Enterprise and SDS to ensure alignment to the Skills Programme Outline Business Case. The aim was to review the Regional Economic Strategy and develop actions that addressed the priorities identified therein. There was also discussion with VisitScotland and the Chair and Vice Chair of the Tay Cities Regional Enterprise Executive.
- 3.2 The Action Plan was revised in light of COVID-19 pandemic and a revised scope developed from May June 2020. The Action Plan was further refined to consider emerging priorities from national and regional strategies and COVID-19 recovery plans. A revised Action Plan was agreed by the Joint Committee in December 2020.

4.0 GOVERNANCE AND REPORTING

- 4.1 The Heads of Economic Development oversee delivery of the Action Plan and have implemented a monitoring and reporting framework to oversee progress.
- 4.2 The Action Plan is now available through a MS teams Channel hosted by Dundee City Council for all Leads and Thematic groups to access and update. The aim is to ensure the Action Plan becomes a live document and updated easily and regularly, with progress reported more frequently and risks highlighted more quickly.
- 4.3 Action Leads have been issued with the following deadlines to provide regular updates and use a RAG status to record progress. Leads are asked to submit updates one week before the Heads of Economic Development meetings.in the form of three minute update with RAG status.
- 4.4 The Heads of Economic Development then consider these reports and in particular, exception reports requiring escalation.

5.0 CURRENT POSITION

- 5.1 Most of the actions are currently Green with no issues identified in terms of progress.
- 5.2 Highlights include:

GREEN - Culture & Tourism Thematic Advisory Board

A paper was prepared for September Culture & Tourism Thematic Advisory Board for endorsement. This sets out a proposed regional approach to implementation of the agreed regional tourism strategy, taking account of the post-COVID landscape, over the remainder of 21/22, 22/23 and 23/24.

GREEN - Connectivity

National Transport Strategy (NTS) – Roles and Responsibilities group set up to look at regional collaboration in transport. Tactran currently operates collaboratively regionally through a number of groups – Regional Transport Liaison Group, Tay Cities Regional Transport Working Group (STPR), Tayside Bus Alliance, Freight Quality Partnership. Not too rigid about boundaries e.g Fife Council, Sestran and Hitrans invited to Regional Transport Working Group

GREEN - Innovation Support

National level innovation support available to companies has been outlined by Scottish Enterprise Innovation and Enterprise Services and Funding Information and Support Service (FISS). Next step is to share the response with Michael Wright, Chair of the International & Innovation Thematic Board and the HE/FE Forum.

AMBER - Industry Groups Mapping

Mapping works of all industry groups undertaken and completed across all 5 sectors of the TCD. Next step is to share the mapping work with the 5 Thematic Boards for their review.

- 5.3 There still requires to be a discussion on the requirement for some dedicated support to implement a framework for collation of data, and potentially moving to a performance tool such as Pentana.
- 5.4 It is proposed to arrange a meeting with thematic leads and HOED to discuss initial feedback on reporting mechanism, progress and future years review as well as discussing communication of successes and progress.

Author: Alison Smith, Interim Director of Vibrant Communities and Date: 19th November 2021 Sustainable Growth – Angus Council

Tay Cities Regional Economic Strategy Action Plan

A	В	D	E	F	G	н	K	L	м	N	0	P	Q
1			2021/22			Re	gional Economic Strategy Action Plan		Later (2023+)				
Theme	Sub Theme	Action	Challenge/opportunity	Timescale	Lead	RAG status	Update Dec 21	Action	Challenge/opportunity	Timescale	Update March 2021	Lead	RAG status
Regional Economic		Ensure activities are coordinated;	Meaningful engagement with the	Orgoing	Chair of HOED	Amber	Meeting convened to review and refresh	h					
Strategy - Coordination		maximise regional impact and prioritise activity	private sector will deriver better industry buy-in.				Enterprise Forum.						
4													
Regional Economic Strategy	Place promotion	Promote the Tay Cities Region as the best place to live work and visit-	Tay Cities region suffers issues with talent attraction and retention. COVID-	Mar-22	Enterprise Executive Forum	Amber	Meeting convened to review and refresh Enternrise Forum	h					
Communication and Marketing		complement regional approaches for tourism and investment	19 has changed how people work.										
in a second													
5													
Competitive, resilient, sustainable key business	All sectors: industry groups	Map and review current industry groups, in conjunction with relevant	Remove duplication and lack of clarity between TCD governance and wider	Dec-21	Scottish Enterprise	Green	Mapping works undertaken and completed across all 5 sectors of the						
sectors		Theme Board, to ensure co-ordination of regional initiatives across appropriate	regional strategy delivery. Collaboration and engagement with the private sector				TCD. To be shared with Thematic Boards.						
		industry groups. LAs to consider the support needs of industry groups	will deliver better industry buy-in.										
6													
	All sectors: Resilience & recovery	scrutinise sectoral and local recovery plans to identify gaps and opportunities	important to be clear what is best delivered locally and where value can be	May-21	HOED	Amper	Collaboration opportunities continue to be discussed						
		where a regional approach makes sense and actions can be identified to build	added by working regionally.										
7		back better at scale.											
	All sectors: Innovation	Raise profile of innovation support/offer to partners and business/industry.	Increase rates of innovation and R&D rates in the region.	Dec-21	Scottish Enterprise	Green	National level innovation support available to companies has been	Ensure innovation support model is fit and relevant to collective partner	Low rates of R&D and need for coordinated approach.			Scottish Enterprise	
			-				outlined by Scottish Enterprise	support to innovation in the region.					
							Funding Information and Support						
							Jan 10.0 (11.3.3).						
8													
Π		Create better, more accessible links between husinesses and the region's	Our region has one of the lowest rates of BERD	Mar-22	Innovative and International Board	Green							
		four universities to increase the uptake											
		development.											
9	All sectors:	Develop regional approach and	Coordination, where suitable, will	Mar-22	HOED / LA's								
	Community wealth building	encourage local partners to consider supplier development & community	enable greater benefits.		Procurement								
	1	benefits from construction-related procurement projects.				1		1	1		1		
10	1	Build regional community wealth	Potential positive impacts from a	Mar-22	HOED							1	
11	1	building approach with development of actions plans for all I A areas	collective approach to Community Wealth Building.									1	
11	1	Sustain levels of hurinove and	Franching recovery to continue	Organisa	Social Good Cover							1	
	1	community volunteering that has	supporting vulnerable people in the	Sulfaring	/ Industry champion	1		1	1		1		
12		emengera as a result of covid response	Contributions.				L	1			<u> </u>		L
11	All sectors: Business support services	Develop a regional Clean Growth Proposition and action plan. Establish a	Make our region a clean growth area, aligned with national policy and	Mar-21	Innovative and International Board	Green	Working Group established and progressing the Asset Mapping exercise	-					
	1	regional working group to develop the Action Plan.	strategy.		(with LAs and SE)		being led by commissioned consultants. Forecast completion date March 2022.		1		1		
13	1	1						1	1		1		
12		Develop a regional prospectus for	Promotion of opportunities within the	Mar-22	Scottish	Amber	Regional Inward Investment Proposition	1					
		and a second sec	- grant.		Development		completion and sharing with partners in oxide 2022. Cline Completion					1	
					International		development underway (see update						
							against action above).						
14		Develop a stronger trade and	Help business to grow local markets.	Mar-22	Trade & Investment	Green							
		investment delivery model providing one stop-shop access to international	a la		Group								
16		services for the region.											
12	Culture & tourism	Ensure regional approach to regional	Our region has the potential to offer one	Jun-21	Regional Tourism	Green	Connector themed groups/initiatives						
		tourism connector themes: outdoor activities, food & drink, culture &	of the UK's best activity and adventure based tourism experiences in the UK.		Leadership Group		continue to develop with cross-region links being made. Outdoor: Perthshire						
		creative.					Adventure and emerging Outdoor Angut group; F&D: Appetite for Angus, Food	6					
							from Fife, Great Perthshire and Dundee's recent UK's Sustainable Food						
							Places project; Culture/Creative: Perthshire Creates and Cult. Create Inter	6					
							reg project.						
16		Clarify regional leadership and	Clear governance structure required	Aug-21	Culture and Tourism	Green	C&T Assessment panel integrated with						
		governance of both tourism and culture	with agreement on leadership and clarity on roles within both tourism and		Thematic Board		thematic board from March.; Culture leads joining Board: Greater alignment						
17		Evolore development of a "product	culture. Enable diversification of the regional	Sen.21	Trade & investment			Identify support to strengthen industry	Growing the pride in place of the region	Mar.22		Culture and Tourism	
		development challenge fund".	business supply offer	Jep-11	Group			leadership in the region for both tourism	and regional promotion of events.	1000-22		Thematic Board	
18								and culture	Opportunity to connect current volunteers, ambassadors and pride in				
		Form a short life Task & Finish Group focused on regional strategy and COVID	Consider the extent of change (supply and demand) and provide an updated	Mar-21	Culture and Tourism Thematic Board	Green	Work has been developed that sets out a proposed regional approach to	Develop regional public events programme	Support the restablishment of public events to drive footfall and support the	Mar-22		LAs	
		recovery	market focus combining culture & tourism (post Covid)				implementation of the agreed regional tourism strategy, taking account of the		events sector.				
							post-COVID landscape, over the remainder of 21/22, 22/23 and 23/24						
19													
		Draw together the key existing	Create a "business case" for resource	Sep-21	Culture and Tourism	Green		Develop programme of tourism industry	r	Mar-22		Regional Tourism	
		evidence base, to distil a regional	deliver returns for the region		Thematic board			stimulate new ideas. This may include				ceases sing croup	
		approach and tramework						regional tourism conterence, ideas- pitching event and business support					
20		Develop a regional cultural strategy to	Address the identity of culture within	Mar-22	Regional Cultural			webinars					
		meet needs of residents and visitors.	the region.Opportunity to align & demonstrate regional delivery of		Agencies Group								
21	Advanced	Ensure collaboration between national	national culture strategy outcomes Require collaboration across initiatives	Mar-21	Scottish Enterprise	Green	COMPLETE						
11	manufacturing & engineering	and regional manufacturing initiatives/projects (e.e.	and a coordinated approach to the sector to capitalise on the region's				1	1	1		1		
22		MSIP/TCEP/Eden/NMIS).	potential in this area.				1	1	1		1		
Ħ	Food & drink	Explore regional shared	Opportunity to build on regional assets	Mar-22	TACTRAN/ Regional	Amber	Links to Tactran	1					
	1	hub to support sector.	address the post Covid impact.		roud and Drink group		1	1			1		
23	Construction	1			<u>├</u> ──	Green		Jointly develop a roadmap of the Steps	Opportunities for the construction	Mar-22	<u> </u>	All LAs/private	
24	1	1					1	to Achieving Net Zero Carbon Buildings.	sector and the potential for inclusive growth.		1	sector	
Π	1	Explore development of Regional Construction Forum.	Opportunities for the construction sector and the potential for inclusive	Jul-21	DCC	Red		1	1			1	
25	City and Ir		growth.		Ļ			Bascar taus cast	Opportunity to build be defense.		ļ	HOLD	L
Places	any and town centres	1				1		potential for regional actions	diversify town centres .		1	nucu	
26	Connectivity -	Ensure collaboration between local	To ensure transport requirements are co	Mar-21	Regional Transport	Green	COMPLETE	Reconsider roles and responsibilities and	To ensure regional transport roles and	Mar-22	Review underway	TACTRAN	Review underway
	Transport	authorities, regional transport partnerships and transport providers to	ordinated to best assist regional economic recovery post-Covid.		Working Group		1	need to adapt TACTRAN boundary and governance to best support regional	responsibilities are adapted to best support clean growth in Tay Cities area				
	1	support regional economic recovery.	a service and the service of the ser				1	clean growth.	and are used to influence the national transport governance review		1		
27	L	Corren Thurlido Non Allinon	Address and for some for	A 3*	Regional Vi-	Grana	Currenthrandina terrai	Subject to extreme of 6	Consider future	p	I	Truelde Door 100	
	1	officers from all 4 Local Authorities,	wuress need for coordinated approach	Dec-20	Working Group		bid for funding to the £500m Bus	would be to develop and implement But	concident ruture needs for bus transport	Mar-24	1	wywore Bus Alliance	
		Tactran, Sestran and Bus Operators.					Partnership Fund.	Improvement measures.				1	
28	1	1					1	1	1		1		
П	Connectivity - Digital	Identify and address potential connection barriers that may exist onco	To mitigate against digital poverty in a post-Covid economy	Mar-21	Skills Advisory Board	Amber	Digital Skills Project within Skills Programme has a 10 year duration	Expand access to resilient digital connectivity reducing the digital divide	Encourage Policies that incentivise investment regionally making diated	Mar-22		Digital Thematic Board/HOED	
	1	infrastructure is in place (e.g.					Business Case likely to be approved in 2021/22 and commons of the	,	connectivity easier to access and		1		
11	1	an rox did mit yj.					year. Assumption is that No One Left	1	www.mg.me.cos. of digital connectivity.			1	
	1	1					serind Derivery will include basis digital skills in all provision. Connection	1	1		1		
11	1						barners and infrastructure are out of scope for that project					1	
29													
People: opportunities for all, equity and fairness	Regional Employability & Skills Leadership	Ensure projects in the Skills Programme meet and support the skills needs of the	Skills projects need to meet the needs of the local economy, recognising new and	Orgoing	Skills Advisory Board	Amber		Continue to support and promote the take-up of Living Wage and Fair Work	Challenge from employers facing economic recovery at same time.			All LAs	
		Region, including supporting TCD projects	emerging challenges post COVID and BREXIT and including TCD evolution					across the Tay Cities Region.			1		
30	1	Smnife and streaming the state -	Despite much accordent three is and	Mar.24	Skills & define - Pro-	Peri.		1	1			1	
	1	and link to economy needs.	duplication and multiple engagement	maf-21	skins wavisory board	Red						1	
H	1	Improve links between businesses and	Need to address mismatch between	Orgoing	Skills Advisory Board	Amber		1	1			1	
11	1	provide careers advice and better	evenabrity of jobs and candidates. Opportunities linked with potential skills									1	
32	1	prepare pupils for work.	gaps.					1	1				
33 Key Sectors:	Tourism Advanced	Scope digital skills requirements across sectors, establish governance and	Bold and ambitious interventions needed to combat increased	Mar-21	Skills Advisory Board		1	Create integrated career pathways (interlocked with tailored supports) into	Meeting gaps within sectors and offers for citizens of the region.	Mar-22	<u> </u>	Skills Advisory Board	
34	Manufacturing & Engineering	develop an action plan with industry.	unemployment and risk of economic marginalisation and also meet digital					these key sectors to help minimise skills shortages and gaps that could constrain					
35	Food & Drink & Hospitality	1	skills needs of employers			1	1	future growth. To streamline, yet offer opportunities for all, through these	1				
П	Energy (Renewables, Oil & gas							pathways. They will include primary, secondary and tertises education				1	
26	decommissioning)	1				1	1	steps and post-education training and	1		1		
30	Construction							suis development.				1	
38	Biotech & Medtech ICT, Digital & Creative	1				1	1	1	1		<u> </u>	1	
39	industries	1	1		1	1	1	1	1	1	L	1	