

Innovation Centre Programme – Phase 2

- The paper asks the Board to approve SFC's contribution to the Construction Scotland Innovation Centre (CSIC) phase two business plan and to delegate authority to the Interim Chief Executive to agree, with the funding partners, the final contractual arrangements.
- The paper provides an indicative schedule for when Board approval will be potentially sought for the remaining four Innovation Centres (ICs).
- The paper asks the Board to note that discussions are progressing with Scottish Government on the longer term vision and operation of the IC Programme and that we expect to involve the Board in this work.

Recommendations

- Approve SFC's contribution to the Construction Scotland Innovation Centre phase two business plan of £7.98M for 5 years from AY2018-19 and delegate authority to the Interim Chief Executive to agree, with the funding partners, the final heads of terms and contractual arrangements.
- Note that discussions are taking place with Scottish Government on the longer term vision and operation of the IC Programme and that we will involve the Board in this work.

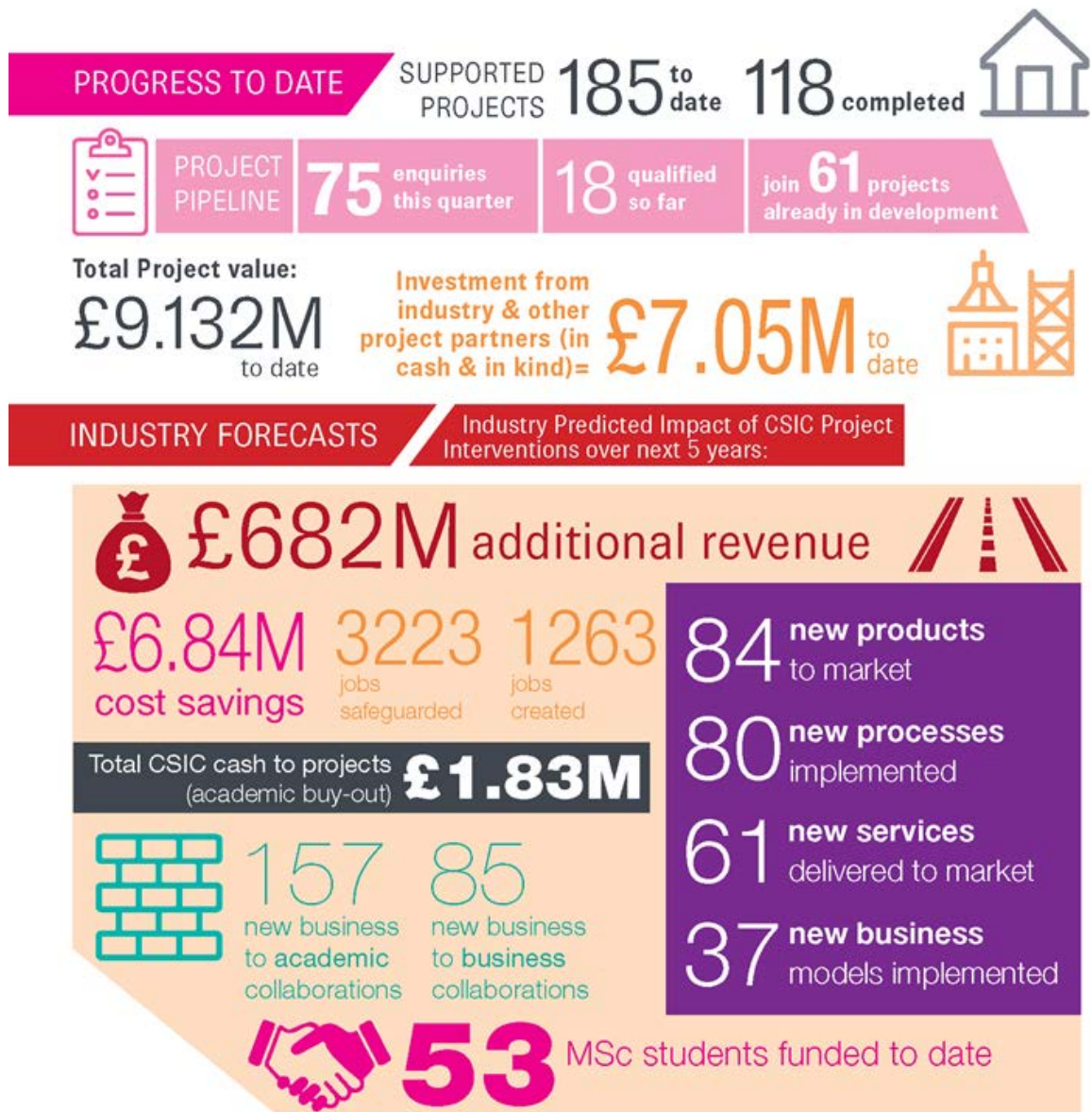
Financial implications

- This paper seeks approval to fund the Construction Scotland Innovation Centre for five years from AY2018/19 at up to £7.98M from SFC HE strategic funds.

Construction Scotland Innovation Centre (CSIC)

6. CSIC, hosted by Edinburgh Napier University, was awarded £7.5m from SFC in Phase 1 covering the period AY 2013/18. It was also awarded capital funding of £1.8m to equip their new Innovation Factory making SFC total contribution £9.3m. CSIC is one of eight SFC-funded Innovation Centres with a Scotland wide remit to help industry access world leading research from the academic base and to help translate this into economic value in the Scottish economy.
7. Phase 1 focused on “Building an Innovation Culture” and three priority areas of activity: (i) Connecting the ecosystem (ii) Supporting industry-led collaboration projects and (iii) Developing the Innovation Factory. With the centre now established and fully operational, the scale-up potential to expand CSIC’s offering into Phase 2 and embed an innovation culture across the sector is significant, particularly given the focus on construction through initiatives like the UK Industrial Strategy Construction Sector Deal.
8. It is worth noting that CSIC have embraced the developing college innovation agenda as they have co-led with the Digital Health and Care Institute (DHI) on the development and delivery of the FUTUREquipped pilot programme which is Scotland’s largest college innovation project, bringing together the Construction, ICT and Health and Care sectors. The programme’s first phase has concluded with 27 college lecturers (from 13 colleges) working across disciplines to produce more than 30 new innovative lessons in smart housing.
9. The new courses will be trialed in the second FUTUREquipped work stream, which will focus on students with the third focused on colleges and industry working innovatively together. SFC has awarded £307,605 from SFC’s College Innovation Fund to the FUTUREquipped project and it is a prime example of Innovation Centres in action – bringing the right people from different sectors together, and giving them the means to identify and solve shared problems together. Colleges have important contributions to make to our economic challenges, and the FUTUREquipped programme offers a valuable pilot to be considered when developing further plans to support college innovation.
10. Since its launch in 2014, CSIC has built a reputation as a catalyst for construction innovation activity, bringing together clients, industry, academic and public-sector stakeholders to focus on common challenges and opportunities. The IC’s open, collaborative approach and the launch of the Innovation Factory, a large scale open access R&D facility, has embedded the IC as an essential and unique asset within the Scottish construction industry support landscape. CSIC has performed very well in Phase 1 demonstrating a broad range of projects and activities with industry, academics and public-sector partners and has a firm foundation from which it can be more ambitious.

11. Phase 1 (as of 31 July 2018) has an estimated impact of £78M net additional GVA (Optimat Ltd. October 2018). This figure is derived from just 66 ‘truly collaborative projects’. The industry forecasts in the infographic below come from the total 185 projects (75 of which were ‘Academic to Business’) with a total project value of £9.13M.



figures correct October 2018

12. Alongside the £1.83M of academic buy out in 185 industry led projects, CSIC has been successful in leveraging significant industry contributions (£2.1M cash and £1.92M in kind) to projects as well large amounts of public sector contributions (£2.01M cash and £205K in kind)² which clearly demonstrates that CSIC is already delivering on a key aim of the IC Programme for Phase 2

² These figures plus £359K in kind support from Innovation Factory and £677K in kind support from HEIs make up total project value of £9.132M. These figures are up to 31 July 2018.

which is to leverage other sources of public funding to support industry-led innovation. It also reflects the nature of the construction industry in Scotland with many 'customers' coming from the public sector which offers great opportunities for change and support of the Scottish Government's inclusive growth agenda.

13. As with all ICs, the impact of Phase 1 will only be truly realised over the timescales of Phase 2 as projects complete and skills graduates move into the industrial base but it is worth noting the significant activities CSIC is leading on, or supporting industry with, as part of major opportunities such the UK Industrial Strategy. Eco-system development, consortia building, as well as leveraging of other public sources of funding to concentrate on larger more transformational and impactful projects, is exactly the sort of activity and behaviour IC partners want to see from our ICs in Phase 2.
14. CSIC's mission for Phase 2 will continue to focus on connecting the Scottish construction industry together, and with academia, to build a culture of innovation that drives transformational change and delivers economic impact for Scotland. They will focus on 'Mainstreaming Innovation' and will have the overarching objectives of: catalysing **culture change, driving digital transformation, accelerating industrialisation** and encouraging the industry to **build sustainably**. CSIC has designed four dedicated but interconnected programmes to deliver these objectives by building on and learning from the three that worked well in Phase 1 (Connected Ecosystem, Collaborative Projects and Innovation Factory) and introducing a fourth focusing on the Future Workforce. Through these programmes CSIC aims to deliver:
 - An environment which drives and encourages innovation and strong networks across industry and academia.
 - A coherent, more ambitious programme of innovation with transformational scale projects.
 - Significant levels of technology uptake across the sector because of prototyping, training and demonstration within the Innovation Factory.
 - A workforce equipped for the future and an industry which attracts talent.
15. This approach addresses the strategic priority areas within Construction Scotland's 2018-21 strategy, which support the Scottish Government's inclusive growth agenda for the provision of homes which are warm, affordable and accessible, developing transport infrastructure and making a significant contribution to the sustainability of the built environment, creating the buildings and infrastructure to provide for future health services, education and community activities across Scotland. The plan draws heavily on the expertise within our universities and colleges and also supports all three of SE's major

economic opportunities (MEO) – high value manufacturing, digital economy and low carbon transition.

16. The Phase 2 five year business plan provides the framework to realise the CSIC ambition, and create substantial impact for Scotland.
17. The outcomes to be achieved as a result of SFC’s investment will be:
 - Economic benefits delivered through increased levels of collaboration between business and academia.
 - Collaborative knowledge exchange activities delivered that exploit academic research to help solve industry defined problems while also stimulating and challenging the Scottish research base.
18. CSIC is:
 - Working collaboratively with other partner organisations across the business innovation landscape in Scotland (including, but not limited to, SE, HIE, Scottish Development International (SDI), Business Gateway, City Deal Partnerships, UKRI, Interface, KTP and KTN) to ensure businesses are directed to the right place to help address their business needs.
 - Helping Scottish-based projects win competitive innovation and applied R&D funding from the rest of the UK and international sources which aligns with industry challenges and requirements at the sectoral or sub-sectoral level.
 - Helping secure inward investments into Scotland that support the growth of businesses in Scotland, and attract businesses to locate in Scotland, through promoting Scotland’s strengths in academia-business collaboration.
 - Helping grow an environment that supports the development of the next generation of business innovators, academics and entrepreneurs in Scotland and which promotes the value of collaborative working.
19. Evidence of delivery of these outcomes should include:
 - 1,792 jobs generated and safeguarded through CSIC activity.
 - **Anticipated turnover of £233 million** (generated and safeguarded) through CSIC activity.³

³ EKOS Ltd have applied a significant ‘optimism bias’ to original forecasts to arrive at these figures. If this is removed or not applied as with other ICs then these figures would be 6568 jobs and £998m turnover respectively.

20. From June 2019-2024 CSIC will:

- Deliver 140 new collaborative projects leading to intention to commercial launch of 180 products, services or processes resulting in 1,792 jobs generated/safeguarded and £233 million of additional turnover.
- This includes **100 Academic to Business collaborations** (delivered by various HIEs) with an overall value of £6,462,500 (£1,250,000 SFC and £5,212,500 industry contributions).
- An additional 78 projects are expected to be developed and supported (as a result of this core investment) through SE and HIE mechanisms with total value between £9.75-21.9 million.
- Total project value from **218 projects** (140 +78) is between **£15-27 million** excluding SFC £1.25 million).
- There is a **further £28 million of project value expected** from the leveraging of strategic programmes giving the potential delivery of a total project portfolio (including industrially funded downstream activity) of **up to £55 million**.

21. It is also expected that the four overlapping work streams will lead to major culture change within the construction industry, significantly changing its image and attracting new talent and expertise through greater alignment with academic base. The industry has well understood and sustained issues and CSIC plans to continue in its catalytic role of ‘mainstreaming innovation’ to increase productivity and impact for Scotland.

Funding

22. Encouraged by Professor Reid’s review of the IC Programme, SFC has taken the position that it should work with other funding partners to support ICs and thereby secure broad integration into the economic development landscape. SFC will reduce its proportional contribution (from near 100%) and the Council executive have identified (and publicised) a maximum range of £7-8M⁴ as an affordable and reasonable reduced contribution (for the next five years). Partners have now set out their agreed ranges for all ICs as agreed at meeting chaired by Mike Cantlay (July 2018) of partners (including Scottish Government) and IC Chairs. These ranges, established to aid multi-partner appraisal process, are: SFC £7-8m indicative; SE £1-2.5m where appropriate and HIE up to £0.5m where appropriate and with exception of SAIC.

⁴ SFC £7-8m indicative, SE £1-2.5m where appropriate, HIE up to £0.5m where appropriate and with exception of SAIC. Meeting with IC Chairs and partners (including SG), chaired by Mike Cantlay, 22 July 2018.

23. Partners have now completed the multi-partner appraisal process and owing to the success of Phase 1 and the scale of opportunity in Phase 2 have agreed to seek funding at the top end of the recognised ranges (a total of £10.98 million comprising £7.98 million from SFC, £2.5 million from SE and £0.5 million from HIE). CSIC are requesting funding from the IC Programme Partners (SFC, SE and HIE) to pay for core costs of £10.98 million within their £14.06 million plan for Phase 2. The remaining £3.08 million will come from commercial revenue and activity generated by them and delivered through their Innovation Factory.
24. The total SFC contribution for Phase 1 was £9.3m which included £1.8 million in capital costs used to pay for equipment in the Innovation Factory. It should be noted that CSIC began with – relative to other ICs – a lower core cost (£7.5m excluding capital) but as their value to industry has become embedded and they have taken on a leading role in driving innovation and change which has expanded their core support to realise major opportunities – some of which are supported directly by Scottish Government, such as the Building Scotland Fund and UK Industrial Strategy Challenge Fund. It should be noted that this core support (£10.98m) is integral to driving activity and demand towards their Innovation Factory where they confidently project £3.08m of income needed to deliver Phase 2’s aims and objectives.
25. The funding partners, learning from Phase 1 and from Professor Reid’s recommendations, are working with Scottish Government on how we can support and develop the programme over the longer term and with light touch reviews. We have not, at this stage, asked ICs to develop business plans without significant public sector support but CSIC have a vision of mainstreaming innovation within the industry and of growing and expanding the offer of the Innovation Factory, which may lead to commercial sustainability or further embedding in the infrastructural support for innovation within Scotland and the UK that it could be supported by many partners. It is reasonable to assume that should Phase 2 be delivered as planned there will be less reliance on public sector finances and less need for SFC investment at Phase 1 and 2 scales beyond this business plan.
26. Partners believe that CSIC has a unique role to play in helping businesses access the breadth of support that is available in our universities and colleges, as well as within their Innovation Factory. The potential is for CSIC to drive innovation within the industry, providing positive benefits across Scotland in terms of improving capacity and skills within the sector, ensuring increased levels of performance predictability and quality buildings, lower running costs and greater levels of sustainability.
27. The Board is asked to approve, subject to significant funding also being approved by SE and HIE, and subject to availability of strategic funds, a

maximum investment of £7.98m⁵ as our contribution to the Construction Scotland Innovation Centre for five years from AY2018/19 and to delegate authority to the Interim Chief Executive to conclude the final contractual arrangements.

Indicative Schedule

28. The indicative schedule for the remaining four ICs to go through the Phase 2 appraisal process is as follows and is being presented to the Board for information and planning purposes at this stage:

Innovation Centre	Summary	Likely SFC Board meeting
Scottish Aquaculture IC (SAIC)	The multi-partner appraisal process, led by HIE, is expected to complete by the end of the year.	March 2019
Stratified Medicine (SMS-IC)	Partners (SFC, SE and HIE) are awaiting SG's Health and Social Care Directorate (through the CSO) developing their policy for genomics and stratified medicine which will then inform our approach.	Jan or March 2019
Digital Health Institute (DHI)	A full business case is expected in October 2018. The full appraisal process will commence shortly after.	March or April 2019
Oil and Gas IC (OGiC)	SFC, SE and HIE have been working with SG and OGIC to help understand Phase 2 plans and strategic rationale ahead of any multi-partner appraisal process. A key area has been the relationship of OGIC with the Oil and Gas Technology Centre (OGTC). IC Programme Board has now received answers to detailed questions which partners will discuss in coming weeks to determine next steps.	April 2019

Future Development of the IC Programme

29. We have begun to discuss with the partners and Scottish Government our collective vision for the longer term strategy and operation of the IC Programme.
30. At the time of writing SFC is, on behalf of the partners, developing a scope and approach to reviewing options for the longer term strategy and operation of the programme and the individuals and groups we would wish to consult with. The intended outcome of this effort will be to ensure that we have the right structures and funding mechanisms in place to ensure the programme supports the right ICs, for optimum durations, to help grow Scotland's economy. We will seek the Board's view on these plans as they develop.

⁵ Excluding embedded MSc (fee waiver) funding

Risk assessment

31. The main risk associated with this paper is funding. CSIC's phase-two business plan is tightly structured around the partner financial contributions described in this paper. Any change to the proposed SFC funding proposed in this paper, and the levels proposed by our funding partners, would risk failure to deliver the business plan and thus the economic and social impacts also described in this paper.
32. It should be noted that the funding partners have established a governance framework. This includes the IC programme Board which has the remit of managing any risk to delivery of the IC programme.

Equality and diversity assessment

33. CSIC has completed an Equality and Human Rights Impact Assessment Form (EHRIA). This was considered by the Strategic Funding Group ensuring SFC investments meet the statutory duties stipulated under the Equality Act 2010. Partners will seek to use the EHRIA as a 'living document' and will work with CSIC to find opportunities to further advance equality and diversity in its activities.

Recommendations

34. The Council is invited to:
 - To approve SFC's contribution to the Construction Scotland Innovation Centre phase two business plan of £7.98M for 5 years from AY2018-19 and to delegate authority to the Interim Chief Executive to agree, with the funding partners, the final heads of terms and contractual arrangements.
 - To note that discussions are taking place with Scottish Government on the longer term vision and operation of the IC Programme and that we will involve the Board in this work.

Financial implications

35. This paper seeks approval to fund the Construction Scotland Innovation Centre for five years from AY 2018-2019 with up to £7.98M from SFC HE strategic funds.

Publication

36. This paper will be published on the SFC website.

Further information

37. Contact: Gary Bannon, tel: 0131 313 6518; email: gbannon@sfc.ac.uk; Keith McDonald, tel: 0131 313 6674; email: kmcdonald@sfc.ac.uk.

Annex A – Innovation Map

1. This offers a general overview of the context in which CSIC operates.
2. As highlighted at the Council Board strategy day (November 2018) we have produced a map of the innovation landscape related to Innovation Centres (IC). We proposed that we would provide a snapshot of the map, relevant to each IC, to support decision making on the Phase 2 approval process. This snapshot highlights the complementarity between CSIC and other parts of the construction ecosystem including, for example, university infrastructure, routes to funding such as Industrial Strategy, Industry Leadership Groups and UK catapults. CSIC has a strong linkage to NMIS which has its own interdependent and related ecosystem. NMIS has been included in recognition of the link between both NMIS and CSIC.
3. For purpose of clarity the size, shape and colour of each part is to differentiate types of organisation/funding/activity and is not intended to highlight scale of opportunity or comparative funding levels.
4. In addition the full map recognises key parts of the wider eco-system which operate at a 'pan-Scotland' level and therefore impact the whole of the system and therefore all ICs rather than specific to single ICs. This includes organisations such as Interface, Converge Challenge and funding streams such as UKRI and Horizon.

