Falkirk Campus, Steeple Suite 4.00pm (refreshments available from 3.30pm)

<div align="center">AGENDA</div>

		Type	Lead
Tour of new Falkirk Campus			
1	Apologies and Declarations of interest	Discussion	Ross Martin
2	New Board Members introduction & welcome (Verbal)		Ross Martin
3	Minutes and Matters Arising of Meeting of 5 December 2019	Approval	Ross Martin

Elements of this minute are exempt from disclosure under the Freedom of Information (Scotland) Act 2002 section 30(b)(i) and (ii), section 33(1)(b) and section 27(1)(a)

		Type	Lead
4	Minutes of Committee Meetings		
	Falkirk Campus Project Board – 28 January 2020	Noting	Ken Richardson
	Learning & Student Experience Committee – 18 February 2020	Noting	Davie Flynn
5	Principal's Report	Discussion	Ken Thomson
6	Chairs Update (Verbal)	Discussion	Ross Martin
7	Student Association Report	Discussion	Andrew Smirthwaite
STRATEGIC PLAN IMPLEMENTATION			
8	Draft Budget announcement	Discussion	Alison Stewart
9	Futures Programme Update (Verbal)	Discussion	Andrew Lawson
10	FVC Application to Forth Valley College Foundation	Approval	David Allison
SECTOR OVERSIGHT			
11	2018-19 Sector Performance Indicators	Discussion	David Allison
OPERATIONAL OVERSIGHT			
12	Operational Plan Monitoring	Discussion	David Allison
13	Review of Risk	Discussion	All
14	Any Other Competent Business	Discussion	All

FOR INFORMATION
Cumberford/Little Report
Cyber Attack on Dundee & Angus College - (this paper is withheld from publication on the Forth Valley College website under Section 36 Confidentiality of the Freedom of Information (Scotland) Act 2002.)
National Cyber Security Centre – Cyber Security Toolkit for Boards
The Financial Sustainability of Colleges and Universities in Scotland

Stirling Campus, (Commencing at 10am)

Present: Ross Martin (Chair)
                  Dr Ken Thomson
                  Trudi Craggs (Vice Chair)
                  Colin Alexander
                  Fiona Campbell
                  Lorna Dougall
                  Pamela Duncan
                  Davie Flynn (Vice Chair)
                  Beth Hamilton
                  Ken Richardson
                  Andrew Smirthwaite
                  Steven Tolson

Apologies: Andrew Carver
                  Liam McCabe
                  Lindsay Graham
                  Jennifer Hogarth

In Attendance: Andrew Lawson, Depute Principal and Chief Operating Officer (DPCOO)
                  David Allison, Vice Principal Information Systems and Communications (VPISC)
                  Alison Stewart, Vice Principal Finance and Corporate Affairs (VPFACA)
                  Stephen Jarvie, Corporate Governance and Planning Officer and Deputy Board Secretary (CGPO)
                  Pauline Barnaby, Development and Fundraising Manager (DFM) (for B/19/010 only)

B/19/028   **Apologies and Declarations of interest**

                  The apologies were noted and no declarations of interest were made

B/19/029   **Minutes and Matters Arising of Meeting of 24 October 2019**

                  The minutes of the meeting of 24 October 2019 were approved.

B/19/030   **Minutes of Committee Meetings**

                  Falkirk Campus Project Board – 29 October 2019

                  The Chair of the Falkirk Campus Project Board (FCPB) updated members on progress with the campus, highlighting the delay to programme and additional resource put in place by the contractor. He informed members that the next FCPB meeting on 17 December 2019 would be important as this is when the decision on whether or not the College can move on the intended date of 6 January 2020 will be taken. He confirmed to members that there were contingency plans in place should this occur.

He noted that the budget for the build had been well managed and had allowed for the addition of some significant additional projects.

Members queried whether the College was looking at the potential for a phased move if required or if the intention was to move as a whole. The DPCOO confirmed that the intention was to move as a whole.

Finance Committee – 19 November 2019

Finance Committee members noted that the substantive item, the College accounts, had been endorsed and were on the agenda for Board consideration.

Audit Committee – 19 November 2019

The Audit Chair informed members on the business of the Committee, commented on reports laid before the Committee and confirmed that members had met privately with the internal and external auditors for their annual discussion and confirmed that no concerns had been raised.

Falkirk Campus Project Board – 26 November 2019

This was covered under the previous update.

B/19/031   **Principal's Report**

The Principal provided members with an overview of activity since the last meeting. He highlighted the College's success at the recent CDN awards, noting that the College submitted 6 applications and that, of the 130 applications made, all 6 were shortlisted. He outlined the results from the awards, noting that the College had won one category and been either Highly Commended or Commended for the remaining 5.

He informed members that the governance arrangements with regard to the FCPB continued to be strong and that Scottish Futures Trust were looking at the model used by the College as an example of good practice.

He noted that the clear statement from the Board in relation to the lifecycle maintenance issue at their residential had enabled him to engage with a number of key external stakeholders on this matter. He highlighted meetings he had had on this issue with all local MSP's.

He updated members on the recent Principal's Briefings which had commenced and discussed the futures programme aspect of the briefings. He informed members that staff were being provided with an opportunity to contribute to the future's programme and that a special email address had been set up for ideas and that the DPCOO was taking the lead on this.

a)   Members noted the content of the update

B/19/032   **Chair's Report (Verbal)**

The Chair highlighted the recent Board Member recruitment which was ongoing and noted that he had been encouraged by the quality of the candidates who were seeking to join the Board.

He informed members of a meeting he had had with Aileen McKechnie of Scottish Government to discuss the College sector and the need for collective stronger, more coherent voice, whilst also considering collective action to deliver best value. He also noted that Scottish Government had an ambition for the sector to demonstrate greater regional diversity, reflecting the aims and aspirations of their regional economies, as Forth Valley is certainly seeking to do.

He informed members of a recent meeting he attended with the Principal where they met with the Chief Executive and Finance Director of the Scottish Funding Council (SFC). The meeting focussed on College finances and the Chair and Principal highlighted the ongoing concern with the lifecycle maintenance funding gap.

He confirmed that he and the Principal had been invited to present to the SFC Board after this meeting and that they would use the opportunity to highlight these issues to the Board.

The Principal informed members that an analysis of capital funding and spend for the last 5 years had been conducted which showed a year on year drop in funding and that this had been used to underpin the College's arguments.

The Chair also updated members on recent discussions with the Chair of College's Scotland on how the organisation can better support College's.

a) Members noted the content of the update

B/19/033   **Student Association Report**

The Forth Valley Student Association President (FVSAP) provided members with an update on the activity of the Forth Valley Student Association (FVSA).

He noted that there had recently been 3 student council meetings and highlighted some of the issues raised at these meetings.

He also outlined a number of external activities undertaken by FVSA.

Members noted the comments made in relation to travel issues and requested more information. The FVSA highlighted recent changes to public transport which had drastically reduced the travel options for students and the increased cost of other options.

The Chair noted that he would have a follow up discussion on this issue with the FVSAP.

a) Members noted the content of the report

STRATEGIC PLAN IMPLEMENTATION

B/19/034   **Fundraising Development Strategy**

The Principal introduced this item, noting that the underlying strategy for the next three years had been considered and approved by the Finance Committee on 19 November 2019.

The DFM made a presentation to members on fundraising activity within the College, providing an overview of the previous three years activity and on future direction for fundraising. She noted that there was meant to be a handout on the projects approved to date and it was confirmed that this would be issued to members electronically.

She highlighted to members that projects were pursued based on their additionality and impact for students, rather than on a purely financial basis.

She noted that the experience of the College to date had been considered and utilised when developing the strategy for the next three years.

During a wide ranging discussion, members raised a number of points, e.g. some queried whether there was a financial target to be attained and what level this was set at.

The DFM reported that, as agreed with Finance Committee, there was no target assigned as the focus of fundraising was to add value to provision and, as discussed, this could range from very small projects to significant ones.

Members queried if staff engaged with the process. The DFM confirmed that staff do and provided the example of the Time for Me project where staff contributed their time to mentor on a one to one basis students who were care experience, carers or who had a challenging background. Members recommended that the College should consider ways in which this staff involvement could be recognised.

Members discussed the ethical aspects of fundraising and the DFM outlined how the College approached these matters.

Members thanked the DFM for her presentation and the success of fundraising to date.

a) Members noted the content of the presentation

B/19/035   Futures Programme

The following section of the minute is exempt from disclosure under the Freedom of Information (Scotland) Act 2002 section 30(b)(i) and (ii), section 33(1)(b) and section 27(1)(a)

GOVERNANCE

B/19/036   **Annual Report and Financial Statements 2018/19**

The VPFACA presented the Annual Report and Financial Statements 2018/19 for approval.

She outlined the key considerations and highlighted that the College remained a going concern with an underlying Operational Surplus.

She highlighted the significant amount of work undertaken by the Finance team to get to this position, and the Chair thanked them for their efforts.

a)   Members approved the Annual Report and Financial Statements 2018/19

B/19/037   **External Auditor Annual Report and Letter of Representation**

The VPFACA presented the external auditors report on the accounts, noting that the report gave a clean, unqualified opinion on the accounts.

She noted that the only amber rating within the document reflected the sector level issue regarding financial sustainability.

Members noted that the figure for savings in this document did not appear to match the earlier consultation document.

The VPFACA confirmed that this was owing to the figures referring to different time periods.

a)   Members noted the content of the report and approved that the Chair sign the External Auditor's letter of representation

B/19/038   **Audit Committee Chair's Report to the Board of Management**

The Chair of the Audit Committee presented her annual report on the work of the Committee. She highlighted the positive statements from auditors and that the private meeting between them and the Committee had not highlighted any issues.

a)   Members approved the report

B/19/039   **Board Member Recruitment**

The Chair noted that there had been considerable diversity, and a very high level of interest, with impressive applications being made to date.

The VPFACA provided an overview of the process for interviews, noting that the final interview was later that day. She highlighted the ministerial guidance which underpins the process and confirmed that there had been 12 applicants for 4 posts.
She outlined the candidates who had been selected for appointment to date and the process if the afternoon's interview produced a suitable candidate.

Members who had participated in the interview process noted that the candidates identified would likely make a very positive contribution to both the makeup and the work of the Board.

a) Members approved the paper

B/19/040   **Board Self Evaluation**

The VPFACA gave a presentation on Board Member's self-evaluation activity. She highlighted areas where the mean score fell below 4.5 out of 5 and highlighted how these areas, such as vision and strategy, could be strengthened.

She also informed members that, in order to comply with the code of good governance, another external effectiveness review of the Board would be conducted in 2020.

Members noted the content of the presentation and commented that it would be interesting to have the SMT score the Board on their effectiveness.

The Chair confirmed that this would contribute to the next strategic day

a) Members noted the content of the presentation

B/19/041   **Board Development Plan**

The VPFACA presented the draft Board Development plan for consideration and approval for publication and submission to SFC.

She provided an overview of progress against the previous year's plan and highlighted the areas in the new plan.

She asked members whether there were any areas they wanted added to the plan.

Members noted that the CDN Board Induction would be valuable to existing members as well as new members.

a) Members approved the Board Development Plan

B/19/042   **Risk Register**

The VPFACA presented the current risk register for the College.

a) Members considered the content of the register and noted that the futures programme should be added

B/19/043   **Review of Risk**

Members noted that the Futures Programme should be added.

B/19/044   **Any other competent business**

None

Falkirk Campus (4.30pm)

Present:	Ken Richardson	Forth Valley College Board Member (Chair)
	Ken Thomson	Principal
	David Allison	Vice Principal Information Systems and Communications (VPISC)
	Alison Stewart	Vice Principal Finance and Corporate Affairs (VPFCA)
Apologies:	Ross Martin	Chair, Board of Management
	Colin Alexander	Forth Valley College Board Member
	Steven Tolson	Forth Valley College Board Member
	Paul Dodd	Scottish Futures Trust
	David Logue	Falkirk Campus Project Director (FCPD)
	Alison Meldrum	Scottish Funding Council
	Graeme Watson	AECOM
	Trevor Stone	AECOM
In attendance:	Andrew Lawson	Depute Principal and Chief Operating Officer
	Claire Shiels	Operations Director for Falkirk Campus (ODFC)
	Lyndsay Condie	Head of Communications and Marketing (HCM)
	Michael Chung	AECOM
	Stephen Jarvie	Corporate Governance and Planning Officer (CGPO)

The Chair noted that interested members could tour the campus following the meeting if they wished. He informed members that he had been in to visit the College on a couple of occasions since it opened to see progress.

FC/19/038   Apologies for Absence

The apologies were noted.

FC/19/039   Declarations of Interest

None.

FC/19/040   Minutes of Meeting of 17 December 2019

The Chair checked whether the meeting was quorate. The CGPO confirmed this was the case.

The Minutes of the meeting of 17 December 2019 were approved.

FC/19/041   Matters Arising

None

FC/19/042   **New Falkirk Campus - Transition Update**

The ODFC provided members with an update on the transitions over the Christmas period and the challenges of moving into what was a live site at the time.

She reported that the later moves had generated additional costs for the College which would be levied against the contractor.

She highlighted an incident which had occurred during the weekend of 12 January 2020 which resulted in the fire brigade attending the campus. She informed members that the incident was related to smoke and a full investigation into the circumstances had occurred. She noted that the fire protection measures in the building had prevented the smoke from moving to other areas.

She informed members that a master snagging list was being compiled at this time and that a commensurate amount of the final account would be retained by the College until such time as these have been addressed. Members queried whether this would include cosmetic and smaller quality related items. The ODFC confirmed this was the case with all items being logged in the BIM 360 system and not being removed until they are satisfactorily completed.

The Principal informed members that the College was updating the Business Continuity Plan to cover the new build. He noted that emergency contingencies remain in place and that a more in-depth review will occur once staff were settled into the new campus.

a)   Members noted the content of the update

FC/19/043   **Project Managers Report**

Michael Chung, AECOM, provided members with an update on the project. He highlighted that the College had received a temporary occupancy certificate on 19 January 2020.

He confirmed that the snagging process had commenced and would run for a 12 month period.

He noted that the main issue since the last meeting had remained the completion of the workshops and that, thanks to the efforts of Balfour Beatty and the College, a position had been reached where most areas are now ready for use, with some building control certification needed for areas such as the gas workshops.

He informed members that commercial claim discussions were ongoing with Balfour Beatty.

The Chair noted that the College intends to charge for the additional expenses associated with the delays and moves. The Principal also confirmed that this was the case.

Michael informed members that, pending final assessment, the BREEAM score has been achieved with a very good rating.

He anticipated, once the remaining works in progress were completed, a full completion certificate would be received from Falkirk Council ahead of the temporary occupancy certificate expiring in April 2020.

The ODFC informed members that 16 of the Balfour Beatty portacabins would be removed in the coming week to allow progress with the remaining works and that it was anticipated that the full car park would be available at the end of the College February break.

She informed members that she had requested a programme for the remaining works from Balfour Beatty and that she would work with the College leadership team to ensure remaining works were programmed around timetable commitments.

The Chair asked when it might be possible to view the BIM model of the new campus. The ODFC reported that it was anticipated that this would be ready for mid-March.

The Chair noted that this may make an interesting secondary event to run alongside the First Minister's visit for the official opening of the campus on 1 April 2020 recognising the First Minister would have a busy itinerary.

The Principal noted that this could be included in the tour, perhaps in the virtual control room, and that this would be taken forward with the Scottish Government representatives planning the visit with the College.

a)   Members noted the content of the report

FC/19/044   **Any other competent business**

The Principal noted the exceptional effort of the ODFC, her team and other College teams such as IT over the Christmas period to bring to building to completion, and the efforts of staff since they have come to the new campus. The Chair also expressed thanks on behalf of the Project Board for this exceptional work and it was agreed that he would put these thanks in writing to all full Board members. (Email sent on 3rd February – text of the email is attached).

The Principal also informed members that a celebration dinner was being planned for the key players involved in the life of the project.

The Chair asked for input from members both on when the Campus Board should next meet and if it might be appropriate to establish an Estates Committee linking into the

main College Board. Following discussion, it was agreed to hold the next meeting on 17 March 2020 and the Principal noted he would bring a paper on the next steps beyond the Falkirk Campus Project Board.

ATTACHMENT – TEXT FROM EMAIL SENT TO FVC BOARD MEMBERS
(03 February 2020)

Dear FVC Board Member,

I wanted to write to all Board Members before our next Board Meeting to note the outstanding work of College staff members in effecting a smooth transition from the old to the new campus at Falkirk ready for students in early January.

In particular, I would like to thank Claire Shiels (Operations Director), Gordon Berry and Paul McHardy together with the whole of the IT team who worked flat out in December and then over the Festive Period to ensure a safe, smooth and efficient move. The Balfour Beatty (BBCL) team, led by Stewart MacPhail, also went that extra mile and I would like to commend them for their efforts as well.

Once you visit the new campus, I'm sure that you'll agree that it makes a stunning addition to our real estate and initial comments from both staff and students alike fully support this view.

As you will hear at the Board Meeting, the whole project will come in on budget and pretty much on time, which is a great achievement in this day and age. In fact, we've been able to utilise unused contingency monies within the budget to progress some additional (non-budgeted) capital work, including the transfer of equipment and a significant uprating of the Westfield Plant.

I've been in the College on a number of occasions over the last couple of months and the transformation of the new campus from building site to working college has been remarkable. The cooperation between college staff and contractor has been very notable as has the clarity in responsibilities during the phased handover and commissioning process - a real joint commitment to delivering a high value project.

Well done to everyone involved in this project.

Ken Richardson
Chair, Falkirk Campus Project Board

Boardroom, Falkirk Campus (commencing at 4.30pm)

Present:	Davie Flynn (Chair)
	Fiona Campbell
	Lorna Dougall
	Jennifer Hogarth
	Andrew Smirthwaite, Forth Valley Student Association President (FVSAP)
Apologies:	Naila Akram
	Steven Tolson
In Attendance:	Ross Martin, Chair
	David Allison, Vice Principal Information Systems and Communications (VPISC)
	Kenny McInnes, Vice Principal Learning and Student Experience (VPLSE)
	Mr Stephen Jarvie, Corporate Governance and Planning Officer (CGPO)
	Mhairi Shillinglaw, Head of Equalities Inclusion and Learning Services (HEILS) for L/19/015 and L/19/016 only
	Helen Young, Head of Learning and Quality (HLQ) for L/19/017 only

L/19/012   **Declarations of Interest**

None.

L/19/013   **Minutes of Meeting of 10 October 2019**

Members approved the minute of 10 October 2019.

L/19/014   **Matters Arising**

a) L/19/002 Minute of Meeting of 21 February 2019 and 30 May 2019

The CGPO informed members that a meeting was scheduled with West Lothian Council and the proposal for members to attend their equivalent to the LSE Committee would be raised. If West Lothian were amenable, a list of potential dates would be circulated to members.

b) L/19/004 SFC Annual Report on Performance for 2018-2019

Members had requested further information on the Student Support System (SSS). This has been added as an agenda item.

c) L/19/009 Future Agenda Items

Members had requested that the Outcome Agreement (OA) be brought back in a manner that highlighted any changes since the current OA. This has been added to the agenda.

d) Staff Awards

The Chair noted that staff awards had been raised previously be the Committee but wasn't on the agenda or future items paper and stated that he did not want to lose sight of this recommendation.

Following discussion, it was agreed that this matter would be passed to the HR Committee, with members receiving updates via the Committee minutes published with each set of Board papers.

L/19/015   **Student Support System**

The Head of Equalities Inclusion and Learning Services (HEILS) presented members with a paper on the Student Support System (SSS).

She provided members with an overview of the system, which is designed to ensure that a student should only have to declare a support need once as the system ensures all relevant staff have access to the information. It also allows staff providing support to enter notes so that other staff have the most up to date picture on what has been provided/agreed with the student.

She highlighted that, over time, the SSS will also allow the College to examine how effective the range of support options provided are at helping students to remain at College and achieve their qualification. It will also allow for the identification of best practice which can be rolled out across the College.

Members queried if College staff were engaging with the new system. The HEILS noted that there were early adopters who were good advocates for the system and that the information being generated was also useful to Curriculum Managers who would ensure their staff keep the information current.

Members queried whether students were aware that their data would be used on the system and whether there were data protection concerns.

The HEILS informed members that a Data Protection Impact Assessment had been carried out on SSS to ensure it was compliant. She noted that having the information on one system prevents sensitive information being duplicated on multiple different systems within the College which increased security. She also highlighted that for especially sensitive data, such as safeguarding, the detail was restricted to specialist staff only.

Members queried how this information would be used to measure the impact of interventions.

The Vice Principal Learning and Student Experience (VPLSE) noted that this information would be linked to PI tracking.

Members queried what data the College gets on support needs prior to the student self declaring, for example from Schools.

The HEILS noted that this would be beneficial to have to ensure that support is in place at an early point but that it has been challenging to source the data. She highlighted that there were some national initiatives underway looking at how best to share data between different sectors in education.

a)   Members noted the content of the report

L/19/016   Mental Health and Wellbeing Support (Verbal)

The HEILS provided members with an overview of mental health and wellbeing support within the College.

She noted the positive partnership work with the Student Association on the Student Mental Health Agreement and how this agreement had been embedded into the remit of the equalities action group to ensure it remains a topic of focus for the College.

She outlined some of the services to student provided by the College wellbeing officer and the externally sourced counselling service as well as online resources such as the Big White Wall that were open to students and staff. She informed members that the Scottish Government had made additional funding available to support counselling provision and that this was being progressed at this time.

She highlighted to members that demand for these services continued to rise year on year, with over 1,300 student being supported in one form or another and over 400 mental health disclosures.

She discussed the continuing professional development framework which has been prepared as part of the College's People Strategy to support staff mental health and wellbeing. She noted that, for specific roles, elements of this training had been added to the role specification and induction process.

She referenced the work being conducted by the Student Association to support mental health, with a number of recent events including a Blue Monday event.

She noted that funding had also been sourced to support mental health workshops with over 223 students taking part.

She highlighted how all this activity underpinned and supported the overall approach to Mental Health which will be compiled into the Mental Health strategy.

Members noted the diverse range of activity within the College. They highlighted the importance of links to external agencies such as the NHS to ensure that students continue to receive support once they finish at College.

The HEIS agreed that there were elements out with the College's control and remit and that students were signposted to additional support.

The VPLSE noted that the intention of systems such as SSS and the PI tracking tool was to help to identify, as early as possible, students who may need support and ensure that support is in place throughout their time at the College.

Members noted that the Wellbeing and Support Officer was externally funded and that the funding for this post was ending this year and queried whether there were plans to replace this post. The HEILS noted that the post had been externally funded for three years and this was unlikely to continue. She confirmed that the College would look at additional sources of funding but cautioned that, now Scottish Government were funding counselling support, many funders did not see the need to provide additional funds.

Members commented that, if the post could not be protected or funded by the College, then the good practice developed should be embedded into wider College provision.

The VPLSE informed members that the HEILS was leaving the College and he expressed his appreciation for the amazing work she has done for the College and acknowledged the breadth of experience she had brought to the role.

Members echoed his sentiments and expressed their thanks.

a)   Members noted the content of the report

L/19/017   **SFC College Leaver Destination Survey**

The Head of Learning and Quality (HLQ) presented a paper on the annual leaver destination survey that the Scottish Funding Council (SFC) required the College to carry out. The outputs of this survey both evidence the College's performance against OA targets and are also published annually in comparison with other Colleges.

She outlined the process used by the College, with staff calling a selection of students identified by SFC. She also highlighted the SFC restrictions on what is considered to be a positive destination, noting that this can be challenging as the College is reliant upon

the students being willing to answer all the questions in the survey to get a complete response.

Members welcomed the report and the data showing the level of positive destinations.

Members highlighted that it might be useful to make students more aware of the survey while they are still at College and that this might help with response rates.

The VPLSE informed members that SMT acknowledged that, while the College was skilled at inducting students, the exiting process could be strengthened and that the College was looking into this.

a) Members noted the content of the report and commended the work of the HLQ and her team on obtaining high response rates to the survey

L/19/018   **Student Association Report**

The Forth Valley Student Association President (FVSAP) presented a report on the activities of the Association since the last meeting of the Board in December 2019.

He highlighted a number of developments, such as engaging with Volunteering Scotland to help recognise voluntary activity of over 25's, as well as a range of events held in to College such as the refreshers fayre.

He also reported increased level of class interaction, with the FVSA team meeting with new classes of students to make them aware of the Association and the support that can be accessed through them.

He informed members that the University of Stirling Student Union had voted to make their clubs and societies open to all College students instead of only students on degree link courses. He noted that there had been some initial problems with the new arrangements but that they had worked with their SSU counterparts to address this.

a) Members noted the content of the report

L/19/019   **Outcome Agreement Summary Report of Changes**

The Vice Principal Information Systems and Communications (VPISC) presented a paper outlining the changes to the Outcome Agreement (OA) for 2020/21. He reported that SFC had sought more challenging targets but noted that, where the College now had 2018/19 destination data to support realistic target setting, our SFC OA Manager had agreed to some targets being scaled back.

Members welcomed the data driven approach, noting that continually increasing targets for the sake of increasing targets was not realistic.

Members queried the increase of Foundation Apprenticeship activity instead of HNC outlined in the appendix. The VPLSE confirmed that this was due to a combination of school preference and Scottish Government/SDS pushing Foundation Apprenticeships.

a) Members noted the content of the report

L/19/020   **2018-19 Sector Performance Indicators**

The VPISC presented a report on the College sector performance indicators for 2018/19.

He highlighted that there had generally been a slight drop in performance across the sector and also for the College but noted that the College performance is still above the sector average for all measures.

He also confirmed to members that the College had achieved its allocated credit target for the year.

a) Members noted the content of the report

L/19/021   **PI Prediction Tracking Tool / Curriculum Review**

The VPLSE demonstrated the PI Prediction Tracking (PIPT) tool to members. He informed members that the tool, introduced last year, provided the College and individual curriculum managers with the information they need to ascertain likely performance of students and courses over the academic year.

He demonstrated how class lecturers can regularly agree a consensus on a student's progress within their class and how that information is used to both identify where individual student support may be required and also predict the overall performance of the course against relevant OA targets. He stressed the advantage of the system in enabling the College to be proactive rather than reactive when students and/or courses require support.

He informed members that there were three PI review periods in year which allowed himself and the VPISC to meet with teams to discuss progress and identify courses that require additional focus/support.

Members queried if student feedback is incorporated into this process. The VPLSE confirmed that information from student satisfaction surveys and "Listening to Learners" sessions all support the assessments within the system.

Members welcomed the use of data to support College decision making, especially as a tool to instigate and support conversations with department staff on courses that require additional attention to identify mitigation if required.

Members noted that it would be useful for the wider Board to see this system at a relevant point in the process.

a) Members noted the content of the report

L/19/022   **Student Activity Report**

The VPISC updated members on student activity rates, noting that the College was on track to meet its target for the year.

a) Members noted the content of the report

L/19/023   **Future Agenda Items**

The VPISC presented a paper on proposed future agenda items.

a) Members noted the content of the report

L/19/024   **Review of Risk**

Members noted that there was a risk of funding levels impacting on performance but also noted that the PIPT system was a mitigating factor in addressing performance.

L/19/025   **Any Other Competent Business**

None.

1.   **Purpose**

        To present to the Board of Management the twenty fourth Principal's report on key and strategic activity undertaken since the Board meeting in December 2020.

2.   **Recommendation**

        The Board should note and comment on the activity undertaken by the Principal since December 2019.

3.   **Key Highlights**

3.1   A historical moment - on January 6th 2020 we flitted into our new Falkirk campus. Staff arrived on the 8th January with students starting on the 13th with apprentices accessing the Technical Block for the first time two weeks later following discussion with their employers. Claire Shiels, Director of Operations, continues to monitor snagging and has a programme for improvement for the next few months. The landscaping work has been hit by the weather but is on track to complete by the official opening on 1st April 2020 by the First Minister Nicola Sturgeon. Invitations are in the process of being sent out to all our stakeholders.

3.2   Following the Scottish Government budget announcement on 6th February, Colleges Scotland provided a press release saying this was an increase to the sector of 5% and a real terms increase of 3.2%. In actual fact this has been unhelpful given the increase will be to cover pension increases, additional student support funds, money for care experienced students and a 3% inflationary increase. We believe the real outcome from the final approval of the budget to be flat cash as we predicted to the Board in August 2019 and planned within our Futures Programme. At a meeting called by SFC for all Principals on the afternoon of 20 February, Karen Watt, in what I would say is a first for the sector, had a very transparent meeting with her senior team and Principals, indicating how the funds would be allocated. In the main it was as expected with an additional £4 million which we unanimously agreed should be spent supporting pension payments from April to July.

3.3   We have started to develop the thinking for our Strategic Plan 2021 to 2026, as an evolution from our 2017 to 2022 strategy. Complementing the thinking will be information from the recent Cumberford-Little Report - One Tertiary Sector, and appended to your papers. We will also make use of the Sector's Digital Ambition work, chaired by myself and with David Allison as part of the leadership group and a number of other documents from Industry, Education and Skills. In addition I am a member of the Scottish Government's Curriculum and Assessment Board currently working through the remit for the review of Scottish Education Curriculum for Excellence Broad education and Senior phase. Outputs of this exercise will also feed into our thinking. Furthermore we will be gathering intelligence form our stakeholders and industry partners. We will be presenting the work to date at the Board's residential later in the year for discussion to agree our direction of travel and priorities for the strategy ahead.

3.4   Our Future Programme Consultation was launched on Wednesday 13 February and Andy Lawson, Depute Principal and Chief Operating Officer and college lead on the programme will update members on progress to date later in the meeting.

3.5 Colleagues maybe aware of the cybersecurity event which closed down Dundee and Angus College for the day. This has been well reported in the press and David Allison, Vice Principal for Information Systems and Communications has reported back to LMT. I thought it important the Board be aware of what happened and how Forth Valley College have systems in place that means a similar situation is very unlikely. David will give a brief update to the Board and the paper is included in the For Information section. Dundee and Angus Cyber security

3.6 I am delighted to inform the Board that we have been shortlisted for three TES awards to be held at the Grosvenor House Hotel in London in March. The three awards are for our Primary work in STEM, our digital inclusion successes and for College of the year. Bearing in mind there are over 400 colleges in the UK these are excellent accolades for the College and one which our Marketing and Communications Department have been very active with. We are intending taking a group of 10 Board and staff to the awards and thanks go to Ross Martin and Lorna Dougal from the Board for supporting the evening.

3.7 Finally, we have asked Ian Scott, local historian and previously Assistant Principal to Falkirk College of Further and Higher Education to pen a record of the college over the last 65 years. Ian has already written a 25 year history from when the college first opened and is delighted to have been asked. Fiona Campbell from the Board has very kindly offered to support the research.

4   Networking

4.1 Ross Martin attended and I gave a welcome speech to the inaugural meeting of the Falkirk Business Club hosted in the new Antonine Suite on Tuesday 18th February. Also speaking at the event was Jamie Hepburn MSP and Minister for Fair Work, Business and Skills. This was our first external event and a great chance to showcase the campus. Feedback has been very positive.

4.2 I am a member of the Curriculum and Assessment Board for Scottish Government which had a membership from the whole of Scottish education from early years to University and parent teacher representation and all the recognised unions. On the 19th I attended a meeting which will see the start of the process for the Senior Phase Review requested by John Swinney, DFM and Cabinet Secretary for Education. The outputs of this will help formulate our College Strategic Plan 2021 to 2026 as noted above.

4.3 I am delighted to inform the Board that Forth Valley College have become the first college member of the Centre for Work Based Learning. The other members include Strathclyde University, Robert Gordon University and Heriot Watt University. This group will help advise the Scottish Apprenticeship Advisory Board (SAAB) particularly on areas of innovation and employer engagement.

4.4 Maree Todd MSP, Minister for Children and Young People visited the college at the invitation of Hannah Ritchie, Director of Care, Health and Construction and her team. Ms Todd met with students and staff to thank them for their response to the Government's policy to increase opportunities in early years education.

4.5   Hannah Ritchie and I were invited to the official opening of the Stirling Care Village by Jeane Freeman, MSP and Cabinet Secretary for Health and Sport. Hannah and her CM, Sarah Higgins, have been involved in this initiative from early planning to completion and offers great opportunities for work placements for our students as a partner in the project.

4.6   Ross Martin and I attended a reception at the Scottish parliament hosted by Shirley Anne Sommerville MSP and Cabinet Secretary for Social Security and Older people. The reception was a support for Talgo, the high speed train manufacturer who have been shortlisted for the HS2 project. As noted before they have identified Longannet Power station site as the site for their new manufacturing plant. Forth Valley College and Fife College have been very supportive of the project with the potential of over 1000 new jobs to the area. As a consequence of the meeting, Hugh Hall, Principal at Fife College, myself and identified staff will visit Chesterfield, the UK base for Talgo. In addition I have invitations to Shirley Anne Sommerville MSP and Paul Wheelhouse MSP, Minister for Energy, Connectivity and the Islands to visit the new campus.

5.   Presentations

5.1   In the two months since my last report I have presented the college story and highlight of the new campus to the Grangemouth Rotary. After the meeting we agreed a follow up visit to the new Falkirk Campus and this on the back of Grangemouth Probus being hosted for their next meeting in the Falkirk Campus.

6.   Key Meetings

I undertook the following key meetings in the period 30 November 2019 to 21 February 2020:

6.1   Ross Martin and I have met formally on three occasions since my last report and both have represented the college on a number of occasions noted elsewhere in this paper. In addition I have held two meetings with the Student Association including a quick visit to their very successful Refreshers Fayre, the first to be held in the new Campus.

6.2   As part of our profile strategy I have hosted a number of visitors to the new campus and an opportunity to talk about the college and the sector. We have a number of visits already scheduled for the next few months. Since opening mid-January, we have had visits from Linda Pooley, Scottish Government; the senior team from Ineos including new MD Tobias Hannermann – from Germany and who noted he had never seen anything like our new campus; Hugh Hall and David Watt, Chair of Fife College; Richard Lochhead, Minister for FE, HE and Science; Julia Belgutay, Senior reporter for TES FE; Angela Pignatelli, Vice Principal of West of Scotland College (this visit resulted in a request from their Principal to host their senior team meeting with a tour); Robin Ghubhurun, Managing Director FE and Skills for Jisc and his senior team. Ross Martin was also in the meetings with Linda Pooley, Fife College and Richard Lochhead. In all cases we highlighted the Government investment, our approach to learning through Creative Learning and Technologies Strategy, the way we work with our students and staff linked to our People Strategy and our extensive links with industry leading to the investment in modern equipment. This is in addition to the numerous show and tell events being organised formally and informally by staff and students. A good example is the opportunity the FVSA had in showing Liam McCabe, NUS Scotland President, our campus as

part of a formal visit to the team. Our Marketing and Communications team have been very proactive in getting photographs and quotes and have been very active on social media promoting the facility.

6.3   I have attended one SQA Board meetings, chaired their Qualifications Committee on one occasion and attended the Advisory Council. I also attended one HES Strategic Board meeting and one meeting of the Jisc Finance and Treasury Committee. I am also a member of the IoD Central Scotland Committee and organised our first Master Class Conversation with Colin Robertson CBE, MD Alexander Dennis.

6.4   In addition I have attended meetings with the Falkirk Economic Partnership with the Falkirk Investment Zone a key agenda item (we are hosting the next meeting of the group in the new campus); I met Hector MacAuley, MD Scotland for Balfour Beattie, to go over process for snagging and a look to the future. The college is going to host his SMT in the campus in a few weeks' time.

7.   Colleges Scotland (CS)

7.1   I attended one meeting of Colleges Scotland Strategic Discussion with the College Principals Group (CPG) and took part in the quarterly meeting of the Funding and Finance Committee and SFC College Funding Group. I have also represented Colleges Scotland at a meeting with Scottish Government, SDS and SFC on the role of College's in Graduate Apprenticeships.

7.2   I was invited to join the Colleges Strategic Futures Group meeting at the Scottish Parliament with John Swinney DFM, and Richard Lochhead, Minister for FE, HE and Science to discuss the future role of Colleges and the forthcoming Scottish Government budget.

7.3   I continue to chair the Colleges Scotland Digital Ambition Vision for 2030. The Short Life Working Group (SLWG) have undertaken workshops across Scottish colleges with a draft date for publication of April 2020. The Digital Ambition will complement the infrastructure vision for the college sector over the next five to ten years and will develop an implementation plan for delivery whilst complementing the next Colleges Scotland Spending Review.

8.   Community Planning Partnership

8.1   There has been one meeting of the Strategic Board meeting in Falkirk. In Stirling, and as a part of a partnership project with Police Scotland, we are in the process of developing an exemplar CPP project with pupils at Bannockburn High School. I will report on progress on this innovative project in future Principal's Reports.

9.   Financial Implications

None

10.   **Equalities**

        Assessment in Place? – Yes ☐ No ☒

        If No, please explain why – This paper is an overview report only, there are no changes to College policy or practice involved.

11.   **Risk**

        Please indicate on the matrix below the risk score. Risk is scored against Impact and Likelihood as Very Low through to Very High.

	Likelihood	Impact
Very High		
High		
Medium		
Low		
Very Low	X	X

        Please describe any risks associated with this paper and associated mitigating actions – None

        Risk Owner – Ken Thomson   **Action Owner –** Ken Thomson

12.   **Other Implications –**

        Please indicate whether there are implications for the areas below.

        Communications – Yes ☐   No ☒   **Health and Safety – Yes ☐   No ☒**

        Paper Author – Ken Thomson   **SMT Owner –** Ken Thomson

1. **Purpose**

   To provide members with an update on the recent activities of the Forth Valley Student Association (FVSA)

2. **Recommendation**

   That members note the content of the report.

3. **Key Considerations**

   Since the last Board of Management on the 5th of December FVSA have conducted a number of activities.

   College eActivities Group

   The Student President attended the College eActivites Group Winter Fayre in December, this event was well attended by College Staff across Scotland. The day had various activities for the attendees to take part in, such as Flexible learning spaces on a budget, Chat bot Activity, Public Sector Accessibility Guidelines, and Easy App development with spreadsheets using GlideApps.

   Volunteers Scotland (VS)

   The Student President in partnership with the Principal sent a letter to George Thomson, CEO of VS in regards to the lack of volunteer certification for those over 25. This is with the aim to improve recognition for volunteers of all ages, the FVSA have a meeting in February with the Strategic Engagement Manager and Head of Learning and Practice from VS.

   World Aids Day

   The Vice President organised an awareness event for World Aids Day on the 2nd of December. This was held across all three campuses, where FVSA hosted Waverly care, where freebies and information were available to students and staff, this included the red ribbon that indicates this event.

   Stirling Champions Board

   On the 17th of December the Vice President attended a Stirling Champions board meeting after being invited by Tracy Degan from Stirling council. This is a meeting where Care Experienced young people can talk directly to the local authorities to raise issues they have faced whilst being in care. The Vice President spoke with several FVC students here and a few issues were raised around funding.

White Ribbon

On the 10th of December the Vice President took part in a spin class in place of a led bike ride that was cancelled due to bad weather which was organised as part of the 16 day of action against Gender Based Violence (GBV). Both the Student President and the Vice President are part of the White Ribbon Equalities sub group.

Class introductions

The Student President and the Vice President held class introductions over November and December for LDW classes in the Stirling campus and the Raploch campus. The class introductions cover what FVSA do as a Student Association, how the FVSA can help them, how and why the Sabbaticals ran for their positions, and to ensure theses classes have their Class reps in place to ensure their voices are heard at student council.

New Campus

Throughout January FVSA have been supporting students with the move to the new campus by helping the students get to class when they get lost, easing concerns around the glass walls, and signposting students to the correct support departments. There has been great interest from external companies to hold events, Sparqs will be holding their Student Engagement Staff Network meeting in the conference area in February.

FVSA & Stirling Students Union (SSU) Partnership

FVSA and SSU have had a partnership in place for the previous 3 years so that our students could attend Clubs and Societies at the University, however some students had been turned away. Therefore the Student President and the Activities and Volunteer Co-ordinator had a meeting with SSU to discuss this and how to get the Partnership degree students more involved with the SSU elections. This ended positively where the SSUs Elections Officer is looking at coming to the college to talk to the partnership degree students around elections, the FVSA will also be communicating the SSU Candidates to the Partnership degree students.

Blue Monday

On Monday 20th January the Vice President hosted an event in the new Forth Valley College Falkirk Campus marking "Blue Monday" which is an important date in the Mental Health calendar. To give this event it's widely acknowledged explanation, "The third Monday of January has been awarded the gloomy title due to a combination of post-Christmas blues, cold dark nights and the arrival of credit card bills." FVSA & FVC are working very hard to help students & staff who identify as having mental health illnesses & it is important that we mark the day with an event. The event was attended by FVSA, FVC (Alice Smith), Falkirk Council (Money Advice & Welfare Benefits) as well as contributions from SeeMeScotland.

The event was run from 11am until 2pm. Both Students & Staff attended this event. Over 85 free teas & coffees were handed out.

Falkirk Football Club Partnership

The Vice President attended FVC's launch of the partnership with Falkirk Football Club on Tuesday 22nd January. The Vice President took part in the photoshoot, tour & launch of the Tickets for Scheme. The Vice President also gave the Marketing department a quote, marking his thoughts on the partnership & launch.

NUS Mental Health Survey

FVSA Hosted the NUS in partnership with Think Positive at the Falkirk campus on the 31st of January, this was to get student feedback throughout Scotland on the mental health and Wellbeing support provided by Colleges and Universities. This is to support the development of support and services provided by the Colleges and Universities around Scotland and to provide data to the Scottish Government as nearly all mental health data is from Colleges and Universities south of the border.

Re-freshers

The FVSA hosted the annual Re-freshers event over the three campuses with a 80s theme. They were all well attended by the students and staff and had the chance to meet many of the stall holders which included Makeup artistry and Hairdressing students who got to practice their skills on students, staff and stall holders. FVSA held a tombola at their stall where students could win anything from a £50 hamper to a pair of leg warmers to get in the 80s mood.

In total the amount raised from the event was over £250.

By-Elections for Voluntary officer position

The FVSA Voluntary officer by-elections are under way, a student going for the Disabled student officer. With the election of this position the FVSA Executive Committee will be up to three voluntary officers.

4. **Financial Implications**

   Please detail the financial implications of this item – there are no financial implications

5. **Equalities**

   Assessment in Place? – No

   If No, please explain why – Not applicable

6. **Risk**

   Please indicate on the matrix below the risk score. Risk is scored against Impact and Likelihood as Very Low through to Very High.

	Likelihood	Impact
Very High		
High		
Medium		
Low		
Very Low	x	x

   Please describe any risks associated with this paper and associated mitigating actions – None

7. **Other Implications –**

   Please indicate whether there are implications for the areas below.

   Communications – Yes
   Health and Safety –No

   Please provide a summary of these implications – FVSA extensively promote events, clubs and opportunities to be involved in the work of the association.

   Paper Author – Andrew Smirthwaite   **SMT Owner –** Kenny MacInnes

1. **Purpose**

   To inform members of the Scottish Government draft Budget 20/21 that was announced on 6 February 2020 and the implications this has for the SFC indicative funding allocations for Academic Year (AY) 2020-21.

2. **Recommendation**

   That members note the current position regarding the College's core funding based on the Scottish Government's draft budget announcement.

3. **Background**

   The Scottish Government announced its draft budget for the Financial Year (FY) 20/21 on 6 February 2020.

   At this time the figures are indicative only and will not be finalised until the UK budget is announced on 11 March 2020.

4. **FE Sector position**

   A summary of the Scottish Government budget for SFC in relation to Colleges is noted below.

	19/20	20/21	Movement	
	£m	£m	£m	%
Revenue - Grant-in- Aid				
College Operational Expenditure	796.5	830.0	33.5	4.2%
College Operational Income	-190.0	-190.0	0.0	0.0%
Net College Resource	606.5	640.0	33.5	5.5%
Capital				
College Capital Expenditure	49.6	37.4	-12.2	-24.6%
College Capital Receipts	-2.0	-1.7	0.3	-15.0%
Net College Capital	47.6	35.7	-11.9	-25.0%
Other				
College NPD Expenditure	29.3	29.3	0	0.0%
College Depreciation costs	30.1	26.8	-3.3	-11.0%

Revenue

While it appears that the revenue funding has been increased by £33.5m it is important to note a few key points:

- Scottish Government and Scottish Funding Council work on financial years (April to March) whereas Colleges work on academic years (August to July). The exact amount of funding available to the sector is therefore unknown at this moment in time as SFC have to do reconciliations between FY and AY allocations.

- The 19/20 Figures are based on the draft 19/20 budget and does not include additional monies allocated in year
- Scottish Government and Scottish Funding Council consider Student Support Funding as "College Operational Expenditure". This is not operational expenditure within College accounts as Colleges merely act as an agent for SG. It is money in and money out to Students and there is no scope for delivering efficiencies within this funding. Any increase in Student Support Funding will have no impact on the College operational budgets.
- The employer's contribution for the teachers' pension increased by 5.8% to 23% from September 2019. SG provided funding for this for September 19 to March 20. It is expected that the cost of the increased pension costs for FY 20/21 will be approximately £13m.
- The public sector pay policy increase to 3% for all those earning below £80k. The 5 Year Financial Forecast Return assumed it would remain at 2% for those between £36,500 and £80k.
- There is a commitment to continue to fund the Flexible Workforce Development Fund.

Capital

The sector Capital allocation has been reduced, however this reflects that our new Falkirk Campus is complete and there is no other capital project currently being funded by SFC. There appears to be an increase of £7.8m when you factor in the reduction of Falkirk funding and the allocation of £3m for Fife College. Analysis of how this funding will be allocated by SFC is needed to see what the potential impact of this has on FVC.

5. **Forth Valley College position**

Until SFC announce the actual allocations, it is difficult to gauge the overall impact of the College's budget for 20/21. SFC aim to take a paper to its Council on 2 April and if approved allocations will be announced on 3 April 20.

The likely impact on our forecast for 20/21 is a very marginal increase, as the inflationary increase in funding was not budgeted, however we do have to offset the additional cost of the changes to the Public Sector Pay policy, along with inflationary increases in costs and the impact of Brexit still remains unknown.

6. **Financial Implications**

The potential financial implications have been noted in section 5.

7. **Equalities**

Not applicable given the nature of this report.

8. **Risk**

Please indicate on the matrix below the risk score. Risk is scored against Impact and Likelihood as Very Low through to Very High.

	Likelihood	Impact
Very High		
High		
Medium	X	X
Low		
Very Low		

Risk Owner – Alison Stewart   **Action Owner –** Alison Stewart

9. **Other Implications –**

Communications –No   **Health and Safety –No**

Paper Author – Alison Stewart   **SMT Owner –** Alison Stewart

1. **Purpose**

   To seek approval from members to ask for funding from the Forth Valley College Foundation to support the additional staffing costs of our innovative EnableFVC project from August 2020 to July 2022.

2. **Recommendation**

   That members note the content of this paper and approve the submission for funding to the Forth Valley College Foundation.

3. **Background**

   The College Vision for 2030 has Digital Empowerment at its core. It is our view that to achieve our digital ambition the College must have the most robust infrastructure with the best connectivity available, current IT Equipment and software, with choice of applications to best meet need, with staff and students who have the Digital skills and confidence to make the most of our IT resource.

   Figure 1 – Achieving our Digital Ambition
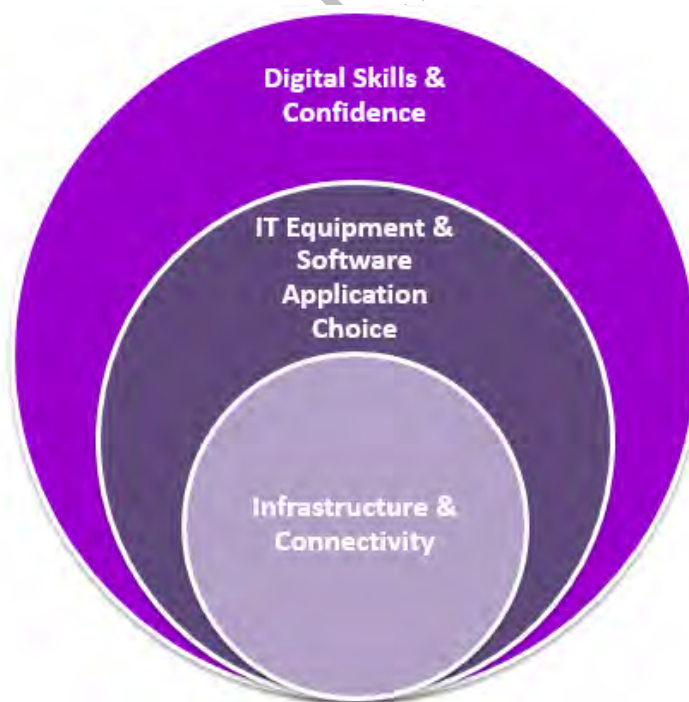
   The College has invested in its IT Network and infrastructure through the move to our new Falkirk headquarters, along with upgrades to our core network in our Stirling and Alloa campuses. This has delivered a ten-fold increase in our bandwidth and a ten-fold increase of our core network speed. The College has invested in the volume and quality of its IT equipment. All teaching staff have been issued with a Surface Pro device, all classrooms at Falkirk have a mobile Clevertouch screen and a laptop trolley (over 1,000 additional laptops for student use), with upgrades planned

for our Stirling and Alloa campuses. To fully realise our digital ambition, the College recognises that there is a need to invest in both the digital skills of our staff and in digital content, thus empowering our staff to embrace advances in technology, enhance our digital pedagogy, and develop the skillset to create content for our students and therefore be in a position to design and develop a digital platform and content to meet the needs of our Creative Learning and Technologies strategy, and our industry and university partners, whilst maximising work already in place within our Moodle VLE.

As part of the Senior Phase Review, the Curriculum Assessment Board of Scottish Government is encouraging colleges to engage flexibly through the use of VLEs and tailored online content with their local educational partners.

EnableFVC (Empowering a national approach to blended learning excellence in FVC) Project – Making Digital Work

From Session 2020/21 through our project EnableFVC we will create a Digital Skills Team and Hub within the College to promote digital pedagogy, enhance the digital skills of our staff and design and develop digital content hosted on a FVC platform. This new team will come from combining existing staff (from Learning & Quality, Business Transformation, and Equalities, Inclusion and Learning Services), with the additional support of curriculum specialists for a two year period. The purpose of this team will be to support and develop our staff to enable us to deliver on the College's Digital Ambition, through delivery of our Creative Learning and Technology Strategy and People Strategy.

Specifically, within the Creative Learning and Technologies Strategy we have ambition that:

- All of our staff are digitally competent and confident against a framework of clearly identified key digital skills.
- All staff are competent and confident in contemporary pedagogies and blended learning to a minimum standard, which will enhance the student experience.
- Resources are available digitally and staff are supported to develop own resources.
- All staff make use of digital technologies for formative and summative assessment.
- We use learning analytics effectively.

Specifically, within our People Strategy we have stated that we will:

- Embrace digital technologies for enhanced service delivery.
- Lead a digital first ethos.
- Equip our people with the confidence to contribute to the development of the college.

Through the EnableFVC project we will create a centralised Digital Skills Team and Hub within a designated area within the College where staff know they can go for support and advice on the use of the most appropriate technology to support delivery of learning, support their day to day work and maximise opportunities for curriculum innovation. . The centralised digital skills team will support the development of a consistent brand and platform for our online content, and ensure all content is built to meet accessibility legislation and a level of educational quality

consistent with the Forth Valley College reputation. The Digital Skills Hub will create a space for all new and emerging technology to be tested and showcased. The hub will house the Digital Skills Team, and will have a dedicated training area/classroom, with drop-in areas to allow staff to gain hands-on experience of using technology with support on-hand. Although based in Falkirk, the team will be transient and visible throughout all of our campuses. Through working with Digital Skill mentors and developers, we aim to create a resource to develop online materials initially at the second year HND level, develop staff to adopt a digital pedagogy, and mentor staff to develop their own digital resources to a consistent standard. The Digital Skills Developer will also have the responsibility to fully embed assessment recording with existing college MIS systems, and take advantage of the breadth of student engagement information that we collect through our VLE to enhance our learning analytics.

The College's Learning & Quality team have developed a bespoke Digital Skills self-assessment tool, with supporting online resources. This tool, which has initially been developed for teaching staff, and will be further developed for all roles, will allow staff to track their own digital skills level and development, and allow the College to track the development of the Digital Skills of staff.

The aims of the EnableFVC Project will be to:

- Enhance digital skills for all staff.
- Ensure all staff use contemporary learning and teaching methods.
- Enable the effective use of new and emerging technology.
- Ensure staff having skills and confidence to create their own digital resources
- Design and develop a digital platform to host FVC branded online learning materials.
- Embed digital assessment.
- Enhance the use of assistive technology.
- Ensure learning analytics are developed and used effectively.

The Digital Skills Team

The Digital Skills Team will be a bespoke group of staff drawn from across the college and be led by our Learning & Teaching Manager (Digital Skills Manager). The team will include our existing Moodle VLE Team of Learning Technology Coordinator and Learning Technology Support Officer, along with our Digital Skills Support Officer, and our Assistive Technologies Coordinator. The team will be supplemented by the addition of two Digitals Skills Mentors and a Digital Developer, specifically recruited and on two year fixed term contracts.

The Place

The team will be located within a newly created Digital Skills Hub located within the current 'expansion space' of our Falkirk headquarters. The Hub will be equipped to deliver Digital Skills training in a classroom environment, along with drop-in areas highlighting the latest technology, with staff on-hand to support and develop the use of digitally enabled learning and teaching, and to develop staff knowledge and confidence in the creation of digital content. Although the Hub will be located in Falkirk the team will be transient and visible across all of our campuses. We have also submitted a capital bid to Scottish Enterprise to support the technology fit-out of the

Hub, and we await the outcome. If this bid is unsuccessful this element may be funded through Falkirk Estates contingency.

The Outputs

By the end of Session 2021/22 we will have:
- Developed 15 new EnableFVC courses.
- 10 HND Year 2 courses with 30% delivery on-line.
- All staff will have enhanced Digital Skills to an identified standard.
- 10% increase in online/flexible enrolments.
- 100% of full time courses with at least 1 unit of EnableFVC branded content.

Funding bid to the Forth Valley College Foundation

Our submission to the Forth Valley College Foundation will be to fund the cost of three additional posts for a two-year period as follows:

Post	FTE	Annual Salary (incl NI and Pension) per FTE	Total (2 years)
Digital Skills Mentor	2	£55,616	£222,465
Digital Developer	1	£43,704	£87,408
Total			£309,873

4. **Financial Implications**

If the Foundation does not support the grant funding application, the College will need to seek alternative sources of funding, or delay achievement of the objectives of EnableFVC.

5. **Equalities**

Assessment in Place? – Yes ☐ **No** ☒

An equalities assessment is not applicable given the subject matter of the paper.

6. **Risk**

Please indicate on the matrix below the risk score. Risk is scored against Impact and Likelihood as Very Low through to Very High.

	Likelihood	Impact
Very High		
High		
Medium		X
Low	x	
Very Low		

There is a risk that if the College does not receive grant funding from Forth Valley College Foundation that the objectives of EnableFVC will not be met within the timeframes of the project with failure to achieve objectives of both our Creative Learning and Technologies and People Strategy with the inevitable impact on achieving our Vision 2030.

Risk Owner – David Allison   **Action Owner –** David Allison/Kenny MacInnes

7. **Other Implications –**

Please indicate whether there are implications for the areas below.

Communications – Yes ☐ **No** ☒   **Health and Safety – Yes** ☐   **No** ☒

Paper Author – David Allison   **SMT Owner –** David Allison

1. Purpose

For the Board of Management to discuss College Sector Performance Indicators for Academic Year 2018-19.

2. Recommendation

That the Board of Management discuss the Sector Published PIs for Academic Year 2018-19.

3. Background

SFC has issued official College PIs to Colleges, produced from FES information. The PIs published by SFC are for SFC funded courses where the learning undertaken is greater than or equivalent to 4 Credits. All Colleges are asked to publish their own PIs, however the SFC publication allows analysis at a sector level, and also by individual College, which allows for comparisons to be made across Colleges.

4. Key Considerations

The sector had a small increase in the overall student success PI when you look over all modes and levels, with the 2018-19 PI rising by 0.6% to 74.6%. However, the student success PI for Full Time FE students for the sector has slightly fallen by 0.9% to 65.2%, and for Full Time HE has fallen by 1.5% to 69.8% in 2018-19. The sector PI for Part Time HE has also fallen by 1.5% to 78.9%, while the sector PI for Part Time FE has increased by 1.5% to 79.7%.

The College has performed well against the Sector in Academic Year 2018-19. We are well above the sector average for success of Full Time FE students, Part Time FE students and Part Time HE students, and we are just slightly above the sector average for Full Time HE, as can be seen in Figure 1.

Figure 1 - 2018-19 Success PIs Summary

	Sector	FVC	Variance
Full Time FE	65.2%	69.1%	3.9%
Full Time HE	69.8%	70.0%	0.2%
Part Time FE	79.7%	89.6%	9.9%
Part Time HE	78.9%	84.5%	5.6%

Figure 2 shows the overall success PI for all modes and levels for each College, and the sector overall.
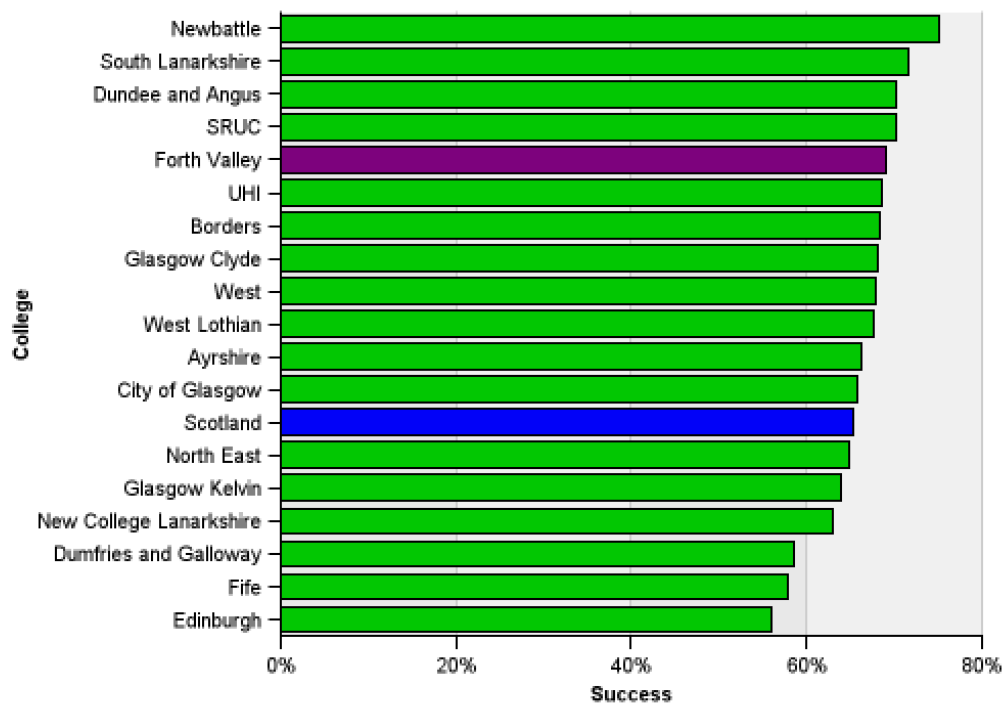
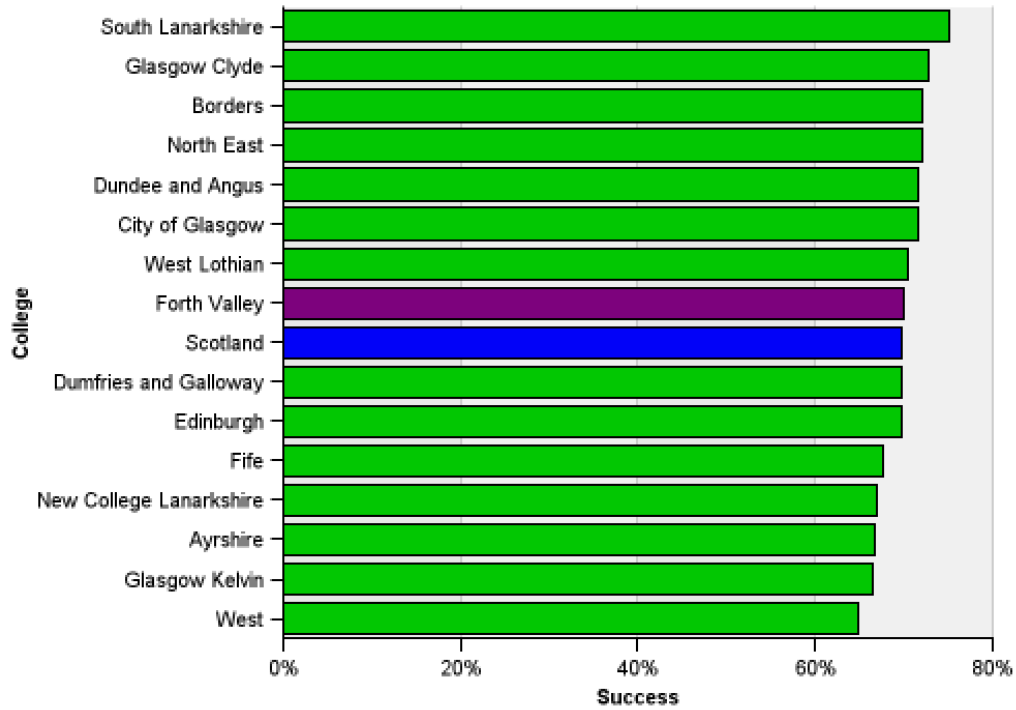**Figure 2 – Overall Success PI across all modes and levels**
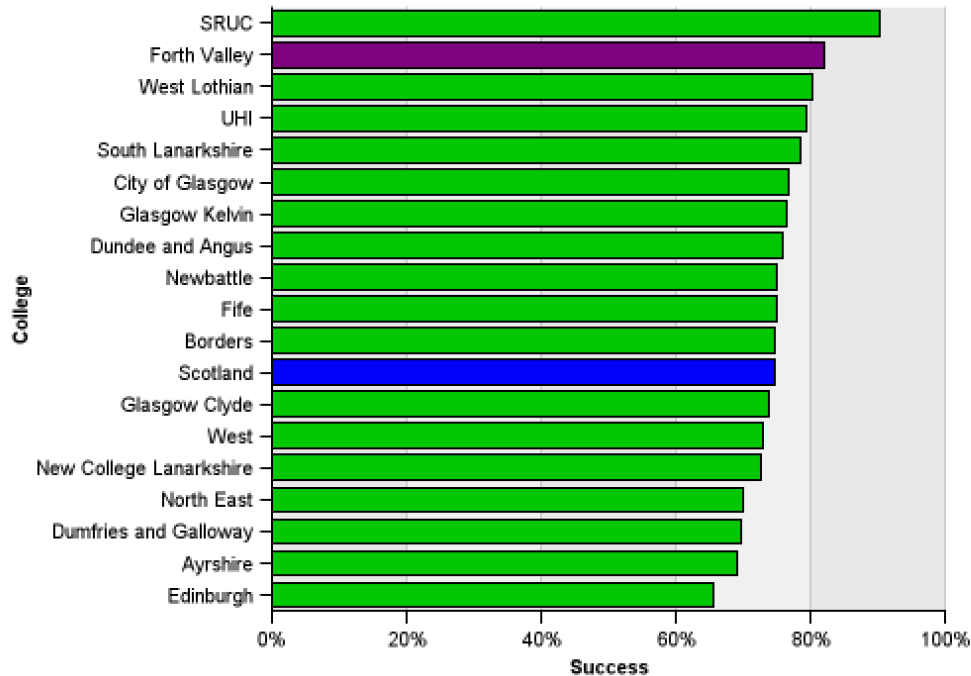
Figures 3 through 6 show success PI by College for Full Time FE, Full Time HE, Part Time FE and Part Time HE.

Figure 3 – Success PI for Full Time FE

Figure 4 – Success PI for Full Time HE
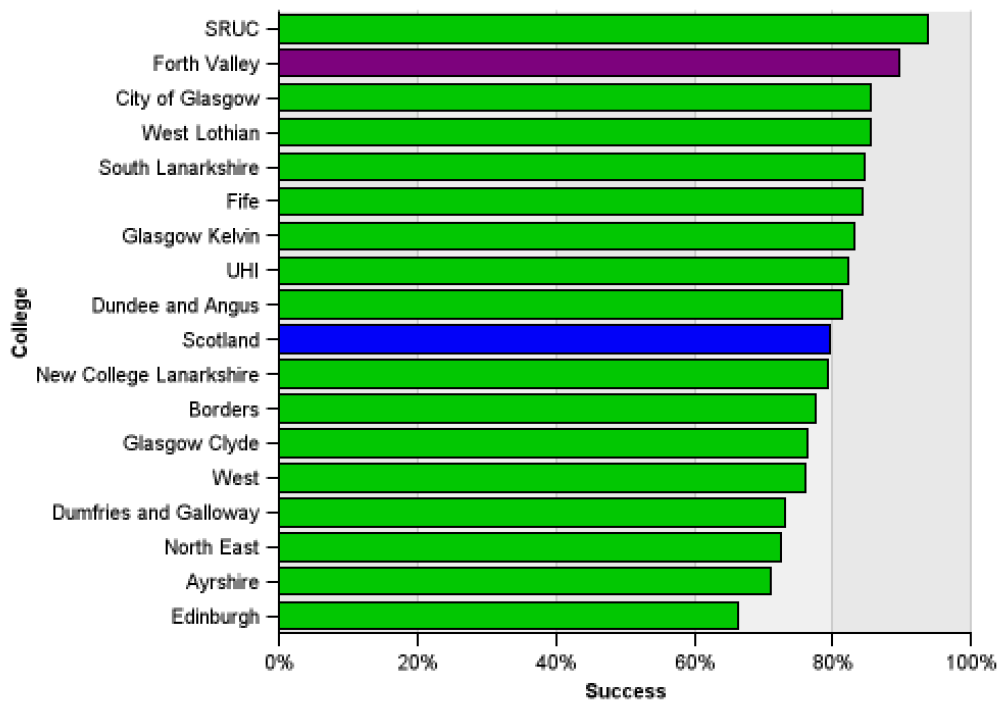

Figure 5 – Success PIs for Part Time FE
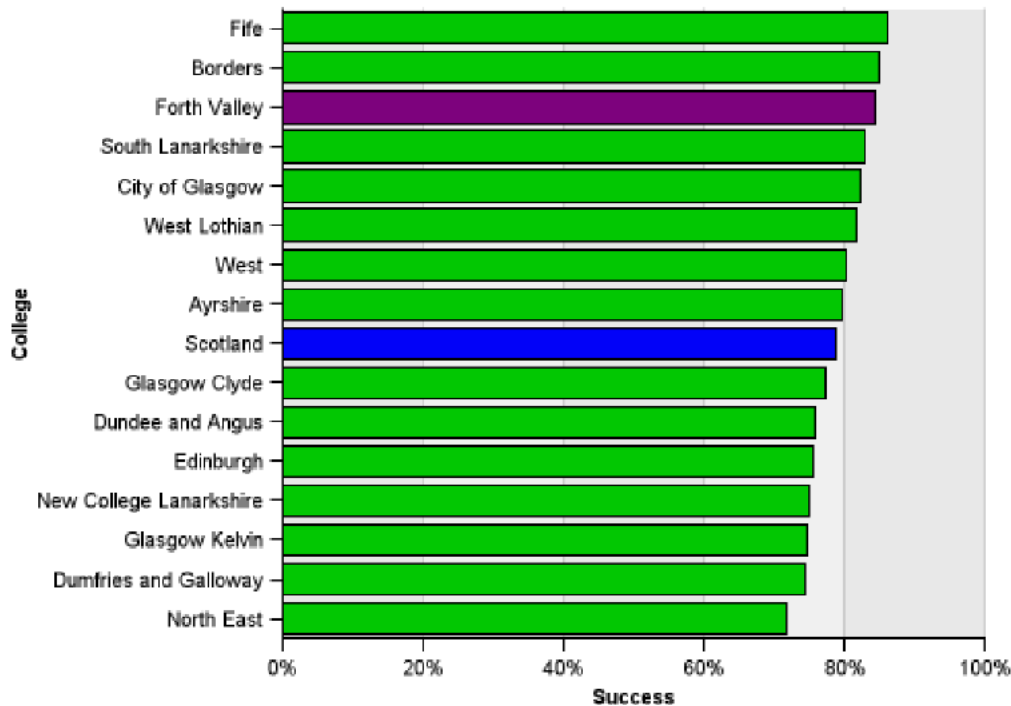
Figure 6 – Success PIs for Part Time HE

Figure 7 below shows a comparison of the College's retention PIs with the overall sector, which highlights that across each combination of mode and level the College is performing above the sector average.

Figure 7 - 2018-19 Retention PIs Summary

	Sector	FVC	Variance
Full Time FE	75.3%	76.2%	0.9%
Full Time HE	81.5%	83.0%	1.5%
Part Time FE	90.7%	94.9%	4.2%
Part Time HE	91.0%	93.2%	2.2%

In terms of performance against our Credits target the College has met its target, and overall the sector has met its activity target, with only three colleges (New College Lanarkshire, North East and SRUC) failing just short of their activity target.

The College has a higher success rate than the sector average for every age band, and has the highest success PI for the 18-20 year old age band. The College has higher success rates compared to the sector average for each combination of gender and level. Within both FE and HE the College has a higher success rate for males compared to females, whereas the sector has a higher success rate for females at HE level.

Within Key Groups, our success rates are higher than sector average for students from the most 10% deprived postcodes, students form the 20% most deprived postcodes, students from an ethnic minority, students who are disabled, students who have their fees paid by their employers, and students who have a year of study greater than first year. We are just below sector average for students who are care experienced.

Within subject areas at FE level we have the highest success rates in Engineering and Computing and ICT. We are above sector average for Business, Management and Administration, Construction, Care, Special Programmes, Science, Hairdressing, Beauty and Complimentary Therapies, Languages and ESOL and Media. We are below sector average for Hospitality and Tourism, Sport and Leisure, and Art and Design.

Within subject areas at HE level we are above sector average for Art and Design, Computing and ICT, Hospitality and Tourism, Sport and Leisure, Social Subjects, Engineering, Media and Business, Management and Administration. We are below sector average for Care, Construction, Hairdressing, Beauty and Complementary Therapies and Science.

5. **Financial Implications**

Please detail the financial implications of this item – None

6. **Equalities**

Assessment in Place? – Yes ☐   No ☒

If No, please explain why – The published PIs report on Sector and individual college performance against a number of protected characteristics.

Please summarise any positive/negative impacts (noting mitigating actions) – N/A

7. Risk

Please indicate on the matrix below the risk score. Risk is scored against Impact and Likelihood as Very Low through to Very High.

	Likelihood	Impact
Very High		
High		
Medium		x
Low	x	
Very Low		

Please describe any risks associated with this paper and associated mitigating actions – There is a risk that the College may not achieve the grades that it would want to achieve through its Evaluative Report if full time success PIs are not showing continuous improvement. Overall, the College has performed above sector average in Session 2018-19 in terms of success PIs. However, in line with the Sector, the College has seen a dip in its full time success PIs, which we are addressing through regular PI Tracking and analysis, and through the introduction of our Student Support System.

Risk Owner – David Allison/Kenny MacInnes   **Action Owner –** David Allison/Kenny MacInnes

8. Other Implications –

Please indicate whether there are implications for the areas below.

Communications – Yes ☒ **No** ☐   **Health and Safety – Yes** ☐   **No** ☒

Please provide a summary of these implications – The College publishes its own PIs on its website.

Paper Author – David Allison   **SMT Owner –** David Allison

1. **Purpose**

   To update the Board of Management on progress towards meeting our objectives set out within the College's Operational Plan for 2019-20.

2. **Recommendation**

   That members note the content of the report.

3. **Background**

   The College has developed a monitoring system to allow active monitoring of progress towards achieving the objectives set out within the College's Operational Plan for 2019-20.

4. **Key Considerations**

   Appendix 1 provides an overview of progress against our 2019-20 objectives. Of our 39 operational plan objectives, five are complete, 32 objectives are progressing to target, one objective is yet to commence, and one objective has been identified as progressing with a minor delay.

   Objective OP22 has been flagged as progressing with a minor delay, and relates to the development of the College's Business Development Strategy. Work is ongoing on the strategy, which will be brought to the Board of Management meeting in June.

   For information, an update for all objectives is included.

5. **Financial Implications**

   Please detail the financial implications of this item – No financial implications have been identified.

6. **Equalities**

   Assessment in Place? – Yes ☐ **No** ☒

   If No, please explain why – This is a monitoring report of progress against the College's Operational Objectives. Due consideration of any impact in relation to protected characteristics was undertaken during the setting of these objectives.

   Please summarise any positive/negative impacts (noting mitigating actions) – n/a

7. **Risk**

   Please indicate on the matrix below the risk score. Risk is scored against Impact and Likelihood as Very Low through to Very High.

	Likelihood	Impact
Very High		
High		
Medium		
Low		
Very Low	x	x

Please describe any risks associated with this paper and associated mitigating actions –

Risks – No new risks have been identified.

Mitigating Actions

Risk Owner – SMT   **Action Owner –** SMT

8. **Other Implications –**

Please indicate whether there are implications for the areas below.

Communications – Yes ☐ **No** ☒   **Health and Safety – Yes** ☐   **No** ☒

Please provide a summary of these implications – n/a

Paper Author – David Allison   **SMT Owner –** David Allison

12. Operational Plan Monitoring
For Discussion

Forth Valley College

Appendix 1: Operational Plan Monitoring for Session 2019/20

Creating a superb environment for learning

Cultivating a vibrant learning organisation where learners develop skills, achieve qualifications valued by industry and progress seamlessly

Instilling an energy and passion for our people, celebrating success and innovation

Enhancing our position as the business and community partner of choice

Delivering a whole system approach. Simply effective, efficient and consistent

Leading as a business that is a champion for governance, financial control and balanced risk taking
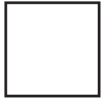
Objectives with issues identified or delayed

Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will deliver financial security and sustainability	OP22	Identifying new partners and activity areas to grow income for reinvestment to benefit our staff, students and the community.	Business Development Strategy Developed		Progressing With Minor Delay	Work is ongoing on the strategy and will be taken to the Board of Management in June 2020.	February 2019

Strategic Theme No	Strategic Theme		SMT Lead	Lead Responsibility
1	Creating a superb environment for learning		Andrew Lawson	Depute Principal & Chief Operating Officer

Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will maximise benefit from first class facilities, resources and services	OP1	Providing flexible learning spaces and environments, delivering benefits to our students, our community and local employers.	New Falkirk Campus build progressing in line with established programme.		Complete	The flexible learning spaces are fantastic and already well utilised by staff and students for work, meetings and study	February 2020
	OP2	Increasing flexibility in opening hours to maximise use of campuses all year round.	Increase availability of campuses to wider community through updated opening hours.		Progressing To Target	Plans are underway to explore the possibilities of increasing community use of all campuses	February 2020
	OP3	Providing an effective life cycle and maintenance strategy across all our campuses.	Ensure contracted service levels are met at all times.		Progressing To Target	An External Audit is currently taking place to include cycle maintenance of all campuses	February 2020
We will deliver a new Falkirk campus	OP4	Manage the successful completion on time and within budget.	Ensure project compliance with timescales and budgets.		Complete	Campus open and operating effectively. Snagging details are being collated and actioned	February 2020
			Continue governance oversight of project.				
We will deliver fully flexible and digitally enabled campuses which are future proof and fully enabled for our learning communities	OP5	A College wide Creative Learning and Technologies strategy which is embedded throughout all campuses.	Embed a learning and teaching mentoring programme and CLPL opportunities which support staff to reflect on and develop their practice and to provide evidence for College evaluation.		Progressing To Target	Good progress being made in this area with proposal to develop a digital enabled project	February 2020
			Develop opportunities for staff to share digital pedagogical practice, develop their skills and to collaborate and experiment.				
We will embed sustainability, equalities and health and safety	OP6	Deploying and evaluating innovative approaches to sustainability and energy conservation, embedding technology and reducing our carbon footprint.	Monitor and achieve targets for BREEAM in new Falkirk Campus Construction.		Progressing To Target	On track to achieve our target for BREEM	February 2020
			Continue to reduce the College CO2 footprint to support ambition of 25% reduction from 2008/9 levels by 2020.				
	OP7	Promoting a positive record for health and well being.	Contribute to the enhancement of the College's Health and Safety position.		Progressing To Target	Ongoing progress being made in this area which is monitored by the H&S committee with targets and timescales continually monitored	February 2020

Strategic Theme No	Strategic Theme		SMT Lead	Lead Responsibility
2	Cultivating a vibrant learning organisation where learners develop skills, achieve qualifications valued by industry and progress seamlessly		Kenny MacInnes	Vice Principal Learning & Teaching

Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will deliver streamlined and successful learner journeys	OP8	Working with partners to enable effective and efficient learner journeys through the whole education system.	Analyse uptake of existing articulation agreements, identify barriers to advanced standing and work with university partners to remove barriers..		Progressing To Target	The College continues to sustain very strong strategic partnerships with our three key local authority education services. The College provides pupils, in all 18 Forth Valley secondary schools (8 in Falkirk Council; 7 in the Stirling Council area; and 3 in the Clackmannanshire Council area), with the opportunity to follow vocational pathways and achieve vocational qualifications at SCQF level 5, 6 and 7 as an integral part of their senior phase curriculum. FA programme delivery has increased from 176 across nine frameworks in 18/19 to 322 across ten frameworks in 19/20.

The School portal is now in integral part of our School/College partnerships and now incorporates attendance and progress monitoring where schools can see live pupil data. Transition data is improving and the college is looking to expand the portal to include transition information across all three LEAs.

The College's University Partnership Officer is currently reviewing all our University articulation agreements to ensure we offer the correct progression pathways to our students. | February 2020 |
| | | | Increase uptake, attendance and achievement on school/college partnership programmes including Foundation Apprenticeships' Senior Phase Vocational Pathways and wider pupil inspiration activity. | | | | |
| | | | Implement online attendance and progress monitoring system for all school-college partnership provision and further develop systems and processes for capturing transition information. | | | | |
| | OP9 | Actively engaging employers with curriculum design to meet future skills demand. | Active employer/external stakeholder engagement in curriculum planning and delivery across all subject areas. | | Progressing To Target | Continued success in MA numbers across engineering and construction subjects. There has been an increase in the overall number of senior phase age pupils studying vocational qualifications at the College and this growth continues in 19/20 with an increase in FAs from 167 in 18/19 to 322 in 19/20, with all FAs receiving meaningful employer engagement.
Evidence of the impact of external stakeholder/employer engagement is strong across the four departments but there is still room for improvement in how this is recorded and evidenced in the team evaluation reports and department operational plans.
The L&Q team are undertaking a review of the self-evaluation process to ensure effective employer/stakeholder engagement is taking place across all Curriculum Teams. | February 2020 |
| We will maximise creative and digital approaches to learning | OP10 | Embedding engaging, collaborative, creative and blended approaches to learning. | Work with HR and Directors of Curriculum to develop a collegewide approach to ensure that all teaching staff are working within the expectations of the new Professional Standards for Lecturers and the FVC Creative Learning and Technologies Strategy. | | Progressing To Target | The College held its forth annual Creative Learning conference in August 2019 with the main focus of the event being the promotion of the new Professional Standards for lecturers. The conference also included the sharing of best practice, promotion of positive behaviour, discussions on inclusive practice, strategies for dealing with younger learners, and sharing examples of technology enhanced learning. This was an excellent event with significant contributions from staff. HR and L&Q are engaged in feeding back on the group actions. The CLT Committee are leading on ensuring the actions are delivered.

The Learning and Teaching Mentor programme is working well with Seventy-two lecturers engaged in the programme in 2018-19, and seventy currently active in 19/20. Engagement with the programme will increase as we have a full complement of L&T mentors for 2019 through to 2021.
The Digital Skills team within L&Q have created a digital skills self-evaluation survey tool to help staff gauge their digital competency and areas for improvement with links to on-line digital upskilling materials. This is currently being released to all staff.

The College is just about to launch our Fujitsu hub which is a digital collaborative space where staff can engage, develop and share digital pedagogical practice. Staff are also actively encouraged to share best practice through collaborative creative learning and programme reviews. | February 2020 |
| | | | Embed a learning and teaching mentoring programme and CLPL opportunities which support staff to reflect on and develop their practice and to provide evidence for College evaluation. | | | | |
| | | | Develop opportunities for staff to share digital pedagogical practice, develop their skills and to collaborate and experiment. | | | | |
| | OP11 | Having staff and students who are digitally competent and confident. | All full-time students for 2020-B522021 are provided with information and support on the key technologies they will need to be able to use to learn at FVC. | | Progressing To Target | Self assessment tool has now been developed and piloted with the aim that it is to be developed further through the Digital Skills advancement group.
The L&T Mentors are engaging new lecturers and those working through TQFE to complete the self-assessment tool and engage in enhancing their digital skills and knowledge.
The Professional Standards are also linked to staff PRDs where staff are directed to the standards and asked to reflect on their digital competence.
The lecturers' digital competence system is work in progress and is on track to be rolled out to lecturing staff by August 2020.

The FT students' pre-entry information about the technologies they will interact with at FVC has not yet been started but is planned to be available to students by Summer 2020. | February 2020 |
| | | | Design a system to link the lecturer digital competence framework with the learning resources that have been created, linked to the Lecturer Professional Standards, to enable a robust and joined-up self-assessment and learning system for roll-out throughout 2020-2021. | | | | |
| | OP12 | Providing resources to support learning which are available digitally; inclusive; and accessible. | Increase the use of online platforms for the submission, and marking of assessment evidence and the provision of feedback. | | Progressing To Target | The College's Moodle Support Team have created a FVC Moodle standard for all course structures. This is delivered through a template which defines the course requirements set against a College Moodel standard. Staff setting up new Moodle courses can only access the Moodle template through the Moodle Support Team to ensure staff understand and accept the required standards.
Lecturing staff have been informed of the expectation of Moodle course content, activities and usage criteria, to ensure the appropriate resources and activities are available for students to extend their learning beyond class contact. | February 2020 |
| | | | Increase the number of units/subjects that have a Moodle course adhering to the stated FVC standard in terms of content, activities and usage. | | | | |
| We will prepare our students to stand out in the future job market | OP13 | Preparing successful students for positive and sustainable destinations. | Sustain current high levels of leavers moving into positive destinations. | | Progressing To Target | This measure is reported in arrears. All figures shown are for 17/18. 18/19 figures are currently being worked on.
The FVC leaver destination response rate for 2017/18 was 93%.
The Students in Positive Destinations for 17/18 for FT FE was 94% and FT HE was 95%.
The expectation based on the trend data is that 18/19 figures will be comparable to 17/18.
Current predictions estimates for 18/19 is 93% for response rate and 95% positive destination. | February 2020 |
| | OP14 | Developing students whose | Increase the number of students benefiting from work experience as | | Progressing To Target | The College's FA programme has significantly increased the number of young people obtaining work experience as part of their College qualifications. The FA Schools team | February 2020 |

Strategic Theme No	Strategic Theme		SMT Lead	Lead Responsibility
2	Cultivating a vibrant learning organisation where learners develop skills, achieve qualifications valued by industry and progress seamlessly		Kenny MacInnes	Vice Principal Learning & Teaching

Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will prepare our students to stand out in the future job market	OP14	skills ensure the best opportunity in the job market.	part of their College programme of study. Further develop curriculum partnerships with SERC to develop students' Meta-Skills.		Progressing To Target	are currently working towards 100% Work placements for all 322 Year 2 and 1 Year Foundation Apprentices in 2019-2020. This is on target. Achieving the Regional Outcome Agreement of 800 work experience targets for fulltime students is still being worked on. L&Q are redesigning the evaluation tool to ensure employer engagement and meaningful work placements are a central part of the evaluation process to improve work experience targets are improved. Two partnership projects are up and running with SERC consisting of reciprocal visits for both FVC and SERC students. On target.	February 2020
	OP15	Consistently being one of the top three Colleges in the Scottish FE sector for all student success.	All team evaluation reports plan and track appropriate actions to increase student retention and success. Embed systematic use of college systems and data to maximise student success by targeting support where students need it most.		Progressing To Target	PI Prediction Tracking tool now in place and linked to Triple S to utilise data to ensure effective outcomes for all students. All programmes where student retention and/or success are at, or below, the national average or showing a downward three year trend are subject to formal review through the PI Prediction Tracking Tool and Curriculum Review process. There are three PI Prediction Tracking reviews per year (Nov/Feb/April). Regional Outcome Agreement targets for student achievement met for 2018-2019. The College is second top in the Scottish FE sector for all student success. The Progress Flag is now embedded in the attendance reporting system for all Full Time courses and school programmes .	February 2020

Strategic Theme No	Strategic Theme		SMT Lead	Lead Responsibility
3	Instilling an energy and passion for our people, celebrating success and innovation		Andrew Lawson	Depute Principal & Chief Operating Officer

Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will deliver streamlined and successful learner journeys	OP16	Promoting an agile workforce, embracing innovation, facilitation, mentoring and peer support.	Implementation of people strategy.		Progressing To Target	The People Strategy has picked up pace with a wide range of development opportunities now in place and implemented to ensure staff receive high quality training and development	February 2020
	OP17	Developing future leaders ensuring effective succession planning.	CPD provision directed by talent management plans.		Progressing To Target	Good progress made here with a talent management programme well underway supporting the development of our managers of the future	February 2020
	OP18	Engaging staff in the future direction of the College and providing opportunities for professional development and collaborative initiatives to support our people.	Implement organisational change based on feedback from listening to employees.		Progressing To Target	The group continues to meet and have identified a range of activities to take forward one being an Employee Award which would be developed, implemented by employees for employees.	February 2020
We will ensure all College activities reflect the key principles of equality and diversity to achieve an inclusive organisation	OP19	Fully integrated equality and diversity.	Deployment of Student Support System.		Complete	The Triple S process is now in place and launched across the college. This new and exiting development will be of great benefit to students and staff where all support information is recorded once and held in the same place	February 2020
We will value staff and students by recognising and celebrating success	OP20	Celebrating our staff and students.	Support Student Association to achieve their strategic and operational planning goals.		Progressing To Target	The Student Association continue to be actively involved in development opportunities for students with their themed Fresher Fayers and employer engagements events. The staff award system is now being development by the Listening to Employee forum who will collaborate with the AS on this	February 2020
			Staff awards system to be developed to celebrate their successes.				

Strategic Theme No		Strategic Theme	SMT Lead	Lead Responsibility
4		Leading as a business that is a champion for governance, financial control and balanced risk taking	Alison Stewart	Vice Principal Finance & Corporate Affairs

Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will deliver financial security and sustainability	OP21	Delivering approved budgets.	Year-end statutory accounts		Progressing To Target	Quarterly management accounts being prepared. Work currently underway on Q2 reforecast which will be taken to Finance Committee in March 2020.	February 2020
			Quarterly management accounts.				
	OP22	Identifying new partners and activity areas to grow income for reinvestment to benefit our staff, students and the community.	Business Development Strategy Developed		Progressing With Minor Delay	Work is ongoing on the strategy and will be taken to the Board of Management in June 2020.	February 2020
	OP23	Having excellent financial reporting systems which support medium and long term planning and best value investment.	Financial system upgraded.		Progressing To Target	Financial system in the process of being upgrade with User acceptance testing schedule to be completed in March 2020	February 2020
			Financial reports available to support all decision making.				
We will maximise value for money and efficient practices	OP24	Identifying opportunities for collaboration in service and procurement.	Produce report on performance against Procurement Strategy		Complete	Annual Report on Procurement performance against strategy was published in November 2019 in line with Scottish Government deadline.

Annual report on Fundraising was presented to Finance Committee in November and a presentation made to the board of Management in December2019. | February 2020 |
			Produce annual report on Fundraising strategy.				
	OP25	Implement efficiencies through business transformation projects.	All core College strategies fully costed and 5 year business plan developed and approved by the Board of Management.		Not Started		February 2020
We will lead by example through strong governance	OP26	Basing our strategic decisions for investment and the use of resources on robust information and review of risk.	Board of Management Strategic Discussions & Decisions.		Progressing To Target	Annual review of risks completed by Board of Management following Board strategic discussion on August 2019. Audit Committee review risk register at each meeting.	February 2020
			Risk Appetite and Strategic Risks set by the Board of Management.				
	OP27	Enabling a high performing, truly transformational learning community through sound governance, leadership and strategic planning.	Board meetings/strategic Discussions.		Progressing To Target	Board strategic discussion held in August 2019. Board Development Plan approved by the Board in December 2019.	February 2020
			Board Development Plan.				

Strategic Theme No	Strategic Theme	SMT Lead	Lead Responsibility
5	Enhancing our position as the business and community partner of choice	Andrew Lawson/Alison Stewart	Depute Principal & Chief Operating Officer / Vice Principal Finance and Corporate Affairs

Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will maximise commercial opportunities	OP28	Implementing a Marketing and Communications Plan which fully supports the commercialisation plan.	Continue to increase visibility of College commercial offering.		Progressing To Target	A review of the commercial offerings is under way, additionally a survey of our customers needs from FWDF is under way. These reviews and a refresh on the profitability of courses will then form the new portfolio for 2020/2021 session. Marketing materials and attraction options for the new portfolio will be refreshed and developed in line with this activity.	February 2020
We will collaborate with employers and our community to develop and deliver training and skills requirements	OP29	Fully engaging with employers to recognise the value and benefits of college delivery in terms of developing the skills of their workforce.	Work with employers to ensure the skills and training offered meets their current needs and prepares students for future challenges.		Progressing To Target	On going activity. Have secured new Business in this Quarter with SKY for delivery of apprenticeship provision and have bid for work with BP in Senegal in partnership with GCU.

FWDF target of £556412 was met in Q1 and additional further request to spend £300,000 in reallocation was made on 31/01/2020 to SFC. Currently waiting decision form SFC on whether this will be granted.

MA contract starts are at 372 for 2019/2020 contract which is 10% more than contract offer at the start of the session.

Open evening held with support from employers.

Apprenticeship Week (2-6 March 2020)events plan well under way. MA graduation, FVC/CBI future talent event, MSP and employer visits as well as 2400 primary school children engaged in a STEM / Apprenticeship event Joint project between BD, CT&D and Eng and Science department | February 2020 |
| | | | Utilise new links to employers through FWDF to increase commercial activity levels. | | | | |
| | | | Continue to promote the benefits of Foundation and other apprenticeship paths to employers. | | | | |
| | OP30 | Developing and growing our Modern Apprenticeship activity. | Engage with SDS on MA levels and funding. | | Progressing To Target | Colleges Scotland have a short life working group dedicated to a sector wide approach to this activity. It is seeking to increase funding from the SECTT, SN PEF and BESA contracts for 2020/2021 session. This group will also approach SDS with regards funding for the construction sector which is still out of step with the engineering sector.

Work on the CITB / FVC contract has concluded and contract is ready for signature and invoicing of outstanding monies from CITB will be made. | February 2020 |
| We will grow and influence strategic partnerships | OP31 | Ensuring our place as a prominent partner in supporting a region wide skills development and economic strategy. | Continue to engage at local, national and regional level with key skills development groups to represent the FE perspective. | | Progressing To Target | FVC is now the Colleges Scotland member on the newly formed Apprenticeship Approvals Group (AAG) which replaces the MAG group on 31/03/2020.

Work with local authorities and Scottish Government agencies is on going with regards to the development of the City deal and investment zone proposals.

Members of the BD team are regular representative's in skills development forums and discussions on a local, national and regional basis. | February 2020 |
| | OP32 | Being recognised as active leaders in business and the community; providing ideas, resource and influence. | Promote engagement with key groups such as CPP and relevant strategic sub groups. | | Progressing To Target | Members and participants in the Falkirk Economic Partnership and Investment Zone.

Participant in Stirling and Clacks City Deal project. | February 2020 |
| | OP33 | Continuing to build strategic partnerships to deliver opportunity in securing funding sources and developing commercial opportunities. | Identify and secure new strategic partnerships to secure non-SFC funding. | | Progressing To Target | In addition to normal commercial business:
Bid into Scottish Enterprise for capital equipment for enable STEM.
Commercial bid for training provision for BP Senegal.
Donations of STEM equipment in excess of £8000 from Exxon. | February 2020 |

Strategic Theme No	Strategic Theme		SMT Lead	Lead Responsibility
6	Delivering a whole system approach. Simply effective, efficient and consistent		David Allison	Vice Principal Information Systems & Communications

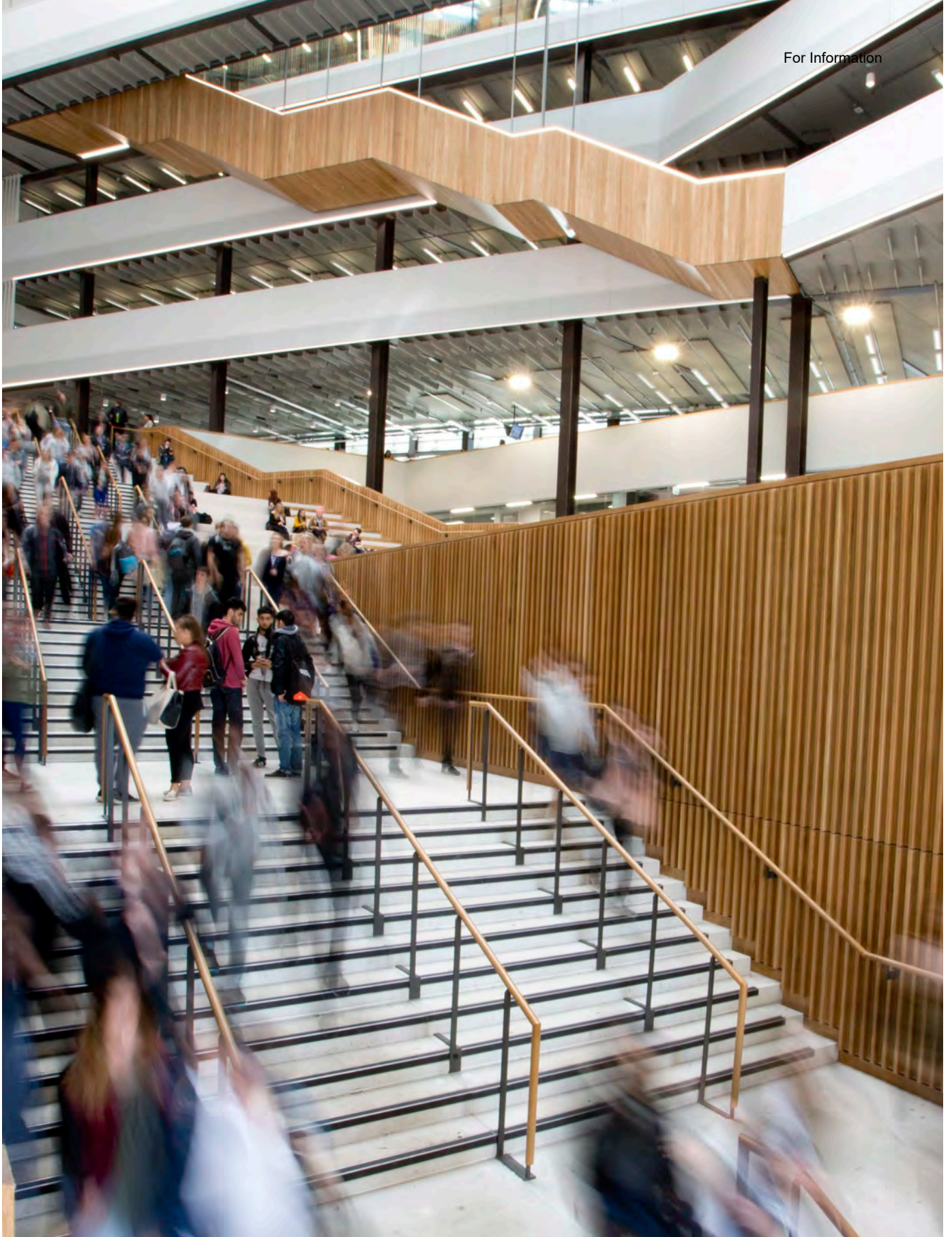| Strategic Objective	Objective No	How	Performance Measure	Links	Status	Latest Update	Quarter Updated
We will deliver a safe, robust and agile IT infrastructure	OP34	Identifying, planning and deploying new technology and system developments to be sector leading.	Commissioning of new 100Gb core network infrastructure in the new Falkirk campus.		Progressing To Target	Upgraded infrastructure and wireless installed at new Falkirk Campus. Clevertouch screens deployed in Falkirk. Easter install of Clevertouch screens planned for Alloa Campus.	February 2020
			Introduction of new interactive screens in the new Falkirk and Alloa campuses to enhance student experience.				
			Implement upgraded wifi to improve user experience.				
	OP35	Providing a long term investment plan to modernise IT equipment, resources, infrastructure and support in response to staff and student expectations.	Investing in laptops to support students to access learning and teaching resources.		Complete	Laptop trolleys are available in all general classrooms in our Falkirk Campus.	February 2020
We will enable and support students and staff to take full advantage of IT	OP36	Providing our students and staff with excellent support.	A directory of available software highlighted to staff.		Progressing To Target	A software directory has been created through Microsoft System Centre. Guidance notes have been created for Triples S.	February 2020
			Guidance notes created for key new systems.				
			Improve reporting and monitoring of i-support response timescales.				
We will make information work for us	OP37	Realising the benefit of strong marketing and communication for internal and external engagement.	Continue to promote the new Campus through the New Falkirk Campus Communication Plan.		Progressing To Target	The New Falkirk Campus communication plan is progressing to agreed timescales.	February 2020
	OP38	Developing and modernising a "One College System" ensuring all processes are digital.	Continued roll out of Onefile system.		Progressing To Target	Student Support System is now live across the College. SharePoint upgrade is progress to plan.	February 2020
			Digitalisation project launched across key areas.				
			Student Support System live across College.				
	OP39	Using learner analytics enable us to more effectively utilise our data to support students.	Investigate the integration of learner analytics information within the Student Support System.		Progressing To Target	PI Prediction Tracker has been developed, and linked to our Student Support System. First round of tracking meetings have taken place, and second round are scheduled.	February 2020
			Investigate the further use of additional data sets such as Moodle and new Library Management System within core analytics.				
			Student Attainment tracker and progress reporting embedded into Student Support System.				

THE CUMBERFORD-LITTLE REPORT

ONE TERTIARY SYSTEM:
AGILE, COLLABORATIVE, INCLUSIVE

CONTENTS

FOREWORD

1. We were delighted to be asked by the Scottish Government to undertake this important review of the economic impact of our colleges. This is a timely exercise, some eight years on from publication of "Putting Learners at the Centre", the Government's proposals for profound reform to post-16 learning. In our view, the resultant reforms and regionalisation programme that followed left colleges well placed to face the challenges at the start of the new millennium. The regionalised system created colleges of significant scale and influence, imbuing them with a more influential voice - and enabling their leadership - to have greater impact in regional and national economies.

2. Moreover, colleges now operate in an increasingly coherent strategic policy environment, led by the Government, and its Enterprise and Skills Strategic Board, and characterised by an ambition for greater collaboration across the skills and learning landscape, between schools, colleges, universities, and other providers. Indeed the concept of a national tertiary ecosystem is at the very heart of our thinking, necessitating a much closer alignment of the public agencies, most notably between Skills Development Scotland (SDS) and the Scottish Funding Council (SFC). We therefore welcome the current programme of 'skills alignment' between SDS and SFC, and hope that work can be completed quickly. We are mindful that the Government's Future Skills Action Plan sets a clear direction of travel,

whilst highlighting the inherent uncertainties of future labour markets, and the expected response from the supply side; and we welcome the updated Economic Action Plan, in particular, its maintained focus on inclusive growth, and the role of the tertiary education and skills system in supporting employers and increasing productivity. At the same time, we appreciate that whilst the SFC's Outcome Agreement regime - now in its eighth year of operation - has encouraged a closer alignment between Government priorities and delivery, we still think it can be further improved. And more recent Government programmes such as the Flexible Workforce Development Fund are enabling colleges to move with agility to deliver what industry and business partners want, whilst simultaneously offering a blueprint for a more targeted and impactful way of connecting colleges with employers - particularly at a bedrock SME and micro level.

3. Elsewhere, however, we see systemic constraints to overcome if the Government wants fully to exploit the huge potential that we know colleges can offer. The existing volume target we are required to meet annually has served Scotland well in helping avert the acute spread of youth unemployment in yet another generation in the wake of the banking crash of the mid-2000s. However, it is proving much less suited to the challenges of today, let alone those to come in a more volatile future. And the breadth of ambition signalled in Ministerial

strategic guidance, whilst welcome in recognising colleges' inherent ability to have a positive impact on so many Government priorities, nonetheless risks diffusing clear attention when a more singular focus is increasingly needed to optimise economic impact.

4. The time is right to be considering these and other such constraints, and to develop collaborative responses to the emerging circumstances of this next decade. The world of work and skills continues to change – rapidly, and in ever challenging ways. Those challenges are well rehearsed, both in the evidence supporting the Government's Future Skills Action Plan, and in our own desk-based research in the annex to this Report: demographic change; an increasingly ageing population; structural shifts that have seen a 'hollowing out' of the labour market; digitalisation; and the consequences of the global climate emergency. In addition to all that, we share the view that the UK's departure from the European Union holds the potential to create an economic and social shock of a considerable scale; if there were no other reasons for acting quickly to enable our colleges better to support the economy – and there are many – then Brexit itself would make the case as a clear and present driver of systemic change. We have had this threat very much in mind since our commission from Ministers in late summer last year, and our recommendations are aimed at helping

the college sector help Government to avert some of those likely difficulties

5. We are confident that Ministers recognise the strengths and future potential of all our colleges – their investment of over £600m per year is the most overt expression of that confidence. However our aim in this report is to inspire even greater levels of confidence, so that Ministers release the latent potential we ardently believe exists in the college sector, so that, with peers and partners, we can tackle the challenges - and seize the opportunities - that lie ahead for Scotland. A holistic, coherent, and tertiary response - characterised by agility, flexibility and adaptability - is now more essential than ever if Scotland is to make a step change in delivering its national priorities. In this report, we highlight how colleges can and must play an even more pivotal role in developing our economy. And we begin by examining the most fundamental question for colleges, since so much will flow from a national, shared understanding of the answers we develop, at this, the cusp of the second decade of the 21st Century.

6. This report has been a significant, if welcome, undertaking. We have been fortunate to have had the support of everyone we have engaged, within and outwith the sector. We are very grateful to all those who took the time to let us have submissions, and for the consistently thoughtful and considered nature of those

submissions; colleagues in the sector were also quick to let us have the case studies that appear throughout this report, and we are grateful for those too. We send similar thanks to the business people across Scotland with whom we engaged, and particularly to the Chambers of Commerce in Aberdeen, Edinburgh, and Glasgow, and to the Scottish Chambers of Commerce for ensuring the employer voice was clearly represented, and facilitating direct engagement with a range of industry leaders. We were fortunate too to have the support of Scottish Government economist Annabel Arbuthnot - her excellent report from the desk-based research she undertook was invaluable in shaping our thinking; and we are indebted to Vicky Underwood at College Development Network for her expert contribution on current export activity among Scotland's colleges, and the capacity and opportunity to do more. Finally, Scottish Ministers from a number of portfolios have been gracious in the time they have given us as this report has developed. We thank Deputy First Minister and Education Secretary, John Swinney, and his colleagues, for their support.

Paul Little
February 2020

Audrey Cumberford
February 2020

264,858 STUDENTS IN COLLEGES

9% INCREASE SINCE LAST YEAR ▶▶▶▶▶▶▶▶▶

THE **MEDIAN AGE** OF A COLLEGE STUDENT IS **22**

GENDER

MEN **48%**

WOMEN **52%**

Under 16 **14%**

16-24 **43%**

25 and over **43%**

MODE OF ATTENDANCE

PART TIME **71%**

FULL TIME **29%**

LEVEL OF STUDY

FURTHER EDUCATION **81%**

HIGHER EDUCATION **19%**

FULL TIME **17%**

PART TIME **64%**

FULL TIME **13%**

PART TIME **6%**
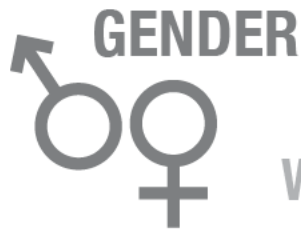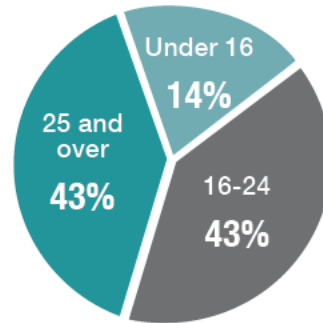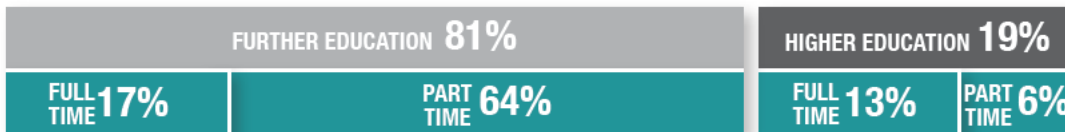
OVER **23,000** COURSES PER YEAR

42% OF ALL FULL TIME COLLEGE ACTIVITY IS IN HIGHER **EDUCATION**

74% OF HIGHER EDUCATION ENTRANTS ARE ON HNC OR HND **PROGRAMMES**

EXECUTIVE SUMMARY

"...A holistic, coherent, and tertiary response - characterised by agility, flexibility and adaptability - is now more essential than ever if Scotland is to make a step change in delivering its national priorities..."

There are twenty-six colleges in Scotland, twenty-four of which operate within one of thirteen regions. They range north to south, from Orkney to Dumfries, and east to west, from Aberdeen to Stornoway. They comprise large, multi-campus, metropolitan institutions, and those of a smaller, rural nature. They are significant economic contributors in their own right, employing over 14,000 staff, around 60% of whom are women. Together, Scotland's colleges represent a huge national asset in which the Scottish Government invests considerable resource.

However, the economic impact of colleges is perhaps not widely understood, or recognised. But it is very significant. The Scottish Government's investment delivers substantial returns: the boost to GDP that arisies from improved labour productivity; increased tax takes as a result of wage premia; 'spillover effects' through improved business competitiveness, and knowledge transfer among employees; and the multiplier effects of increased spending in the economy. More specifically, a single graduation cohort (2015/16) has been calculated by Fraser of Allander as creating a boost to GDP of 0.17% and delivering a present value of £3.4 billion, amounting to £59,000 per graduate. When looking at multiple cohorts over the period 2008/09 - 2015/16 this figures rises to £20.6 billion, or £2.58 billion per year.

95% OF QUALIFIERS MOVED INTO POSITIVE DESTINATIONS

9 out of 10 OF FULL TIME FURTHER EDUCATION STUDENTS ARE SATISFIED WITH THEIR COLLEGE EXPERIENCE

OVER **10,000** STUDENTS REPORT THAT THEIR TIME AT COLLEGE HAS HELPED THEM DEVELOP THE KNOWLEDGE AND SKILLS FOR THE WORKPLACE

COLLEGES DELIVER **OVER A QUARTER** OF ALL HIGHER EDUCATION IN SCOTLAND

OVER **1/4** OF SCHOOL LEAVERS GO INTO FURTHER EDUCATION

Moreover, colleges offer an enormous range of provision, supporting new entrants to – and the existing workforce in – all of Scotland's priority business sectors. Our learners – increasing again in recent years, and numbering nearly 265,000 in the latest year for which Scottish Funding Council data is available (2018/19), are a diverse community: around 17% are under 16, and getting their first taste of work-based learning; nearly 4 in 10 aged 16-24, and the majority over 25. Nearly 1 in 3 study on a part-time basis and 95% of qualifiers move into a positive destination post-college.

Colleges are inherently connected institutions: we work closely with schools, developing Scotland's young workforce; and we provide an invaluable route to university – nearly 10,000 of our students moving there in 2017/18; indeed, colleges deliver over a quarter of all higher education in Scotland.

Colleges are diverse, and connected to the communities we serve: 31% of students come from Scotland's most disadvantaged backgrounds; 14% have a disclosed disability; 7% of enrolments are from learners with black and minority ethnic backgrounds; and there are now over 3,000 care experienced students in our colleges.

And, crucially, students are satisfied with their college experience: 93% of full-time learners expressed that view in the latest survey.

26% OF ALL SCOTTISH DOMICILED FIRST-DEGREE ENTRANTS TO UNIVERSITY WENT VIA COLLEGE

OVER A THIRD OF STUDENTS ARE FROM SCOTLAND'S LOWEST SOCIO-ECONOMIC BACKGROUNDS

40% OF STUDENTS FROM THE LOWEST SOCIO-ECONOMIC BACKGROUNDS PROGRESS TO UNIVERSITY THROUGH COLLEGE

14% OF STUDENTS HAVE A DISCLOSED DISABILITY, OF WHICH DYSLEXIA IS THE MOST COMMONLY REPORTED

189 NATIONALITIES ARE REPRESENTED IN COLLEGES

OVER 3000 CARE-EXPERIENCE STUDENTS WERE ENROLLED IN COLLEGES

7% OF ENROLMENTS WERE STUDENTS FROM BLACK MINORITY ETHNIC BACKGROUNDS

OVER A QUARTER OF STUDENTS ARE ENROLLED IN STEM SUBJECTS IN SCOTTISH COLLEGES

This report, though, comes at a crucial time. Public finances are tighter than ever, and the UK has left the European Union with as yet unknown consequences. The Scottish Government and its Enterprise and Skills Strategic Board have identified improving business productivity as a priority, and quite properly want to see all publicly funded bodies align with that ambition. Notwithstanding the strengths of the current college system, we are clear that it can do more to engage with Scottish business of all types – particularly with our 'bedrock' small and medium enterprises, and our start-ups and micro businesses, to develop the skills and capacity that will help them become more competitive and to grow. Doing so with this community, which represents the vast majority of Scotland's business base, would be an invaluable contribution to the Government's economic and social ambitions.

In our judgement though, we are not, as yet, maximising the potential of our colleges to support business growth. We contend this is the result of a series of policy and operating measures that, while appropriate for their time,

have now become outdated, and are acting as constraints; in addition, we think that the wider learning and skills system of which colleges are a fundamental part, is itself insufficiently aligned to deliver the results the Government wants – in this respect, we echo Professor Sir Anton Muscatelli's call in his recent report on driving innovation in Scotland - for a "national mission".

In this report we seek both to identify constraints besetting the sector, and identify the agencies that should consider how best to release them, scoping and developing appropriate solutions. We have not sought to identify those solutions ourselves because we are clear that should be a collective effort. The college sector should absolutely be a central player in this process, and we expect our colleagues to embrace the opportunity with enthusiasm.

In the opening paragraphs of this summary, we identify the substantial economic impact colleges already have. We see that as the base from which to grow: the recommendations that follow aim to create the conditions for that to happen.

RECOMMENDATIONS

"…Together, Scotland's colleges represent a huge national asset in which the Scottish Government invests considerable resource…"

Recommendation 1

Ministers should endorse a compelling narrative setting out the purpose of a 21st college that we propose on page 22, and:

- noting our emphasis on lifetime learning and business engagement, promote it consistently across Government, irrespective of Portfolio, to develop a clear understanding across civic Scotland of what a college is for;
- use it to establish short, multi-year, Ministerial guidance, focused on core priorities in support of the purpose;
- develop a transparent and accessible performance regime directly related to the purpose. This should be done by the Scottish Funding Council (SFC), working with the sector and other stakeholders. In the context of that work, we are clear the existing target for colleges, focusing on volume, should be replaced by a target that focuses clearly on the impact we want colleges to make;
- to allow colleges better to support business, particularly in pursuit of productivity gains, and inclusive growth, and given the priority of establishing a coherent, flexible, and efficient post-school tertiary system, reconsider the current imbalance between the SFC's college and university strategic funds; and
- again given the ambition for a coherent tertiary system, reconsider the historical balance between the SFC's university and college 'core' funding streams to ensure the allocation of resource is appropriate for today's and tomorrow's economic landscape.

Recommendation 2

Consistent with the purpose we propose for a 21st century college, **Ministers** make supporting business growth a top priority for colleges. To this end, they should:

- ask SG, SFC, the enterprise agencies (inc SoSEP) to work with the college sector - on a 'Team Scotland' basis - to develop mechanisms that incentivise effective and purposeful college/employer engagement; this work should be business centred, and avoid complexity and bureaucracy; in addition, given the integral nature of colleges to business development, growth and productivity, and as we move closer to a knowledge-based economy where the importance of place is becoming more acute, Ministers should ask SFC to consider a strategic alignment between colleges and SDS, SE, HIE, and SoSEP so as to improve joint regional planning, and the development of joint teams to enable regional collaborations with colleges (and universities). This approach would be particularly helpful for PACE related activities, and in those areas where we know we have large scale and critical skills gaps;
- ask the enterprise agencies to work with colleges to explore how their relationship could be strengthened further, using a regional model of business-college/enterprise agency engagement, avoiding cluttering the landscape in which businesses have to navigate;
- ensure the college sector plays a full part in realising the national ambition of a single portal for businesses. This will help colleges properly understand - and contribute to - the content of the portal, while ensuring college support is clearly identified as a part of the resource available to employers;

- ask the Scottish Qualifications Authority (SQA) to work with SFC, the Scottish Credit and Qualifications Framework (SCQF), and the sector to review its post-16 portfolio against the tests of the new college purpose. This should focus on the need to meet the tests of industry-related currency, credibility, and agility, and accommodating employers' wish for short, focused or bite-sized learning interventions. SQA should also consider, with colleges, and SCQF, how they might secure the freedom to design and develop their own qualifications. In addition, and again with colleges, and others where identified below, SQA should investigate:
  - o how colleges might secure wider recognition for the value of accreditation provided by a range of other awarding bodies, and industry;
  - o (with SFC) how to enhance the use of college certified qualifications, and more use of 'micro-credentials';
  - o how Ministers can better promote the value of Higher National Qualifications for direct entry into employment;
  - o the development of a two-year college degree, based on the Higher National Diploma, with additional work-placement content;
- ask Skills Development Scotland and the Scottish Funding Council, as part of the work undertaken by the two bodies on skills alignment, to discuss with colleges the opportunities for greater college participation in each stage of the 'Apprenticeship Family'
- in line with Scottish Government international ambitions, and our status as "A Trading Nation", and in the light of the experience and success some colleges have enjoyed in exporting, ask SDI to consider wider opportunities for Scottish colleges' participation in international visits and trade missions, along with invitations to participate in inward trade missions;
- ask SFC to work with the sector and business representatives to ensure its Outcome Agreements define effective and suitable impact measures for business engagement. SFC should also work with Education Scotland to ensure its quality assurance regime for colleges supports these measures;
- expand the Flexible Workforce Development Fund, allowing colleges to engage and support SMEs and micro- and family-businesses in enhancing productivity;
- Our final recommendation for Scottish Ministers draws on the benefits that our other proposals may generate. Our theme is one of identifying opportunities to reduce unnecessary bureaucratic constraints and central controls that characterise the current system and which, in our judgement, hold colleges back from making the fullest possible contribution to inclusive growth. We invite Ministers to consider if the more coherent tertiary system we propose allows scope for asking the Office for National Statistics (ONS) to revisit its current classification of Scotland's colleges. Ahead of that process, the Scottish Government should undertake a full analysis of the basis for the ONS decision (now several years old) and compare the position at that stage with the type of regime we propose.

Recommendation 3

The **Scottish Funding Council (SFC)** should:

- work with the college sector, to reform its current funding model, so as directly to incentivise colleges' agility and speed of response to employer demand. The new model should be transparent, and readily understood, and introduced as quickly as possible, no later than academic year 2021/22;

- working with colleges and universities, establish a means of learner-focused articulation from college to university. This should promote a more coherent tertiary system, incentivising collaboration, co-location, co-funding, and co-investment. This work should also address solutions to the difficulties in the south of Scotland arising from diseconomies of scale resulting from relatively small learner cohorts; the costs and challenges inherent in travel in rural communities; and the relatively low SIMD-defined areas of disadvantage;

- protect the essential diversity of the sector - which is a crucial strength – by considering how best to direct and maximise technological investment in which learner-focused provision and data innovation can be freely shared across and between regions. The SFC should consider the benefits and outcomes associated within a networked system of this kind: this should include consideration of the 'hub models' operating in the south of Scotland, UHI, and currently being explored in the Ayrshire region - which themselves help to address, but which do not yet fully resolve, the difficulties identified for the south of Scotland in the preceding bullet;

- explore how to promote collaborative solutions in considering future capital investment projects; and

- building on existing resources, explore the possibilities of a 'staff college' for the sector to develop the necessary cross-silo leadership we identify as necessary for the years ahead.

Finally, we hope it is apparent from what we say in each of the recommendations above we consider it essential for **all actors** in Scotland's tertiary sector to engage fully with the development of the solutions we propose.

WHAT IS A 21ST CENTURY COLLEGE FOR?

"…skills mastery, underpinned by technological and professional education…we must insist on excellence rather than competence…"

Colleges across Scotland are now remarkably agile tertiary education and training institutions. They are much enhanced in their scale, scope and stature. Increasingly demand-led they play pivotal civic anchor roles within their respective regional, rural or metropolitan economies. Within Scotland's tertiary ecosystem, working with and alongside schools and universities, and delivering both access and degree provision - and all points between - colleges are valued for their flexible, adaptive and inclusive approach. We think they are a Scottish treasure, whose diversity is now characterised by collaboration rather than competition.

We know from experience that college leaders and their staff are committed to make an impact from the point of engagement, and that, in doing so, they effect transformation across a diverse continuum from individuals and communities to family businesses and large corporates.

Colleges have a particular – and extraordinarily important – USP through their connections to Scotland's SME and micro-business communities, the bedrock of our economy, and including many businesses in which a boost to average levels of productivity would see them move up the value chain. A recent report by Fraser of Allander on the Glasgow economy explores this point more fully (see graph below).

Staffed by dual industry and education professionals, respected within both their own local communities and national trade bodies, our colleges prioritise skills mastery, underpinned by the technological and professional education of the individual student. College pedagogy emphasises the 'doing', instilling competence and proficiency in our learners.

Today's colleges have an incredibly broad curriculum offer, extending from the senior phase of schools to Foundation Apprenticeships,

Labour productivity distributions, city regions (GVA per worker) 2014
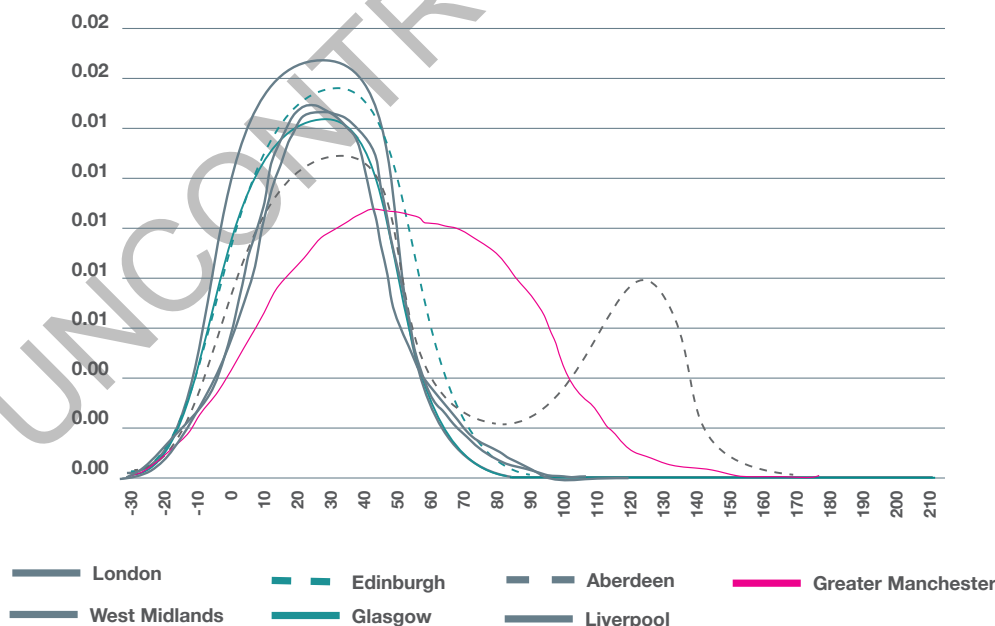
Source: Fraser of Allander Institute, "Understanding the skills opportunity for today & tomorrow in Glasgow", September 2019

SVQ's, partnerships with the 3rd sector (such as the Princes Trust 'Get Into' programmes), access pathways, SCQF and credentialised accreditation, 'train the trainer', and national awards - through to higher vocational qualifications including Modern and Graduate apprenticeships, HNCs and HNDs, Professional Development Awards, professional chartered qualifications, and technical and honours degrees. Some institutions offer post-graduate and chartered professional qualifications and a few offer Masters Degrees and, among the academic partners forming the University of the Highlands and Islands, Doctorate qualifications. Such a broad and diverse provision is manifest in over twenty-three thousand courses across the sector - an illustration of the sheer breadth and diversity of current college provision.

Across Europe, similar economic challenges to those facing the UK - and Scotland - are driving policy makers to re-evaluate the importance of colleges as their primary expert providers of skills, vital to productivity and the economy in general. Their technological, vocational, and professional education is also crucial, whether exemplified in the Augar report in England; the introduction of outcome agreements in the Republic of Ireland or the participation of Dutch, Basque, and Finnish representatives in the appreciative enquires conducted by the UK's Independent Commission on the College of the Future, with which we are pleased to connect at both Commission and executive levels. In short, the untapped potential of colleges is increasingly being brought to the fore, often in similar discussions of value for money tertiary education.

Colleges in Scotland are nowadays metropolitan, regional, and rural powerhouses for pre-employment and technological education, sector-specific training, and in-work reskilling and upskilling; they are beacons for social and human capital development and inward investment; they are bulwarks for social mobility, for continuing education and for lifetime learning. In Scotland, they are an essential lifeline to help some of the most vulnerable, fragile, and marginalised in society onto pathways, developing the social infrastructure to move confidently into the labour market, transforming life chances and improving life choices, safeguarding employment, and stimulating significant inclusive economic growth. Our colleges are major economic catalysts in city regions and in rural and island development, responding time and again with bespoke courses to address acute industry needs, whilst also being the champions of STEM education and capacity building for 'the internet of things' to help individuals and communities to flourish in an evolving digital era of industry 4.0. Colleges are often the first responders when firms collapse leaving widespread redundancies, rapidly putting in place measures to re-train, upskill, and re-energise individuals and their communities to move forward to new opportunities. What motivates many of our staff is that their colleges are the linchpins for developing the social capital for those of all ability and all ages to engage in purposeful, practical, and productive learning - for the many, not the few.

Imbued with such a multiplicity of roles and the inherent magnitude of responsibility it is little wonder therefore that commentators find it difficult to describe what colleges do and then translate this intrinsic public value into a shared compelling narrative. That is a fundamental aim of our report. We want to reach a clear definition of what a 21st Century college is for. In doing so, we hope to create the opportunity for a fresh approach to thinking about the impact

we want from Scottish colleges, and how they can be measured, funded, and evaluated in a way that supports those goals. This is a vital element of a new narrative for 21st century colleges, for which we also need:

- an unambiguous commitment from across the Scottish Government to a system that provides *opportunities for lifetime learning;*

- a yet more coherent, and better connected *tertiary system for Scotland*, in which colleges are centre stage partners, celebrated and resourced as such;

- *to protect diversity*, avoiding a one size fits all approach. Public investment in our critical tertiary infrastructure – IT renewal, harnessing emerging technologies and optimising our capital estate – will yield higher returns when we promote an approach that optimises the strengths of all partners within that system;

- a diverse range of institutions, with centres of excellence pooling resource and expertise and acting as hubs to enhance the productivity of area-based economic clusters of private and public sector partnerships. The model developed in the south of Scotland, illustrated in the case study overleaf, is an excellent example of the use of technology to support learners and employers.

Case Study 1

SOUTH OF SCOTLAND SKILLS AND LEARNING NETWORK

The South of Scotland faces a number of economic difficulties: an ageing population; young people moving away from the region; a geography that challenges infrastructure, including digital connectivity; low GDP per-head, with low productivity; and sectors with traditionally low wages and fewer higher skilled jobs, whose business base is dominated by micro and small businesses.

In addition, the South's economy is shaped differently from the rest of Scotland, with rurality undoubtedly a barrier to business-led inclusive job growth. Rural economies, quite simply, do not enjoy the agglomeration economies available to city-regions. Similarly, our challenges and opportunities differ from other rural parts of Scotland such as the Highlands and Islands.

The South of Scotland Skills and Learning Network (SSSLN) has developed from collaboration between Borders and Dumfries and Galloway Colleges. Supported by the South of Scotland Economic Partnership, our major share of a £6.6 million strategic investment fund allows the SSSLN to make a sustained contribution to both the South of Scotland's Regional Skills Development Plan (2019/2020) and the Scottish Government's ambitions for a Smarter Scotland.

Interconnected specialist hub centres hosted in Dumfries within The Henry Duncan Building Innovation & Research Centre include "The Digital Healthcare Centre" and the "The Green Energy Centre", and a third hub in Stranraer in the form of our "STEM Centre". Meanwhile, in the Borders, there are hubs in Galashiels, and in Hawick. The accompanying digital spokes are deployed progressively throughout the region, throwing open the network to new technologies and changing the nature and significance of learning and development as a principal driver of regional economic growth. The SSSLN will play a significant role increasing the South's level of competitiveness and in tackling inequality – the two pillars of the Scottish Government's economic strategy.

As connectivity improves and broadens, our entire digital learning portfolio will be available to home learners, allowing learning to be much more accessible, in places and at the times most convenient to learners and employers.

Future economies will be knowledge driven, and effective access to relevant learning is central in managing the challenges ahead. Our particular suite of learning opportunities will focus initially on current regional growth priorities - care, renewable energy, engineering, and construction. Using our specialist hub and digital spokes, the initial portfolio will deliver the CREST sustainable bronze award for school pupils aged 11 and above. We will deliver SCQF level 6 Reablement, and SCQF level 7 Electrical Engineering programmes for a range of full- and part-time learners

and business partners. Moreover, our enhanced engagement with individuals and employers through a more systematic regional approach to labour market intelligence will create a wider and even more responsive approach to skills alignment and development.

The repurposing and future proofing of existing physical structures, modified to use green energy sources, and the consequent reduction in public and private transport to get to learning opportunities, underscores the project's commitment to the Scottish Government's Green New Deal and broader climate change strategies. And since economic wellbeing cuts across most of the Scottish Government's strategic objectives, widening access to future-looking learning opportunities will inevitably increase individual, community and regional wealth.

The clear economic benefits associated with the South of Scotland Skills and Learning Network project can be successful only through the continued support of a large number of business and other partners. But being connected, especially in such a diverse rural area, has other potential individual and community benefits. We look forward to the added value that will undoubtedly derive as the project matures over time.

- institutions inspired and enabled by this new tertiary system who consistently pursue excellence. We must make better use of skills competitions, more structured industrial placements and our tertiary alumni, both nationally and internationally, to open doors for our students and their economic partners. Indeed, we are taken by the "Key Success Factors for Skills Innovation" identified by the Royal Society for the Encouragement of Arts, Manufactures and Commerce (www. thersa.org) in its publication *"Adopting Global Skills Innovation for the UK, Sharif & Dent, May 2019"*. The authors specifically identify learning and innovation as a key success factor, and point to the potential of the World Skills competitions in this respect – and Scotland has historically punched well above its weight in WorldSkills. Despite that success, it is difficult to say WorldSkills enjoys the same status in Scotland apparent in some of our European competitors, as illustrated in the images opposite.In addition, we must insist on *excellence rather than competence* within the content, assessment, and currency of technical and professional qualifications. SQA and QAA should work more closely together and with a greater sense of urgency to ensure their portfolios reflect what the economy needs, both in the short- and medium-terms and thereby further enable the agility and flexibility of colleges.

- *collective system leadership* that, galvanised by the Government's National Priorities, also supports the medium- and long-term priorities for our colleges, valuing their contribution alongside peers in Team Scotland. This leads directly to an underpinning theme, also at the core of Professor Sir Anton Muscatelli's report on "Driving Innovation in Scotland", of a c*ollaborative commitment to a national mission for colleges for Scotland.*

If these are the necessary criteria to allow our colleges to flourish in dynamically changing operating environments, what is their purpose in this exponentially changing world? In the explicit expectation that this needs to be a collective and transparent effort across Government and all its public agencies, as well as local authorities, schools and universities, third sector partners, and, critically, Scotland's employers, we think it leads to the following core purposes for our colleges which places employer support as their cornerstone.

Colleges provide world class lifetime learning, training and high quality business support, which:

- **shapes businesses, through value adding, symbiotic relationships that boost productivity and deliver for core economic sectors;**

- **delivers transformative technological and professional education, pre-employment qualifications, up- and re-skilling learners throughout a lifetime both at work, and beyond; and high quality cost effective public higher education, articulating seamlessly with the university offer, whilst also delivering accelerated college degrees;**

- **connects with, and builds resilience in, the communities in which they're anchored, working in deep partnerships to minimise disadvantage and helping individuals to remain economically active; and**

- **is part of a highly connected tertiary system, whose unique contributions are accorded equal value, and where colleges, alongside schools, universities, the third sector, and other actors, support all school leavers and older learners as they progress onwards on a coherent journey to - and subsequently through - work.**

THE FUTURE WORLD OF WORK AND SKILLS: VOLATILE, UNCERTAIN, COMPLEX, AND AMBIGUOUS

"*…Multiple jobs, multiple employers, multiple careers and longer lifespans…*"

If the future is no longer what it used to be, the future of work and skills will certainly be different. There are many elements of this 'VUCA', and we set out below those we think are most important:

Pressures on return on investment will increase…This will drive us to look at how we can leverage more value for our investment in the tertiary skills system and wider education system, including our schools, requiring an increased focus on outcomes and impact, and a need to determine the optimal balance of resource investment to maximise our return.

A growing impact of technology at an exponential rate which will be much faster than we can keep up with…directly impacting on the 'nature' of our education and training provision on our students and staff: on how both 'learn how to learn', and on how and what we teach, along with the profound impacts on work, industry and metropolitan, regional, rural and island communities.

Shocks and acute disruption to the economy will demand a rapid, agile response to tackle specific labour market difficulties, minimise skills gaps and mitigate shortages at regional and local levels, as well as nationally. Colleges must have the flexibility to respond to that, within their reinforced national role

Data driven learning improving results …understanding and identifying the most appropriate interventions and their timing; and focusing on the pre-requisites for positive student outcomes such as retention, attainment, and value-adding destinations. Moreover, students will access and use data in ways that allow them to co-create and navigate more personalised learning journeys. Data analytics will increasingly be used to predict outcomes, increase efficiencies and deliver success.

Real-time access to education and learning…beyond MOOCs, BigTech such as Amazon, Google, YouTube, and Microsoft are offering huge amounts of free access to chunks of learning, and will increasingly offer digital personalisation. A new generation of "education consumers", will be prepared to shop around to address their specific requirements, demanding shorter learning interventions, increasingly inter-disciplinary, and work-integrated – supported seamlessly with digital infrastructure. Above all, there will be a premium on increasing our focus on personalisation, funding, technology-enabled interventions, and learner feedback.

A deeper understanding that ultimately learning will remain intrinsically a social activity…albeit increasingly undertaken in micro-chunks, validated with micro credentials, with much less demand for protracted qualifications - and much more demand for better focused 'unbundled' learning opportunities, delivering valued qualifications and responsive accredited provision that plug skills gaps and tailor upskilling/reskilling for those in a continuum of work.

An imperative to remove 'friction' within the system...since improved returns on investment will be paramount, alongside an experience that exceed the expectations of students and employers, we must relentlessly tackle bureaucracy, optimising business processes to remove friction and duplication. This will apply as much to how colleges themselves operate, as to the tertiary system itself. On the latter, our consultation consistently highlighted what colleges felt was unnecessary duplication in SFC and SDS funding, for example, in respect to the present and future of the apprenticeship programmes. Additionally, we consider it curious that, over two decades on from the establishment of a joint Funding Council working

for both colleges and universities – and in an environment where a border-free tertiary system is so often cited as the goal - the respective funding streams, in all their forms, remain so starkly bifurcated.

Employers to demand micro-credentialisation and bespoke industry relevant qualifications...with the corresponding potential to diminish the influence of our existing accreditation bodies. It is essential that colleges' capacity to respond to employer demands – which arrive in every shape and size – is not hampered by a national qualification framework that cannot respond similarly rapidly to changing demand.

An ageing population that is likely to mean a huge demand for elder care as well as social care...combined with longer working lives, driving demand for both flexible employment practices and constant access to education and skills training.

Multiple jobs, multiple employers, multiple careers and longer lifespans... with fundamental implications for the college curriculum, as well as creating opportunities for people constantly to enter and rely on learning throughout a lifetime. Mid-career and later-career learning, skills development, 'expertise enhancement' are all essential to meet the demands now and in the longer term for enhanced productivity and economic prosperity;

Let us consider more deeply the environment in which these factors will take shape. Change has been superseded by disruption, and its pace has accelerated to an exponential level. The financial crisis of the first decade of the 21st Century has been eclipsed by global political and economic threats looming over the next decade. Volatility, uncertainty, complexity, and ambiguity (VUCA) define the environment in

which the 4th Industrial Revolution (4IR) takes place. Difficult transitions and transformations lie ahead for those currently in employment, and employers will similarly be challenged by the expectations and values of the next generation of workers, as generations Zulu and Alpha come rapidly into the workplace.

Reflecting at a macro level on our evolving 'upside down' world we note that debt has shifted from the private sector to the public sector; our middle class take the levels of drink and drugs once taken by our working class; and, individually, we habitually (or increasingly) surround ourselves with social media echo chambers offering comforting lies rather than inconvenient truths. To mitigate against the very real lose-lose scenario of chronic talent shortages, stubborn skills gaps, mass unemployment, entrenched inequality, polarised society - with the underlying risk of social unrest - Government and college leaders will have to adopt a transformative approach to upskilling, reskilling, lifetime learning, human capital development and the consideration of personal learning accounts and social contracts.

Nowadays the future of work and skills is impacted less and less by the vagaries of a global economy and more and more by digital, artificial intelligence (AI) and gig economies. Sensible reflection on the changing nature of jobs and skills has been bedevilled by sensationalist predictions of the impact of technological disruption, cloud technology, super intelligence, the internet of things, 3D printing, Big Data and machine learning.

Moreover the prevalent fear that migrants are displacing the jobs of local workers will in time be replaced by the twin new fears of technological unemployment from robots and 'super intelligence', rendering us what the

influential futurist Yuval Harari (2018) describes as the "Useless Class". In such a VUCA future our personal relevance is further diminished as organisations ultimately compete less and less with other organisations, and instead, network competes with network. Co-creating and collaborating more than ever, organisations will, in the future, have to shift their competitive focus from getting good at being better to getting good at being different. Achieving such competitive diversity will require a mindset of corporate growth, and greater use of disruptive thinking.

Reports on the Changing Nature of Work (World Bank 2019), the Future of Jobs (World Economic Forum 2018/19) and Towards a Reskilling Revelation (WEF 2019), are all clear that automation will ultimately eliminate routine, codifiable low skill work, whilst also bringing economic prosperity, societal progress and flourishing individuals, augmented by emerging technology and not simply replaced by it. Indeed backcasting through economic history - especially from the industrial era of the 18th century – repeatedly highlights that alarmists have regularly been scaremongering that machines are after our jobs.

These siren calls have limited or no basis in reality. For example, in the last two decades the World Bank has estimated that almost half of the total increasing employment – some 23M jobs across Europe – have been catalysed from technology absorption, whilst the growth of digital technologies has also enabled organisations to scale up quickly without mass; to transform both traditional production patterns and service delivery; to spawn new business models; and to enter global markets where a physical presence is no longer a prerequisite. Harnessing technology has also supported more

business clusters especially in rural areas and created many more accessible innovation hubs.

The rise of the robots has been particularly exaggerated. The World Bank Report (2019), for example, has identified that whilst this year 1.4m new individual robots will be in operation, the worldwide total is still only 2.6m, with two thirds of these robots confined to the automotive, electronic and metal machinery industries. Furthermore it is ironic to reflect that the highest robot density per worker is actually found in the high productivity, high employment economies of Germany, South Korea and Singapore.

Calling out this *'deluge of technobabble'* in a Robot Age, acclaimed economist Roger Bootle (2019) warns against *"immersing yourself in a sea of waffle, wonder and worship at the altar of technology"* to avoid *"drowning in the onrush of loose language, flabby concepts, crude extrapolation, impenetrable jargon and lack of perspective, all wrapped up in an aura of supposed inevitability"*. Reassuringly Bootle offers five alternative visions of the changing nature of work which range from: 'Nothing different, radically bad, radically good, catastrophic, to the key to eternal life".

Similarly Mathew Taylor CEO of the Royal Society of Arts (RSA) has distilled his future scenarios of work (2019) into four possible futures, ranging again from the limited automation of an Exodus economy from big city capitalism; to a Precision economy where the workforce is under hyper-surveillance; to Tech abundance for the masses and the dizzying technological change and the profound wealth for the few of a Big Tech economy; to the Nirvana of contained automation, responsible stewardship and workers flourishing in an empathy economy.

Taylor also reminds us to avoid the lure of indulging in a superficial debate on automation, focusing us instead on a future vision of what he describes as "good work" for all, thereby avoiding rising inequality, stagnant wages, discrimination, bias by algorithm and ever deepening regional divisions across the UK. His RSA report (2019) calls for a comprehensive "game plan" to promote economic security through a sovereign wealth fund; piloting a universal basic income to strengthen the worker's voice; and for the professionalisation and occupational licensing of low skills jobs to enhance their status. Interestingly, he argues for workers to update their skills through "personal learning accounts" with an entitlement for every citizen, including the self-employed.

Many of these challenges facing Scottish workplaces are already on the radar of the Scottish Government. There have indeed been improvements in the Scottish labour market in recent years in terms of pay, and qualification levels have been steadily improving and are higher than levels in the UK as a whole. However, Scotland continues to have stubbornly lower rates of in-work progression and lower rates of productivity than the UK as a whole.

The Trade Union Education Centre (TUEC) at City of Glasgow College (CoGC) working with Trade Unions and employers across Scotland has also identified that the increase in job insecurity and the gig economy, along with continuous change at work has led to a corresponding increase in the demand for 'employability' skills, including those in advanced communication, job search and interview, and basic IT. They also report that whilst union membership continues to grow albeit at a relatively slow pace, trade unions have taken a more collaborative organisational approach

which in turn has helped to facilitate increased worker voice.

More globally, Yuval Harari (2018) contends that the technological disruption of AI won't simply be a single watershed event, after which the workplace will return to a new equilibrium. Instead, he forecasts that workplaces will be increasingly volatile, impacted by what he describes as a "cascade of even bigger disruptions." In such a VUCA environment, and to remain relevant and to preserve mental wellbeing, Harari contends that employees will have to more routinely 'reinvent' themselves. Mental resilience will therefore be challenged by seemingly endless upheavals as individuals struggle to come to terms with a possible post-work economy, where the extremes of worker exploitation could instead be replaced by worker irrelevance.

Envisaging such an apocalyptic work environment, Harari however gives more cause for optimism, explaining that *"technology is never deterministic and the fact that something can be done does not mean it must be done."* Significantly he particularly highlights Governments' pivotal role in blocking or slowing down the pace of technological adoption through: regulation; the provision of a safety net of subsidized lifelong learning; and variants of the Scandinavian model of 'protect workers not jobs'. Failing in their regulatory responsibility, Governments could inadvertently create a post work society, which Harari pointedly contrasts of *"rich super humans and poor homo sapiens."*

We noted that the dynamic Asian city-state of Singapore offers particularly offers innovative thinking in how Governments might invest in their citizens. Their 'second-skilling' initiative enables workers to develop skills for a future role whilst still being simultaneously skilled and

productive in their current role, thereby ensuring individual employee flexibility and greater career-resilience. Every Singaporean of 25 and older is thus entitled to skills training of their choice, supported by a virtual Skills Future credit account.

The World Economic Forum's 'Industry-led action for the future of work' (2019) similarly emphasises the individual and corporate benefits of proactively updating skillsets. Helpfully it offers our report 2 clear definitions:

- upskilling = learning new competencies to stay in a current role, due to the change in skills required, addressing certain competencies for career progression.
- Reskilling = learning new competencies to transition to a completely new role.

This WEF Report additionally reminds us of the need for a triple investment of reskilling at-risk workers, upskilling the broader workplace, and building learning organisations to mitigate short- and long-term skills challenges. It also highlights that the full productivity dividends of technological adoption are not realised in two thirds of the workforce because of a cocktail of sub-optimal leadership, skills gaps, incomplete workforce planning, partial skills mapping, and the overall absence of a culture of lifelong learning.

These important findings build upon the WEF's Future of Jobs Report (2018) which also highlighted insufficient reskilling and upskilling within 21st century workplaces. Together with skill shifts towards active learning, creativity, complex problem solving, social influence, emotional intelligence, "ideation", and system analysis and evaluation.

This imperative for reskilling and upskilling from both WEF Reports (2018, 2019) is again

reinforced in the World Bank's 'Changing Nature of Work' Report (2019). It concludes that those countries with the lowest human capital development today will produce a future workforce that is only 33-50% productive. However, stronger human capital development will reap higher economic returns from new technology adaption *whilst simultaneously helping* employers to adapt faster to further technological change. Moreover, agile employees require both cognitive skill development (critical thinking and problem solving) and socio-behavioural skill development (creativity, curiosity, communication, empathy, conflict resolution, relationship management, teamwork, adaptability and resilience). Here again, Government has an essential role to play in creating fiscal space to finance publicly that development of human capital development. Indeed, the report highlights that such an investment should infact be done *"with a fierce sense of urgency"* in order to optimize the benefits of technological adaption. It is very telling that Big Tech giants like Amazon have already set aside $700M to retrain 1 in 3 of their US employees for future roles.

Interestingly, this World Bank report cites the pioneering role of Scotland in human capital development, and quotes Adam Smith from the 1700s: *"the acquisition of…talents during... education, study or apprenticeship, costs a real expense which (is) capital in (a) person. Those talents (are) part of his fortune (and) likewise that of society."*

Most recently the European Foundation for Quality Management (EFQM), one of the foremost global authorities helping organisations worldwide to secure long term sustainable value for their respective stakeholders published (October 2019, Helsinki) its 2020 Model. This holistic framework and guiding principles offers

a tried and tested blueprint for organisations of all types and sizes to thrive in this VUCA world. Drawing on 30 years of competitive insight and shared excellence, EFQM distilled the wisdom of some 2000 global change experts and 60 highly influential executive leaders from multiple industrial sectors, to offer organisations a unique strategic framework simultaneously to manage both today's operations and tomorrow's transformation and disruption. In essence EFQM experts reasoned that 21st Century organisations could secure both short and long terms sustainable futures when they could provide compelling answers to the following fundamental questions:

- Why does this organization exist?
- How does it deliver its purpose and strategy?
- What has it actually achieved and what does it intend to achieve?

EFQM contend that sustainable competitive advantage is primarily gained by the deliberate alignment of an organisation's corporate purpose and a winning culture (direction), with the engagement of all its stakeholders to drive performance and innovation (execution) with the astute use of organizational intelligence using stakeholder perceptions, data insight and predictive measures (results).

Significantly for our report, EFQM also identified that organisations leveraged higher levels of value and performance from being part of an eco-system, with an agile mindset, an entrepreneurial spirit, and with new styles of leadership. Furthermore they highlight that leadership will have to embrace a more collaborative approach, less hierarchical, less command and control, and one that is ultimately much more dispersed throughout the entire organisation.

IMPACT

"...we cannot overstate the importance of creating an environment that supports an immersive symbiotic relationship between colleges and industry..."

We have considered a new, clear, multi-disciplinary role on which colleges might focus their unique contributions in a new operating environment, and we have defined the characteristics of that new world. Now, we highlight colleges' impact, beginning by considering how they have performed over the last decade. The following graphs illustrate what colleges have delivered.

Figure 1: Student enrolments in further and higher education at colleges, 2008-09 to 2017-18.
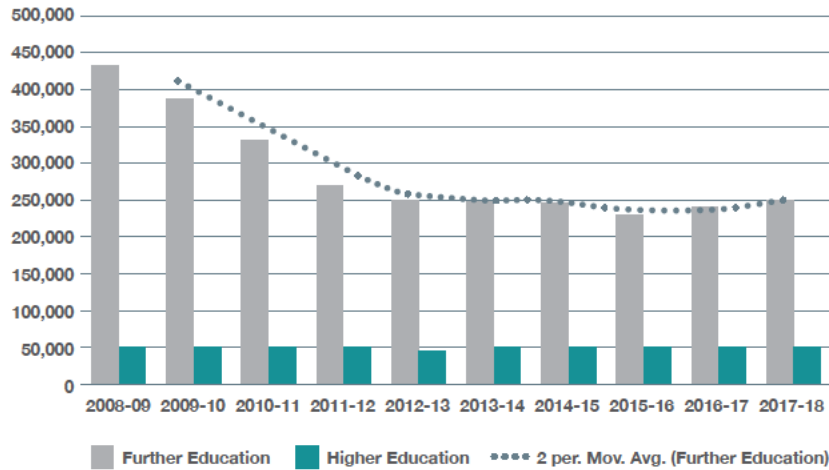
Figure 2: Number of full-time and part-time students 2008-09 to 2017-18.
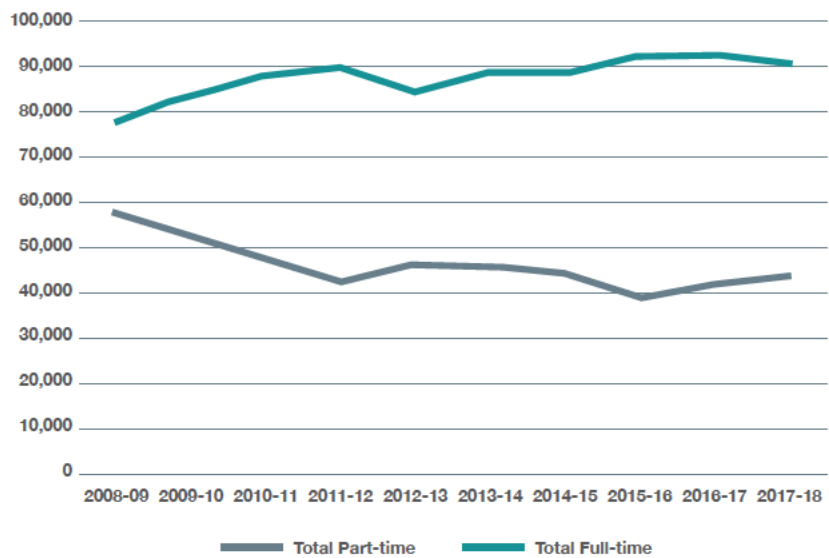
Figure 3: Number of Full Time Equivalent places from 2012-13 to 2017-18.
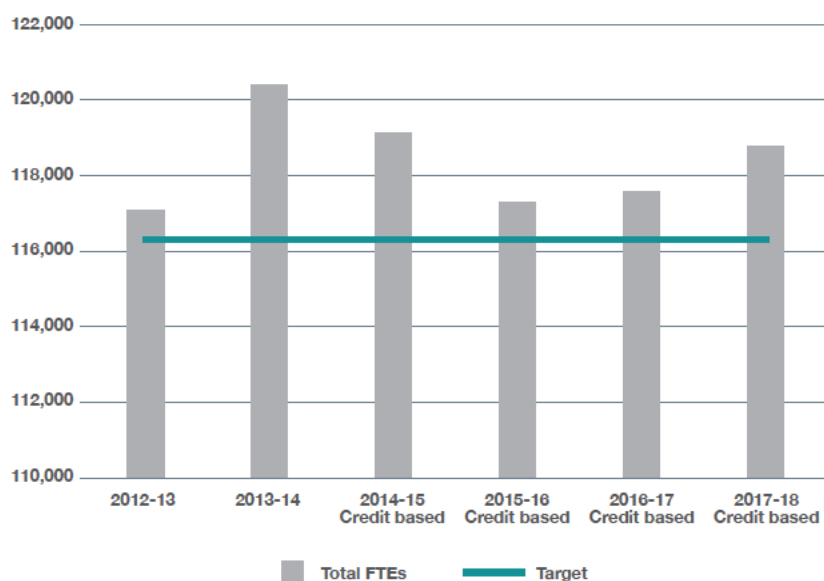
Colleges serve individuals, their communities, employers and industry, and the economy. We now examine the respective impact they have on their constituent stakeholders. First and foremost, colleges are inclusive and democratic: they are for all learners. For example, over 30% of our students come from Scotland's 20% most socio-economic disadvantaged areas; have learning disabilities; have experience of care; and attend school as well as college. Colleges support young students, as well as adults returning to learning. Colleges provide the essential learning and coping skills that help those furthest from education participate in society and especially to become, and remain, economically active; and they also provide professional qualifications and degrees. As a result, and as we have noted earlier, the curricular provision in colleges is necessarily diverse. This is a strength, but also risks being a challenge: the democratic nature and diverse scope of our college sector is not always clearly understood, or, for that matter, valued by stakeholders, and we signal among our recommendations the need to promote clearer purpose of a 21st Century college, in which is implied the need for prioritisation, and ending lower value activity. However, while we understand the premium of helping more people to remain economically active and to have access to higher value and higher paid jobs, we must recognise too that colleges have to continue to reach those in society that remain furthest away from education and sustained employment. Indeed, reaching deeper into local communities will require an ever more diverse set of educational interventions and programmes and much greater flexibility for learners to move in and out of the tertiary system as needed.

We recognise too that the notion of a 'job for life' is now essentially defunct. So too is that of 'an initial pre-employment education for life'. Lifetime learning and lifetime employability are vital. In this environment, and as the challenges our society faces become more complex, colleges are recognising the power of inter-disciplinary approaches to influence how we teach and how our students learn. Multi-disciplinary approaches are becoming increasingly important – learning to think in new ways, integrating knowledge and skills, working collaboratively across disciplines, and offering our students a richer understanding of the world of work. Against that background, we should consider the potential for co-locations, becoming smarter across the whole system in how we use our assets: can co-location or different forms of tertiary collaboration enhance industry connections, improve business performance, promote multi-disciplinary teaching and learning to better reflect the future nature of work? To this end, we think SFC should explore how to promote collaborative solutions in considering future capital investment projects.

"CIVIC ANCHORS"

As we have noted, colleges also help to build capacity and social and economic resilience in their respective communities, where they act very much as civic anchors: supporting inclusive growth and fair work; inspiring social enterprises; and protecting and enhancing 'indigenous' skills. All this helps to retain people in their communities, and as active contributors and role models to their siblings, children and neighbours. The college sector is an essential developer and deliverer of skills, employability, and business development solutions that support inclusive economic growth, both locally, regionally, and for Scotland as a whole. So, uniquely, colleges have a dual mandate, playing

a pivotal role in developing strong and vibrant economies, while providing a wide range of pathways to employment and building a more inclusive society. Colleges directly tackle social inequalities through helping people acquire skills.

Fundamentally, this is about widening access, promoting social inclusion, and providing opportunities for lifetime learning.

That is why colleges are far more than centres of learning. They are an integral part of local and regional economies, contributing to their growth, improving lives by increasing employability, and training a workforce in the essential skills local businesses need to prosper. We know that education is not simply about economic performance: there is substantial evidence of the indirect benefit to the economy of the social impact of learning. A wide range of social outcomes result from education, including building resilience, cognitive development, confidence, interpersonal trust and life satisfaction. Research demonstrates that, overall, education leads to better outcomes for individuals and society: improved job prospects, lower levels of societal inequality, higher tax income, and lower unemployment. These benefits accrue in part as a result of colleges providing routes from school to work, further training or university; continuous skills-development; and re-training people for new opportunities. And by reducing unemployment and supporting re-entry into education and training, colleges reduce economic and social exclusion in communities.

SKILLS AND EMPLOYABILITY

Skills serve as a bridge between knowledge and performance, and in the emerging performance economy, this bridge is every learner's path to success. Skill is a mechanism by which humans lever knowledge effectively to improve

our individual and collective performance. To strengthen skills, we use the knowledge we already have and add to it; and then, through practice, we use this knowledge to strengthen our skills. Ultimately, we perform better. To ensure we thrive as individuals, businesses, and at the economic and societal levels, we all need to develop new skills, not only to help manage an environment of continuous change, but to help us excel, to collaborate and empathise with others and, as a result, to create our own futures.

We have previously discussed the value of meta-skills, the core, transferable skills, necessary in the changing world of work. Colleges are central to developing and embedding these skills. The major skills deficits in our labour market are in intermediate and higher technical occupations (Bakhshi et al., 2017), and the associated skills mismatches and skills churn have increased the need for adult skilling, reskilling, and second-skilling throughout a career. Tackling this is best done at the local and regional level through the college-employer partnerships we discuss throughout, shaped by the local and regional economic priorities.

Notwithstanding the priority Government and partners ascribe to individuals and communities, engagement with employers is the core focus of this report. Here, we cannot overstate the importance of creating an environment that supports an immersive symbiotic relationship between colleges and industry: colleges working alongside and shaping businesses, encouraging them to improve their performance; colleges educating and training students - our future workforce; and industry shaping and investing in our vocational, technological and professional system.

The current system is often described and valued (or funded) in terms of 'provision.' We think this is an anachronism. Increasingly, many colleges are, and all should be, co-producing and co-providing with industry partners. It is therefore important to consider how such an approach - and the associated co-investment – could become the default, replacing the existing transactional 'demand-supply' status quo. Deepening collaboration between industry and colleges and the wider tertiary system should be incentivised. The case studies in this chapter illustrate real life examples of the impact of successful, collaborative college/employer engagement.

Case Study 2

DUNDEE & ANGUS COLLEGE – MICHELIN

Michelin Dundee, Scotland's only tyre manufacturing plant, opened in the early 1970s. For engineers and craftsmen, the company offered a strong future and the facility instantly became one of Dundee's major industrial employers, alongside NCR and Timex. Michelin continued to operate in Dundee for almost 50 years, specialising in the production of smaller scale tyres. But on 5 November 2018, the company announced the plant would close with the potential loss of around 750 jobs.

We immediately joined other partners in implementing a planned response, predicated on supporting the workforce to retrain, enhancing existing skills; and preparing staff to transition into alternative employment, college training to consider self-employment and ultimate secure a sustained positive outcome.

We attended information days and ran a series of our own events highlighting the options we could offer to support the workforce: we provided one-to-one sessions with curricular areas, developed and rolled out a bespoke Digital Awareness course (in line with the Government's Digital strategy), information sessions in the cafeteria to speak directly with staff, using TV screens throughout the plant to promote sessions, supplemented by a wealth of written advice available throughout Michelin.

As a result, a number of staff came to the College to discuss particular options, courses, or enrolled directly in provision from SVQs to direct engagement in full time courses such as accountancy qualifications. Where the college could not support individuals, we signposted them to the appropriate stakeholders best placed to help. The College was part of a system that allowed around 200 staff to move directly into other posts, 150 staff to upskill in their current role, and 100 staff look for a complete change and retrain for new work. Michelin's internal training arm is working alongside us to take on all of the company's their MA Engineering apprentices.

Looking ahead, a new partnership - Michelin-Scotland Innovation Parc (MSIP) - will focus on sustainable transport and low carbon energy, turning the site into a world class innovation hub. The current production and manufacture buildings will be used for advanced manufacturing and there will be an innovation campus, containing a large skills academy, and a new innovation hub and space for start-ups. The College has been asked to be lead partner in the Skills Academy. There will also be bespoke buildings for cutting edge technology such as hydrogen battery production.

Thus from what was a very dire situation in November 2018 the future now has a decidedly brighter aspect for the staff of Michelin Dundee. The College is delighted to have played an important and pivotal role in this journey.

Case Study 3

FORTH VALLEY COLLEGE

FVC trains over 1000 Modern Apprenticeships each year for many industry sectors, including Engineering, Health and the Life Sciences. This includes flexible delivery models tailored to meet business needs, identified in partnership with industry partners such as INEOS and FMCTechnip. The bespoke and co-developed nature of the College-industry collaborations include dedicated training programmes and tailored vocational awards to deliver training for companies such as Diagio and PetroChina.

Case Study 4

EDINBURGH COLLEGE & DUNEDIN CANMORE

Dunedin Canmore, one of the largest housing associations in East Central Scotland, developed a new operating model focused on putting their customers at the heart of what they do and developing an approach of "right first time".

A business critical need identified by the company was a requirement to re –skill and up-skill staff.

The collaboration between Dunedin Canmore and the College resulted in a co-developed bespoke programme, building on an existing qualification. This led to a number of benefits to the business, including material improvements in customer satisfaction measures, an increase of 10% in productivity and reduced costs on external contractors.

Case Study 5

DYW AND GLASGOW CHAMBER OF COMMERCE

Glasgow Employment and Skills Board: employers and colleges tackling youth unemployment

Background
Glasgow Chamber of Commerce's (GCoC) Glasgow Employment and Skills Board (GESB) is an employer led group providing independent comment

and oversight on Glasgow's skills and employment strategy. GESB has a track record of successful skills and employment strategic interventions, such as its 2012 ex-offender report, "Nothing Cuts Crime Like a Payslip".

The GESB's 2014 Youth Employment Action Group recommendations and findings preceded and informed similar work by the Commission for Developing the Young Workforce (DYW). Those synergies created the platform for Glasgow to deliver a strong and ambitious programme under the Commission's "DYW banner" and Glasgow subsequently launched the first Regional DYW group, followed over the next two years by 20 similar groups across Scotland. The GESB has provided guidance and leadership to the DYW team within GCoC since 2014. The strategic partnerships on which the group can draw and influence have been crucial in its success and DYW delivery has expanded to include partners in Local Authority Education and Colleges; the GESB is also closely aligned to Skills Development Scotland (SDS) and the Scottish Government.

DYW Glasgow
The Group had a long way to go in 2014: only 29% of employers recruited straight from school, and in Glasgow only 17% of school leavers went straight into a job. The Group resolved to increase industry links with education and help more young people into work. Building sustained relationships between schools and businesses was essential and DYW Glasgow was influential in this shift change. Industry values vocational education because it bridges the skills gap between formal education and employer needs. The DYW team recognised the main influencers were teachers, parents, industry and young people, and implemented a strategy to work with these distinct groups. With relatively few employers engaging with schools, the team worked with Glasgow City Council's education department to establish a Schools and Business model covering five key areas: Enterprise; Employability; Skills and Aspiration; Transition; and Inclusion.

Supporting more young people into work
The team developed a single point of contact model with business at its heart, which had previously proved successful in securing over £1.5 million in wage support for businesses and helping young people into sustainable employment. Having industry as the key driver was crucial and helped ensure effective service level agreements with partners including SDS and GCC's Glasgow Guarantee.

Key Learning
Groups like GESB need skilled, experienced staff and personnel for successful integration into the policy arena: members are industry volunteers and need a support team to co-ordinate discussions to ensure delivery. The GESB is co-chaired by a leader from industry and Senior Director of GCoC; and it is a closed

employer group, with no stakeholders sitting as members, ensuring the Group's integrity is "employer led". However, the team supporting the board must work hard to ensure partnerships are maintained. Additionally, housing the employer-led Group within GCoC has proved invaluable for sustainability and influence. The Group is aligned to other strategic groups and boards in the region with the support team representing their views and position where appropriate.

Impact

- Our target for reducing unemployment by 40% by 2021 was reached four years early.
- 52 influencing employer partnerships across 35 secondary schools in Glasgow.
- An increase in positive Schools Leavers Destinations across Glasgow schools.
- Some 400 employers engaged collaboratively and productively in education.
- Influencing policy development through research - for example, the Regional Skills Plan and the development of accessible material outlining key jobs of the future.
- Increased awareness and recruitment of apprenticeships, in partnership with SDS
- Over 3500 young people participating in work-based activity.
- Leading on national campaigns including #NoWrongPath and

Scotland's Biggest Parents Evening.

Future Plans

- Using research to ensure correct industry interventions are tailored to the young person.
- Securing more employers contributing to the curriculum to align it with the skills required.
- More work on influencing parents, in partnership with education and SDS.
- Targeting approach aimed at young people furthest from the labour market, in partnership with Glasgow City Council and SDS.
- Securing greater SME input in education (97% are based in Glasgow and are huge employers of talent).
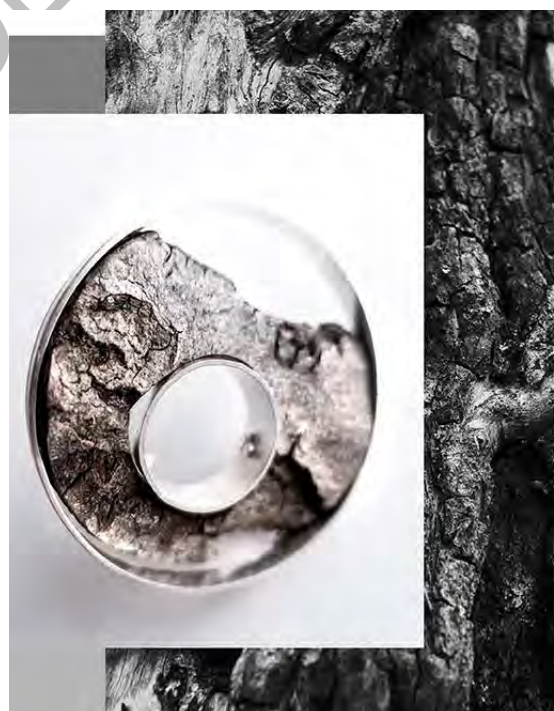
Importantly, the benefits of creating an environment that supports and encourages a symbiotic relationship between industry and colleges has clear benefits to improving business performance. There is significant evidence of the role colleges play as a key support function for business: each college in Scotland will, on average, engage with between 200 to well over 2,000 businesses. These range from micro-businesses, start-ups, and family businesses to scale ups, SMEs, larger corporates and a diverse range of public sector organisations. They are based locally, regionally, nationally, in their regions and beyond. This type of impactful College engagement delivers:

- diversified, non-SFC income to support colleges' financial sustainability in a challenging public spending climate;

- a curriculum continually changing to meet business skills needs, increasing students' industry and employment opportunities throughout and beyond study;

- more progression opportunities for those in work, facilitating the use of new technologies and increasing chances for promotion;

- starting up new businesses; and

- improved business competitiveness and increased productivity, again securing greater economic impact.

THE FLEXIBLE WORKFORCE DEVELOPMENT FUND

Colleges welcomed the introduction of the Flexible Workforce Development Fund (FWDF) as a mechanism to stimulate closer engagement (especially with larger employers and their respective supply chains) through a range of industry-sector focused continuing professional development interventions. In only its second year, the £10m fund has reached over 1,000 employers, with a significant impact for those

businesses involved as colleges delivered bespoke workforce development services. The Fund's flexibility - compared with 'core funding' – works well, and provides a model which could be adopted more broadly to drive up colleges work with businesses.

Impressively, some 75%-90% of FWDF-supported college-business provision was bespoke. It has become increasingly clear from our consultation that employer demand for 'off the shelf' accredited qualifications remains low; instead, businesses want specific, tailored training which itself requires up-front investment and dedicated college time to develop appropriate content and tailored training strategies. Moreover, since employers do not always know precisely what they need, an important part of college-business engagement is in the design and training needs analysis stages.

Currently FWDF represents around 2% of total core funding for colleges, and was established with a focus on levy paying businesses. We welcome the Government's commitment to the Fund, but, looking ahead, we think it essential to build on its early success with a an enhanced model of what is a proven successful economic intervention. Our consultation was consistent with our own views: while it seems self-evident, a future FWDF must be business-orientated if it is to meet the needs of business. Employers prize agility, responsiveness, and a 'business friendly' approach. Yet despite being just two years into the current model, there is already 'bureaucracy creep', characterised by excessive demands for collecting, recording and reporting data. This unquestionably diverts time and resource from generating and developing the further college/business relationships that are ultimately essential to long term strategic collaboration.

Successful expansion of the FWDF will require significant infrastructure and upfront investment from colleges. The front loading of this investment is a critical feature of the FWDF model, supporting the necessary staffing resource to secure and develop the relationship between the college and business; essential investment in Customer Relationship Management Systems; the continuous requirement for training needs analysis in companies; development time to consider and create bespoke solutions and targeted interventions; and helping minimise SFC requirements.

This upfront investment is important for a number of reasons. Colleges must establish the necessary operational business models and appropriate staffing to achieve the desired outcomes of the FWDF. However, this is a significant risk when operating on the basis of annual funding allocations and where short term funding is also announced on an annual basis: colleges have put in place business development teams, administrative support, and trainers without the certainty of any continued FWDF funding, or the use to which it will be put. Additionally, the further expansion of the Fund will eventually create unmanageable tensions given the need for colleges to balance the provision of specialist, 'just in time' expertise to underpin bespoke training with a current college business model that requires us to maximise the time of lecturing staff on SFC-funded credit activity, in pursuit of delivering an increasingly anachronistic volume target. The tensions quickly become evident: the current credit funding mechanism – equating to 40 hours of learning per credit - is simply not conducive to delivering innovation and generating further business development opportunities. This is particularly so when engaging with SMEs and

micro-businesses, the overwhelming majority of the employer base in most college regions.

THE COLLEGE 'VOLUME TARGET'

It is at this point we must address colleges' existing primary target. The target of 116,300 full-time equivalent learners was set nearly a decade ago, at a point when – following the last global financial crash - there was a serious risk of endemic youth unemployment; the loss of yet another generation of employers in Scotland, and a growing increase in young people not in education or training. The Government's priority to focus colleges on full-time provision for 16-19, and subsequently 16 – 24 year olds, was well judged, both in averting those threats, and in securing for Scotland a strong position relative to other parts of the UK. However this is no longer the dominant macro-economic challenge we face, so our economic focus should shift from a singular one on keeping young people in education, and getting them into work, to helping all employees to access higher quality work, while helping key economic sectors to grow in a global market.

We therefore need to consider how we establish and maintain a fully flexible lifetime offer of vocational, technological, and professional learning, mindful of the need to stimulate and support future co-investment from employers in that lifetime provision.

Creating the environment and capacity to deepen the relationship between colleges and industry is a key theme in this report. As well as the more recent success of the FWDF, these relationships have also been underpinned by support from European Structural Funds (ESF), which prior to reform, colleges were able to access directly from the EU (for some while this support has been directed to colleges via SDS or SFC.): the number of close collaborative

relationships between colleges and businesses has grown, particularly over the past decade along with our associated product and market knowledge. Colleges have demonstrated agility and responsiveness to new economic development opportunities and specific funding that also supported upskilling and reskilling of those in employment; and promoting business start-up and entrepreneurship. They have also developed digital materials and online infrastructure for flexible workforce learning. These vital EU structural funds provided the space, time, and resource to enable closer working with businesses, better to understand their strategic development needs, their emerging skills gaps, and then helping us to develop and deliver better targeted products or services. Moreover, these working relationships would go on to generate other enhancement activities such as curriculum development, real life project briefs, work placements, sponsorship, and input from industry guest lecturers.

To an extent, the FWDF has re-energised colleges to rediscover or build up this successful partnership approach with levy paying organisations. However the focus on these larger businesses means that, the SME and micro-businesses who more urgently need our support are ineligible. From our consultation, we have identified a gap between who we need to, and who we can, support.

In a world where the future of EU funding, or any UK-based replacement is – to say the least – uncertain, we contend that creating access to a funding mechanism which is sufficiently flexible to support the individual needs of businesses - similar to the FWDF, but extended beyond levy payers - would significantly increase colleges; impact on the economy. In addition it would also have a positive effect on colleges'

cultures: experience tells us one result of direct engagement with businesses is an increase in entrepreneurial spirit and the adoption of more business-like behaviours among staff, with a corporate culture felt more widely within the organisation. These attitudes would in turn inspire the wider student body, championing employability, encouraging confident learners to move into jobs equipped with the meta-skills required by industry and the economy.

Organisational agility and resilience will also enable colleges more quickly to reconfigure strategy, structure, business processes, people and technology in response to demands of individual learners and employers. We recognise the tension between the need for greater agility and less regulation and central controls versus institutional and sector stability, particularly within an uncertain financial position. However, while creating an environment with an appropriate balance between stability and dynamism is likely to be challenging, it is now possible, post-reform, to build on the foundations that have been established through regionalisation and the growing alignment within the wider tertiary system.

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Case Study 6

DUMFRIES & GALLOWAY COLLEGE

Covetrus is a global leader in animal-health technology and services for animal care professionals. Having undergone a recent merger, the company identified the need to integrate and combine technology, services, analytics and expertise to best serve their customer base. Covetrus wanted to develop human capacity within the organisation through the development of both 'meta-' skills

</div>

and technical skills. The FWDF supported collaboration with the D&G College as a key partners in the delivery of the hybrid training needs of the company. Covertus identified the importance of growing the skillsets of its employees, enhancing capabilities to drive performance and deliver company ambitions. Covertus welcomed the importance of the speed of response - and simplicity - of the FWDF model.

The case for increasing colleges' engagement with business is compelling, and resonates strongly with the Government's strategic guidance, the Strategic Board's own direction of travel, particularly in regard to the need for productivity growth in the Scottish economy. Indeed, it is the rationale for our being asked to undertake this report. We consider that, for this to happen, especially at scale, we need to see greater systemic support and more incentivised funding for college/employer engagement, crucially with unequivocal support from across Government for this as a priority.

Additionally, the integral nature of colleges to business development, growth and productivity merits closer, deeper collaboration with the enterprise and skills agencies. Such a strategic alignment with SDS, SE, HIE, and SoSEP could improve joint regional planning, and the development of teams to enable regional collaborations with colleges (and universities) - this approach would be particularly helpful for PACE related activities and where we know we have large scale and critical skills gaps.

Case Study 7

EDINBURGH COLLEGE AND CITY OF GLASGOW COLLEGE FINANCIAL AND PROFESSIONAL SERVICES HUBS

The Colleges have developed new models of delivery, now underway in the Edinburgh and Glasgow Financial Services Hubs in a collaboration between colleges, the banking and financial services industry, and Skills Development Scotland.

An initial Glasgow pilot focused on the development of flexible courses for the sector ("Fast Track") with Barclays leading in the West. Further developments are now underway in the East, with Lloyds Banking Group leading. 'Fast Track' is an initiative undertaken through the Financial Services Advisory Board (FiSAB).

The pilot was co-designed and co-delivered to course participants; the curriculum recognised prior qualifications and concentrated on the skills development necessary for entrants successfully to secure roles within the sector - and perform "from day one". The emergence of the East Hub and scale-up plans presented to FiSAB in September 2019, presents an opportunity to develop yet more agile and responsive funding models, including opportunities for enhancing industry investment in colleges.

Our ambition is to refine the current 'employer engagement' model to one that better supports and promotes deeper and systemic **college-employer co-production and co-investment**. The financial services model in Glasgow and Edinburgh highlighted in the case study on the previous page is an practical, working example. The challenge was, systemically, to support and incentivise 'co-production' and co-investment. It is worth noting here, however, that the employers involved in the examples are large multi-nationals with more acute skills gaps and employment opportunities – and more resource.

This proposed new model of delivery (co-creation and co-development) is perhaps more difficult to replicate with SMEs, family businesses and micro businesses because of their inherent limited resources. We heard several times from business people who described the difficulty leaders of these businesses face in undergoing either personal or business-focused development; the comments of one – "I'd love to do an HND, but who's going to run my business?" - captures succinctly the difficulties of juggling these competing priorities. That means we need changes to existing college funding rules, and the current business model which is driven by viability, and highly dependent on economies of scale (that is, class sizes and maximising staff utilisation on direct learning & teaching activity). Moreover, there will always be an inherent tension between creating critical mass to support direct work with SMEs and

micro businesses. We need a new funding model incentivising and creating capacity for more activity directly to support SMEs; and we must explore whether and how we can cluster SMEs by shared or similar challenges – with the prospect of a solution that could be scaled up across industry sectors.

SDS's 'apprenticeship family' offers a further, significant opportunity for better alignment: for example, we expect that the current work on skills alignment underway in SDS and SFC will consider opportunities for maximising the college contribution to apprenticeship delivery. Additionally, the significant level of college participation in graduate apprenticeships in England is in stark contrast to the position in Scotland where college delivery is the rare exception. We hope that the skills alignment work will also tackle and remove the difficulties colleges face in working with multiple funding and reporting regimes operated by the two skills agencies. That work should also explore planning a combined offer with the agencies to support industry needs - for example, through the SDS Digital Skills Fund. In such instances it would be helpful for SDS to engage directly with colleges to include a top-up on each HNC/D to provide those industry accreditation top ups to people in businesses. This would have been helpful where regional SDS staff are more engaged in national initiatives and therefore able to integrate these more closely with colleges.

Teaching funding
(2013/14 – 2019/20)

Colleges

Universities

£3.4bn

£6.5bn
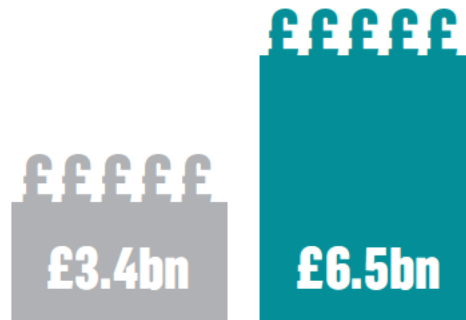
Funding per FTE
(2019/20)

Colleges

Universities

£4638

£7537

Strategic funding
(2013/14 – 2018/19)

Colleges

Universities

£166m

£289m
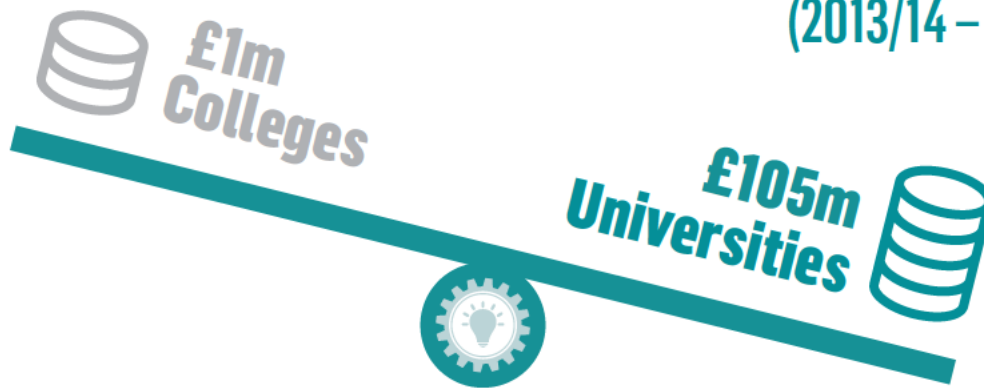
MAKING INNOVATION USEFUL

" *…Innovation: a 'pipeline' in which universities and colleges play distinct but complementary roles…We have to seize the substantial opportunity to reinforce systemic thinking within the innovation ecosystem…* "

Innovation Funding
(2013/14 – 2019/20)

£1m Colleges

£105m Universities

Colleges have untapped potential - and a keen appetite - to contribute more fully to Scotland's innovation agenda. As the graphic above illustrates, current tertiary sector investment in innovation is almost exclusively focused on universities and their research, associated research, or innovation centres. We believe there is a clear opportunity significantly to enhance colleges' role in supporting business and industry sector innovation, particularly (though not exclusively) in Food & Drink, Creative Industries, Tourism, Health & Social Care, and Maritime and STEM.

We are not the first to make this point. The need for colleges to play a more direct and dynamic role in the innovation ecosystem was identified by Professor Graeme Reid in his independent review of innovation centres in 2016. Professor Reid recommended that the SFC explore and enhance colleges' involvement of in the Innovation Centre Programme, and, noted specifically that:

"… the success of the college sector in Scotland can be through innovation of business products, but is more often about delivering skills, and through those enhanced skills, improved productivity and efficiency. The delivery of skills is not some sort of "secondary" innovation – developing new skills and techniques to apply alongside new technological innovation is vital if such developments are to be embedded and made truly a commercial success".

Professor Reid's second sentence above is particularly important in making plain the fundamental nature of skills in this agenda; but our consultation has reminded us there remains work to do in considering innovation as an 'ecosystem', and in thinking of it as a 'pipeline' in which universities and colleges play distinct but complementary roles.

We have to seize the substantial opportunity to reinforce systemic thinking within the innovation ecosystem, mindful of the growing need to diffuse even more knowledge in businesses

to support product, business process, and/or service innovation. The high level of interest from colleges in the SFC's College Innovation Fund – the £500,000 available is significantly oversubscribed - demonstrates the appetite and demand for college-related innovation activity. The year two projects approved for funding have been selected for their national strategic importance and are helping address the climate change emergency and digital enhancement in the Health & Social Care sector. We contend that colleges are crucial in supporting 'how' businesses can be more innovative, by building and generating applied innovation capacity, and by developing a skilled workforce able to embrace emerging technologies and new markets. Again, we urge a paradigm shift in how we promote and fund innovation, supporting opportunities for multiple players to collaborate in ways that more fully exploit industry-focused innovation.

Case Study 8

WEST COLLEGE SCOTLAND & INNOVATION SUPPORTING INTEGRATED INNOVATION WITH THE SUPPORT OF INNOVATION VOUCHERS (INTERFACE)

James Frew Ltd. is one of Scotland's largest integrated building services firms, serving customers across the central belt, in plumbing and heating, property upgrades, mechanical services and renewable technology. With headquarters in Ayrshire and employing more than 250 people (including 33 apprentices) the company asked to work with WCS to develop an innovative training planning process.

The subsequent collaboration, funded by the first Innovation Voucher awarded by SFC to a college, identified staff training requirements, linked them to the company's business improvement process, and tailored training and development to James Frew's needs. The project included monitoring of certification renewals, development of individual training plans, and measured the impact of training through Achievement Measurement Indexing.

Through this more structured approach to investing in people through high-quality training, WCS helped James Frew Ltd improve productivity performance and make efficiency savings - helping the firm maintain a competitive advantage in a fast-moving commercial market. Roddy Frew, Managing Director, said "we are

delighted to work with West College Scotland. The relationship we have is invaluable. Over the past three years, the College has helped us align our training plans and improve the service we offer to our customers."

Case Study 9

EDINBURGH COLLEGE & BUSINESS CENTRED INNOVATION (INTERFACE INNOVATION VOUCHERS)

UTEC StarNet has made significant strides into the energy sector by providing visual web-based integrity knowledge databases, reducing the need continually to visit offshore assets, improving safety and efficiencies. This approach has allowed the business to collaborate with major blue-chip energy partners, providing opportunities for a growing workforce within the business.

The aim of this initial joint project is to explore the manipulation of 3D datasets, over a web environment, to help support the integrity management of offshore wind turbines, as a proof of concept. Inspection data such as seabed profiling, video and camera stills will be incorporated into an interactive 3D model or digital twin of the environment.

The collaboration between the company and Edinburgh College is essential to providing a unique blend of academic knowledge and expertise in 3D Animation and Games Development. The experience and capacity within the

College for manipulating 3D datasets will help to drive achievable outcomes linked to improved business performance and competitiveness.

Case Study 10

EDINBURGH COLLEGE – THE CLIMATE CHALLENGE AND BUSINESS CENTRED INNOVATION (PHASE TWO OF COLLEGE INNOVATION FUNDING)

In partnership with UHI, Heriot-Watt University, the Institute of Motor Industry and the Scottish Motor Trade Association, this tertiary/industry collaboration addresses a demand led requirement from the automotive industry to re-skill and upskill current and future workers – in direct response to wider changes in society, and specific Scottish and UK Government policies on carbon reduction and green transport, aimed at promoting the use of hybrid and electric only vehicles.

The registration figures, for new battery electric and plug-in hybrid vehicles, has grown by 46% over the past year, compared to 33% in the rest of the UK. There are currently over 10,000 ultra-low emission vehicles licensed in Scotland.

Industry partners needed Electric Vehicle/Hybrid, Health & Safety Awareness training for painting, bodywork and recovery vehicle technicians - to raise awareness of the potential dangers of working with EV/Hybrid vehicles. This

collaboration will create and deliver a multi-media online accredited training programme where students and business employees can examine and interrogate Electric Vehicles using augmented and virtual reality technology for an immersive learning experience. This will be accessible via online learning platforms via a range of devices including computers, tablets, and smart phones.

The collaboration will:

- Create new, current and industry relevant learning resources
- Develop a proof of concept utilising AV/VR focussed observational training methodology and materials
- Improve EV/Hybrid health and safety awareness in the automotive industry
- Provide new upskilling and re-skilling opportunities for the automotive sector, in particular for painting & bodywork and vehicle recovery staff
- Strengthen and develop existing partnerships with Heriot Watt University, UHI and Perth College addressing EV/Renewables agenda
- Strengthen and develop existing and new partnerships with the automotive sector to better understand and respond to, current and future skill needs and promote the range of work based learning opportunities that Edinburgh College and the wider college sector can provide.

We have noted how technology companies are disrupting education, as well as the potential for colleges and universities collectively to pursue collaborations with big tech to better harness investment in new and emerging technology and skills. This could include single educational platforms within regions (or beyond), and data innovation implementation. For example, the Fujitsu Education Ambassador programme represents a significant private sector investment in professional and technical education. A Fujitsu Innovation Hub has been established in Edinburgh College, and, similarly, across several colleges in the sector. The Innovation Hubs are centres of excellence in digital co-creation within the education community, connecting new and emerging technologies with education to deliver digital change in education and enhance the digital skills of students.

PUBLIC AGENCY ALIGNMENT

We were disappointed to note from our consultation that the enterprise agencies have limited involvement in supporting college & business collaboration; however, we were heartened by the recognition that this represented an untapped opportunity for growing collaboration across the skills system to deliver improved economic outcomes. Once again we note that the Enterprise and Skills Strategic Board, the skills alignment work in train

between SFC and SDS , and the Government's Future Skills Action Plan all reinforce the need for greater cohesion and collaboration across the tertiary system; and our consultees recognised that Scottish Enterprise's new Strategic Plan, Building Scotland's Future Today, details a framework that aligned more closely with the priorities of colleges - with a stronger focus on businesses of all sizes, supporting their growth ambition, and boosting entrepreneurial spirit. Given the national ambition of a single portal for businesses it would be invaluable for the college sector to play a full part in these developments, so we can properly understand - and contribute to - the content, while ensuring that college support for businesses is included in the available 'resource'.

Finally, we think the regionalised college landscape, anchoring our colleges in 13 regions across Scotland (and with the majority of regions spanning multiple local authority areas), creates an important opportunity to explore how the relationship between the enterprise agencies and colleges could be strengthened further using a regional model of business-college/ enterprise agency engagement, and thereby avoiding cluttering the landscape for in which businesses have to navigate.

EXPORTING SCOTTISH COLLEGE EDUCATION AND INNOVATION TO THE WORLD

"…were we to scale up our efforts, we would also export our indigenous and distinctive Scottish value set; our emphasis on universal access and progression pathways and the corresponding impact on social mobility; and our pioneering thought leadership…"

Exporting is one of the four missions identified in the Enterprise & Skills Board's Strategic Plan, and the Scottish Government's ambition for Scotland as a 'Trading Nation' is one to which the sector already contributes. It is also an area where – continuing our general theme – it could do more if the conditions were right.

'Scotland is Now' promotes Scotland as a place to live, work and study, and our colleges stand alongside our universities in making that a reality. We welcome thousands of international students each year, from over 130 different countries.

The benefits from this international engagement are palpable for colleges, for the economy, and for the Scottish Government's wider ambitions. As the sector looks outward, beyond our national boundaries, so colleges become more dynamic, innovative, globally connected and competitive, leading in the skills agenda and acting as key contributors to inclusive economic growth. They promote their expertise internationally, while bringing home best and innovative practice so that their staff and students enjoy a global perspective.

Moreover, international activity enhances the reputation of individual colleges and the Scottish sector as whole; many of the businesses with which we work are themselves international, and where colleges are similarly connected overseas, their relationships with domestic employers are strengthened through enhanced credibility, quality, and competiveness.

The educational market in which we operate is also increasingly global: digital technology is connecting educational institutions and our student bodies, so collaboration with international partners is vital, allowing us to keep up with new and emerging trends. Finally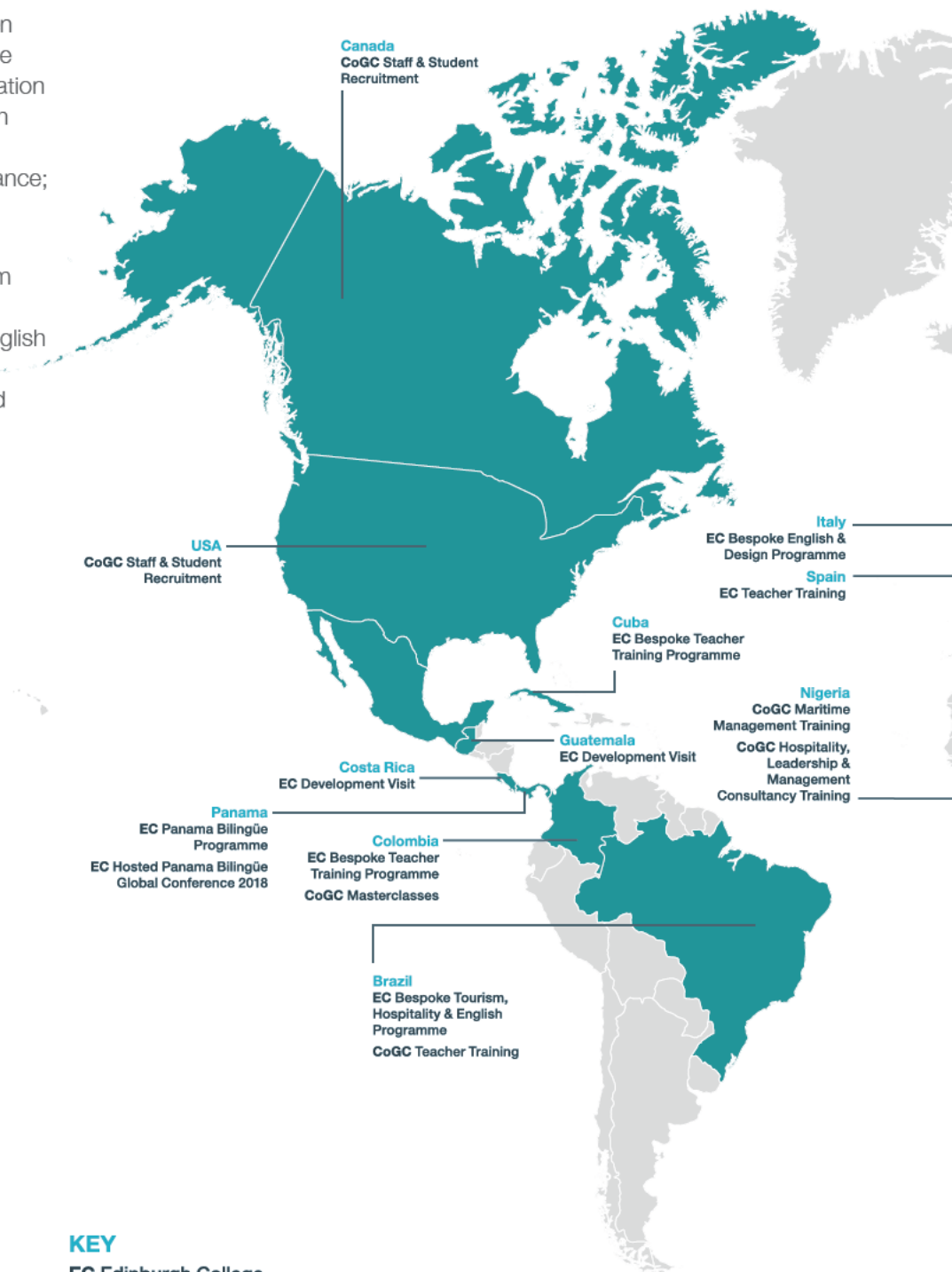, international activity generates income to reinvest for the benefit of our students, staff and regional communities and economies.

We have considered the position of Scottish colleges at the global level against two questions: first, what is it that characterises the performance of the best skill nations worldwide? In this respect, Annex 2 summarises the position on technological and vocational training in a number of the world's advanced economies. Second, and consistent with the Government's ambition to develop Scotland as a "Trading Nation", we have considered the export potential of the sector and its individual colleges.

By way of a summary of the characteristics of our international competitors, it seems there is a number of common factors that appear to lead to high quality technological and vocational education and training (or TVET) systems, and thence to international competitiveness. These include:

- a clear commitment from the state to continuous improvement in the quality and relevance of its TVET, and of its status in civic society;

- an energetic contribution from, and engagement of, employers at all stages of the process:

  o concentrating on good applied research;

  o providing current labour market intelligence, and supporting future skills forecasting;

  o supporting the development and improvement of qualifications; and

  o sharing in investment in the system

- excellent teaching and assessment by 'dual professional' teachers with current pedagogic and vocational expertise.

- effective connections between the TVET system and effective primary and secondary education school systems, together with the provision of high quality information, advice and guidance; and

- finally, incremental change in a fundamentally stable system - rather than frequent major changes (as is the case in English TVET) - over time improves a deeper understanding of, and respect for, TVET.

Canada
CoGC Staff & Student Recruitment

USA
CoGC Staff & Student Recruitment

Cuba
EC Bespoke Teacher Training Programme

Guatemala
EC Development Visit

Costa Rica
EC Development Visit

Panama
EC Panama Bilingüe Programme
EC Hosted Panama Bilingüe Global Conference 2018

Colombia
EC Bespoke Teacher Training Programme
CoGC Masterclasses

Brazil
EC Bespoke Tourism, Hospitality & English Programme
CoGC Teacher Training

Italy
EC Bespoke English & Design Programme

Spain
EC Teacher Training

Nigeria
CoGC Maritime Management Training
CoGC Hospitality, Leadership & Management Consultancy Training

KEY
EC Edinburgh College
CoGC City of Glasgow College

GLOBAL REACH

Saudi Arabia
CoGC Maritime Consultancy

Uzbekistan
EC Bespoke Teacher Training Programmes

China
CoGC Supply Chain & Logisitics Courses
CoGC Teacher Training
EC Bespoke English Language Teacher Training

Azerbaijan
EC Teacher Training

Germany
EC Teacher Training

Japan
EC Bespoke English & Airline Operations Programme

Hong Kong
CoGC Teacher Training

Philippines
CoGC Hospitality and Culinary Training

Vietnam
CoGC Teacher Training
CoGC Consultancy

Oman
CoGC Commercial Training Partnership

Malaysia
CoGC Culinary, Healthcare and Fashion Curriculum Development

U.A.E
CoGC Maritime Consultancy

Indonesia
CoGC Culinary, Healthcare, Supply Chain and Logisitics Curriculum Development

Kuwait
CoGC Nautical & Marine Engineering Teacher Training

India & Pakistan
CoGC Nautical & Marine Engineering Training

India
CoGC Management Training

Singapore
CoGC Hospitality, Healthcare, Culinary and Supply Chain Curriculum Development

Armenia
EC Teacher Training

Egypt
EC Bespoke Customer Service & Sustainability Training

Angola
CoGC Operational Campus Management & Training

Malta
CoGC Curriculum Development

CoGC Healthcare, Culinary and Leadership & Management Training

WHERE ARE WE NOW?

Against that background, let us consider our colleges' current international activity. This is especially important because of the need to secure greater success in international markets in a context of the significant threats Brexit risks creating. However, we believe our colleges now have a scale that presents an opportunity for greater levels of export of expertise. And while Scottish expertise in technological education and professional education (especially at a higher vocational qualification level) is in demand, were we to scale up our efforts, we would also export our indigenous and distinctive Scottish value set; our emphasis on universal access and progression pathways and the corresponding impact on social mobility; and our pioneering thought leadership and system-wide approach to employment capacity building. All this would raise Scotland's profile while strengthening our economic future, deepening excellence, and supporting student and staff retention by providing global opportunities in learning and development, and the resultant outward facing culture that implies.

In 2015, Scottish education exports were valued at £780 million. A survey commissioned by the Colleges Development Network in October 2017 and a subsequent call for information this October highlighted that colleges already undertake significant and varied international activity across the world. Levels vary from college to college, but of the 15 colleges responding to the survey, 13 were engaged in international activity, over a broad field. There were, however, four areas where more than half of the respondent colleges engaged:

- Student Recruitment
- Staff Exchanges
- Student Exchange/EU Mobility
- TVET capacity building

This activity covered a wide spread of curricular areas, most commonly in Creative Industries, Engineering, Hospitality and Tourism, Digital, Sport and Fitness, ESOL and Oil and Gas. There was also more general activity in curriculum development; learning and teaching (in particular, teacher training for international TVET institutions), leadership and management in TVET, and quality assurance.

In terms of markets, and aside from the EU/EAA as the major country identified for student recruitment and student exchanges (a significant part of colleges' international activity), no single, nor group of countries stand out as the main focus of activity for multiple colleges. Colleges are active in China, Middle-east/North Africa, South America, SE Asia, Central America, West Africa, East Africa, India, and Pakistan. The return on this engagement is significant: just over half of the colleges are bringing in between £500,000 and £2 million per year in income, while a third generate less than £250,000. Together, our two colleges have overseas income of around £3.5m

Scotland's colleges are well positioned to grow internationally from this strong base. Many have already established their brand in the global marketplace, delivering an enhanced range of successful services for international partners in Scotland and overseas. Just as colleges deliver education and opportunities to meet regional and national priorities, so too can they export their expertise to develop vocational skills and training. And Scotland's colleges can offer international clients a huge range of provision: student recruitment, Transnational Education, short-term study abroad (i.e., in Scotland),

Professional Training and Development (again, in Scotland) and consultancy services (overseas). Additionally, colleges can provide summer/ winter schools for individual students; full time/ part-time places in in-country programmes, in either an overseas campus or through a partner; bespoke programmes for student groups in English language; vocational training programmes; accredited professional programmes, teacher training (in ESOL, general, technical, and bespoke), bespoke professional training for groups (ESOL and vocational), and TVET capacity building. Alongside this sits a broad range of systemic offers in curriculum development, quality assurance, college management and operations, organisational development in TVET; recruitment and retention; employer engagement and employability; and both developing and providing content to support learning and teaching.

Beyond all this, our colleges have many strengths which make them attractive partners internationally. Building on these, while developing new ones will be an important part of growth. And it is through collaboration that the sector will be able to build confidence and experience internationally. Its strengths include:

• the international reputation of Scottish education
• Scotland's distinctive brand, continually developed through Connected Scotland;
• a robust and comprehensive offer in vocational skills and English language;
• significant experience of building, developing and sustainably delivering a skills sector, something many countries are now looking to build or improve;
• national partnership working eased by relative proximity between colleges;

• strong engagement with national and international stakeholders and agencies including the Scottish Government, Scottish Development International, Department of International Trade, British Council, Association of Colleges, Scottish Qualifications Authority and other awarding bodies.

GLOBAL EDUCATION TRENDS – OPPORTUNITIES FOR COLLEGES

As part of its success in services exports, Scotland we saw an increase in overseas trade of Scottish education from £685m in 2014, to £780m in 2015. There is scope to increase still further, as colleges build on the global reach, reputation and profile of our education sector, unlocking new business opportunities and making more of the flows of talent, to and from Scotland.

VOCATIONAL TRAINING

Economic growth and demographic shifts in emerging markets globally are unlocking new opportunities. By 2030, it is predicted that emerging economies will contribute 65 percent of the global GBP. But demand for skilled labour is growing faster than supply, with many markets limited in providing the necessary high-quality technical skills education to meet industrial demand. They therefore look to international education partners for support in – for example - developing skills strategies, capacity building, technical and vocational curricula that meets international standards, teacher training, and English language development.

E-LEARNING

The world growth in e-learning is a further opportunity for our colleges. A market worth an estimated $165bn + in 2015 is expected to reach $240bn by 2023, with around 40%

of this market formed of job-specific technical skills (the largest share), and job-specific soft skills. Again, our colleges have the requisite breadth and depth of subject expertise and internationally-recognised qualifications, and we can strengthen our capacity to deliver education and training through high-quality e-teaching to capitalise on this rapidly-growing industry. This reinforces the need for investment in digital technology in the college sector. New capabilities to deliver engaging e-teaching developed through international opportunities will – again - bring benefits to the mainstream of our domestic college learners.

LARGE SCALE INTERNATIONAL EDUCATION PROJECTS

In November 2015, the UKG announced a £1.3 billion Prosperity Fund over the next five years to promote the economic reform and development needed for growth in partner countries. As well as contributing to a reduction in poverty in recipient countries, the reforms are expected to create commercial opportunities for international businesses and institutions, including those from the UK. The Prosperity Fund China Skills Programme is centred on skills reform to support sustainable development in China, and the objectives of the most recent Five Year Plan. Alignment with UK expertise and strengths should provide new market opportunities for UK education businesses and institutions to increase exports to China.

BARRIERS TO GROWTH

However, working in isolation, it is difficult for individual colleges in Scotland to attain the capacity necessary to participate in large-scale projects such as the Prosperity Fund China Skills Programme. A Team Scotland approach, however, could provide the necessary capacity and sharing of resources to develop international

activity of scale. In order to compete seriously at this international level, our colleges need to demonstrate their ability to deliver in partnership; and these partnerships need to be legally constituted so as to manage shared liabilities, and to build the confidence in international clients.

Indeed, a lack of capacity and resources was cited by most colleges as a barrier to growth, and a lack of knowledge and/or confidence by several.

TIER 4 SPONSORSHIP LICENCE – STUDENT RECRUITMENT

Current UKG policy on Tier 4 has been a significant challenge for colleges, and those both in Scotland and across the U.K. have suffered. The Migration Advisory Committee (MAC) Report on the Impact of International Students in the UK (September 2018) noted that:

"the number of international students in higher education has grown nearly 30 per cent over the past nine years, though much more slowly in recent years. The further education sector saw a boom in international students following the introduction of the Tier 4 Points Based System, and a subsequent contraction with the tightening of the rules and ending of licences for many further education colleges."

The new Graduate Immigration Route (replacing Post-study work) which was announced in September 2019 applies only to international students who have *"completed a degree at undergraduate level or above at a Higher Education Provider with a track record of compliance and who have a valid Tier 4 visa at the time of application."*

THE COLLEGE DEVELOPMENT NETWORK (CDN)

CDN has established an International Development Network, an important community of practice in the sector, bringing together colleges active in international trade, wider partners such as SQA and SCQF, and stakeholders such as SDI, the British Council and Education Scotland. The group meets quarterly to share best practice, develop collaborations for international work and share opportunities. Outside of this group, CDN also provides a central point of contact for wider stakeholders such as DIT and the Association of Colleges to disseminate international opportunities across the network.

In addition, this February, CDN launched an Invitation to Tender for an analysis of the Scottish college sector's capacity and USP for international business development. This work will:

- assist the sector to demonstrate comparative capacity, promoting and responding to opportunities in specific markets, subject and thematic areas
- inform a comprehensive set of marketing and case-study materials, highlighting comparative strengths
- provide the College International Group and its partners with an evidence base for its partnership work, and for promoting Scottish college expertise internationally
- inform the sector of the international opportunities available on which colleges can capitalise, both as individual institutions and through cross-sector collaborations. This could include full cost recovery opportunities and those which support market entry, capacity building, and unlock strategic forms of support (e.g. part-funded opportunities)

- inform the sector of the wider opportunities and benefits of internationalisation of colleges more broadly, particularly in the context of EU exit
- inform the sector of how colleges can better utilise their international alumni networks at an institutional level, and through a Team Scotland approach

SYSTEM LEADERSHIP

"...Our aim should be the pursuit and promotion of 'Cross-Silo Leadership', creating more value for our economy, our society, our nation - and especially our students - by connecting and energising experts from both inside and outside our tertiary institutions..."

Finally, we consider perhaps the most important determinant of success - leadership. We examine in particular how clear leadership, within and across system boundaries, is essential for success. Scotland's tertiary education system, together with its wider skills system, has all the building blocks in place to get results. But are these the right results; and are they at the right level?

Our starting point is that in order to build on the very successful regionalisation reforms of the sector from 2011 on, we now need Government support for reform of the tertiary education system, to help future-proof the economy itself against current and future challenges that have been well rehearsed throughout this report. They include the need:

- for more and deeper college-industry alliances characterised by co-creation, co-investment and co-production in a more aligned tertiary system, delivering a properly flexible and accessible lifetime learning offer;

- to engage ALL – including in work learners, adult learners and those individuals furthest from economic activity;

- to ensure the sector more rapidly harnesses new and emerging technologies, better to support learning, upskilling and reskilling, ensuring we stay at the forefront of the changing nature of work and skills;

- for professional and technological education and skills training to create resilient and adaptive learners and agile and resilient employers who help ensure the individual's skills go beyond their existing role in work and the employer's short-term needs.

Imagine a tertiary system in Scotland in which all our citizens have lifetime membership, where they are immersed in work-integrated learning, and where they 'touch' industry from the very beginning of their college experience. A system to which they readily return, again and again - throughout their lifetime and careers - when they need to develop new skills and/or prepare for the next life stage. In this highly connected and inter-dependent tertiary system, colleges are valued and celebrated with fundamental and equal place, in contrast to the current bifurcated FE/HE system which is unhelpfully hierarchical and poor at engendering substantive, sustainable partnerships.

Imagine too colleges in new, symbiotic, relationships with business, industry, the third sector, and across the wider public sector, where they are delivering relevant transformative upskilling and reskilling throughout an employee's career - and beyond work for an active retirement; where the system encourages and supports business and college co-investment and co-production; and where colleges can drive greater economic growth by more direct engagement with businesses to support step change improvement in performance and productivity.

We argued at the outset that the current and forthcoming technological revolutions require a learning revolution too. We need to make sure this learning revolution is fully nurtured and inspired with dynamic system leadership: regionalised colleges should take the opportunity to be at the heart of a strategic place-based approach, more fully integrated into a tertiary system which shares a common purpose; which supports the development of priorities across metropolitan, regional and national partnerships in education, industry, public sector and their respective communities; and which optimises the investment, resources, and collective capacity to support inclusive economic growth.

A more holistic system approach is not a pipedream. In fact, there are already many examples of our colleges actively engaged in regional systems. The 'Accelerating Growth' Edinburgh and SE Scotland City Region Deal sets out a new integrated regional employability and skills partnership to widen access, address skills shortages and gaps, and deliver improvements to increase the flow of people from disadvantaged groups into good career opportunities. This is carefully designed to open up new talent pools for business. All the colleges and universities in the region are bought into collectively driving towards achieving shared outcomes.

Meanwhile, the Borderlands Inclusive Growth Deal will focus on investing £7m to develop the South of Scotland Skills and Learning Network, concentrating on the region's visitor economy. Advanced technology will support the delivery of education and skills delivery in the region to support the priorities identified in the South of Scotland Regional Skills Investment Plan.

The Further Education Trust for Leadership (www.fetl.org.uk) published in June 2019 "Colleges as Anchors in Their Spaces" . In it, the authors reflect on the role of college leaders as their organisations change in scale and scope. They note that leaders of such colleges recognise the need for multifaceted management, and the need to avoid localised silos, instead locating themselves in wider systems, collaborating with key figures to promote and sustain regional economic developments and civic unity. As colleges are progressively embedded within their regions, the success of the college become interconnected with that of the region. The report goes on to discuss the importance of the altruistic leader who looks across the region as a whole, promoting action that creates mutual benefits for the common good, and who sees the well-being of the wider system as important to the well-being of their own institution.

Case Study 11

SYSTEM LEADERSHIP & COHESION - RENFREWSHIRE'S ECONOMIC STRATEGY 2020 – 2030.

Led by the Renfrewshire Economic Leadership Panel, bringing together leaders from industry, the public sector, enterprise agencies and education and skills experts, the Economic Strategy is underpinned by:

- *economic leadership – local and central government, knowledge institutions, and business working 'collaboratively to create better conditions for economic growth, social cohesion and employment generation';*
- *a robust evidence base and alignment with the national policy context; and*
- *partnership working and coordinated effort in co-designing and implementing actions to maximise the positive impact of the strategy.*

The analysis underpinning Renfrewshire's Economic Strategy revealed diverse sectoral strengths in manufacturing, construction and transport & storage with new sectors emerging in creative industries, tourism and care. Manufacturing is the most productive sector of the Renfrewshire economy with GVA per head significantly above the Scottish manufacturing level.

A growing Renfrewshire economy means boosting business productivity, higher-level skills and increasing research and development activity. Renfrewshire is improving its competitiveness with investment in innovation, economic infrastructure and skills. Improving the competitiveness of local companies that are innovative and internationally focused is a core objective. In support, West College Scotland and Renfrewshire Council shared development of a skills pipeline and training support for local SMEs, in turn equipping manufacturing SMEs with the technical and cultural skills required to grow and prosper within Industry 4.0 through collaboration with the NMIS Skills Academy, Digital Factory and Innovation Collaboratory.

The system-wide collaboration in Renfrewshire, including the regional College creates a single entity for education and skills, led by the College, with potential to align the skills and education systems, co-design with industry a skills-based curriculum, support local people to reach their personal and professional potential, and reduce business skills gaps and skills shortages though targeted and tailored interventions - as well as horizon scanning to meet future skills demands.

The College will also work with employers in designing learning to deliver industry relevant skills and integrate STEM skills across all its programmes. Foundation, Modern and Graduate apprenticeships will expand, including plans to develop, with the College, a

Renfrewshire Apprentice Academy, upskilling the existing workforce and equipping people with the skills that will help them navigate a fast- changing labour market and directly improve business performance and boost the productivity of Renfrewshire businesses.

JOINING UP THE MULTIPLE SYSTEMS? THE REGIONAL PARTNERSHIPS?

Fundamentally, a determined focus on consistently delivering positive impact should create an environment where all system stakeholders collectively aspire to help make the difference the Government wants to make. It should feature intrinsic 'permission' to challenge where the system perpetuates an organisational focus on unhelpful duplication or imbalances in funding.

As colleges increasingly do more to deliver inclusive economic growth and improved business productivity, we should more regularly examine what works, for whom, and why (and why not). In essence we should challenge the system continually to ask itself what do we need to start doing, what should we need to keep doing, and what should we stop doing?

As we have already said, current college activity is narrowly driven by performance measures and funding – so colleges simply do what they are measured to do, with the underlying risk this fails to create a joined up system that works seamlessly for learners, for employers, and businesses, nor deliver the impact to which we collectively aspire for a sustainable and competitive economy.

In particular the current system for colleges is heavily weighted towards a transactional approach, where the emphasis is on regulation, performance, activity targets, and accountability. Imagine instead a future in which colleges confidently support the overall system, clear about their purpose, clear about the impact they seek to achieve, and clear about their responsibilities to the wider tertiary system in which they operate. Ultimately this would mean delivery in the right way to the right people to achieve the right outcomes.

OUTCOME AGREEMENTS (OAS)

Currently, both colleges and universities operate within the Scottish Funding Council (SFC) Outcome Agreement regime. Introduced in 2012, Outcome Agreements (OAs), and their associated processes have now been in place for 8 years. At the time, their introduction represented a significant – and important - change in the relationship between the Government, the SFC, and colleges. In principle, OAs would allow for a clear expression of Government ambition, clarity over the deployment of funding to deliver that ambition, and provide a basis for measuring success. The SFC's most recent guidance describes the purpose of OAs as "help[ing] colleges and universities demonstrate their distinct contribution to SFC's core objectives, in particular, improving life chances, well-being and successful outcomes for students, and contributing to sustainable economic prosperity, in return for public investment".

"The OA is essentially a joint funding commitment, in which each institution (or college region) sets out the outcomes and outputs it will deliver, reflecting its regional context and specialisms, in response to the priorities set out in the Scottish Government's National Performance Framework. The outcomes will

contribute towards meeting the SFC's national ambitions".

The reality of this process however is that a college OA - currently featuring over 100 individual targets - risks perpetuating an focus on a wide range of inputs, with a lengthy accompanying narrative often describing processes. The development of an OA takes several months, and involves teams of people in each college working with an Outcome Manager from SFC , themselves with responsibility for several institutions, all of whom are developing their own OAs. In short, this has become a labour intensive process, rarely meeting the aim of setting out succinctly what an institution is delivering for its public sector investment, and diverting precious resource from focusing on improved delivery. As it is, it is hard to see the real value the current OA process adds.

In our view, in future, that process should support, rather than conflict with, the increasing need for greater collaboration, greater coherence, shared measures, and collective contribution and alignment across the system to achieve the desired, shared outcomes. For colleges, this must include the sector's contribution to inclusive economic growth and deep collaboration with business and industry, including in partnership with the highly successful Chamber of Commerce network in Scotland.

ENTERPRISE & SKILLS STRATEGIC BOARD

System cohesion is a fundamental goal of the Scottish Government's Enterprise and Skills Strategic Board, established in November 2017. Ultimately the Board's role is to maximise the impact of the collective investment Scotland makes in enterprise and skills development. The Board's approach is to consider how public and private sector partners, locally, regionally and nationally, can provide place-centric, industry-focused assistance that will drive inclusive growth. The ambition is for greater collaboration not just between the enterprise and skills agencies themselves, but right across the whole tertiary and public/private system, with colleges a central part of that landscape.

We have already asserted the inevitably of significant disruption in the near- and longer-terms, and we know the speed of that disruption will also increase (exponentially), not least as a result of the impact of Industry 4.0. We anticipate tensions between the desire for the creation of a coherent administrative tertiary system enabling individual organisational agility and at the same time, the comfort of the status quo and the illusion of stability. We are confident that colleges can become even more agile, flexible, responsive and dynamic and play their full part in a more connected tertiary system and the wider skills system.
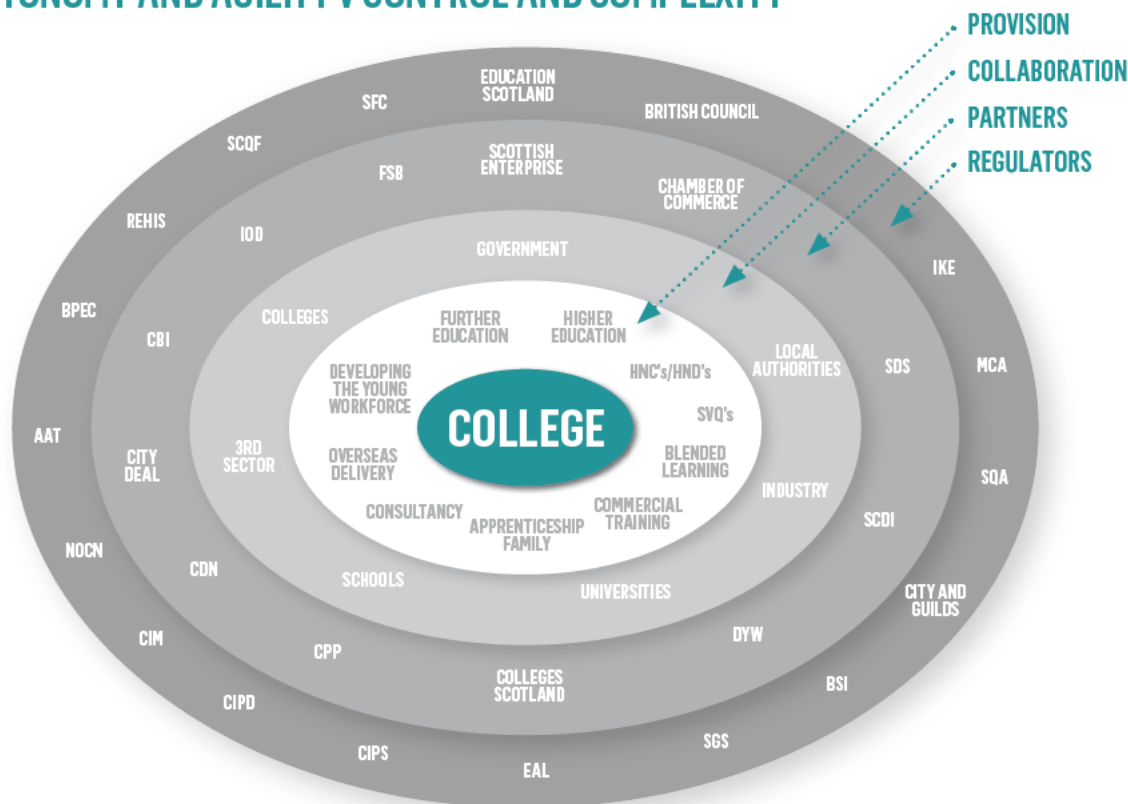
POLICY DRIVERS AND COHESION

The graphics below aims simply to illustrate the breadth of policy drivers, and influencers to which colleges are subject.

Current Policy Landscape - November 2019

LEARNING

J Swinney / R Lochhead / M Todd

Policy & Reviews
- CfE
- DYW (Senior phase)
- Teaching Workforce
- Excellence & Equity
- Performance Improvement
- Governance Review
- Early Learning and Childcare Expansion

National Agencies Education Scotland
- CfE
- DYW (Senior Phase)
- Governance Review (Schools)
- ES (HGIOS/
- HGIOSCP)

ADVANCED LEARNING & SCIENCE

J Swinney / R Lochhead

Policy & Reviews
- DYW and Workforce
- Widening Access
- Workforce
- Science & Innovation
- Regionalisation
- Review of Learner Journey 15-24
- Adult Learning Strategy

National Agencies Scottish Funding Council
- ROA
- Widening Access
- STEM
- ES(HGIOC)
- Learner Journey Review

ECONOMIC DEVELOPMENT

I McKee / J Hepburn / K Forbes

Policy & Reviews
- Innovation & Enterprise
- City Deals/Regional Collaborations
- Productivity & Enterprise & Skills Review
- Economic Impact Report (Cumberford/ Little)

National Agencies SE, SDI, HIE, SoSEP
- Enterprise & Skills Review
- Innovation Hubs & Enterprise Agencies, City Deals & Regional Collaborations

FAIR WORK & SKILLS

I McKee / J Hepburn / F Ewing

Policy & Reviews
- Culture Fair Work
- Employability
- Opportunities
- Skilled Workforce
- Rural Skills

National Agencies SDS
- Apprenticeship Contracts
- ITAs
- RSAs
- City Deals

COLLEGES

Inclusive Growth, Skilled Workforce,
Economic Development & Productivity,
Enterprise & Innovation

AUTONOMY AND AGILITY v CONTROL AND COMPLEXITY

HOW TO LEAD IN A COLLECTIVE LEADERSHIP CONTEXT

The complex VUCA challenges and multiple stakeholder demands confronting college leaders - and leaders across the wider tertiary system – will require leadership across boundaries. However, in a regulatory environment characterised by multiple controls, bifurcated policy, separate performance targets, and an ever tightening public purse, leaders might instinctively 'hunker down', avoid high profile innovation and risks, and shy away from adopting or sponsoring new ways of working. In short, leaders default to a defensive posture – the very opposite of what ultimately is required in leadership for a rapidly changing world.

Thought leaders are now advocating innovative leadership styles that transcend hierarchies and embrace eco-system collaboration. Nurturing such collective leadership across the whole educational and skills continuum - and indeed across the wider public sector, and business - must be a Government priority.

To enable this, we have to move away from annual, or short-term funding cycles and 'biscuit tin' initiatives which perpetuate the status quo, and distract from medium- and longer-term value creation. As leaders, it is essential to see the big picture, and to realise one's part in the overall system in an inter- and intra-dependent way if we are to solve the challenges we face. A systems leadership approach must trump self-

and institutional interest in favour of collectively and proactively co-creating the future.

Our consultation has highlighted that the college sector sits in a system where the emphasis is on regulation, performance, activity targets and accountability – direction and regulation come from the top down. While we do not contest the need for robust governance, we must move to greater system leadership, the achievement of shared outcomes, and the collaboration that ensures impact and focus. Remaining wedded to a system overly dependent on reporting, regulation and controls implies a lack of trust in the leadership teams within the overall system and thence to a self-fulfilling prophecy. To this end, we should explore the opportunities for college leaders to take a more active role in the Scottish Leaders Forum, with an explicit brief to develop ways in which better to connect to their peers: investment in discovery and leadership learning across our system is essential. And we should pursue thinking about the possibilities of a 'staff college' for the sector, in which best practice in 21st century leadership can be considered co-created, and shared.

Our aim should be the pursuit and promotion of 'Cross-Silo Leadership', creating more value for our economy, our society, our nation - and especially our students - by connecting and energising experts from both inside and outside our tertiary institutions. We recognise that many more innovation and business development opportunities lie at the interface between institutions, agencies, regulators and Government. In essence the integrated solutions the economy needs, and that our students and employers want, often requires 'horizontal' collaboration. We are mindful that it's not who is right but what is right for our economy and the future prospects of our students – and our ambition for a highly

connected tertiary system could unleash the potential for this cross-silo approach. We encourage greater boundary crossing, building bridges and go-betweens, and system leaders who ask better questions to help them understand the whole system, create system-wide role models, and help colleagues to learn how to take the perspective of others, to organise dialogue, to hire for curiosity and empathy.

The core challenges of operating effectively at interfaces necessitates 'learning' about people on the other side and learning how to relate to them. Humans have struggled throughout time to understand and relate to those who are different. The temptation for government and/or agencies will be to abandon the hard yards required for a new organisational structure for the system. However appealing this might seem, for every problem solved by the new structure it will inherently create other problems as an unintended consequence.

We conclude by identifying the characteristics of 21st century leaders. They are collegiate, collaborative, outward- rather than upward-looking rather, influencers, and open. They routinely build consensus and trust; think at a system level; exhibit emotional intelligence, curiosity, and creativity as they solve problems and as they interact with others. They are accomplished in innovation and delivery, [and use project management 'cleverly' to that end]. They solve, problems, are adaptable, creative, innovative, and exhibit social and emotional intelligence. In short they have, and they model, all the meta-skills that our connected, collaborative, agile tertiary system routinely embeds in all its learners. This is the human future we foresee in a VUCA world of AI and robotics. We look forward to working with a peers and partners to make it a reality.

Colleges and the National Performance Framework

OUR PURPOSE
To focus on creating a more successful country with opportunities for all of Scotland to flourish through increased wellbeing, and sustainable and inclusive economic growth

OUR VALUES
We are a society which treats all our people with kindness, dignity and compassion, respects the rule of law, and acts in an open and transparent way

1. We have a globally competitive, entrepreneurial, inclusive and sustainable economy
2. We are open, connected and make a positive contribution internationally
3. We tackle poverty by sharing opportunities, wealth and power more equally
4. We live in communities that are inclusive, empowered, resilient and safe
5. We grow up loved, safe and respected so that we realise our full potential
6. We are well educated, skilled and able to contribute to society
7. We have thriving and innovative businesses, with quality jobs and fair work for everyone
8. We are healthy and active
9. We value, enjoy, protect and enhance our environment
10. We are creative and our vibrant and diverse cultures are expressed and enjoyed widely
11. We respect, protect and fulfil human rights and live free from discrimination

1. Globally competitive economy
Both Colleges delivers FT and PT HE and FE vocational and technical learning opportunities to around tens of thousands of students each year, and professional development, international and other courses to many more learners and businesses. Both are similarly extensive providers through the Flexible Workforce Development Fund.

2. Open and connected
Both colleges welcome many thousands of international students each year, and, together have an active export footprint in all six continents. In doing so, they are promoting Scotland's distinctive value set to a global audience.

3. Tackling poverty
Both colleges welcome a disproportionate number of learners from disadvantaged backgrounds, and serve care experienced young people and a range of other protected groups. They similarly engage with community planning partnerships, directly tackling poverty and inequality.

4. Resilient communities
EC welcomes over 30 community and voluntary sector groups to its campuses every week. CoGC's Community Benefits Strategy was part of the new campus project, exceeding targets for (e.g.) new employee entrants and work experience.

5. Growing up loved, safe, and respected
Both Colleges growing childcare provision, consistent with 1140 hours commitment. EC nursery at its Granton provides nursery education to ~ 160 children

6. Well educated and skilled
Both colleges have aligned curriculum strategies with the Government's Economic Action Plan, Future Skills Action Plan Strategy and SDS regional skills assessments. Over 9/10 students secure a positive destination, and nearly 9/10 are satisfied with their college experience.

7. Thriving, innovative businesses
Together, our colleges work with thousands of employers each year, upskilling, and re-skilling in multinational corporates, and family-run micros. They are living wage employers, and deeply engaged with local Chambers of Commerce. EC is working on major economic development and regeneration projects in the region, for example such as the St James Quarter Development. CoGC's Riverside campus delivers world-class maritime training around the globe.

8. Healthy and active
CoGC hosts Scotland's National Chef and its College restaurant models healthy diet. EC's student association runs a wide variety of sports and leisure club activity, and wellbeing activities, engaging/e and support 100s of students each year.

9. Valuing our environment
EC has achieved a 36% reduction since 2013/14 in carbon emissions; CoGC exceeded carbon reduction target with 17% reduction 16-17-18/19.

10. Creative and diverse cultures
CoCG "Embracing Diversity" Competition innovates in embedding diversity culture in curriculum; college is Stonewall UK Workplace Top 100 Employer, top 15 in UK in education sector. EC "BeSafe Group" work on student safeguarding, tackling hate crime, and preventing violent extremism. Extensive art, design, performance, and music courses at both Colleges.

11. Respecting, protecting Human Rights
CoGC protecting freedom of expression, locating 'PREVENT' in a safeguarding context, using student documentary as the basis for PREVENT training -recognising human rights dimension, and cited by multi-agency approach as innovative approach. EC anti-human trafficking and slavery statement ensuring all suppliers comply.

ANNEX
A & B

Annex A

CUMBERFORD-LITTLE REVIEW OF COLLEGES: EVIDENCE REVIEW, OCTOBER 2019

INTRODUCTION

1. The Cumberford-Little Review into the impact of Scotland's colleges was launched in August 2019. The review will deliver evidence on the economic impact of colleges, and specifically their role in supporting business. This literature review summarizes the current evidence of both the Scottish college sector and other comparable tertiary education sectors across the UK.

2. The college sector in Scotland provides both further and higher education, with vocational and non-vocational programmes. Colleges in Scotland therefore provide SCQF levels 1-10 which covers higher education up to and including honours degree level. Colleges in England, Ireland and Wales differ and this is noted when discussing the evidence.

3. The report is split into the following sections:

   - The Future of Colleges
   - Economic Impact
     - To individuals
     - To communities
     - To employers
   - Exports
   - Diversity
   - Innovation
   - System Leadership

4. The literature considered covers the above subjects, with specific focus where possible on the connection between college and business. The literature also considers the different players involved in further education: learners, colleges, businesses, government and the broader society including local communities.
The main section on economic impact considers reports on colleges and further education more generally. These look at costs and benefits of provision to calculate a Net Present Social Value. This will be considered in more detail through the Post-school Education and Skills Economic Impact

Framework (ESIF) project launched in 2019 for the Enterprise and Skills Strategic Board.

THE FUTURE OF COLLEGES

5. The future of colleges depends on the economic context in which they operate. From responding to a new post-Brexit economy and the global trends of digitalisation, globalisation and an ageing population. Colleges are well placed to respond agilely to changing skills demand and sectoral shifts. The following section summarizes this environment.

6. In October 2018, the Enterprise and Skills Strategic Board published their Strategic Plan which had four key missions . One of the missions was future skills and an initial response to this was the publication of the Scottish Government Future Skills Action Plan in September 2019 . Accompanying this was an evidence and analysis paper which presented current challenges for Scotland's labour market, focusing on: quality of work, demographic change, structural shifts in the labour market and inequalities in labour market outcomes.

7. In particular, it noted that Scotland's further education colleges are flexible and therefore could be well placed to respond to local labour market demand. Flexibility is a mark of a strong skills system. The German system is seen as an example of a strong vocational skills system, including through understanding the skills needs of manufacturing and business services .

8. The Skills Plan evidence highlights the key challenges to the labour market including demographic change. With an ageing population and accompanying risks to labour supply, workers are expected to stay in the labour market for longer. Demand for retraining and reskilling is therefore likely to rise. Reskilling needs could be exacerbated by Brexit due to the potential ensuing job losses. Therefore a focus on lifelong learning could be beneficial to the economy. The OECD supports a focus on lifelong learning and strengthening adult learning systems. And further evidence supports lifelong learning also in respect to responding to the impact on skills demand and supply by digitalisation.

9. Colleges are also operating amongst significant decades long structural shifts in the labour market. A shift from middle income work to both high and low paid employment has been accompanied more recently by increased employment in medium to high skill level jobs.

10. Another aspect considered was skills demand and the response of colleges. Labour market churn – flows of people in and out of work – is expected to be based around SCQF 7-10 (HNC to Honours degree level) which is expected to comprise around half of labour market churn, followed by SCQF 5 (National 5) comprising around one quarter.

11. Colleges will also face the need to respond to global challenges including the climate emergency. Employment opportunities will arise in the sectors involved in the response to this emergency; however, European Commission analysis has argued that for the UK, this job creation will be concentrated in lower skills work.

12. A second global condition is digitalisation, and the Action Plan comments that to date, most analysis has concentrated on highlighting potential job losses. However, the 2018 report conducted by the Scottish Government in conjunction with the Scottish Trades Union Congress (STUC), 'Technological Change and the Scottish Labour Market', finds that views on the potential impact differ. And 'that the labour market could prove as resilient as during previous waves of technological change'. Soft skills are also expected to be in greater demand with greater digitalisation; with low skilled and repetitive jobs at most risk with automation. The Fraser of Allander Institute note that around 3 in 10 Scottish jobs are at risk of automation . FoA also notes that while many jobs will be replaced, many will also be created. Possibly of more relevance to the localisation of college provision, is that where employment impacts take place there could be negative distributional effects.

13. As the Skills plan evidence presents the OECD argues that skills gaps could be a reason for recent lower labour productivity. In Scotland, across 2015-17 there has been an increase in skills gaps. The ESS divides skills gaps into technical and practical skills and people and personal skills. For businesses in Scotland reporting skill shortages vacancies, the most common technical skill gaps among applicants were: specialist skills needed for the role (59%), knowledge of the organisation's product and services (39%), and solving complex problems (34%). For people and personal skills there were gaps in: ability to manage and prioritise own tasks (46%), managing their own feelings, or those of others (42%), and customer handling skills (40%).

14. In addition, evidence from the ESS (2017) suggests there is variation in skills gaps by sector and occupation. In 2017, the highest skills gap was in manufacturing (7.2%) and the lowest skills gap (2.3%) was in IT and

communications. The density of skill gaps changed markedly from 2015 to 2017. The largest percentage point increase was for both Primary Sector and Utilities and Public Admin (+2.8 percentage points) and the largest percentage point decrease was for Manufacturing (-3.7 percentage points).

15. Upskilling is also important, with 69% of employers expect that at least some of their staff will need to acquire new skills or knowledge over the next twelve months In 2017, Scottish employers, prompted by ESS interviewers, reported that several reasons induce them to expect higher training needs – new legislative or regulatory requirements (42%), the introduction of new technologies or equipment (41%), and the development of new products and services (39%). However, there is also evidence of skills under-utilisation within Scotland's labour force. With ESS (2017) reporting that, a third of employers (35%) reported having at least one under-utilised employee, that is staff with qualifications and skills beyond those required for the role (up from 32% in 2015). A possible cause may be a mismatch between employees' qualifications and employers' needs.

ECONOMIC IMPACT

16. The economic impact of colleges is significant. This section looks at the impact to individuals, communities, and employers. These are realised through various transmission channels including initial spend on supply of education, and multiplier effects traced through to demand in the local and national economy. In summary, the economy as a whole is benefited via:

- A boost to GDP due to improved labour productivity
- Increased tax intake due to wage premium
- Spillover effects: increased competitiveness of businesses, knowledge transfer to other employees.
- Multiplier effects: increased wages meaning increased spending in economy, and colleges spending in economy also.

17. The economic impact of colleges can be estimated through various lenses. Firstly using cost benefit analysis and calculating a Net Present Social Value of Benefits of the Scottish further education system. Secondly, looking at the impact on the Scottish economy in terms of the impact of a higher skilled workforce on productivity, the method undertaken by the Fraser of Allander. Thirdly, the importance of considering the numerous multiplier and spillover effects which, though more difficult to monetise, are significant; perhaps moreso on the local economy and local communities.

... TO INDIVIDUALS

18. The latest data from the Scottish Funding Council (SFC) show the number of enrolments (303,115) and the headcount (242,488) of Scotland's 26 colleges increased in 2017-18 on the previous year by 3.9% and 2.9% respectively.

19. The overall delivery of college enrolments has reduced over the last 10 years, by 180,357 (37.3%). The number of enrolments in Higher Education has stayed relatively constant at almost 50,000. Therefore HE has accounted for an increasingly higher proportion of all enrolments over this time from 11% to 20%. **See Figure 1**.

Figure 1: Student enrolments in further and higher education at colleges, 2008-09 to 2017-18.
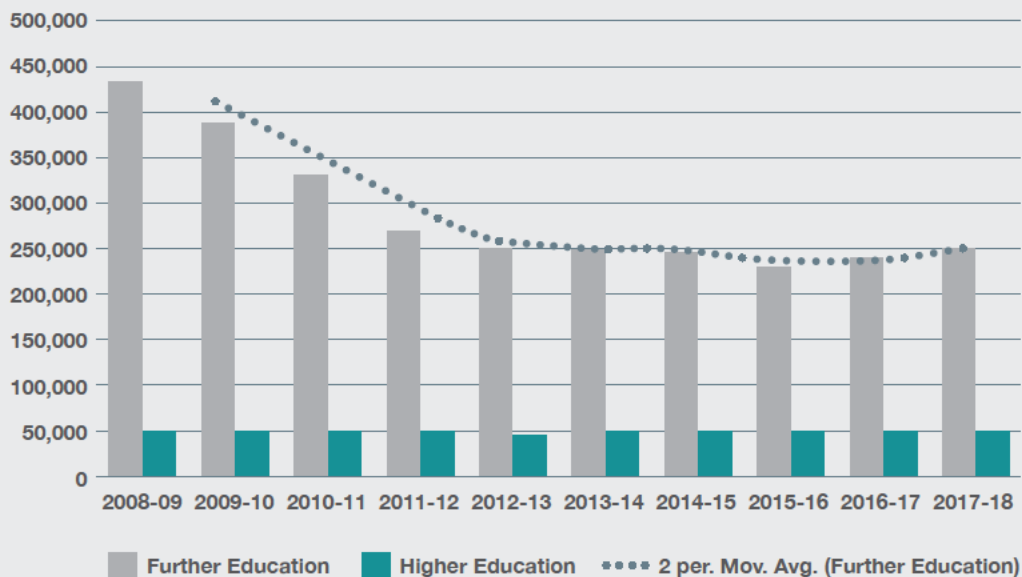
20. This reduction is partly explained by the reduction of part-time activity whilst full time activity has increased as shown in **Figure 2**. Over the last two years, this trend has started to reverse. In 2017-18, 68% of students were full-time, and 32% part-time. Over the last ten years there has been

focus towards full-time young students in colleges. However, with the expected shift in age demographics across Scotland meaning fewer young people, this may change again towards more part-time activity with colleges enrolling more school age and older students.

Figure 2: Number of full-time and part-time students 2008-09 to 2017-18.
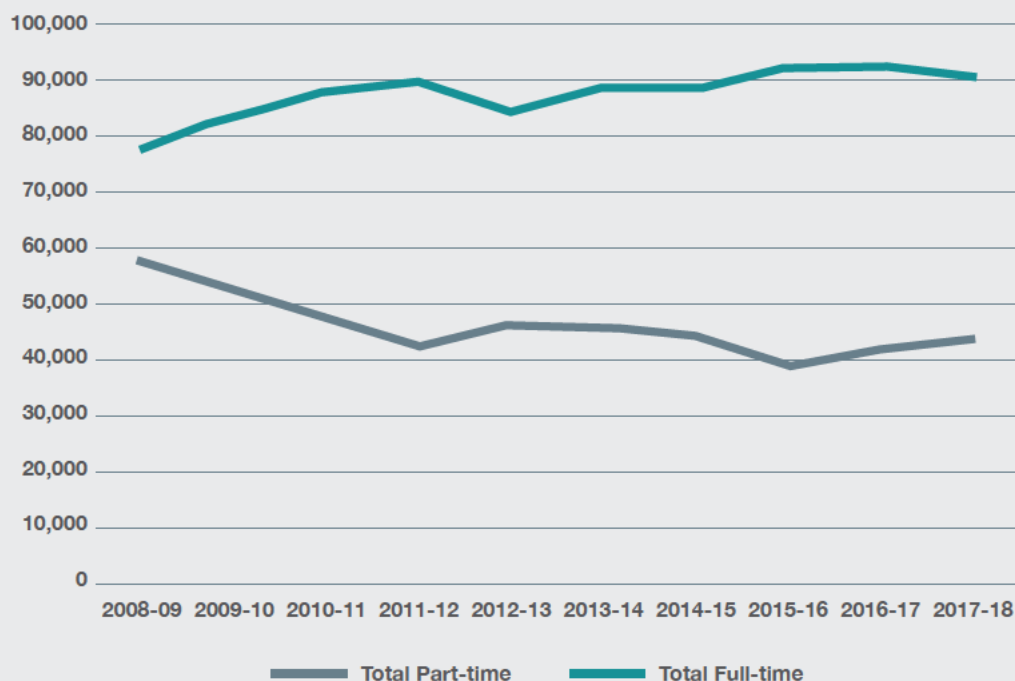
21. Enrolments at colleges split by mode and level in 2017-18 are:

- 32,529 enrolled on full-time HE courses
  (1% decrease since 2016-17, 25.4% increase since 2008-09)
- 45,340 enrolled on full-time FE courses
  (2% decrease since 2016-17, relatively stable over the last 10 years)
- 17,057 enrolled on part-time HE courses
  (5% decrease since 2016-17, 23.9% decrease since 2008-09)
- 208,189 enrolled on part-time FE courses.
  (7% increase since 2016-17, 46.6% decrease since 2008-09)

22. In 2017-18 there were 99,031 enrolments on 'Non-recognised qualifications' and 'courses lasting under 10 hours'. This is an increase of over 23% (18,653 enrolments) since 2016-17 and a 53.3% decrease since 2008-09.

23. Since 2012-13, the Scottish Government has set a national target for the college sector to deliver 116,269 FTE student places. This was achieved in 2017-18, and the sector has exceeded the target every year. Exceeding the target by around 2,400 FTEs in 2017-18 and shows in **Figure 3**.

Figure 3: Number of Full Time Equivalent places from 2012-13 to 2017-18.
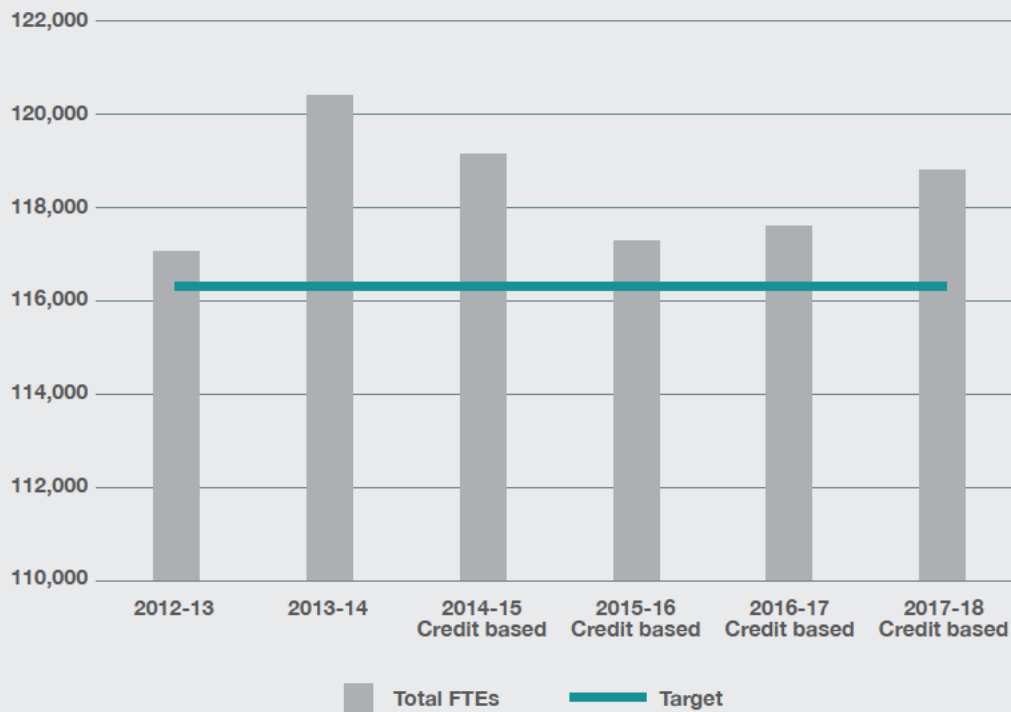
Costs and Benefits to Individuals

24. The costs associated with undertaking education at college include postponing earned income and purchasing college materials. However, evidence also increases human capital by raising the skill level of individuals. Therefore on the benefits side, students receive a wage premium post-graduation and evidence suggests that students have a higher probability of being in employment (BEIS, 2015). Also, 35% of men and 29% of woman reported that they got a better job because of further education.

Wage Premium

25. Evidence agrees that undertaking further education increases a student's future wage; this is called the wage premium. While many studies on the wage premium analyse university higher education alone, there are a few studies relating to Scotland, the most recent in 2017 by the Fraser of Allander Institute (FoA). The reports noted that individuals undertaking education and training have a higher probability of employment as well as higher wages. A micro-to-macro method is used, first developed in 2014 (Hermannson et al, 2014 and 2016) and lately used in 2017 (Hermannson et al, 2017). This uses relative wages to reflect labour productivity. The evidence concludes that higher education institutions have a significant impact on regional economies due to higher levels of human capital of the graduates. And that this generates greater GDP impacts than demand-driven spending of HEIs.

26. The 2017 study used the same methodology and follows a prior paper by the same name published by The David Hume Institute. The 2017 report looked at a single graduation cohort, concluding that Further Education Colleges (FEC's) are an important source of additional human capital. Using a CGE (Computable General Equilibrium) model of Scotland, it calculated that single cohort created a boost to GDP of 0.126% over a number of decades and a present value of £2.3 billion (relating to the 2011 graduating cohort). The FoA report looks at the 2015/16 cohort, and estimates the boost to GDP at 0.17%, in present value terms £3.4 billion. This amounts to £59,000 per graduate. Looking at multiple cohorts – 2008/09-2015/16 – this rises to £20.6 billion (£2.58 billion per year) and £55,000 respectively.

27. The UK Government carried out studies on the returns to college and further education and in 2015 linked higher education and tax data together to create the Longitudinal Education Outcomes (LEO) dataset. LEO data uses actual HMRC income tax returns to show the true wage premia for cohorts. For colleges in Scotland, this data is still experimental.

28. Prior to having LEO data, the Department for Business Innovation and Skills (now the Department for Business, Energy and Industrial Strategy, BEIS) published a report in 2013 which used the Individualised Learner Record, and the Work and Pensions Longitudinal Study to calculate wage, employment and benefit premiums. For all who achieve a level of learning, compared to non-achievers of a certain level of learning, a wage employment premium were found. The report was updated in 2014 and with similar results. The average wage premium was 5.6%.

29. A report published by BEIS in 2013 used another method of calculating the wage premium: a student survey. This questioned 4000 students also found a wage premium of 2.75%. Of those in employment before they began training, 22% saw a salary increase.

30. Therefore, taken together the evidence is in agreement that a wage premium could be expected following an individual undertaking further education.

...TO COMMUNITIES

31. Our colleges are placed in communities; the individuals and business that live, work and operate alongside the college. There is limited evidence in this area, but a 2011 Commission on Colleges in their Communities (related to English further education colleges only) found that investing in colleges results in social returns. The report found that colleges are embedded in their communities and were benefited from local decision making. Two levels of engagement were highlighted: employer engagement, and learner involvement in design of curriculum.

Wage Premium as Part of Cost Benefit Analysis

32. The wage premium can also be used to measure impact to society by measuring Net Present Social Value of Benefits using cost benefit analysis. This includes the wage premium as one of a basket of benefits, which is compared to costs. This method does not report a direct impact to the economy, but an overall value to society.

33. For England, BIS commissioned research in 2009 estimating the Net Present Value (NPV) of further education in England. The English FE system is not directly parallel to the further education system in Scotland however provides a useful comparison. For the benefits, the report considers the wage premium but also better employment prospects for learners and 'spillovers' to other individuals and employers. For the costs the report considers: foregone output during training, student funding and fees paid

by individuals or employers. The evidence shows a positive NPV for all levels of further education analysed. A 2015 update to the analysis shows the Net Present Benefits of a single cohort (2013/14) as £79 billion and Net Present Costs as £9 billion: therefore a NPV of £70 billion.

34. A 2015 report by Emsi, an international consultancy estimated the economic impact as well as the Net Present Value of the Scottish college sector. For 2013/14, the estimated NPV across learners, society and the taxpayer, at £6.2 billion, £16.7 billion, and £2.8 billion respectively. The report also considered the economic impact of staff and college expenditure (£700 million) and the impact of added skills to the Scottish workforce (£14.2 million).

Anchor Institutions

35. In recent years the concept of anchor institutions has been increasing in the UK, having originated in the United States. Although the UK definition of anchor institutions is not clear, the UK Commission for Employment and Skills note three main characteristics: strategic contribution to the local economy, large size, and spatial immobility. Their 2015 report does not specify further education colleges as anchor institutions, however it could be argued that since the uniting of several colleges in Scotland, a number of Scottish colleges more closely match the three characteristics mentioned. Therefore acting as an anchor institution, a college can contribute to encouraging economic regeneration of an area. They do this directly by employing staff at the college and indirectly by stimulating investment from other businesses.

Wider Social Impacts

36. Colleges can also contribute to wider social conditions. Evidence gathered for the Future Skills Action Plan finds a relationships between education and health and social outcomes. Those with higher levels of education are more likely to be engaged politically and socially and live healthy lives.   On the later, self-reported health data shows that increased education levels links to better general health and lower levels of long-term physical or mental health condition.

...TO EMPLOYERS

37. The economic impact of colleges to employers includes the supply of skilled labour and encouraging innovative business practices. In 2017-18, 42.4% of full-time college qualifiers are known to have left the sector, with 57.6%

remaining in the sector to continue study. Of those known to have left the sector, 89.6% confirmed their destination 3-6 months after qualifying: 49.3% went into work; 39.8% went on to university, and the remaining 11.0% were unemployed or unavailable for work.

Skills and Productivity

38. The Skills Action Plan evidence highlights that education and skills are key drivers of economic growth and productivity. Skills development can raise productivity by enabling individuals to do more advanced tasks. Research published by the Department for Business Innovation and Skills estimated that around one fifth of the UK's productivity growth between 2001 and 2013 was attributed to improvements in skills levels – rising to one quarter when including workforce training. High-level skills development was also found to have been a particularly strong driver of productivity in the UK compared with other European countries. In addition, the OECD report that job-related training can respond to skills gaps more efficiently than formal education.

39. As well as the college leavers entering work, one key aspect of college provision is the flexibility of students to simultaneously work and study. Therefore allowing for the potential of new skills to be quickly applied. Data from the Scottish Funding Council shows that nearly 30,000 students undertake day release studies, and over 10,000 undertake assessment of work based learning. These figures do not include other part time and distance learning study, all of which might allow students to continue working while studying. Overall it's recorded that in 2017-18, 74,594 students are in permanent or temporary employment. Even with the trade-off of staff working part-time, businesses could be supported through this supply of labour.

Apprenticeships

40. Another key partnerships with business is through Modern Apprentices (MAs) which will be included in the above figures. Skills Development Scotland data notes that as at 28 June 2019 there were 36,767 MAs in training. Of all MAs, 81% are in higher level frameworks (VQ level 3 and above, or SCQF level 6 and above). These can either be delivered in the workplace or in partnership with a college or other training provider. Scottish Funding Council data shows that in 2017-18 there were 10,650 college students on YT/Skillseeker/New Deal/Modern Apprenticeship; highlighting that a level of training aligned to MAs is not delivered by colleges.

EXPORTS

International Students and Staff

41. Colleges play a role in the global sphere by welcoming students and employing staff from across the world. The latest data shows there were 1,115 student enrolments from oversees: a fall from a peak of over 2000 in 2014-15. In 2017-18 there were 553 student enrolments from the EU, an increase from previous years. Most of the evidence on the economic impact of international students concerns universities due to the low number of international students at colleges. Over the past 18 years, the proportion of international students in higher education has grown from around 10% to 22% of the overall student body. The number of international enrolments at colleges as a proportion of all enrolments is small however these students will then join an international group of alumni and support the soft power efforts of spreading awareness of the Scottish college sector.

42. In 2018, the Scottish Government published a report in response to the UK Migration Advisory Committee on the impact of international students to Scotland. The direct economic impact includes the income to colleges from fees and spending by students in the local economy. Of interest also is the cultural and social aspects of learning across nationalities. An earlier report, commissioned by Colleges Scotland in 2012, looked at the impact of international activity of Scotland's colleges. The report notes the revenue that international activity generates, and the additional impact of international student expenditure on the local economy.

43. Scotland's export strategy, A Trading Nation, highlights the power of international networks of universities, colleges and their alumni. The strategy notes that the education sector has links with similar institutions around the globe, and these are often underutilised. Alumni can benefit Scotland by using networks and connections to support exporting and promote Scotland. This is an untapped resource the strategy notes. In addition, the export strategy highlights that evidence suggests a two-way link between exporting and innovation.

DIVERSITY

Widening Access

44. In 2016, the Commission on Widening Access published its final report 'A Blueprint for Fairness' with 34 recommendations. One key recommendation was

'By 2030, students from the 20% most deprived backgrounds should represent 20% of entrants to higher education. Equality of access should be seen in both the college and university sectors.'

45. The latest data published by SFC shows that that percentage of entrants to HE (universities and colleges) from the 20% most deprived areas was 18.9% in 2017-18. It's noted that this is in part to colleges receiving a relatively higher proportion of entrants from deprived areas. Colleges have higher numbers of students from the most deprived 20% than universities. With data for 2017-18 showing that the proportion of entrants from the 20% most deprived areas is over 30% in Further Education, and over 20% in Higher Education. These figures are also increasing over time.

Technical and Vocational Education

46. In 2013, the OECD published a report in 2014 as part of the Reviews of Vocational Education and Training on 'Skills beyond School'. The report highlights that such education systems play an under-recognised role in the skills system. This is partly because no more than a one or two years of career preparation beyond secondary school is required for many professional and technical jobs. Moreover, its predicted that job growth is expected to be mainly in sectors most linked to this type of learning.

47. A main theme of the OECD report is the importance of collaboration to ensure training provision matched training needs in the labour market. As well as overcoming institutional and funding barriers including: offering short-cycle professional programmes in a tier of institutions separate from universities, and consolidates training providers into institutions of adequate size. And related to the later, to have an institutional framework to co-ordinate the offer of post-school education, engage employers and organised labour. Thereby supporting stakeholders understanding and access to programmes and qualifications.

48. The quality of post-secondary programmes are seen through ensuring integrating work-based learning, vocational teaching with industry knowledge, and ensuring adequate literacy and numeracy of students. The OECD also highlight key characteristics of effective vocational systems:

- Deciding on provision and meeting needs: How the mix and content of vocational programmes are determined
- Delivering quality: How vocational skills are imparted to learners

- Using learning outcomes: How skills are assessed, certified and exploited
- Supporting conditions: The policies, practices and institutions that underpin vocational education and training

INNOVATION

49. Colleges play a role in the innovation landscape of Scotland. The independent review into Innovation Centres in 2016, highlighted that the success of Scotland's colleges can be:

'through innovation of business products, but is more often about delivering skills, and through those enhanced skills, improved productivity and efficiency. The delivery of skills is not some sort of "secondary" innovation – developing new skills and techniques to apply alongside new technological innovation is vital if such developments are to be embedded and made truly a commercial success.'

50. The review recommended closer alignment of colleges with Innovation Centres and noted the potential of this partnership is partly due to the links colleges have with local business.

51. The Enterprise and Skills Review (ESR) 2017 report on Phase 2: Innovation notes the good connections between colleges and the local business base. Therefore colleges are well placed to support innovation in that group. Also highlighted was the need to ensure alignment between innovation, and the accompanying technical development and skills. Businesses reported a mixed experience of interacting with universities and colleges. A key issue is businesses not having the time to find out what innovation activities are taking place. The report also notes that colleges need to be freed up and encouraged to work more closely with businesses on innovation. Actions embedded in the report concerning colleges were around improved communication to business of ongoing activity and further consideration of in-work training.

52. The Phase 2 report reiterates that workplaces are at the heart of innovation processes. A priority is to make use of university and college research, knowledge and talent. A priority of the Innovation Action Plan is to make best use of university and college leadership to enable innovation. This includes colleges delivering leadership and entrepreneurial skills training; and encouraging demand-led research.

SYSTEM LEADERSHIP

53. In Scotland, the Enterprise and Skills Review also played a significant role in the system leadership in Scotland by recommending the creation of a new board. The non-statutory Strategic Board was formed in November 2017. Its objective is to align and co-ordinate the activities of Scotland's enterprise and skills agencies: Scottish Enterprise, Highlands and Islands Enterprise, Skills Development Scotland and the Scottish Funding Council. The Board consists of representation from these agencies plus education providers including colleges.

54. In the UK as a whole, the independent Skills Commission published a report in 2016 on innovation and leadership in the further education and skills system in the UK. Innovation in this context was seen as 'how every new generation of leaders adapts and responds to their context'. Key themes emerging included providers having an understanding of who they were serving at the delivery level; and being responsive to learners, employers and regional and national economies. At the forefront of providers innovation approach was employer engagement and ownership over what the colleges delivered. Therefore a focus emerged of developing strong partnerships with stakeholders including industry. The report sets out 14 recommendations including on flexible provision that is responsive to needs and partnering college employees with industry to 'future proof' staff.

55. A previous UK wide report in 2014 looks closely at college and employer engagement. Leadership is reported to be the key ingredient for a college's ability to contribute to economic growth. The type of leadership skills of greatest importance was where colleges were strongly connected to employers. Notably they possessed strategic leadership that determined the purpose and fit of colleges in the local economic ecosystem. The report summed up their thinking with four key statements:

- Colleges are central to their economic community
- New leadership skills needed to develop strategic partnerships
- Colleges credibility is connected to their offer
- Employers need to engage in dialogue about their workforce plans

56. As referenced earlier, the Commission on Colleges in the Community also find that to achieve the social returns possible, a college needs entrepreneurial leaders, developing partnerships and ensuring college involvement in local level planning.

CONCLUSION

57. Colleges have much to offer learners, employers and the community in which they operate. Although the type of students study – part time or full time, further or higher education – is changing, the role of colleges remains the same: to skill learners for work. Individuals have the potential to earn more, and have better employment opportunities due to college. Employers have better skilled employees. And communities are supported through colleges acting as anchors in the locality in which they operate.

58. The future of the labour market and economy determines the agility required by colleges going forward. Faced with automation and ageing population to name only two, means the labour market demand will change and colleges are in a good place to flexibly respond.

59. But colleges have a wider role. In international relations, local strategic economic leadership and improving diversity of intake and outcomes across education, colleges can create significant impact. Evidence shows that colleges have a role to play in innovation too, through linking with local business and contributing to improving productivity.

60. Overall, the evidence shows that colleges play a significant role in contributing to economic impact. This is notably seen in supporting local business through creating partnerships, learning skills needs and delivering an offer fit for purpose.

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Annex B

GLOBAL TECHNOLOGICAL AND VOCATIONAL TRAINING – A BRIEF SUMMARY

How does Scotland compare internationally? In short, the standard of our technical and professional proficiency compares favourably, and the innovation of our pedagogy and campuses is currently of a global role model standard. We are involved in much more than international student recruitment or institutional partnership building.

The countries against which we benchmark have been selected for three key factors:

- those with the largest GDP;
- the UK's top trading partners; and
- those performing well in WorldSkills competitions over the last 8 years.

China, Germany, and France meet all these criteria. (So too does Italy, but since it is represented in WorldSkills by South Tyrol whose TVET system is not aligned with Italy's we have excluded it from consideration).

We have also considered Switzerland (a top 10 UK Trading Partner, regarded as having the most successful skills system in Europe); Austria (the second most successful TVET Country in Europe); and Brazil and Japan since both top are 10 GDP Countries with successful TVET systems. Finally, we have considered Russia in the light of the skills policies established by its Government over the last 5 years which are starting to have a major impact.

We have not conducted a comprehensive review of college systems in these countries; rather, we are looking at the strong factors, including Government influence, that combine to produce 'skills success'.

CHINA

The motivation for China's enormous investment in TVET over the past 20 years has been its Government's concern of a 'missing technician class' and that the recent stall in growth is in part the result of a labour force with insufficiently high skills. China also needs to develop skills in the centre and west of the country to encourage employers to locate there, helping raise living standards nearer to those on its East Coast, and stem the drift of millions of Chinese eastwards. Individual cities and regions have considerable authority to develop TVET, subject to approval by the central Government. This blend of

centralisation and semi-autonomy has served China well. Moreover, employers are more closely aligned to the State than in almost any other country, ensuring their voice in the TVET agenda is de-facto that of the Government. This has to date paid dividends.

Chinese colleges train to a good, though not excellent, standard. 'Centres of Excellence' are being created in a limited number of colleges, and are responsible for the raising of standards taking place. College students, and those in Centres of Excellence are used to living away from home for extended periods, allowing significantly more 'contact time'. And students attending colleges in the east increasingly arrive with basic education standards higher than before, in turn raising College standards.

China's ambition is for a workforce trained to a standard where 'Made in China' is a positive brand, and its focus on quality rather than quantity is bearing fruit.

GERMANY

TVET is embedded as part of the German culture, highly respected by parents and industry alike. The dual system is a model of vocational education, fundamentally unchanged for 50 years, though adapting to take account of labour market demands, themselves well researched by both employers and government. This stability and flexibility has ensure a clear understanding of the system among the German population, allowing continual improvement rather than wholesale change.

Labour and skills targets are set and revised by employers, ensuring that both encourage employers to invest in skills for the long term. The main strength of the German system is the integration of employers and other social partners in the research, development and delivery of TVET. Moreover, the Government at Federal, State and Municipal levels, is, with employers, careful to maintain the quality of TVET through considered policy leadership. Importantly, the 'Dual System' has always been a legal requirement for German business which readily complies, despite the cost.

Schools and colleges delivering 'out of company' work are well resourced and teachers/trainers are experienced in the areas they teach; workplace trainers are likewise trained to teach, a major factor in keeping teaching methods up-to-date. Participants in the Dual System are considered the 'crème de la crème', and normally move on to become 'Meisters'. They have high levels of core skills such as literacy and numeracy. Throughout, the TVET process is highly regulated.

SWITZERLAND

Switzerland uses the German Dual System Model (calling it "in-Company" training) but, like Austria, has adapted it to reflect national needs. Switzerland has the highest level of secondary education in Europe, ensuring schools and colleges can bring a particular focus to TVET.

Schools and colleges are well resourced, staffed by excellent teachers and they playing a a strong role in the Social Contract underpinning the Dual System. The Social Contract, while driven by employers, is closely monitored by the Federal and Canton Governments which conduct national assessment. The cost of training is generally borne by employers who consider the benefits well outweigh the cost. Employers in Switzerland, like in Germany and Austria, carry out considerable skills forecasting which is fed back into the system.

'Graduates' of the Swiss Dual System are highly qualified and well respected, and excellent careers guidance during secondary school ensures that TVET is regarded as a quality path.

AUSTRIA

Like Switzerland, Austria has adapted the German Dual System to its requirements, integrating college/school learning with work. Again, this creates high levels of cooperation between social partners on TVET design and delivery. However, the system is acknowledged to be very expensive.

TVET Colleges in Austria, more so than Germany and Austria, have a dual purpose. First, they are the route for high achievers, with many courses lasting five years, with progression to 'professional' careers and high paid jobs. Second, they act as a safety net for those who have failed at secondary school level. However, those that succeed in the Dual System have very high level of secondary school achievement. Austrian teachers in TVET schools and colleges must have industry experience.

FRANCE

France's TVET System is in a period of transition with the historical 'centralised' model giving way to an industry-driven decentralisation of authority and policy to the regions. More than almost any other country, France has focused on 'lifelong' learning and its apprenticeship schemes build on this concept. In addition, the social partnership comprising Government, employers, educators and trades unions is particularly strong, emphasising the importance of citizenship and full engagement in social life.

RUSSIA

President Putin and the Government of the Russian Federation have been clear on the priority of improving the quality and efficiency of its workforce. The aim is to move Russian's economy from a reliance on fossil fuels and extractive industries to a 21st century manufacturing base where it can sell goods made in Russia domestically to Russians (reducing its reliance on imports); and develop a more lucrative export market for quality "Made in Russia" products.

To this end the Russian Government has embarked on a programme of modernising colleges in all cities and regions of Russia and radically improving the standards of TVET teaching and teachers. Russia has integrated global standards of excellence into new curricula, and those are now mandatory. Regional improvements in skills are rewarded with greater budgets, and failure is judged unacceptable.

Russian industry has been pushed to participate in the development of apprenticeship and in-work programmes to deliver excellence. There is some evidence this programme is working and that standards are rising, though from a very low base.

BRAZIL

The improvement in TVET in Brazil was driven by employers who are liable to a levy on labour costs. SENAI, an agency of the Employers Association (CNI) is charged by both the Federal and Regional Governments, and its very strong employer base, to deliver skills to a level determined by the needs of employers.

There is no National Qualifications Framework at present, although there have been attempts to develop one; likewise, there is no Federal Quality Assurance Programme. Colleges and Schemes run by SENAI are of a high standard, but programmes run by the Regional or State Governments less so.

The one strength in Brazil's TVET is that administered by SENAI using the employers' levy and the subsequent engagement of employers at all parts of planning and delivery.

JAPAN

Japan has the lowest regard for TVET amongst OECD countries, with a vocational study and career path afforded a considerably lower status than an academic route. Historically, most high quality TVET has been delivered within businesses, and a few very good private TVET Colleges. But this position is changing because of Japan's economic position, and the 'offshoring' of much

of Japanese manufacturing. And while the Government is developing a range of specialist TVET Colleges to respond to industry requirements, there is very little in the way of federal quality assurance and no National Skills Framework.

USA

The USA has the most decentralised TVET system of all major Countries. This is both a strength and a weakness. The 'system' is very flexible and highly responsive to the needs in each State and its employers. But there is very little federal control or planning of quality and coherence of qualifications and credentials across State lines; as a result, there is a large degree of short-term planning and labour forecasting. In many states, basic skills of literacy and numeracy among many school leavers is low; Community Colleges, which are often good at teaching TVET, are therefore also required to make up ground by teaching basic skills. There is concern among state educators that skills across the US are falling behind many global competitors, a position that may be compounded by the current Federal Government's "America First" philosophy.

National Cyber
Security Centre
a part of GCHQ

Cyber Security Toolkit for Boards

Helping board members to get to grips with cyber security

Contents

Introduction

The vast majority of organisations in the UK rely on digital technology to function.

Good cyber security protects that ability to function, and ensures organisations can exploit the opportunities that technology brings. Cyber security is therefore central to an organisation's health and resilience, and this places it firmly within the responsibility of the Board.

New regulations (such as GDPR) as well as high profile media coverage on the impact of cyber incidents, have raised the expectations of partners, shareholders, customers and the wider public. Quite simply, organisations - and Board members especially - have to get to grips with cyber security.

Why have the NCSC produced a Cyber Security Toolkit for Boards?

Boards are pivotal in improving the cyber security of their organisations. **The Cyber Security Toolkit for Boards has been created to encourage essential discussions about cyber security to take place between the Board and their technical experts**.

What can this toolkit do for you?

Board members don't need to be technical experts, but they need to know enough about cyber security to be able to have a fluent conversation with their experts, and understand the right questions to ask.

The Cyber Security Toolkit or Boards therefore provides:

1. A general introduction to cyber security.
2. Separate sections, each dealing with an important aspect of cyber security. For each aspect, we will:
   - explain what it is, and why it's important
   - recommend what individual Board members should be doing
   - recommend what the Board should be ensuring your organisation is doing
   - provide questions and answers which you can use to start crucial discussions with your cyber security experts
3. Appendices summarising the legal and regulatory aspects of cyber security.

Getting started

Don't feel obliged to read the Cyber Security Toolkit in a single sitting. Think of it less of a manual to be read cover-to-cover, but more of a resource to be used to help you develop your own cyber security board strategy; one that can adapt to fit your own unique cultures and business priorities.

If you're not sure where to begin, we suggest you start with the Introduction to Cyber Security for Board members and Embedding cyber security into your structure and objectives.

About the Cyber Security Toolkit

The Cyber Security Toolkit is relevant for anyone who is accountable for an organisation in any sector. That could be a Board of Directors, a Board of Governors or a Board of Trustees. Additionally, technical staff and security practitioners may find it a useful summary of NCSC guidance, and can use the questions within the toolkit to frame discussions with the Board.

Cyber Security Toolkit: scope and structure

Good cyber security is all about managing risks. The process for improving and governing cyber security will be similar to the process you use for other organisational risks. It is a continuous, iterative process and comprises three overlapping components, summarised below:

1.   Get the information you need to make well informed decisions on the risks you face.
2.   Use this information to understand and prioritise your risks.
3.   Take steps to manage those risks.

Crucially in order for these steps to be effective, you need to get the environment right, so we've included three sections that explain how to do this. The full structure of the Cyber Security Toolkit is summarised in the table below - click on a link to jump to the relevant section.

Getting the environment right		
Embedding cyber security in your organisation Growing cyber security expertise Developing a positive cyber security culture		
1. Get the information you need to make well informed decisions on the risks you face. Establishing your baseline and identifying what you care about most Understanding the cyber security threat	**2. Use this information to evaluate and prioritise your risks.** Risk management for cyber security	**3. Take steps to manage those risks.** Implementing effective cyber security measures Collaborating with suppliers and partners Planning your response to cyber incidents

Note: You will be familiar with this type of process, and may have your own approach to managing risk within your organisation. The Cyber Security Toolkit therefore focuses on the aspects of the process that are unique to cyber security and need additional consideration.

How to use the Cyber Security Toolkit

The NCSC is often asked 'what does good look like?' The simple answer is 'whatever protects the things you care about'. This means that, whilst there is some good practice that applies in most situations, 'good' cyber security for one organisation may not be 'good' for another. 'Good' cyber security has to work for you; it has to be appropriate to your systems, your processes, your staff, your culture and, critically, has to be appropriate for the level of risk you are willing to accept.

Each section within the toolkit addresses three questions:

1. **What should the Board do?**

   This provides specific actions for the Board.

2. **What should your organisation do?**

   This provides information on aspects that Boards should have oversight of but are unlikely to be actively taking action on (though this is dependent on your organisational structure).

3. **What does good look like?**

   This provides questions (and potential answers) designed to generate discussions with your experts that can help the Board identify what constitutes 'good' cyber security within your organisation. The questions are only the start of the story; you may find that simply getting the right people in the room, engaged in meaningful discussions, can throw a light on what works (and doesn't work) within your organisation.

How we built the Cyber Security Toolkit

This toolkit was created by:

- listening to what Boards have told us they want to know
- applying the NCSC's unique insights into cyber security, and how attacks happen

How you can help

We want to keep adding to this toolkit as you encounter new cyber security challenges, so we'll need your practical experiences of the challenges and opportunities you encounter. Please let us know how this toolkit could be improved, what you liked (or didn't like), and suggestions for what could be added next. You can use the contact us form or email us directly at enquiries@ncsc.gov.uk .

Introduction to cyber security for Board members

What is cyber security?

Cyber Security is the protection of devices, services and networks - and the information on them - from theft or damage via electronic means.

What do I need to know about cyber security?

There are three common myths concerning cyber security. Understanding why they're incorrect will help you understand some key aspects of cyber security.

Myth #1: Cyber is complex, I won't understand it.

Reality: You don't need to be a technical expert to make an informed cyber security decision.

We all make security decisions every day (whether to put the alarm on, for example) without necessarily knowing how the alarm works. Boards regularly make financial or risk decisions without needing to know the details of every account or invoice. The Board should rely on its cyber security experts to provide insight, so that the Board can make informed decisions about cyber security.

Myth #2: Cyber attacks are sophisticated, I can't do anything to stop them.

Reality: Taking a methodical approach to cyber security and enacting relatively small changes can greatly reduce the risk to your organisation.

The vast majority of attacks are still based upon well known techniques (such as phishing emails) which can be defended against. Some threats can be very sophisticated, using advanced methods to break into extremely well defended networks, but we normally only see that level of commitment and expertise in attacks by nation states. Most organisations are unlikely to be a target for a sustained effort of this type, and even those that are will find that even the most sophisticated attacker will start with the simplest and cheapest option, so as not to expose their advanced methods.

Myth #3: Cyber attacks are targeted, I'm not at risk.

Reality: Many cyber attacks are opportunistic and any organisation could be impacted by these untargeted attacks.

The majority of cyber attacks are untargeted and opportunistic in nature, with the attacker hoping to take advantage of a weakness (or vulnerability) in a system, without any regard for who that system belongs to. These can be just as damaging as targeted attacks; the impact of WannaCry on global organisations - from shipping to the NHS - being a good example. If you're connected to the internet then you are exposed to this risk. This trend of untargeted attacks is unlikely to change because every organisation - including yours - will have value to an attacker, even if that is simply the money you might pay in a ransomware attack.

The findings from the Cyber Security Breaches Survey below show just how many organisations are coming under cyber attack and how organisations are responding to this risk. Further information is provided in the full report.

How do cyber attacks work?

A good way to increase your understanding of cyber security is to review examples of how cyber attacks work, and what actions organisations take to mitigate them. Reviewing incidents that have occurred within your organisation is a good place to start.

In general, cyber attacks have 4 stages:

- **Survey** - investigating and analysing available information about the target in order to identify potential vulnerabilities.
- **Delivery** - getting to the point in a system where you have an initial foothold in the system.
- **Breach** - exploiting the vulnerability/vulnerabilities to gain some form of unauthorised access.
- **Affect** - carrying out activities within a system that achieve the attacker's goal.

Defending against cyber attacks

The key thing to understand about cyber security defences is that they need to be layered and include a range of measures, from technology solutions to user education to effective policies. The infographic below gives examples of defences that will help your organisation to combat common cyber attacks. Our section on Implementing effective cyber security measures provides further detail and questions that you can use to understand more about your own organisation's defences.

The following infographic summarises the security controls you can apply to reduce your organisation's exposure to a successful cyber attack.

As a Board member, you will be targeted

Senior executives or stakeholders in organisations are often the target of cyber attack, because of their access to valuable assets (usually money and information) and also their influence within the organisation.

Attackers may try and directly target your IT accounts, or they may try and impersonate you by using a convincing looking fake email address, as the NCSC's Technical Director found out. Once they have the ability to impersonate you, a typical next step is to send requests to transfer money that may not follow due process. These attacks are low cost and often successful as they exploit the reluctance of staff to challenge a non-standard request from someone higher up in the organisation.

Good cyber security awareness throughout your organisation, security policies that are fit for purpose and easy reporting processes will all help to mitigate this risk. It is also critical that Board members understand and follow their organisation's security policies, so that when an impersonator tries to circumvent them, staff can identify that something is unusual.

You should also consider how information about you (that is publicly available) could assist an attacker who is trying to impersonate you.

What support can the NCSC provide on cyber security?

The NCSC is the UK government's technical authority and therefore takes the lead role in providing guidance and advice on cyber security for UK organisations. The NCSC:

- understands cyber security, and distils this knowledge into practical guidance that we make available to all

- responds to cyber security incidents to reduce the harm they cause to organisations and the wider UK

- uses industry and academic expertise to nurture the UK's cyber security capability

- helps organisations navigate the cyber security marketplace

- reduces risks to the UK by providing sector-specific guidance and engagement for public and private sector organisations

If you want to find out more about how you can work with the NCSC, please get in touch via enquiries@ncsc.gov.uk .

There is also government support on cyber security available from:

- Centre for Protection of National Infrastructure (CPNI) - provides advice on a range of security matters. Start with: Passport to Good Security for Senior Executives

- Department for Digital, Culture, Media and Sport (DCMS) - provides insight into the state of cyber security within the UK. Start with: FTSE350 Cyber Governance Healthcheck and the Cyber Security Breaches Survey

- National Cyber Crime Unit (NCCU) - part of the National Crime Agency and leads on investigating and prosecuting cyber crime. Start with: Cyber Threat to UK Business.

Embedding cyber security into your structure and objectives

The role of cyber security is to enable the organisation's objectives and, increasingly, enable competitive advantage. It should be adding value to your organisation rather than hindering progress. This requires a positive cyber security culture and appropriate investment and management of cyber security.

What should the Board do?

Integrate cyber security into your organisation's objectives and risks

There are two reasons why this is so important.

Firstly, cyber security impacts on every aspect of your organisation. Therefore to manage it properly it must be integrated into organisational risk management and decision making. For example:

- Operational risk will likely be underpinned by cyber security because of the reliance on the security of digital services that you use (email services, bespoke software, etc).

- Some legal risk will be tied in with cyber security risk (such as contractual requirements to protect data or partnerships, regulatory requirements to handle data in particular ways).

- Financial risk is impacted by cyber security (such as money lost through fraud enabled by cyber, revenue lost when services are taken offline by cyber attack).

- Good cyber security will also allow you to take some risk in using new technology to innovate. An overly cautious approach to risk can lead to missed business opportunities or additional (and unnecessary) costs.

Secondly, cyber security needs to be integrated for it to be successful. Good cyber security isn't just about having good technology, it's about people having a good relationship with security, and having the right processes in place across the organisation to manage it.

For example, in order to protect against an attacker accessing sensitive data (whilst ensuring that only those with a current and valid requirement can see it), you will need:

- a good technical solution to storing the data
- appropriate training for staff handling the data
- a process around managing the movement of staff, aligned with access management

Reflect this in your structure

Don't leave it to one person; Cyber security is the responsibility of the entire Board.

A cyber security incident will affect the whole organisation - not just the IT department. For example, it may impact on online sales, impact on contractual relationships or result in legal or regulatory action. There should be sufficient expertise within the Board in order to provide direction on cyber security strategy and hold decisions to account. However every member of the Board needs enough expertise to understand how it impacts specifically upon their area of focus, and to understand the broad implications for the organisation as a whole.

Cyber security outside the UK: When trying to understand the impact of cyber security on your organisation and your risks, an important consideration is which countries your organisation operates in. For those organisations who operate outside the UK or have partners outside the UK, the CPNI Smart Business Guidance highlights how this may impact your security considerations, including your cyber security. The Collaborating with suppliers and partners section of this toolkit provides guidance on how to mitigate the cyber security risk associated with these relationships.

Engage with your experts

Consider whether your reporting structure enables the Board to have the engagement with cyber security that it needs. If the CISO reports to an intermediary to the Board who has a focus on only one aspect - be that finance or legal or technology - this can potentially hinder the ability for the Board to see cyber security's wider implications. In the majority of FTSE350 organisations the CISO now reports directly to the Board.

A good place to start on improving cyber security in your organisation is to consider the communication between experts and members of the Board. Getting the structure right can help, but we also often see a reluctance from both parties to engage, because:

- technical staff think that the Board won't understand them
- the Board think that the technical staff are unable to explain the issues in the context of the strategic aims of the organisation

Improving the communication between these two groups requires effort from both sides:

- **Boards** need a good enough understanding of cyber security that they can understand how cyber security supports their overall organisational objectives
- **technical staff** need to appreciate that communication of cyber risk is a core component of their job, and ensure they understand their role in contributing to the organisation's objectives

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **embedding cyber security into your structure and objectives**.

Q1. As a Board, do we understand how cyber security impacts upon our individual and collective responsibilities?

You might want to consider:

- Does every Board member have enough expertise to understand the potential impact and value of cyber security?
- Is there someone responsible for delivering the organisation's cyber security?
- Who is responsible for oversight of cyber security?
- Have we been clear about what information both the Board and our wider stakeholders need?

Q2. As an organisation, who currently has responsibility for cyber security?

This could be a person or a function, e.g. an audit committee. You might want to consider:

- How they engage with the Board - do they report directly to the Board or do they fit into another reporting process? Does this encourage the Board to actively participate in discussions on cyber security?
- What their objectives are and who sets them - do these objectives drive cyber security to be an enabler for the organisation?
- Do they have access to all the people they need to ensure effective cyber security - this could be just in terms of the resource required to meet your cyber security objectives, but could also be the teams that they need to be linked in with e.g. HR, policy, finance.

Q3. As a Board, how do we assure ourselves that our organisation's cyber security measures are effective?

You might want assurance that:

- The organisation is employing an appropriate suite of technical assurance activities and the output of this is conveyed in a meaningful way to the Board. Assurance activities might include reviewing defensive measures against suitable frameworks, such as Cyber Essentials or 10 Steps to Cyber Security.
- Threat assessments and defensive priorities are regularly reviewed and defensive measures updated accordingly.
- The focus of your cyber security measures is aligned with the risks you have identified and prioritised.

Q4. As an organisation, do we have a process that ensures cyber risk is integrated with business risk?

An example of this would be where a risk from one part of the organisation has been balanced against another. For example, an organisation may assess that introducing a Bring Your Own Device (BYOD) policy brings substantial benefit to the organisation in terms of flexible working. As part of the case for change, including assessing the business risk of not implementing a BYOD model, you would also want to:

- Assess the increase in risk associated with the increased number of devices connected to your network.
- Assess the risk associated with not owning, and therefore not being in control of, devices connected to your network.
- Consciously balance the business risks and benefits with the technical risks and benefits of BYOD.
- Consider other models, such as Corporate Owned, Personally Enabled (COPE) and compare the risks and benefits.
- Assess the suitability of planned security measures to ensure that they support rather than constrain the aims of flexible working.
- In this example, the cyber risk of introducing the new service (BYOD) has been integrated into the business risk. Those who are accountable for a service should be receiving the best possible advice, so that they can clearly balance cyber risks with other risks (and benefits) in their decision making.

Growing cyber security expertise

Cyber skills are already in high demand, and the Global Information Security Workforce study estimates that by 2022 there will a shortfall of 350,000 appropriately trained and experienced individuals in Europe. Organisations must take steps now to ensure they can draw on cyber security expertise in the future.

What should the Board do?

Baseline your current skills

The Board should have an understanding of what cyber expertise there is in the organisation and what you need. Do you have a CISO? An information security team? Incident managers? If not, should you?

This information will give you an insight into the resilience of cyber security efforts (are you currently reliant on one person?) and also will help you to understand the provenance of the cyber security information you receive.

You might also want to consider the expertise on the Board itself. Do you currently have sufficient specialist knowledge to ensure that the Board is able to make appropriate strategic decisions about cyber security? Are you likely to be able to keep pace as advances in technology bring new security challenges?

What should your organisation do?

Make an organisational plan

Given the lack of suitably skilled individuals and an increasing reliance on digital services that need to be secured, organisations that do not embrace cyber security will soon fall behind.

1. Work out what specific cyber security expertise you need. 'Cyber security' covers a range of different skills, from network security to risk management to incident response. It may be useful to first consider what skills you need to manage your highest priority objectives or risks and then assess which (if any) of these you cannot outsource and so must have in house.

2. Establish how urgently you need these skills. If you are considering developing existing staff, don't underestimate what this entails. Putting someone through a training course does not make them a cyber security expert: they must also have the opportunity to develop hands-on, practical skills and so will require support for this from within the organisation. If you need expertise in the shorter-term, it might be better to recruit a consultant or specialist.

3. Consider how you might recognise professional cyber security skills. As yet, there is no professional body for cyber security expertise (although the NCSC is working on it). This could mean that validating the ability or quality of a new hire and/or developing training plans, is difficult. Consider how you might be able to work with trusted partners or industry specialists to give you the necessary assurance.

MAKE THE BEST USE OF THE SKILLS YOU HAVE

The best way to make use of the skills you have is to identify and focus on the things that are unique to you (or the things that only people within your organisation are most qualified to do). This can be enabled by making use of established, commodity technologies. For example, you might choose to allow cloud vendors to build and secure your infrastructure, which frees your experts to spend time exploiting the unique insight they have into your organisation.

Build your best workforce: equal, diverse and inclusive

Due to the cyber security skills shortfall, your organisation must draw and nurture talent from the largest possible pool. The cyber security industry is subject to the same skills challenges as all technology-focused industries. Organisations may find it hard to recruit and retain high-calibre staff from all demographic groups. In fact there are many talented women and minorities working in cyber security, but they are often less visible. They may experience hostile working environments that slow or stop their career, or avoid the industry altogether. Working together to overcome these challenges will give your organisation a competitive edge.

LOOK BEYOND TECHNICAL SKILLS

When designing job roles and desired candidate profiles, particularly at entry level, be imaginative. Protecting our organisations relies on bringing together many different skills, technical and non-technical, to deliver security that aligns with the organisation's objectives. Recruit for broader business skills, aspiration and potential as much as for current technical skills.

LOOK AFTER YOUR EXISTING TALENT

When trying to make our organisations more diverse and inclusive, we often focus on bringing in new talent, while ignoring the issues that prevent your current staff staying and thriving once they are in. The talent available may be beyond your own direct control, but you can control how much cyber security talent you lose because of difficult policies and processes, and unwelcoming workplace cultures. As much as strong security cultures, you should focus on fully inclusive workplace cultures.

Train, buy-in, or develop for the future

Broadly there are 3 options to increase cyber expertise within your organisation.

TRAIN EXISTING STAFF

Don't just consider the staff who are already in security-related jobs. The NCSC has had huge success training staff from a variety of backgrounds, skills and experience. After all, there are many different aspects to cyber security and someone who is expert at designing a network architecture might have a very different skill set to the person working with staff to make sure security policies are practical and effective.

Depending on your organisation's needs and your staff, training could take the form of on-the-job training, professional qualifications or placements. Do remember that developing cyber security expertise is no different to many other professional areas: staff will require continuous investment, training and development opportunities to hone their expertise and also to keep up with changes in the industry.

- There are many companies who offer cyber security training. NCSC provides a list of accredited training courses.
- You could also offer time for study on an NCSC certified degree, or time for a placement on the Industry100 programme.

BUY IN EXPERTISE

There are several complementary routes available for introducing external expertise. A large organisation will probably take advantage of all of them.

1. Recruit a skilled non-executive director to your Board.
2. Employ a consultant to provide specific cyber security advice.
3. Identify specific cyber security services which can be fulfilled by a 3rd party.
4. Recruit employees who already have the skills you need.

Note: good place to look for external expertise is NCSC's certified cyber professionals.

DEVELOP FUTURE STAFF: SPONSORSHIP, APPRENTICESHIPS AND WORK EXPERIENCE

Supporting young people to pursue an education in cyber security can be a brilliant way of ensuring a future pipeline of employees with the right skills. There are many schemes aimed at school and university-age students and almost all of them involve some industry participation or support, including apprenticeships, site visits and speaker opportunities.

NCSC runs CyberFirst events and apprenticeships and is looking for company sponsors and placements. You could also forge links with universities through involvement in the CyberInvest scheme which enables organisations to fund and support cyber security research.

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **growing cyber security expertise**.

Q1. As an organisation, what cyber expertise do we need, and what do we have?

You should find out:

- What expertise do we need to manage our cyber risk? What do we need to keep in-house and what can we outsource?
- Are each of our requirements continuous? For example, you might only need a penetration testing team to come in a few times a year, but you might need someone to monitor your systems all year round.
- What expertise is the minimum for all staff? How can you ensure a healthy cyber security culture in the organisation? How well and how frequently are you training staff in your security policies and any particular threats your organisation might be vulnerable to?
- How many staff do we currently have with cyber security expertise and what gaps are they telling us we have in our provision?

Q2. As an organisation, what is our plan to develop what we don't have?

You should find out:

- Which skills are a priority?
- Who owns the plan to develop cyber expertise, and how are they responsible for delivering against it?
- How you will find people with the right aptitude for the different cyber security skills? Remember that people from all backgrounds, and with technical and non-technical skills, may be well suited to this field.
- What support the Board can give to this work, both in terms of investment or broader resources?

Q3. As a Board member, do I have the right level of expertise to be accountable for cyber security decisions?

- Do I understand enough about the decisions being made on cyber security in my organisation to be accountable to shareholders?
- If not, what plan do I have in place to increase my expertise? The Introduction to Cyber Security section of this Toolkit is a good place to start. There are also many training providers who run sessions specifically for Board level.

Q4. As an organisation, are we building an equal, diverse and inclusive workforce to tackle our cyber security skills challenges?

- Do we have a champion for EDI (Equality, Diversity and Inclusion)?
- Do we have the right policies in place, and do they work well in practice as well as looking good on paper?
- Are we gathering the right data and interpreting it correctly? Are we then having the right conversations with individuals all around the organisation, to supplement this data and create a richer picture on less tangible measures?
- Are we making active, meaningful efforts to recruit from all communities, to reflect the society we operate in?
- Do we use a range of recruitment methods, to help overcome unconscious bias and ensure we fully explore candidate strengths?
- Are we confident that we are recruiting and developing staff to meet the challenges our organisation will face in the future, not just complete the tasks of today?
- Are we creating the right environment and culture to make staff feel confident, safe and comfortable in flagging issues?

Developing a positive cyber security culture

Establishing and maintaining a healthy culture, in any part of the business, is about putting people at the heart of structures and policies. However, when it comes to cyber security, there is sometimes a tendency to focus almost exclusively on the technical issues and to overlook the needs of people and how they really work.

This rarely results in success. We know, for example, that when official policy makes it hard for someone to do their job, or when a policy is no longer practical, that people find workarounds and 'unofficial' ways of carrying out particular tasks.

Without a healthy security culture, staff won't engage with cyber security so you won't know about these workarounds or unofficial approaches. So not only will you have an inaccurate picture of your organisation's cyber security, but you will also miss the opportunity for valuable staff input into how policies or processes could be improved.

What should the Board do?

Lead by example

You set the tone when it comes to cyber security. Lead by example and champion cyber security within your organisation.

We often hear stories of senior leaders ignoring security policies and processes, or of asking for 'special treatment' in some way (such as requesting a different device to those issued as standard). This tells everyone else in the organisation that perhaps you don't consider the rules fit for purpose, and/or that it is acceptable to try to bypass them.

If policies don't work for you as a Board member (that is, if you find yourself doing something different to get your job done more easily), then there is a good chance they aren't working for others either. If it seems that the policy is having a detrimental effect on the organisation, work with policy makers to adapt it.

Culture takes time and concerted effort to evolve. Don't assume that because the Board has endorsed a security posture that it will automatically cascade down throughout the organisation.

What should your organisation do?

Put people at the heart of security

Ultimately, the role of security should be to enable your organisation to achieve its objectives. It follows that if your cyber security measures aren't working for people, then your security measures aren't working.

Some organisations fall into the trap of treating people as the 'weak link' when it comes to cyber security. This is a mistake. Effective security means balancing all the different components, not expecting humans always to bend to meet the technology. More importantly, the organisation can't function with people, so staff should be supported so they can get their job done as effectively and securely as possible.

Security and leadership need to make the most of what people's behaviour is telling them. Whilst technical monitoring can look for anomalies, people can act as an early-warning system and intuitively spot something that looks unusual. Ensuring staff know who to report any concerns to can save the organisation a huge amount of time and money in the long run. If staff are working around a set procedure, this may highlight a particular policy or process that needs reviewing.

Develop a 'just culture'

Developing a 'just culture'[1] will enable the organisation to have the best interaction with staff about cyber security. Staff are encouraged to speak up and report concerns, appropriate action is taken, and nobody seeks to assign blame. This allows staff to focus on bringing the most benefit to the organisation rather than focusing on protecting themselves.

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **developing a positive cyber security culture**.

Q1. As a Board member, do I lead by example?
You might do this by:
- Ensuring staff feel empowered, and have a suitable mechanism to raise security concerns, at any level in the organisation.
- Engaging with and respecting security decisions and working with decision makers to highlight ineffective policies.
- Taking responsibility for your own role in cyber security by recognising the risk you pose as a likely target for attackers and acting accordingly.
- Speaking openly and positively to staff about why cyber security is important to the organisation.

Q2. As an organisation, do we have a good security culture?
Some signs that an organisation has a good approach would be:
- Staff know how to report any concerns or suspicious activity, and feel empowered to do so.
- Staff don't fear reprisals when they report concerns or incidents.
- Staff feel able to question processes in a constructive manner.
- Staff input is demonstrably used to shape security policy.
- Staff understand the importance of cyber security measures and what it means for the organisation.

Q3. As an organisation, what do we do to encourage a good security culture?
This can vary hugely depending on the size of your organisation. Some examples we have seen include:
- Properly resourced staff awareness .
- Ensuring that staff input is included when creating new policies or system designs.
- Sharing security metrics which focus on success rather than failure (for example, how many people identified phishing emails rather than how many people clicked on them).
- Support from senior leadership on the importance of security.

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[1] "A just culture is a culture of trust, learning and accountability. A just culture is particularly important when an incident has occurred, when something has gone wrong. How do you respond to the people involved? How do you minimise the negative impact and maximise learning?" – Sidney Dekker

Establishing your baseline and identifying what you care about most

There are two tasks in this section, but we examine them side-by-side as the results of one will impact on the other, and vice versa. The two tasks are:

- working out which components of your 'technical estate' (that is, your systems, data, services and networks) are the most critical to your organisation's objectives

- understanding what your technical estate comprises, so that you can establish a baseline which will inform both your risk assessments and the deployment of your defensive measures

Whilst these two tasks have separate purposes, you will need to have some baseline of your technical estate in order to understand which parts of it are mission critical. At the same time, you will need some way to prioritise which areas to baseline, as doing this for your entire technical estate would be a very resource intensive task.

What should the Board do?

Work out what you care about the most

As with any other business risks, your organisation will not be able to mitigate all cyber security risks at all times. So the Board will need to communicate key objectives (it might be 'providing a good service to customers and clients', for example) in order for the technical experts to focus on protecting the things that ensure these objectives are fulfilled.

The Board should also consider what is most valuable to the organisation. For example, the Board might know that a specific partner is crucial to the organisation and that a compromise of their data would be catastrophic. This should be communicated to technical teams, so that they can prioritise protecting these 'crown jewels'.

It is **critical** that this is an active and ongoing discussion between Boards and their experts:

- Boards will have business insight that technical teams may not have (such as which particular partner relationship must be to be prioritised)

- technical teams will have insight into the enablers for key objectives (such as which networks or systems do particular partners rely upon)

Only by bringing these two together can you get a full picture of what is important to protect. Once you have this picture it is likely the Board will still need to prioritise within that list. This understanding will not only help focus the aim of your cyber security, but will also inform the assessment of the threat your organisation might be facing.

What are your crown jewels? Your crown jewels are the things most valuable to your organisation. They could be valuable because you simply couldn't function without them, or because their compromise would cause reputational damage, or it would incur financial loss. Some examples could be:

- bulk personal data

- intellectual property

- your public-facing website

- industrial control systems

What should your organisation do?

Work out where you are starting from

This provides information that underpins your risk decisions in two ways.

Firstly, it influences the options you have. Knowing which systems are connected to each other, who and what has access to particular data, and who owns which networks are all critical to setting good defences. This information will also be required in an incident to make an assessment of the damage an attacker could be inflicting, or the impact of any remedial actions you might decide to take.

Secondly, it might influence your risk assessment. Sometimes a risk comes not from a threat to an important asset, but from a vulnerability in your organisation's systems. Many incidents are the result of vulnerabilities in older, legacy systems, and the incidents arise not because the vulnerability can't be defended against, but because the organisation didn't have a good enough understanding of their systems to realise they were exposed.

Understanding the entirety of your estate can be a daunting, or impossible, task - especially for organisations whose networks and systems have grown organically - but even a basic understanding will help, and a good understanding of your priorities can help focus this task.

Identify critical technical assets

Based on the Board's priorities you need to identify what parts of the technical estate are critical to delivering those top-level objectives. This could be systems, data, networks, services or technologies. For example, maintaining a long-term customer base may be a priority objective. There are lots of ways that good cyber security could enable this. It could be:

- securing a customer database to protect their data
- ensuring resilience of the order processing system to ensure deliveries go out on time
- ensuring availability of the website so that customers can contact you easily

It can sometimes be difficult to identify these dependencies as they are such an integral part of your operation that they can be taken for granted, but the questions below can help. Doing this in conjunction with baselining your technical estate will also help to potentially identify assets that you weren't even aware of, and are actually critical to providing certain services.

Working with suppliers and partners Most organisations will have suppliers or partners with whom they receive, provide or share information, systems or services. You must consider this in your baseline of your estate as these are potential entry points to your organisation.

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **establishing your baseline and identifying what you care about most**.

Q1. As an organisation, do we have a clear understanding of how technical systems, processes or assets are contributing to achieving our objectives?

Some questions to consider that may help in identifying these dependencies include:

- What are our 'crown jewels' (that is, the things our organisation could not survive without) ?
- What requirements must we meet (such as legal or contractual requirements) ?
- What do we not want to happen, how could that come about ?

Q2. As a Board, have we clearly communicated our priority objectives and do we have assurance that those priorities guide our cyber security efforts?

Cyber security strategy should be integrated into your organisation's strategy and your strategic priorities should guide defensive efforts. A good organisation should have a process for ensuring these strategies remain aligned and should be able to demonstrate how investment is focused on those priorities.

For example, if a promise to customers about their privacy is a priority then you might:

- identify what could jeopardise this promise e.g. the loss of their credit card details
- identify what technical assets are required to secure those details e.g. database, access management system
- prioritise defending these assets when implementing cyber security measures
- audit measures regularly

Q3. As an organisation, how do we identify and keep track of systems, data or services that we are responsible for?

If you are a large organisation and your systems have grown organically, understanding the detail of your systems, devices and networks may be impractical. At a minimum you should be aware of what level of understanding you do have and the potential risks that any undocumented systems might pose. Ideally you want to start with a good idea of what your technical estate looks like and then have a process to ensure any changes are considered and recorded to keep the baseline up to date. This baseline might include information such as:

- inventory of the hardware and software used across the organisation
- an up to date register of systems, including all internet-connected, partner-facing, systems and networks
- details of data sets; which services, systems and users have access to them, where are they stored, how are they managed

Understanding the cyber security threat

The type of threat faced is shaped by the nature of organisation and the services an organisation provides. For example, the vast majority of organisations won't be targeted specifically by nation states and so may focus on the threats posed by cyber criminals. However, organisations who form part of, or are providing services to, our Critical National Infrastructure and defence sector may be at risk from nation states.

Understanding the threats faced by your organisation, either in its own right or because of who you work with, will enable you to tailor your organisation's approach to cyber security investment accordingly. You need to consciously make the decision about what threat you are trying to defend against, otherwise you risk trying to defend against everything, and doing so ineffectively.

What should the Board do?

Get an understanding of the threat

An understanding of the cyber security threat landscape will be key to helping the Board make well-informed governance decisions. For example, you may prepare differently for a merger with a company if you know that they provide important products or services to Critical National Infrastructure and therefore may be a target for a nation state. The Board will already have insight into the threats or challenges facing their sector. This should be complemented by an awareness of the motivations of attackers, and a mechanism for staying up to date with key cyber security developments (for example, the growth of ransomware).

Collaborate on security

One of the best sources of information on good practice and relevant threats can be your sector peers. Attackers often target a number of organisations in the same sector in a similar manner. Cultivating these collaborative relationships on security has two major benefits. Firstly, it can help make your own organisation more resilient, through early warning of threats and improved cyber security practice. Secondly, it helps make the sector as a whole more resilient, which can reduce the appeal to potential attackers.

Cyber Security Information Sharing Portal: The NCSC's Cyber Security Information Sharing Partnership provides a secure forum where companies and government can collaborate on threat information. Access to CISP not only provides the opportunity to securely share intelligence with trusted partners in your sector, but also gives access to sensitive threat reports and the full breadth of NCSC advice.

Assess the threat

Working out the 'threat actors' (the groups or individuals capable of carrying out a cyber attack) relevant to your organisation can help you make decisions on what you are actively going to defend against. Whilst investing in a good baseline of cyber security controls will help defend your organisation from the most common threats, implementing effective defences against a more targeted or sustained attack can be costly. So dependent on the likelihood and impact of that threat, you may decide that it is not worth that additional investment.

Ongoing discussion between the Board and experts will help you to prioritise the threats to actively defend against. The experts will have an in-depth understanding of the threat, and the Board will be able to identify the features of the organisation that might make it an attractive target to attackers. It is also critical to have this discussion in advance of any decision that will significantly change the threat profile of the organisation, in order to give technical staff the time to suitably adapt the organisation's cyber security.

Working with suppliers and partners

When assessing the threat, you should consider not only the value that you might have as a standalone organisation, but also the value you may represent as a route into another, possibly larger organisation. For example, you may supply important services to an organisation involved in Critical National Infrastructure, in which case, a nation state may want to attack your organisation in order to access their ultimate target.

What should your organisation do?

Don't underestimate the impact of untargeted attacks

An untargeted attack is where an attacker uses a 'scattergun' approach to reach thousands of potential victims at once, rather than targeting a specific victim. Attackers often use automated, widely available tools that scan public-facing websites for known vulnerabilities. This same tool will then, once a vulnerability has been found, exploit that website automatically, regardless of who it belongs to. This could have just as much impact on your organisation as a targeted attack. A good baseline of basic cyber security controls and processes will protect your system from the majority of these attacks.

Obtain good intelligence - and use it

You will need different types of threat intelligence for different purposes. A good overall threat picture is needed for governance decisions and timely threat intelligence for day-to-day and tactical decisions. Many industry and government partners offer threat intelligence, from annual reports on general trends, right down to highly technical reports on a specific type of malware. You therefore need a mechanism for identifying what intelligence your organisation needs, for what purpose and for sharing that intelligence internally. Critically you then need to use that intelligence to inform business decisions, including procurement, outsourcing, training, policy and defence of your networks.

You can also gather threat intelligence internally. You will likely have experience of attacks on your own organisation which can provide strategic insight into activities of threat actors, as well as tactical details on the methods of the threat actors. These specific details will likely come from logging or monitoring within your organisation.

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **understanding the cyber security threat to your organisation**.

Q1. As an organisation, which threats do we assess are relevant to our organisation, and why?
This assessment should:

- identify potential motivation for those threats and the likelihood of them targeting your organisation
- inform which risks you are willing to tolerate
- be enriched by collaboration with key partners in your sector
- be supported by evidence from the attacks you have experienced to date

Q2. As an organisation, how do we stay up to date with the cyber threat?
You might:

- seek to discover evidence of any attacks in system logs you may hold
- subscribe to a number of threat intelligence feeds
- be part of a sector-specific intelligence sharing group
- have mechanisms for sharing key cyber threat updates internally

Q3. As an organisation, how do we use threat intelligence to inform business as usual (BAU)?
This should be a continuous cycle with threat assessments informing BAU decisions, and BAU experience informing the threat assessments. Examples might be:

- assessing the likelihood and impact of threats to inform risk assessments and appetite
- educating staff on the key threats they face so that they can make informed decisions
- taking lessons from previous incidents to inform threat assessments
- using threat intelligence to focus defensive measures
- including threat consideration in change or procurement decisions (for example, when choosing a new enterprise IT provider, considering a potential merger or designing a new product)

Risk management for cyber security

Most organisations will already be taking steps to assess and manage their cyber security risk. However it is worth considering what the driver is for that activity. Often, organisations conduct risk management exercises for 'compliance' reasons, which could include:

- obligations from external pressures (such as regulatory requirements)
- customers' demands
- legal constraints

When done for these reasons, there is a danger of risk management becoming a tick-box exercise. This can lead to organisations believing they have managed a risk, when in reality they have merely complied with a process which may have (albeit unintended) negative consequences.

Compliance and security are not the same thing. They may overlap, but compliance with common security standards can coexist with, and mask, very weak security practices. Good risk management should go beyond just compliance. Good risk management should give insight into the health of your organisation and identify opportunities and potential issues.

What should the Board do?

Integrate cyber security into organisational risk management processes

Many of your organisational risks will have a cyber component to them. Cyber security risk should therefore be integrated with your organisational approach to risk management. Dealing with cyber security risk as a standalone topic (or considering it simply in terms of 'IT risk') will make it hard for you to recognise the wider implications of those cyber security risks, or to consider all the other organisational risks that will have an impact on cyber security.

The role of cyber security should be to support and enable the business, and it should do this by managing its risks without blocking essential activities, or slowing things down, or making the cost of doing business disproportionately expensive.

Don't make reducing risk levels the measure of success

It can be difficult to measure the success of your organisation's cyber security efforts. A typical output of good cyber security is the absence of a failure, which can be hard to measure, and since cyber security is still a relatively new field there aren't yet many established metrics to draw on.

It is common for risk assessments to deliver some kind of assessment level, be that high medium low, or a number, and so it could be tempting to use this as a performance metric for your cyber security efforts. However, they are a poor metric of your internal security efforts as they are influenced by external factors that are outside of your control - factors which change extremely rapidly. New vulnerabilities are being discovered every day and the number of actors seeking to use cyber means to achieve their aims is increasing.

Driving performance through reduction of a number associated with the cyber security risk will likely incentivise risk assessors and reviewers to underestimate the risks, leading to less informed decisions. Some considerations on what 'good metrics' look like is provided in Implementing effective cyber security measures.

What should your organisation do?

Be realistic about the risks

Similar 'good practice' risk management principles will apply for managing cyber risk as they would for managing any other organisational risk. However, there are two things to bear in mind.

Firstly, solutions and technologies in cyber security are advancing so quickly that it is easy to get caught out using outdated assessments of cyber risks. So you may need to review cyber security risks more regularly than other risks.

Secondly, because cyber security is still a relatively new field, the organisation won't have as intuitive an understanding of cyber security risks, as it might for say, financial risk. As new technologies emerge, there might not be a huge evidence base to draw on to form a risk assessment. This is worth bearing in mind when considering the confidence you have in an assessment of cyber security risk, especially if that assessment is going to be directly compared to assessments of more well-established risks.

A good example of this is cloud security. The NCSC see many organisations hesitant to use cloud services because they intuitively assume it is high risk, informed mainly by the belief that storing something valuable with a third party is more risky. In reality, the third party (so in this case a cloud service provider) may have better security measures within their data centres than your own on-site storage. So the overall risk may actually be lower. A decision to adopt recent technologies - like cloud storage - would need to be based on a comprehensive understanding of all the risks, rather than an intuitive assessment.

Managing risk for newer technologies The NCSC has produced guidance on Cloud security and Software as a Service which can help identify and assess the associated risks.

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **managing cyber security risk**.

Q1. As an organisation, do we have a process that ensures decision makers are as well informed as possible?

The primary focus of your process should be that decision makers can make the most well-informed decisions. The decision makers might be the Board (who have to set a risk appetite based on an understanding of a technical or operational risk) or it might be the practitioners who need to decide how to implement a specific course of action fed down from the Board. Both need to be as well informed as possible (in an understandable format) to allow those decisions to be made well. This means the output of risk assessments needs to **meaningfully** articulated. Qualified outputs are usually the most effective and are preferable to meaningless results where sometimes arbitrary numbers are added or multiplied to derive a score.

Q2. As an organisation, do we have a process that ensures cyber risk is integrated with business risk?

Any decision maker in your organisation should have an awareness of the importance of cyber security risk and enough expertise (or access to expertise) to consider cyber security risk in the decisions they make. To begin with you might want to:

- consciously build in consideration of cyber security risk to any decision making processes you have
- focus on educating people on cyber security

A way to check if this is working is to look at a decision taken in your organisation and review whether cyber security risk has been balanced with other business risks. For example, an organisation may assess that introducing a Bring Your Own Device (BYOD) policy brings substantial benefit to the organisation in terms of flexible working. There are many different things you would expect to be considered in this decision, including:

- the potential improvement in staff productivity
- the potential security implications of having devices the organisation does not control connecting to the organisation's networks
- the cost implications
- the liability implications

Were these considered jointly when making the decision, or was security only discussed once the decision was already made?

Q3. As an organisation, do we have an effective and appropriate approach to manage cyber risks?

Both the Board and the practitioners should be able to clearly and simply articulate the process in a few minutes. The details of this framework might include:

- how risks are escalated
- what the threshold is for Board involvement in a risk decision
- how we convey the confidence in a particular risk assessment
- how often risks are reviewed
- who owns which risks
- who is responsible for the framework itself and for ensuring it is fit for purpose (for example, ensuring that the output of the risk assessment process genuinely reflects the assessment of the risk)

Q4. As a Board, have we clearly set out what types of risks we would be willing to take, and those which are unacceptable?

- Support decision makers if they make risk decisions within the parameters you set.
- Be clear on the process and the threshold for escalating the risk.
- Be as specific as you can in terms of the types of risk and the amount of risk. For example, you might be unwilling to tolerate any significant risk to personal data but would be willing to accept email being unavailable for a day.
- Consider the cumulative risk you are accepting; it's possible that all your cyber risk could be realised at the same time. In a single incident, you might lose email for a day, the public website might be unavailable and financial data you hold might be stolen. Whilst you may have accepted some risk of all those things happening, you may not have considered whether the organisation could tolerate them all happening at once.

Implementing effective cyber security measures

Implementing good cyber security measures is not only a key part of meeting your regulatory requirements but will also help reduce the likelihood of a significant incident. Implementing even very basic cyber security controls will help reduce the chance of an incident.

5 questions for the boardroom agenda If you'd like more details about how to generate constructive cyber security discussions between board members and technical experts, refer to the NCSC's original 'Board toolkit: five questions for your board's agenda' guidance.

What should the Board do?

Get a little bit technical

Having a basic understanding of cyber security can help you to ask the right questions to seek assurance about your organisation's cyber resilience - just as you would need to have a certain level of understanding of finance to assess the financial health of your organisation. A good place to begin is to discuss your existing cyber security measures with your experts, and the questions below suggest a starting point for what to ask.

What should your organisation do?

Start with a cyber security baseline

Attackers often use common methods to attack a network. A lot of these methods can be mitigated against by implementing basic cyber security controls. There are several frameworks that outline what good cyber security controls look like. These include ISO/IEC 27002, the NIST Cyber Security Framework and the NCSC's 10 Steps to Cyber Security, a summary of which is shown below.

10 Steps to Cyber Security

National Cyber Security Centre

Defining and communicating your Board's Information Risk Regime is central to your organisation's overall cyber security strategy. The National Cyber Security Centre recommends you review this regime – together with the nine associated security areas described below, in order to protect your business against the majority of cyber attacks.

Set up your Risk Management Regime

Assess the risks to your organisation's information and systems with the same vigour you would for legal, regulatory, financial or operational risks. To achieve this, embed a Risk Management Regime across your organisation, supported by the Board and senior managers.

Make cyber risk a priority for your Board

Produce supporting risk management policies

Determine your risk appetite

Network Security
Protect your networks from attack. Defend the network perimeter, filter out unauthorised access and malicious content. Monitor and test security controls.

User education and awareness
Produce user security policies covering acceptable and secure use of your systems. Include in staff training. Maintain awareness of cyber risks.

Malware prevention
Produce relevant policies and establish anti-malware defences across your organisation.

Removable media controls
Produce a policy to control all access to removable media. Limit media types and use. Scan all media for malware before importing onto the corporate system.

Secure configuration
Apply security patches and ensure the secure configuration of all systems is maintained. Create a system inventory and define a baseline build for all devices.

Managing user privileges
Establish effective management processes and limit the number of privileged accounts. Limit user privileges and monitor user activity. Control access to activity and audit logs.

Incident management
Establish an incident response and disaster recovery capability. Test your incident management plans. Provide specialist training. Report criminal incidents to law enforcement.

Monitoring
Establish a monitoring strategy and produce supporting policies. Continuously monitor all systems and networks. Analyse logs for unusual activity that could indicate an attack.

Home and mobile working
Develop a mobile working policy and train staff to adhere to it. Apply the secure baseline and build to all devices. Protect data both in transit and at rest.

For more information go to www.ncsc.gov.uk @ncsc

If you are an SME or a charity with fewer resources available to combat cyber security, you may want to instead use the Small Business Guide or Small Charity Guide.

Tailor your defences to your highest priority risks

The basic cyber security controls will help mitigate against the most common cyber attacks, but once you have that baseline in place, you then need to tailor your defences to mitigate your highest priority risks. Your measures will be tailored both to your technical estate (protecting the things you care about the most) and to the threat (protecting against methods used by specific threat actors).

NCSC guidance can help you address these priorities. For example, if you know that one of your critical systems has external connections, you might consider the specialised guidance on how to safely import data into that system.

Layer your defences

As with physical and personnel security, cyber security can make use of multiple measures which (when implemented simultaneously) help reduce the chances of single point of failure. This approach is commonly referred to as 'defence in depth'. Each measure provides a layer of security and deployed collectively, greatly reduce the likelihood of a cyber incident. Once you have your cyber security baseline in place you can focus on layering your defences around those things that are most important to you - or particularly valuable to someone else.

Defend against someone inside your network

Defences do not stop at the border of your network. A good defence assumes that an attacker will be able to access your system and works to minimise the harm that they can do once they are inside it. One of the key things you can do to limit the damage they can inflict is to restrict their movement and access. Effectively managing user privileges and segregating your network are common approaches. Identifying an attacker inside your system as soon as possible will also help limit the damage they can do. Monitoring and logging are key to being able to spot any signs of malicious activity.

These measures will also help mitigate the threat from a malicious insider; somebody who has legitimate access to your systems but then uses that access to do harm. This threat ranges in capability and intent, from a disgruntled employee through to corporate espionage.

Review and assess your measures

Good cyber security is a continuous cycle of having the right information, making informed decisions and taking action to reduce the risk. You will need to be continuously assessing and adapting your defences as the needs of your organisation and the profile of the threat changes. To do this it's important to have some way to assess whether your defences are effective.

There are several mechanisms available to technically assess the effectiveness of your security controls. This may include things like testing the security of your networks (pen-testing) through to certification of products or services. You may want to use a combination of internal mechanisms and objective assessment provided by an external source.

Engaging with staff will also help you gain a more accurate picture of your organisation's defences. It will also give you the opportunity to get valuable staff input into how policies or processes could be improved. Metrics or indicators can also tell you where you need to change your approach or adapt to new circumstances. Understanding exactly what an indicator is telling you may require further investigation of the situation. An example is the trend in people reporting suspicious emails. A decline in the number of people reporting can either mean fewer malicious emails are getting through to people's inboxes, or it could mean fewer people are reporting any concerns because they don't receive feedback when they do, and therefore believe nothing is ever done afterwards.

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **assessing your organisation's cyber security measures**.

Q1. As an organisation, how do we assure ourselves that our measures are effective?

You might seek this assurance through:

- Penetration testing carried out by an external organisation, and action taken on the back of their results.
- Automated testing of your defences and monitoring of activity on your networks by your IT security team.
- Reviewing defensive measures against suitable frameworks, this could be an internal review or an independent consultant. Suitable frameworks might be Cyber Essentials, 10 Steps to Cyber Security, ISO/IEC 27002 or the NIST Cyber Security Framework.
- Ensuring threat assessments and defensive priorities are regularly reviewed and defensive measures updated accordingly.
- Ensuring that the focus of your cyber security measures is aligned with the risks you have identified and prioritised.

Q2. As an organisation, what measures do we take to minimise the damage an attacker could do inside our network?

You might consider:
- How you authenticate and grant access to users or systems. You want to ensure that these measures are not easy to bypass and that you don't afford access unless necessary.
- How you would identify an attacker's presence on your networks - normally done through monitoring.
- How you separate your network so that if an attacker gets access to one device they do not have access to the full range of your technical estate.

Further details on these three points are provided in NCSC guidance on preventing lateral movement.

Q3. As an organisation, do we implement cyber security controls to defend against the most common attacks?

As an organisation, how do we defend against phishing attacks?
- We filter or block incoming phishing emails.
- We ensure external mail is marked as external.
- We stop attackers 'spoofing' our own emails.
- We help our staff to identify and report suspicious emails.
- We limit the impact of phishing attacks that get through.

As an organisation, how do we control the use of privileged IT accounts?
- We use 'least privilege' when setting up staff accounts.
- We reduce the impact of attacks by controlling privileged accounts.
- We have strong links between our HR processes and the IT account function.

As an organisation, how do we ensure that our software and devices are up to date?
- We have defined processes to identify, triage, and fix any exploitable vulnerabilities within our technical estate.
- We've created an 'End of life plan' for devices and software that are no longer supported.
- Our network architecture minimizes the harm that an attack can cause.
- We make appropriate use of 3rd party or cloud services and focus on where we can have most impact.

As an organisation, what authentication methods are used to control access to systems and data?
- We take measures to encourage the use of sensible passwords.
- We ensure passwords don't put a disproportionate burden on staff.
- We implement two factor authentication (2FA) where possible.

Collaborating with suppliers and partners

There are four reasons why cyber security is a key consideration when collaborating with suppliers and partners:

1. You increase the number of routes and external touchpoints in your organisation. So if any of them are compromised, you are also at risk.

2. You may be targeted as a way into the organisation you are supplying.

3. Your suppliers may be targeted as a route into your organisation.

4. You may be sharing sensitive or valuable data or information that you want suppliers to protect.

Being able to demonstrate a good level of cyber security is increasingly a key component of supplier and provider contracts, and is already a requirement for many government contracts.

What should the Board do?

Build cyber security into every decision

All organisations will have a relationship with at least one other organisation, be that the provider of your email service, or the developers of the accounting software you use, through to your traditional procurement supply chain. Most organisations will be reliant on multiple relationships. Each of these relationships will have a level of trust associated with them, normally some form of access to your systems, networks or data. There are three key things you therefore need to ensure:

1. That this access doesn't provide a route for an attacker to gain access to your organisation, either through deliberate action or unintentional consequence.

2. That any partner or supplier is handling any sensitive data appropriately and securely.

3. That any product or service you buy has the appropriate security built in.

Cyber security risk should be a key consideration in any decision on new relationships or collaborations. This includes decisions on suppliers, providers, mergers, acquisitions and partners.

What should your organisation do?

Identify your full range of suppliers and partners, what security assurances you need from them, and communicate this clearly

Review your current supply chain arrangements to ensure you are setting out your security needs clearly and identifying the actions you need to take as a result. If you yourself are a supplier, ensure you meet the security requirements set for you by your customer as a minimum.

Ensure that the security requirements you set are justified and proportionate and match the assessed risks to your operations. Also be mindful of the current security status of your suppliers to give them time to make the necessary improvements. It might be useful to include references to the following NCSC guidance that can help to establish a baseline of cyber security:

- 10 Steps to Cyber Security
- Small Business Guidance
- Cyber Essentials

The following NCSC guidance can help you to assess your own security needs from suppliers:

- Supply chain guidance
- Cloud services guidance
- Software as a Service guidance

Get assurance

Security should be built into all agreements from the start, and you should have confidence that your security needs are being met. Dependent on your relationship with the supplier or provider and your resources, you could seek assurance of this through testing, auditing or adherence to accreditation standards.

Consider the implications if your supplier is compromised

No matter how comprehensive your security agreements with your partners are, and no matter how well they implement their controls, you should assume that your partners will be compromised at some point. You should plan the security of your networks, systems and data accordingly with this assumption in mind. This is also worth considering in your security agreements; what are you expecting of them and their response? Do they have to notify you? Do they have to assist you if you are consequently also compromised?

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **assessing your organisation's cyber security measures**.

Q1. As an organisation, how do we mitigate the risks associated with sharing data and systems with other organisations?

You should:

- Have a good understanding of your suppliers, what data and networks they have access to and have a process for keeping this up to date.
- Set clear expectations of how your partners protect your data and access your systems.
- Build security into all relationships and agreements from the start.

To do this you might:

- If you have a very large number of supply chain companies, agree processes with your main suppliers on how they sub-contract any work, specifically what obligations they have to inform you.
- Choose organisations that can demonstrate the security of their defences. For example, larger organisations will have carried out regular pen tests and responded to the findings to understand their residual vulnerability. SME's might have been certified under the government's Cyber Essentials Scheme.
- Limit services exposed and information exchanged with other organisations to the minimum necessary.
- Implement user and system authentication and authorisation before access is granted.
- Audit any sensitive actions or data exchange/access.

Q2. As an organisation, how do we ensure that cyber security is considered in every business decision?

Security should be embedded in your culture and strategy, and should therefore be consciously considered in any decision regarding procurement, mergers or acquisitions. If there is a process for making those decisions, security can be explicitly identified as a relevant consideration and any conclusions recorded.

Q3. As an organisation, are we confident that we are fulfilling our security requirements as a supplier?

If you are a supplier to other organisations you are exposed to an increased risk. Both a reputational risk (if your product causes your customer to be compromised) and also operational risk (since you now provide access to more, and potentially more valuable, organisations). You should:

- Know how you would respond should your organisation be compromised, putting at risk partner networks you are connected to, or customer data you may hold.
- Have a good understanding of your customers and the impact they may have on your threat profile (for example, if you are in the supply chain for UK Critical National infrastructure you may be at increased risk from foreign state actors).

Q4. As a Board, do we have a clear strategy for using suppliers, and have we communicated it?

If procurement and supplier decisions are devolved below the Board, have you clearly described:

- What risk you are willing to accept in using suppliers? For example, if your organisation is compromised through a supply chain attack, you may not be exposed to the same level of reputational risk as if you were directly compromised, but you may be exposed to the same level of financial risk.
- What are your expectations of suppliers' security, and how much you are willing to pay for better security? For example, if company A is more expensive but also more secure, how much cheaper would company B need to be to make it the better option?
- What opportunities you are trying to exploit? This should be supported by an awareness of what you are able to cater within your organisation and what you will outsource. For example, if you assess it's not feasible to support your own data storage, do you take advantage of the competitive cloud data storage market?
- What your appetite is for working with partners or suppliers overseas? Some jurisdictions are incompatible with UK security and regulatory requirements or may bring very different continuity of supply issues. For further considerations see CPNI's Secure Business guidance.

Planning your response to cyber incidents

Incidents can have a huge impact on an organisation in terms of cost, productivity and reputation. Being prepared to detect and quickly respond to incidents will help to prevent the attacker from inflicting further damage, so reducing the financial and operational impact. Handling the incident effectively whilst in the media spotlight will help to reduce the impact on your reputation.

Experiencing an incident? If you are currently experiencing an incident, you can contact the NCSC.

What should the Board do?

Ensure you have a plan

1 in 10 organisations don't have an incident management plan. If you're one of these organisations, then you should address this immediately.

Understand your role in incident management

Incidents often occur at inopportune moments and most people's decision making is compromised in times of crisis. For these reasons, everyone must have a clear understanding of their role and the organisational response in advance, especially Board members who would likely be representing the organisation in the media.

The Board also needs to be explicit about who it is willing to devolve authority to (especially outside core working hours), and exactly what that authority covers. For example, does that cover calling in a contracted incident response company, or taking down a public facing website? The Board also needs to be explicit about when it wants to be informed of an incident, both in terms of at what stage of the incident, and in terms of what significance of incident they need to know about.

Get involved in exercises

The best way to test these processes and thresholds (and to get a good understanding of the Board's role) is through exercising the incident management plan. If you would be involved during a real incident, then you should be involved in an exercise. Doing this in conjunction with operational staff can also help to highlight issues around authority for critical decisions. Even if you do not have a direct role in responding to an incident, running an exercise can be a good way to understand the realities of how an incident would impact on your organisation.

Drive a 'no blame' culture

Post-incident analysis provides insight that can help you reduce the likelihood of incidents occurring in the future and reduce their potential impact. Crucially in order to get this insight you need to be able to be honest and objective about what has happened. This can only happen in a no blame culture, such as you would use when investigating health and safety incidents. Critically for the Board, new regulation, such as GDPR, is clear that responsibility for incidents or data breaches sits with the organisation and not an individual. Therefore the Board is ultimately responsible for any cyber security incident as the governing body. Apportioning blame to a specific individual within the organisation will be treated as poor cyber security practice.

What should your organisation do?

Work out what an incident would look like

One of the most common things overlooked is being able to identify what constitutes an incident. There's two aspects to this:

- working out how you would spot an event in the first place
- working out at what point an event (something happening on your networks or systems) becomes an incident

HOW WOULD YOU SPOT AN EVENT?

Depending on their motives, an attacker is unlikely to tell you when they have successfully compromised your organisation, so you need your own methods to identify an intruder or an attack. This normally takes the form of monitoring. Monitoring refers to observing data or logs collected from your networks or systems to identify patterns or anomalies that could indicate malicious activity. Even if you don't have monitoring to identify the incident, it is still useful to collect system or network logs (especially those relevant to your critical assets) so that you can retrospectively review them once you know an incident has occurred.

WHEN DOES AN EVENT BECOME AN INCIDENT?

This is often not a clear cut decision. You can try and gather as much information as possible to inform your assessment of an 'event', but you probably won't have a complete picture of what has happened. Beginning an incident response might have implications for cost, reputation and productivity, so you will want to consider who has the authority to make this decision, and what the thresholds are for an incident in advance.

WHAT IS A CYBER SECURITY INCIDENT?

A breach of the security rules for a system or service - most commonly:

- attempts to gain unauthorised access to a system and/or to data
- unauthorised use of systems for the processing or storing of data
- changes to a systems firmware, software or hardware without the system owner's consent
- malicious disruption and/or denial of service

Use the information you already have

All the information you have previously gathered on what's important to protect, the threat and your technical estate will provide critical insight in two key areas:

- It will give you insight into the impact of incident. If the attacker has accessed a particular user device, what could they access? Could they access those things you care about the most?
- It will help you determine your operational response. If the attacker is on a specific network can you isolate that network? If you can, what would the impact be on your organisation?

Take pre-emptive measures

Put measures in place to help reduce the harm that an attacker could do. This could be:

- introducing measures that restrict their movement once they are inside your network
- pre-emptively reducing the impact of attacks (for example, backing up your data will help to reduce the impact of a ransomware incident)

As with any other defensive measures, these should be focused on protecting what is most important to you.

Make an Incident Management plan

Cyber Incident Response is a complex subject as no two incidents are ever the same. However, as with all business continuity planning, you can develop a plan that will outline the key elements of your response. Your plan should not only cover the technical elements, but also:

- the people and process elements such as media, customer and stakeholder handling
- reporting to regulators
- dealing with legal actions

For more common incidents (such as DDOS) it may be helpful to develop a specific 'playbook' setting out your organisation's response.

Test your plan

Rehearsing your response to different scenarios is key to ensuring your plans are effective and remain current. There are various exercising packages you can use. This will be a critical part of the role for any staff involved directly in incident management, but every Board member also needs to understand their specific area of responsibility during an incident.

Learn lessons

An often overlooked aspect of incident management is the post-incident review. An incident can provide valuable insight into your cyber readiness, including:

1. The threat your organisation faces.
   - Who carried out the attack and was it targeted?
   - Did they go about it in the way you expected?
   - Did they go after the things you expected?
2. The effectiveness of your defensive measures.
   - What did your defences protect against?
   - What didn't they?
   - Could they be improved?
3. The effectiveness of your incident response measures.
   - What would you have done differently?
   - Did your response help to reduce the impact of the incident?
   - Did it make some aspects worse?

Working with suppliers and partners Your plan should also consider how you mitigate the impact on any partners or customer organisations if you were compromised. When do you inform them? What mechanisms are in place to limit the damage it could do to them? You should also consider what you would do in the event that a supplier is compromised; you may not have control over how they deal with the incident. What would you be able to do independently to reduce the impact on your organisation? The best way to mitigate this risk is to have a collaborative approach to your security with your partners and suppliers.

What does good look like?

The following questions can be used to generate productive discussions with your technical team. The aim is to identify what constitutes 'good' cyber security in terms of **responding to cyber incidents**.

Q1. As an organisation, do we have an incident management plan and how do we ensure it is effective for cyber incidents?

A basic plan should include:

- Identifying the key contacts* (incident response team or provider, senior management, legal, PR, and HR contacts, insurance providers).
- Clear escalation routes (for example to senior management) and defined processes for critical decisions.
- Clear allocation of responsibility (specifically whether this is for normal working hours or 24/7).
- Basic flowchart or process for full incident lifecycle .
- At least one conference number which is available for urgent incident calls.
- Guidance on regulatory requirements such as when incidents need to be reported and when to engage legal support.
- Contingency measures for critical functions.

Q2. As an organisation, do we know where we can go for help in an incident?
This might include:

- Incident response providers (you might want to consider NCSC Certified Incident Response companies)
- NCSC Incident Management team, or if you believe you have been the victim of online fraud, via ActionFraud.
- Intelligence sharing groups, for details of other companies experiencing the same incident (consider joining CISP).

Q3. As an organisation, do we learn from incidents and near misses?

It's important to learn lessons from incidents as well as from 'near-misses'. These will give you valuable insight into the threat you're facing, the effectiveness of your defence, and potential issues with your policies or culture. A good organisation will use this insight to respond better to future incidents, and not seek to apportion blame. The Board may decide it doesn't need to know the details of every incident, just the most significant lessons learned from the incidents experienced.

Q4. As an organisation, how would we know when an incident occurred?

This incorporates two aspects; what are the triggers that can tell us an incident has happened, and how do we then share that information within the organisation?

When considering what might trigger an incident, you need to consider:

- What monitoring is in place around critical assets (like personal data) that would have an impact if compromised, lost or changed?
- Who examines the logs and are they sufficiently trained to identify anomalous activity?
- What reporting mechanisms are there in place for staff to report any suspicious activity?
- Are the thresholds for alerts set to the right level - are they low enough to give suitable warning of potential incidents and high enough that the team dealing with them are not overloaded with irrelevant information?

When considering how an incident will be shared internally, consider:

- What constitutes an incident?
- Who has the authority to make that decision?
- Who needs to know the details of the incident?
- Has the Board explicitly conveyed the threshold for when it wants to be informed of an incident?

Q5. As a Board, do we know who leads on an incident and who has the authority to take any decisions?

This will depend on your organisational structure. It might sit with the one member of the Board, or one of the executives, or it might be divided out into different roles. Ideally you should:

- Specify exactly who is able to take decisions on which aspects.
- Have backup plans in place if those decision makers are unable to fulfil that duty (for example, out of hours).
- Test this decision-making process, with a focus on potential areas of overlapping responsibility.

Q6. As a Board member, do I understand what's required of my role during an incident, and have I had training to equip me for that role?

Consider:

- Do I have the understanding required to make decisions potentially out of hours, and under time pressures?
- Do I need training to support my specific role in an incident, such as understanding relevant regulation, or dealing with the media?

Appendices

Appendix 1: Cyber security regulation

The regulation summarised below outlines the need for organisations to demonstrate and implement cyber security standards. The NCSC has contributed to the setting of cyber security standards to ensure they reflect good cyber security practice. By following and implementing NCSC guidance, organisations will be 'on their way' to meeting the cyber security requirements regulation.

General Data Protection Regulation (GDPR)

The GDPR requires that personal data must be processed securely using appropriate technical and organisational measures. The Regulation does not mandate a specific set of cyber security measures, but rather expects you to take 'appropriate' action. In other words you need to manage risk. What is appropriate for you will depend upon your circumstances, as well as the data you are processing and therefore the risks posed.

However, there is an expectation you have minimal, established security measures in place. The security measures must be designed into your systems at the outset (referred to as Privacy by Design) and maintained effective throughout the life of your system.

The NCSC have worked with the ICO to develop a set of GDPR Security Outcomes. This guidance provides an overview of what the GDPR says about security, and describes a set of security related outcomes that all organisations processing personal data should seek to achieve.

Networks and Information Systems (NIS) Directive

The NIS Directive aims to raise levels of the overall security and resilience of network and information systems across the EU. It applies to companies and organisations identified as operators of essential services (OES). The regulatory responsibilities are carried out by Competent Authorities (CAs). The criteria for identifying OES and the list of CAs in the UK can be found within the NIS Regulations.

The NCSC is providing technical support and guidance to other government departments, Devolved Adminstrations, CAs and OES through:

- a set of cyber security principles for securing essential services
- a collection of supporting guidance
- a Cyber Assessment Framework (CAF) incorporating indicators of good practice
- implementation guidance and support to CAs to enable them to:
  - o adapt the NCSC NIS principles for use in their sectors
  - o plan and undertake assessments using the CAF and interpret the results

What is the NCSC's role in regulation?

The NCSC is not a regulator. However, as the UK technical authority for cyber security, the NCSC provides support and advice to companies and regulators to help minimise the risk of incidents and respond to them effectively if/when they do occur. The NCSC looks to ensure that any requirements are in line with best practice, and that frameworks are consistent across different pieces of regulation.

The NCSC also has a role to provide support during significant incidents, and these incidents may fall under specific regulation. We will encourage victims to consider their regulatory obligations, but recognise that any regulatory reporting or co-operation must be led by the victim.

It is also important to recognise that cyber security is only one aspect of security and business practice, and so there is wider regulation (such as Foreign Direct Investment, or EU restrictions on offshoring data) that must be considered in cyber security decisions.

Appendix 2: Help with cyber incidents

During an incident:

- If you are reporting fraud or cyber crime, please refer to the Action Fraud website.
- If you have been subject to a personal data breach that is required to be reported under the GDPR, please contact the ICO (Information Commissioner's Office). If there is malicious cyber activity related to this which you wish to report (either for information or for action), please complete an the NCSC Incident Form.
- If you are an Operator of Essential Services (OES) under the NIS Directive, please complete an NCSC Incident Form in addition to reporting to your Competent Authority (CA). This is applicable for any cyber incident which you feel requires NCSC's support (for action) or is for wider interest (for information).

Note that depending on the size of your organisation and the nature of the incident, you may receive support from the NCSC, the National Crime Agency or your Regional Organised Crime Units (ROCU).

For ongoing support and guidance:

The NCSC publishes all of its guidance on www.ncsc.gov.uk, and the NCSC twitter feed and LinkedIn page are good ways to keep up to date with new publications. If you want to receive more targeted information and a higher classification of threat intelligence, you should join an industry group in CISP.

Appendix 3: About the NCSC

The NCSC was set up to help protect our critical services from cyber attacks, manage major incidents, and improve the underlying security of the UK internet through technological improvement and advice to citizens and organisations. Our vision is to help make the UK the safest place to live and do business online.

The NCSC supports the most critical organisations in the UK, the wider public sector, industry, SMEs, homes and families. When incidents do occur, we provide effective incident response to minimise harm to the UK, help with recovery, and learn lessons for the future.

The NCSC is the UK government's technical authority and therefore takes the lead role in providing guidance and advice on cyber security for UK organisations. We may also work with Law Enforcement when resolving or investigating an incident, or be asked to contribute to discussions on cyber security policy by government departments such as Cabinet Office or DCMS.

National Cyber
Security Centre
a part of GCHQ

Cyber Security Toolkit
for Boards

Scottish Funding Council
Comhairle Maoineachaidh na h-Alba

The Financial Sustainability of Colleges and Universities in Scotland

SFC Publication

Issue Date: 11 February 2020

About us

LEADING, INSPIRING, INVESTING

We are the national, strategic body that funds further and higher education and research in Scotland.

- We invest in education that is accessible to learners from all backgrounds, gives them a high-quality learning experience, supports them to succeed in their studies, and equips them to flourish in employment, further study and fulfilling lives.

- We invest in excellent research and innovation that adds to current knowledge, delivers economic and societal value, enhances Scotland's international reputation and attractiveness, and makes the world around us prosperous, healthier and more sustainable.

- We ensure our autonomous colleges, universities and specialist institutions form part of a successful, world-leading, coherent and sustainable system of education that responds effectively to the future needs of learners and the skills needs of the economy and society, enhances our rich cultural life, and strengthens Scotland's international connections.

- We will be an excellent, outcome-focused public body that provides leadership, inspires confidence, models collaborative working, is committed to continuous improvement, and stewards public resources well.

WE INVEST **£1.8BN** IN SCOTLAND'S 26 COLLEGES, 17 UNIVERSITIES AND 2 SMALL, SPECIALIST INSTITUTIONS

WE SUPPORT ALMOST **500,000** STUDENTS EACH YEAR

OUR RESEARCH EXCELLENCE GRANT HELPS TO GENERATE ALMOST **£800M** OF ADDITIONAL RESEARCH INCOME

OVER THE PAST 10 YEARS WE HAVE INVESTED **£1.8BN** IN COLLEGE AND UNIVERSITY ESTATES

Contents

1. Introduction and Context

1.1. The Scottish Funding Council (SFC) is the national, strategic body that funds further and higher education and research in Scotland. Our main statutory duties and powers come from the Further and Higher Education (Scotland) Act 2005. Universities and colleges that receive public funds must meet the terms and conditions set out in accepted offers of grant, Outcome Agreements, and a Financial Memorandum (which also includes compliance with Scottish codes of governance). In the round, these require universities and colleges to make best use of public funds and to exercise good governance.

1.2. It is vital to the success of students and research activities, local communities and the wider Scottish economy, that the institutions we fund plan and manage their activities to remain sustainable and financially viable. Financial sustainability is, therefore, a condition of grant and is set out in our Financial Memorandum. SFC takes into account the underlying financial position and cash generative capacity when monitoring the financial sustainability of individual further and higher education institutions.

1.3. This report presents an aggregate picture of the financial health of Scottish institutions, based on an analysis of the information reported to us by each institution. It identifies key financial trends for the forecast period from submitted projections. Financial management is a dynamic process. The figures reported here are subject to ongoing change as governing bodies plan and make choices and decisions about the future, and as we engage with institutions about the robustness of their projections and future plans. While this presents an aggregate picture, there is significant variation in the financial position of individual institutions.

1.4. Scotland is one of the most highly educated countries in the world, with world renowned science and research excellence, and an ability to attract talent and investment. Our colleges and universities have a strong track record of adapting to change and managing challenges. There is no doubt that institutions are operating in a financial environment that is complex, changing, and difficult to predict. In particular, there is uncertainty in the wider context of public finances and the UK's future relationship with the European Union, alongside financial pressures from pay and pension contributions, demographic and migration changes, and increasing competition for students. While this aggregate summary shows a challenging set of indicators of sustainability across colleges and for some parts of the university sector, this track record of adapting to changes in the environment will be important for the future.

1.5. Given this volatile and uncertain environment, robust financial management is critical to good governance, decision-making and future success. We, therefore, expect institutions to:

- Keep their performance, projections, and financial policies under regular review and ensure they test the continued reliability of underlying assumptions and their risk management strategies as they approve their future financial plans.
- Benchmark financial and other performance indicators with relevant institutions.
- Maximise opportunities for surplus-making activities, efficiencies and cost savings.
- Undertake workforce planning.
- Consider involvement in wider partnerships and collaborations that bring additional resources to the institutions, Scotland and particular regions.
- Consider models of provision that will be attractive to learners and meet the needs of the local economy.
- Understand, where appropriate, the UK and global context that can impact on an institution's future strategy.

1.6. Institutions are responsible for continued compliance with the Financial Memorandum including SFC's requirements in relation to financial sustainability and viability. SFC will continue to monitor individual institutions for early signs of financial difficulties and may increase our levels of engagement where an institution provides us with information that suggests they may face sustainability issues. Institutions are encouraged to approach us at an early stage in order that we can understand the emerging pressures and mitigating actions being taken. It is important that institutions tell us about changes in their situation that affect their sustainability or ability to continue to provide good quality learning and teaching or research activities, so that we can work together to secure good outcomes for individual learners, local communities, and for Scotland and its wider contribution in the world.

1.7. In addition, SFC's 2019-20 annual report and accounts will include an updated analysis of the financial sustainability of the college and university sectors, based on the review of 2018-19 financial statements.

2.   College Sector

Summary indicators

2.1. The table below provides a summary of key college financial indicators across the years 2018-19 to 2023-24[1].

Financial Indicator	Forecast 2018-19	Forecast 2019-20	Forecast 2020-21	Forecast 2021-22	Forecast 2022-23	Forecast 2023-24
Total income (£000)	768,680	786,841	780,640	781,296	776,780	779,894
SFC grant as % of total income	72%	72%	72%	72%	71%	71%
Operating surplus/(deficit) (£000)	(20,436)	(13,494)	(10,504)	(12,410)	(17,158)	(17,560)
Operating surplus/(deficit) as % of total income	(3%)	(2%)	(1%)	(2%)	(2%)	(2%)
Adjusted operating surplus/(deficit) (£000)	8,200	(344)	1,738	(777)	(3,545)	(5,086)
Adjusted operating surplus/(deficit) as % of total income	1.1%	(0.0%)	0.2%	(0.1%)	(0.5%)	(0.7%)
Net operating cash flow (£000)	51,201	20,156	28,516	26,632	23,704	23,024
Net operating cash flow as % of total income	7%	3%	4%	3%	3%	3%
Cash and cash equivalents net of overdrafts (£000)	59,094	40,077	38,827	35,674	29,865	23,400
Cash days	30	20	19	18	15	12
Borrowing (£000)	258,125	246,515	235,807	224,724	213,206	201,328
Borrowing as % of total income	34%	31%	30%	29%	27%	26%

Note: There is no balance sheet information for two of the non-incorporated colleges as they form part of the Local Authority. Therefore they are not included in the cash and borrowing figures above. Shetland College only provided financial information up to 2019-20 due to possible merger.

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[1] All reporting references in this paper relate to the Academic Year, ending 31 July

2.2.   Overall, the sector's reported future financial position over the next five years is challenging across all indicators of sustainability. The forecasts reflect the cost pressures facing the college sector. These pressures include increased employer contributions to pension schemes, funding cost of living pay increases, and estates maintenance. Colleges also face the prospect of reduced European funding.

2.3.   In aggregate, colleges are forecasting an acceptable adjusted operating position up to 2020-21, followed by increasing deficits in the later years of the planning period. There is, however, significant variation between colleges in terms of their financial positions and performance that is not reflected in our aggregate indicators. Following our financial reviews, there has been an increase in the number of colleges and regions subject to a higher level of engagement.

2.4.   Sector cash and equivalent balances are expected to reduce by 60% over the next five years, from £59.1 million in 2018-19 to £23.4 million by 2023-24, reflecting the changing operating position. Total long-term borrowing (including non-profit distributing and public finance initiative commitments) is expected to decrease from £258.1 million to £201.3 million over the same time period. Capital spend of £133.5 million is forecast over the planning period; just under half of that amount relates to one new campus development.

2.5.   Most colleges predict action to address deficits that includes staff restructuring, as staff costs represent the largest proportion of colleges' expenditure. While the aggregate financial returns indicate a substantial reduction in staff may be required, this is based on the common key planning assumptions used in the forecasts and the figures are indicative.

2.6.   The financial forecast returns from some colleges did not comply with our detailed planning guidance and failed to present a balanced operating position in the later years of the forecast period. We have asked these colleges for either revised returns or supplementary information about the mitigating actions required to bring them into financial viability. This means some of the figures reported here may be subject to further change.

2.7.   Colleges will need to balance the need to restructure with their requirement to deliver regional outcome agreements and Government priorities, in particular the ability to meet student activity targets. We expect institutions to respond to financial challenges in ways that sustain and prioritise the delivery of good quality teaching and learning for students, and the overall student experience and the general health and wellbeing of the college workforce.

2.8.   Details of the regional organisation of colleges across Scotland are provided in Annex A. An explanatory note in relation to the adjusted or underlying operating position indicator is provided in Annex B.

SFC financial return requirements

2.9. Colleges make the following financial returns to SFC in the course of the year:

- Financial Forecast Return (FFR), normally submitted at the end of June, comprising an outturn forecast for the current academic year and forecasts for the following five years.
- Mid-Year Return, comprising an updated outturn forecast for the current academic year.
- Annual accounts, submitted at the end of December, comprising the audited financial statements and supporting reports by the college's audit committee, internal and external auditors (also on an academic year basis).
- Monthly cash flow returns (incorporated colleges only) for Scottish Government budgeting and accounting requirements (see Annex A).

2.10. Colleges and regions experiencing heightened challenges to their ongoing sustainability also provide quarterly and monthly returns. The FFR is usually returned at the end of June but the deadline was extended to late September for 2019 to give colleges and regions sufficient time to fully take account of key planning assumptions within their financial returns.

2.11. The 2019 Financial Forecast Return (FFR) Call for Information included key planning assumptions[2] to assist colleges in producing their forecasts to support their financial planning.

2.12. The guidance stated that:

'SFC's Financial Memorandum with colleges and Regional Strategic Bodies (RSBs) requires institutions to plan and manage their activities to remain sustainable and financially viable. It is therefore critical that institutions take the necessary actions to balance their operating position, reflect these actions in their FFRs, and provide a full description of their financial plans in the FFR commentary.'

Adjusted operating position

2.13. The adjusted operating position (AOP) is intended to reflect the underlying operating performance after allowing for material one-off or distorting items or other items outwith the control of colleges. An explanation of how the AOP is calculated can be found in Annex B. In aggregate, colleges are forecasting an acceptable adjusted operating position up to 2020-21, followed by increasing

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[2]

http://www.sfc.ac.uk/web/FILES/callsforinformation_sfcci042019/SFCCI042019_Call_for_information_2019_FFR.pdf

deficits in the later years of the planning period. It should be noted that the FFR analysis is ongoing and the figures reported here are subject to change as we engage with institutions.

Reliance on SFC grant

2.14. SFC grants are projected to account for 72% of total sector income in 2018-19 reducing slightly to 71% in 2023-24.

2.15. Sources of income for the college sector in 2017-18 are shown in the chart below:

Income sources for Scottish colleges

Donations and endowments 0.9 %

Other income 9.1 %

Tuition fees and education contracts 16.0 %

SFC/RSB grants 74.0 %
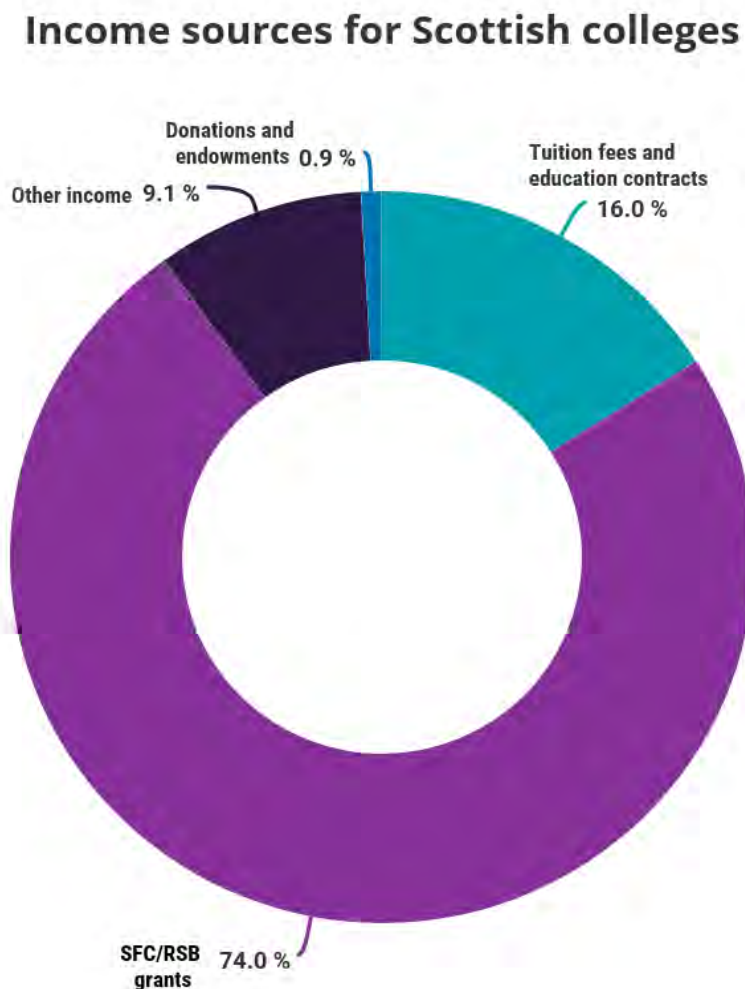
College expenditure

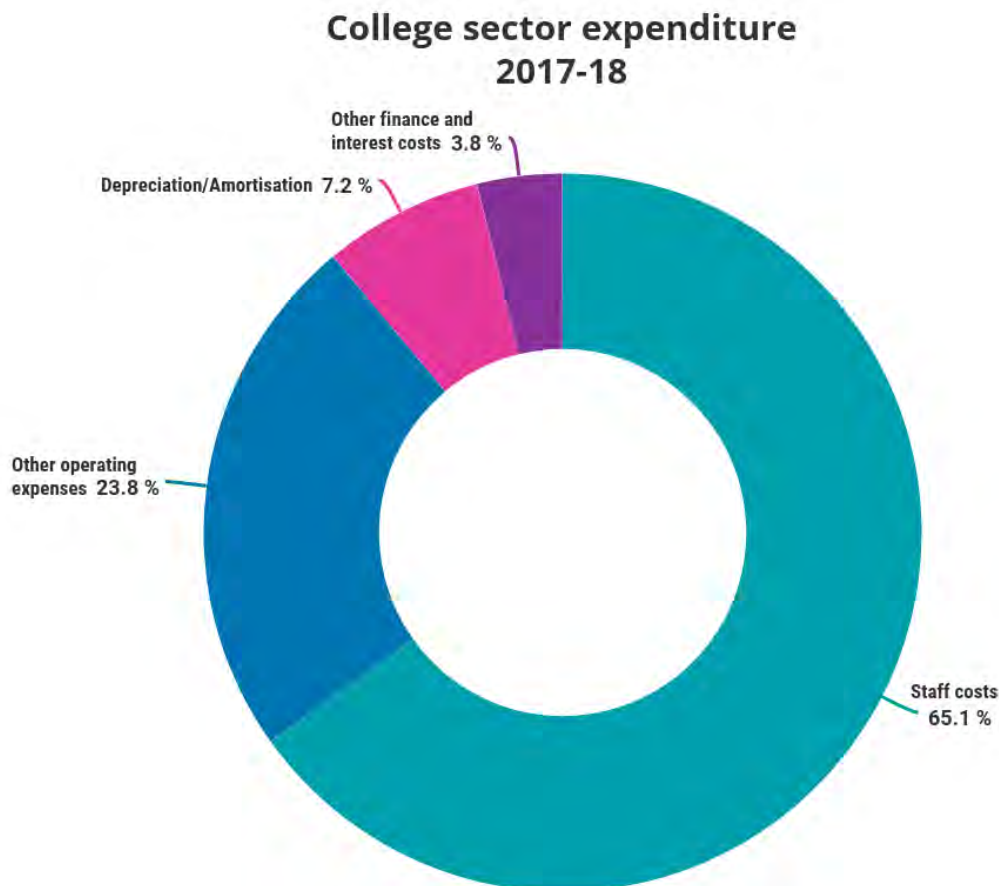2.16. A breakdown of the main expenditure headings for the college sector for 2017-18 is shown in the chart below.

College sector expenditure 2017-18

- Other finance and interest costs 3.8 %
- Depreciation/Amortisation 7.2 %
- Other operating expenses 23.8 %
- Staff costs 65.1 %

Mitigating actions

2.17. Staff costs represent the largest element of college expenditure (68% by the end of the forecast period). This is, therefore, the area that colleges are focusing on to make efficiencies in order to deliver a balanced budget, given that the sector has in previous years delivered significant non-staff cost efficiencies.

2.18. The college sector forecasts suggest colleges plan to spend £5 million on staff restructuring in 2018-19 and a further £7.5 million over the remainder of the forecast period, in order to reduce the cost base to levels that allow them to be financially sustainable.

2.19. However, it is important to note that many colleges have reflected staff cost savings from restructuring activity in the forecasts but have not included the costs of restructuring. The cost of restructuring is therefore expected to be substantially higher.

2.20. We are engaging with colleges that are forecasting deficits over the planning period to clarify potential mitigating actions. There may also be liquidity concerns as several colleges that have not factored in restructuring costs are projecting low or negative cash balances during the forecast period.

2.21. It is expected that most of the restructuring will be addressed through voluntary severance schemes.

Cost of living increases

2.22. Colleges were asked to incorporate the lecturers' cost of living pay award, agreed in June 2019, in their forecasts. The cost of living pay awards are expected to have less of a financial impact on colleges in 2018-19 but will carry significant risks for colleges' financial sustainability for 2019-20 and beyond.

2.23. The support staff cost of living award agreed in September 2018 is reflected in the forecasts.

Cash balances and liquidity

2.24. Sector cash balances are forecast to amount to £59.1 million (30 days of expenditure) at the end of July 2019 and reduce to £23.4 million (12 days of expenditure) by 2023-24. Three colleges that failed to show a balanced operating position in the later years of the forecast period are currently forecasting negative cash balances by the end of July 2024. In addition, three colleges anticipate having less than 10 days of cash reserves by the end of July 2024.

2.25. As noted above, not all colleges have factored in the costs of restructuring that will be essential to ensure they are financially sustainable over the forecast period. It is therefore possible that the levels of cash across the sector will be lower and could result in more colleges reporting negative cash balances throughout the forecast period.

Scenario planning

2.26. Colleges have been encouraged to develop their own additional forecasts based on alternative planning scenarios if they believe these scenarios are more appropriate for their operating environment and circumstances. Several colleges provided details of alternative scenarios. All of these alternative scenarios would clearly result in a more challenging position. Scenarios included:

- Reduction of 1% in SFC funding.
- Increase of 1% in public sector pay policy.

- Funding reduced to 50% and 0% for additional Scottish Teachers Superannuation Scheme (STSS) costs (SFC planning guidance asked colleges to plan on the basis that these costs would continue to be fully funded throughout the planning period).
- Increase of 1% in Local Government Pension Scheme employer contribution costs.

Key risks

2.27. In preparing the forecasts, colleges identified a number of risks that could adversely affect their financial performance and sustainability. The most significant risk areas for colleges relate to:

- Changes to the funding model and colleges' ability to deliver regional outcome agreements and Government priorities. This includes the sector's ability to meet the core student activity target of c. 116,000 FTE places and other key performance measures.
- The impact of cost efficiencies, including reduced staff numbers and frontline student services, on both the quality of student experience and on the health and wellbeing of college staff.
- The impact of the UK exiting from the EU and the risk of reduced European funding.
- Additional staff costs arising from both cost of living pay awards and the outcome of the National Bargaining job evaluation exercise for support staff.
- Increases in employer contributions to the Scottish Teachers Superannuation Scheme and Local Government Pension Schemes.
- Addressing backlog estates maintenance and ICT/digital requirements.
- Challenges of diversifying income and generating additional surplus.
- The balance of portfolio of provision and how that impacts on student numbers.
- Insufficient funding to address student support requirements (SFC planning guidance asked colleges to plan on the basis that these costs would be met throughout the planning period).

SFC engagement

2.28. SFC operates a risk-based and proportionate approach to the way it engages with individual institutions. The level of SFC's engagement with colleges has increased for many colleges in recent years. In many cases this has related to our need for greater assurance about financial sustainability while securing good outcomes for students.

3. University Sector

Summary indicators

3.1. The table below provides a summary of key university sector financial indicators, by type of institution, across the years 2018-19 to 2021-22. Details of the university sector 'groupings' are provided in Annex C.

Financial Indicator	Forecast 2018-19	Forecast 2019-20	Forecast 2020-21	Forecast 2021-22
Ancient	2,272,054	2,359,101	2,437,862	2,553,260
Chartered	966,395	994,811	1,049,786	1,176,279
Modern	655,482	677,255	691,966	702,973
SSI[3]	158,470	149,298	148,909	150,965
Total income (£000)	**4,052,399**	**4,180,466**	**4,328,523**	**4,583,477**

Ancient	21%	20%	19%	19%
Chartered	30%	28%	26%	25%
Modern	58%	56%	55%	54%
SSI[3]	34%	37%	36%	36%
SFC grant as % of total income	**30%**	**28%**	**27%**	**26%**

Ancient	61,128	98,032	37,408	69,116
Chartered	(111,779)	(7,018)	(17,869)	54,833
Modern	(21,787)	(9,808)	(6,879)	(6,166)
SSI[3]	4,971	(2,377)	720	97
Operating surplus/(deficit) (£000)	**(67,468)**	**78,829**	**13,380**	**117,880**

Ancient	2.7%	4.2%	1.5%	2.7%
Chartered	(11.6%)	(0.7%)	(1.7%)	4.7%
Modern	(3.3%)	(1.4%)	(1.0%)	(0.9%)
SSI[3]	3.1%	(1.6%)	0.5%	0.1%
Operating surplus/(deficit) as % of total income	**(1.7%)**	**1.9%**	**0.3%**	**2.6%**

Ancient	101,517	57,908	37,408	69,116
Chartered	4,349	(15,917)	(15,712)	57,255
Modern	(11,194)	(5,699)	(4,679)	(3,966)
SSI[3]	6,058	1,423	720	97
Operating surplus/(deficit) adjusted for staff restructuring costs and pension revaluation (£000)	**100,729**	**37,715**	**17,737**	**122,502**

[3] Scotland's Rural College receives SSI grant and is categorised as SSI for purposes of this table

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Financial Indicator	Forecast 2018-19	Forecast 2019-20	Forecast 2020-21	Forecast 2021-22
Ancient	4.5%	2.5%	1.5%	2.7%
Chartered	0.4%	(1.6%)	(1.5%)	4.9%
Modern	(1.7%)	(0.8%)	(0.7%)	(0.6%)
SSI[3]	3.8%	1.0%	0.5%	0.1%
Operating surplus/(deficit) adjusted for staff restructuring costs and pension revaluation as % of total income	**2.5%**	**0.9%**	**0.4%**	**2.7%**
Ancient	929,072	687,580	612,233	471,116
Chartered	240,731	199,131	180,242	151,191
Modern	107,207	112,614	126,987	123,322
SSI[3]	43,053	29,906	19,875	23,352
Cash and cash equivalents net of overdrafts (£000)	**1,320,063**	**1,029,232**	**939,337**	**768,981**
Ancient	163	118	100	74
Chartered	87	78	66	53
Modern	61	64	71	73
SSI[3]	110	78	53	61
Cash days	**117**	**92**	**79**	**63**
Ancient	138,632	94,275	n/a	n/a
Chartered	50,350	32,155	n/a	n/a
Modern	29,684	48,588	n/a	n/a
SSI[3]	8,979	(2,527)	n/a	n/a
Net cash flow from operating activities	**227,644**	**172,492**	**n/a**	**n/a**
Ancient	6%	4%	n/a	n/a
Chartered	5%	3%	n/a	n/a
Modern	5%	7%	n/a	n/a
SSI[3]	6%	(2%)	n/a	n/a
Net cash flow from operating activities as % of total income	**6%**	**4%**	**n/a**	**n/a**
Ancient	1,090,627	1,084,112	n/a	n/a
Chartered	289,933	343,621	n/a	n/a
Modern	243,416	237,816	n/a	n/a
SSI[3]	8,686	7,848	n/a	n/a
Total borrowing (£000)	**1,632,661**	**1,673,397**	**n/a**	**n/a**
Ancient	48%	46%	n/a	n/a
Chartered	30%	35%	n/a	n/a
Modern	37%	35%	n/a	n/a
SSI[3]	5%	5%	n/a	n/a
Total borrowing as % of total income	**40%**	**40%**	**n/a**	**n/a**

3.2. Overall, the sector's reported future financial position over the next three years is sound on the basis of the common key planning assumptions used in the forecasts. However, the forecasts are significantly skewed by the strength of the two largest institutions, the universities of Edinburgh and Glasgow. The sector's position is, therefore, considerably weaker when their projections are taken out of our aggregate analysis.

3.3. The financial pressures and uncertainties reflected in submitted forecasts include the withdrawal from the European Union, increased pension costs and estates maintenance costs. In general, the four ancient universities are better placed than others to respond to these cost pressures, and modern universities are more reliant on SFC grant funding.

3.4. The university sector expects to report an operating deficit of £67.5 million in 2018-19 followed by operating surpluses in each of the following years. It should be noted that the 2018-19 deficit position will be substantially higher as many institutions did not include the impact of the Universities Superannuation Scheme provision adjustments in their forecasts. Some volatility in results is to be expected under the Financial Reporting Standard (FRS) 102 accounting standard, as there may be a mismatch between the reporting of income and related expenses and the forecasts also include the accounting impact of several large items that distort year-on-year results (see Annex D). These include Universities Superannuation Scheme provision adjustments and exceptional staff restructuring costs. Excluding these items, the forecast underlying surplus for 2018-19 is £100.7 million, with surpluses projected over the remainder of the planning period ending 2021-22. Between eight and 11 of the 18 institutions are forecasting underlying operating deficits over the next three years.

3.5. The sector's financial forecasts indicate plans to undertake considerable staff restructuring over the period to 2021-22.

3.6. Cash and short-term investments are forecast to move from £1,320 million (117 cash days) in 2018-19 to £769 million (63 cash days) by the end of 2021-22. Borrowing is forecast to increase from £1,342 million in 2017-18 to £1,673 million in 2019-20. The projected reduction in cash and increase in borrowing reflect the impact of financing capital investment, which is estimated at £2.5 billion over the planning period.

3.7. Fee income represents the largest source of revenue in the sector. Institutions are increasingly reliant on international fee income; however, this represents a key risk as markets become ever more competitive and global events can occur over which institutions have no control. Income cross-flows, such as international fee income, are used to support other areas of operations such as research activity, which tends to be loss-making.

3.8. There is significant variation in the financial position of individual institutions. Several institutions are facing particular challenges to their financial sustainability and are subject to higher levels of engagement.

University financial returns to SFC

3.9. Universities make two financial returns to SFC in the course of the year:

- The Strategic Plan Forecast (SPF), submitted at the end of June, comprising an outturn forecast for the current year and forecasts for the following three years.

- The annual accounts, submitted at the end of December, comprising the audited financial statements and supporting reports by the institution's audit committee, internal and external auditors.
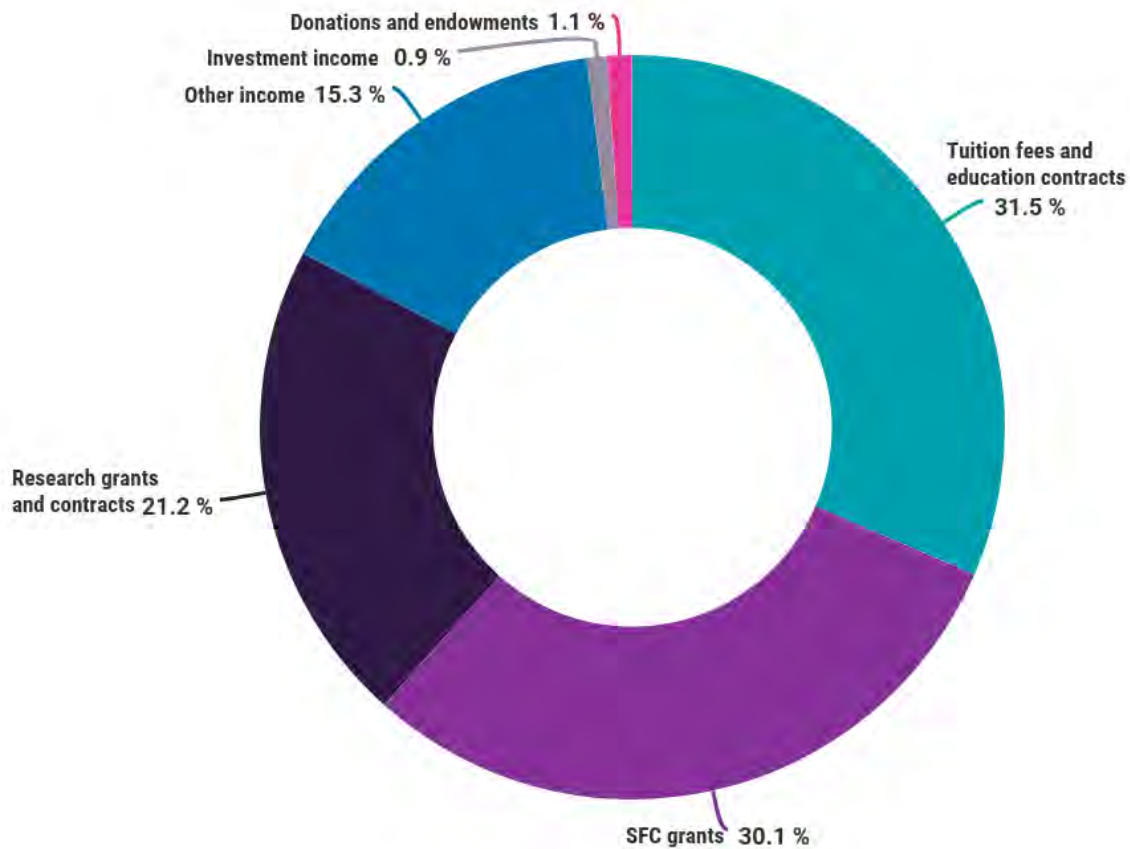
Operating position

3.10. Institutions were asked to provide financial forecasts, covering the period 2018-19 to 2021-22, by 30 June 2019. In preparing their financial projections, institutions were asked to ensure SFC grant for 2019-20 was based on the funding allocations announced in May 2019. Institutions were also asked not to forecast any increase in SFC grant for 2020-21 and 2021-22, as SFC had no information on Scottish Government budgets beyond 2019-20. Institutions were encouraged to develop additional planning scenarios if they believed they were more appropriate for their circumstances.

Sources of income

3.11. The chart below shows all sources of income for institutions in Scotland in 2017-18. Apart from SFC grants, universities receive income from tuition fees and contracts (including international student fees), research activity, commercial income, investment income and donations and endowments.
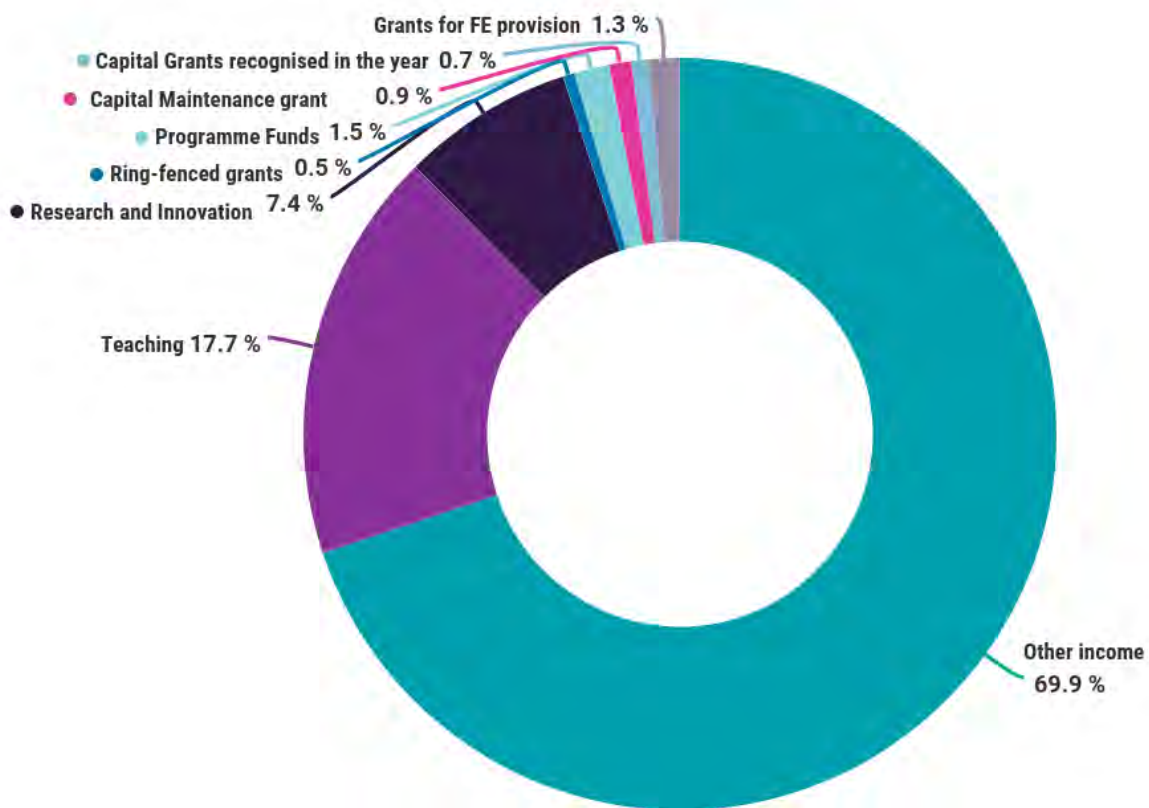
Income sources for Scottish universities

Donations and endowments 1.1 %
Investment income 0.9 %
Other income 15.3 %
Tuition fees and education contracts 31.5 %
Research grants and contracts 21.2 %
SFC grants 30.1 %

Reliance on SFC grant

3.12. The larger universities are generally not as reliant on SFC funding. SFC grants account for 30% of sector total income in 2017-18 and this is forecast to reduce to 26% by 2021-22. The majority of SFC grant is for teaching, which amounts to 18% of overall sector income, while SFC funding for research represents 7% of overall sector income.

Split of sector SFC income as % of overall income 2017-18

Grants for FE provision 1.3 %
Capital Grants recognised in the year 0.7 %
Capital Maintenance grant 0.9 %
Programme Funds 1.5 %
Ring-fenced grants 0.5 %
Research and Innovation 7.4 %
Teaching 17.7 %
Other income 69.9 %

3.13. There is a large variation in SFC grant reliance across the sector as illustrated below:

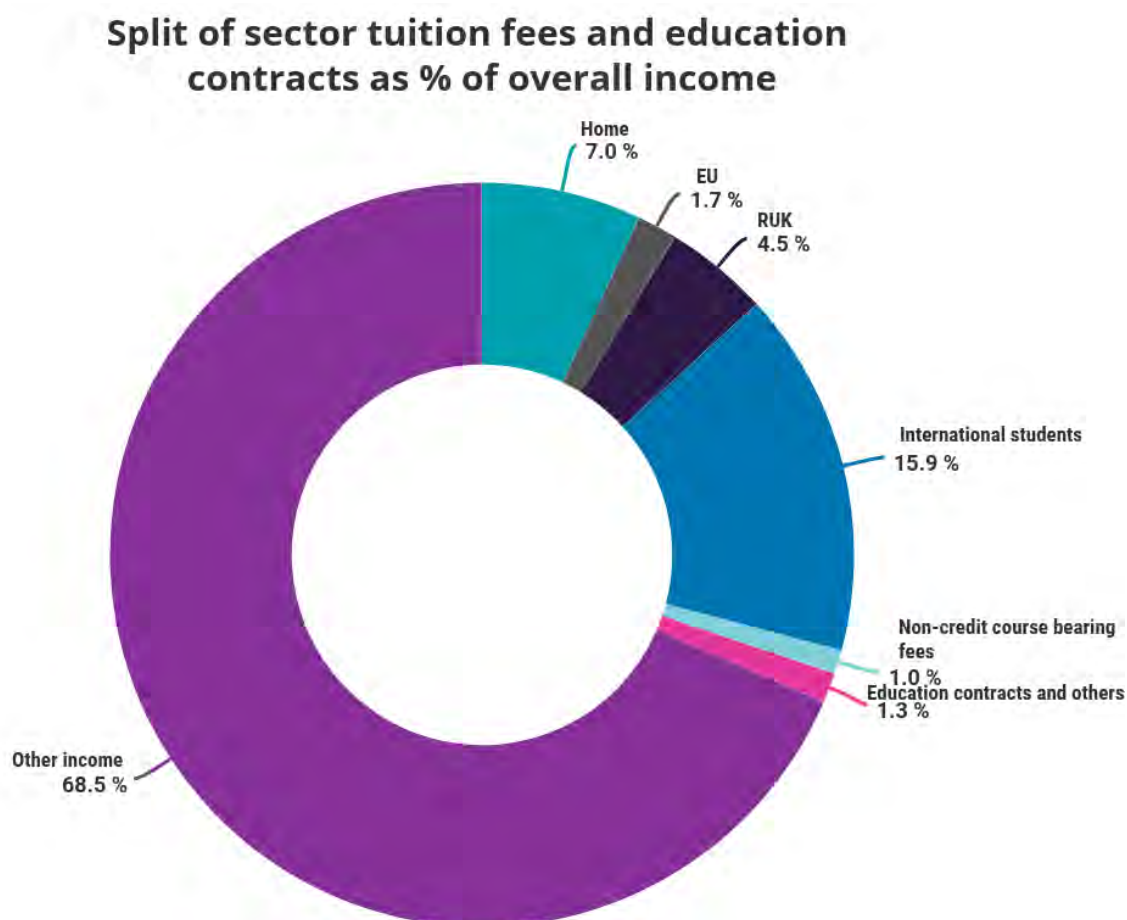| Funding Council grants as % of total income	Actual 2017-18	Forecast 2018-19	Forecast 2019-20	Forecast 2020-21	Forecast 2021-22
Lowest	15%	16%	15%	15%	14%
Average	30%	30%	28%	27%	26%
Highest	68%	78%	76%	77%	78%

3.14. In 2017-18, the institution with the lowest reliance on SFC income was University of St Andrews at 15% while University of the Highlands and Islands had the highest proportion of its income from SFC, with 68% of its income coming from this source.

Other sources of income

3.15. All of the other sources of income come with associated costs and some of the activities can be loss making, for example research. This can be seen in the section on income crossflows at paragraphs 3.26 – 3.38 below.

International student fees

3.16. The chart below splits the tuition fee and education contract income into the different categories of income and demonstrates the significance of international student tuition fees as a source of income.

Split of sector tuition fees and education contracts as % of overall income

- Home 7.0 %
- EU 1.7 %
- RUK 4.5 %
- International students 15.9 %
- Non-credit course bearing fees 1.0 %
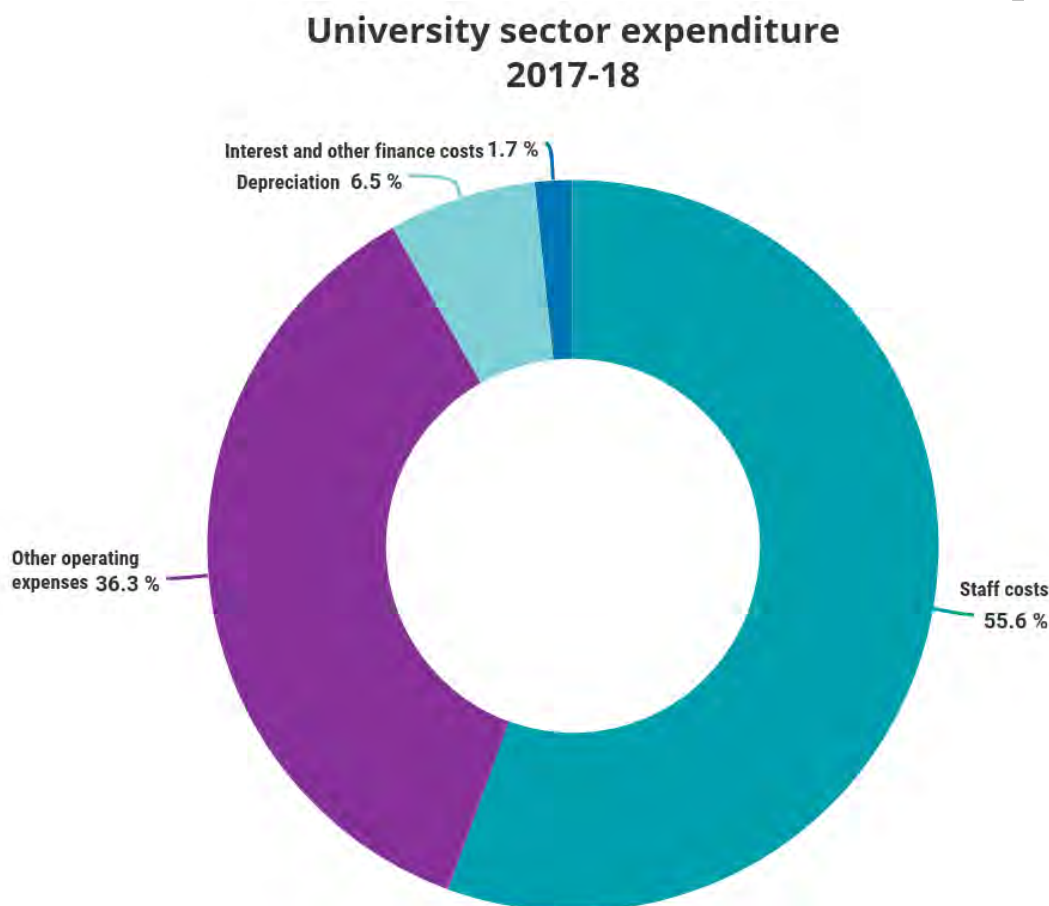- Education contracts and others 1.3 %
- Other income 68.5 %

3.17. As in previous years, the largest anticipated increase in income from other sources in the forecast derives from international student tuition fees. In 2017-18, international fees represented 16% of the university sector total income and this is forecast to increase to 18% by 2019-20. It is clear that universities need this source of income in order to remain financially sustainable and to support other areas of their operation. For example, research can be a loss making activity and it is therefore important that institutions continue to plan to address this through other surplus generating activity.

3.18. We will be engaging with several institutions to assess the robustness of the level of increase in their projected international student tuition fee income over the forecast period. Non-EU tuition fees continue to be an area of significant risk due to the international markets becoming ever more competitive. There is also an impact on this market from UK immigration policies. It is encouraging

that the UK Government has recently changed its policy of restricting post-study visas for international students and will now offer two year work visas for international graduates from next year.

University expenditure

3.19. A breakdown of the main expenditure headings for the university sector for 2017-18 is shown in the chart below.

University sector expenditure 2017-18

- Interest and other finance costs 1.7 %
- Depreciation 6.5 %
- Other operating expenses 36.3 %
- Staff costs 55.6 %

Staff restructuring

3.20. The sector is planning to spend £30.8 million on staff restructuring between 2018-19 and 2021-22. Four universities are planning staff restructuring in each year of the forecast while another six institutions are forecasting staff restructuring in some of the years. It is recognised that some restructuring may be achieved through natural turnover.

Cash and borrowing

3.21. The sector is expected to remain liquid though cash and short-term investments are forecast to reduce on 2018-19 levels, moving from £1,320 million (117 days)

in 2018-19 to £769 million (63 days) by the end of 2021-22. This reduction in cash over the forecast period mainly reflects the impact of financing capital investment. Institutions have provided assurances that capital investment will be re-profiled in the event that cash generation targets are not achieved.

3.22. The net cash inflow from operating activities is an important performance indicator in terms of assessing institutions' ability to generate sufficient cash to repay debt and for estates investment. The sector figure is forecast at £227 million in 2018-19 and £172 million in 2019-20. Only one institution in 2018-19 projected negative cash inflow from operating activities and in 2019-20 this increases to three institutions. The negative position for two of these institutions results from exceptional adjustments and there are no immediate concerns about their financial health.

3.23. Total borrowing is forecast to increase from £1,342 million in 2017-18 to £1,673 million in 2019-20 again reflecting an increase in capital investment in the sector. Borrowing represents 40% of turnover in 2019-20 compared to 36% in 2017-18.

3.24. Much of the sector's borrowing is now in the form of private placements due to the very low interest rates available. However, this type of borrowing involves large capital repayments at set points in the future with interest being paid in the intervening years. Out of the total sector borrowing figure of £1,342 million at the end of July 2018, £574 million was in the form of private placements. The universities with this form of borrowing will have to ensure they have the necessary funds to repay at the set points. Therefore, building up cash reserves, through generating ongoing surpluses, is essential to allow them to do this.

3.25. Levels of borrowing and pension commitments are sensitive to changes in how institutions are funded and ultimately the sustainability of the institutions. These are long-term obligations that must be fulfilled irrespective of the funding flows into institutions. It is important that institutions take into consideration potential increases in pensions costs which can be volatile and are outwith their control.

Transparent Approach to Costing (TRAC) and income crossflows[4]

3.26. Our understanding of the performance of Scotland's universities can be

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[4] All universities in the UK use the Transparent Approach to Costing (TRAC) methodology for costing their activities. TRAC was introduced in 2000 with a view to improving accountability for the use of public funds for research and to inform university decision making. TRAC was subsequently extended to other university activities, including teaching. The methodology for calculating TRAC was adjusted in 2015-16 to reflect changes resulting from the introduction of the FRS 102 accounting standard. For further information on TRAC on SFC's website: http://www.sfc.ac.uk/governance/institutional-finance-governance/institutional-finance/university-finance/transparent-approach-costing.aspx

improved by considering income crossflows within an institution, highlighted through the TRAC data, and the impact they have on financial sustainability and the benefits or issues they create.
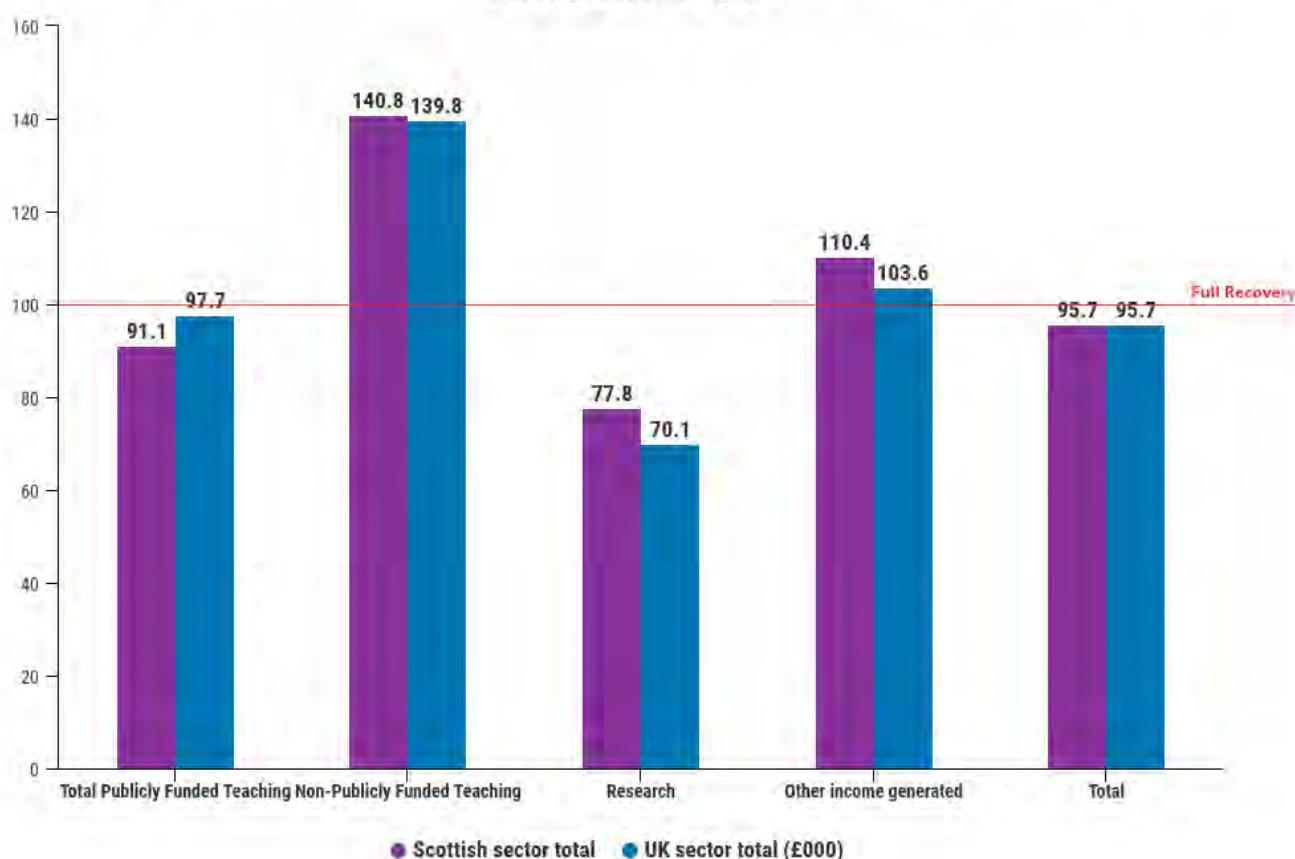
How is Scotland performing?

3.27. The chart below sets out Scottish universities' recovery of full economic cost surplus/(deficit) by TRAC category, using the 2017-18 figures as this is the latest information available.

TRAC full economic cost surplus/(deficit) by category 2017-18 for Scottish universities
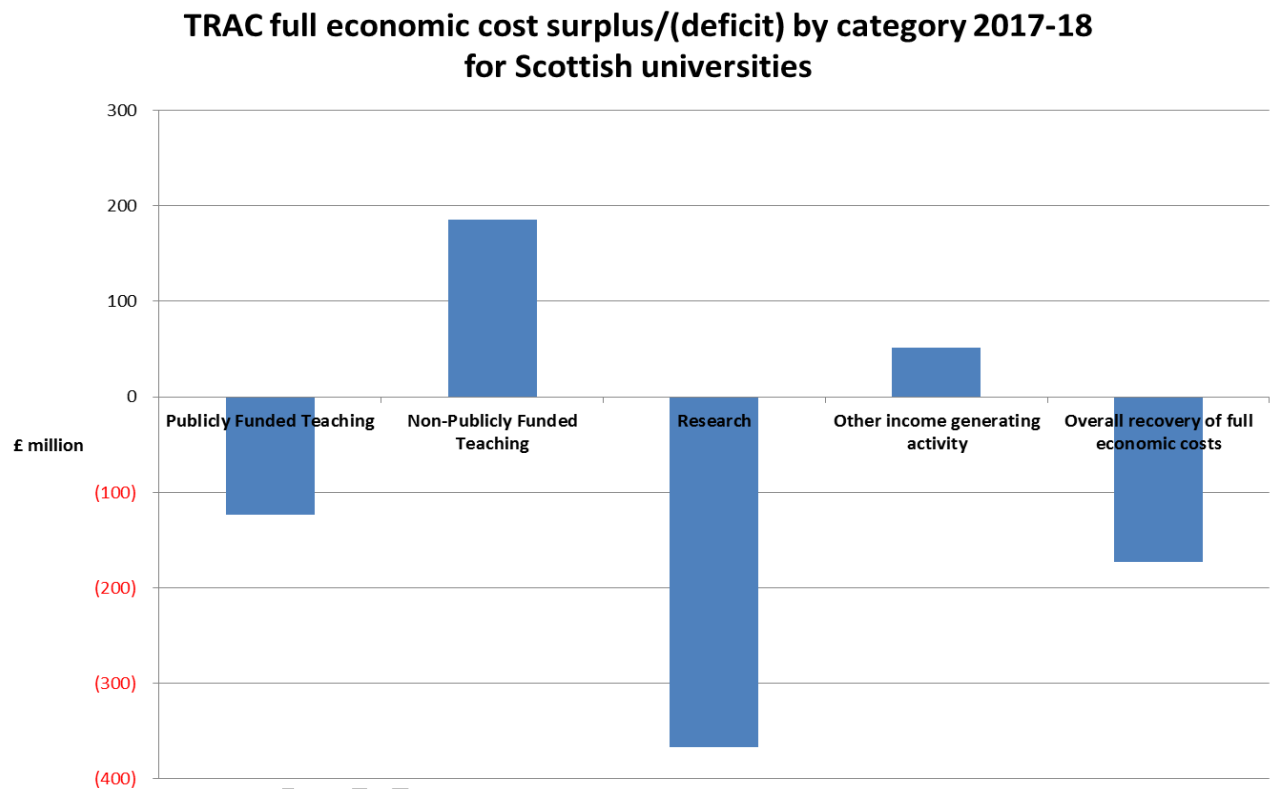
3.28. A comparison of each category against the UK results, in terms of recovery percentage, is presented in the graph below using 2017-18 figures.

Recovery of Full Economic Costs by TRAC category and total for 2017-18 - Scotland 'v' UK

Chart legend: ● Scottish sector total ● UK sector total (£000)

Data values by category:
- Total Publicly Funded Teaching: Scottish 91.1, UK 97.7
- Non-Publicly Funded Teaching: Scottish 140.8, UK 139.8
- Research: Scottish 77.8, UK 70.1
- Other income generated: Scottish 110.4, UK 103.6
- Total: Scottish 95.7, UK 95.7
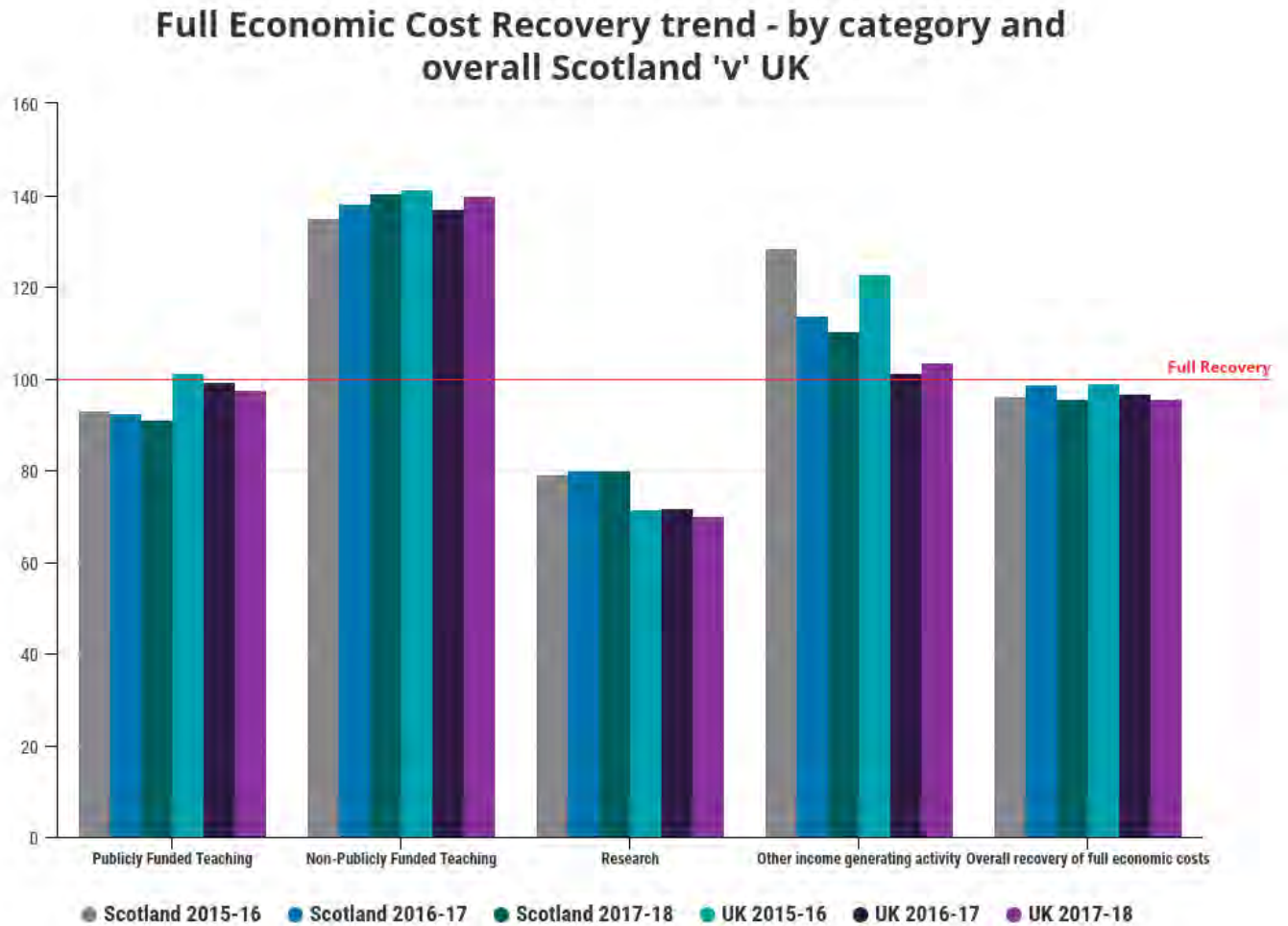
Full Recovery line at 100.

3.29. The chart above shows that, in overall terms, Scotland recovers 95.7% of full economic costs, which is in line with the UK total. However, the position varies across institutions.

3.30. Scotland is performing slightly better than the UK as a whole in recovering full economic cost on non-publicly funded teaching, research activities and other income generating activities. However, it still falls short of 100% recovery on publicly funded teaching and research and therefore contributions generated by non-publicly funded teaching and other income generating activities are being used to meet these costs.

3.31. When looking at TRAC data, it is important to note that 2017-18 is the third year in which TRAC reporting has been prepared under the FE/HE Statement of Recommended Practice (SORP), applying FRS 102. This standard introduced some significant changes in the way financial performance is reported, making comparison difficult between the latest results and historical TRAC data prior to 2015-16 because of changes to the timing when some income is recognised in the accounts. The adoption of FRS 102 has resulted in greater volatility in reported surpluses or deficits and so it is necessary to take a multi-year view when assessing TRAC results. It is important to look at trends over a period

rather than one year's results in isolation. Data for 2015-16 therefore formed the baseline for the start of a new time series of TRAC data and the trend data is set out below:

Full Economic Cost Recovery trend - by category and overall Scotland 'v' UK

Legend: Scotland 2015-16 · Scotland 2016-17 · Scotland 2017-18 · UK 2015-16 · UK 2016-17 · UK 2017-18

3.32. The trend data illustrates that recovery of full economic costs is most successful through non-publicly funded teaching which is largely reliant on international student recruitment which, as already highlighted in paragraphs 3.16 – 3.18 above, is uncertain and carries demand risks. The data for Scotland shows an increase year on year whereas the UK trend takes a dip in 2016-17.

3.33. Full cost recovery is low in Scotland for publicly funded teaching and there is a downwards trend for recovery. The rest of the UK outperforms Scotland in this category in each year of the trend data.

3.34. The area where there is the lowest recovery of full economic costs is research activity, albeit Scotland performs better than the UK as a whole. The chart below breaks down the recovery on research in Scotland in 2017-18 by research sponsor type:

Recovery of Full Economic Costs by type of research 2017-18
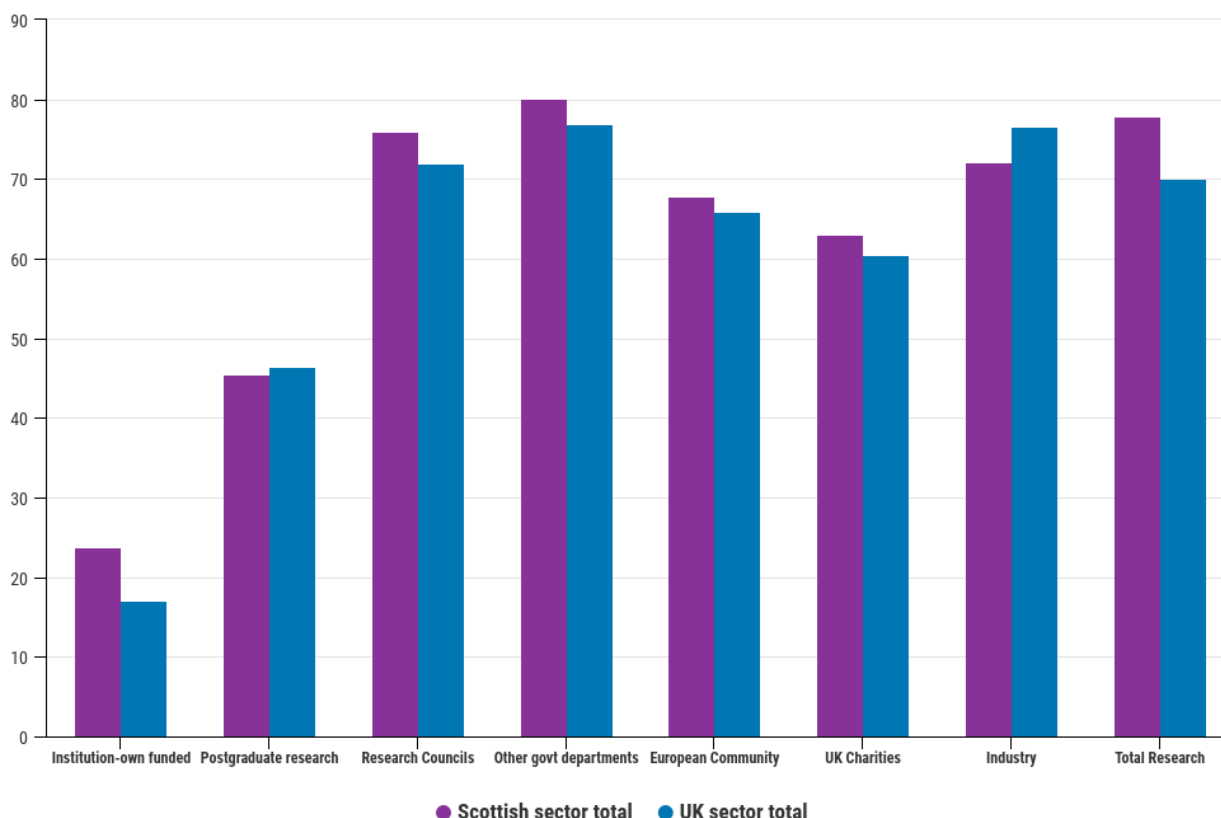
3.35. The chart shows the levels of full economic cost recovered vary by research sponsor. The chart highlights that not only is there a flow of income from other activities to research but that the extent of the cross flows varies according to which organisation is funding the research. Research Council funding represents the largest sponsor of funding in volume terms and will have the largest impact.

3.36. The reasons for this vary. In some cases, certain funders do not fund overheads, or require an element of matched funding from the institution. The differential rates of full economic cost recovery will lead institutions to become more selective about the research funders they choose to work with in terms of financial recovery. However, institutions will find it challenging to maintain optimal full economic cost recovery on research activity given the limited portfolio of funders, spanning of projects over several years and the need for continual income flows to support the cost base.

3.37. The management of loss-making research by cross-subsidy from surplus-generating activities should be seen as part of an interconnected set of university activities. The international research reputation of universities, and their position in league tables, affects the recruitment of international students. The surplus from those international students assists with the sustainability of the research activity. Research reputation drives other income and strengthens

staff recruitment and business relationships and so the TRAC deficit from research must be viewed in the context of the overall university strategy and management.

3.38. Institutions will also use their own funds and income cross flows in other activities to support their overall sustainability which involves generating an appropriate level of surplus. This will differ from institution to institution according to their circumstances.

Key risks

3.39. In preparing the forecasts, institutions identified a number of risks that could adversely affect their financial performance and sustainability. The most significant risk areas for universities relate to:

- The impact of the UK exiting from the EU.
- The rise in staff and pension costs.
- A fall in rest-of-UK recruitment in an increasingly competitive market.
- The review of Post-18 education and funding in England – lower tuition fees in England could have a significant impact on Scottish institutions.
- Any failure to achieve international student recruitment targets.
- UK visa and immigration regulations.
- Further unanticipated public spending cuts in teaching and/or research income.
- The impact of changes to UK research funding in the Higher Education and Research Act 2017.
- Failure to effectively manage major capital investment programmes and their financial impacts.

SFC engagement

3.40. SFC operates a risk-based and proportionate approach to the way it engages with individual institutions. The level of SFC's engagement with universities has increased for many universities in recent years. In many cases this has related to our need for greater assurance about financial sustainability while securing good outcomes for students.

College Regions

1. The college sector in Scotland comprises 20 incorporated colleges and six non-incorporated colleges, organised into 13 college regions. Ten of these regions consist of one college. The three remaining regions (Glasgow, Highlands & Islands, and Lanarkshire) have more than one college. The individual colleges in Glasgow and the Highlands & Islands are assigned to the relevant Regional Strategic Body: Glasgow Colleges' Regional Board or University of the Highlands & Islands. In Lanarkshire, New College Lanarkshire is the Regional Strategic Body and South Lanarkshire College is assigned to the Lanarkshire Board. Details of all regions and colleges are set out on the next page.

2. Fundable bodies in the college sector can be incorporated or non-incorporated. Before the Further & Higher Education (Scotland) Act 1992, almost all publicly funded colleges in Scotland were run by local authorities. In 1993, most of these colleges were established with boards of management constituted under the 1992 Act. Colleges with a board of management constituted under the 1992 Act are commonly referred to as incorporated colleges. Incorporated colleges were reclassified as arms-length central government bodies in 2014 and are subject to Government budgeting and accounting requirements, including the provision of monthly cash flow returns, and are required to comply with the Scottish Public Finance Manual.

3. The 1992 Act does not govern the non-incorporated colleges which take a number of different legal forms and/or have differing constitutional arrangements. Two non-incorporated colleges (Orkney and Shetland) are still run by their local authorities.
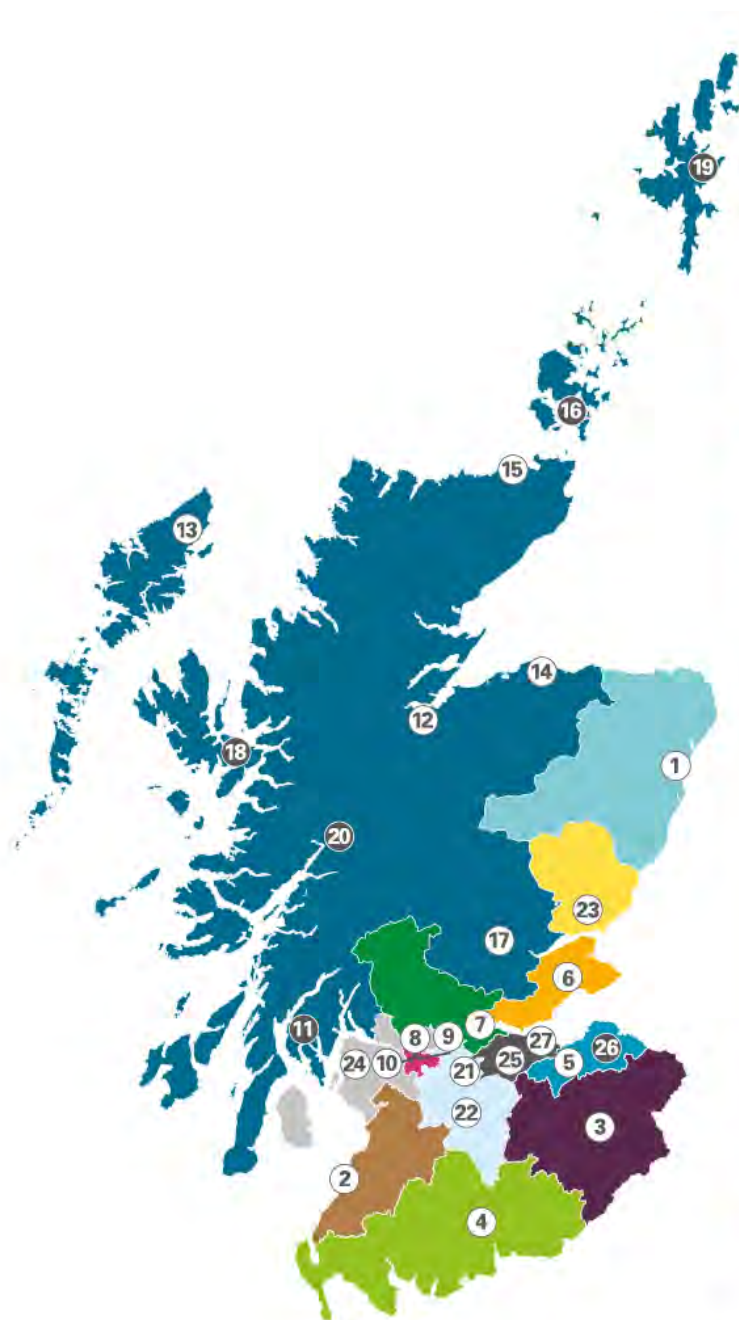
Region		College
Aberdeen and Aberdeenshire	1	North East Scotland College
Ayrshire	2	Ayrshire College
Borders	3	Borders College
Dumfries and Galloway	4	Dumfries & Galloway College
Edinburgh and Lothians	5	Edinburgh College
Fife	6	Fife College
Central	7	Forth Valley College
Glasgow	8	City of Glasgow College
	9	Glasgow Clyde College
	10	Glasgow Kelvin College
Highlands and Islands	11	**Argyll College**
	12	Inverness College
	13	Lews Castle College
	14	Moray College
	15	North Highland College
	16	**Orkney College**
	17	Perth College
	18	**Sabhal Mòr Ostaig**
	19	**Shetland College**
	20	**West Highland College**
Lanarkshire	21	New College Lanarkshire
	22	South Lanarkshire College
Tayside	23	Dundee and Angus College
West	24	West College Scotland
West Lothian	25	West Lothian College
n/a	26	**Newbattle Abbey College**
n/a	27	SRUC

Note: The map shows the 20 incorporated colleges, the six non-incorporated colleges in Scotland (in bold) and Scotland's Rural College (SRUC) which is classed as a higher education institution but counts towards the achievement of the national target for colleges.

Source: Audit Scotland

College adjusted or underlying operating position

1. The adjustments to the operating position to give the underlying operating position for the colleges have two purposes:

    *   Smooth the volatility in reported results arising from the FRS 102 accounting standard.
    *   Recognise some of the reported costs do not have an immediate cash impact.

2. The underlying operating position is a better indicator of colleges' operational cash generative capacity.

3. The reported operating surplus/(deficit) figures have been adjusted for:

    *   Depreciation net of deferred capital grant (incorporated colleges only).
    *   Exceptional non-restructuring costs (impairments and lease dilapidation costs).
    *   Non-cash pension adjustments.
    *   Donations to arms-length foundations (ALFs) (incorporated colleges only).
    *   Non-Government capital grant (e.g. ALF capital grant).
    *   Exceptional income.
    *   Loan repayments (incorporated colleges only).
    *   Non-Profit Distributing Project (NPD) income applied to reduce NPD debt.

University groupings

1. The financial summary table and other sections in this report refer to the following four university groupings:

   Ancient universities (University of Aberdeen, University of Edinburgh, University of Glasgow and University of St Andrews).

   Chartered universities (University of Dundee, Heriot-Watt University, University of Stirling and University of Strathclyde).

   Modern universities (Abertay University, Edinburgh Napier University, Glasgow Caledonian University, University of the Highlands & Islands, Queen Margaret University Edinburgh, Robert Gordon University and University of the West of Scotland).

   Small and specialist institutions (Glasgow School of Art, Royal Conservatoire of Scotland, Scotland's Rural College and Open University in Scotland).

2. The Open University in Scotland is not included in this analysis due to different reporting arrangements in place.

Financial Reporting Standard 102

1. The introduction of new accounting rules in 2015-16 brought about significant changes to the way institutions' finances were measured and recorded and represented the biggest change in college and university accounting for 20 years.

2. The new accounting rules changed the way some income, expenses, assets, and liabilities appear on the financial statements and resulted in significant changes in the way numbers were reported in institutions' financial statements despite the substance of an institution's financial performance or its net worth not changing at all.

3. The change was introduced because the UK accounting standards setting body, the Financial Reporting Council (FRC), had been on a mission to harmonise UK accounting standards with international standards. This was completed in 2015, with the replacement of 40 different standards with a new code based on a single, internationally-consistent reporting framework.

4. The 2015-16 financial results were the first to report under the new accounting standard, known as FRS 102, and interpreted for the sector by the FE/HE Statement of Recommended Practice (SORP).

5. To help readers of the accounts, institutions have made extra effort to explain the most significant changes in their annual financial reports. Some have also explained the impact of the new standard on perceptions of the institution's long-term financial sustainability, as one of the features of FRS 102 has been increased volatility in the numbers from one year to the next.

6. Due to the volatility in the operating position, these figures are no longer meaningful indicators of the institutions' financial sustainability. Our focus has therefore changed to look at something that is meaningful for our purposes e.g. underlying operating position and levels of operating cash. We can also take assurance from the going concern statements and clean audit opinions in the accounts.

The Financial Sustainability of Colleges and Universities in Scotland

Issue date: 11 February 2020

Reference: SFC/CP/02/2020

Summary: This publication provides a summary of the financial forecasts for the university and college sectors. It formed part of our advice to Scottish Government in advance of the draft 2020-21 budget.

FAO: Principals, Chairs, Directors of Finance and Board Secretaries of Scotland's colleges and universities.

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