

Jisc annual report for the Scottish Funding Council August 2017 - July 2018

Reporting against the SFC-Jisc Outcome
Agreement 2017-18 to 2019-20

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Executive summary

In AY 2017-18 Jisc provided efficient and effective support to Scotland’s colleges and universities, with the support of grant-in-aid from the Scottish Funding Council (SFC). Jisc’s work contributes to **SFC’s strategic priorities** and assists funded colleges and universities to meet their outcome agreement objectives and wider policy objectives in Scotland, including **Digital Scotland**. Through the three cornerstones of a world class network, relevant digital content, and sector-specific advice and guidance, Jisc worked with institutions to ensure that they were able to make the most of the digital opportunities available, while making substantial savings compared with doing so individually.

Whilst we are finalising 2017-18 figures and expect no substantial change, we estimate value, savings and efficiencies in the region of £39.8m for higher education and £5.3m for further education in Scotland.

We ensured that all institutions eligible for, and requiring, a Janet network connection have benefitted from fit-for-purpose internet service provision. Institutions continued to make good use of the content collections offered by Jisc Collections, which offered UK value, savings and efficiency gains for digital content of over £100 million arising from our negotiations between all organisations. An independent review of our Open Access offsetting agreements estimated savings to the sector of at least £8 million.

Jisc’s research and development projects continue to make an impact. Highlights include the launch of our national learning analytics service (a world first) with participation from six Scottish institutions and the 2018 student digital experience tracker survey represented the voice of 37k learners in UK HE and FE and saw 15 participating Scottish institutions.

Each college and university in Scotland benefited from a nominated Jisc account manager to ensure we are meeting their needs and helping meet institutional strategic priorities. There were over 193 recorded face-to-face meetings held with member institutions, and a further 88 significant video or voice calls. Wider engagement included webinars, training, and **Connect More in Scotland** in June. Within our own operations, we continued to deliver on our strategic priorities, to perform highly and to deliver savings to our members, and within our own operations.

Introduction

Jisc is the UK's higher education, further education and skills sectors' not-for-profit organisation for digital services and solutions. We champion the importance and potential of digital technologies for UK education and research; and do three main things:

- We operate shared digital infrastructure and services
- We negotiate sector-wide deals with IT vendors and commercial publishers
- We provide trusted advice and practical assistance for universities, colleges and learning providers

Our research and development (R&D) work is integrated across these three areas.

Working closely with colleagues and sector bodies, our aim is to:

- Deliver considerable collective digital advantage, financial savings and efficiencies for UK universities, colleges and learning providers today
- Ensure these benefits are sustained and intelligently further enhanced

We do this as affordably, efficiently and as cost effectively as possible.

Jisc is an essential part of building both the capability and capacity of Scotland's further and higher education sectors, using the grant-in-aid from the Scottish Funding Council (SFC).

SFC funding allows us to support a wide range of UK-shared and Scotland-specific initiatives in order to meet **SFC's strategic priorities** and to assist funded colleges and universities meet their outcome agreement objectives and wider policy objectives in Scotland, including **Digital Scotland**.

We work in partnership with Scottish universities and colleges to ensure that they not only make the most of the digital opportunities available, but at the same time make substantial savings compared with doing so individually. Through Jisc providing centrally funded services, institutions benefit from economies of scale and efficiencies that would not be possible under a disaggregated model. This is because Jisc, acting on behalf of its member institutions, can exercise considerably more market power in procuring technology than individual institutions acting alone, and can procure as a very intelligent buyer. This has been shown to result in significant cost savings, helping to improve the efficiency of the sector and deliver value for money to the taxpayer. For example, we estimate that, in AY 2017-18, we saved Scottish HE and FE institutions **£45.09m**.

We appreciate the pressures on funding, and on universities' and colleges' finances. We therefore continued to establish new processes and operating models to ensure the effective management of our products and portfolio. We delivered a like for like saving on our recurrent budget of 3% compared to AY 2016-17. We also provided evidence to all of our funders about our value, and about how we support their priorities. This included a case study highlighting the value we bring to two of our HE members, Cardiff and UCL (shared with funders in July 2018) and began work towards three studies with FE members. This includes a study of a smaller college in Somerset, Strode, with a Jisc subscription of circa £7k per annum and in which we uncovered £133k worth of

direct savings, plus a further £37k cost avoidance as well as a case study with a further education college in Scotland. All three FE studies will be available in autumn 2018.

Limitations on data included in this report

Jisc's data comes from multiple sources. In relation to web-based resources such as practical guides, podcasts and blogs, web logs do not distinguish who has accessed a page and will only record usage if the person accesses from their ".ac.uk" account, with consequent underreporting of sector staff access. Event attendance, for training, online and face-to-face events, is taken from event registration. However, event feedback is anonymised to the level where it cannot be attributed, so we give general feedback from all attendees if there is insufficient numbers who attended from Scotland.

Value, Savings and Efficiencies (VSE)

Indicator: Jisc academic year VSE figures for Scotland, production calculated separately – including the figures as percentage of grant

We are currently undertaking a review of the VSE figures to ensure that the totals we report are accurate portrayals of the VSE our members think they get from our services. We have worked closely with our members on this to produce a revised and robust set of figures. Simultaneously, we are undergoing a website transformation in the Jisc Collections area where our members see high savings and value – and this ongoing work has meant that the regular reporting has needed to be halted until the new site is up and running. We expect to have a confirmed set of figures for AY 2017-18 by November 2018.

For this report, the summary below of the VSE that Jisc delivers in Scotland uses the AY 2016-17 usage figures where necessary and the AY 2017-18 core funding figures, as the reporting year usage is not expected to substantially differ for AY 2016-17. The VSE is based on direct usage where available, and where not has been proportionally based on the number of institutions, their size, and subscription numbers from the aggregate figure of £190 million saved by Jisc across all UK institutions supported in AY 2016-17.

Each service, sector deal or advice and guidance has a bespoke method for calculating VSE figures that has been developed and agreed with the service owner. These are always conservative estimates that are aggregated to calculate the total amount. For some services (such as e-books) the value is calculated against commercial equivalent services; for others the figure is calculated using estimates of staff time saved and the associated cost savings.

The annual SFC HE (core) grant AY 17-18 is £5,205,367 and Jisc provides a total HE savings of approximately £39,781.6k; while the FE core grant AY 17-18 is £2,868,005 against an approximate FE saving of £5,307.1k. In terms of savings secured for the sector expressed as a percentage of the grant the VSE for HE is 764%, and for FE 185% - with a combined return of 584%.

Element	Definition	HE amount	FE amount
Shared digital services			
Value	Value of services where customers would be unlikely to pay market rates but still get considerable benefit from using the service. For example, Jisc members subscribed to the Janet Network service automatically have access to the Computer Security Incident Response Team (CSIRT) service. The number of incidents cannot be calculated in advance, nor can value of the preventative work done behind the scenes to keep the system secure, but a figure can be estimated based on the impact if an attack occurs and the estimated number of attacks dealt with based on a conservative view of BIS and PricewaterhouseCoopers (PwC) estimates.	£7,732.8k	£1,008.5k
Savings	Where there is a reasonable expectation that the customers would have paid market price to access or obtain the service, for example, an alternative to the e-books for FE service.	£3,875.0k	£1,642.5k
Efficiencies	Other costs saved for customers, such as staff time or the cost of negotiating a shared digital collection and associated contract. In the case of Eduroam, the efficiency saving figure is based on the number of logins from external organisations and the associated saving of staff time from not having to generate and manage temporary logins and of the users not having to enter these details.	£3,275.1k	£1,267.6k
Subtotal		£14,883k	£3,918.5k
Savings	Where there is a reasonable expectation that the customers would have paid market price to access or obtain the service, for example, to access digital journal collections or archives.	£23,514.0k	£671.0k
Efficiencies ³	Other costs saved for customers, such as staff time or the cost of negotiating access and associated contracts	£1,384.5	£717.5
Subtotal		£24,898.5k	£1,388.6k
Value	This is the value of services where customers would be unlikely to pay market rates but still get considerable benefit from using the service. For example, an organisation may not have chosen to undergo a financial x-ray as they would have had to pay a specialist IT consultancy. Feedback from Jisc members is that this not something they would have sought if Jisc had not offered the service.	£0	£0
Subtotal		£0	£0
Total		£39,781.6k	£5,307.1k
Total HE and FE		£45,088.7k	

Indicator: Jisc internal overall reduction in cost

Internally we continued to make savings against budget. We delivered a like for like saving on our recurrent budget of 3% compared to AY 2016-17. Our net contract savings (where we have achieved a better price from a supplier) for the year to 31 July 2018 were estimated to be £1,500,851 and our net efficiency savings (from finding a more economical way of achieving the same result, for example by bring more recruitment in-house) were £1,802,006 (ie a total of £3,302,857). We are currently finalising our financial close for the year to 31 July 2018 but we do not expect any material change to these figures.

Jisc in Scotland

Jisc's funding allows it to support the Scottish Funding Council in its outcomes related to high quality teaching and learning, world-leading research and greater innovation in the economy, as outlined in the SFC-Jisc Outcome Agreement.

Jisc's member engagement is delivered through a consistent and coherent regional model. The Jisc Scotland team comprises one Head of Nation (shared with Jisc Northern Ireland), and three full time account managers, working to ensure best take-up and use of Jisc's offer, to relay member feedback into Jisc, and to coordinate the breadth of Jisc's engagement with the institution. This team is backed by UK-wide support including subject specialists across a range of expertise, project experts and service managers. Colleges and universities in Scotland access Jisc's services and support through their designated account manager, through our helpdesks, and directly with relevant Jisc staff. Each institution also has access to a self-service dashboard of service take-up and usage information (My Jisc).

Indicator: Number of interactions with supported institutions

In the reporting period, there were 193 recorded face-to-face meetings held with member institutions in Scotland, and a further 88 significant video or voice calls.

Indicator: Number of additional take-ups of Jisc services

We recorded 70 instances where institutions took up a service. In terms of the most common, 15 of these were instances of practical support and assistance, and 10 were new users of the Digital Student Tracker Survey tool, and the rest were spread across 23 different services. 13 universities and 14 colleges took up additional Jisc services in the reporting period.

Indicator: Qualitative examples of Jisc support for institutions, demonstrating engagement, delivery and impact

Ayrshire College used the Jisc Telecommunications Framework to procure its three inter-site connections. Doing so saved them time and effort, as Jisc experts assisted the drawing up of the specification, the process of tendering, and made cost savings of over £150k over three years, for 10Gb/s links instead of 1Gb/s.

The University of Strathclyde took up enhanced DDoS protection, after being impressed at the protection given by the standard service in the face of a string of DDoS attacks on the main Moodle server at exam time, in order to have a further level of protection in place to protect a vital service into the future.

The University of Stirling required, at short notice, five days of penetration testing in order to ensure it met required levels of network security. Through the exercise of flexibility in service delivery, and recognising the urgent member need, Jisc was able to deliver the testing rapidly.

The Student Digital Experience Tracker was taken up by seven universities and eight colleges in the reporting period. An example of its impact was to allow the University of St Andrews to inform review of its VLE and in developing digital strategy, with increased senior management appreciation of Jisc's role, all through analysis of early responses made available through interim reporting.

Jisc's sectoral strategies

Jisc's activity is guided by its key UK-wide strategies in the following areas adapted as appropriate to meet Scotland's particular context and priorities, as defined in the SFC / Jisc Outcome Agreement AY 2017-18 to 2019-20:

Higher education learning and teaching strategy and student experience strategy

Indicator: Mapping of relevant Jisc activity in the higher education learning and teaching strategy against SFC's strategic outcomes and priorities

In order to support the SFC Strategic Plan 2015-18 outcome on high quality teaching and learning, Jisc provides the following services in support of access to learning, success in learning and progression in learning in further education:

SFC outcome: Access to learning

Example Jisc activity:

Jisc's national infrastructure, including the **Janet network**, supports social mobility by providing institutional connectivity and access to resources right across the UK irrespective of geographical location or social mobility. The Janet network ensures that rural or isolated communities are not unfairly disadvantaged due to higher costs for population size.

Online technologies can help students with disabilities by making learning opportunities more available. Using assisted technologies provides more equitable access to learning content and activities. Jisc provides **advice and guidance**, consultancy and resources on how institutions can support learners with different needs.

Through **Jisc Analytics Labs**, we are working with institutions to co-design better ways to create and use business intelligence. For example, we can advise on using engagement analytics to support 'at risk' students and improve student retention. Analysing engagement data can help staff identify which students are likely to find university life difficult before it is too late. Data relating to some predisposing factors (eg declaration of disability) can be captured, but others (such as responsibility as a carer) are not generally held in any data systems.

SFC outcome: Success in learning

Example Jisc activity:

Harnessing the power of data and learning analytics: In 2018 we launched the world's first **national learning analytics service**. So far, 30 universities and colleges (five HEIs and one FEI from Scotland) have signed up to the service, which uses artificial intelligence (AI) to harness the collective power of data. It has been shown that data can be analysed and leveraged to make informed decisions to enhance student satisfaction, retention and attainment. Jisc's service includes a Learning Data Hub (LDA), a base suite of products including Learning Analytics Predictor (JLAP) and Data Explorer, tool kit and guides, community

forums and consultancy and training. Significant returns are potentially available through offering the service internationally, on a franchise basis with local partners.

The Jisc digital experience insights service offers institutions a unique look at all aspects of the digital environment through the eyes of their students and staff. It provides practical mechanisms for engaging with staff and students, analysing their responses and planning and **implementing changes** to improve their experience of the digital environment. It is built on several years of work with universities, colleges and training providers developing Jisc's **student digital experience tracker**, an online survey of students' expectations and experiences of using technology (with eight Scottish colleges and seven universities participating).

Intelligent campus: Universities and colleges spend billions on their campuses, yet they are frequently under-utilised and are often a frustrating experience for students. We are developing a service to help our members use data to make smarter use of their campus or estate. We will do this by extending our learning analytics infrastructure to collect data from a wider range of institutional software and devices to deliver novel insights to institutional managers to help them to make their campuses more efficient, improve student experience and deliver higher quality teaching.

Student electoral registration service: We developed a service for academic registrars to facilitate the electoral registration of students, driving democratic engagement and enhancing compliance with the Higher Education and Research Act 2017.

SFC outcome: Progression from learning

Example Jisc activity:

Digital capabilities/discovery tool: We worked with stakeholders and sector bodies to provide clear guidance on the digital skills and capabilities that are required for a range of staff roles and to equip leaders and staff with the tools and resources they need to improve digital capability at a local or institutional level. This work, built upon our **developing digital literacies** work for staff and students, involved a pilot of 83 institutions (including four Scottish colleges, the Scottish Courts and Tribunal Service and the Scottish Qualification Authority), with the revised tool/service launching in September 2018.

Innovating with the best edtech businesses: We are working with the flourishing edtech sector via educational technology R&D projects and activities, partnering with edtech start-ups to expedite the product development cycle and bring market-ready products into UK education and research. This provides a cost-effective mechanism for sharing the costs of innovation and ensures the sectors we serve can meet new technological requirements and are sustainable in the longer term. For example, students taking part in our **ideas competition** will have a valuable opportunity to develop entrepreneurial skills and make useful contacts as well as enriching their CV.

We worked in partnership with **Placer**, a platform and app developed in partnership with universities and colleges offering work experience, apprenticeship and graduate job opportunities to students in further and higher education.

Further education and skills strategy

Indicator: Mapping of relevant Jisc activity in the Scottish further education and skills sector against SFC's strategic outcomes and priorities

In order to support SFC Strategic Plan 2015-18 Outcome on high quality teaching and learning, Jisc provides the following services in support of access to learning, success in learning and progression in learning in further education:

Janet network and components (used by 25 colleges)

The UK's high performance and reliable research and education network with high bandwidth and cutting-edge optical technology. The Janet network allows teachers and lecturers to push the boundaries of traditional education using the latest technology for enhanced student experience.

Jisc Collections (used by 14 colleges)

Jisc has negotiated and licensed high-quality digital content that meets the requirements of colleges to support, teaching and learning as well as academic research. This saves the colleges' time and resource by providing a trusted centralised service that reduces duplication of effort, complies with procurement regulations, and enables colleges to easily subscribe and manage their content agreements.

CSIRT (providing cyber security to all colleges, with 16 colleges actively reporting incidents)

Janet network Computer Security Incident Response Team (CSIRT) acts as a gatekeeper that proactively keeps all college network access secure, allowing staff and students to rely on internet access for teaching and learning. CSIRT also responds to queries and incidents reported by colleges themselves, with 16 colleges raising tickets, or having tickets raised on their behalf, in the reporting period.

Eduroam (used by 19 colleges)

Eduroam creates secure and seamless internet access across locations and devices. Staff and learners can connect to the internet wherever they are including at a college, as well as when visiting the premises of another eduroam-enabled institution. Eduroam makes it easier for users to get online seamlessly and from multiple devices.

UK Access Management Federation (used by 21 colleges)

UK Access Management Federation provides teachers and learners with easy online access to their own college whether they are elsewhere in the UK or overseas.

e-books for FE (used by 15 colleges)

e-books for FE is a collection of current curriculum relevant e-books specially selected to meet the needs of FE and skills and made freely available to all UK FE colleges. The Collection contains e-books from a variety of publishers, including Bloomsbury, Cengage, Hodder Education and Taylor & Francis, and covers subjects as diverse as fashion, design, childcare, health and social care, automotive engineering and hospitality. There is no charge to access the platform.

Practical support and assistance (used by 10 colleges)

In addition to frequent, informal assistance, Jisc has a number of defined advice and guidance services to assist colleges in effectiveness, efficiency and compliance. These included accessibility snapshots to improve inclusion practice in certain key technology areas, GDPR compliance assistance, and review of IT infrastructure in order to ensure effective and efficient support for teaching, learning and other college activities.

Research strategy

Indicator: Mapping of relevant Jisc research-related activity in the Scottish higher education sector against SFC's strategic outcomes and priorities

In order to support SFC Strategic Plan 2015-18 Outcome on world-leading research, Jisc provides the following services in support of research competitiveness, research training and international connections in higher education:

SFC Outcome: World-leading research- Research competitiveness

Example Jisc activity:

The Janet network: Jisc invests in the mission-critical UK E-Infrastructure required by the research base to be safeguarded for the long-term. In AY 2017-18, this included the mid-term and regional upgrading of the Janet network. We completed the £15m project to upgrade the Janet backbone with 400Gbps optical channels installed in preparation for 600Gbps IP service on time, with no member disruption, making it the 'largest' NREN in the world. We further safeguarded the network against cyber threats with our penetration testing service which detects and defends against thousands of attacks every year on the Janet Network. 49 tests took place this past year, with 48 for FE and 49 for HE in the pipeline. The launch of our new cyber security portal will reassure members that they are protected from cyber attacks.

E-infrastructure: We engaged UKRI closely as they develop their Research Infrastructure Roadmap, though not allowing that to impose planning blight on Jisc. **Safeshare** was rolled into core Janet, as a strategically vital capability where we expect demand to grow with emerging research and compute requirements.

Research data/discovery shared services: We continued to develop our state-of-the-art shared infrastructure for universities to manage and reuse research data for data publication, archiving, preservation and storage. Our research data shared service will enable a national response to interoperability and the meeting of funder mandates, while saving time and achieving efficiencies. This includes investment in a data discovery service exploring how to surface research data into researcher workflows to address the gap.

Support for open access / the REF and moving towards Open Science: Jisc has developed, tested and deployed the technical infrastructure to support the implementation of open access publishing, a key requirement of the UK funding bodies (and comprising a foundation for us to develop an open science service). This includes **online resources and support for researchers** to help achieve compliance (eg **SHERPA**), a search engine (**CORE**), a statistics aggregation service (IRUS-UK), a service notifying HEIs when journals publish papers (eg **Publications Router**) and various **metadata profiles**. All of these services offer huge value to the sector and we recently began enhancing these services to ensure that align with changes in research policy.

Equipment sharing: In future, funding bodies are going to be keen to see greater use of equipment and facilities. Some expensive research equipment can have as low as 5% utilisation at present. We worked with Strathclyde University to link their asset register to **Equipment.data** (Jisc's platform for institutions to share state of the art equipment), and to develop an **equipment sharing case study**.

Research analytics: this new area of development work is intended to increase research excellence and integrity. We are identifying a coherent research analytics offer, enabling practical tests and experimentation with open metrics to develop new (more open) research indicators for research assessment. We also began to develop a tool to enable universities to use prediction markets to prepare for the REF.

Digital resources: We support UK research and education with content procurement, management, discovery and use, with the following notable achievements in the reporting period:

- 76 institutional library catalogues are on Jisc's National Bibliographic knowledgebase (NBK), improving collaboration and access. A further 66 are in the pipeline
- Our new partnership with Airbus, gives students access to next generation geospatial data services and has saved £1m pa in service costs
- HE spend on digital content through Jisc increased from 45% to 48% this year, generating £100m pa of savings to members

SFC Outcome: World-leading research- Research training

Example Jisc activity:

Research skills: Jisc's research strategy 2018-21 outlines two relevant priorities: 1) "We will pilot more direct support for researchers undertaking data-driven, interdisciplinary research" and 2) "We will pilot the provision of digital skills for researchers and research professionals with the view to developing a sustainable product for our members". In the reporting period, we built a shared understanding with potential national delivery partners of the range of requirements. Our next step is to focus in particular on the skills needed by the sector to implement **DORA**, an international declaration on good practice in research assessment, focused on responsible use of research metrics.

SFC Outcome: World-leading research – international connections

Example Jisc activity:

Our research infrastructure seeks to support international research with seamless federation with global services across the whole research stack, from the network to active research tools. International research services for UK members and customers include:

- Launch of Jisc's **Global Connect service**
- New exploratory work developing short and long term options with GÉANT and Ankabut (local NREN) for connectivity options for UK Universities based in Dubai
- Strengthening of our Metropolitan Area Network (MAN) in Malaysia for our EduCity customers by using the local NREN in addition to commercial provision
- A new pilot project to explore negotiating international access to digital resources. Over 50 institutions (universities) signed up to take part in the pilot
- New case studies with Edinburgh, Lancaster and Glasgow Universities in China; and QMUL in Malta

International strategy

Indicator: Mapping of relevant Jisc international-related activity in the Scottish further and higher education sectors against SFC's strategic outcomes and priorities

In order to support SFC Strategic Plan 2015-18 outcomes on world-leading research and greater innovation in the economy, Jisc carried out the following activity in support of international connections in HE generally and in support of promoting Scotland as source of innovation and creativity.

Example Jisc activity:

- GÉANT: Jisc is a member of the GÉANT board which is an important step to help ensure the UK continues to influence the European networking agenda in the context of BREXIT
- Jisc Attendance at Global NREN CEO Forum to discuss global security initiatives, developing the NREN value proposition for education, joint software initiatives and took an active role in discussions on big issues facing NRENs, culture and member engagement
- Jisc and the Coalition for Networked Information (CNI) brought together experts in digital scholarship from the US and UK to share leading international practice and policy for our 12th biannual conference held in Oxford on 2 July 2018. The conference focused on how digital technology is revolutionising research, research processes and practice are modernising and the developments mean new roles in supporting both the research institution and strategic requirements of the university
- Project with SingaREN (Singapore NREN) and UK University to explore large scale data transfers of genetic data
- Continued support for the **Knowledge Exchange** (alongside five European organisations)
- Input to the recently released Higher Education Commission report on Internationalisation. Jisc CEO, Paul Feldman was on the inquiry panel

Example Jisc activity in support of transnational education (TNE):

- Jisc trust and identity services have been of significant interest, with MoU's signed with Hong Kong, New Zealand and UbuntuNet (Southern and Eastern Africa) NRENs for the Managed Federation Service Pilot
- **Library analytics services:** we are collaborating with the Council on Library and Information Resources (CLIR) and the Digital Library Federation (DLF) to bring IRUS to the United States, and with CAVAL to bring IRUS to Australia and New Zealand. Apart from revenue generation, these developments complement JUSP-UK by building a community of interest to lobby for standards compliance, to collaborate on challenges related to library usage data and to share good practice
- We are starting work looking at the UK FE and skills sector's international activities by working with AoC and the devolved administrations

Operations

Shared infrastructure and services

Indicator: All universities and colleges in Scotland to have a robust and secure connection to the Janet network, and Institution connection to the Janet network (availability)

All universities and colleges in Scotland area provided with a robust, secure connection to the Janet network. The average availability across all Scottish Janet Network connections in 2017-18 was 99.97%.

Indicator: Cybersecurity incidents - Number of CSIRT (Computer Security Incident Response Team) tickets (Centralised coordination of reported security incidents)

The number of Janet Network CSIRT incidents has risen for both FE and HE since the previous academic year though this is not indicative of a change in protection (which is always present) but indicates the greater number of incidents where a ticket was raised – 263 tickets relating to cyber security incidents in Scotland in 2017-18, predominantly relating to higher education, but with significant numbers of further education related tickets.

The CSIRT incident types for the entire UK in AY 2017-18 are shown in the table below:

Incident Breakdown Table

Csirt Incident Type Name	2018-07	2018-06	2018-05	2018-04	2018-03	2018-02	2018-01	2017-12	2017-11	2017-10	2017-09	2017-08
Compromise	21	4	20	4	6	463	524	105	15	22	78	8
Copyright	18	42	65	44	178	81	96	106	128	295	77	78
Denial of Service	15	27	24	21	106	167	188	150	197	51	49	5
General Query	6	6	20	37	17	9	26	11	22	20	12	12
LEA Query	3	2	4	4	4	0	3	1	3	2	0	0
Malware	219	135	116	145	305	173	332	290	335	412	323	185
Misconfiguration	9	4	2	6	34	9	12	4	0	3	5	1
Other	2	20	4	6	5	3	1	7	7	3	12	4
Phishing	13	7	5	7	5	6	3	0	9	5	9	10
Scanning	19	9	22	18	12	21	20	3	5	5	8	8
Social Engineering	1	3	1	1	0	1	0	0	0	1	0	0
Unauthorised Use	7	4	3	8	15	10	13	2	7	6	4	7
Unclassified	0	0	0	1	0	0	0	0	0	2	0	0
Undetermined	1	0	0	0	1	1	0	0	1	0	0	1
Unknown	3	4	0	44	5	2						
Unsolicited Bulk Email	4	6	10	10	7	6	10	1	9	15	10	11
Grand Total	341	363	276	356	700	952	1,128	680	738	842	587	330

Indicator: UK Access Management Federation service – number of institutions using this service which enables secure access to digital resources.

In AY 2017-18, the UK Access Management Federation service was used by an average of 21 FEIs (24 in 2016-17) and 18 HEIs (17 in 2016-17).

Indicator: Eduroam – number of institutions with operational instances of eduroam

During the reporting period, eduroam was operational at 19 FEIs (84% of total), and at all 19 HEIs (100% of total).

Indicator: Cloud services - Average number of institutions using/having operational instances per month in the period

In addition to cloud-based services offered by and through Jisc (such as use of the Jisc MS Office 365 agreement), a number of institutions made use of cloud platform capability through Amazon Web Services (AWS), including, in AY 2017-18, the University of Aberdeen, the University of Edinburgh, and the University of Glasgow.

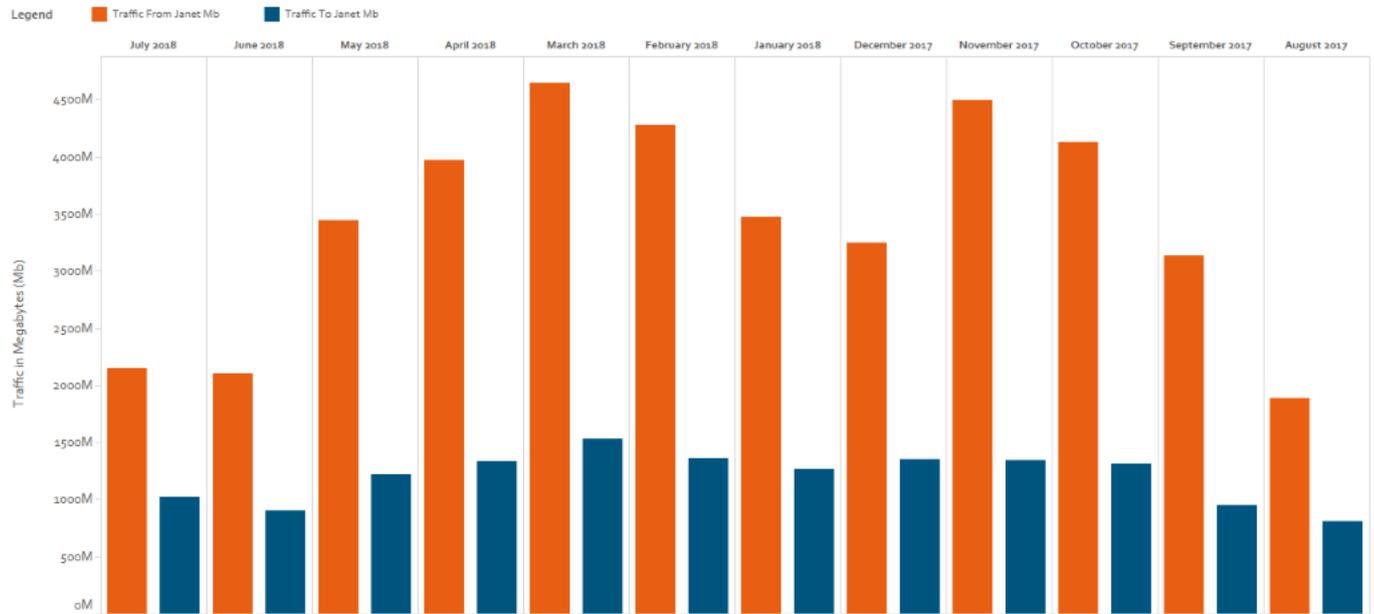
Indicator: Managed router service - Average number of institutions using/having operational instances per month in the period

In AY 2017-18, the Managed router service was used by an average of 13 FEIs and 5 HEIs, being unchanged from the previous year.

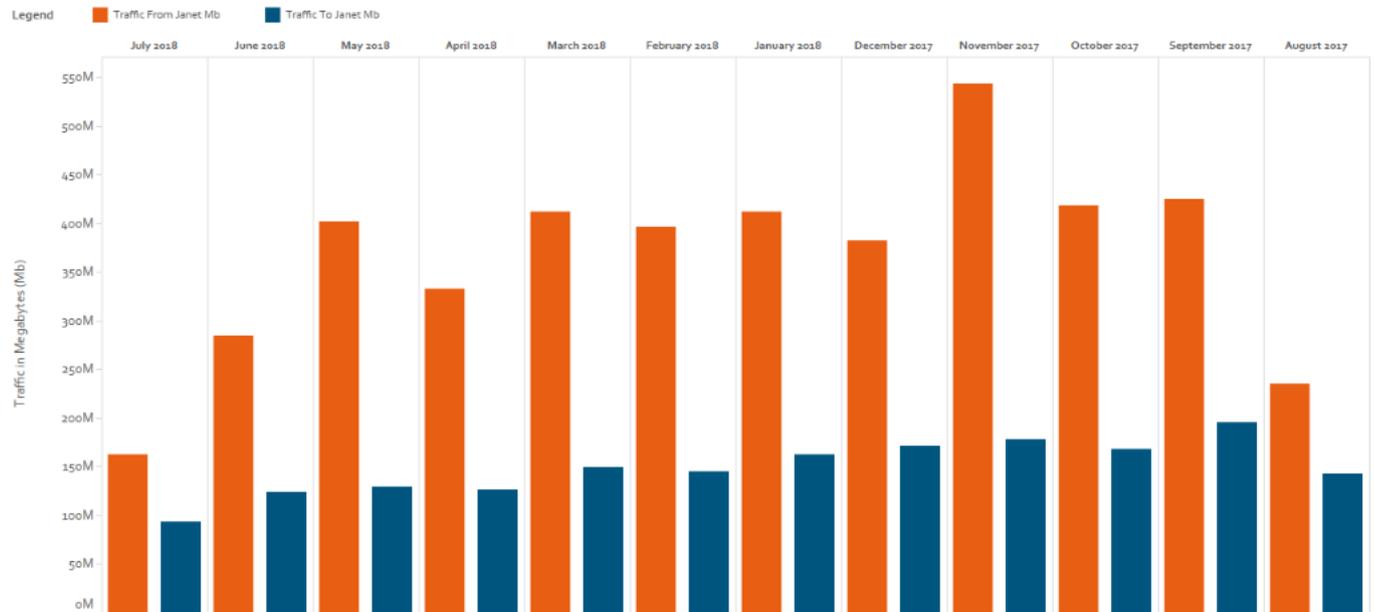
Uptake and usage of Jisc key services by institutions

Indicator: Total traffic to and from the Janet network by higher and further education sectors over time

Higher Education in Scotland:

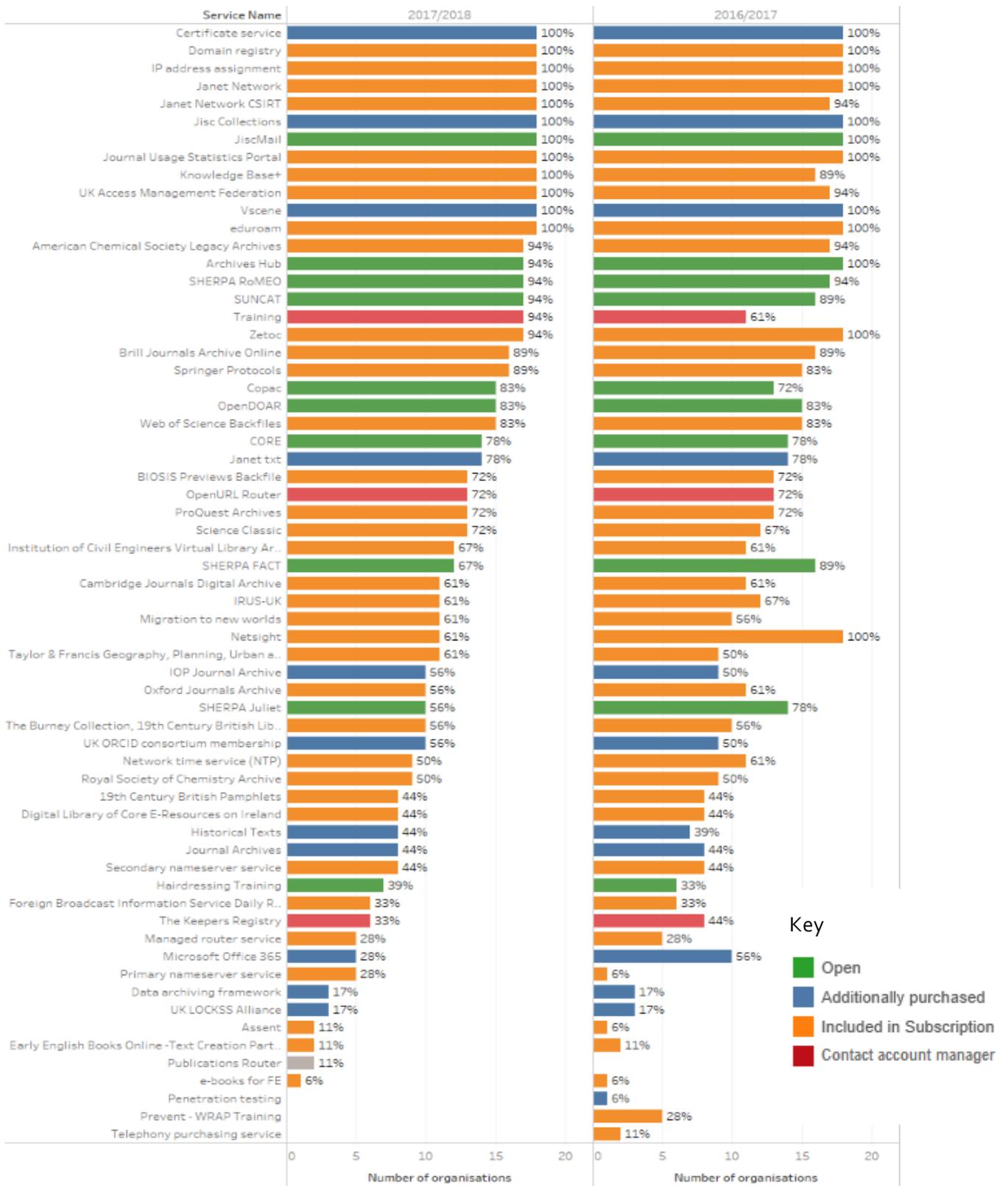


Further Education in Scotland



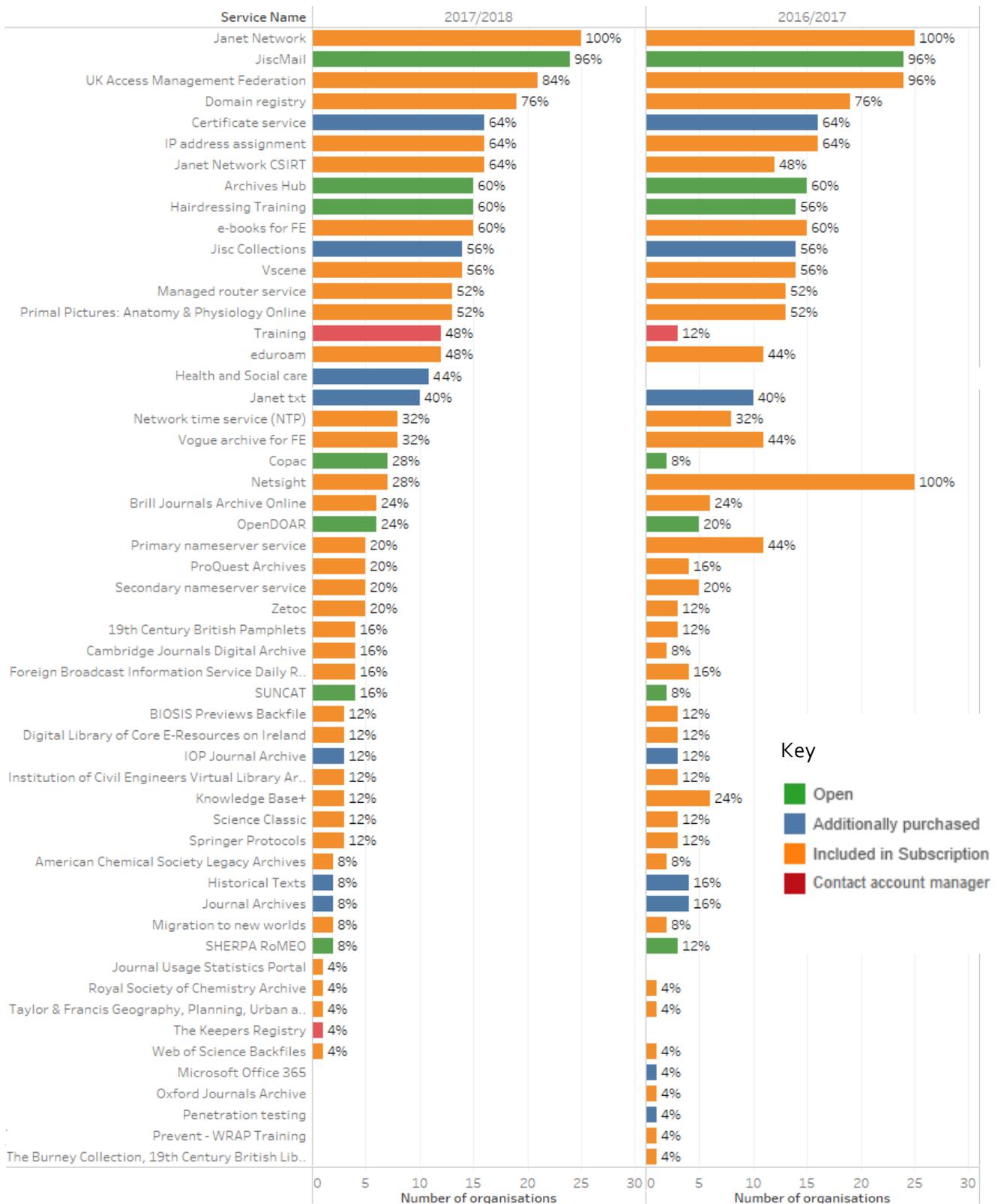
Indicator: Higher education comparison of subscriptions by Academic Year

The following table shows a comparison of HEI subscription to Jisc services between AY 2016-17, and AY 2017-18.



Indicator: Further education comparison of subscriptions by Academic Year

The following table shows a comparison of FEI subscription to Jisc services between AY 2016-17, and AY 2017-18. Note the eduroam figures are low as do not show the seven behind SWAN.



Brokerage (content and savings)

Indicator: Examples of key sector deals achieved in the period

Jisc Collections negotiates over 250 licences covering over 350 subscription offers. In 2017-18 Jisc Collections undertook 100 renegotiations, issued 5,500 invoices worth £59million across the UK, and reduced rate of price inflation for 'Big Deals' to 2%.

Key sector deals in 2017-2018 included:

- Wiley Online Library Journals and OA Offset
- Taylor & Francis Journals and OA Offset Agreement
- Oxford Journals Full Collection and Subject Collections
- Nature Research Journals
- OUP Online Databases
- Project Muse Licence Agreement
- Cambridge University Press (CUP) and Annual Reviews Journals Collection
- JSTOR - Archive Collections
- Cambridge Core
- ORCID Premium Consortium Membership
- Cambridge Companions Online (CCO)
- ICE Virtual Library
- RefWorks 2015-2018
- Oxford Scholarship Online
- AAAS: The American Association for the Advancement of Science for its six peer-reviewed journals

Indicator: Savings secured by Jisc on licensed digital content

We estimate that in AY 2017-2018, Jisc Collections secured value, savings and efficiency gains for digital content of over £100 million arising from our negotiations between all organisations.

An independent review of our Open Access offsetting agreements estimated savings to the sector of at least £8 million.

Jisc's sector deals continue to have a significant impact on the sector's ability to acquire the technology and resources it requires. It deals with the largest and most significant suppliers in each market to achieve large-scale savings. In AY 2017-18, Jisc Collections negotiations covered expenditure of £126million and accounted for 48% of total sector spend on e-content (around £260 million).

Practical advice and assistance, training, and consultancy

Indicator: Event satisfaction rating for delegates at Connect More Scotland

76 delegates attended the Scotland Connect More event held at the Carnegie Conference Centre in Dunfermline, Fife in June 2018. The event achieved an 89% satisfaction rating (the second highest across the events) from 27 delegates who filled out the post event survey. Overall, delegates felt that it was a well organised event with plenty of time for networking built in.

Points of interest raised by the Scotland delegates included:

- Plenty of time for networking opportunities
- Relevant programme and discussions
- It was good to explore the tech in DigiLab

Indicator: Subject specific events (regular webinars, workshops and online events): eg 95% satisfaction from Scottish respondent delegates

The HE leadership survey in Oct 17 had 16 respondents; 15 were satisfied with the services and support provided by Jisc and one did not know.

There were only four respondents from Scotland to Digifest 2018; five at Networkshop; four at Stakeholder Forum; two at the Security Conference and one at the GDPR conference. As discussed in [Limitations on data included in this report](#) these are insufficient to extrapolate from. However, the overall satisfaction for these events from all participants are: Digifest 2018 -81%; Networkshop – 66%; Stakeholder Forum – 78%; Security Conference – 77%; and GDPR conference – 95%.

Indicator: Subject specialist satisfaction: 90% satisfaction rating from Scottish attendees

In 2017-18, we achieved 100% customer satisfaction score following delivery of practical support and assistance to Scottish members.

Indicator: Highlights of events in Scotland, and UK events of interest to Scotland

There were 59 face-to-face events organised by Jisc with 388 registered attendees from Scottish higher and further education establishments, and from related organisations like the SFC. There were a further 32 online events with 279 attendees from these organisations. Overall 667 attendees were registered with 574 from HE, 84 from FE and nine registered from other organisations.

Connect More (June 2018, Fife)

Our annual teaching and learning focussed event, Connect More, was held in June in Fife and attended by 76 delegates. This year's event themes included building staff digital skills, supporting all students to achieve, harnessing digital technology to deliver an excellent learning experience, and developing personalised learning.

Stakeholder Forum National Hub (March 2018, University of Stirling)

In order to provide a better, closer opportunity to feed into Jisc's ongoing direction, a Stakeholder Forum National Hub was held in Stirling, in parallel with the main UK-wide event in Birmingham. The format included live feed from the main Stakeholder Forum, Scotland-focussed in-person discussion of strategic themes, and the opportunity for delegates at the Stirling hub to put forward questions to Jisc's leadership.

The top five face-to-face events by number of Scottish delegates attending were:

- **Connect More in Scotland** (Stirling, June 2018)
- **Intelligent Campus Community Event** (Glasgow, April 2018)
- **Digifest 2018** (Birmingham, March 2018)
- **Open Access Summer Series Community Event** (Glasgow, July 2018)
- **Learning Analytics Network Meeting** (Edinburgh, February 2018)

The top five online events by number of Scottish delegates participating were:

- **GDPR: Into Practice Online Briefing** (March 2018)
- **Moving towards GDPR** (September 2017)
- **GDPR: What does it mean for research and repository managers online briefing** (April 2018)
- **Open Access Community Webinar** (September 2017)
- **Moving towards GDPR** (August 2017)

Indicator: Total number of Digital Leadership courses held and delegate feedback

No Digital Leadership courses were held in Scotland in AY 2017-18.

Indicator: Total number of Workshop to Raise Awareness of Prevent (WRAP) training courses held, total number of Scottish delegates trained

Across the UK, there were 67 instances of the Workshop to Raise Awareness of Prevent (WRAP) training course with 924 staff attending. Of these 17 were from six Scottish institutions who attended 14 courses.

Indicator: Session numbers using key Jisc resources (blogs, guides, research and development pages) over time

The following table shows the visits from institutions from Scotland with domains ending in .ac.uk. As said in the section **Limitations on data included in this report** these figures do not include accesses from home domains; nor does it include downloads which may be accessed frequently.

	Blogs	Guides	R&D	All jisc.ac.uk
Sessions	1233	3608	2238	14381
Page views	2199	9169	4592	29449
Unique page views	1743	7050	3401	23477

Indicator: Guide downloads and visits over time

The following individual pages were the most popular in AY17-18, excluding the network page and home page (www.jisc.ac.uk), legacy pages, and the area home/search pages (eg www.jisc.ac.uk/guides) are:

• Connect more... in Scotland	Event
• Workshop to Raise Awareness of Prevent (WRAP)	Advice
• UK higher education social media influencers named	Blog
• Developing students' digital literacy (home page)	Guide
• How and why you should manage your research data: a guide for researchers	Guide
• Developing digital literacies	Guide
• Code of practice for learning analytics	Guide
• Effective learning analytics	R&D
• Building digital capability	R&D
• UK research data discovery	R&D

Jisc is now phasing out guides in PDF format and therefore the indicator of guide downloads will no longer be relevant. At the moment the only page with an associated PDF in the above list is the **Code of practice for learning analytics**. None of the top guides viewed in AY 2017-18 by all organisations, as well as those from Scotland, have PDF versions. Instead all multi-page guides have a **Print-ready version** option that collates the pages into one long article that can be printed.

Indicator: The ten most visited guides on the jisc.ac.uk website by those from a Scottish higher education and further education ac.uk domain

The following guides (in alphabetical order), were the most visited during AY 2017-18:

- Change management *
- Copyright law *
- Data protection
- Data protection and research data *
- Designing learning and assessment in a digital age *
- Developing digital literacies *
- Developing students' digital literacy
- Networking, computers and the law *
- Recording lectures: legal considerations
- Transforming assessment and feedback with technology *

* refers to multipage guides

Note that **How and why you should manage your research data: a guide for researchers** and **Code of practice for learning analytics** are not included as they are single page guides and visits to multi-page guides exceeded them when the number of sub-pages are collated.

Research and development

Indicator: The number, format and where relevant outcome of Scottish universities and colleges participation in Jisc R&D projects in AY 2017-18:

Project	Overview	AY 2017-18 activity
Building digital capability	This project ensures effective and appropriate use of technology by college and university staff which is vital in providing an enhanced student experience and in realising a good return on investment in the digital environment.	In the period December 2017-June 2018 the following Scottish colleges have been involved with the open pilot of the Discovery tool: <ul style="list-style-type: none"> • Ayrshire College • City of Glasgow College • Fife College • North East Scotland College • Scottish Courts and Tribunal Service • Scottish Qualifications Authority (SQA)
Learning Analytics	Support for universities and colleges to use data effectively, including the Data explorer , the Study goal app , the Learning data hub , and the Learning analytics purchasing framework	In the period AY 2017-18 the following institutions were active participants in the Learning Analytics beta service HE <ul style="list-style-type: none"> • University of Dundee • University of Abertay Dundee. • Edinburgh Napier University • Glasgow Caledonian University • University of Stirling FE <ul style="list-style-type: none"> • Dumfries and Galloway College

Project	Overview	AY 2017-18 activity
<p>Student Digital Experience Tracker</p>	<p>The tracker is a short survey to gather students' expectations and experiences of technology, based on a concise set of questions which have been intensively trialled with higher and further education students for readability and ease of response.</p>	<p>In the AY 2017-18 the Student digital experience tracker had the following participating colleges from Scotland:</p> <ul style="list-style-type: none"> • Borders College • Dumfries and Galloway College • Edinburgh College • Fife College • Forth Valley College • Glasgow Kelvin College • North East Scotland College • West Highland College UHI • Abertay University • University of Aberdeen • Edinburgh University • University of Glasgow • University of St Andrews • University of Stirling • University of West of Scotland
<p>Research Data Shared Service</p>	<p>The aim is to advance research data management through collaboration</p> <p>We are working on a pilot service to allow researchers and institutions to meet their policy requirements for the deposit and curation of research data.</p>	<p>The following universities have been involved in the RDSS project in AY 2017-18:</p> <p>Alpha phase testing of our preservation pilot system</p> <ul style="list-style-type: none"> • University of St Andrews • University of Glasgow • Development of the DataVault archival storage system • University of Edinburgh

Project	Overview	AY 2017-18 activity
<p>Equipment Sharing Made Easy</p>	<p>Helping universities, colleges and the research community to share equipment with each other, and with industry.</p>	<p>We engaged with Strathclyde University to link their asset register to Equipment.data , and to develop an equipment sharing case study.</p>
<p>Analytics Labs and Community Dashboards</p>	<p>Our Analytics Labs service is a research environment within which we co-design new data derived products and services with our members and other customers. It is offered free to Jisc and HESA members (contact us for a price if you're not a member) and provides a unique continuing professional development (CPD) opportunity for higher education.</p> <p>Participants are supported in the further development of their competencies in data manipulation and visualisation, knowledge of the national data landscape and use of data for enhanced strategic decision-making, all in an educational setting.</p> <p>Participation culminates in a showcase event with participants demonstrating their outputs to peers and a panel of experts. Participants are also invited onto our Analytics Labs alumni forum gaining early previews of product release.</p> <p>Accreditation via a digital credential is awarded to participants on successful completion.</p> <p>Once our established stakeholder group (made up of leaders and practitioners from the higher education sector) have identified themes to explore, we acquire relevant data and support our teams in agile rapid proof of concept product development.</p> <p>The most promising dashboards and visualisations for higher education use are redeveloped by our in-house staff into highly valuable 'suites' of product designed to help</p>	<p>The following universities have been involved in the analytic labs and community dashboard project in AY 2017-18:</p> <ul style="list-style-type: none"> • Robert Gordon University • SRUC • University of Glasgow • University of St Andrews

Project	Overview	AY 2017-18 activity
	<p>with easy exploration and decision-making within the sector. These are released through HESA's Heidi Plus HE intelligence platform as 'community dashboards'. These are made available to 178 HEIs and related organisations.</p>	

Jisc KPIs

Jisc's strategy 2016-19

During the reporting period, Jisc was led by its vision, aim and strategy as presented in the SFC-Jisc Outcome Agreement, which is as follows:

Our Vision

For the UK to be the most digitally advanced higher and further education and research nation in the world.

Our Aim

To achieve this vision, each day we will continue both to power UK's higher and further education's teaching, learning and research and inspire its digital transformation.

Our Strategy 2016-19

To achieve our aim, we will:

1. Continue to develop the Janet Network, the foremost national research and education network in the world.
2. Focus our products on the areas that make the most difference and offer solutions tailored to the unique challenges of the education and research sectors by:
 - » Building on our strong reputation in higher education, especially with senior leadership teams, by adding indispensable value.
 - » Becoming a recognised and valued partner to further education through our world-class infrastructure and our expertise in technology-assisted learning.
 - » Strengthening our position as a partner and key enabler of UK research through our network, research infrastructure, curation and discovery.
 - » Growing our offering internationally to further benefit our members.
3. Increase our profile with the sectors, stakeholders, key influencers and members ensuring that they recognise the value and benefit of Jisc to them and our contributions to the sector.
4. Continue to build a strong, financially sustainable, position.
5. Operating to high standards of efficiency and effectiveness, be recognised as the leading sector agency in the UK and internationally with motivated, passionate staff and satisfied members.

For reporting against our strategy please see the relevant October 2018 FOG report.

KPIs

Equality KPIs

Indicator: Events - 100% of all Jisc sector events will take place in a wheelchair accessible venue.

As part of Jisc's choice of venue for our events, we require all venues to provide wheelchair accessible access.

Indicator: Events: Consideration for the needs of the hearing impaired will be given for 100% of all Jisc sector events.

As part of Jisc's choice of venue for our events, consideration is given to the needs of the hearing impaired.

Indicator: Events: Female delegate attendance at Networkshop will to equate to 15% in order to promote the role of female professionals in the sectors Jisc serves.

Out of 365 delegates to Networkshop, 57 were female, being 15.6%, and meeting the target set. Jisc will continue working to promote the role of female professional in the sectors served by Jisc.

In addition to these measures, in line with our corporate social responsibility statement in AY 2017-18, we:

- Published our gender-pay report and held an all-staff meeting to share the details and our plans to address the gap. We will be implementing our plans through AY 2018-19.
- Provided online training resources for unconscious bias on our new learning platform, to be expanded further in AY 2018-19.
- Established our Equality, Diversity and Inclusion network in which all staff can participate.
- Signed up to the TechTalent Charter, a commitment by organisations to a set of undertakings that aim to deliver greater gender diversity in the tech workforce of the UK, to better reflect the make-up of the population.
- Participated for the first time in "Bring your daughter to work" day.
- Launched our partnership with STEM Ambassadors to inspire a diverse pool of young people and females into STEM subjects and careers.
- Created a calendar of events aimed at raising awareness and celebrating diversity, including International Women's day, June Pride month, Black History month, Dyslexia awareness month, Ada Lovelace day and International men's day.
- Supported our staff in creating a series of videos and blogs called #thisisme in which our people bring to life diversity and inclusion issues at work by sharing their experiences, widening our perspectives and celebrating difference.

Financial statement

A financial statement accounting for Jisc's use of SFC's funding to date is provided as requested in the SFC grant letter to Jisc dated 27 April 2017.

1) Spend of unrestricted funds in 2016/17:

The Scottish Funding Council's (SFC) funding contribution to Jisc (a UK shared service) is based on a percentage agreed within the MOU between Jisc and all of its funders. In AY 2017-18, this equated to **£8.07m**. The following table shows a breakdown of how the SFC's unrestricted income has been spent in the financial year 2017/18:

Scottish Funding Council unrestricted income and expenditure 2017/18:

	HE	FE	Total
	£k	£k	£k
Income	5,205	2,868	8,073
Expenses* (17/18)			
Digital Infrastructure and services	(3,123)	(1,721)	(4,844)
Sector-wide deals	(533)	(294)	(827)
Advice and practical assistance	(598)	(330)	(928)
Digital futures	(183)	(101)	(284)
Other recurrent cost	(1,008)	(555)	(1,563)
Total expenses	(5,445)	(3,001)	(8,446)
Deficit	(240)	(133)	(373)

*Apportionment of the SFC's contribution to overall UK unrestricted expenditure.

2) A breakdown of Jisc's unrestricted funds at 31 July 2017 (31 Jul 2018 not yet finalised):

The table below shows a breakdown of unrestricted funds as at 31 July 2017. This point in time is used because the position at 31 July 2018 is still a work in progress, however, there is no reason at this stage to think that the 2018 figures will be materially different.

	Amount (£m)	Description
ST self-funding buffer	38.4	Four months of reserve to self-fund the charity, as per Charity commission best practice.
Grant funded assets	27.2	Assets funded by restricted grant but depreciated over a number of years: the restricted grant has been spent on assets so is gone, so the net book value is technically unrestricted.
Paid prepayments	4.9	Funding consolidated from the subsidiary JSL, where the funding is recognised under SORP but not UK GAAP.
Pension reserve	4.5	Reserve designated to fund future potential deficits in Jisc DB pension schemes- particularly USS
FREE FUNDS	8.3	Funds Jisc is free to spend on any activity in line with its charitable objectives.
Restructuring reserve	0.9	Funds designated to fund future Jisc reorganisation
Total unrestricted	84.2	

3) We can confirm that the SFC's unrestricted grant in AY 2017-18 has been spent in line with the SFC's funding letter sent to Jisc dated 27 April 2017.