Strategy
2010–2013
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1. Director’s introduction

Providing resources for staff and students in higher and further education in the UK and beyond

This is EDINA’s strategy for future activities. It should also serve to guide us in present activities: motivate our business planning and assist quality improvement. It provides justification to HEFCE and the University of Edinburgh for the status of EDINA as national academic data centre and HEFCE-related Body. It also provides the JISC, the Joint Information Systems Committee for the UK funding bodies for education and research, and the wider UK academic community, with basis for their investment of strategy and funding, and for our related annual operational plans, monitoring and reporting. The purpose of this strategy is, therefore, to prompt us to do the right things, and to help us “do things right”.

The stated mission for EDINA, seeking to enhance the productivity of research, learning and teaching, helps us retain our focus. This mission has remained the same, with modification, for almost the entirety of the years of our existence since 1995/96 as a JISC-designated national data centre, prompting us to assess, and re-assess where we can add value.

Our vision of the future, given that we realise our mission, is that:

“Our community is confident that EDINA adds value on the ‘Net, assisting researchers, students and their support staff succeed at what they do.”

The benefits are almost entirely external: principally enjoyed by the staff and students at UK institutions that make use of the services provided. We must aim for continuous improvement in the quality of what we do, and reflect on how best to assist institutions in their mission, working with others also to benefit understanding.

A national data centre must operate on the international stage, and EDINA is working increasingly with organisations carrying out like activities, recognising that both research and education and use of the Internet are global, requiring international agreement on standards and offering value from collaboration. Our strategy for engagement offers ready means for EDINA to work with JISC in such partnerships as Knowledge Exchange and the eFramework, and EDINA’s work with its international collaborators provides ways in which JISC’s own strategy is expressed.

JISC and the UK academic community benefit considerably from the decision to host EDINA within the University of Edinburgh, able to gain leverage from a critical mass of expertise and resource; in turn, the University sees this as a strategic opportunity to contribute and help shape national and international developments.

EDINA has established a successful track record in its role as a JISC-designated national data centre for UK higher and further education. We have attracted and sustained remarkable growth in activity and funding in the recent decade, with more than four-fold growth since the earlier years of designation in the mid-1990s. Our challenge at EDINA, as at JISC, is to continually re-assess how to deliver value from common services ‘at the network level’, as well as to assist institutional development.

Probably the best way to appreciate what we do is to visit our website: http://edina.ac.uk There you can browse good quality documentation and case studies and, with the right credentials, you can log in and get full value. On behalf of all at EDINA, I welcome your feedback on our plans by email (edina@ed.ac.uk), by telephone (0131 650 3302) or by other means of social networking.

Peter Burnhill
Director EDINA
2. Mission

EDINA seeks to enhance the productivity of research, learning and teaching, in the UK and beyond.

EDINA is a UK national academic data centre, designated by JISC on behalf of UK funding bodies to support the activity of universities, colleges and research institutes in the UK, by delivering continuing access to a range of online data services through ‘network-level’ infrastructure, as well as supporting knowledge exchange and ICT capacity building, nationally and internationally.

3. Values

We value:

- Excellence in our own work and the work of others, especially those we serve
- Knowledge and Understanding in service delivery and research work
- Engagement with our users and partners, nationally and internationally
- Enhancement gained from talent and technology
- Enthusiasm in what we do

4. Context

Based at the University of Edinburgh, EDINA is a national provider of online data services, working closely with its sister data centre Mimas, which is based at the University of Manchester. The growing number of projects that EDINA carries out, sometimes in partnership, help to define how we can add value by preparing new services and assisting JISC in the development of interoperability across services, especially in the Information Environment (IE).

EDINA is an integral part of the academic information landscape in the UK, taking a lead in creating and developing services essential for research and teaching that are on the whole not provided by commercial players. It delivers a wide range of cost-effective online services, some specialist in nature and some requiring institutional subscription, which are free at the point of use.

EDINA endeavours to be responsive to its stakeholders, including researchers, teachers and students who are the consumers of its services; and to important decision-makers such as academic support staff, who ensure that academic staff and students can succeed in what they do in cost-effective ways.

4.1 Strategic fit

- As a national provider of services, largely but not wholly funded by JISC, EDINA develops its own strategic imperatives for sustainability.
- As a university-based national data centre, EDINA’s strategy is closely aligned with those of the University of Edinburgh and JISC. There is also a wider set of stakeholders whose strategies and policy statements have importance for EDINA. They are listed in Appendix One.
EDINA Strategy 2010–2013

4.2 Strategy overview

EDINA seeks sustainability in the following areas:

- **Activity and Value Proposition**, providing added-value services that users want to use, sometimes in strategic partnership with other organisations;
- **Resources and Context**, maximising the return on the tangible and intangible assets of the data centre, especially the reputation and ‘know-how’ of staff;
- **Finance and Liabilities**, securing sufficient resources to meet EDINA’s goals over the medium - to long-term, and taking into account liabilities incurred.

EDINA’s strategic goals in each of these areas, and strategic themes within the goals, are summarised in the following table:

<table>
<thead>
<tr>
<th>Mission</th>
<th>To enhance the productivity of research, learning and teaching in the UK and beyond… by delivering continuing access to a range of online data services through ‘network-level’ infrastructure, as well as support knowledge exchange and ICT capacity building, nationally and internationally</th>
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4.3 External context

EDINA operates in a continually changing landscape and there are various technology trends, political drivers and social factors that have impact on it.

Some of these drivers include the:

- ‘open’ and ‘free’ agendas in software, content and data provision, recognising the ‘informal’ links between creators of content and users;
- blurring of boundaries between domains, including the business areas of research, education and knowledge exchange themselves;
- need to offer richer user experiences, arising from the raised level of expectations among end users generated by the GYM (Google, Yahoo and Microsoft) services;
- ubiquity of ‘web 2.0’ services, particularly social networking, user generated content, personalisation services, and services offering remixing of data and data transformations;
- increasing integration of resources, systems and services;
- growth of inter-working between mutually supportive partners with compatible aims, both nationally and internationally;
- growing demand for ‘anytime/anywhere’ computing, with web services, service oriented architectures, repositories and data infrastructures providing the invisible support that responds flexibly to the needs of the community.

Major changes in the storage, management, use, curation and preservation of data are expected to underpin global collaboration in e-science. Grid technologies, visualisations and immersive environments, and dynamic publishing tools will allow the sharing of massive amounts of data from different sources between many researchers.

Momentum in providing Open Educational Resources (OER) is gathering pace around the world; and services supporting open access to journal articles are receiving support from publicly funded sources, including JISC. Global organisations providing free geospatial and multimedia services directly affect the expectations that our users have of us and our services. Increasing demands on institutional finances are leading to a reduction of specialist support staff at a time when there is growth in awareness and use of complex data, such as geospatial data; and students, as fee-payers, are likely to demand more support and richer user experiences. Legal issues, including intellectual property rights (IPR), privacy, data protection and provenance affect all working in our business areas.

Six technologies stand out in the 2009 Horizon Report as having significant impact on higher education over the next five years. They are ‘mobiles’ and ‘cloud computing’ (becoming established as mainstream over the coming year); ‘geo-everything’ and ‘the personal web’ (within the next two to three years); and ‘semantic-aware applications’ and ‘smart objects’ (four or five years out). ‘Geo-enabling’ will become increasingly important, alongside and to support interaction of services with the mobile Internet and the personal web, serving to advance science, scholarship and understanding of cultural heritage, support international engagement, and have real world application in the knowledge economy.

EDINA, in common with JISC, other JISC-funded organisations, the institutions we serve, and all public sector organisations, is likely to face funding restrictions in the years covered by this Strategy. We have committed ourselves to staying relevant to the community, demonstrating the added value that staff and students receive from our services, and focusing on the assistance that we can offer institutions to get through the forthcoming difficult years.
4.4 Strategic business areas

EDINA has key strategic business areas in which it operates, each of which has its own external context, marketplace(s) and business level strategy. These areas are: Scholarly Communications, Geospatial, Learning and Teaching (L&T), Multimedia and Access Management. The following factors are important when planning for the future in each of these areas:

**Scholarly Communications:**

- the ‘Open Access’ (OA) agenda, arising from the crisis in scholarly publication due to prices and copyright issues; and the greater number and variety of ‘informal’ links between creator and user;
- falling institutional library budgets due to falling incomes and revenues, and changes in international exchange rates;
- mandates for deposit into institutional OA repositories;
- the Research Excellence Framework, which will make greater use of quantitative indicators, potentially from institutional repositories;
- growing requirements to link data to outputs, and the infrastructural work that is required to enable scholars to obtain full text;
- Google Scholar, which sets a standard for obtaining access to full text sources and influences our Discovery2Delivery work;
- the need to work with the Research Councils;
- large commercial players already working in this area, which means that we have to prioritise adding value for our community, filling in the gaps between what the commercial sector does and what institutions need;
- action is required to counter threats to continuity of access.

**Geospatial:**

- the publication and implementation of Geographic Information (GI) strategies by regional and national Governments, including the recent publication of the UK Location Strategy, the Power of Information Taskforce Report and the commencement of the implementation of the INSPIRE directive (see Appendix One). The UK Location Strategy is particularly important and has the potential to change the types and amounts of geospatial data that are available and ease of access to them;
- Google Earth’s business model and apparent simplicity profoundly influences all other geospatial services, because it has altered how people perceive and access geospatial data;
- geographic data are strategic: this is why they feature in the ‘Free Data’ movements e.g. the ‘Free our Data’ campaign and OpenStreetMap, and open philosophies and approaches e.g. GeoCommons;
- most research is understood best within a geospatial context and there is therefore increasing recognition of the importance of ‘place’ as a means for searching for many different kinds of resources, allied to which is the growth of location based services and location aware devices;
- the need for interoperability between different datasets and enabling mashups;
• increasing demands on university finances resulting in lower availability of local specialist support staff and the need to devise, with institutions, a robust support model for complex services;

• restrictions on the reuse of data by IPR considerations, but also the desire for DRM mechanisms to monitor, control and protect data as it moves through the value chain. It is important to distinguish between DRM and access management mechanisms too.

Learning and Teaching:
• engagement of JISC and UK HE in the Open Educational Resources (OER) agenda and the investment of resources in the OER pilot programme;

• emergence of Web 2.0 enterprises that support the sharing of user-generated content and which have shown how content can be the focus of online communities;

• determining whether, and the extent to which, we should take part in appropriate educational publishing models e.g. partnering with publishers of online text books;

• delivery of learning content to mobile devices;

• increasing expectations that students will be involved in creating their own learning materials and uploading them to repositories;

• acceptance and use of open, especially Creative Commons (CC), licences by leading parts of the educational establishment;

• Open Educational Resources (OER) repositories e.g. OpenLearn from OU; MIT etc;

• repositories offered by commercial organisations e.g. Apple iTunesU;

• portfolios, e-assessment and personalised learning.

Multimedia:
• how to make our services distinctive within the context of global services, such as YouTube and Flickr;

• how to add value to JISC-funded subscription services in a largely open market;

• how we publish these services, make them meaningful, put on an editorial layer/context and make them indispensable;

• how we deal with evidential value and provenance of materials, and with unstructured materials;

• how to engage with major cultural content projects, such as JISC’s Strategic Content Alliance, which partners with organisations such as the BBC and the National Archives;

• how to develop sustainability for multimedia portals;

• how to pace service development in the context of the rapid increase in Web 2.0 and social networking services;

• licensing by JISC Collections of new content for inclusion in JISC-funded services.
Access Management:

- JISC has led the policy initiative in the UK to deploy Shibboleth as the next generation access management technology for authentication and authorisation across the science and education sectors;
- the technology is of key strategic importance for UK education and research and is leading-edge;
- Shibboleth is not a UK development; it is therefore essential that the UK maintains indigenous expertise in the technology to guarantee the security of service provision and maintenance.

We believe that the future for our SBAs lies in the following areas of work:

**Scholarly communications:** cooperative work to improve ‘discovery to delivery’ to achieve greater consensus and coherence, providing added value services on content e.g. shared infrastructure such as link resolvers, providing repositories of open and community-contributed data to support the JISC IE, and further investment in long-term digital preservation services.

**Geospatial:** participating in the academic Spatial Data Infrastructure (SDI), new collections for our communities, extension of services to other sectors, geo-enabling services in the JISC IE, using open datasets to underpin work with international colleagues, delivering services via geospatial mobile technologies and providing specialist support services.

**L&T:** building successfully the JISC infrastructure for the sharing of L&T materials, especially in the forthcoming open repository service, surfacing our content in others’ services, user tracking and profiling, and creating rich reports, which are crucial for sustainability.

**Multimedia:** keeping an active watching brief on emerging technology and functionality, providing tools upon content, reflecting third party holdings in our portals, using innovative ways to present service-related learning materials, and developing engagement with the user community.

**Access Management:** ways need to be found to support collaboration across institutions and allow API/‘mash-up’ experiments with licensed content, including inter-working between service providers; and continuing to provide support for the UK Access Management Federation for Education and Research in the following groups:

- the ‘Federation Support Group’, which is responsible for the maintenance of the Federation’s metadata and provides technical and administrative support to Federation members
- the ‘Expert Group’, which advises JISC on policy and technology, provides test environments and consultancy for the community, and develops components of international importance for the core Shibboleth software.
5. Strategy for 2010-2013

Strategic goal 1:
To provide added value, high quality services, leveraged by research, enhancement activity and engagement with others

This drives EDINA's activity locally, nationally and internationally; and its value proposition to our stakeholders and users.

Within this overall goal, we have identified three key strategic themes.

Strategic theme 1a:
Providing a managed portfolio of added value, high quality services

Aims:
To support EDINA’s end-user and contributor communities in research, education and knowledge exchange by the provision of quality assured services and support.

Strategic alignments:
To JISC Strategy 2007-2009:
Strategic Aims:
1: “Deliver innovative and sustainable ICT infrastructure, services and practice that support institutions in meeting their mission”.
2: “Promoting the development, uptake and effective use of ICT to support learning and teaching”.
3: “Promoting the development, uptake and effective use of ICT to support research”.

To JISC Collections Corporate Plan 2008-2009:
Strategic Objective 1: Digital content provided by the JISC National Data Centres: “To identify, evaluate and negotiate for digital content that will support education and research, and to collaborate with the JISC National Data Centres in the delivery of that data, where the Data Centres, as centres of excellence, are able to add functionality that enhances use of content and/or can provide service delivery where there is no feasible commercial partner”.

To University of Edinburgh Strategic Plan 2008-2012:
Enabler: Quality Services. Aim: “To deliver efficient and timely services that are customer-focused and of world-class quality”.

Enabler: Quality Infrastructure. Objectives include: “Acquire, create, preserve and curate information to support learning, teaching, research and management”.

Objectives and key deliverables:
Support research, education and knowledge exchange by providing added value, high quality online services and infrastructure

• successfully manage the transition of projects into services and launch new online services;

Manage our portfolio of services, using EDINA service portfolio management procedures

• develop additional collections where applicable, in line with user requirements;
Reach out to new communities of users
- provide services on open access where appropriate;
- support educational sectors outside our usual constituency in conjunction with JISC, where this fits with our strategic objectives;

Provide high quality outreach and support services for contributors, end users and support staff
- meet targets for service provision laid down in our Service Level Agreements with JISC;
- increase the number of ways in which we provide virtual assistance to our users e.g. making appropriate use of social media tools, blogs, wikis, RSS feeds and Web 2.0 services;
- consider virtual workshop, training and consultation methods;
- work with other organisations to provide joint training courses;
- investigate the provision of specialist support and advisory services in our business areas e.g. for Geographic Information use and serials data;
- support the data-using community;

Enhance content, presentation and delivery of services in response to community requirements
- implement improvements in services, as required, to enhance their content, performance, speed, resilience, usability and/or accessibility;
- deliver services over the mobile internet;
- add personalisation functionality to services as appropriate;

Support the development of the academic infrastructure in the UK and internationally
- participate in the development of the JISC IE and international e-Framework for Education and Research;
- participate in the academic Spatial Data Infrastructure (SDI) in the UK and in the overarching UKSDI under the leadership of the UK Government’s Location Council, which will lead the implementation in the UK of the EU INSPIRE directive;
- participate in the provision of infrastructure for high quality OER on an international scale;
- work with the Scottish Government’s strategies for joined-up services;
- develop with Mimas the UK infrastructure for ‘well-seamed’ access and delivery of scholarly communications resources;
- release middleware and tools to support the UK Access Management Federation (UKAMF) and provide technical support for the UKAMF members, including schools;
- move to offer production level web services and, as part of this, grid-enable our research data services for e-Science;

Future-proof access for researchers of tomorrow
- enable local collection development – the storing and preservation of scholarly content by academic institutions;
- investigate how to create a community-governed, multi-site archive of content when access is threatened by disaster of any kind;
- investigate how to provide users with information about which electronic journals have arrangements in place for digital preservation;
- investigate continuing access to service data.
Objectives and key deliverables:

- Build capacity in EDINA, including strategic capabilities, in each of our business areas, for example -
  - further develop machine-to-machine (M2M) and service-oriented architecture (SOA) technologies, to increase use, uptake of services and interoperability;
  - as a result of the significant expertise built up at EDINA, assist UK organisations in their implementation of the technical infrastructure to support INSPIRE and the UKSDI;
  - work with others in areas where EDINA can support the sustainable development agenda e.g. soils, environmental informatics and climate change;
  - work with ISSN-IC to assist continuity of access and preservation of journal and other scholarly content;
  - look to exploit the data dissemination model which demonstrated the generic capability of geo-linking;
  - demonstrate the benefits of an ‘ontologically-driven’ infrastructure to address issues of discovery, access and use of scientific resources;
  - raise awareness of the benefits to be gained through the geographic referencing of resources;
  - develop with Mimas the UK infrastructure for ‘well-seamed’ access and delivery of scholarly communications resources;
  - provide focus and stepping-off point for access to multimedia materials;

Manage transition of appropriate R&D projects into services

- identify appropriate projects early and manage them within EDINA portfolio management procedures in conjunction with JISC;

Respond to opportunities to undertake R&D projects

- ensure that sources of opportunities are monitored;

Identify and create opportunities to undertake innovative work that fits within strategic goals

- work within appropriate business development procedures.
Strategic theme 1c:
Gaining leverage through national and international engagement

Aims:
To consolidate and improve inter-working relationships at local, national and international level to more effectively deliver services to our users; and to be nationally and internationally recognised for our activities.

Strategic alignments:
To JISC Strategy 2007-2009:
Priority 10, Strategic Aim 2: “To support the delivery of Funding Council e-Learning Strategies across the UK, in partnership with HE Academy”, Priority 11, Strategic Aim 3: “To develop a coherent UK research infrastructure and use in collaboration with the Research Councils and other relevant organisations”.

‘Approach’ JISC’s international role: Activity focus on: “Building a common approach to content management, especially through open access across appropriate research data and outputs, and learning and teaching resources”.

To University of Edinburgh Strategic Plan 2008-2012:
Enabler: Quality People. Objectives include: “Develop a strong international focus and awareness in all of our staff”.

Strategic theme: Building strategic partnerships and collaborations. Aim: “To generate added value from strategic partnerships and collaborations”.

To Edinburgh Global, University of Edinburgh Internationalisation Strategy 2008-2012:
Key Actions: “4 – We will focus on building strategic partnerships in a focused number of countries or regions; 5 - We will secure a greater volume of resources from international research partnerships and increase the use of our intellectual property worldwide; 6 – We will continue to develop a strong international focus and awareness in all our staff and in all that we do”.

Objectives and key deliverables:
Develop and consolidate our presence nationally and internationally as a national academic data centre, working with a network of partners

- identify our key partners;
- enter into partnership agreements with them to reach agreed strategic targets;

Attain a sustainable balance between activities we undertake for ourselves, and JISC’s priorities, on both a regional and a sectoral basis

- decide where to focus our attention;
- identify ‘spearhead’ activities into new regions and/or sectors;

Consider undertaking consultancy work in areas of expertise

- identify suitable areas and investigate;

Consolidate and improve existing collaborations

- continue to work closely with our sister data centre, Mimas, and with JISC-funded and other UK centres and initiatives;
- assist member states prepare and test their data for the INSPIRE-led European Spatial Data Infrastructure (see Appendix One);
- participate with partners in Australia and New Zealand on the development of the E-Framework;

Build new partnerships and collaborations

- take opportunities to network and build new partnerships in advance of funding opportunities becoming available;
- continue to develop local, national and international engagement and partnerships in all strategic business areas, with governmental, educational, standards development, research data, commercial, web services and grid development organisations.
EDINA Strategy 2010–2013

Strategic goal 2:
To enhance our resource base through staff talent, technology and effective management of resources

This goal summarises the second strategic area in which EDINA seeks sustainability, namely Resources and Context, the aim of which is to maximise the return on the tangible and intangible assets of the data centre, especially the reputation and ‘know-how’ of staff.

Within this overall goal, we have identified three strategic themes.

Strategic theme 2a:
Recruiting, retaining and developing a flexible complement of skilled staff, capitalising on reputation, ‘know-how’ and partnerships

Aims:
To recruit, retain and develop a flexible complement of able, skilled and well-motivated staff and to capitalise on our ‘know-how’ to deliver our mission.

Strategic alignments:
To University of Edinburgh Strategic Plan 2008-2012:

Enabler: Quality People. Aim: “To equip staff to realise their full potential as direct contributors to the success of the University”. Objectives include: “Recruit, reward, develop and retain high-performing staff; embed a positive performance culture which encourages and recognises success; support staff in ways that promote and sustain positive, productive and safe work environments”.

Strategic theme: Promoting equality, diversity, sustainability and social responsibility. Aim: “To embed equality, diversity, sustainability and social responsibility as fundamental principles, and assist all staff and students to realise their full potential”.

Objectives and key deliverables:
Provide staff with equitable opportunities for their development, in line with University guidelines and within staff development resources available

• annual development plan agreed with each member of staff;
• ensure that staff members receive equal treatment in terms of accessing development opportunities;
• make available internal and external opportunities for training, self-development and preparation for leadership roles;
• staff with management roles to participate in the University’s Leadership and Management Framework;

Empower staff to perform and succeed in their roles and recognise their success

• recognise and reward staff through the University’s Contribution Reward scheme;
• ensure that staff receive positive reinforcement in terms of praise and encouragement from managers;
• empower staff through delegation of responsibility and involvement in decision-making;
• encourage and support staff to help one another;

Build capability by sharing and exchanging ‘know-how’ across the data centre, within Information Services and the University, with key partners such as Mimas and other JISC services, and with the outside world

• establish cross-service groups to share and exchange knowledge about common areas across EDINA;
• establish a cross-service group of technical staff to create a strategy for sharing good practice in implementing services at speed;
• continue to foster engagement with partners and potential partners around the world, and participate in national and international conferences and events;

Continue to bring in and retain able, committed staff
• keep under review recruitment methods and practices;
• promote equality and diversity in our workplace and maintain flexibility in our working practices;
• ensure staff know about, and benefit from, University policies such as family leave.
EDINA Strategy 2010–2013

Strategic theme 2b:
Developing and maintaining outstanding IT capability

Aims:
To maintain and develop exceptional IT capability as a respected and reliable national data centre, to provide effective services that are flexible, up-to-date and functionally rich.

Strategic alignments:
To JISC Strategy 2007-2009:
Strategic Aim 1: “To deliver innovative and sustainable ICT infrastructure, services and practice that support institutions in meeting their missions”.

To University of Edinburgh Strategic Plan 2008-2012:
Enabler: Quality Infrastructure. Aim: “To provide a modern, efficient and stimulating working and learning environment to sustain world-class academic and support activities”. Objectives include: “Ensure that our equipment and IT infrastructure is modern, well maintained and put to good use; have the resource capability to invest in our infrastructure in sustainable ways”.

Objectives and key deliverables:
Maintain and continue to effect a rolling plan of hardware upgrade and replacement to fulfil current and future service requirements

• maintain three-year rolling hardware strategies and update them annually, purchasing new or upgrade hardware as required;
• exploit improvements in hardware technology and performance where cost effective;
• increase processor and memory capacity to meet performance and scalability challenges of increasing service and service development needs;
• use SAN storage to reliably accommodate increasing data volumes;
• exploit backup infrastructure capable of handling the increasing data volumes within appropriate backup windows;
• ensure network infrastructure sufficient to handle the required data volumes;

Improve service resilience and ensure business continuity

• implement dual site resilience for key services;
• fund additional facilities management effort from the University Computing Service;
• improve active service monitoring tools;
• review the resilience of services;
• provide standby provision of key services at a remote location;
• ensure the availability of sufficient trained staff to facility manage EDINA hardware;
• consolidate services using visualisation techniques;
• review annually the IT components of the detailed risk register;
• revise IT disaster recovery plan and emergency management plan;
• test selected components of the IT disaster recovery plan to ensure the plan’s effectiveness;

Maintain a coherent and effective software strategy

• undertake regular reviews of the software systems and methodologies in use across EDINA;
• undertake regular technology horizon scanning to identify technologies and methodologies that may be applicable to current and future EDINA services;
• select software appropriate to specific tasks;
• employ effective design, build and control methodologies;
• increase the use of common application components and data across EDINA services by:
  • improving the use of modelling data and processes to better identify shared data and processes;
  • defining necessary APIs within application components to better exploit common data and functions;
• where applicable, increase the use of rapid application development technologies;
• utilise software that is compatible with the strengths of EDINA staff;
• recognise the benefits of adopting open system software and standards where appropriate.
EDINA Strategy 2010–2013

Strategic theme 2c:

Providing effective governance and management of resources

Aims:

To be able to pursue our mission as an effective and efficient national data centre.

Strategic alignments:

JISC Services Strategy:

Paragraph 21: “The JISC will establish monitoring and reporting mechanisms for its Services and service providers which are proportionate to the scale of operations, with the appropriate balance between the obligation of the service provider to fulfil JISC aspirations and the need for the service provider to have a degree of autonomy and flexibility in the way it manages its operations”.

To University of Edinburgh Strategic Plan 2008-2012:

Enabler: Quality People. Objectives include: “Support and cultivate an ethos of high-quality leadership and management; achieve a sustainable and diverse staffing profile which meets the University’s needs”.

Enabler: Quality Services. Objectives include: “Promote professional development and responsible resource management; utilise our professional expertise; streamline and standardise processes wherever possible”.

Enabler: Quality Infrastructure. Objectives include: “Have the resource capability to invest in our infrastructure in sustainable ways”.

Objectives and key deliverables:

Achieve a sustainable staffing profile

- undertake a review of the types of staff we employ and their deployment;
- identify gaps and recruit where appropriate and able to do so;
- undertake succession planning and execution to ensure that we are able to function when key people leave/retire;

Work within our governance structure to demonstrate effective management of resources to our key stakeholders

- planning and reporting as required to Information Services, the JISC and the EDINA Management Board;

Improve methods of projecting activity and income, and hence staffing and accommodation requirements

- use the business development plans to project activity and income;
- use these estimates to derive staffing and accommodation requirements;

Ensure that any funding opportunities that arise are considered in line with strategic goals, and resources made available to undertake the work

- devise a framework to make it easier for EDINA to react quickly to opportunities;

Ensure that we make better informed business decisions

- implement improved management accounting systems;

Monitor accommodation requirements in the light of changing staff levels

- plan for effective use of space, using activity and income projections;
- re-model and adapt what we have to suit changing circumstances, particularly new ways of working.
Strategic goal 3:
To sustain and develop a well-founded UK national academic data centre

This goal summarises the third area in which EDINA seeks sustainability; namely, Finances and Liabilities, the aim of which is to sustain and develop a well-founded UK national academic data centre.

Within this overall goal, we have identified three strategic themes.

Strategic theme 3a:
Securing sufficient funding to meet strategic goals in the medium-to long-term

**Aims:**

To obtain the funding that allows us to work and meet our goals.

**Strategic alignments:**

To JISC Strategy 2007-2009:

Approach: Criteria for funding include: “The activity provides a UK-wide benefit and adds value beyond that which could be achieved by institutions acting individually or collectively; The activity is not possible, or is unlikely, without central support.”

**Objectives and key deliverables:**

Plan for the future and identify suitable sources of funding

- produce three-year rolling business development plans and identify funding sources for planned activity;

Seek out and taking opportunities to bid for funding from a range of sources if the activity potentially funded is in line with strategic goals

- increase income in each of our strategic business areas;
- actively seek new sources of funding;

Ensure that activity that crosses service boundaries is funded and resourced

- calculate the resource required to contribute to cross-service activities and include it in budget calculations;

If possible, recover Full Economic Costs from funders

- include FEC calculations in budgets wherever possible;

Widen the funding base of the data centre to reduce risk

- seek and take opportunities to apply for funding outside our usual funding streams.
Strategic theme 3b:
Managing appropriately financial and legal liabilities

**Aims:**
To ensure that EDINA manages its financial and legal liabilities with appropriate care.

**Strategic alignments:**
To University of Edinburgh Strategic Plan 2008-2012
Enabler: Quality Infrastructure. Objectives include: “To be responsive to technological, legal and regulatory change”.

Strategic theme: Promoting equality, diversity, sustainability and social responsibility. Objectives include: “Comply with and, where possible, exceed the requirements of relevant legislation”.

**Objectives and key deliverables:**
Meet our obligations for our staffing complement
- ensure that we have funding to meet ongoing staff payroll requirements, including pay increases and employer responsibilities;
- offer support for staff with disabilities or ill health;
- promote equality and diversity in recruitment processes and in support for our staff;

Meet external compliance requirements, including legal and financial
- maintain a regularly updated Risk Register;
- conduct Health and Safety assessments;
- FoI and DP practitioners to ensure that staff are aware of the requirements of the various Acts and Regulations;
- ensure that appropriate staff are trained and cascade training as required.
Strategic theme 3c:
Ensuring EDINA’s long-term sustainability

**Aims:**
To provide foundations for the long-term sustainability of the data centre.

**Strategic alignments:**
To JISC Strategy 2007-2009:
Approach: Sustainability. Pages 28-29: “From August 2006, JISC has contributed towards the full economic cost for all new projects and services it funds within UK HEIs … Improved processes are being implemented that identify approaches to sustainability earlier in the development cycle, and that support clearer links between development and service activities … Open source models will be considered as part of the approaches to sustainability … JISC considers partnerships to be an important element of sustainability …”

To University of Edinburgh Strategic Plan 2008-2012:
Strategic theme: Promoting equality, diversity, sustainability and social responsibility. Objectives include: “Incorporate equality, diversity, sustainability and social responsibility perspectives into all our activities”.

**Objectives and key deliverables:**
Embed planning for the future into our annual cycle
- produce three-year rolling Strategies in Spring each year, to feed into the Business Development Plan, and Service Improvement Plans for JISC;

Examine new/innovative models, including funding models, for strategic growth
- consider how others build capacity and whether the models they use, including funding models, are appropriate for us;

Facilitate growth by strategic partnerships
- use the audit of national and international engagement to identify possible strategic partnerships for future growth.
Appendix One: Strategic fit and stakeholders

Fit to strategies of parent organisations

EDINA's strategy is directly aligned with the following strategic statements of its parent organisations. Section 4 gives details of how EDINA's strategic goals and themes are aligned with the strategic plans of its parent bodies.

The University of Edinburgh Strategic Plan 2008 – 2012

EDINA's goals and operational priorities are aligned with the University of Edinburgh's core strategic goals: "Excellence in education; Excellence in research; and Excellence in commercialization and knowledge exchange". These goals are underpinned by three cross-cutting supporting goals: “Quality people; Quality services; and Quality infrastructure.” In addition, a number of operational priorities have been identified that shape the University’s approach to the achievement of goals. Of particular importance to EDINA are: “Building strategic partnerships and collaborations” and “Promoting equality, diversity, sustainability and social responsibility”.

Edinburgh Global, the University of Edinburgh Internationalisation Strategy

The overarching priority of the University of Edinburgh’s Internationalisation Strategy is stated by the Principal to be, “… to further enhance our global presence. We are a distinctly Scottish University based in Scotland’s capital, but our reach and aspirations are international and it is in that context we must be measured”. EDINA, too, works at both national and international levels and will play its part in Key Actions 4 – 6 of the Internationalisation Strategy.

JISC Strategy 2007 – 2009

JISC is core funded by UK H/FE funding councils, specifically:

- Higher Education Funding Council for England (HEFCE)
- Scottish Funding Council (SFC)
- Higher Education Funding Council for Wales (HEFCW)
- Department for Children, Education, Lifelong Learning and Skills (Welsh Assembly Government)
- Department for Employment and Learning (Northern Ireland)

JISC also receives some funding from the Learning and Skills Council and the Research Councils, but they are not core funding partners.

JISC’s strategy is aligned to those of its funding councils. EDINA’s strategy is therefore also aligned with them, and they are not listed separately in this document.

JISC’s Strategy 2007 – 2009 states that, “JISC envisages continuing to develop the two JISC national data centres (EDINA and Mimas) as primary service-partners for a range of content and production services”. Many of EDINA’s services are mentioned in JISC’s plan. They are key ways in which the JISC mission is realised, within the UK and in important strategic partnerships, such as Knowledge Exchange and the E-Framework for Education and Research.

2. http://www.ed.ac.uk/staff-students/staff/global [September 2009]
JISC Draft Strategy, 2010-2010

The JISC plans to publish their Strategy 2010-2012 in December 2009, after the date of publication of this EDINA Strategy 2010-2013. The draft has been checked to ensure EDINA’s alignment with it as it stands at the date of publication of the EDINA Strategy.

The main Priority Investment Area in which EDINA works is: “Cost-Effective Shared National Services – JISC will continue to invest in the ongoing development and updating of its current service provision in order to increase their [sic] efficiency and effectiveness. Ongoing investment in JISC’s infrastructure (or Information Environment) will continue and work such as the Open Educational Resources programme will help establish priorities for large-scale, national infrastructure with multiple content and service providers.”

EDINA works in many of the investments proposed under this, and the other, Priority Investment Areas. The draft Strategy states that: “JISC works through a small number of key organisations to deliver infrastructure and resources. Its major delivery partners are JANET UK, JISC Collections, JISC Services Management Company, the Regional Support Centres and JISC data centres.”

Knowledge Exchange

“Knowledge Exchange is a co-operative effort that supports the use and development of Information and Communications Technologies (ICT) infrastructure for higher education and research”. Partners in the Knowledge Exchange are:

- JISC
- Danish Electronic Research Library (DEFF)
- German Research Foundation (DFG)
- SURF Foundation, Netherlands.

Knowledge Exchange was set up in 2005 for three years. Its goal was to make a layer of scholarly and scientific content openly available on the internet. Its vision statement had four priorities: to build an integrated repository infrastructure; to explore new developments in the future of publishing; to facilitate integrated management services within educational and research institutions; and to support the European digital libraries agenda.

It has been decided to continue the partnership into a period of new tasks that would focus on areas such as Virtual Research Environments, Primary Research Data and the relationship between national and European IT-infrastructure policies. EDINA is working in all three areas.

The E-Framework for Education and Research

“The e-Framework for Education and Research is an international initiative that provides information to institutions on investing in and using information technology infrastructure. It advocates service-oriented approaches to facilitate technical interoperability of core infrastructure as well as effective use of available funding”.

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The e-Framework was initially established by JISC and Australia’s Department of Education, Employment and Workplace Relations (DEEWR), formerly the Department of Education, Science and Training (DEST), The New Zealand Ministry of Education (NZMoE) and the Netherlands SURF Foundation (SURF). EDINA is participating in a number of e-Framework activities and has been invited by JISC to undertake the mapping of geospatial standards to the E-Framework for Education and Research, work that has commenced with JISC’s Australian and New Zealand partners.

**JISC Services Strategy**

EDINA’s strategic goals are also aligned with key JISC policies, such as the JISC Services Strategy.

Paragraph 21: “The JISC will establish monitoring and reporting mechanisms for its Services and service providers which are proportionate to the scale of operations, with the appropriate balance between the obligation of the service provider to fulfil JISC aspirations and the need for the service provider to have a degree of autonomy and flexibility in the way it manages its operations”.

**JISC Collections Corporate Plan 2008-2009**

“JISC Collections was established by the UK further and higher education funding councils in 2006 to negotiate with publishers and owners of digital content. The range of resources licensed for use by the agreements constitutes a national collection of online resources for education and research.”

“Originally operating within the Joint Information Systems Committee (JISC), JISC Collections was made into a limited company that mutually trades with its members and is now a JISC funded service.”

EDINA works closely with JISC Collections. Our Strategy is related to its Corporate Plan 2008-2009:

Strategic Objective 1: Digital content provided by the JISC National Data Centres: “To identify, evaluate and negotiate for digital content that will support education and research, and to collaborate with the JISC National Data Centres in the delivery of that data, where the Data Centres, as centres of excellence, are able to add functionality that enhances use of content and/or can provide service delivery where there is no feasible commercial partner”.

Key Goal 2: “JISC Collections will license content and collaborate with the JISC National Data Centres to provide sustainable and value added services”.

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8 http://www.e-framework.org/ [September 2009]
10 http://www.jisc-collections.ac.uk/media/documents/jisc_collections/reports/jccorplan_809_web.pdf [September 2009]
Stakeholders’ strategies

There is a wider set of stakeholders whose strategies have some importance for EDINA. Two, the Economic and Social Research Council (ESRC) and the European Union, provide grant funding for some activities. Others have impact on EDINA’s parent bodies and therefore indirectly on EDINA. The main points of their strategic statements that have relevance to EDINA are given below.

Higher Education Academy (HEA) Strategic Plan 2008-2013

The HEA plan has five strategic aims: Identify, develop and disseminate evidence-informed approaches; Broker and encourage the sharing of effective practice; Support universities and colleges in bringing about strategic change; Inform, influence and interpret policy; and Raise the status of teaching”. It notes that there is “… an unprecedented opportunity to develop the quality of learning and teaching against the background set out below: a changing and increasing student population, greater internationalisation … changes to teaching and student experiences associated with the potential of learning and information technologies …”

Research Councils UK (RCUK) Synthesis of Strategies

RCUK published a synthesis of the strategies of the UK Research Councils in November 2003, with a view to “… developing an overarching vision for the direction of the Councils’ research over the next 10 to 20 years”. This document states that, “Increasingly, the driver for determining priorities is more a cross-Council collaborative analysis of the research panorama and less the specific viewpoint of a single Council”. Among other RCUK priorities are the following: promotion of the value of discovery as a spur to understanding and new thinking; the effective dissemination of research results; increasing the effectiveness and productivity of UK research in the delivery and exploitation of ‘grid’ technologies; and building national capability in data collection and management.

Research Councils UK (RCUK) Delivery Plan 2008/09 – 2010/11

The plan has been updated for 2008 and among its objectives are to coordinate the delivery of multidisciplinary research in six areas, including the “Digital economy” and “Living with environmental change”. In the former, funding will be concentrated upon areas in which “… the management and presentation of information can have maximum impact: healthcare, transport and the creative industries”; and in the latter, RCUK aims to provide “… the best information to enable sustainable management and protection of vital ecosystem services”. The RCUK also aims to provide access to world class research facilities, promote the sustainability of the UK research base and encourage international collaboration.

ESRC Strategic Plan 2009 - 2014

One of the new Plan’s Strategic Objectives is “Impact through Infrastructure” and the ESRC states that a major priority is to “… ensure that our data strategy is underpinned by a commitment to provide safe and secure access not only to all of our data resources but also those provided by other organisations”. Another is “Impact through Skilled People” and the ESRC states that a priority is to “… reduce supply side skill and research capacity deficits”.

Research Information Network Business Plan 2008 - 2011

The plan notes (page 2) that the pace of change is quickening and that, “New services and behaviours, including those commonly referred to under the heading of Web 2.0, will have profound implications for researchers, institutions and funders, as well as current service providers”. The core aims of the plan are to develop the evidence base, provide authoritative advice and guidance, and promote change.


RLUK, formerly CURL, is a membership organisation of the UK’s biggest research libraries, including Edinburgh University Library. EDINA participates directly in one of RLUK’s key strategic themes, “Resource discovery and delivery”, partnering with Mimas in the D2D (Discovery2Delivery) project.

UK Research Data Service (UKRDS) Interim Project

This project is working towards the establishment of a national shared digital research data service on a cooperative model. The UKRDS would act as an enabling service, working with the many UK stakeholders, including JISC. It is funded by HEFCE and JISC.

Universities UK Corporate Plan 2007 - 2010

The first aim of UUK’s Corporate Plan 2007 – 2010 is: “To provide members with foresight on policy issues and help them shape the agenda”. The key priorities within this aim are to support institutions to innovate and enhance the student experience in response to increased expectations; with regard to the skills gap, to identify where the sector can add value and support increased engagement with employers and the FE sector; and embrace international competitiveness by ensuring that the UK is the partner of first choice overseas and in Europe for, among other things, research collaboration, student education and consultancy.


The Government [HM Treasury, Department for Trade and Industry and the Department for Education and Skills] published the ten-year Science and Innovation Investment Framework in 2004, setting out a long-term vision for UK science and innovation, together with ambitions for public and private investment in R&D to reach 2.5 per cent of GDP by 2014. The Government’s aims that, among other things, the UK should continue to improve its performance in science, innovation and knowledge transfer; and universities should demonstrate robust financial management to ensure sustainability in research activity and investment.

Science for Scotland

The Scottish Government published Science for Scotland in November 2008. The Strategy is focused on: “Developing Individuals; Scientific Research; Economic and Business Demand; International; Connections in Scotland and in Government”.

17. http://www.ukrds.ac.uk/home [September 2009]
18. http://www.universitiesuk.ac.uk/AboutUs/WhatWeDo/Pages/Corporate-Plan.aspx [September 2009]
19 http://www.hm-treasury.gov.uk/spending_sr04_science.htm [September 2009]
Under Scientific Research, the Strategy states that the Government will: “Provide an integrated agenda linking strategic research through to science application in government-funded rural, environmental and marine scientific work” and that it intends to publish a framework for this in 2009. The Government also intends to, “Promote inter-disciplinarity by working with the Funding Council and with universities to … promote collaborative and inter-disciplinary working across pools and with business to improve knowledge exchange”. A further aim is to: “Enhance links with the UK Government, Research Councils and with the EU” by: “Promoting opportunities for Scotland to influence a shared agenda” and “Contributing to the development of the EU’s proposals for the creation of a European Research Area and promoting Scottish interests and priorities in European mechanisms …such as the 8th Research Framework Programme and the European Institute of Innovation and Technology”.

The Government says that Universities should, “… work towards the New Horizons shared ambition for the university sector” [see below].

**New Horizons - the Report of the Joint Future Thinking Taskforce on Universities**

The Joint Future Thinking Taskforce on Universities, consisting of the Scottish Government, the Scottish Funding Council and Universities Scotland, published the New Horizons Report in November 2008 as “…the endorsement of New Horizons as the Taskforce’s final position”. It is intended to modernize the way in which the three parties work together and how Universities will be funded.

The Scottish Cabinet has “…supported the taskforce’s recommendation that universities should be a key economic sector in their own right, becoming the ‘seventh sector’ in Scotland, in recognition of the vital contribution they can make to delivering the Government’s Economic Strategy”.

Professor Sir Timothy O’Shea, the Principal of the University of Edinburgh, is a member of the Taskforce.

**Skills for Scotland: A Lifelong Skills Strategy**

The Scottish Government released Skills for Scotland in September 2007. A key aim is to “… develop potential – equipping individuals with the skills Scotland needs, by supporting the central role played by colleges and capitalising on higher level skills”.

**International Lifelong Learning: Scotland’s Contribution**

This strategy was published by the Scottish Government in June 2007. It aims to: “… position Scotland as a world leader in international post-school education; and more widely to make Scotland a more attractive place to live, work and study in order to support economic growth”. One of the supplementary aims is to: “Facilitate the universal employability of all our students”.

**One Scotland – One Geography: A Geographic Information Strategy for Scotland**

This strategy “… sets out a proposed approach to the more systematic and effective use of geographic information in the development and delivery of policy and services to the benefit of the people of Scotland”. This strategy is of significance for EDINA’s geospatial services and our staff participate in the Scottish Executive’s Geography Technical working group.
**Place Matters: The Location Strategy for the United Kingdom**

“The objective of the Location Strategy for the United Kingdom is to maximise the value to the public, government, UK business and industry of geographic information. It will provide a consistent framework to assist national, regional and local initiatives and service delivery.”

The UK Location Strategy is important to EDINA. “Public Sector/Government information suppliers will be expected to produce location information that is consistent and compliant with accepted standards, allowing the seamless joining up of information … Information will be collected once and shared and used many times.” Each public sector body will be expected “… to ensure that its IS/IT strategy and work programme describe clearly its policies and implementation plans for location data systems”.

**Power of Information Taskforce Report** and **Ordnance Survey Business Strategy**

In March 2008, the Government set up the Power of Information Taskforce, which “… will drive forward the Government’s pledge to meet rising aspirations of modern communications practice and improve engagement with citizens through social media”.

The Final Report of the Taskforce has been published. The importance of this for EDINA is that recommendations have been made to Government that freeing up certain categories of geospatial data available from Ordnance Survey should be a priority. The OS has responded with a Business Strategy to meet the changing needs of its customers. One of the goals is to “Support the sharing of information across the whole of the public sector.”

**European Union: FP7 Programme, the INSPIRE Directive and DRIVER**

1. The EU’s Seventh Research Framework Programme (FP7)

2. Directive 2007/2/EC of the European Parliament and of the Council, establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), is significant for EDINA’s geospatial services. Paragraph (3) of the preamble states that, “The problems relating to the availability, quality, organisation, accessibility and sharing of spatial information are common to a large number of policy and information themes and are experienced across the various levels of public authority. Solving these problems requires measures that address exchange, sharing, access and use of interoperable spatial data and spatial data services … An infrastructure for spatial information in the Community should be established”.

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26 http://poit.cabinetoffice.gov.uk/poit/ [September 2009]
27 http://strategy.ordnancesurvey.co.uk/ [September 2009]
30 http://www.ec-gis.org/inspire/ [September 2009]
Public authority is defined as, “Any government or any other public administration, including public advisory bodies, at national, regional or local level”. Public authorities include universities working in the area of geospatial provision and therefore INSPIRE has relevance for EDINA.

3. “Considered the largest initiative of its kind in helping to enhance repository development worldwide, DRIVER\(^{31}\) is a multi-phase effort whose vision and primary objective is to create a cohesive, robust and flexible, pan-European infrastructure for digital repositories, offering sophisticated services and functionalities for researchers, administrators and the general public.

“DRIVER has established a network of relevant experts and Open Access repositories. DRIVER-II will consolidate these efforts and transform the initial testbed into a fully functional, state-of-the art service, extending the network to a larger confederation of repositories. DRIVER is integral to the suite of electronic infrastructures that have emerged in the worldwide GÉANT network and is hence funded under the e-Infrastructures call of the European Commission’s 7th framework programme. It aims to “… optimise the way the e-Infrastructure is used to store knowledge, add value to primary research data and information making secondary research more effective, provide a valuable asset for industry, and help bridging research and education.”

DRIVER is relevant to EDINA’s work in scholarly communications.

\(^{31}\) http://www.driver-repository.eu/