



Business Development Plan 2009–2012

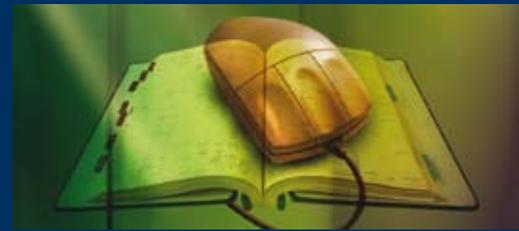


Table of Contents

1. INTRODUCTION	1
2. MISSION	1
3. VALUES	1
4. CONTEXT	1
5. BUSINESS PLAN FOR 2009–2012	3
Strategic goal 1:	3
<i>To provide added value, high quality services, leveraged by research, enhancement activity and engagement with others</i>	
Strategic theme 1a:	3-7
<i>Providing a managed portfolio of added value, high quality services</i>	
Strategic theme 1b:	8-11
<i>Shaping the future and gaining understanding by undertaking innovative R&D projects</i>	
Strategic theme 1c:	12-13
<i>Gaining leverage through national and international engagement</i>	
Strategic goal 2:	14
<i>To enhance our resource base through staff talent, technology and effective management of resources</i>	
Strategic theme 2a:	14-15
<i>Recruiting, retaining and developing a flexible complement of skilled staff, capitalising on reputation, 'know-how' and partnerships</i>	
Strategic theme 2b:	16-17
<i>Developing and maintaining outstanding IT capability</i>	
Strategic theme 2c:	18-19
<i>Providing effective governance and management of resources</i>	
Strategic goal 3:	20
<i>To sustain and develop a well-founded UK national academic data centre</i>	
Strategic theme 3a:	20-21
<i>Securing sufficient funding to meet strategic goals in the medium- to long-term</i>	
Strategic theme 3b:	22
<i>Managing appropriately financial and legal liabilities</i>	
Strategic theme 3c:	23
<i>Ensuring EDINA's long-term sustainability</i>	
APPENDIX ONE: STRATEGIC DIMENSIONS	i

EDINA Business Development Plan 2009–2012

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

1. Introduction

This is EDINA's Business Development Plan for 2009-2012. It is being published alongside the EDINA Strategy for 2009-2012 and provides our plans for delivery on the strategic goals we have set ourselves. You can see more about what we do at our website, <http://edina.ac.uk>. EDINA welcomes your feedback on our plans by email (edina@ed.ac.uk), by telephone (0131 650 3302) or by other means of social networking.

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 Integrated Information Environment (IIE).

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 which are free at the point of use, some specialist in nature and some requiring institutional subscription,.

Well-established and successful in its role as a national academic data centre, EDINA is now a 'HEFCE-related Body', the subject of a Funding Agreement between the University of Edinburgh and the Higher Education Funding Council for England (HEFCE), acting on behalf of all the Higher and Further Education funding councils in the UK.

As a University Planning Unit and a division within the Information Services (IS) group of the University, EDINA also manages the University's Data Library, now in its 25th year. The Data Library delivers services to students and staff in the University, and has active external engagement through such organisations as DISC-UK, the Data Information Specialists' Committee in the UK, and IASSIST, the professional international association for data librarians and archivists.

EDINA's key strategic business areas (SBAs) have been Scholarly Communication, Geospatial, Multimedia, Learning and Teaching, and now also Access Management.

The area of Scholarly Communication will always have significance for a national academic data centre, but it is one that is subject to turbulence and significant institutional and commercial context. EDINA has an excellent national and international reputation in this area, seeking always to identify where it can add value.

Geospatial is an area in which EDINA is world-class and has reputation for both innovative service delivery and initiatives that are shaping the future. The challenge is now to plan the expansion of our role on the international stage, as well as to consider the 'third stream' national opportunities.

Multimedia is an area in which there is considerable potential and in which EDINA is establishing a good reputation in its role as a service provider. Thus far, the focus for service delivery has been on the visual and audio-visual, but EDINA is now involved with a consortium that is digitising sound recordings of voice and song.

In Learning and Teaching, the key strategic direction currently is to provide a service for open educational resources. We will also continue to work with Mimas, our 'sister' data centre at the University of Manchester, to provide a keep-safe for project output and will maintain the capability of providing secure access for licence-protected resources.

The area of Access Management has always been of instrumental interest for EDINA. We now provide technical and administrative support for the UK Access Management Federation for Education and Research; and have been accorded status as an Expert Group advising JISC, providing test environments and developing components of international importance for the core Shibboleth software.

Appendix One contains a schematic representation of EDINA's strategic dimensions: the client communities (and their principal activities) that EDINA could and does serve, the variety of online services that EDINA delivers, and the activity and organisation of resources that EDINA requires.

More detail about our strategic business areas, external influences acting on them, and how we see them developing in the future, can be found in the EDINA Strategy 2009-2012.

5. Business Plan for 2009-2012

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.

We identify three key strategic activities or themes:

- a. Providing a managed portfolio of added value, high quality services [the near term];
- b. Shaping the future, gaining understanding by undertaking innovative R&D projects;
- c. Gaining leverage through national and international engagement.

Strategic theme 1a:

Providing a managed portfolio of added value, high quality services

Summary of activity:

EDINA provides national online services primarily, but not entirely, to UK H/FE staff and students, and Research Councils¹. These services fall into the following categories:

- Services on licensed content for designated communities, usually licensed by JISC Collections for use by the F/HE community and Research Councils in the UK, but also supplied by other providers
- Repositories of community-generated content
- Services on open access to all
- Access management and middleware² services
- Preservation services
- Knowledge exchange

Some services require institutional subscription and others are on open access; all are free at the point of use. Most services use methods of access management supported by the UK Federation for Access Management.

EDINA seeks to ensure that end users receive quality services, in terms of the online and added value experiences offered, along with reliability, responsiveness and support; and aims to improve engagement with the community to ensure that services meet the needs of users and respond more quickly to changing requirements.

EDINA's reputation for high quality support for use of services and data is a key factor in the success of its services. This applies particularly to services which require some specialist knowledge and those for which local support is difficult to find. Availability of in-house expert institutional support is reducing, due to the financial pressures placed upon institutions. Yet this comes at a time when there is increase in the use of geospatial and other more complex data by the academic community.

1. See <http://edina.ac.uk> for a full record of services provided

2. See <http://www.jisc.ac.uk/whatwedo/programmes/middleware/team.aspx> for definition of middleware

EDINA will continue to ensure that attention is paid to the requirements of the full range of its users, including those with disabilities, in improving the utility and usability of its services. Adopting too conservative an approach risks disenfranchising many users. EDINA is evaluating how its services can be presented and personalised to address changing information seeking and user practices, including access through devices other than computer screens, such as PDAs and mobile phones. In addition, EDINA will ensure that appropriate presentation of EDINA services is made through institutional or discipline-specific portals, and provide suitably evaluated social media tools.

As a national data centre, EDINA plays a key role in the academic infrastructure of the UK, working within the JISC's IIE, and internationally in the e-Framework for Education and Research (see EDINA Strategy 2009-2012). In addition, the geospatial community (i.e. the non-academic, national, European and global audiences) have been promoting the concept of a Spatial Data Infrastructure (SDI) to address the issues of how to find, connect to and use geospatial resources. EDINA will play an important part in realising the academic SDI for the UK and Europe under the INSPIRE directive. It will also have a role to play in the emerging UK SDI. In addition, 'geo-enabling' the JISC IIE – adding the 'Where' to educational resources – is an important strategic aim.

EDINA plays a leading technical role in the development of the UK Access Management Federation for Education and Research. This provides a national infrastructure supporting collaborative inter-working within the H/FE, research, and schools communities. EDINA also maintains strong links with Internet2 and contributes to Shibboleth development internationally. At JISC's request, EDINA has established an expert group in access management that provides specialist advice and support to JISC.

EDINA will continue to be active in contributing to and engaging with other Scottish players in the Scottish Government's e-Strategies to develop joined-up services and maximise the benefits attainable from current and future information delivery technologies. Building upon services and projects where EDINA already has expertise, EDINA will investigate methods for making its own services (and, if possible, services in the wider JISC IE) accessible to the e-Science community.

EDINA seeks to provide a coherent and useful service portfolio to its client communities. Management of the portfolio is becoming an increasingly significant part of EDINA's work. In particular, moving projects into services and the management of each individual service lifecycle have been identified as crucial factors in achieving this. At the time of writing this plan, EDINA is awaiting the forthcoming JISC Services Portfolio structure and JISC's reworking of its annual Committees cycle in order to work out its own portfolio management procedures.

EDINA, as a University Planning Unit delivering services both within and externally to the University, forms part of the University's goals to deliver excellence in education, research and knowledge exchange. The University regards EDINA as a centre of expertise in knowledge management. As an outwardly-facing organisation, every online service offered by EDINA can be seen in the light of contributing to knowledge exchange with outside individuals and organisations; and in addition, EDINA staff members participate in training and other events within the institution, thereby also supporting internal knowledge exchange.

Objectives for 2009-2012:	We shall achieve these objectives by:
<p>Support research, education and knowledge exchange by providing added value, high quality online services and infrastructure</p>	<ul style="list-style-type: none"> • Launching new services and continuing to provide high quality services on licensed content within our strategic business areas. • Successfully completing the transition of projects to services. • Launching and continuing to provide repositories of contributed and user-generated content. • Making available additional services on open access. • Continuing to provide helpdesk and technical support to the UK Access Management Federation for Education and Research; and provision of expert advice to JISC. • Continuing to scope and make available middleware services. • Involving ourselves to a greater extent in digital preservation services. • Continuing to participate as a centre of expertise within the University of Edinburgh in its internal and external knowledge management and knowledge exchange aims.
<p>Manage the portfolio and, where applicable, develop additional collections in line with user requirements</p>	<ul style="list-style-type: none"> • Managing our individual and collective service lifecycles effectively and efficiently, ensuring that cross-service synergies and aims are achieved. • Developing EDINA service portfolio management procedures in line with the JISC Services Portfolio procedures. • Dropping services from our portfolio, where they have reached the end of their usefulness to the community, or where they are more effectively provided elsewhere. • Developing additional collections in line with user requirements.
<p>Reach out to new communities of users</p>	<ul style="list-style-type: none"> • Providing (with Mimas) a repository of learning and teaching materials that will showcase around the world materials developed in UK F/HE in support of HEFCE (JISC/Academy policy). Given the popularity around the world of Open Educational Resources (OER) repositories such as the Open University's OpenLearn, we expect this strategic move to engender much interest internationally. • Providing an images service to schools in the UK. Although we have provided free services to schools, it is a new venture for EDINA to provide JISC-licensed content to the schools sector. It is being seen as a trial of a potentially very large service and other JISC services may follow. • Providing services to Research Councils (RCs). We are already involved with RCs through geospatial and other work, but in addition there has been an agreement by JISC to deliver its non-chargeable services to RCs. This will impact on our L&T services in particular, as there is interest in sharing educational materials. • Providing an open international geospatial repository, utilising open data sources. • Including rights-free international data in geospatial middleware. • Considering the provision of 'third sector' services.

Objectives for 2009-2012:	We shall achieve these objectives by:
<p>Provide high quality outreach and support services for contributors, end users and support staff</p>	<ul style="list-style-type: none"> • Meeting targets for service provision laid down in our Service Level Agreements (SLA) with JISC. • Continuing to provide high quality helpdesk, training, promotional and support services to our communities, and maintaining our excellent reputation. • Investigating the provision of a specialist geospatial advisory service that would provide expert support to F/HEIs. • Increasing 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. • Building and supporting active 'self-help' communities within our strategic business areas. • Producing a range of online learning materials using content from EDINA services and making them available to the community via the L&T repository and the EDINA website. • Adding commissioned materials to the multimedia, educational and geospatial services to assist teachers and researchers. • Providing support as required for new communities. • Working with JISC Digital Media (formerly TASI) to support growing multimedia use in education.
<p>Enhance content, presentation and delivery of services in response to community requirements</p>	<ul style="list-style-type: none"> • Implementing technical improvements in services, as required, to enhance their performance, speed or resilience. • Simplifying metadata schemas where possible. • Undertaking a scoping study into the mobile internet and delivery of services for students and researchers, starting with the geospatial services. • Adding personalisation functionality to the geospatial and multimedia services. • Improving interfaces for support staff in the scholarly communications services. • Developing 3D visualisation tools for geospatial services. • Undertaking investigations into mechanisms by which users can view their own geospatial data within the mapping applications and share data with others to enhance the user experience. • Keeping a watching brief on mechanisms for user rating and reviewing/ commenting in the geospatial and multimedia services. • Investigating the exploitation of geographic referencing in multimedia services. • Keeping a watching brief on streaming and webcasting in the multimedia services. • Undertaking contributor audits in L&T and scholarly communications services. • Continuing to undertake user requirements and interface testing work with our communities, in order to inform enhancements. • Providing opportunities for groups of users to meet both virtually and face-to-face and provide feedback to EDINA e.g. in forums and user groups. • Taking opportunities to bid for small sums of funding that allow us to engage with our users and find out their requirements. • Working with the JIBS User Group to obtain feedback from users of our services.

Objectives for 2009-2012:	We shall achieve these objectives by:
Support the development of the academic infrastructure in the UK and internationally	<ul style="list-style-type: none"> • Continuing to provide middleware for the JISC Integrated Information Environment (IIE). • Continuing to work with JISC on the e-Framework for Education and Research. • Working with Mimas on Discovery to Delivery work in our scholarly communications services. • Continuing to develop the academic Spatial Data Infrastructure in the UK and internationally. • Moving to offer production level web services and, as part of this, grid-enabling our research data services for e-Science. • Participating in the Scottish Government's e-strategies for joined up services. • Providing helpdesk and technical support to the members of the UK Access Management Federation for Education and Research. • Developing tools and procedures to further the aims of the UK Access Management Federation. • As an 'expert group', continuing to advise the JISC on technology and policy for access management.
Future-proof access for researchers of tomorrow	<ul style="list-style-type: none"> • Enabling local collection development – the storing and preservation of scholarly content by academic institutions. • Investigating how to create a community-governed, multi-site archive of content when access is threatened by disaster of any kind. • Continuing to work with the Digital Curation Centre (DCC). • Investigating implications for each of our SBAs, where licences permit, recognising that custody of data requires long run stewardship to exercise archival responsibility for the data we ingest and host, and any value added data that we may create. • Undertaking new preservation responsibilities and services.

Strategic theme 1b:

Shaping the future and gaining understanding by undertaking innovative R&D projects

Summary of activity:

EDINA exists to add value to the work of our communities by developing and delivering common services at the 'network-level'. Determining what adds value and how we can arrive at the position to deliver takes investment in understanding. By undertaking innovative R&D work, EDINA seeks to gain that understanding and play our part in shaping the future.

There are several ways in which R&D takes place via different funding streams:

1. Project activities, arising from JISC and other funding streams as a result of bidding or directed activity.
2. Service enhancement projects, funded by JISC;
3. Proto-service activities, often machine-to-machine (M2M) middleware activities;
4. Service-in-development activities, funded by JISC, in which the activities function as if they were services, often for projects with JISC Innovations Programme [strong elements of R&D, no Service Level Agreements (SLAs)]. The latter are in the development roadmap;
5. 'Watch' activities, often undertaken as work packages within projects, in order to ensure continued understanding of the technical and cultural landscapes in which the project is working.

R&D activities form part of EDINA's three-year rolling business development plans, to ensure that activity undertaken fits within the strategic directions of the data centre. The importance of this activity can be seen from the close relationship between innovation, project activity and transition into service. EDINA engages in influential scoping activity to inform the community, builds and tests pioneering facilities, is given charge of key 'services-in-development' and runs the resulting services to Service Level Agreements.

One example of project-to service activity is the Digimap Collection, which started as a e-Lib project in the late 1990s, progressed to service, and now stands as an internationally-recognised flagship service, supporting not only several data collections, but also activity to establish the UK and European spatial data infrastructure.

The Jorum and SUNCAT had different project beginnings but are both hybrid services-in-development, and have comparable prospects with regard to establishing e-infrastructure respectively for e-learning and scholarly communication; Jorum acting as a means of distribution for L&T materials generated by the UK academic community, and SUNCAT playing a pivotal role in access to document delivery and related services.

Within the time covered by this Plan, important areas of R&D in the **Geospatial** area will include:

- Opening up public sector information and creating UK and European spatial information infrastructures: we are working with others on the provision of access to the official, multilingual geographical names data held at the national level across Europe, and will be assisting member states prepare and test their data for the INSPIRE-led European Spatial Data Infrastructure.
- Data integration and dissemination: we have demonstrated a data dissemination model that generates the generic capability of 'geo-linking'.
- Semantic tools: we are demonstrating the benefits of developing an 'ontologically-driven' infrastructure to address issues of discovery, access and use of scientific resources.
- E-research with an E-Framework component: EDINA is participating in discussions between JISC services and Australian and New Zealand partners in the E-Framework and R&D work is being planned.
- Developing a geospatial applications profile for the JISC Repositories and Preservation Programme: we are providing a geospatial applications profile analogous to the ePrints SWAP profile, to enable consistency of search for geospatial data held in repositories.

In **Scholarly Communication**, R&D work will include:

- Developing the UK infrastructure for "well seamed" discovery, access and delivery: with Mimas, we are investigating infrastructure that will allow users to discover resources on existing catalogue and table of contents services, and present a series of options linking to services offering Interlibrary Lending, licensed electronic resources, free resources and pay to view resources.
- Supporting the policies of UK universities and national funding agencies towards Open Access: we are enabling all researchers to deposit publications in advance of their institution developing an OA repository and also providing a re-direct service where repositories already exist.
- Demonstrating middleware that enables easier deposit of research papers through batch upload of extant bibliographic metadata: we shall demonstrate proof of concept using services provided by EDINA and others.
- Support for continuing access and long term digital preservation of e-journal content: (CLOCKSS, UK LOCKSS).
- Enabling users to find appropriate learning, research and information resources by subject search and browse: EDINA is working with the University of Strathclyde to provide subject schemes and associated interoperability data in the JISC IIE.

R&D in the **Multimedia** area will include:

- Developing a usable route to image, sound and moving image resources that are relevant, of high quality, from trusted sites, and copyright cleared for use in research and teaching: we aim to provide a single focus and stepping-off point for access to multimedia materials, including outputs from JISC digitisation programmes and materials from F/HE institutions.
- Cataloguing and disseminating Gaelic and Scots sound recordings online: EDINA is working with BBC Scotland, the National Trust for Scotland and the School of Scottish Studies at the University of Edinburgh, developing a cataloguing application, a production control database and the searchable online database, which plans to add geographic referencing and place functionality.

In **L&T**, R&D areas in which we will work with Mimas over the period covered by this strategy include:

- Offering structured support to beginners and others in creating, sharing and reusing digital L&T materials: we will provide a 'Community Bay' of tools, materials and social networking mechanisms to support contributors in sharing their learning materials.
- Scoping additional services: developing viable business models for a range of services that could be offered under the Jorum banner.
- Expanding the licensing model: developing viable licensing models for a range of possible services.
- Providing a proposal for an archive service: working with the ULCC to determine what would be the characteristics of L&T materials that would require long-term preservation and how to make such a service available.

R&D in the **Access Management** area will include:

- Inter-Federation working: developing protocols to allow metadata interchange between federations, so that members of one federation can access resources within another federation.
- Testing deployment of Shibboleth project deliverables and their compatibility with new releases of key platform environments: ongoing R&D for EDINA.
- Federation operations development: including replacing the UK Federation Discovery Service; instituting new procedures for schools; and revision of tools and procedures for Shibboleth 2.x.
- Quick IdP installer: following the successful release of the QuickIdP installer for Shibboleth 1.3 in 2008, the EDINA Access Management Expert Group will release a corresponding product for Shibboleth 2.x. Quick IdP software lowers the barriers for institutions implementing their own IdPs within the UK Federation.
- SPNEGO: we will undertake research into using the SPNEGO protocol.

EDINA also has several areas of **cross-service** R&D activity that will continue during the time covered by this Plan. They are:

- Mobile Internet: monitoring on a cross-service basis the fast-moving developments in this area, sharing expertise across EDINA and undertaking relevant work.
- Repositories and preservation: keeping a 'watch' in this area, share expertise and undertake relevant work.
- Techwatch: this group monitors new technical developments and trends and agrees browser/environment testing for services.
- Virtual Research Environments (VRE): EDINA participates on a cross-service basis in a JISC-funded project, which is providing support to the JISC VRE Programme, helping to identify suitable solutions for the interoperability of VRE tools, applications, and resources.

Objectives for 2009-2012:	We shall achieve these objectives by:
Build capacity in EDINA, including strategic capabilities, in each of our business areas	<ul style="list-style-type: none"> • Continuing the activities in our SBAs, examples of which are given above (pages 11–13). • Adding new capabilities as appropriate.
Transition appropriate R&D projects to services	<ul style="list-style-type: none"> • At the outset of projects, identifying where they may have potential service exit strategies. • Devising a framework for project-to-service transition. • Developing critical appraisal of R&D activity, standing down projects as appropriate.
Respond to opportunities to undertake R&D projects	<ul style="list-style-type: none"> • Responding to invitations to tender. • Monitoring relevant mailing lists, websites etc. • Attending conferences and other events. • Monitoring news services and newspapers. • Keeping in touch with JISC Programme Managers. • Ensuring that existing projects and services-in-development undertake 'watch' activities on the technical and cultural environments that influence them.
Identify and create opportunities to undertake innovative work that fits within strategic goals	<ul style="list-style-type: none"> • Where opportunities arise from existing work, ensuring that the potential for new innovative work is explored with funding bodies. • Establishing links with new content providers, and with innovators.

Strategic theme 1c:

Gaining leverage through national and international engagement

Summary of activity:

EDINA works at local, national and international levels in each of its strategic business areas (SBAs), engaging in initiatives that assist productivity in research, learning and teaching. We plan to further develop our links with important national and international groups, including governmental, educational, standards development, research data, commercial, web services and grid development organisations. Some of the JISC's key strategic targets are expressed in contacts between EDINA and these organisations, and achieved in the joint work undertaken, for example, international collaboration to develop the E-Framework for Education and Research. In addition, Research Council and EU activities in which EDINA is engaged give a focus to collaboration and synergy. Our national and international contacts are also important for the University of Edinburgh's strategic aims as a world-class University seeking to enhance its global presence.

As a JISC-funded centre, EDINA will continue to engage closely with other JISC-funded centres and initiatives and with academic support staff in HE and FE institutions. Developing further links with Research Council staff is one of the aims of this plan. We will also engage with the researchers, teachers and students who are our customers, often via their local support staff, but also directly in our helpdesk and support services, training events and user requirements work.

All of EDINA's service areas will continue to work with intermediaries providing services to the same communities to leverage training, promotional and support activities.

Some of our geospatial activities are world-class and especially important as the scientific community prepares to implement the INSPIRE-led European Spatial Data Infrastructure (SDI). This is leading to productive partnerships between EDINA and European organisations in the academic, commercial and governmental sectors seeking to implement the directive. We will continue to participate in international standards development, in Scottish initiatives for interoperability and data sharing, and in e-Science initiatives.

Scholarly communications work in EDINA has close links with the major national and specialist libraries, as well as libraries from some of the largest HE institutions in the UK. We also have fruitful relationships with academic and commercial partners, standards organisations, union catalogues of serials, especially across Europe, and international networks, particularly in the Open Access arena, which we shall continue to develop.

In addition, we will have active commitment and responsibility for continuing access to the growing corpus of scholarly resources in digital format, with the University acting as the European archive node for the CLOCKSS digital preservation of e-journal content.

We work in partnership (with Mimas) to deliver the JISC's national repository of learning and teaching materials, which will be developed into an Open Educational Resources (OER) repository during the time covered in this plan. We shall continue to work with various JISC-funded services and a variety of intermediaries to deliver services and engage with the community in the UK. Internationally, we will develop further our links with other key national repository services and with governmental bodies and standards development organisations.

EDINA will continue to build on and develop its relationships with key players in the multimedia industry in the UK and with JISC-supported organisations, in order to ensure that our multimedia services are relevant, distinctive and add value to JISC-funded subscription services.

We will continue to work closely with colleagues in the UK in the ongoing development of the UK Federation for Access Management; with the core developers in the Internet2/MACE committee to develop the base standards, protocols and core software; and with international adopters of Shibboleth technology. We have contact with the national federations in the USA, Switzerland, Finland, Australia, France, Norway, Sweden and Denmark.

EDINA plans to build on its excellent reputation locally, nationally and internationally by engaging in appropriate initiatives and working with existing and new partners. In addition, we shall continue to invite distinguished people working in important strategic areas to visit and speak with our staff.

Objectives for 2009-2012:	We shall achieve these objectives by:
Highlight gaps and opportunities in existing national and international engagement	<ul style="list-style-type: none"> • Undertaking an audit of national and international relationships. • Highlighting gaps and opportunities and using the information to make contacts.
Consolidate and improve existing collaborations	<ul style="list-style-type: none"> • Continuing to work closely with our sister data centre, Mimas, and with JISC-funded and other UK centres and initiatives. • Assisting member states prepare and test their data for the INSPIRE-led European Spatial Data Infrastructure. • Participating with partners in Australia and New Zealand on the development of the E-Framework. • Taking every opportunity to improve and build on existing collaborations, to maintain relationships and apply for new funding.
Build new partnerships and collaborations	<ul style="list-style-type: none"> • Taking opportunities to network and build new potential partnerships in advance of funding opportunities becoming available. • Maintaining a watch in each strategic business area for potential partners and acting on opportunities.

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:

- a. Recruiting, retaining and developing a flexible component of skilled staff, capitalizing on reputation, 'know-how' and partnerships
- b. Developing and maintaining outstanding IT capability
- c. Providing effective governance and management of resources

Strategic theme 2a:

Recruiting, retaining and developing a flexible complement of skilled staff, capitalising on reputation, 'know-how' and partnerships

Summary of activity:

Staff development and retention are at the forefront of EDINA's strategic plan. As a knowledge organisation, staff and their 'know-how', expertise and skills remain our greatest asset. Our Director has written, "We value staff of talent, skill and motivation as our most important resource". By continuing to extend the skills and knowledge of staff and by providing a challenging and rewarding working environment, we will allow the organisation to develop further and to continue providing valuable services to our stakeholders.

EDINA aims to recruit, retain and develop a flexible complement of able, skilled and well-motivated staff by providing staff development opportunities and attractive, appropriate terms and conditions. EDINA is committed to the principles of opportunity, equality and diversity, with recruitment of staff based on merit and ability.

A staff development plan for each member of staff is agreed annually and discussed between the staff member and his/her line manager. EDINA staff have the opportunity to participate in training events organised by IS and other groups within the University, as well as external training and development opportunities.

EDINA aims to be an attractive place for people to work, a place where individuals feel empowered to succeed in their role, their success is recognised, and they have the opportunity to achieve a good work-life balance.

EDINA aims to ensure that cross-fertilisation of ideas and 'know-how' takes place in the data centre, by means of regular workshops and meetings in which staff can share their knowledge, and by provision of online tools such as the staff intranet. In addition, EDINA aims to share and exchange knowledge with partners in the UK and in the outside world. This allows us to learn from others, as well as contributing to their learning, and builds expertise and capacity.

Objectives for 2009-2012:	We shall achieve these objectives by:
Provide staff with equitable opportunities for their development, in line with University guidelines and within staff development resources available	<ul style="list-style-type: none"> • Agreeing a staff development plan annually with each member of staff. • Agreeing a policy for ensuring that staff members receive equitable treatment in obtaining development opportunities. • Making available to staff 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 in the University.
Empower staff to perform and succeed in their roles and recognise their success	<ul style="list-style-type: none"> • Recognising and rewarding staff through the University's Contribution Reward scheme. • Ensuring that staff members receive positive reinforcement in terms of praise and encouragement from managers. • Empowering staff through delegation of responsibility and involvement in decision-making. • Encouraging and supporting staff to help one another. • Appointing a support officer to provide office system support and be responsible for shared equipment.
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	<ul style="list-style-type: none"> • Encouraging staff to use the intranet. • As required, establishing cross-service groups to share and exchange knowledge about common areas across EDINA. • Keeping under review methods of sharing knowledge e.g. the monthly staff meeting. • Participating in IS knowledge sharing activities. • Considering holding joint Management Board and Management Team meetings between EDINA and Mimas. • Undertaking more projects with Mimas and other JISC services. • Continuing 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	<ul style="list-style-type: none"> • Keeping under review our recruitment methods and practices. • Ensuring that we promote equality and diversity in our workplace. • Working with the University on grading structures to try to enhance promotion prospects for staff. • Supporting staff with special needs. • Maintaining flexibility in our working practices. • Ensuring that staff members know about and benefit from University policies such as family leave.

Strategic theme 2b:

Developing and maintaining outstanding IT capability

Summary of activity:

EDINA aims to develop and maintain exceptional IT capability, by engaging in 'technology watch' and thereby remaining relevant to the community; and by commanding sufficient resources, in terms of human skills, software and hardware, for planning and deployment.

EDINA hardware strategy has been, and will remain, focused on providing flexibility, reliability and performance across the full range of service requirements. There is now agreement with JISC for a recurrent hardware funding model and funding is now in place for the period 2008-2011.

EDINA will sustain the considerable synergy and gain from its position inside the University of Edinburgh, and its compatibility with the University's ICT strategy. The general strategy is to continue migration away from locally attached storage to using a Storage Array Network (SAN) in partnership with the University. This means that storage arrays are network attached via fibre switches to multiple hosts and means that EDINA gains leverage from the much larger investment by the University in this technology. We have continued a move towards virtualisation architectures, including Solaris containers.

The University of Edinburgh has established a twin-site configuration for backup, with a second machine room situated at a remote site several miles distant. EDINA has bought a fixed number of 'slots' in the new SAN-based backup infrastructure purchased by the University, and the necessity for operator intervention has been removed. Future additions to backup capacity can be made when necessary by buying additional 'slots' in the University's infrastructure. Additional machine room space at our remote site is due to be completed in July 2009. We intend to begin implementation of dual site resilience for EDINA services once the second site is available. We also intend to provide a separate hardware development environment for EDINA services. This will increase resilience and allow development to be conducted in an environment which is both more standardised and more compatible with the production environment.

EDINA is planning for major risks and business continuity in its IT infrastructure, with responses to various categories of events. Over the last year, we have improved resilience by converting and upgrading all of our servers to dual Gigabit connections configured for automatic failover. An extra Gigabit network switch has also been deployed so that network connections are dual-pathed.

In common with the University's Information Services group, EDINA is utilising the ITIL IT Service Management framework to ensure that we improve our IT services in line with best practice processes. Several of our staff have attended University-arranged courses.

EDINA reviews software systems used across the data centre, with a view to ensuring efficient and effective use of software. We will continue to monitor open source solutions and offerings from commercial software vendors to ensure that the most effective options are deployed in EDINA services. As web services are increasingly being supported by desktop tools, there is an increasing requirement to provide our existing services via a combination of current and new access routes. We plan to provide support for production web services. Our hardware and software infrastructure will need to be able to accommodate the corresponding growth in demand.

EDINA will continue to build on and develop its relationships with key players in the multimedia industry in the UK and with JISC-supported organisations, in order to ensure that our multimedia services are relevant, distinctive and add value to JISC-funded subscription services.

We will continue to work closely with colleagues in the UK in the ongoing development of the UK Federation for Access Management; with the core developers in the Internet2/MACE committee to develop the base standards, protocols and core software; and with international adopters of Shibboleth technology. We have contact with the national federations in the USA, Switzerland, Finland, Australia, France, Norway, Sweden and Denmark.

EDINA plans to build on its excellent reputation locally, nationally and internationally by engaging in appropriate initiatives and working with existing and new partners. In addition, we shall continue to invite distinguished people working in important strategic areas to visit and speak with our staff.

Objectives for 2009-2012:	We shall achieve these objectives by:
Maintain and continue to effect a rolling plan of hardware upgrade and replacement to fulfil current and future service requirements	<ul style="list-style-type: none"> • Maintaining three-year rolling hardware strategies and update them annually, purchasing new or upgrade hardware as required. • Exploiting improvements in hardware technology and performance where cost effective. • Increasing processor and memory capacity to meet performance and scalability challenges of increasing service and service development needs. • Using SAN storage to reliably accommodate increasing data volumes. • Exploiting backup infrastructure capable of handling the increasing data volumes within appropriate backup windows. • Ensuring network infrastructure sufficient to handle the required data volumes.
Improve service resilience and ensure business continuity	<ul style="list-style-type: none"> • Implementing dual site resilience for key services. • Funding additional facilities management effort from the University Computing Service. • Improving active service monitoring tools. • Reviewing the resilience of services. • Providing standby provision of key services at a remote location. • Ensuring the availability of sufficient trained staff to facility manage EDINA hardware. • Consolidating services using visualisation techniques. • Reviewing annually the IT components of the detailed risk register. • Revising IT disaster recovery plan and emergency management plan. • Testing selected components of the IT disaster recovery plan to ensure the plan's effectiveness.
Maintain a coherent and effective software strategy	<ul style="list-style-type: none"> • Reviewing annually the software systems and methodologies in use across EDINA. • Selecting software appropriate to specific tasks. • Employing effective design, build and control methodologies. • Utilising software that is compatible with the strengths of EDINA staff. • Recognising the benefits of adopting open system software and standards where appropriate.

Strategic theme 2c:

Providing effective governance and management of resources

Summary of activity:

EDINA operates as a HEFCE-related body under the terms of a Funding Agreement signed between HEFCE and the University of Edinburgh. A Management Board has been established under the terms of the Agreement that offers specialist advice and guidance. The Director of EDINA reports to the Board. The Chair is chosen in agreement between the University and JISC. Membership includes representatives from the JISC Secretariat, the user community, the Director of EDINA, and the University of Edinburgh.

The Director of EDINA is an employee of the University of Edinburgh and is responsible to the Vice Principal and Chief Information Officer of the University; the latter sits on the EDINA Management Board. The Director of EDINA sits on the Information Services (IS) Executive.

The EDINA Management Team meets fortnightly and is responsible for leadership of activity, finance and resource planning in the data centre.

The Business Development Group guides the development of new project and service activity within EDINA and meets fortnightly.

EDINA aims to provide a clean, tidy, efficient, organised, well-maintained professional working environment for all staff. The move to commercial premises in Edinburgh has improved the working environment and provided additional resources to staff, such as a number of meeting rooms that any member of staff can reserve.

Constraints on EDINA's growth in past years caused by accommodation were eased by the move to commercial premises, but there soon became a requirement to provide extra accommodation to resource activities. Additional accommodation has been secured on another floor in the same building and some staff will be moved to the new location in early 2009. It is anticipated that the additional accommodation will address for the duration of this plan the constraints previously faced by the organisation due to lack of accommodation for staff.

EDINA's office at St Helens College in Newton-le-Willows, Merseyside, will be moving, due to the planned closure of the campus by the College. It is likely that the staff will move to commercial premises in Cheshire during 2009.

EDINA has made a small investment in 'corporate positions', beginning with additional management effort. Some additional posts will be advertised in the 2008-2009 year, made possible by the additional accommodation at Edinburgh.

The strategic intention is to facilitate growth where necessary, but to ensure that growth will be controlled through strategic partnership arrangements and outsourcing where applicable. Priority is being given to improving methods of projecting income, activity and hence staffing and accommodation requirements.

In common with many other organisations that receive much of their funding from grant money, EDINA faces challenges in being able to react quickly to opportunities when staff members are already fully committed in their current work.

EDINA Business Development Plan 2009–2012

EDINA's Strategy and the rolling business development plans in each of EDINA's SBAs will address the whole of the activity undertaken by the data centre, and not just its JISC-funded activity. Service Implementation Plans for JISC-funded activity will be guided by these documents. The annual Operational Plan for JISC will be based on the Service Implementation Plans.

EDINA contributes to the University's IS Strategy Plans, Annual Plans and Annual Reports under the heading of "National and International Engagement".

EDINA is currently working on improving our management accounting systems to make better informed business decisions.

Objectives for 2009-2012:	We shall achieve these objectives by:
Work within our governance structure to demonstrate effective management of resources to our key stakeholders	<ul style="list-style-type: none"> • Planning and reporting as required to the IS and the University, the JISC and the EDINA Management Board.
Improve methods of projecting activity and income, and hence staffing and accommodation requirements	<ul style="list-style-type: none"> • Using the business development plans to project activity and income. • Using these estimates to derive staffing and accommodation requirements.
Ensure that any funding opportunities that arise are considered in line with strategic goals, and that resources are made available to undertake the work	<ul style="list-style-type: none"> • Working on a framework to make it easier for EDINA to react quickly to opportunities.
Ensure that we make better informed business decisions	<ul style="list-style-type: none"> • Improving our management accounting systems
Remove constraints on staffing caused by lack of suitable accommodation	<ul style="list-style-type: none"> • Providing additional accommodation.

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:

- a. Securing sufficient funding to meet strategic goals in the medium- to long-term
- b. Managing appropriately financial and legal liabilities
- c. Ensuring EDINA's long-term sustainability.

Strategic theme 3a:

Securing sufficient funding to meet strategic goals in the medium- to long-term

Summary of activity:

Strategic financial concerns for EDINA are:

- Synergy with strategic objectives, and partnership building
- Predictability and long-term funding considerations
- Widening the funding base of the data centre to reduce risk

EDINA seeks long-term sustainability in order to meet its strategic goals. The constraints faced are those of its parent organisations: EDINA is not autonomous. Of course, this does not mean that EDINA is constrained by funding opportunities arising only from the parent bodies. EDINA applies for and is in receipt of grants from other organisations, currently mainly the EU and the ESRC.

The environment in which EDINA works is not predictable: it is fast-changing and sometimes turbulent. Opportunities to apply for funding may come along unexpectedly, although JISC is now attempting to advise its communities about forthcoming grants. Resource management at the data centre needs to be flexible enough to respond to project bidding opportunities that fit within our strategic directions, yet support the necessary continuity for service provision.

EDINA will ensure that the exit strategies of projects undertaken with innovation funding from JISC or others are included in the business development plan for transfer to longer-term service funding streams, if applicable. We will work within the JISC development-to-service guidelines and develop our own portfolio management procedures as mentioned earlier in this plan.

The principal purpose of our business development plans is to work out what EDINA plans to do in each SBA over the forthcoming three years, identify funding sources for the activities planned, and monitor risks that could undermine the sustainability of the organisation. If the activities planned are service enhancements, the funding required will be notified to JISC or other funding providers. If the activities planned are innovative projects, sources of funding will be identified and approached, or monitored for future opportunities.

As an internet organisation, there are areas of activity that are common to all of our SBAs. Examples include interest in developing for the mobile internet and repositories/preservation. To address this, EDINA has set up several cross-service groups. It is essential to ensure that resources are secured to enable staff to work in these groups, as well as in their own areas of activity, as these groups have the potential for making efficiency gains. EDINA will seek to find ways to ensure that cross-service groups are funded and resourced properly.

EDINA is now able to apply for JISC funding on the basis of full economic costing (FEC). It is an important contributor to the finances of the Information Services group of the University and FEC funding has enabled the move to larger premises that enables growth in staff numbers to be facilitated.

EDINA will continue to monitor the external environment for sources of funding that will enable the data centre to widen the base of its funding; and will work with JISC and others where appropriate to provide services for which JISC has discontinued its direct support, on an ongoing JISC-approved basis. At present, EDINA is not investigating net revenue generating schemes.

Objectives for 2009-2012:	We shall achieve these objectives by:
Plan for the future and identify suitable sources of funding	<ul style="list-style-type: none"> • Writing three-year rolling business development plans and identify funding sources for planned activity.
Seek out and take opportunities to bid for funding from a range of sources if the activity potentially funded is in line with strategic goals	<ul style="list-style-type: none"> • Actively seeking new sources of funding. • Bidding for work where the activity is in line with strategic goals.
Ensure that activity that crosses service boundaries is funded and resourced	<ul style="list-style-type: none"> • Working out the resource required to contribute to cross-service activities and including this in budget calculations.
If possible, recover Full Economic Costs from funders	<ul style="list-style-type: none"> • Including FEC calculations in budgets wherever possible.
Widen the funding base of the data centre to reduce risk	<ul style="list-style-type: none"> • Seeking and taking opportunities to apply for funding outside our usual funding stream.

Strategic theme 3b:

Managing appropriately financial and legal liabilities

Summary of activity:

As a Planning Unit of the University of the Edinburgh, EDINA has financial and legal responsibilities. We have funding to sustain both recurrent expense and investment for the future. Growth in activity and funding over recent years means that we have sufficient finance to fund all necessary resources, including the current staff payroll and additional staff recruitment.

We ensure that we have sufficient funding to meet future agreed pay increases and employer responsibilities. We have the means to support staff members with particular needs arising from disability or ill health; and we ensure that these staff members get access to appropriate facilities provided by the University. We promote equality and diversity in our recruitment processes and in support for our staff.

We ensure that we comply with external compliance requirements, including the following:

- Health and Safety
- Freedom of Information (Fol)
- Data Protection (DP)
- Copyright and licensing
- Accessibility (SENDA)

To do this, we undertake Health and Safety risk assessments; appoint separate Freedom of Information and Data Protection practitioners, who are responsible for educating our staff in appropriate measures; and ensure that relevant staff are trained in key issues that affect our activity, such as accessibility laws and copyright/licensing law. We produce best practice guidelines for staff and have policies and procedures in place to respond in a timely fashion to requests such as Fol, DP, data access and takedown.

We also maintain a Risk Register that includes compliance requirements, which is updated annually.

Objectives for 2009-2012:	We shall achieve these objectives by:
Meet our obligations for our staffing complement	<ul style="list-style-type: none"> • Ensuring that we have funding to meet ongoing staff payroll requirements, including pay increases and employer responsibilities. • Ensuring that we offer support for staff with disabilities or ill health. • Ensuring that we promote equality and diversity in recruitment processes and in support for our staff.
Meet external compliance requirements, including legal and financial	<ul style="list-style-type: none"> • Maintaining a regularly updated Risk Register. • Conducting Health and Safety assessments. • Appointing Fol and DP practitioners. • Ensuring that appropriate staff are trained and cascade training as required.
Ensure that activity that crosses service boundaries is funded and resourced	<ul style="list-style-type: none"> • Working out the resource required to contribute to cross-service activities and including this in budget calculations.

Strategic theme 3c:

Ensuring EDINA’s long-term sustainability

Summary of activity:

EDINA will be sustainable in the long run only if it continues to provide services that are responsive to community needs and that are seen as valuable by end users, including those who download and use content and data from our services and those who contribute community-generated content.

Sustainability depends on many factors in addition to the obvious one of securing funding. EDINA plans to address the following in detail over the period of time covered by this Strategy:

- ensuring that we continue to attract and retain high quality staff;
- continuing to prioritise the collection of user requirements and enhancement of services in accordance with them;
- providing rich user environments;
- engaging with the open agenda in software, content and services;
- examining new/ innovative models, including funding models, within service areas;
- identifying sustainable outputs earlier in the development cycle and developing a framework for successful project-to-service transition;
- managing risks successfully;
- building strategic partnerships, to position ourselves to take opportunities, to grow and develop capacity, and to work with others e.g. to provide ‘reward’ mechanisms for users of our services.

Objectives for 2009-2012:	We shall achieve these objectives by:
Examine new/innovative models, including funding models, for strategic growth	<ul style="list-style-type: none"> • Considering how others build capacity and whether the models they use, including funding models, are appropriate for us.
Facilitate growth by strategic partnerships	<ul style="list-style-type: none"> • Using the audit of national and international engagement to identify possible strategic partnerships for future growth.

Appendix One: Strategic Dimensions

Activity & Organisation		Content & Services		Client Communities & Funding	
Focus	Teams	Thematic Content	Special Focus	Communities	Client Activities
Services	User Support	Scholarly Communication Reading & Reference: • reference journals & articles • serials catalogues • deposit academic papers	Learning & Teaching Educational • learning resources • teaching support materials	UK higher education	Research
R&D Projects	Service Delivery • Research and Geospatial • Bibliographic and Multimedia • Learning and Teaching	Research Data Maps and Data • Geo-data portal • Maps and datasets: Ordnance Survey, geological, historic, marine, boundary • Agricultural census	Middleware and Access Management • access management • routers • cross-search • crosswalks • web services • e-Science/grid • registries	UK further education and 6th form colleges	Learning
Resources	ICT Infrastructure	Multimedia • Film and Sound • Newsfilm • Images	Scotland • Scottish history • Scottish union catalogue	UK research councils	Teaching
Finance	Data Library	x Types of services offered	x Faculty/subject	Government	Knowledge transfer
Business Development	Policy and Admin	Access (get) • search, retrieve, view, download	Arts, Humanities and Social Sciences	Business e.g. GI industry	Management
	x Activity	Deposit (put) • contribute, share	Rural, Medical and Life Sciences	UK schools	x Funding
	Retrieval/storage	Discover/Locate	Engineering and Physical Sciences	Other UK educational sectors	JISC
	Curation/Management	Interoperability/Integration	Area Studies and Geo-Sciences	Europe	Research Councils
KEY:	Display	Middleware and Access Management	Informatics: Computation and Library Sciences	World-wide	Government sponsorship
Bold: What we do now	Data creation	Hosting		x Market Geography	European Union
Regular: What we might do in the future	Long-term storage	Advisory		UK	Commercial
	Analysis	Curation/Preservation		Scotland	Other
				Europe	
				World-wide	

EDINA
Causewayside House
160 Causewayside
Edinburgh
Scotland
United Kingdom
EH9 1PR

Email: edina@ed.ac.uk
Phone: +44 (0)131 650 3302
Fax: +44 (0)131 650 3308