

powering  
knowledge

# Mimas

**Annual Review 2010/11**

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# Powering world-class research and teaching

## An introduction to Mimas

Mimas is an [organisation of experts](#). Our role is to support the advancement of knowledge, powering world-class research and teaching.

As a national data centre based at [The University of Manchester](#), we host a significant number of the UK's research information assets – and build applications to help people make the most of this rich resource.

We have a unique blend of expertise and contextual knowledge, combined with the capacity to deploy existing and emergent technologies. This enables us to turn advances in technology into value for our communities and provide world-class information resources.

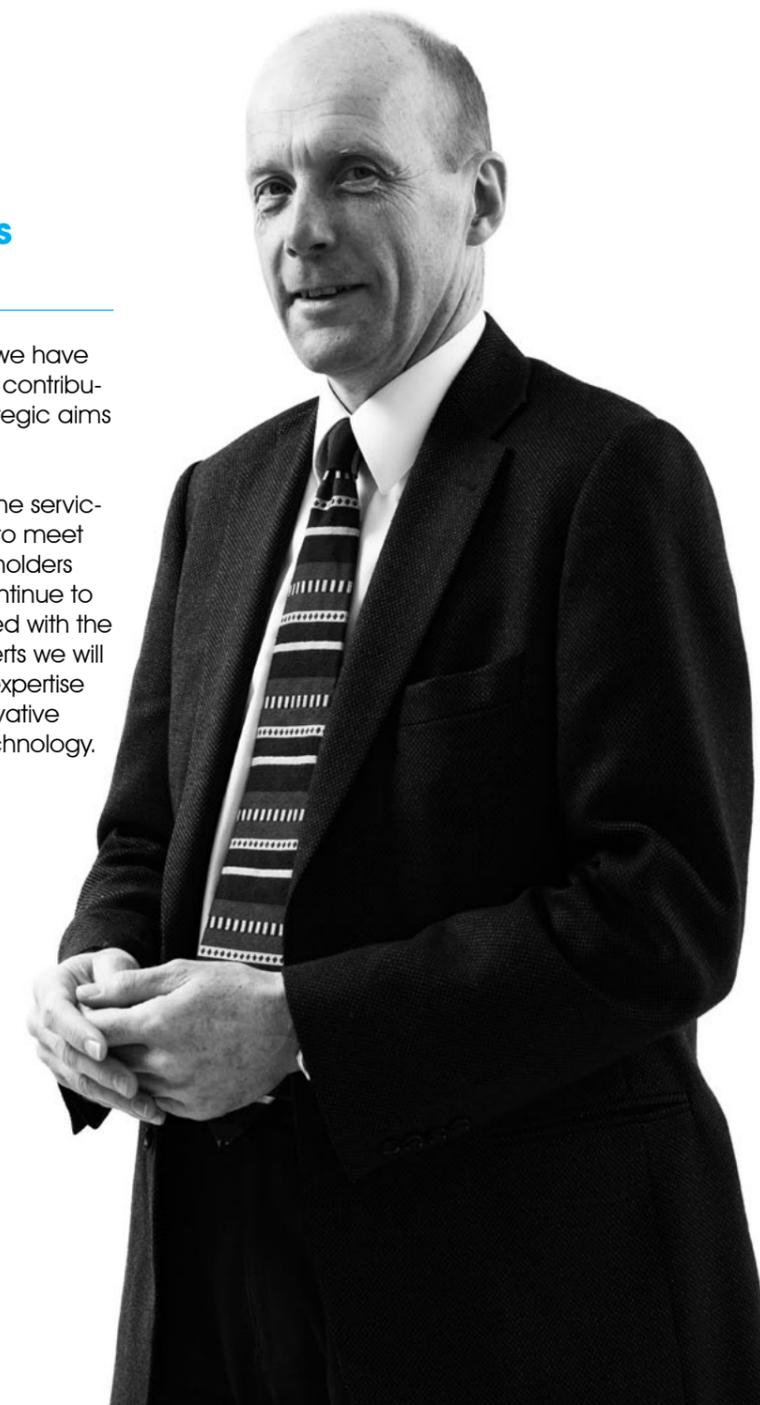
Mimas has a long standing relationship with [JISC](#), developing services that support teaching, learning and research, and strong connections with research councils, especially the [ESRC](#).

# Director's foreword

## Keith Cole - Director of Mimas

As Director of Mimas, I am very proud of what we have achieved as an organisation this year, and the contribution we have made towards delivering the strategic aims and objectives of our funders.

Looking forward, we will continue to enhance the services we deliver and to exploit new technologies to meet changing user needs. Engaging with key stakeholders and partnership with other organisations will continue to be vital to our work to ensure we are fully aligned with the needs of the sector. As an organisation of experts we will continue to invest in developing the skills and expertise of staff to ensure we remain an agile and innovative organisation working at the forefront of new technology.



# Making data work harder

We believe there is untapped potential in combining and aggregating different types of data. We already deliver large-scale aggregations through our portfolio of projects and services, and throughout this year we have approached these data in new ways, to help researchers discover and use important collections.

## A metadata ecology for UK education and research

Over the last year, we have worked closely with JISC to develop, manage and implement the [Discovery programme](#), a national initiative that aims to **improve the discoverability of UK library, archives and museum content on the web**.

Launched in May 2011 and continuing until the end of 2012, the programme brings together a range of key partners ([RLUK](#), [Collections Trust](#), [Eduserv](#) and [Sero Consulting](#)) who are working together to drive innovation and provide opportunities for institutions to openly share their metadata.

'Discovery' supports and demonstrates what **open and reusable data can make possible**, through resources such as the [Open Bibliographic Data Guide](#) and the [Open Metadata Principles](#), and through guidelines and open data sets from eight JISC-funded partner projects.

2012 will be about embedding those principles on the ground, so we can improve the quality and sustainability of new and existing resource discovery infrastructure. We'll be working with JISC and our partners to develop case studies, guidelines and training to support learning and change. We want to build confidence in the community by addressing their technical and licensing concerns. We'll be working to enable developers to drive innovation and overcome technical barriers, and at the same time working with institutions with **hidden but strategically important collections** to release metadata openly.

## The power of connections - Linked Data at Mimas

Through three JISC-funded projects we're exposing our unique datasets as Linked Data, opening up new routes into information and giving researchers the opportunity to discover and use valuable research collections.

In collaboration with [UKOLN](#), [Eduserv](#), [Talis](#) and [OCLC](#), we worked to make our [Archives Hub](#) and [Copac](#) data available as structured Linked Data in [project LOCAH](#). Continuing this work, the Linking Lives project is exploring new ways of presenting archives by combining archival descriptions with other data sources and creating a new biographical interface for the Archives Hub.

We've also worked with datasets from our [ESDS International](#) and [Landmap](#) services. By making the World Development Indicators (WDI) dataset and a subset of Landmap spatial data (Building Class, Building Heights and Thermal Images) available as Linked Data, we are **making these collections discoverable** and developing **new networks** within the wider academic community. We look forward to seeing how the exposure of these data will create opportunities for future collaborations between our services and other data providers.

## Exploiting open standards

UK censuses provide an unparalleled source of demographic and socioeconomic information, and are fundamental tools for researchers. However, use of aggregate outputs from the Census has traditionally been limited by the separation and fragmentation of data and metadata. In collaboration with the [Office for National Statistics \(ONS\)](#), our [Census Dissemination Unit \(CDU\)](#) has been working with **open standards dissemination technologies** and methods to make the **Census easier to use**.

Launched in beta in May 2011, the [InFuse service](#) is the first example of a **new generation of web interfaces** that will revolutionise researchers' use of the UK Census. By restructuring and describing a representative sample of the 2001 Census aggregate outputs in a **multidimensional form**, InFuse makes it easy for users to find and understand data by providing simple ways of searching across entire datasets, and by providing information about its meaning (metadata). This research, funded by the [ESRC](#), has been influential in encouraging and informing the adoption and development of data feeds for the dissemination of the 2011 Census, and the InFuse service will provide immediate access to the full richness of these outputs as they are released.

"It's vital to help users of the Census to express their needs in simple terms ("I want to see the population classified by Age, Ethnicity, & Education.....") and so swiftly find what they want, without specialist knowledge: the InFuse project has already made great progress towards removing barriers to access." - [Keith Dugmore, Demographic Decisions Ltd](#)

## Quality resources for arthritis research

Established as a result of research undertaken by [Arthritis Research UK](#) into the requirements of their user community, the **Musculoskeletal online resources assessment tool project** has developed a new service to provide easy access to online resources in the field.

Working collaboratively with subject specialists at Arthritis Research UK, our metadata and systems experts have developed a **high-quality internet resource catalogue** which will help arthritis researchers, ranging from consultant rheumatologists to medical students, to search for and discover **reliable and peer-reviewed resources**. Due to its formal launch in early 2012, the service is attracting positive feedback throughout the user community.

"The website is a valuable source of information which I will definitely use and direct others to use in the future. It seems that most of what you might want to know related to MSK medicine/surgery can be found somewhere on this site. This is a huge help and prevents endless hours of searching for information on the web" - [Medical student](#)



# Developing shared services

With our partners, collaborators and funders, we have a long history of building shared services on behalf of UK education. Through new and established partnerships, we are developing further tools and services that bring real efficiencies and benefits to institutions.

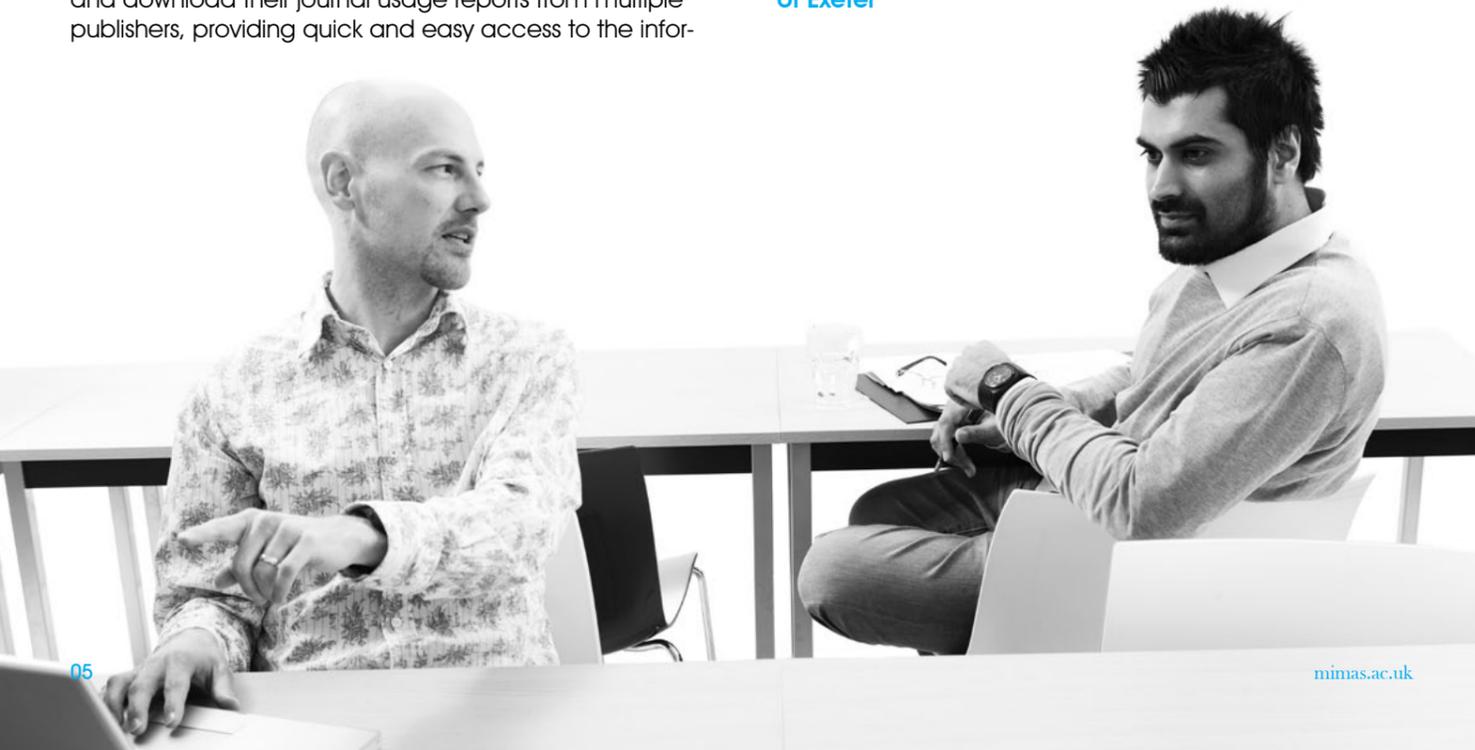
## Analysing the usage and impact of journal subscriptions

As diminishing budgets force university libraries to tighten their belts, it's becoming increasingly important to demonstrate that resources are value for money.

Working with [JISC Collections](#), [Evidence Base](#) and [Cranfield University](#), we've developed the [Journal Usage Statistics Portal \(JUSP\)](#) - a new service that provides libraries and librarians with a **simpler way to analyse the usage and impact of their journal subscriptions**. It offers a fully automated single point of access for libraries to view and download their journal usage reports from multiple publishers, providing quick and easy access to the infor-

mation needed to make important decisions about purchasing and resource management. Now representing usage by over **125 academic institutions** for **15 leading journal publishers**, the portal has expanded significantly this year, and we will be implementing further value-added enhancements throughout 2011/12.

*"The more publishers you can get on board the better! Thanks for all your efforts so far, the JUSP portal is already proving to be invaluable to us." - [Kate Newell, University of Exeter](#)*



## New approaches to collections management

Demands on budgets and space mean that libraries need to make sure that their research collections are effectively managed, but identifying whether items are rare, or indeed unique, is a time-consuming and expensive manual process.

Funded by [JISC](#) and working with [RLUK](#) and the [White Rose Consortium](#), we're [developing a new tool](#) that supports library staff in their **collection management and development decisions**. Using data visualisation techniques to provide valuable information from the catalogues of the UK's major research collections, the new tool helps libraries to quickly identify the locations of items across the UK.

This **innovative re-use of existing Copac data** offers real potential for collaboration, helping libraries to make informed decisions at a time of increasing financial constraints and protecting access to rich research collections into the future. In the long term, we hope that this approach will facilitate **regional and national approaches to collaborative collection development**, and lead to the development of a more consistent approach to collection management at a national level.

## The power of activity data

Institutions have access to a wealth of **activity data**, which provide valuable insights into the behaviour and actions of students and researchers. Intelligent use of these data can help us to better understand users and improve services.

Funded through the [JISC Activity Data programme](#), the [SALT \(Surfacing the Academic Long Tail\)](#) project explored how library circulation data could be harnessed to support research by revealing underused or hidden library materials through book recommendations in library catalogue interfaces. Working in collaboration with [The John Rylands University Library \(JRUL\)](#) and experts from the [University of Huddersfield](#), we developed an **API onto ten years of aggregated and anonymised circulation data** from JRUL, and added recommender functionality to their library catalogue and to [Copac](#). We believe that, used in this way, activity data can help to **increase the usage of previously hidden items**, giving libraries the means to demonstrate the value of the collections by pointing to increased usage. As the project moves forward, we'll be exploring how aggregated activity data can provide more benefits for the wider community. We're working with potential data contributors such as [Cambridge University Library](#), [University of Sussex Library](#), and the [M25 consortium](#) to look at how we might develop a **shared aggregation service of circulation data** for UK University Libraries., and investigating how the data can be further exploited to support other activities such as collection management.

# Supporting learning and teaching

Through our engagement with the Open Educational Resources (OER) agenda, the development of award-winning research-led learning and teaching materials, and research into mobile technologies, we continue to promote innovative uses of technology to support education.

## Improving the discoverability of Open Educational Resources

There is widespread recognition that we need to communicate and capture the **benefits and impact of OERs on teaching and learning**, for example how OERs can improve student learning, and increase visibility and reputation for individual institutions.

This year, [Jorum](#) has fully supported the [UKOER programme](#), and has worked to collaborate with and support all key partners. In May 2011, we outlined a **new vision where Jorum becomes a shared national service for discovering OERs** that also fosters the ecology of reuse of those resources across the sector and beyond. To date over 9000 resources have been deposited into Jorum with the #UKOER tag.

As the UKOER programme moves forward, we look forward to working with the new projects and supporting deposit of their content for sharing. We will be working more closely with developers, communities of practice and institutions that wish to **showcase and improve the discoverability of OERs** and OER collections through Jorum.

"It's over a year ago that Jorum started supporting open content, in the context of a global growth in open educational resources. During a time of change in the sector, JISC has been working with Jorum to rethink support for institutions and academics. I am excited to see how Jorum will evolve further." **Amber Thomas, JISC Programme Manager (Digital Infrastructure)**

## Transferring innovation

In October 2010, we won funding through the [Leonardo da Vinci Programme](#) for [Hair.net](#) - a project that is improving skills and training opportunities for hairdressers in Eastern Europe by adapting our award-winning [Hairdressing Training Service](#) to meet the needs of our partners in Bulgaria, Slovakia and Romania.

We are creating and enhancing opportunities between the UK and Eastern European education networks by creating a **model of best practice** for other similar lifelong learning projects/services. We hope the project will enhance and support employability, attracting more EU citizens into hairdressing training and offering greater **recognition and credibility for hairdressing training** through accessible online learning linked to a transferable qualification.

"With the launch of the EC's flagship initiative, *An Agenda for new skills and jobs*, the [Hair.Net](#) project positions Mimas to contribute to this strategically important EU-wide venture. In 2012, the *EU Skills Panorama* will bring together current and future skills needs across Europe - and our [Hair.Net](#) project is just the start of our engagement in this skills arena." **Dr Jackie Carter, Mimas Senior Manager**



## Tools for research-led learning and teaching

Using real-life data in teaching adds interest and relevance to courses, and helps to prepare students for using statistics in the real world. The [ESDS International Teaching Tools](#) were designed to assist lecturers in embedding the use of real-world data into their courses, helping students to develop essential skills by giving them opportunities to **study real-world scenarios with real-world data**. The Teaching Tools have been a real success, and were awarded an **e-learning commendation in the Higher Education Academy Economics Network Learning and Teaching Awards** in July 2011.

Developed in collaboration with commercial companies and members of the academic community, the [Land-map Learning Zone](#) was also released this year. Supporting learning and teaching by **enhancing knowledge of spatial data and facilitating applications for research**, the Learning Zone empowers users from a wide range of disciplines to access and apply spatial data effectively to enhance their research. The service has developed and expanded throughout the year and we look forward to adding new courses and materials to support UK research through our relationships with the [Remote Sensing and Photogrammetry Society](#) and the [European Spatial Data Research Network](#).

## Learning is everywhere

Bringing together a diverse range of expertise from academics and professionals from across [The University of Manchester](#), the JISC-funded [SCARLET project \(Special Collections using Augmented Reality to Enhance Learning and Teaching\)](#) is exploring how augmented reality (AR) can bring special collections material, from Dante to ancient Greek papyri, to life. **This unique collaboration between teachers, librarians and technologists** is keeping learning and teaching at the heart of the project, ensuring that the technology is integrated with the texts. Early evaluations have been positive, with students stating that the use of AR has given them the opportunity to see and anticipate additional connections as they conduct their research.

"The SCARLET project will allow students to utilize cutting-edge digital technology when researching five-hundred-year-old books... I hope it will be a huge step forward in terms both of evidence-based learning practice and the student experience." **Dr Guyda Armstrong, The University of Manchester**

We're also experimenting with **AR technology (Aurasma)** from [Autonomy](#). With a focus on the new student experience, we're working with colleagues at The University of Manchester to explore the potential of developing AR applications to link real-time information about campus buildings, university societies and student safety.

# Digging deeper - new approaches to search

Throughout 2010/11, we have supported research and development activities to bring meaning to search, exploring how text mining and semantic search can offer new ways of facilitating efficient and effective search and discovery.

## Meaning-based search

As institutions confront an ever-increasing body of digital information, taking a **meaning-based computing approach to search and discovery** helps us to harness the true value of these assets for research and teaching. For the first time in Higher Education, we have used meaning-based search technology from [Autonomy](#) via IDOL to build two new services in collaboration with [JISC Collections: JISC Historic Books](#), and [JISC Journal Archives](#). By providing conceptually related search results, we're enabling researchers to serendipitously discover related materials that traditional keyword searching wouldn't find, and discover the wealth of information available to them.

Part of the new [JISC eCollections service](#), JISC Historic Books and JISC Journal Archives bring together over 350,000 books from EEBO (Early English Books Online), ECCO (Eighteenth Century Collections Online), British Library Nineteenth Century books, and 600 journals from Brill, Institution of Civil Engineers, Institute of Physics, ProQuest, Oxford University Press and the Royal Society of Chemistry. Using **simple and fast conceptual searching**, these new platforms provide cross-searchable access to these significant digital collections in simple, integrated interfaces.

*"We're exploring techniques that offer ways to surface potentially hidden research material, especially content that lacks metadata. If we're going to make this content available for researchers and educators, we need to adopt a semantic search strategy." **Vic Lyte, Mimas Senior Manager***

# Asking questions - understanding our users

Benefits to end-users always come first. We are constantly engaged with our users, and we've amassed a large quantity of feedback about our services. In 2011, we explored how to understand our users more effectively, and invested in staff to develop the skills needed to take a user-centred approach to our portfolio.

## Achieving market penetration

In May 2010 we launched our market penetration programme; a series of activities that aimed to **help us to understand potential barriers to uptake of our services, assess the usability of our service interfaces**, and identify new frameworks for future work in this area. Ultimately aiming to deliver wider benefit to the learning, teaching and research communities in the UK, we initiated a range of projects that saw staff building skills and knowledge in market research through mentoring by established and experienced consultants from [Curtis+Cartwright](#) and [Mindset Research](#).

Useful insights into user perceptions, and the expertise acquired by Mimas staff are already being applied to new projects. **Such research skills are critical in understanding users** in this rapidly shifting environment where information is abundant and attention is scarce, and will help us position, develop and appraise the value of services in the future.

## User centred-design

The usability of a service is crucial and can mean the difference between its success and failure. **Understanding the behaviour, needs and attitudes of our users has been a key focus for Mimas** this year as we've moved towards the adoption of a user-centred design (UCD) approach to development. In collaboration with [CERLIM](#), we initiated a study to investigate and test the usability of the [Landmap](#) and [Zetoc](#) websites and, as a result of this research, developed a formal framework to inform all service user interface development. [Copac](#) and [Zetoc](#) have already benefited from this approach, with **newly** invigorated and energised visual identities that more effectively communicate the powerful benefits of the service to users. By taking a **holistic approach and putting users at the heart of future developments**, we look forward to working with the community to build better websites.



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