



arkivum
Bringing archived data to life

CASE STUDY

UNIVERSITY OF NOTTINGHAM





**University of
Nottingham**
UK | CHINA | MALAYSIA

Introduction

The University of Nottingham is a large research-intensive university based in the UK. It was founded on the vision and philanthropic spirit of Jesse Boot who, in 1928, donated the land that is now University Park. The vision of a university devoted to discovery, enterprise and the advancement of the human condition, combined with his lifelong commitment to improving health and wellbeing, remains intrinsic to the culture of the University today and will continue to underpin their future purpose.

Today, the University is home to more than 46,000 students and 7,000 staff based in campuses across the UK, China and Malaysia.





Its focus and commitment to be a world-renowned research institute is supported by a yearly income from research grants of over £100 million. One example of the type of research the University conducts is the fly cancer screen, a Cancer Research UK supported project, which uses the fruit fly, *Drosophila melanogaster*, to identify conserved genes that enhance or suppress epithelial tumour progression.

A major challenge for the University has been how to secure and future-proof the sheer volume of research data that is generated on an ongoing basis. Additionally, some of this research must not only be preserved for the future but made accessible to fellow researchers and the general public.

The University of Nottingham wanted to find a partner who could help them provide a seamless process for researchers to upload their research, safe in the knowledge that it would be:

- Protected and safeguarded long term
- Securely accessible to those who need it (or are interested in it)
- Able to manage the large and complex datasets of today
- Able to scale to meet the evolving requirements of the University.

A changing approach to open research data and sharing

As part of the initiative, one of the greatest challenges for the team at Nottingham was developing advocacy, take-up and habitual use of a new solution. Researchers at the university were used to the standard practice of publishing papers describing their research and were only starting to become accustomed to more recent initiatives around open access publishing.

Publishing data in direct support of research papers (beyond a summarised form) is a much newer practice however and as such it has taken, and continues to take, time to see the publishing or formal archiving of data become part of the normal research lifecycle.

This shift, although challenging, promises to promote much greater collaboration across the University and wider research community, and ultimately further the cause of scientific research.

This is also why it was especially important that whatever solution the University selected, was easy to use and provided minimal disruption to research teams at the University.



A FAIR archive

The University was also eager to ensure that researchers were able to archive their research data in-line with the FAIR data principles. These data management best practice guidelines endeavour to ensure the storage of raw research data is done in a manner which enables it to remain Findable, Accessible, Interoperable and Reusable.

In the University of Nottingham's case, examples of this alignment include:

- The research data is categorised into public and private access. To align to the Accessible principle, any solution would need to guarantee that archived data was securely accessible within these requirements. In short, the right people, should have access to the appropriate data.
- To adhere to the Findable principle, and given the large datasets involved, a solution would need to make accurate indexing as easy as possible to ensure the quick and efficient location of particular files and documents.

Selecting Arkivum

Arkivum was selected to provide a dedicated archiving solution for the University, primarily due to meeting the high-level of industry standards required.

As briefly mentioned, research data generated by the University is split into two broad categories:

- Data that can be presented to some degree (possibly protected by embargo) to the general public.
- Data that is formally archived, but not publicly presented (even at the metadata level).

These two categories take the form of separate collections within the University's existing DSpace Repository Web Application, both of which utilise Arkivum as the underlying archival mechanism.

Public data makes up the bulk of the University's data and is deposited directly by the user through the DSpace front end. Public data is associated with a metadata page attached to a Digital Object Identifier (DOI) allowing for reliable referencing in journal articles.

The University of Nottingham wanted to safeguard their data and digital assets and were therefore placed on Version 4. The team at Arkivum were able to further tailor the solution by sourcing an appropriate appliance, installing the software and configuring it on-site.

Selecting Arkivum *(Cont.)*

The University's DSpace provider, Atmire, were able to utilise Arkivum's API functionality to build an integration between the repository and the Arkivum platform. With the upcoming release of the DSpace 7 platform, Nottingham are looking to work with Atmire to replicate this integration to the new version.

To support uptake, the team have worked directly with research teams to facilitate the deposit of large, multi-part data sets, that need automatic completion of metadata templates in order to support integration with dedicated collection websites.

The University's aforementioned work into the Fly Cancer Screen is a good example of how this data is shared. The collection website for this, can be found at [this link](#).



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The use of Arkivum gives us access to a much greater and more easily expandable storage volume than what was previously available in house. The high standards met by the Arkivum platform give peace of mind as to the security of the data.

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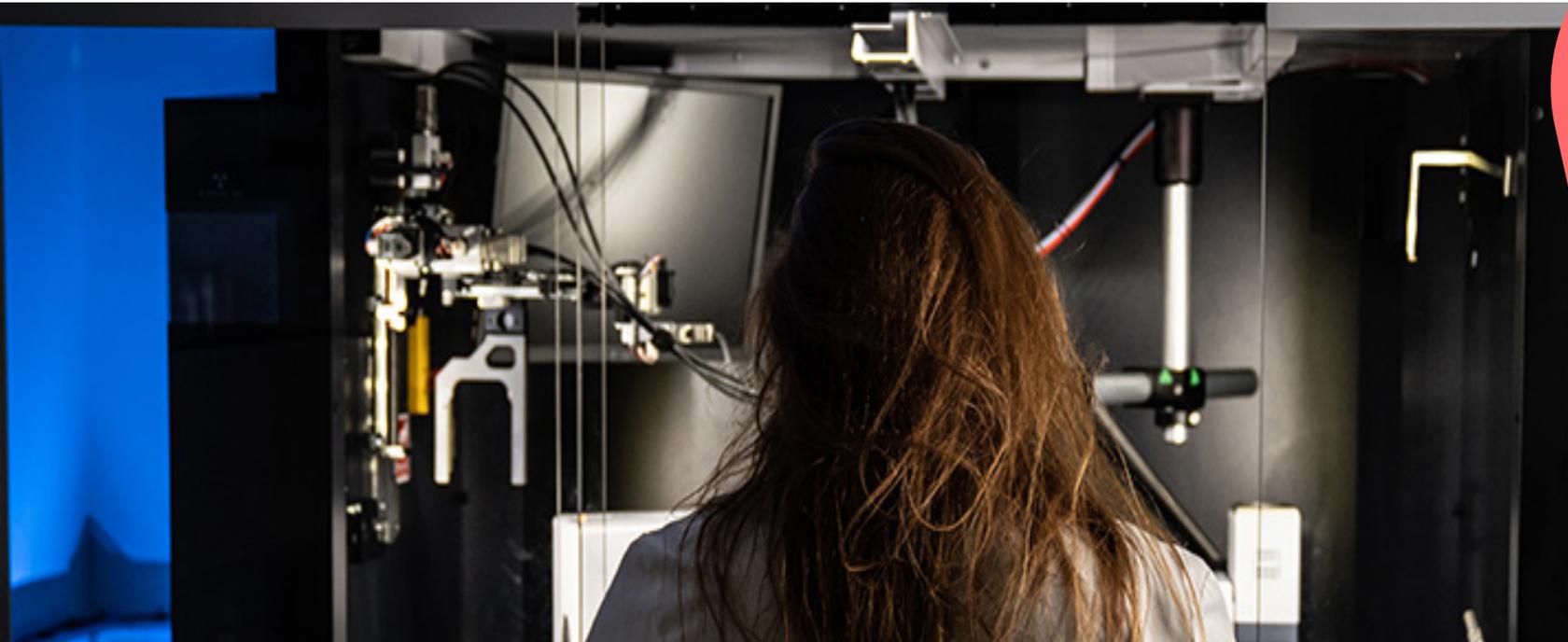
Jonathan Green, Digital Library Team
University of Nottingham

Preserving research for the future

Since bringing Arkivum on board, the University of Nottingham are now confident in the long-term safeguarding and preservation of their valuable research data. Not only that, but they are also able to ensure access to the people who need it, both fellow researchers and the public.

By creating a seamless integration with DSpace, the University has been able to achieve all this with minimal disruption to the research teams, enabling them to focus on what they do best.

Given the flexibility of the system, the digital library team are confident they have a solution that can scale with their storage and access requirements, long into the future.



About Arkivum

Arkivum is recognised internationally for its expertise in the archiving and digital preservation of valuable data and digitised assets in large volumes and multiple formats. The long-term security, integrity and accessibility of data is crucial for all Arkivum's clients and partners, who share a commitment to good practice in its stewardship and governance.

Arkivum's specialist software and services are chosen by major institutions and commercial organisations in a diversity of sectors, including life sciences, research (CERN), financial services, and organisations in higher education, culture and heritage. Confident in Arkivum's reputation and resources, they are in a position to maximise insight and discovery by deriving optimum long-term value from their data, collections and intellectual property.

Headquartered in the UK, with presence in the US, Arkivum advocates the use of the FAIR principles in data management: Findable, Accessible, Interoperable, Reusable. Arkivum is also certified in ISO 9001 and 27001.

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