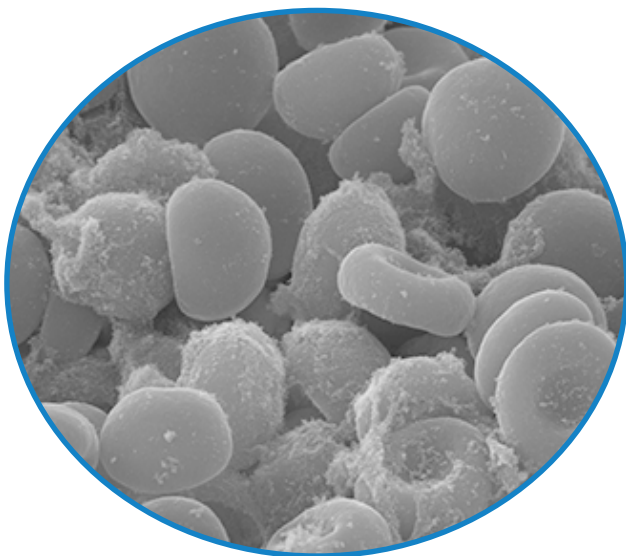


## Case Study /

### Oxford Molecular Diagnostics Centre / Oxford NHS Hospitals NHS Trust

**With the need for a scalable, easily-procured and cost-effective long-term storage solution, the Oxford Molecular Diagnostics Centre deployed 60TB of Arkivum/100 long-term archive.**

The Oxford Molecular Diagnostics Centre is a multi-disciplinary team of clinical scientists, pathologists and clinicians with an interest in malignant or non-malignant haematology and cancer. They are part of Oxford University Hospitals NHS Trust and funded through income generated from NHS service provision as well as external research income.



In the healthcare sector, cost saving is an important factor in system specification, and the Arkivum solution functionality and ease of use has greatly helped us achieve our goals in this area.

Nick Housby, Head of Business and Operations, Oxford Molecular Diagnostics Centre



### The Challenge

The Oxford Molecular Diagnostics Centre (OMDC) comprises a multi-disciplinary team of clinical scientists, pathologists, bioinformaticians and clinicians and is part of Oxford University Hospitals NHS Trust and funded through NIHR, NHS service provision as well as external research grants.

As part of their own research programmes and their support for clinical services and research groups within the University, the OMDC had a requirement to store genome data from their 'personalised medicine' project funded by the Health Innovation Challenge fund. The OMDC was the first lab in the NHS to provide a gene sequencing capability as a clinical service - the end result of which was the outputting of genomic data into the patient record that must be stored for 30 years.

They required a single system that they could use in partnership with the Regional Genetics Lab and thus have both benefit from using the same vendor solution. In this way, they expected benefits related to future system scalability; the sharing of resources and knowledge; and the sharing of the data itself.

The number of human genome samples that the OMDC will be sequencing each year.

3,000

The requirement was for sufficient capacity to store the data that the OMDC already had (from the sequencing of 200 human genomes as part of the Genomics England 100,000 genome project) and also for their projected and ongoing needs resulting from their plan to sequence over 3,000 samples a year.

It was also important that the solution maintained instant access to all of this data whilst also providing the security and reassurance that the data will be usable and trustworthy during the 30 year retention period.

## The Solution

The OMDC naturally discussed their storage needs with the local NHS IT group who were initially reluctant to outsource the storage of patient identifiable data to a commercial vendor that would be storing that data outside the NHS. Their alternative proposal however was unable to match the cost-effectiveness, ease of procurement and scalability of the one from Arkivum, based around 60TB of Arkivum/100™ storage.

The NHS IT group were satisfied that the architecture, capabilities and benefits of the combined Arkivum/100 and OMDC storage solution was fully aligned with the NHS long-term data storage infrastructure strategy. This was also further underpinned by the fact that Arkivum is able to provide N3 connectivity between the OMDC and its UK-based data centres.

The Arkivum solution is based around a locally located 48TB Arkivum gateway appliance that provides fast access to cached data. The choice of this size of appliance was an important part of the system specification to allay stakeholder concerns around immediate access to frequently used data.

The volume of fast cache storage that the OMDC have on their local Arkivum appliance.



48TB

## The Benefits

The cost-effectiveness of the Arkivum solution has meant that OMDC have opted to store all their FASTQ, BAM and VCF files to allow easy reanalysis of the data that is facilitating the creation of an optimal clinical bioinformatics pipeline.

This in effect means that the solution is now storing 50% more data volume than originally planned thus reducing the load on local IT infrastructure storage and the costs associated with having these files in the backup window (and making the Arkivum system even more cost-effective).

As the Arkivum solution is based on a local gateway appliance that centralises the storage of the raw data and the range of files that facilitate data reanalysis, this in turn is making it easier for the OMDC to share data with other groups based in different locations within the Oxford University Hospital NHS Trust.

Having taken responsibility for the data they are producing, the OMDC has:

- Led the way in an NHS Trust where no single entity has responsibility for data
- Asserted that patient's anonymised genomic data can be stored in a private cloud service specifically designed for secure data archiving
- Opened up the possibility of providing a commercially viable service to other healthcare organisations and companies

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The fact that Arkivum could supply an N3-connected system that was designed for secure, large scale, long-term storage meant that the procurement decision was a straightforward one.

Nick Housby, Head of Business and Operations, Oxford Molecular Diagnostics Centre

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## About Arkivum

Arkivum is the trusted software and service partner for long-term data lifecycle management and digital preservation. We serve organisations around the world in data-intensive, regulated markets, including pharmaceutical, life sciences and healthcare, financial services, higher education and heritage.

Arkivum provides an end-to-end, managed service to deal with the complexity of preserving your data securely for the long-term, while guaranteeing 100% data integrity and immediate access to your data so that you can bring your archived data to life. Our vendor neutral technology means you can use Arkivum across your existing platforms and various deployment models, and you own your data at all times as there is no data lock-in.

## Talk to us

To find out more about our solutions to start securing your data today and for the future, please contact us on:

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