



## Digital Archiving: Tessella's offerings and experience

### Our archiving offerings

Tessella, the world leader in Digital Archiving technology, has a range of services that can help organizations exploit digital archiving to the full.

This enables organizations to benefit from the knowledge management, compliance confirmation and risk control offered by this growing and business critical field.

#### Consultancy

Digital Archiving is a new and potentially confusing field. Tessella consultants can help you identify and implement the right approach for you. This will include:

- Identifying the drivers for archiving
- Categorizing the data storage needs
- Planning the data archiving workflows
- Devising a preservation strategy
- Specifying the security requirements
- Helping ensure compliance with legal and regulatory requirements

- Investigating how users will search and access the contents of the archive
- Planning data disposal – what happens to information once the requirement to keep it expires
- Exploring how the archive integrates with operational systems
- Selecting the appropriate software solution
- Planning and deploying the selected solution
- Advising on digitization strategies and integration with non-digital archives

Wherever you need advice on Digital Archiving, Tessella can help you work towards the solution.

#### Custom development

Many organizations have requirements that cannot be fulfilled by the software solutions currently on offer and require the software to be built for their own needs.

Tessella is ideally placed to do this. We may re-use existing technologies or develop from scratch.

Our years of experience in the specification, design, development, testing and roll-out of major IT systems, combined with our expertise in the domain, will ensure the project is delivered on time, to budget and to the satisfaction of the stakeholders to provide real business benefits.

### Integration and customization

Off-the-shelf solutions very rarely provide the expected benefit right out of the box and usually require extensive customization to reflect an organization's business needs. Tessella is highly skilled in identifying and performing this customization given our understanding of the aims of archiving projects and a wide knowledge of software packages. We also have world leadership in implementing preservation strategies.

Whatever the selected archiving solution, whether your own custom software, off-the-shelf or customized third party technology, organizations only get the full benefit when it is integrated into their existing systems. This means understanding and implementing the archiving workflows, both for ingest and retrieval, allowing seamless access to the data stores.



### Research

Tessella's understanding of the issues surrounding digital preservation means we are able to work with organizations to research into the basic techniques required to enable the archiving to add real value.

This includes proof of concept installations or individual techniques such as:

- High throughput ingest, including automatic data characterization

- Emulator technologies to allow long-term access to records
- Persistent Object Formats that reduce the demands of preservation recycling
- Preservation strategies to migrate information to the latest readable form
- Integration with existing systems
- Responding to the demands of evidential proof, including digital signatures

### Tessella SDB

Our 'Safety Deposit Box' is a complete archiving solution ready to integrate into your operational systems or operate as a stand-alone solution.

It is a fully functional archive offering:

- High throughput ingest including file format recognition, technical metadata extraction and virus checking
- Support for a huge range of file formats
- Unique Active Preservation Service
- Ease of searching and retrieval
- Advanced security options
- Seamless integration into operational systems
- Scalability from small departmental archives to massive mass storage knowledge silos

SDB is available for direct integration into your current workflow and database systems or customizable to fit the needs of your organization.

### A complete solution

Tessella's experience has shown that a 'one size fits all' approach to Digital Archiving is not appropriate. We are able to provide a range of services that enable all organizations to benefit from the opportunities offered by Digital Archives.

For further information on Tessella's Digital Archiving offerings and experience please visit [www.tessella.com/digitalarchiving](http://www.tessella.com/digitalarchiving) or contact the Tessella marketing team via [info@tessella.com](mailto:info@tessella.com) or +44 (0)1235 555511.

## Our archiving experience

Tessella's experience of digital archiving ranges from consultancy services to the creation of real systems, from research projects to the provision of supporting tools for digital preservation.

### Consultancy services

Tessella has provided consultancy to a number of pharmaceutical companies to help them create strategies to deal with various stages of the lifecycle of information. These include practical storage options, records management, long-term digital preservation and knowledge management. We have also provided consultancy to the UK Houses of Parliament.

### Archival systems

Tessella have been involved with the creation of a number of live systems to manage long-term information. Examples include:

- The creation of the UK National Archives (TNA)'s 'Digital Archive', winner of the inaugural Pilgrim Trust and Digital Preservation Coalition Digital Preservation Award in 2004. This system allows TNA's staff to ingest complex records in any format, store them securely and provide controlled access to them. The system also allows records to be migrated, retaining the essential information content of the records whilst allowing the technology used to render that information to evolve
  - Significant enhancements of the TNA systems to include flexible ingest automation with file recognition, characterization, and verification, and most importantly to include an Active Preservation service with in built policy driven file migration tools
  - Delivery of a ingest automation and metadata storage system for The British Library. This automatically ingests electronic journals from many publishers, transforms the file formats and metadata and interfaces with the British Library's existing mass storage system. This also provides a metadata store and is now being enhanced for new ingest streams
- Delivery of SDB to the Arkib Negara (National Archives of Malaysia) to form the basis of an archiving solution fully integrated with an EDMS solution
  - Tessella is currently developing archiving solutions for the Nationaal Archief (The Netherlands) and Schweizerisches Bundesarchiv (Swiss Federal Archives) based on SDB. Both will be delivered in 2008
  - Development of the Central Electronic Archive (CEA) for a major pharmaceutical company to allow them to safely store a variety of data and documents needed to safeguard their intellectual property and to conform to regulatory requirements. This system deals with both archiving and deposition issues
  - Tessella is also a senior partner on the Lockheed Martin-led team that is building the US National Archives and Records Administration (NARA)'s Electronic Records Archives (ERA) system, which will hold a projected 320PB by 2022. The system will deal with migration of complex records to persistent object formats (POFs) in innovative ways
  - Tessella is a key part of the team responsible for the management of the processed data within the 17TB store of experimental data for the Joint European Torus – the world's largest fusion research facility. This data has been generated constantly over a 20-year period and is still available live today
  - Tessella has delivered a custom-built Mass Spec Data Bank used to save experimental results at a biotechnology company. This ensures that the information is saved in such a way it can be used to support patent claims at a later date

### Research

Although it is already possible to take a lot of practical measures to safeguard information from obsolescence, there remain significant challenges in preserving digital material for the very long-term (e.g. the creation of automated technology migration facilities).

Tessella has been involved in a number of research projects in this area for example:

- The Dutch Government's Digital Preservation Testbed project, which evaluated possible strategies for long-term preservation of born-digital government records, leading to a set of recommendations to the Dutch Government on the creation, management and long-term preservation of key electronic record types
- Tessella is currently starting two significant projects into digital preservation technologies including emulation techniques and files transformation tools
- Tessella is one of three technology providers to the EU PLANETS project seeking to research into future ways of preserving digital information. This major project, involving 16 organizations, seeks to deliver migration technologies and validated approaches. The standards used are expected to be based on the Tessella SDB archiving technology

## Supporting tools

Archival systems need an array of supporting tools to allow them to provide the functionality required such as automated characterization and migration tools.

Tessella has been involved in projects in this area as well, including the development of PRONOM for the UK National Archives:

- This is a web-based repository of information on file formats and the technical components (especially application software) needed to create or access files in such formats; see [www.nationalarchives.gov.uk/pronom](http://www.nationalarchives.gov.uk/pronom)
- The latest release of PRONOM also includes the freely distributable Digital Record Object Identification (DROID) tool, to allow files in hundreds of file formats to be appropriately identified by detecting format-specific byte sequences

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