

Semantic Discoverability Solutions

OpenUp[®]

unlock value

held in your

Using TSO's OpenUp[®]
services to unlock the
value in your data

<http://openup.tso.co.uk>

OpenUp® helps you
unlock valuable information
held in your data

Most organisations can benefit from using semantic technology to unlock the value in their data making it more discoverable. To gain the biggest benefits you need an automated process to capture, transform and make your Linked Data available in an efficient, seamless and reliable way. TSO has developed a collection of scalable and resilient integrated services which deliver Linked Data in a variety of formats such as RDF and XML.

For more information about TSO's OpenUp® services visit <http://openup.tso.co.uk/openup-platform>



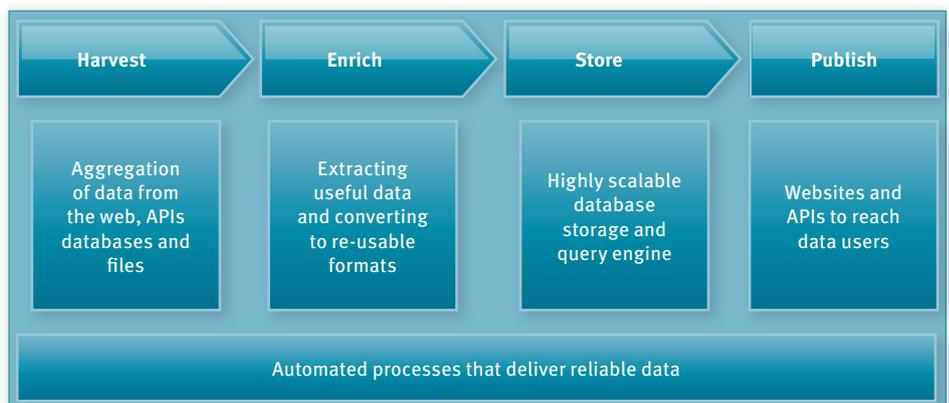
What are semantic discoverability solutions?

Using semantic technology helps organisations to acquire and share knowledge by unlocking the valuable information held in their data.

Whether you need advice and guidance on how semantic enrichment could help your organisation, have already converted your data and need an RDF hosting solution, or you need a complete automated data publishing service, TSO can help. Our OpenUp® services enable:

- Data harvesting – aggregation of data by pulling (or pushing) it from the web, APIs, databases or files
- Data enrichment – taking text, extracting what's useful and converting it into the required format for re-use
- Storing and querying RDF – providing a highly scalable database storage and query engine
- Making data available – creating websites and APIs to access your information in the most effective way

The OpenUp® platform is available as Software as a Service (SaaS), allowing fast deployment at reasonable cost. Together, the OpenUp® services provide a highly scalable and resilient platform that allows you to harvest, enrich, store and make your data available.



TSO's OpenUp® semantic discoverability platform

Try the Data Enrichment Service

<http://openup.tso.co.uk/developer/des>



Legislation.gov.uk

Updates to Legislation are automated. Using RDF at the core, changes are driven through to the editorial system.



Data harvesting

Our harvesting system pulls data from the web, APIs, databases or from supplied files, and provides an increasingly sophisticated means of controlling the acquisition of data. The system also exposes an API allowing data to be pushed into the system.

For example, it is possible to schedule data collection at predetermined times each day, throttling the level of requests so that a website system is not overloaded, whilst retrying any failures after configured periods to ensure all data is collected. The harvesting system allows tailored pipelines to be put in place to control the entire acquisition and manipulation process.

Semantic data enrichment

Semantic enrichment extracts valuable information buried inside data. TSO's Data Enrichment Service (DES) extracts the information and adds value to your data. The DES is a Software as a Service (SaaS), web-based semantic enrichment system built on the open source GATE framework, see <http://gate.ac.uk/>. The DES 'Starter' extracts generic entities such as people's names, organisations, company names, dates and locations. In addition, TSO specialises in creating custom annotators that extract domain-specific entities or keywords tailored to specific clients' data extraction needs.

The enriched information can be made available in a variety of formats to suit user requirements or specific applications. One of the formats that is available is RDF for XML-based data. This information can then be stored in TSO's RDF Store so it can be queried by third party applications.

This combination of extraction and RDF store provides a powerful approach that maximises the information potential of documents.

Triple Store for storing and querying RDF

To handle the linked data aspects of OpenUp® we provide an RDF database storage and query engine. Our datastore is built around 5Store, a highly scalable, clustered, commercial database storage and query engine that hosts RDF data. 5Store was designed and developed by Garlik, leaders in semantic technology. TSO's RDF store is designed to scale to well over a trillion triples.

We can provide a number of approaches to access data stored on the platform, including SPARQL endpoints and Linked Data APIs.

Making your data available

Having transformed your data, we also help to develop and host the resulting web applications. We can create websites and host them with our website hosting service, certified to ISO 27001 Information Security Standard. We have delivered a range of projects for our clients including the creation of APIs to access Linked Data.

To find out more about any of these services or how they can be combined to create a managed data publishing service email opendata@tso.co.uk

Organograms driven by OpenUp® and RDF present complex government information in a simple way, that is easily understood.

As part of its commitment to open science, Nature Publishing Group uses the OpenUp® platform to make its bibliographic data available as RDF for re-use by third parties.

Want to find out more?

We are always looking for opportunities to use semantic technologies to further enhance information use. If you would like to know more, have ideas you would like to share or think you could add value by partnering with us, then please get in touch

opendata@tso.co.uk

<http://openup.tso.co.uk>

[@TSOopenup](https://twitter.com/TSOopenup)

Scalability and resilience

At the heart of the platform is the ability to scale in a resilient way. The platform can be expanded at all levels, so if you have a particular need then we can adapt that part of the system. We can also provide dedicated hardware for those parts of the system where you need that extra level of performance.

In addition, the platform provides geographic failover so that, in the event of disaster at one data centre, you have reassurance that downtime will be minimal.

Professional services

TSO can provide as much or as little assistance to organisations wishing to make content available as Linked Data. We can simply provide advice and guidance to organisations who have not yet embarked on these initiatives or provide a complete end-to-end service including data modelling, RDF conversion, API creation and RDF hosting.

For others who may have already converted their data to RDF, we can provide just the RDF hosting via our RDF store and SPARQL endpoint set-up or API creation.

For those who don't require any Linked Data services at all from TSO, we are happy to provide Flint, our SPARQL query editor which is free to use. Find out more at <http://openuplabs.tso.co.uk/demos>

We have built a great team of talented software developers with a semantic web skill base, to complement our team of experienced C++, C# and XML developers.

TSO's semantic team are experts in:

- Integration of specific taxonomies or thesauri
- Creating custom annotators
- Bespoke RDF conversion programs
- Data modelling
- SPARQL endpoint creation
- Linked Data APIs

TSO is an approved supplier on the Government Procurement Services Framework for Data Conversion and Migration Services and eDiscovery Solutions. TSO has also been awarded a place on the Environmental Agency Framework for Building Capacity in the provision of Linked Data - this Framework will become available for other public sector bodies.



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