# Customer Success Story

## Council of Europe

***The Council of the EU is together with the European Parliament the legislative body of the European Union. It adopts approximately 120 legislative texts yearly by vote of the government representatives of the 28 EU member states. The Council's voting records are open to the public. Until recently, the votes were only available in a non-open format. As voting is a core element of democratic accountability, there is considerable interest among practitioners and researchers in the voting patterns at EU level. Therefore, the General Secretariat of the Council launched a pilot project to make all Council votes on legislative acts since the Lisbon Treaty in 2009 available as Linked Open Data.***

### The challenge

This Open Data Portal is a pilot project and can be considered pioneering work. There were no pre-existing solution approaches.

### The solution

The Open Data Initiative Pilot Project is constituted by the following Open Source software components:

- ✓ **UnifiedViews**
  an ETL Framework for the Extraction - Transform - Load workflow, transforming the contents of the original source database to a complete RDF Datacube
- ✓ **Virtuoso Universal Server**
  an open source triple store, hosting the RDF dataset and providing the SPARQL Endpoint.
- ✓ **Apache 2 HTTP Server**
  taking over all HTTP related requirements, like redirecting and content negotiation.
- ✓ **A Spring Web Application**
  serving as a templating engine for the HTML representation of entities.

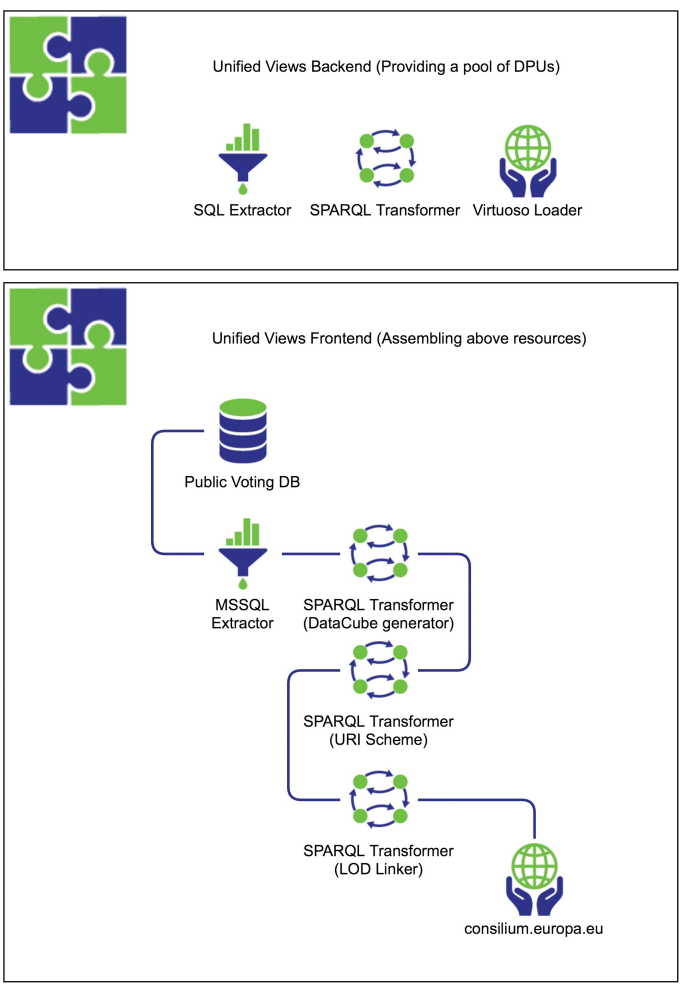
The knowledge graph of the Open Data Portal consists of 311,000 RDF Triples using 23 classes, 45 predicates and ~18,000 different subjects .

### The results

The EU Council's Public Voting Dataset was made available as 5* Linked Data using the RDF Datacube Vocabulary.

For the visualizations the data is directly taken from the Council Open Data Initiative's API, in form of a SPARQL endpoint. The visualizations are realized in JavaScript by making use of the D3.JS Java Script library.

Citizens can easily follow the legislative activities. Researchers, journalists and political activists can use the data flexibly for their purposes.




*Technical architecture of Open Data Portal*

# Project insights

*How to build a Open Data portal*

### STEP 1:

To have a highly performant data portal, the data must be adequately prepared.The available data-set was analyzed and cleaned.

### STEP 2:

The data must be semantically enriched through matching it towards a suitable taxonomy. Having an existing vocabulary that applies to the subject matter can substantially reduce project costs. There are a couple of voting record ontologies available on the web. None of these were suitable for this project. However, the RDF Datacube Vocabulary exposes enough flexibility and power to describe the whole database and is able to incorporate future changes and extensions in the datasource.

### STEP 3:

An ETL (Extraction-Tranformation-Load) pipeline was set up to create an intermediate RDF dataset, based on the tables and columns of the source database. This intermediate RDF dataset was then transformed into a dataset based on the RDF Datacube Vocabulary. Finally the data was loaded into a given virtuoso instance.

### STEP 4:

The data set was made available as Linked Open Data. The entities contained in the dataset were made dereferenceable. A browsing web app, based on predefined SPARQL queries was build.

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## TAKE A LOOK

Council of the European Union

**Browsing the dataset**

http://data.consilium.europa.eu/data/public_voting

**The project's SPARQL Endpoint**

http://data.consilium.europa.eu/sparql

**Data Visualizations**

https://www.semantic-web.at/council/map/
https://www.semantic-web.at/council/votes_over_time/
https://www.semantic-web.at/council/punchcard/

## REACH OUT TO THE PROJECT TEAM

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