

## 1 Sirris profile

Sirris is a non-profit and industry-driven knowledge center founded by Agoria, the federation of the Belgian technology industry. Sirris helps Belgian companies in the implementation of technological innovations, by providing companies with technological advice, by supporting companies in the definition and realization of innovation projects, and by setting up and participating in European R&D projects. Sirris is active in several domains, among which Software and ICT.

## 2 Internship Description

Sirris is involved in several projects related to *semantic technologies* e.g. accessing data through an ontology, in order to allow powerful queries (through SPARQL) and complex reasoning (through SWRL). However, this domain while powerful, is still in its infancy. In this context you will be working on the deployment of an existing ontology to access a relational database about green electricity production (from an industrial partner).

There are three stages in the internship:

1. Creation of a RDB2RDF layer
  - a. Choice and installation of the correct tools, e.g. D2RQ or Virtuoso
  - b. Mapping between the ontology and the RDB
  - c. The ontology is already created but a refinement may be needed
2. Deployment/development of editing tools for non-ICT domain experts
  - a. To edit the ontology when the domain of the green energy evolves
  - b. To edit the RDB2RDF layer when the RDB/ontology changes
3. Deployment/development of reasoning capacities
  - a. Deployment/development of a SPARQL editor for non-ICT domain experts
  - b. Deployment of a SPARQL engine on top of the RDB2RDF layer

All these tools will have to be integrated with the industrial partner's backend. This offers the opportunity to deal with "real world challenges" i.e. working with a "real database" with real data and real constraints. It also implies to work for people who often don't have knowledge of semantic technologies. Therefore, a specific focus will be on the user-friendliness of these tools.

## 3 Practical Details

No prior knowledge related to the domain of sustainable energy is assumed. Knowledge of OLW, RDF, and SPARQL is preferred.

The internship is not paid and takes place in Sirris premises in Brussels (Diamant Building, Boulevard A. Reyers). We are working in a very informal and social environment with flexible office hours.

You will be working in an environment where English is the main working language.

## 4 Contact Persons

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