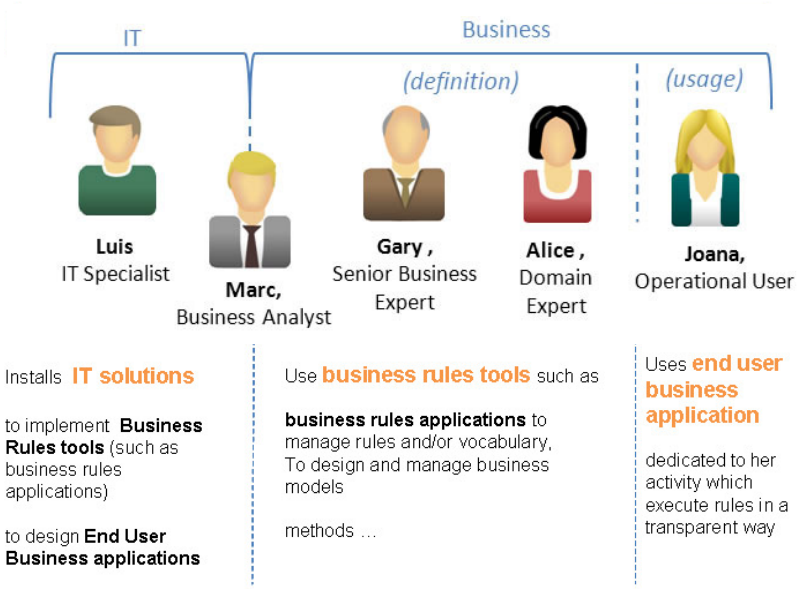
The objective of ONTORULE is to enable users, from business executives over business analysts to IT developers, to interact in their own way with the part of a business application that is relevant to them.
We believe that one essential step towards achieving that objective is the ability to separate cleanly the domain ontology from the actual business rules, on the one hand; and the representation of the knowledge from its operationalization in IT applications, on the other hand.
Leading vendors of knowledge-based and business rules management systems and top research institutions join their efforts, in ONTORULE, to develop the integrated technology that will empower business professionals in the knowledge economy of the future.
Two large industrial companies are the test beds that will ensure the success and business impact of the technology.

Summary of Activities

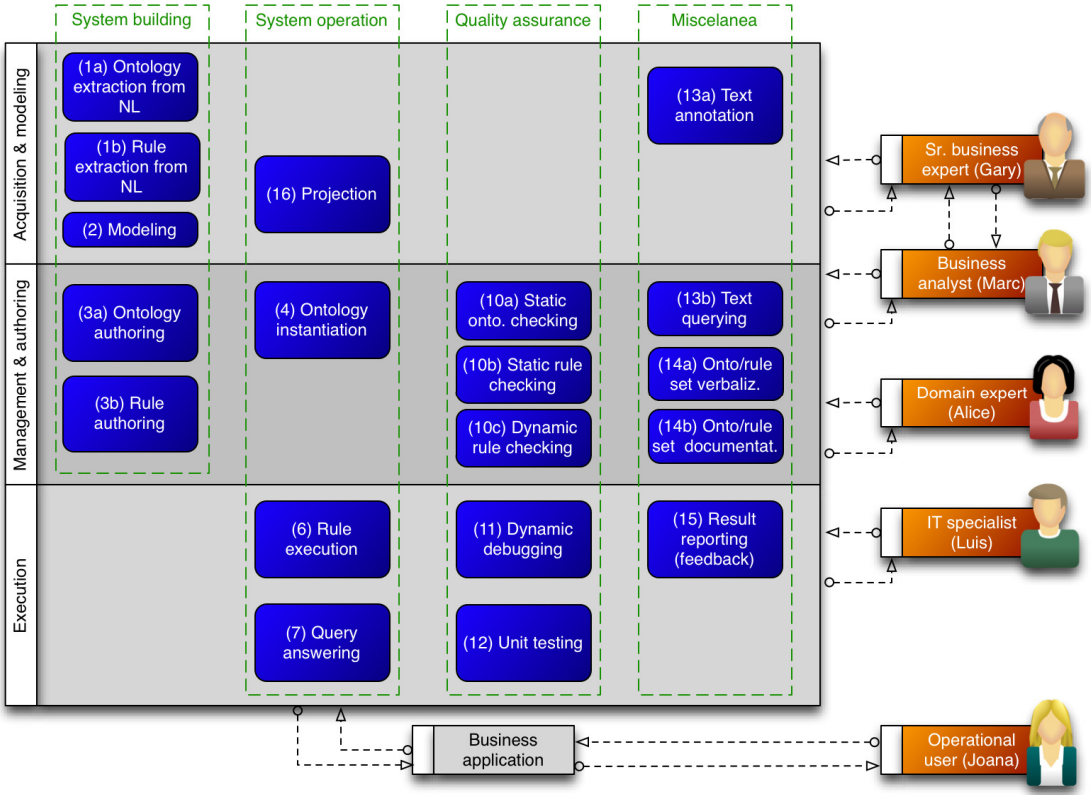
The first year of the project has been devoted to building firm foundations for ONTORULE : the objectives were to set up the bottom-line, to verify the feasibility of the approach and to develop public demonstrators for the three dimensions of acquisition, management and use of knowledge.
During the second year, we had focused on improving the usability of the technology and methodology used and developed in ONTORULE; on demonstrating the feasibility and benefits of the approach – and on learning from the experience; and on extending the demonstrators develop during the first year.
During the third and last year, we focused on finalizing and consolidating the results obtained during the first two years, based on the feedback received thus far, from the project use cases and otherwise; on developing and on evaluating the second version of the prototypres; and on making the project results available and useful to the public.
Specifically, the main three outputs of the project are the two pilot industrial applications and the specification of the ONTORULE platform. And, of course, all the theoretical and technical development that made those possible…



An important input to all the other work done in ONTORULE, be it about methodology, technology or the use cases, is our research on the usability of the platform.
The definition of proto-typical user profiles for the different functions, also known as *personas*, is at the core of our approach to usability. The current set of users personas defined for ONTORULE is presented in the figure, above left.

The ONTORULE platform

Manufacturing industries are competing to meet individual customers needs in global markets, while being bound to conform to ever-changing country-specific regulations. This new paradigm poses new challenges to engineers, marketing departments and shop-floor employees, requiring them to process and integrate an increasing amount of knowledge on a day-to-day basis. ONTORULE supports different roles of knowledge workers represented as personas at different stages by means of the ONTORULE platform, a system of components relying entirely on high-level modeling of knowledge and business rules.
The ONTORULE platform is a blueprint to build knowledge-based business applications. It organizes software components and standard data representation formats and protocols in a pattern that can be completely or partially instantiated to meet various business requirements. Each one of these components represents a task or piece of functionality that is involved in the construction, maintenance or operation of a business application. The platform is agnostic with respect to its implementation, as long as the functionalities and interfaces of the components are observed. The catalogue of ONTORULE components is depicted in the figure to the right as a matrix relating functionalities with components and personas. To each of these components corresponds at least one concrete implementation, real-



ized and tested within the ONTORULE project.

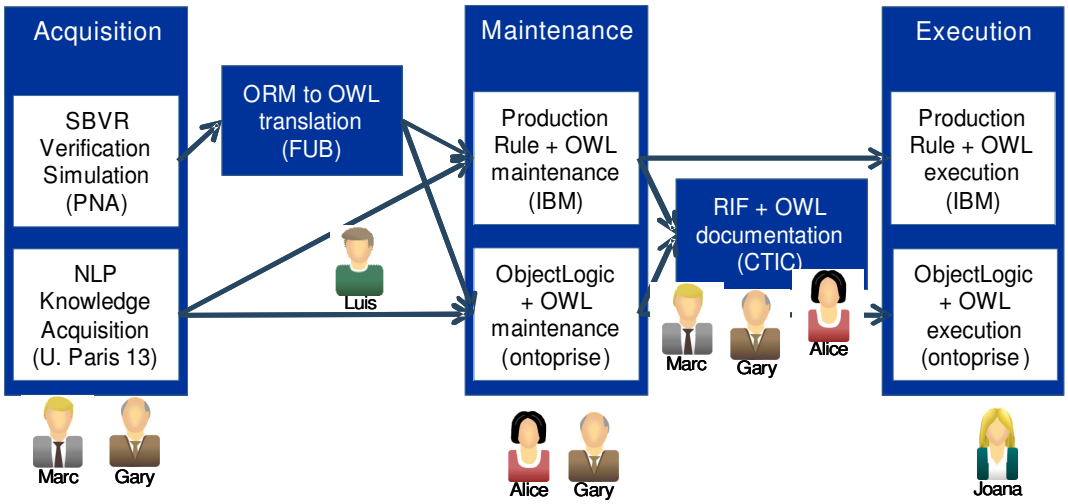
The table, next page, lists all the available implementations: the first column refers to the abstract components, the second and thrid column lists ONTORULE and third party implementations that offer some of the functionality required to implement the corresponding abstract component.

Component	ONTORULE implementations	Third-party implementations
Ontology extraction from NL (1a)	Paris13 Terminae	
Candidate rule extraction from NL (1b)	Paris13 SemEx	
Modelling (2)	PNA CogNIAM Studio	
Projection (16)	FUB ORM2OWL translator, PNA OWL export	
Ontology authoring (3a)	IBM WebSphere ILOG JRules, IBM XPR CNL Editor, ontoprise OntoStudio	Protégé, NeON toolkit, TopBraid Composer
Rule authoring (3b)	IBM WebSphere ILOG JRules, IBM XPR CNL Editor, ontoprise OntoStudio	
Ontology instantiation (4)	IBM WebSphere ILOG JRules, ontoprise OntoStudio	
Rule execution (6)	IBM WebSphere ILOG JRules, IBM XPR-OWL, IBM Tight Engine	Drools, Jess
Query answering (7)	ontoprise OntoBroker, TUWien MOR, TUWien DReW, TUWien KAOS, IBM Tight Engine	
Static ontology checking (10a)	ontoprise OntoStudio+OntoBroker	Pellet, Fact++
Static rule checking (10b)	ontoprise OntoStudio+OntoBroker, IBM WebSphere ILOG JRules, IBM Tight Engine	
Dynamic rule checking (10c)	IBM WebSphere ILOG JRules, IBM Tight Engine	
Dynamic debugging (11)	IBM WebSphere ILOG JRules, IBM Tight Engine, ontoprise OntoStudio+OntoBroker	
Unit testing (12)	ontoprise OntoStudio+OntoBroker	
Text annotation (13a)	Paris13 Terminae, Paris13 SemEx	
Text querying (13b)	Paris13 SemEx	
Onto/rule set verbalization (14a)	IBM WebSphere ILOG JRules	
Onto/rule set documentation (14b)	CTIC Parrot, IBM WebSphere ILOG JRules	SpecGen, ProtégéDocgen
Result reporting/feedback (15)	IBM WebSphere ILOG JRules, ontoprise OntoStudio+OntoBroker	

Table 1: Example implementations of the platform components.

ONTORULE technology helps the involved knowledge workers (as represented by their persona) at different stages of processing knowledge and business rules:

- In the initial Acquisition step, ONTORULE technology helps to transform unstructured and implicitly known knowledge into structured knowledge models and formal rules.
- In the Maintenance step, ONTORULE technology enables the knowledge workers in managing the acquired knowledge and rules. In particular they are checked for consistency and soundness.
- In the final Execution step, the formal and consistent rules are used to derive new facts or to trigger actions, thus providing decision support.



Further Information

Explore ONTORULE results, visit the ONTORULE Showcase, on http://ontorule-project.eu/showcase.

Stay updated about ONTORULE, on www.ontorule-project.eu.