

My inflation pressure gauge rose at a good clip over the first half of the year on the strength of a rally in the commodities market. **commodity market** initially adjusted, increased by 2.7% for the year through Aug. However, the pressure gauge has flattened out in recent months as the rally in commodities has stalled. In **Asia**, **China** is in the commodities market for '09 is being tested presently (chart).

These **commodity** market reasons for the stall out in the spot market. The obvious one is that spot prices are just starting from low levels, supplies are ample. But I suspect that the **commodity** market is being influenced by the **China** market into the trading structure of the **commodity** market as well as the **China** market of **China** market and **commodity** market about how **commodity** market business recovery may proceed.

The quiet moderation of inflation thrust has helped the bond market in recent months, and it may also account for the more stable US dollar seen in the couple of weeks. Normally, the prospect of a moderation of inflation pressure as an economic recovery commences **commodity** market **commodity** market and **commodity** market have seen that **commodity** market there could be some backlash **commodity** market players begin to work again about **commodity** market why some traders are concerned that a rising **commodity** market **commodity** market in that it would signify a flight to quality in anticipation of a failed economic recovery **commodity** market, but interesting nonetheless.

FIRST

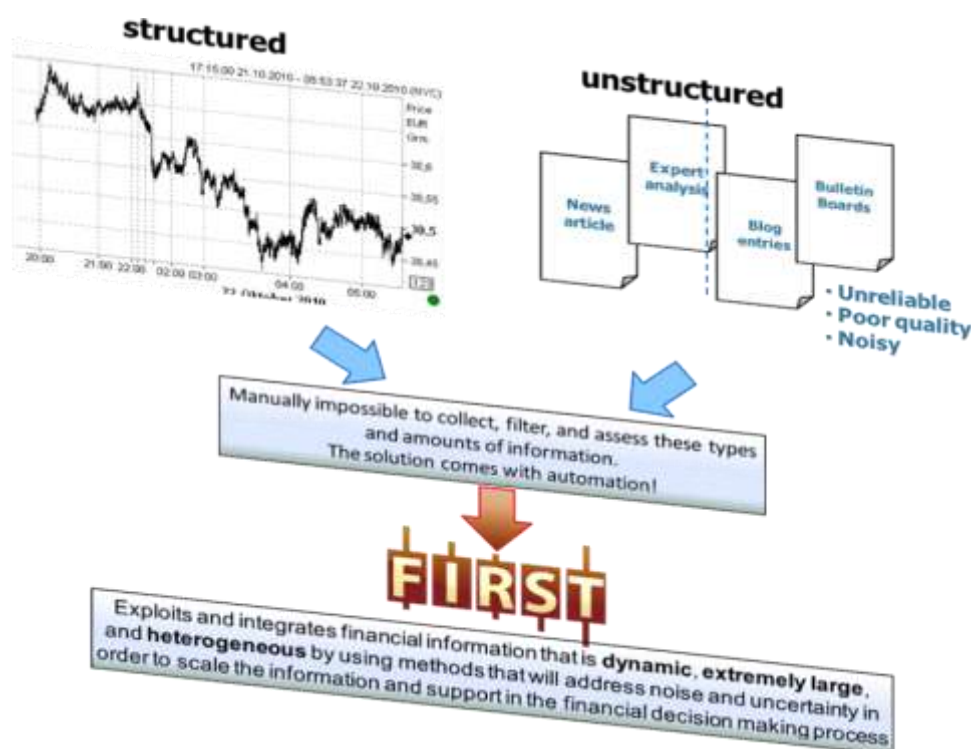
Large scale information extraction and integration infrastructure for supporting financial decision making.

How to focus on the relevant while making financial decisions in a world of information overkill?

Ask **FIRST** first

<http://project-first.eu/>

FIRST aims to provide an information extraction, information integration and decision making infrastructure for information management in the financial domain. This area is extraordinarily faced with the challenges of extremely large, dynamic, and heterogeneous sources of information. The daily work and the business success of all decision makers in this industry depend on the availability of highly trustable, easily acquirable information.

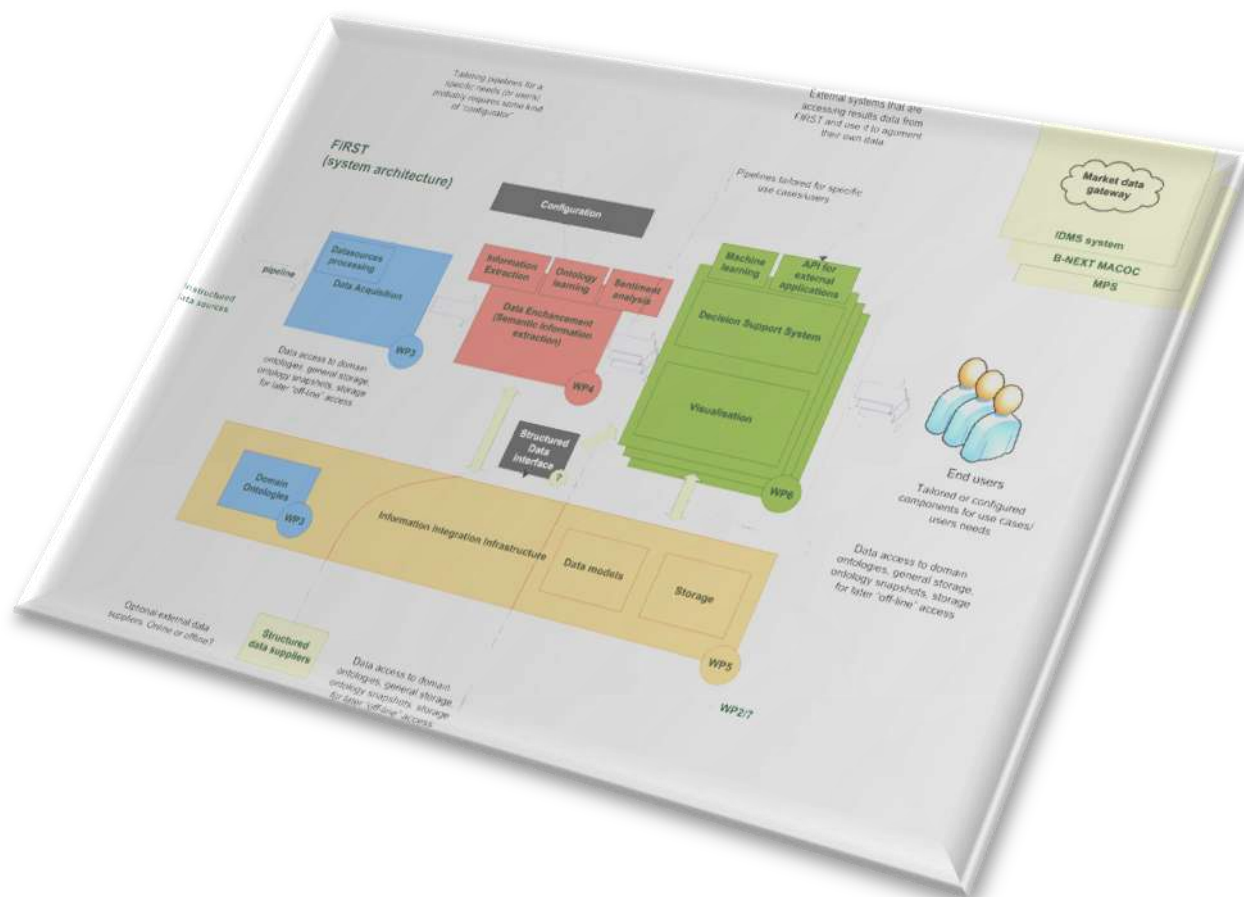


Within the international financial industry not only individual market participants are negatively affected by information overflow and information asymmetries, but also financial flows and financial stability within entire industries of the global economy. This may also have severe consequences as has been observed in the current financial and economic crisis. Information is amongst the most valuable assets in the financial industry and reducing information asymmetries and increasing transparency by providing a fast, real-time, automatic and more comprehensive information base can help preventing false decisions.

Summary of activities

FIRST started in October 2010 with a duration of three years. During 2010 the project has focused mainly in sharing a common vision and understanding how the FIRST expected results can benefit the financial domain, especially our three case studies. Trying to base the research to be done in FIRST in solid grounds, understanding the user requirements and the envisaged scenarios of usage are key aspects. Therefore, during the first months the project have paid especial attention to realize the user needs and devising a clear applicability of the FIRST technology.

From the technical perspective, FIRST is focusing on defining a viable and scalable architecture to manage massive amounts of unstructured data. We have identified the main chain of the data gathering and analysis, namely data acquisition, information extraction and information analysis pipelines, plus the necessary ontological and decision support infrastructures. To fulfill the vision of the project, FIRST has taken the initial steps towards the definition of the architecture to integrate the different research results of the project.



One of the most important aspects of the project is the information extraction and sentiment analysis. In order to set up a “gold standard”, we have started the process of creating an initial corpus of web documents manually annotated and labeled by experts with sentiment meta-information (e.g., classified into positive or negative author's sentiment with respect to some object, e.g., an issuer, a bank, a company's stock or bond, etc). This corpus will have a strong impact on the quality of the further work as it will serve for evaluation and to measure the progress of the project on developing automatic extraction and information processing methods (by comparing automatic extraction vs. experts' labels).

In summary some of the activities carried out during 2010 are the following:

- First joint experiments (Institut-Josef-Stefan & University of Hohenheim) give an indication that FIRST methodology, i.e., extracting and employing high-level features, indeed has a high potential in sentiment analysis.
- First set of focused discussions about the infrastructure design between the technology providers.
- First valuable inputs from the use case providers (e.g., list of relevant data sources related to the reputational risk assessment use case).
- Progressing towards scalable principles for the architecture of the project.
- Preliminary FIRST Web site on-line (<http://project-first.eu>).
- First FIRST press release by our partner the Boerse Stuttgart under the title “EU Project Crawls the Web for Hidden Financial Expertise” caused a chain reaction of press releases.
- First FIRST publication was successfully presented by Institut-Josef-Stefan at Discovery Science 2010 in Canberra. It raised a lot of interest in the machine learning community, especially related to document streams and visualization of document spaces and document streams.

Important work areas

By extracting and analyzing unstructured financial information from the Web, FIRST is basically trying to provide ‘yet another view’ on the situation in the financial markets that could be tailored for different users’ needs. The FIRST main result will be an **Integrated Financial Market Information System** based on a pluggable open architecture framework for non-ICT skilled end-users for on-demand information access and highly scalable execution of financial market analyses. Furthermore, FIRST will demonstrate in principle domain-independent applicability of the tools and infrastructures by developing an – as generic as possible – domain-independent Graphical User Interface (GUI)-based prototype.

FIRST will also deliver:

- a **Data Acquisition Infrastructure** for acquiring and accessing massive amounts of historical heterogeneous information and live feeds of unstructured or semi-structured information
- an **Ontology Infrastructure** with tools for manually and semi-automatically capturing and maintaining the domain knowledge models
- a **Semantic Information Extraction System** for scalable information extraction with inherent addressing of noise and uncertainty in the information sources, interpretation of existing and new information sources, and relating extracted information fragments to the knowledge base
- an **Information Integration Infrastructure** for integrating and consolidating information from heterogeneous (unstructured, semi-structured and structured) information sources
- a **Decision Support Infrastructure** for integrating information from the knowledge base into financial event detection models, visualization models, decision models, and for scalable execution of these models

The FIRST project has three use-cases which explain the potential power of the project's results and will be used for evaluation purposes:

- **Investment and risk management.** Investment and risk managers usually have to deal with large and unstructured amounts of market and company information. An investment manager or an internal risk manager has to manually collect, filter, assess, and most importantly interpret the heterogeneous information about the financial investment that he is willing to make or willing to sell to others. By using FIRST this process will be automated and hence is less time consuming. It also supports an investment or risk manager's interpretation about the quality of the asset that he is trying to assess.
- **Online retail brokerage:** Related to the first case, the focus lies on private investors who in general unlike the investment manager do not have the ability or the time to collect and analyze new information about financial markets in real time.
- **Market surveillance:** Financial markets are often influenced by rumours. Some of them are true and some others false. Sometimes false rumours are even intentionally placed in order to distract and mislead other market participants. In both cases, FIRST assists by providing a plausibility checking methodology that identifies hoaxes and assesses the consistency of new information with other reliable sources.

Future work

The project started in the last quarter of 2010. Therefore, most of the work is still ahead. For the next year we will continue the work done in 2010 on establishing and testing preliminary data acquisition and data analysis pipelines, and defining the final architecture and a scalability plan for FIRST. In 2011 the project will deliver a still non scalable prototype including the data acquisition and analysis over an integrated knowledge base. The models for visualization a financial decision making will be also part of the work expected for 2011.

Further information

PARTNERS

FIRST started in October 2010 and is co-funded by the European Union with a duration of 36 months and an overall budget of 4,574 million Euros. The FIRST consortium consists of 8 European partners with academic and industrial background. The academic and research partners within the FIRST consortium are represented by the Institut-Josef-Stefan (Slovenia), the Goethe University Frankfurt (Germany), and the University of Hohenheim (Germany). The industrial partners are represented by Atos Origin (Spain), Banca Monte dei Paschi di Siena (Italy), b-next engineering (Germany), Interactive Data Managed Solutions (Germany), and Boerse Stuttgart (Germany).



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