

Energy Components

News 02/2011

GDF SUEZ keeps track of
**40 billion cubic meters
of gas with EC**

Repsol: Universal EC solution in 11 countries

EC10.2 – Behind the screens

PHOTO: GDF SUEZ

HERO



High pace at EC

The first half of this year has been exciting for EC. Our customer base is growing, and the EC products and services are highly regarded and we enjoy a unique market position. The last customer that has decided to implement Energy Components is Petronas, the national oil company of Malaysia. We are truly grateful for the confidence they show by choosing Tieto as their supplier.

At EC we constantly strive to improve our services and products, and the launch of EC 10.2 this spring gives us every reason to be proud. EC 10.2 has a stronger focus on user interface and enhanced functionality e.g. in the revenue domain. I hope that our customers will find the improvements relevant and useful.

We are the world leader in our field, and we continuously strive to develop our expertise and recruit new experts. As the demand for our services increases, there is a constant need to

strengthen our organization. We have handled some organizational challenges emphasizing the need to further develop our expertise. Over the last year we have hired approx. 30 employees globally, making us well resourced for delivering on the high expectations of new and old customers.

In the second half of 2011 we will continue the recruitment and build expertise as we expect the growing demand for our services to continue. The trust demonstrated by customers in 49 countries who have chosen us as their supplier makes us proud and humble, and I look forward to a fruitful cooperation in the rest of 2011.

I wish you all a sunny summer!


Ragnhild Olsen



GDF SUEZ keeps track of **40 billion cubic meters of gas with EC**

GDF SUEZ has selected the EC software suite to manage hydrocarbon accounting from the Gjøa field, the largest recent industrial project in Norway.

The Gjøa field is the largest recent industrial project in Norway when the Vega development is included (as the latter sends its gas to Gjøa for processing). The field, located off the coast of North Western Norway, is estimated to hold reserves of 40 billion cubic meters of discovered gas. GDF SUEZ has selected Energy Components' integrated software solution for the accounting and reporting of gas volumes for the entire value chain – production, transport, sales and revenue.

11 million cubic meters of gas per day

GDF SUEZ implements EC Production for hydrocarbon accounting for the first time. As first time production operator on the Norwegian continental shelf, the company had not required this type of software before. Production start at

Gjøa was in November 2010, and the field now produces daily gas volumes of 11 million cubic meters. The EC solution system is scaled for handling total gas exports of 17 million cubic meters per day (including the Vega field) to meet expected growth in production.

Successful integration

Raju Pakalapati, responsible for implementing the EC Production and EC Regulatory Reporting Norway (ECRRNO) modules, has worked closely with Tieto to identify and describe the business requirements. He is pleased with their new software:

"It is a well established product and the resources from Tieto knew what had to be done based on long experience with similar projects. >>



When planning its first production operatorship in Norway, GDF SUEZ needed a hydrocarbon accounting tool. EC was selected because of track record and because of synergies expected with Gassco, owner of the gas transport network, and Segal (Shell UK), who are also using EC.

Integrating our solution with that of our partners, including Statoil, Gassco and Segal, was also efficient as they already use the EC software.”

Demanding configuration

In terms of challenges in the project, Raju mentioned that GDF underestimated the amount of configuration needed: “For GDF SUEZ this is a challenge as we don’t maintain a centralised pool of EC resources. Once the implementation is over the team members return to their responsibilities, and hence the competence is not shared in other projects. Had we known, we might have staffed it differently. That said, the project was delivered on time and to degree of satisfaction required and the solution is in very good shape now.”

EC Transport

As operator of Gjøa, GDF SUEZ must provide transparent reporting for regulatory purposes. Raju is therefore working on implementing EC Transport as well for the handling of gas lifting and balancing accounting (GLBA).

“We expect huge advantages from running both EC Production and Transport. The decision to implement EC Transport is taken by all the partners in the Gjøa field to ensure hassle free reporting,” he added.

EC Sales

With the EC Sales module, GDF SUEZ manages gas sales contracts with different customers, both for short-term and long-term obligations. The software enables full transparency and traceability of



PHOTO: GDF SUEZ

PHOTO: GDF SUEZ

Gjøa facts

Size of field

Reserves estimated at 40 billion cubic meters of gas and 82 million barrels of oil and condensate.

Operator

GDF SUEZ is the operator for the production phase. Statoil was the operator during the development phase and is the operator of the Vega field.

Distance from shore

60 kilometers, far north in the North Sea.

Partners

GDF SUEZ 30 %, Petoro 30 %, Statoil 20 %, Shell 12 % and RWE Dea 8 %.

prices and quantities sold of the oil and gas related products including NGL.

GDF SUEZ has experience in using the EC Sales module as they also use it for assets in the Netherlands.

From manual to automatic invoicing

GDF SUEZ has gone from manual handling of invoices to a more automated process. Rikumatti Kangas, Controller at GDF SUEZ E&P Norway AS, handles outgoing invoices concerning sales in the company. All input is now sourced from one location automatically rather than collecting data from different sources.

“The EC Revenue solution sources contract data, including volume and prices, from the EC Sales module automatically. Hence, I save time

creating the invoices, and with one system only I enjoy easy data access and traceability.”

Kangas who does not have a technical background himself has relied on Tieto to “translate” and configure his requirements for reporting and invoicing into a technical solution. The part of the product already in operation matches his expectations, and additions will gradually be made to complete the project.

“Now the system works for us and we run the processes in one common system, replacing several manual and excel based models. Initially there is always a challenge to go from a manual to a more automated system, but once finished it will work according to requirements and we will improve efficiency and accuracy with EC Revenue,” said Kangas.

EC's focus on product quality and stability has been intensified over the last few years. More automated processes have increased test coverage and capacity, resulting in better product quality.

Behind the **screens**

Tieto launched EC10.2 in March this year – the result of one year of planning, programming and testing. It is also a result of close collaboration with customers on individual projects related to Production, Transport, Sales and Revenue.

Testing time reduced

Developing a stable solution has not only been a focus area for this latest release. The more mature product our customers now enjoy is a result of careful and continuous attention to developing rigorous testing and screening processes.

As the majority of our testing processes run overnight, the testing time is reduced with close to 10 days per year compared to the running of manual processes.

Addressing quality and stability

What is your customers' understanding of the quality and testing process?

"Our customers only get an inside track on how we work on quality issues when they have a problem and then ask how we address quality and stability of the product," said Arild Vervik, Manager, PM Architecture, and is eager to describe important elements of the EC quality assurance process.

Issues management

EC handles all code changes in the issue management system Jira, which describes the issues to be solved, including acceptance and test criteria.

Tieto's scrum team uses Jira both for internal testing and in demos for the Product Owner, the latter approving the quality of what is dispatched/ released.

Automation of testing processes

Every night automated processes build, install and test both existing and new releases of the EC product. The illustration (below) shows the process of what is referred to as "Continuous Integration", made possible through the use of the version control system software (CVS). This implies that every night all our coding, which is screened by our CVS software, is:

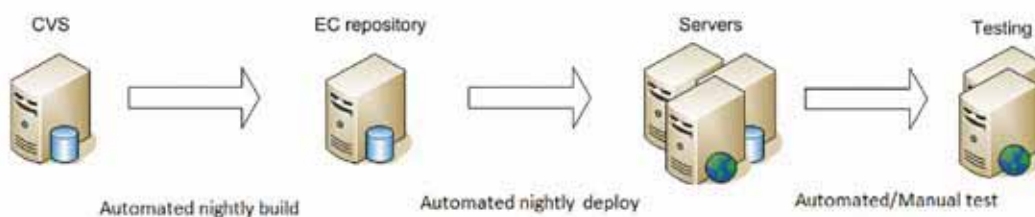
- Collected and compiled as test releases of the EC product and stored in our repository, then
- re-collected from the repository to be installed on a set of development and test servers.

EC also runs a few automated test tools against these servers to check that our defined unit, deployment, integration and scenario tests still show the green light. These same servers are used daily for both development and manual testing.

Time saving and motivating

How does the automated quality processes impact your work and the product offering?

One important aspect is that it provides consistency in everything we do. We can run several tests simultaneously and we maintain a high level



of flexibility to meet our customers' needs and requests. These elements correspond well with the reality EC is working in every day.

The automation of processes saves time when building new platforms and service packs. EC can use its resources more effectively and our expertise spends time on building testing environments rather than on manual testing processes.

How does the EC product team split its time between maintenance, product development and individual project support?

The approximately fifty people working in the product team in Stavanger and Kuala Lumpur devote roughly 50 per-cent on product development, 25 per-cent on maintenance (service packs/patches) 25 per-cent on supporting individual projects and sales. Tieto primarily provides support for EC version 9 and 10, and to a lesser degree EC 8. We deploy eight to ten service packs spread across these

versions every year. Maintaining efficient processes is therefore critical to be able to cover support and maintenance, new releases and individual projects.

How will your testing processes evolve going forward?

Tieto is constantly expanding the scope of our testing processes. But although there is always room for improvement, we believe that we with today's system provide quite good control of what is developed around the EC product, concluded Arvid Vervik.

“Maintaining efficient processes is therefore critical to be able to cover support and maintenance”

EC 10.2 release

Main new features

- New transaction based storage model, supporting transactions on product and storage level. This is particularly relevant for complex processing plants.
- New loss accounting capabilities, based on choke model and with functionality for locked in potential (LIP) identification / simulation.
- Extended EC Transport coverage for gas pipeline operations, particularly driven by Australian and European requirements
- EC Sales has introduced support for new data dimensions and levels, resulting in more flexibility and better traceability.
- New EC Revenue concept for:
 - Cost mapping and processing, operating at journal entry level.
 - Grouping and aggregating cost, revenue and quantity elements into summary documents
- Extended EC web services framework to allow generation of web services for any class in EC.
 - When configuring the system, classes needing a corresponding web service will be “tagged”. For each of the “tagged” classes, a web service will automatically be generated, providing a set of standard operations (search, get, update, delete, etc) and all attributes of the relevant class.
- 12 new reports, pre-built and available when installing the EC10.2 release.
 - Mainly intended for audit purposes, partly for addressing access control / security elements and partly for addressing key configuration elements.
 - Examples of reports: Expired Passwords, User Access by Role, EC Unit Conversions, EC Stream Formulas, Check Rule Configuration, etc.
- Significantly improved new JSF (Java Server Faces) based web presentation framework:
 - Changes include performance improvements, layout / design updates and more consistent behaviour.
 - Currently approximately 40 EC screens within the EC Production domain are explicitly verified to work OK through the new web framework. Work is ongoing to verify the compatibility of the majority of the EC user screens in the new framework.



REPSOL

REPSOL



Universal EC solution in 11 countries

Repsol is implementing a uniform EC solution in 11 countries. The Spanish oil and gas company is the first to roll out a standardised solution in this many countries.

Repsol requested information from seven software providers and shortlisted three of these. Tieto's experience with template development for several other global companies was an important selection criteria, along with its ability to address business and IT requirements.

"The EC production allocation tool was also selected from an IT and user point of view and is perceived as a powerful tool to manage the production allocation," said Juan Manuel Garcia Garica, IT Production Manager into E&P & GNL Direction, who is leading Repsol's team of six working full time on the EC solution.

Big project

How does this project compare to others you have undertaken at Repsol?

"Repsol has close to 500 smaller IT projects a year, but this is a big project both in terms of IT investments and importance. Our exploration activity is high at the moment, and we expect this

to drive production volumes up in the coming years. Building a reliable tool to securely manage the production allocation across all our operating and non-operating assets is therefore of great importance," said Raúl Rubio Mena, Project Manager, E&P & GNL Direction.

Two solutions being tested

The roll out was initiated with a workshop in November of last year to identify all the customer's requirements. Initially, Repsol is creating a pilot template for Spain and the United States, to be completed in September 2011. The two solutions being tested are NOV and EC 10.1.

The roll out in the remaining nine countries starts in October this year, and Repsol expects to complete the project by September 2012. Some of the additional countries where the EC template will be rolled out include Bolivia, Brazil, Columbia, Libya, Peru and Venezuela. >>

Spreadsheet and language templates

It is not the first time EC makes a standardised solution for customers globally. However, with Repsol operating in many countries with both deep water wells and wells in the jungle, the business and technical requirements differ hence making standardisation challenging. The technical standards and the age of the equipment also vary greatly between the countries.

How will this new software benefit your organisation?

“Our ambition is that the EC application eliminates the use of custom made spreadsheets, regardless of where the data input is sourced from. This will save time and greatly improve our capacity to analyse data input from the 11 countries. The training process and ability to move personnel between locations is also simplified, said Garcia Garica.

Time is also spent on developing a Repsol language template in Spanish and English. This is to ensure that the Spanish speaking countries use one word for the same functionality, although the expressions in the Latin American countries often differ. The same applies to those countries using English as their working language.

Progress

Much time has been spent on defining the template, learn the concept and then explain to Tieto what Repsol expects and requires. The progress and the communication between the Repsol and Tieto teams are described as very good.

“We had expected more cultural differences, and probably more serious people coming from the North. But they are both solution oriented and fun to work with,” the two Repsol project managers concluded.

“We are delighted to be able to say that despite the ambitious project scope and time frame, the project is progressing more or less on time.”

Raúl Rubio Mena

Project Manager, E&P & GNL Direction



Repsol and Tieto team

Front: Lorena Liliana Rubb Sabino and Raul Rubio Mena.
Back from left to right: Javier Martin Navarro, Halldor Magnus Olafsson (Tieto), Erlend Ellingsen (Tieto) and Juan Manuel Garcia Garcia

Experienced head of product management joins EC

Frode Wågen joins Tieto EC on September 1. Demand for EC products is at an all time high and his focus will be to continue delivering quality through optimal use of EC's expertise.

The demand for EC's products has never been greater and Wågen is not planning any drastic changes. His role, as he sees it, is primarily to support and bring forward the many experts of the individual product areas who are the de facto value creators.

"The expertise can hence become more visible to our customers and facilitate even closer dialogue. This is important as the EC product suit is founded on close cooperation with its customers. The only way to stay abreast of new requirements is to be open and accessible," he said.

Return to Tieto

The experienced product developer and entrepreneur is a familiar face to many in Tieto. Between 2004 and 2007, Wågen worked as a team and section manager in the successful EC Collaboration unit, and since moved on to develop the EC training and certification programs. After close to four years away he was tempted to come back.

"I am truly impressed by what EC has become, and I have reason to be humble when joining such a great team. One of my key tasks will be to manage the continuation of EC's unique achievements and ensure that the skills of each EC expert are used optimally," he said.

During the last four years, Wågen has worked as consultant for Statoil, the Norwegian Maritime Directorate and Sysco. He was also one of the founders as well as product manager at NetConnect ASA, a developer of collaboration software and online solutions.

Team player

A keen, and once a capable, soccer player, the father of four is a strong believer in team work.

He also stresses that when a company buys the EC solution, it does not merely buy software, but the whole experience. The successful development of global templates and project implementation require solid teamwork between and within the organisations – similarly to the



“Team spirit is crucial for reaching ambitious goals. I also find that the pleasure is greater when you can share a milestone or achievement as a team.”

seamless integration of software. EC works to deliver both.

Quality focus

As for the future of the EC product, Wågen believes in cultivating the EC expertise and maintaining an edge in the area Tieto knows best.

"This entails delivering quality in everything we do, whilst keeping abreast of key developments and business requirements. This may imply that we need to look at the integration of new tools and solutions," concluded Wågen.

Oslo, Norway

+47 21 70 60 00

Bergen, Norway

+47 21 70 60 00

Trondheim, Norway

+47 21 70 60 00

Stavanger, Norway

+47 21 70 60 00

Aberdeen, UK

+44 122 461 9277

Calgary, Canada

+1 403 270 6934

Groningen, Netherlands

+31 507 890 060

Houston, USA

+1 832 327 7724

Kuala Lumpur, Malaysia

+60 389 946 194

Publisher

Tieto

Editor

Axcept AS

Layout

King Design AS

Print

Oslo Forlagstrykkeri

Tieto