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River Information Services for SRK

Schelderadarketen chooses CGI for river information services.

The Scheldt is a 350 km long river in northern France, western Belgium and the southwestern part of the Netherlands. The Scheldt Radar Network (SRN) asked CGI to develop a river information services (RIS) application to improve navigation on the Western Scheldt. RIS aims to improve the safety, effectiveness and environmental friendliness of inland waterway transport, through harmonized, interoperable and freely accessible tools and information.

SCHELDERADARKETEN (SRK)

SRK provides vessel traffic services (VTS) to vessels on and around the Western Schelde. Given the geographical nature of the river, which flows through the Netherlands and Flanders, SRK has to direct and guide shipping traffic safely on the Westerschelde and the Maritime areas in the two countries. Primarily intended for marine use, the service has gradually extended to include the entire commercial shipping community.

The Schelderadarketen includes five manned traffic control centers and 21 unmanned radar towers. In addition, VTS operations are supported by radio communications and the monitoring of vessels. CGI's RSI system has recently been added to this list of devices.

THE SOLUTION

CGI handled the river information services (RIS) application project from start to implementation. We started with the preparation of the message specifications to making the application operational after deployment. Java-based integration aspects were handled in CGI's Java competency center.

We continue to play an active role in supporting the application at SRK and its partners, and in expanding the partner network. Some features of the new system include:

Notice to Skippers (NTS)

One of the key components of the European RIS is the Notice to Skippers (NTS) or messages to the shipping community. NTS messages provide boatmen with shipping information related to geographic objects or sections of waterways. The first part of the (XML) message is always the identification; the second part contains information regarding waterways and traffic, water, ice and weather reports.

CASE STUDY

TRANSPORTATION

River Information Services Benefits:

- harmonizes and enriches data so that the information provided is as complete as possible for those who need it
- enables interoperability between application and various partner systems
- offers freely accessible tools and information via the Schelderadarketen portal
- improves safety, effectiveness and environmental friendliness of inland waterway transport

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The SRK provides this information based on 'pull' and 'push' mechanisms through the portal and via email messages. The information is also available as structured XML messages and via PDF documents.

RIS Index

One of the cornerstones of the application is an RIS Index that contains all objects that are relevant to electronic ship reporting, ECDIS (Electronic Chart Display and Information System), Notice to Skippers and Inland AIS.

Service Oriented Architecture (SOA)

RIS is based on service-oriented architecture (SOA) methodology. The Enterprise Service Bus integrates the different Schelderadarketen systems and supports the SOA implementation. This system provides a standard platform for the exchange of messages between different systems. In addition, the size of messages for the participants can be changed.

The RIS kern bus is the heart of Service Oriented Architecture. It provides internal communication between SRK's different target systems. Communications with external partners happens via a communication bus between the RIS kern bus and the Central Core Broker System (CBS).

TECHNOLOGY

Status RIS Kern

The RIS kern bus system is taken into production in March 2011. NTS messages are automatically created based on various sources and are available via the portal and emails. More systems will be connected in future so that even things like signal status, cargo, Inland AIS (tracking and tracing) and electronic cards are made available.

THE RESULT

The Schelderadarketen portal now gives skippers easy access to information about traffic on several Flemish rivers. It has improved the safety, effectiveness and environmental friendliness of inland waterway transport, through harmonized, interoperable and freely accessible tools and information.

For more information, please contact us at
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The technology behind RIS

Efficient: Using our deep experience of EAI (Enterprise Application Integration) and B2B (Business to Business) CGI designed the RSI system (based on RUP/UML) and developed it using state of the art technologies.

Interoperable: The software is based on Java standards, based on the Mule ESB-product. Message queuing, clustering and failover guarantees high availability and performance. Oracle AQ was used for message queuing. Mule ESB in combination with this creates a platform where messages can be dynamically processed according to specific business rules (i.e. orchestration).

Secure: All communication is completely secure via https. For the transformation of messages (version) between the partners, XPath queries and XSLT is used.