

# HOW ROYAL DIRKZWAGER MAKES PROGRESS



## FULL SPEED AHEAD

Whenever a ship enters port anywhere in the world, there are people who need to know about it, when it arrived and what it is carrying. As long ago as 1872, Gijs Dirkzwager realised that there is a market for this nautical and maritime information. He began by dispatching information about the expected arrival times of the sailing and steam ships of the day by horse messenger from Hook of Holland to Rotterdam. In the 137 years since, the company he founded has earned the designation “Royal” and grown from a supplier of information at the Port of Rotterdam into one of the world’s leading maritime service providers. Whilst most of its original customers were Dutch, today Royal Dirkzwager serves clients across Europe and far beyond. And thanks to Progress Apama, it can now offer them new and innovative maritime logistics products.

Royal Dirkzwager receives information about shipping movements and positions from its own network in northwestern Europe. Through partners, this data can be relayed to anywhere in the world. As well as voyage-related information,



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### CHALLENGE

*Growing client demand for faster, more reliable data*

### SOLUTION

*A system that gathers full shipping movement details worldwide and relates them to information such as planned routes, weather, etc. in real time*

### BENEFITS

*More effective client decision making; easier processing of increased data traffic; a new business model consolidating and expanding its customer base with new maritime logistics products*

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the company also holds basic vessel data: details of a ship's length, beam and draught, its capacity and the operating line. As Commercial Affairs Manager Jeroen Kortsmid explains, "Royal Dirkzwager is primarily concerned with the collection, interpretation, validation and distribution of information for interested parties in the shipping sector. That's our core process. And we try to deliver that information in such a way that it can be integrated instantly with the recipient's own business process. Our bespoke service for the client lies in validating the information."

The challenge now facing Royal Dirkzwager is how to respond better and more quickly to its customers' greater demands and wishes. They expect an ever higher level of service, faster response times and more reliable information covering a wider geographical area.

## **AIS NETWORK EXPANSION LEADS TO PROACTIVE INFORMATION PROVISION**

Traditionally, Royal Dirkzwager has supplied clients with information obtained through its own automatic information system (AIS) network. This is based on transponder technology designed to improve safety at sea. The data transmitted by vessels with an AIS transponder is picked up by coastal receiving stations and passed on to Royal Dirkzwager's dedicated server. This system allows the company to gather and process detailed information about ships and their current positions. But although it covers the entire coastline of Western Europe from Skagen in Denmark to Gibraltar, its offshore range is limited to approximately 40 kilometres.

For demanding clients, this system had become too restricted in its geographical coverage and response times. What they wanted was the kind of information that can only be obtained from an AIS network using satellite technology. The problem was that this would so increase the amount of incoming data that it would completely swamp the company's existing systems. Royal Dirkzwager CIO Paul Wieland concluded, "Simply increasing our system capacity was not going to resolve that issue. Moreover, it wouldn't meet our clients' increased needs in terms of proactive information provision. So we went in search of a scalable solution which would also allow us to expand our package of services for clients in a straightforward way."

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## LINES AT SEA: A SCALABLE SOLUTION BASED ON EVENT PROCESSING

To help find a solution, Royal Dirkzwager called in Progress Software. And with the purchase of two technologies—the Progress® Sonic® Enterprise Service Bus (ESB) and the Progress® Apama® Complex Event Processing (CEP) platform—the company was soon able to develop the sound and scaleable solution it was looking for.

Based on event processing, the resulting project was named “Lines at Sea.” Capable of handling a thousand events per second in real time, the new system can gather complete data about shipping movements all over the world.

Clients subscribe to information about specific ships, based on virtual lines drawn around any given location on the map. As soon as a monitored vessel crosses one of those lines, the subscriber receives details by email or text. Also, an XML message can be submitted to an operational system or invoke a Web service. Through this messaging service, Royal Dirkzwager directly supports its clients in optimising their own operational processes.

## REALISTIC COST-BENEFIT ANALYSES FOR BETTER DECISION MAKING

Lines at Sea is the company’s first project using the Progress CEP platform. But it sees many more potential opportunities in the system. “Apama is enabling us to help our clients make well-informed choices,” says Paul Wieland. “That represents enormous added value. They can now respond immediately if a ship’s actual time of arrival is not as previously expected.

“But in the future we will be able to produce calculations for them proactively. If this ship sails faster, will it reach a tidal port earlier? Do the increased fuel costs outweigh the time saved? To do that we need to take into account predicted routes, weather conditions, tide data and currents. Another example. The most direct route to Europe from the Middle East is through the Suez Canal. But for a large container ship, each passage through the canal costs \$800,000. The alternative is to sail around the Cape, but that takes longer and consumes more fuel. And there are pirates active in the Gulf

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of Aden. Who assesses the costs and risks? We want to offer our clients that kind of cost-benefit analysis in a proactive way, and Apama allows us to do it.”

For Jeroen Kortsmid, there are even more possibilities. “Take narrowcasting, for instance: large screens mounted on the walls of waterside buildings, providing onlookers with specific and up-to-date information about the ships sailing past. Our systems can provide the input. We are already in talks with potential partners about this idea.”

## CUTTING COSTS: THE BROAD VIEW

“It was the increase in the number of AIS signals which first prompted us to look at Apama,” concludes Paul Wieland. “But during the implementation and as we were configuring the dashboards, we discovered all sorts of other interesting possibilities. For instance, a ship reports its position every two seconds. The question is: how often do you actually need that information in order to define an event. That could easily be just once a minute. After some calculations, we realised that this alone would reduce the load on our systems to a mere 1-2% of what it currently is. That was a real revelation! So we set about implementing Apama in the preprocessing phase as well, to allow us to filter signals selectively, according to function. That’s produced huge savings.”

Apama is enabling Royal Dirkzwager to offer its clients new and innovative services, such as guidelines for fuel consumption and speed, and to minimise waiting time for a mooring. Despite the prevailing economic climate, there are still shipping companies that let their vessels run at full speed only to wait 20-30 hours at anchor off their destination. That consumes fuel unnecessarily and increases carbon emissions. If it were up to Jeroen Kortsmid and Paul Wieland, though, those days would soon be over. By combining Royal Dirkzwager’s maritime knowledge with the power and intelligence of Apama, they want to make shipping smarter, greener and more efficient.

## ABOUT ROYAL DIRKZWAGER

Royal Dirkzwager is a vital link in the chain of communication and information at the port of Rotterdam and other northwest European ports. It collects, refines and validates maritime data and disseminates up-to-date shipping information for the benefit of the entire port community. This is done using the very latest digital technologies. Shipping is a people business, so Royal Dirkzwager complements these activities with personal service 24 hours a day, seven days a week.

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## PROGRESS SOFTWARE

Progress Software Corporation (NASDAQ: PRGS) is a global software company that enables enterprises to be operationally responsive to changing conditions and customer interactions as they occur. Our goal is to enable our customers to capitalize on new opportunities, drive greater efficiencies, and reduce risk. Progress offers a comprehensive portfolio of best-in-class infrastructure software spanning event-driven visibility and real-time response, open integration, data access and integration, and application development and management—all supporting on-premises and SaaS/cloud deployments. Progress maximizes the benefits of operational responsiveness while minimizing IT complexity and total cost of ownership.

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