



DIGITALNXT CASE

## Royal IHC, an ocean of data

With a history steeped in Dutch shipbuilding since the seventeenth century, Royal IHC designs, builds, and services complex vessels and equipment for the offshore, dredging, and wet mining markets. Its customers' projects are hugely complex, and downtime can have a big impact. To relieve its engineers from time-consuming manual data searches across disparate sources, Royal IHC sought an AI-assisted solution. The company co-created with OrangeNXT and deployed a Royal IHC search and knowledge mining solution called Sherlock. Royal IHC now uses Microsoft Azure Cognitive Search to search more than a million documents in under two seconds, speeding time to resolution and improving its customers' experience.

*'The company has built its market leadership on quality, reliability, innovation, and service''*

### An ocean of data

From shoal banks and foaming shorelines to the deepest reaches of the seas, people and ships face

treacherous conditions to explore offshore energy reserves, search the seabed for valuable minerals, and improve navigation and anchorage. The fearless ambition of the maritime industry is matched by titanic complexity and cost—downtime can have a huge impact.

Royal IHC supplies innovative, efficient equipment,



vessels, and services for the offshore, dredging, and wet mining market. The company has built its market leadership on quality, reliability, innovation, and service. Today, if a project requires it, highly skilled Royal IHC engineers help keep customer operations moving to ensure that expensive downtime is kept to an absolute minimum.

The stakes are high, and to provide the best support—often in challenging environments—these engineers need remote access to detailed technical documentation from an array of sources. Yet searching for what they needed was slow and frustrating for engineers, often requiring hours of cross-validation and the manual exploration of more than one million documents, many isolated in data silos across the organization. And when time costs this much money, every second counts.

After first transitioning more than one million documents to the Microsoft Azure cloud platform, Royal IHC wanted to deliver a centralized source of truth for its engineers to help them find more accurate results faster across multiple data sources. The company also wanted to use natural language processing to provide an easier way to search across both structured and unstructured data. So it chose Azure Cognitive Search and built an AI-assisted search platform for the high seas.

**Faster answers, better answers**

Royal IHC worked with OrangeNXT to co-create and deploy a Royal IHC search and knowledge mining solution called Sherlock. The solution combines



*‘With Azure Cognitive Search, our engineers can deliver much faster responses for our customers’*

**Daniel Stoye,**  
Senior Asset Manager at Royal IHC

AI, optical character recognition (OCR), and natural language processing in Azure Cognitive Search to empower Royal IHC engineers to quickly and easily extract search results from multiple structured and unstructured data sources. Royal IHC also uses prebuilt cognitive skills to augment Sherlock’s ability to interpret input data.

Now engineers can access data from all connected sources remotely. Whether it’s old or hidden data, and whether it’s from documents or unstructured data previously locked in silos, engineers can get the data they need in near real time by signing in to one portal, on one screen. “We have vessel





drawings some 30 or even 40 years old,” says Arjan Van Limborgh, Product Owner Digital Business at Royal IHC. “The drawings aren’t digital, but we can scan them and apply optical character recognition to retrieve metadata from the image, which engineers use to locate the document, fast.” It’s a seamless, connected front-end experience assisted by auto-complete and context-aware recommendations similar to those used by e-commerce websites. “Instead of signing in to seven different systems and navigating seven different UIs, the engineer signs in to one portal, enters a query, and receives all relevant results in one window,” says Van Limborgh.

OrangeNXT used predefined cognitive skills in Azure Cognitive Search to accelerate development of the new solution by extracting and shaping data from cracked documents using text analytics and OCR. “Using the built-in cognitive skills and the custom skill framework in Azure as the foundation saved us a lot of time,” says John Koot, our Alliance Director. “What normally takes months to develop is now integrated in days. That helps us build and deploy solutions like Sherlock quickly.”

OrangeNXT helped Royal IHC to build a range of custom skills into Sherlock that help the Royal IHC customer support and asset services teams accelerate search times. These custom skills dynamically enrich documents with domainspecific metadata based on the unstructured information contained within. The additional tags create new links between documents and help the Royal



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IHC customer support and asset services teams accelerate search times.

Royal IHC built more than just an efficiency driver. It built a catalyst for digital transformation and a means to become more agile, innovative, and competitive. Royal IHC also plans to use the knowledge mining capabilities in Azure to help it unlock and share new insights from years of structured and unstructured data, including the knowledge of its most experienced staff from across the organization worldwide.





### Smooth sailing into a digital future

Engineers at Royal IHC can now search more than a million documents and get relevant results in less than two seconds. They spend less time on search, pursue new revenue opportunities, and have increased and optimized their output.

“We assumed a reduction of 40 percent in search times for our customer support team, but we learned that it is more like 60 percent,” says Van Limborgh. “Using Azure Cognitive Search, our engineers now spend less time reworking queries and dealing with errors and more time pursuing new revenue opportunities, such as remote monitoring solutions and consultancy.”

Instead of Royal IHC engineers, agents, and departments asking each other for help finding documents, they can get straight to helping each other—and customers—understand the data and use those insights to quickly resolve and even avoid issues. What’s more, Royal IHC has already used Sherlock to help save thousands of euros in a single month on time spent searching documents. “With Azure Cognitive Search, our engineers can deliver much faster responses for our customers,” says Daniel Stoyale, Senior Asset Manager at Royal IHC. “That helps customers keep their projects on track, create huge savings, and cut the number of requests that require service employees to consult colleagues.” Of course, this is just the start of the digital journey for Royal IHC as it continues to find new ways to support its customers in the most suitable way. And judging by the results so far, the road is promising.

### More info?

To learn more about digitalNXT and its capabilities feel free to contact us at any time – you will find our contact details below.

### Want to know more about this case?



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