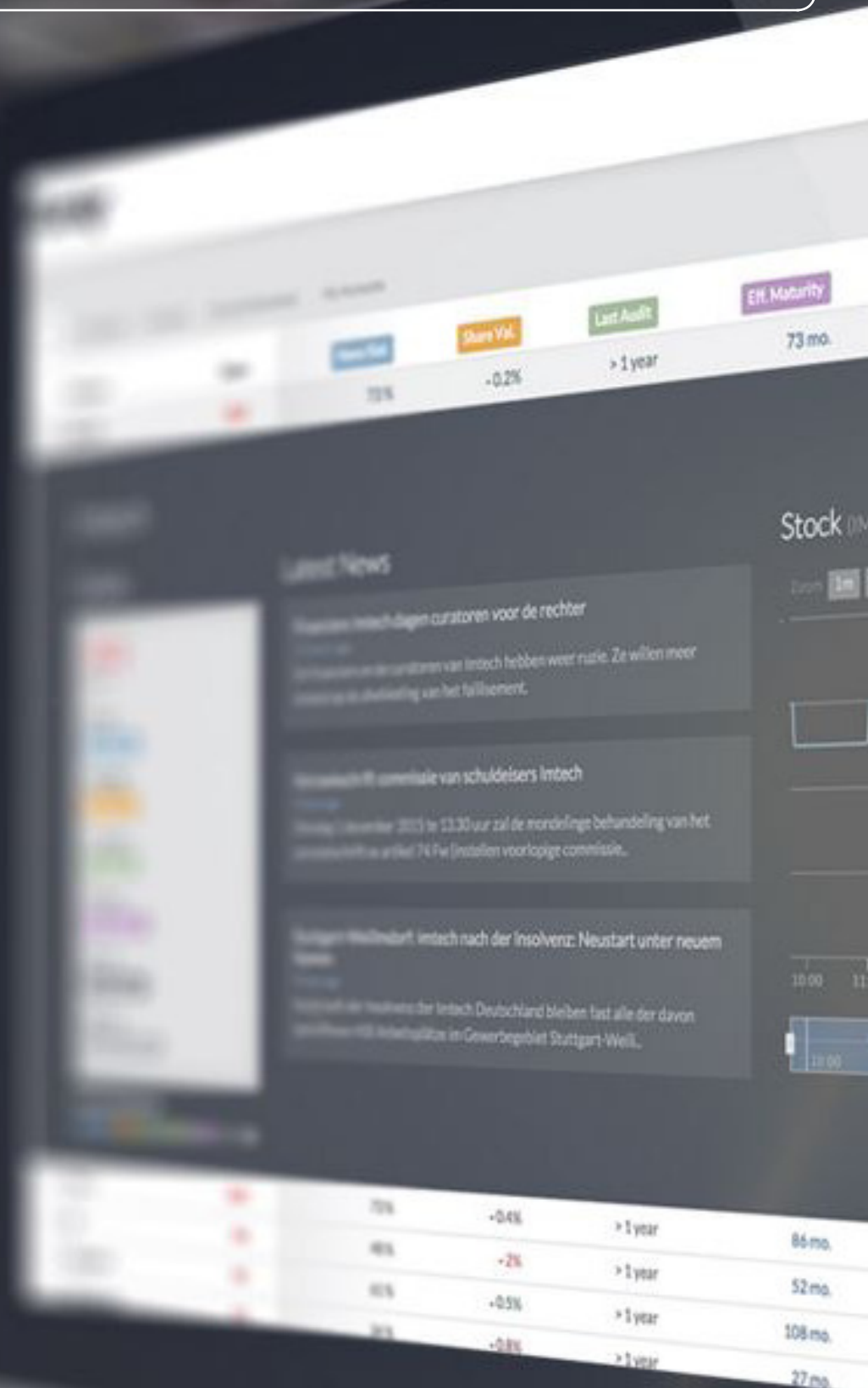


# Breaking the news

ING POCs with news detection start-up Owlin



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## ING POCs with news detection start-up Owlin

With the ever increasing flow of financial news, global banking services need to find new ways to deal with this overload of information. Looking for a structured approach to the issue, ING's Credit & Trading Risk and Wholesale Banking departments got into contact with Amsterdam start-up Owlin. Their real-time news and trend detection system might just be the ticket to help ING turn a problem into an opportunity.



Anand Autar

"It actually started with one of our trainees at Credit and Trading Risk," says Senior Manager Corporate Credit Risk Management Anand Autar. "About a year ago we were looking to develop an automated, qualitative early warning framework for our counterparty portfolio of some 2500 banks and insurance firms. Maarten van Benthem was asked to scan the market for interesting ideas and/or companies and brought us into contact with Owlin. We knew Owlin had been a news provider for the Financial Markets Sprinters webpage for a couple of years and had done some fantastic work for them. When we went into talks their pitch impressed us, so we decided to jump on board and start the process to produce a proof of concept."

### Credit & Trading news

What Owlin offered ING was a tool to turn news into actionable intelligence. "ING Bank has lots of clients in different client segments," Anand explains. "One of these client segments is made up of financial institutions, mostly banks and insurance companies - these are called counterparties. Credit risk arises when ING Bank engages with these institutions via Financial Market transactions (such as interest rate or currency swaps), trade related business, money market deposits,

### Owlin Profile

Owlin are an Amsterdam-based fintech start-up who offer an innovative real-time trend and news detection system, mainly for the financial sector. This system scans a wide variety of news sources, including news sites, corporate sites, government publications, academic sites and specialist blogs.

Backed by the Rockstart Accelerator programme, the company was set up in 2012 by Bas van Ooyen, Richard Kraayenhausen and Sjoerd Leemhuis, and has been in profit since Q4 of 2014. Clients include ING, KPMG, Global Collect, Graydon and Deloitte.

The name Owlin is an extension of the acronym for Ontology Web Language (OWL). It was one of the few five letter combinations still available for .com extensions and also refers to the animal's sharp view and mind.

etc. The current credit processes ensure that we have proper analysis, management and monitoring of the risks ING runs when we engage with counterparties. Today there is a lot of information available for each counterparty, for instance via credit rating reports, investment banking reports, financial news websites, etc. As well as using a more quantitative approach of assessing the financial health of a counterparty,



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such as annual reports or market price data, news can also play an important role as a financial health indicator. The scope of news available has mushroomed in the last decades. If we are to cope with this ever growing avalanche of news reports, we need a system that helps us to identify relevant news quickly and in a structured way, so we can respond to potential client issues in a timely and effective manner. Owlin pitched us a tool to quickly capture and aggregate relevant news reports, which is exactly what we were looking for. It's a tool to perform real time monitoring based on news sentiment, which can then be combined with quantitative indices such as equity, bond or any other security pricing to decide whether any action needs to be taken."

### Wholesale Banking

A few months after starting the procurement of a proof of concept with the Credit & Trading Risk department, Owlin were invited back at ING's offices, this time by ING Wholesale Banking Advanced Analytics. They were approached to co-create an intuitive commodities and natural resources news analysis and visualisation tool with ING Wholesale Banking's lending desks.

"Partnering with an external company like Owlin gives us an opportunity to leapfrog developing such a tool ourselves; it accelerates our time to value," says ING Wholesale Banking Head of Business Development Advanced Analytics Doron Reuter. "We'd already met a few times with people from Owlin following their acceleration by Rockstart and we were impressed by

the product and the team. We were looking for an opportunity to integrate their technology and expertise into our core process of assessing news developments."

Similar to Credit & Trading Risk, Wholesale Banking's lending desks need to respond to global changes in market conditions and sentiment. "Our front office tends to be swamped by an overload of news which we can only capture and disseminate in an ad hoc manner," Doron explains. "So we set up a proof of concept with a minimum viable product involving three lending services teams - Metals & Mining Finance (Peter Kindt, Machiel vd Linde), Structured Metals & Export Finance (Wiljum Thomas, Farzad Karamati) and Trade & Commodity Finance (Bram Reijnen)." The results have been very promising, according to him. "ING domain experts and Owlin's data scientists co-created a system which has brought structure to the news flow, has made it more transparent and more actionable."



Doron Reuter

# ING Spotlight



Bob Koster

## Constant news stream

Bob Koster, sales director at Owlin, explains how their system works and how it's customised for their clients. "Our system feeds a constant news stream from almost 2.5 million different sources into our virtual newsroom. The only selection we make at the gate is that we exclude things like adult content sites, online auction sites such as eBay and a few other types of sites which cannot be trusted or are obviously not going to give any useful information to any of our clients. We continue this monitoring process after sites have been allowed into the system, so we keep the news feed as clean as possible. "These feeds are then filtered through a customised dashboard using search words and phrases which are compiled in partnership with the client. The feeds include both primary sources, i.e. the feeds of banks and insurance companies themselves, and secondary feeds, including big news sites such as FT.com and news agencies such as AP, AFP and Reuters, but also millions of specialised news blogs and local news sites from all over the world."

"WE TEND TO ASK OUR CLIENTS WHAT KEEPS THEM AWAKE AT NIGHT."

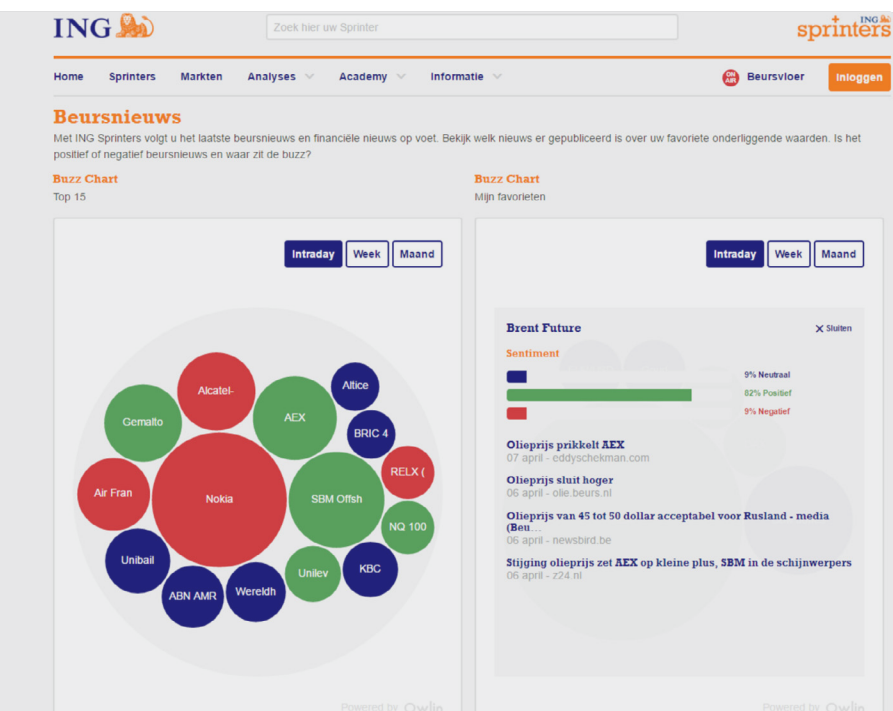
- Bob Koster

## Filters

"News tends to develop bottom-up," Bob explains, "which means that small, specialised news blogs and local sites are just as important as 'big hitters' like The Financial Times, Reuters or The Wall Street Journal. To give you an

example: In 2014, in an interview with the relatively modest British blog Electronics Weekly, an ASML representative let out that their new machines were performing four times better than expected. This news was picked up immediately by our system, but Dutch blogs such as [aandeelhouder.nl](#) picked it up only much later after share value had already gone up significantly. Similarly, the first mention of fraud in relation to Imtech was in a highly specialised Swiss blog, more than two weeks before the story broke properly and the share price crashed. These are two good examples of why we give equal weight to all of our sources, small and large."

Owlin's clients can explore this steady stream of news reports through their own, customised dashboards. Using keywords and key phrases, they can apply a couple of filters to select what's relevant for their business at that point in time. The first filter determines the scope of their search, allowing them to select a type of industry or a specific company. The second filter – called the Trigger List – allows them to select on types of issue. Bob: "We tend to ask our clients what keeps them awake at night. If, for instance, you work in credit and trading risk, this question will produce issues such as late payments, bankruptcies, fraud, take-overs, downgrading, etc. - these are the queries that should typically inform your search in the second layer. It's very important that we work closely with our clients to customise the keyword set. If, for instance, we are talking about risk, a global payment service provider will generate very different search queries from a credit risk manager at a big bank. The first will focus on news around fraud, the latter on his client's market position."





## ING Spotlight



"Front office relationship managers will increase internal collaboration and strengthen the relationship with the client." - Doron Reuter

### News sentiment

"What Owlin does is translate ING's expertise into effective search queries," Anand explains. "In the process of developing our proof of concept, we have collaborated with Owlin's data scientists to refine the system and filter out the possibility of false negatives. Any of the search queries we enter (e.g. 'BTG Pactual' and 'fraud') will produce a list of relevant news reports aggregated in chronological order. With the search query mentioned above, your dashboard will display all news reports which mention fraud in connection with BTG Factual in a chronological order. At the bottom you'll find the first report, i.e. the source of these reports. This also means you don't have to re-read the same news reports, as they are all aggregated in the same list, and it provides you with valuable insight into how a story has developed."

As well as a chronological news feeds, the system can also produce trends in news volume, fluctuations in news sentiment and risk profiles for companies and industry sectors. "All these tools give us valuable insight into different news dimensions," says Anand, "ranging from client to region to theme. This means, for instance, that we can spot much more quickly than before if negative news is trending on a specific bank, as was the case recently with some African and Brazilian banks who suddenly found themselves in the spotlight as a result of corruption. And because it's all produced real-time and visualised in a very direct and intuitive way, this information is also instantly actionable."

### Valuable insights

"What's more," says Wholesale Banking's Doron Reuter. "producing useful, early insight into key company and industry news, the Owlin product also provides us with the overview and the lead time to respond to this information faster and in a more structured and effective manner."

The system we've developed with Owlin follows news stories of roughly 30 different commodities for about 60 companies active in the field, including multinationals such as Glencore, Tata Steel and Rosneft," says Doron. "Applying three filters – risk-related, operations-related and financial news – this programme has around 1 million possible combinations of keywords. Owlin's intuitive graphic visualisations give us valuable real-time insight into what is happening in the markets."

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### Owlin's Language tool

By means of a machine translation tool - developed by Owlin's co-founder Bas van Ooyen in partnership with Stanford University - news reports in various foreign languages are translated into English, so they will appear in the correct lists, clusters and statistics the system generates. "It's a bit like Google Translate," explains Bob, "only it doesn't focus so much on syntax as on correct translations of relevant, financial terminology and related keywords in different contexts. It contains most Western European languages and we're planning to add Chinese to the mix later this year."

### Machine Learning

Apart from its translation component, Owlin's system does not use any machine learning as yet. That's going to change soon though, according to Sales Director Bob Koster. "We're planning to introduce semantics in the form of entity recognition to the system. As we're working with unstructured data - text - it's important that the system will recognise a name like Royal Dutch Shell as a company rather than just a string of three words if it's not to miss out on important news on the company. Similarly, to use the same example, the system will sometimes also need to be able to identify a single company with different names as one and the same company - in the case of Royal Dutch Shell, these names would be Shell, Koninklijke Olie and RDSA. Our machine will be trained on some eight months' worth of training data we've compiled to get to the desired competence level."

### Unsupervised Learning

After the entity recognition phase, Owlin are also looking to use entity recognition as input for unsupervised machine learning models. Bob: "If the system can recognise all vital entities in the news feed, it can start grouping these entities in clusters which might reveal causal connections or correlations between people and companies. Likewise, unsupervised clustering might be a tool to quantify the news contexts in which companies feature, producing media profiles which might contribute to the analysis of their competitive power and help to improve their reputation management."

Rather than scanning randomly through newspapers or emails, front office relationship managers will have an almost instant overview of news stories which look like they're worth following up. They can respond immediately by writing a note to colleagues or pinning a message on our system's noticeboard, or they can call a client and directly discuss the issues at hand. In this way our teams will increase internal collaboration and strengthen their (primary) relationship with the client, resulting in more opportunities to create value proactively for our clients and for ING Wholesale Banking."

### Proof of Concept

Owlin are now nearing the completion of their proof of concept phase with ING Credit & Trading Risk as well as with Wholesale Banking's lending desks. According to Bob it's been a great experience. "We've been very impressed with ING's drive for innovation," he says. "ING is clearly one of the most innovative banks in our network. I think we have learned as much from them as they have learned from us. They have a clear roadmap of where they want to go and there's good communication between the various people and departments involved. We didn't encounter any signs of a corporate culture of closed silos you so often come across in large corporations. As a result we could work in a very open and transparent way,

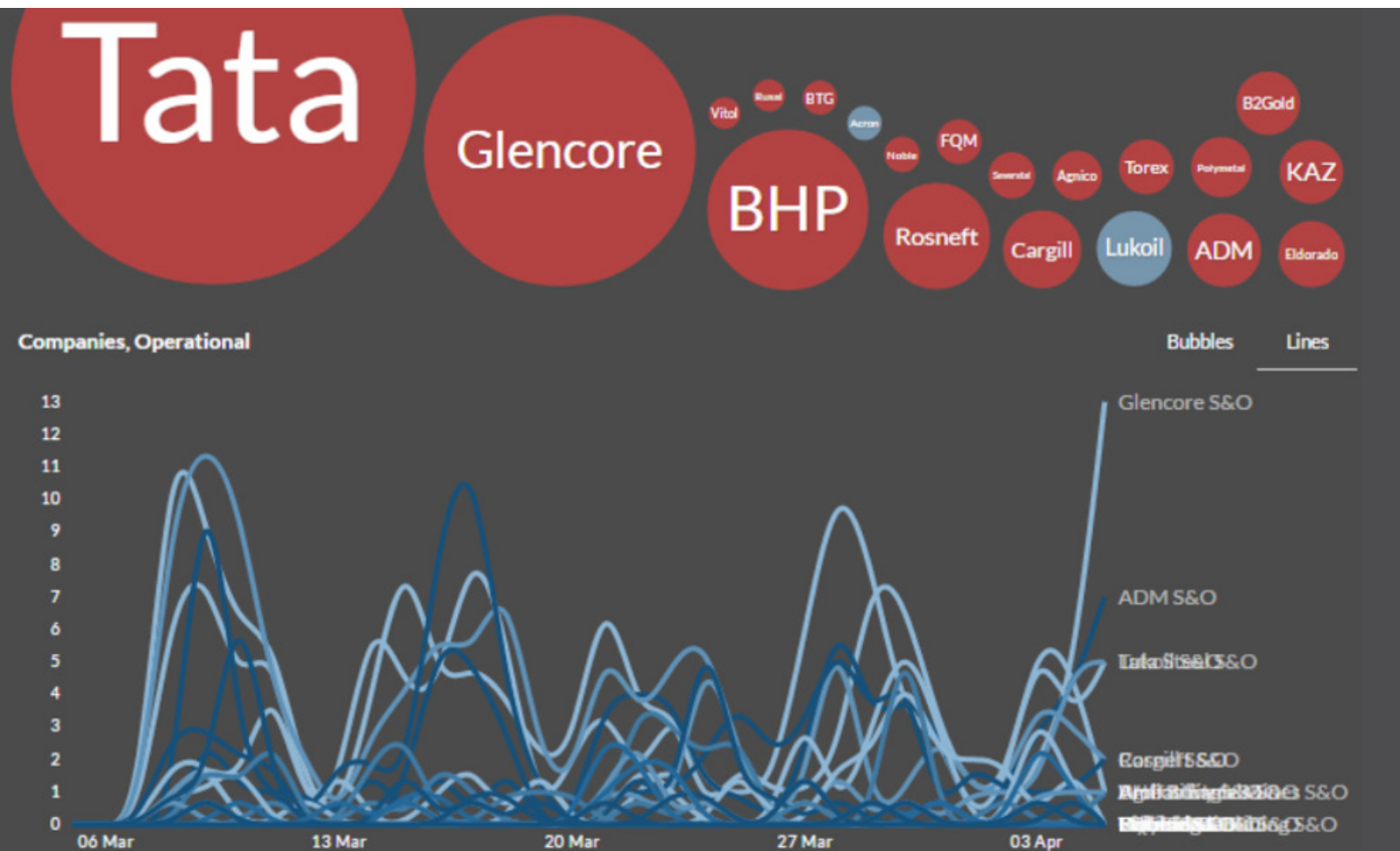
which has not only helped us, but will also help ING to drive innovation across the company at a faster rate and to greater effect."

"The complete process with Credit & Trading Risk has taken little over a year now," explains Anand. "We needed to be very rigorous, because it involves ING Intellectual Property data. This meant the process needed to be sanctioned and supported by a range of different departments, including OIB (Ops & IT Banking, eds) and Operational Risk. We have also always involved Procurement in our talks since they are ING's single point of contact, supporting relationships with vendors, help in contract negotiations and documentation of the POC. In addition, we also had to look at any issues that may occur if we decide we want to scale up."

"WE WILL WANT TO SCALE UP THE SYSTEM SO WE CAN MAKE IT AVAILABLE FOR A LARGER USER GROUP." - Anand Autar

But the upside of this lengthy process is that we have now paved the way for other ING departments to embark on a partnership with Owlin with relative ease. And the great thing about these start-ups is that they can start delivering almost instantly."

## ING Spotlight



The Owlin Dashboard: bubble charts indicate trend in news volume. In this case Tata Steel has seen a significant recent rise in volume of news reports.

Source: [www.betterment.com](http://www.betterment.com)

But regardless of the outcome, teaming up with Owlin has already proved a valuable experience. “Within Credit Risk we have always been innovating in data and process enhancements,” says Anand. “With the Owlin POC we hope to prove that using risk based news information techniques can further enhance our core credit processes.”

"TECHNOLOGY HAS BECOME SOMETHING TANGIBLE."

- Doron Reuter

According to Doron, the collaboration with Owlin “has really taught us a lot about educating the whole of the organisation from front to back on how to integrate technology into our core processes. Rather than something blurry, technology has become something tangible to our front office staff, something they can use to add value to their work and something we as a company in its entirety can adopt to move forward.”

### Integrating technology

Both Credit & Trading Risk and Wholesale Banking will soon decide whether to take the project beyond the proof of concept stage and embark on a full partnership with Owlin. “If we carry on, we will want to be able to add just our search queries ourselves and scale up the system

so we can make it available for a larger user group,” Anand explains. “Over the next few weeks we will sit down and assess how the system has performed for us, the added value it has given and the added value we expect it to yield in the future.”