**squirro** | **BANK OF ENGLAND**

# Driving Digital Transformation in Financial Services

The role of Cognitive Search
in the digital transformation process
of the Bank of England with Squirro

2021

# Project background

## A changing financial landscape

In June 2019, the Bank of England published a report entitled The Future of Finance, setting out the measures the Bank would need to put in place to support a financial sector that is dealing with accelerating change in technology, demographics and the environment.

Among its many recommendations was one that advised the automation of routine tasks within the Bank. "This requires investment and collaboration from firms," the report specified. "Costs may rise temporarily but then transform in the long term."

Within the Prudential Regulation Authority (PRA), the division through which the Bank of England prudentially regulates and supervises the UK's financial services firms, the same need had already been identified.

"In 2018, we went to our board to say that the volume of unstructured data was growing considerably from firms that we supervise as a prudential regulator," says Helen Packard, Digital Transformation Lead in the Bank of England.

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## The volume and the complexity of that information, and the evolution of fintech in financial services, meant that we needed to find a better way to use that information in a more effective and efficient manner."

Helen Packard, Digital Transformation Lead in the Bank of England

One of the challenges the PRA team faced with the growing amount of information is that the existing document management system did not enable successful search queries, search was slow and there was a limited range of visualisation tools. In addition, converting document formats for easy calculation and visualisation was limited.

# The client's ambition

## A world-class RegTech presence

One of the commitments The Future of Finance set out for the PRA was to become a world-class RegTech authority. "It's quite an ambitious commitment, and the first phase of us showing visibly to the public that we are meeting that target was the commercial tender that we put out last year," says Packard.

The tender sought a machine learning-driven solution for the Bank of England's unstructured data mountain. "The Bank of England stepping out and saying it wants to venture into the world of RegTech and FinTech is quite something, so we did get a lot of interest," says Packard. "But the demo that Squirro showed us was so simple, usable and intuitive, and the culture, we felt, was a really good fit."

# The solution

## Cognitive Search, communities and more

The core of Squirro's solution was its Cognitive Search application, which uses Artificial Intelligence (AI) to provide search based on a user's intent, delivering a completely new way of visualising the available data. As well as faster and more accurate results that draw on all data stored on any given platform, the application uses self-learning algorithms to enhance relevance.  Squirro built a custom data-loader plug-in to index documents from the Bank of England's document management system. "We work our way back to index everything up until 2012, to get the majority of their document management system within Squirro," says Squirro Solution Engineer Peter Brejza. "We developed table extraction functionalities, and deployed machine learning workflows to allow the users to further explore their search results, and quickly filter through these documents"



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We also wanted to introduce the communities functionality, which allows end-users to personalise content by specifying their topics or communities of interest. A PRA supervisor is typically interested in results relating to firms he/she looks after, so communities was a good candidate for this."

Peter Brejza, Squirro Solution Engineer

# Challenges involved

## Covid-19 and the security requirements of Bank of England

Squirro was appointed in March, just as the pandemic hit the UK. "We had an unusual situation with Covid, in that the team were geographically all around the UK," says Packard. "At the start, most people were also looking after children, so hours were fundamentally different as well. And the team had never met - I recruited a number of people whom, to this day, I've never met in person."

The Bank of England, by Packard's own admission, is a challenging place in which to innovate. "We awarded the contract in March, and the first thing we had to do was understand the design and run through a number of architecture steps to ensure that our infrastructure was credible and agreeable. We are the Bank of England, so we have to have a very stable, secure environment, and it took us a couple of months to understand how this design would relate to that."

# The results

## A project that ran through brick walls

In spite of Covid and the challenges of a highly regulated environment, the Squirro solution was up and running within nine months of the contract being awarded. "Delivering a FinTech application like this into the Bank of England is setting a new precedent. To create something on this scale in nine months, from commercially awarding it to going live, is massive for the Bank of England - a big, big thing," says Packard.

"It was a very aggressive timeline," she adds. "I would describe it as a project that runs through brick walls. It was a stretch technically, and we were trying to deploy something that is very new, very different, very exciting, but also new to colleagues that didn't previously have any exposure to this sort of thing."

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We're still seeing continued high usage, and the overwhelming feedback from users is that it's intuitive, they can very easily find things, (…) Normally when you deploy new systems you are desperately going round the teams and badgering them to try it. Here, they are badgering us. Our waiting list for demos is huge."

Helen Packard, Digital Transformation Lead in the Bank of England

Packard says the efficiencies are already being felt, but they will blossom further with time. "We didn't have a search engine before, and now we have one," she says. "But as I keep telling people, it is not just a search engine - it is so much more. And I think people are getting that."

# Objectives
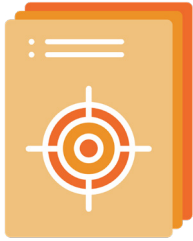
- To create a successful cognitive search project that allowed supervisors from the Bank of England's Prudential Regulation Authority (PRA) division to easily search through documents and emails from their file systems.

- The dashboards needed to be intuitive and easy to use, as the project was designed to serve around 1,500 supervisors.

- Squirro features such as communities, PDF table extraction and machine learning workflows were also to be implemented, allowing supervisors to significantly reduce search time and glean greater insights from their documents.

# Deliverables

- To build a custom data-loader plug-in that could index documents from the Bank of England's file navigation system.

- To deliver intuitive dashboards that allow supervisors to save searches and documents and extract tables from PDF.

- Use machine-learning term extraction workflows and communities features to enrich the search experience.
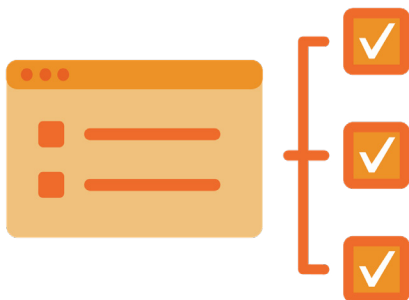
# Key Outcomes

**INCREASED EFFICIENCY**
**AND EFFECTIVENESS**

**GREAT FEEDBACK**
**FROM USERS**

**HUGE POTENTIAL OF**
**THE INSIGHTS ENGINE**

Learn more about the key outcomes on the on-demand webinar:
Digital Transformation for Financial Services : Cognitive Search.

**ABOUT SQUIRRO**

Businesses capitalize on new opportunities, improve client relations, and optimize decision-making capabilities using Squirro's vertical-specific Augmented Intelligence solutions, which combine human intelligence with powerful AI. An Insights Engine at its core, Squirro delivers contextualized insights from your most relevant data sources and displays them directly, via workbench integrations, or through self-service applications.

Squirro works with global organizations, primarily in the Financial Services, Insurance, Telecommunications, and Manufacturing industries. Customers include Bank of England, Standard Chartered, ING, Brookson, and Ninety-One. Founded in 2012, Squirro is currently present in Zürich, London, Munich, New York, and Singapore. Further information about AI-driven business insights can be found at squirro.com  or contact us contact@squirro.com

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