

# Imagine the future of financial services

Over four decades, SmartStream has built up a reputation as a technological innovator able to create ground-breaking solutions for the financial services sector. In the past four years, those efforts have not only ramped up, but have been geared more than ever towards customers' specific pain points. Jim Banks explores what innovation means to the company.

Throughout its history, SmartStream has sought to pursue the opportunities that technology opens up for the banking sector. Initially, this took the form of ground-breaking reconciliations solutions – but, over the years, its product portfolio has constantly expanded to help banks revolutionise their back and middle-office functions.

Whether it is a solution for any control point in the transaction life cycle, with AI and ML technologies embedded or a cloud or managed services deployment, SmartStream has focused its attention on the capabilities of the latest technologies and, since Haytham Kaddoura took over as CEO, has brought those efforts to bear on the its clients' needs, rather than pursuing technology for its own sake.

Driven by the idea of embedding AI and ML into its solutions – always with a clear idea of how those technologies will benefit its clients – the company is helping banks to completely overhaul key processes, including reconciliations, by understanding their data needs, business objectives and pain points.

“As the industry grows, new things feed through from our Innovation Lab into managed services and other solutions going forward,” says Kaddoura. “We are always looking for synergies between our solutions – such as our recent move to link our reference data utility to our reconciliation solutions – because we understand that data is the new gold and it must be solid, clean and reliable.”

“The pace of data growth means that getting data wrong is increasingly costly,” he adds.

## Build a home for innovation

The Innovation Lab that Kaddoura refers to is SmartStream's purpose-built home for innovation, experimentation and investigation of new technologies that could take its solutions to the next level. Opened in Vienna in 2018, as one of Kaddoura's early moves to breathe new life into the company, it is focused on short-term upgrades to existing solutions, the

exploration of AI and ML as powerful enablers and also blue-sky thinking about the trends that will shape the financial technology space in the long term.

The Lab is headed up by chief innovation officer Andreas Burner, a long-standing member of the SmartStream team who joined the company in 1997, and has more than 20 years' experience in building financial service solutions for leading international banks. In just a short time, the Lab has played a key role in developing ground-breaking solutions that put AI into core back-office functions.

A prime example is SmartStream AIR, an AI-enabled reconciliations solution that is capable of matching any set of structured or unstructured data in seconds rather than weeks or months. The solution autonomously builds and learns matching behaviour, and the company's customers have been so impressed with the results that, in just two years, the solution has become one of the business's core engines.

Hot on the heels of AIR came Affinity, a cloud-based observational learning tool for data management and discovery, which monitors how individual users work, learns from their behaviour and increases its understanding of how to design the ideal workflow to suit each specific user. Once users have built trust in its capability and once the solution has sufficient data on preferred ways of working, many elements of workflow can be fully automated.

“Since Affinity was launched, we have seen big banks getting interested in it,” says Burner. “We showed that it is working and more banks are on board with it. That is challenging because every bank has different data, different workflow and we need to prove to them that it works effectively.

“At the moment, we are doing a lot of proof-of-concept projects,” he adds. “We have seen that Affinity can improve performance by 20–25% or more. It is a challenge time-wise for a small innovation team, but big banks are knocking on our door. So, it is a nice problem to have.”

## Levelling up

The Innovations Lab is always working on the next big idea, which might be a completely new solution – as was the case with AIR and Affinity – enhancing the capability of an existing solution. Or it could be delivering services in a way that is more flexible and cost-efficient for its financial services clients.

“Affinity requires quite strong computers to run, so we are bringing it to an architecture where it can run on many low-cost computers,” Burner explains. “That is a real innovation, as big banks like to purchase lots of low-cost hardware. So, we are implementing clustering, which means the solution can work either on a large number of small computers or one big computer.”

Clusters are groups of interconnected computers (or hosts) that work together to support applications and middleware. Each computer is a node in the cluster, and – unlike grid computers, where each node performs a different task – nodes in a cluster work together on the same task.

As well as taking Affinity to the next level, the Lab is also levelling up AIR.

“With AIR, we are now implementing an exceptions management workflow,” Burner explains. “We are starting to look deeply at how to improve and automate exceptions management with machine learning technology. It is usually a very human-centric activity, so there is a lot of potential for automation, which is a big topic now.

“With ML and AI, the problems we thought were impossible to solve a few years ago, mainly because they are based on such large volumes of data, we can address because we are now able to process those big data scenarios,” he says. “So, the problems don’t seem so big anymore.”

Exceptions management in AIR is a truly revolutionary new step. “It is a completely new offering and, by the end of the year, it will allow clients to configure very intelligent workflows that are highly customised in an easy way through a simple user interface that feels like a smartphone app,” Burner explains. “That will be a big change.

“Exceptions management is a complex process, so this is a real game changer” he adds. “It uses natural language processing to define workflows and to define what an exception is. That kind of functionality is completely new. We worked together with two very large customers to ensure it is what they need.”

For managers of different business lines in SmartStream, the Innovation Lab has been a powerful driving force. For instance, Roland Brandli, strategic product manager for digital payments suite TLM Aurora, says the changes in capability driven by the company’s targeted strategy of innovation have been enormous.

“There have been huge changes,” Brandli explains. “At the beginning of the year, we released our new Universal Data Control module, which is a major stepping stone, and we will have another new module coming in January. We are leaving databases behind us because in a database, the data is passive. It just sits there. You query it and do something with it, then put it back.”

TLM Aurora Universal Data Control matches any reconciliations data using a unique combination of AI, ML and cloud technology. Developed in response to client demand, it represents a sophisticated synthesis of SmartStream’s most advanced technological capabilities. Using innovative event-streaming technology, it frees users from the limitations of a database-focused approach.

“We are looking at a platform where the data is active,” Brandli adds. “The data moves things according to the status it receives. So, we can deploy a microservice architecture that allows proper real-time services. Our technology is built for the cloud. It is using the concept that Netflix and Facebook use: highly scalable, built for billions of transactions in real time.”

The impact of the Innovation Lab is also felt keenly by Nick Smith, who is executive vice-president of the company’s fastest-growing business line – managed services.

“Roland has one of my favourite products because of how they are upgrading the fundamental solution and eliminating the need to buy a server to handle the volume,” he says. “Instead, there is serverless computing, so you can scale up and down as you need and only pay for what you need. That containerisation makes it easier to maintain the system as it is broken up into little compartments.

“I am very excited because I can use more cost-effective solutions that don’t necessarily have the same power as Oracle,” Smith says. “In reconciliations, we have introduced AI into the solution and the speed of onboarding has gone up dramatically. Moving to cloud or cloud-native technology, if we ever sit still and cash cow products, people will take our business away, which is why Haytham is continuing to invest in the products to prove that we are a big player in the innovation space.”

The banking industry is constantly undergoing the processes of evolution and revolution, driven by regulation, technological advances, changing customer expectations and the impact of new and more agile competitors into the financial services market. It is only through constant innovation that large banks will be able to become more agile, more efficient and more competitive. That is why SmartStream has embedded the process of innovation in the heart of its business strategy. ●