

# SmartStream's Endeavors Not Going Unnoticed



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## SmartStream's Endeavors Not Going Unnoticed

A year or two seems like a long time in the financial services industry, and even longer when it comes to the technology supporting it. The past two years, in the wake of the Covid-19 pandemic, are a case in point: so much has changed across the industry, not least firms' working practices, their operational and technology needs, and third-party providers' abilities to develop new technologies and services to address those needs. While managed services and AI technologies have been on firms' radars for a while now—certainly long before the start of the pandemic—both are now center stage, working hand in glove to deliver sophisticated functionality 'as a service'. Both are areas in which SmartStream excels, and where the firm has focused much of its development attention for a number of years now, especially on the AI front with the creation of its Innovation Lab in Vienna in 2017. The efficacy and extensiveness of SmartStream's managed services strategy are clearly articulated in the two whitepapers contained in this report: *Managed Services in 2021—Poised for Lift-Off* and *SmartStream RDU—More Pertinent Now than Ever*. This research illustrates its versatility across an increasingly prominent realm.

All the research conducted by *WatersTechnology* over the past two

years has shown unequivocally that capital markets firms are now, more than ever, looking to consume mission-critical technology and services as part of a managed service offering, while those that already have mature strategies in place are looking to build on those initiatives while simultaneously seeking to rationalize the number of relationships they have. In essence, they're looking for fewer but deeper relationships with specialist providers such as SmartStream.

A quick glance through this report shows that SmartStream's endeavors haven't gone unnoticed. It won the best AI technology and best sell-side middle-office platform categories in the 2021 Sell-Side Technology Awards, while in *WatersTechnology's* Data Awards, it walked away with the best reference data initiative and best reference data integration vendor categories. It also picked up two reconciliation awards last year in the Waters Rankings and Buy-Side Technology Awards. And, not to be outdone by her firm's products and services, Linda Coffman, executive vice president and head of SmartStream's RDU, was awarded the trailblazer (lifetime achievement) award at the 2021 Women in Technology and Data Awards. Not bad for a year's work. [Wt](#)

## Survey Report

# Managed Services in 2021 Poised for Lift-Off

February 2021

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## Key Findings

- Outsourcing is prevalent across the financial services industry, with IT services and back-office functions the most commonly outsourced activities.
- While cost reduction and efficiencies rank highest as reasons for outsourcing, firms are also looking to refocus on their own core functions and sources of competitive differentiation, seeking the expertise and technology advantages offered by outsourcing partners/providers.
- The managed services market will continue to grow, driven by expansion into additional business functions and more capital markets firms looking to outsource business functions for the first time.
- The nature of engagement with managed services providers will change—44% of firms will look to rationalize the number of outsourcing relationships they have, while formalized outsourcing frameworks will become increasingly important as a driver of outsourcing decisions. More than 70% of firms will soon be operating with some form of outsourcing framework.
- Successful managed services firms will need to boast strong reputations and proven delivery excellence/resilience.
- Cloud will become integral to managed services business models; capital markets firms will be largely agnostic to which cloud providers they use.
- While the tangible benefits of artificial intelligence and machine learning have yet to be fully proven, 22% of survey respondents believe they have the potential to dramatically reduce outsourcing costs and complexity.

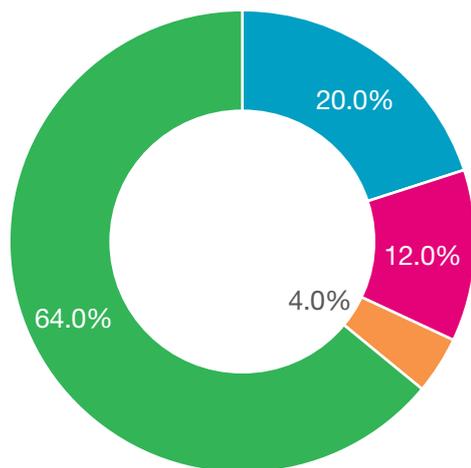
Note, some figures within the graphs may not total 100% due to rounding.

## Introduction

The outsourcing of mission-critical business processes, together with non-competitive and often labor-intensive activities, has been an important feature of the capital markets for at least the last three decades. But now significant change is afoot, spurred on by market conditions that have continued to reshape the industry since the global financial crisis that began in 2007–08, by new technologies that are radically changing the outsourcing landscape and by the growing maturity of solutions offered by specialist providers. Additionally, the Covid-19 pandemic and work-from-home rules for large portions of the international workforce have acted as catalysts for change, driving increased growth in the adoption of cloud-based solutions in particular. All of these factors have combined to create an ideal scenario for the widespread adoption of managed services offerings, with capital markets firms on one hand maintaining their focus on managing their fixed operating costs and, on the other, seeking to manage large parts of the business as accurately, transparently and efficiently as possible. All of this means that the managed services market is now poised for lift-off, with firms increasingly seeking strategic responses to operational challenges.

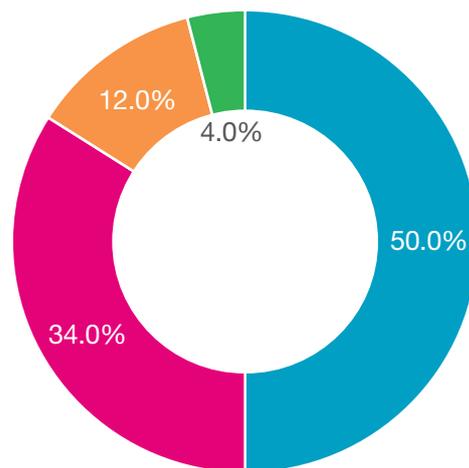
*WatersTechnology* and *SmartStream Technologies* recently conducted an online survey to shed greater light on current and future outsourcing trends that are likely to shape the capital markets. Respondents were drawn from a broad spread of industry participants, including investment banks, traditional asset managers, broker-dealers, market-makers and hedge funds, with a geographical weighting towards North America (50%) and UK/EMEA (34%) (see questions 1 and 2).

**1 What type of organization do you represent?**



- Investment bank
- Traditional asset manager
- Clearing house/custodian
- Other (broker-dealers, market-makers, hedge funds)

**2 Where is your organization based?**



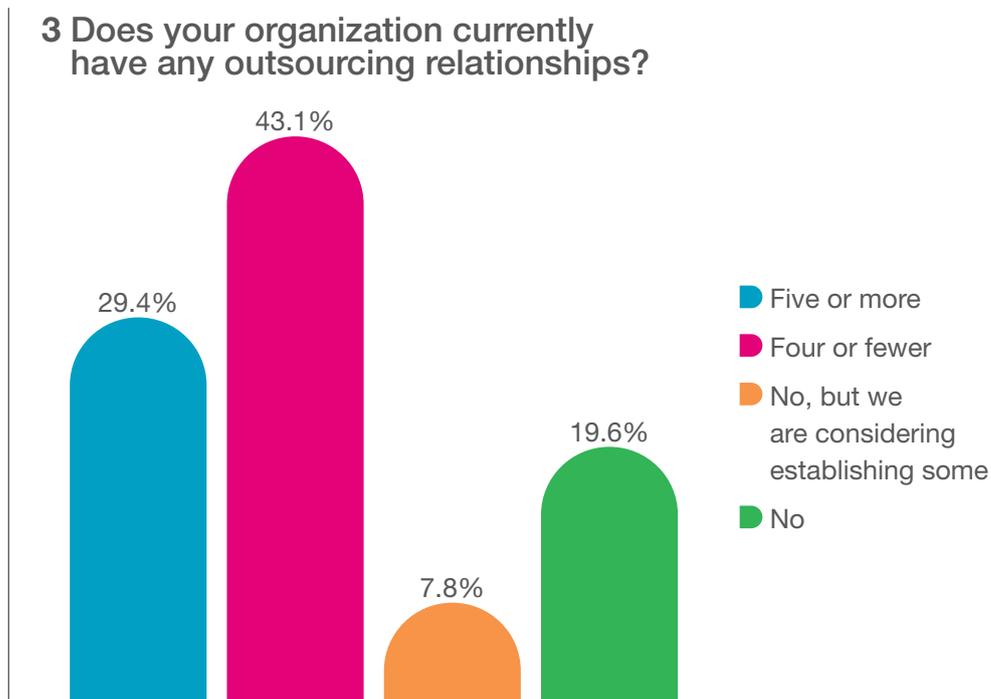
- North America
- UK/EMEA
- Asia-Pacific
- Other

## We've Got Your Back (Office)

With almost three-quarters (72.5%) of respondents outsourcing in some form, this survey underlines the prevalence and entrenchment of outsourcing across the capital markets (see question 3). Since the global financial crisis, the irresistible pull of cost efficiencies in a market that has been under the ever-tightening grip of reduced profitability and growing regulatory burdens means that many institutions have outsourced various elements of their business. It is a trend that has ebbed and flowed, with differences in adoption across geographies, asset classes and business functions as capital markets firms and outsourcing providers have explored the business functions and technologies that can be better served by third parties (and learned lessons from past mistakes).

Today, capital markets firms continue to face a raft of external and internal pressures. Changing customer demand and an unpredictable and a volatile economic environment are adding to burgeoning regulatory requirements, further straining profit margins. All financial services firms are therefore honing in on a number of levers to improve cost and operational efficiencies, including a variety of technologies and internal automation.

The challenges of the Covid-19 pandemic have acted as a further catalyst for change since its emergence during the first quarter of 2020, fast-tracking capital markets firms' outsourcing strategies as a means of maintaining their various client services, while the benefits of cloud-based solutions—most notably cloud-native applications—have become increasingly evident.



In the market today, IT provision, day-to-day technology support and various back-office functions are the most common areas for capital markets firms to outsource. Over half of survey respondents (54.0%) currently outsource aspects of their IT provision and tech support functions, while 44.0% outsource back-office functions such as reconciliations, collateral management, clearing and settlement, and accounting (see question 4). This reflects the more commoditized and less differentiating nature of these activities, the corresponding comfort that the industry feels with outsourcing these business processes, as well as the relative maturity of back-office business process outsourcing offerings. In comparison, the outsourcing of front- and middle-office functions has traditionally been more limited. Just over one-fifth of respondents (22.0%) outsource middle-office activities such as risk management, performance and regulatory reporting, while front-office processes are the least likely to be outsourced, with only 16.0% of respondents currently using specialist third parties for aspects of their front-office business. “These results reinforce the feedback we have from our regular customer and market engagement,” explains Simon Byles, global head of business development for managed services at SmartStream. “They reflect a growing recognition of the role that managed services can and needs to play if key participants across the global financial services industry are going to be able to meet their business objectives.”

## Firms to Focus on “Secret Sauce”

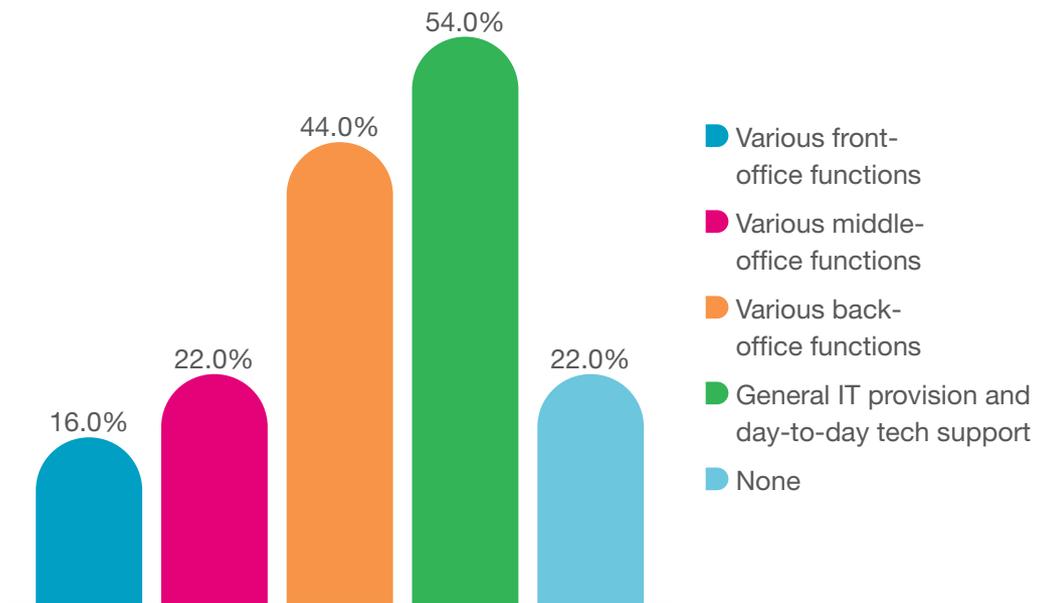
The rationale for outsourcing is increasingly compelling, and is leading to significant growth in the managed services market. In the highly competitive capital markets sector, achieving and maintaining the highest standards of delivery across all areas of the business requires continuous investment and expertise. It is hard to justify building and maintaining activities in-house that are not central to the core business purpose of an organization and consequently do not provide a competitive advantage, particularly when they can be done better and cheaper by specialist third-party providers.

Managed services play a vital role within firms looking to strategically optimize (and improve) their existing operations. Demonstrable improvements can be achieved, especially when harnessing the experience, best practice service delivery and best-in-class technology platforms offered by external providers. “Leveraging the technology, services and comprehensive expertise of domain-dedicated managed services providers is increasingly becoming the preferred solution for many organizations,” Byles notes. “Capital markets firms are looking for the quickest, most efficient route to operational excellence—they need to focus on their core business purpose, their client services and client engagement. Investment banks, brokers and asset managers are therefore increasingly looking to buy immediately deployable, value-added solutions and mature services, rather than trying to build, manage and invest in those themselves. This approach, when working with the right partner, affords them confidence in delivery and through this the realizable cost, efficiency and scalability business outcomes.”

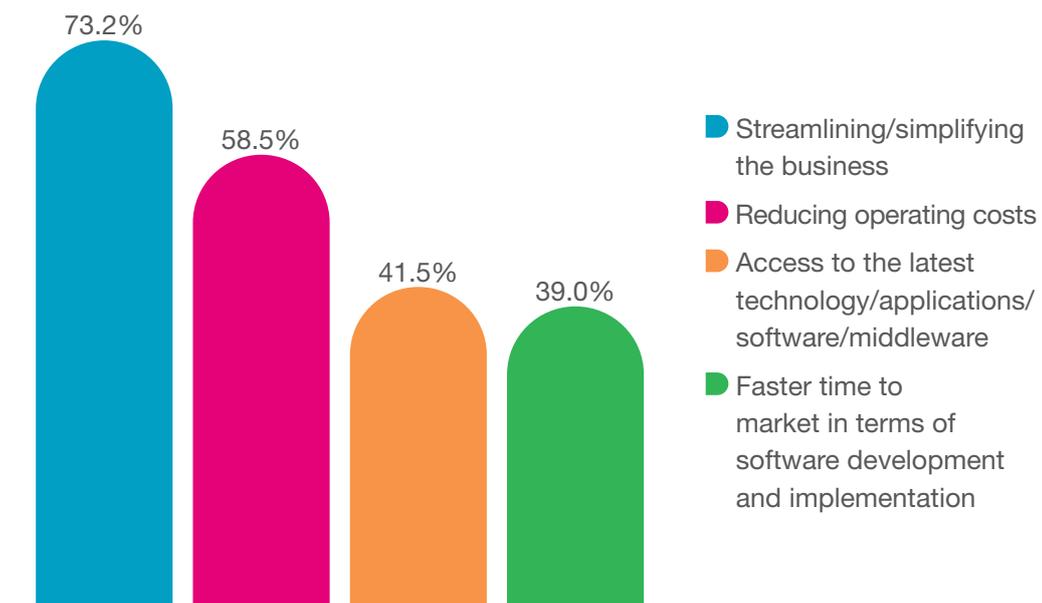
The findings of this survey support this view. A majority of financial institutions covered in the survey (73.2%) report that they are outsourcing various aspects of their day-to-day technology and operations in order to streamline and simplify their business, allowing them to focus on their core functions (see question 5).

It will come as no surprise that cost reduction and efficiency efforts also ranked highly among survey respondents as their reasons for outsourcing, with 58.5% seeking to reduce their operating costs. However, this survey clearly underlines that cost is not the only driver; companies are seeking the expertise of outsourced service providers in areas such as access to the latest technology and software (41.5%) and faster speed to market in terms of software development and implementation (39.0%).

#### 4 Which areas of your business are currently outsourced?



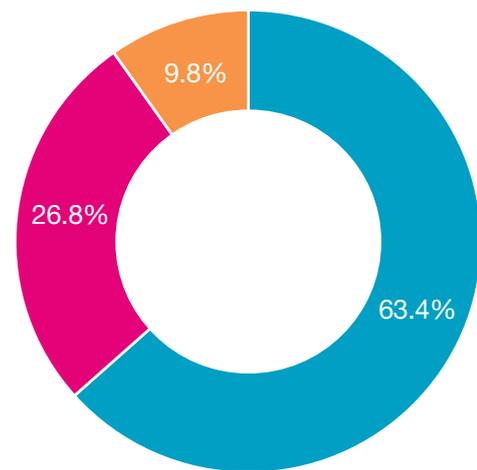
#### 5 What are the key benefit(s) to outsourcing parts of your business?



## Front- and Middle-Office Expansion

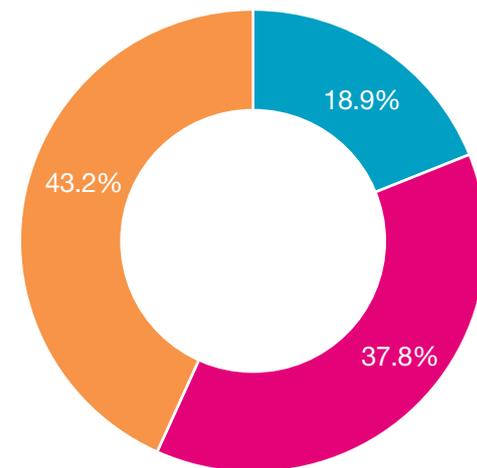
With the strength of this rationale in mind, growth in the managed services market is set to continue, as capital markets firms expand outsourcing arrangements into other areas of their businesses. The responses to question 6 reveal that 63.4% of respondents are looking to outsource additional functions they believe can be handled better and more efficiently by specialist third-party providers. Byles notes that, while the back-office and IT managed services markets are more mature and continue to lead the way, other functions within the middle and front offices are also growing relatively quickly year-on-year. Within the middle office, for example, as the market develops and confidence grows, outsourcing is gradually maturing. New services and innovations from providers are allowing capital markets firms to collectively obtain economies of scale. Regulatory compliance provides a clear example: over half (56.7%) of firms are currently looking to outsourcing providers to help them stay abreast of regulatory mandates—18.9% extensively and 37.8% on a case-by-case basis (see question 7). There is undoubtedly room for growth, but the direction of travel is clear. In the front office however, outsourcing remains more modest. Research and analytics processes are perhaps the most common areas that capital markets firms are looking to outsource, with growing examples of buy-side firms outsourcing their execution functions and, in some cases, their entire trading desks. Byles believes that the growing maturity and success of managed services arrangements in the back office mean that other opportunities to leverage the services of third parties within and across further key activities are naturally considered. “In future, we expect to see a further evolution of the managed services market across all domains,” he says. “There will be even greater adoption of managed services across the back office, with this space perhaps becoming very much led by proven service providers. The middle office will move closer to where the back office is today and, finally, the front office will continue to further leverage the value of managed services.”

**6 Is your organization looking to outsource additional functions?**



- Yes
- No
- No—and this is unlikely to change in the short term

**7 To what extent does outsourcing help with regulatory mandates?**



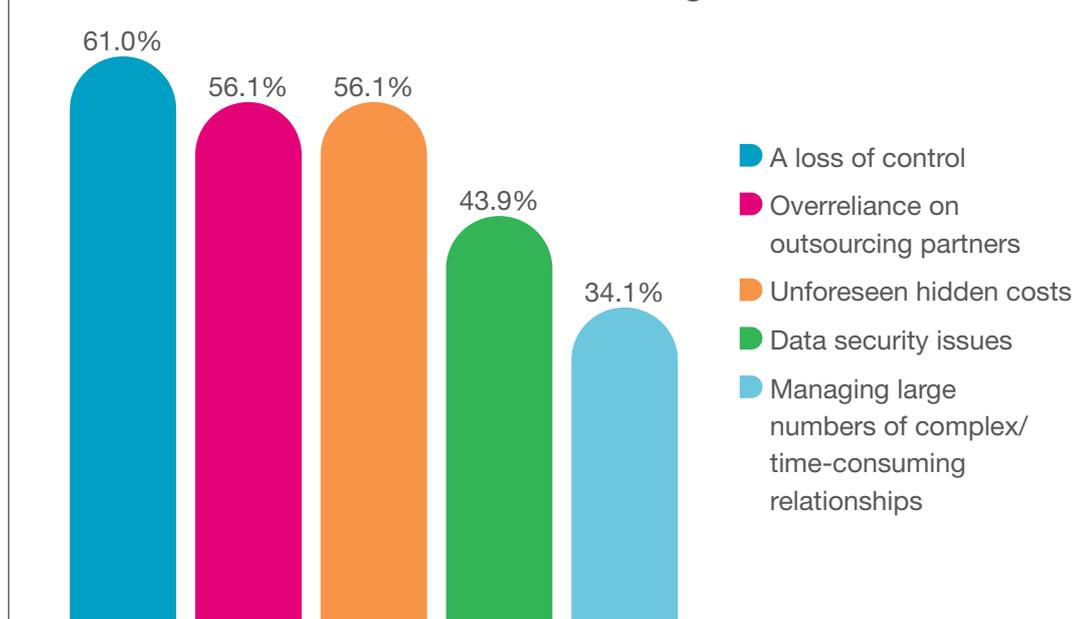
- We look for extensive external help
- We look for external help on a case-by-case basis
- We manage all regulatory compliance functions in-house

## Strong Reputations and Delivery Excellence

There are still hurdles to overcome. Managed service providers need to counter the perceived drawbacks to outsourcing, which—according to the responses to question 8, which asked participants to select all the options that applied to them—include concerns about the loss of control (61.0%), overreliance on outsourcing providers (56.1%) and unforeseen hidden costs (56.1%). Data security also remains a vital consideration for market participants, playing a key role in their decision-making. Interestingly, question 8 also revealed that just over one-third of firms (34.1%) see managing large numbers of complex and time-consuming outsourcing relationships as a key drawback. This is likely to be a challenge for the 29.4% of firms that indicated in question 3 that they currently have more than five outsourced relationships.

While outsourcing will continue to grow, there are signs that there is a limit to the number of outsourcing relationships firms are willing to maintain on an ongoing basis. Question 9 deals with this issue, illustrating that the majority of respondents (43.9%) are actively seeking to rationalize the number of outsourcing relationships they have, for efficiency and ease of management. It is clear that capital markets firms have a balancing act on their hands, juggling the challenges of managing often complex and time-consuming outsourcing relationships with the obvious financial and operational benefits and their fears about overreliance on a small number of critical providers. “Overreliance on just a handful of key providers is a big concern for all capital markets firms with outsourcing relationships,” explains Victor Anderson, global content director of *WatersTechnology*. “The more relationships you have, the more time and resources you have to spend on managing them, and firms need to find a happy and sustainable balance between the two. In this context, diseconomies of scale are a real issue. What we are likely to see is firms boiling down their outsourcing arrangements to a handful of key relationships, while similarly managing their concentration risk exposure by having too few providers. More than five large relationships might be too cumbersome, but fewer than three might be too risky.”

### 8 What are the drawbacks of outsourcing?

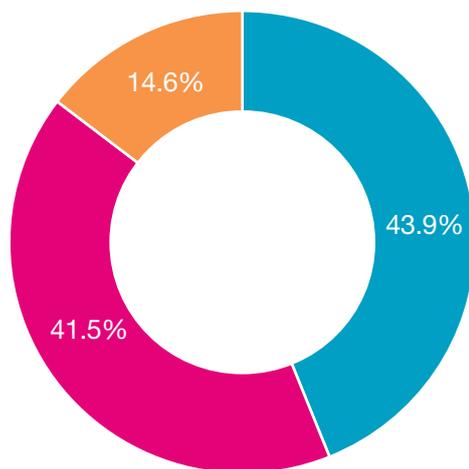


## Formalized Outsourcing Frameworks

Providing a strong indicator of the maturing nature of managed services engagement, capital markets firms are increasingly developing comprehensive frameworks for their outsourcing decisions. More than half (56.7%) of respondents to the survey currently have formalized frameworks in place that drive their outsourcing strategies, including 45.9% that report their framework determines the outcome of all their outsourcing feasibility studies (see question 10). An additional 16.2% plan to develop a framework at some point in the future—thus over 70% of firms will soon be operating with some form of formalized outsourcing framework, illustrating the importance of systematizing the process by which business functions are handed over to outsourcing partners.

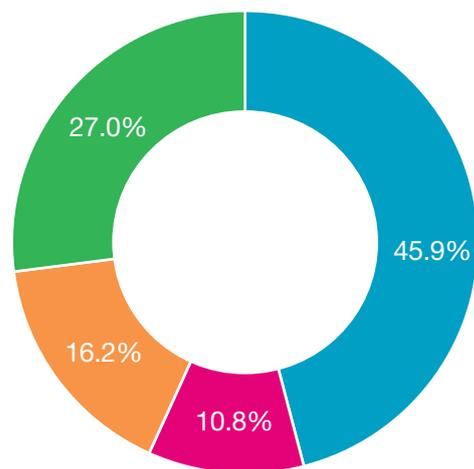
This marks a departure from the past, where organizations were more likely to have explored the potential of managed services on an *ad hoc* basis, sometimes without fully understanding their needs or what appropriate measurements of success might look like. What is clear is that capital markets firms need a well-defined, measurable, transparent and consistent framework driving the decision of what to outsource and what to retain in-house. Byles feels that these results reflect a growing recognition of the importance of managed services across the industry. “Organizations are maturing in their engagement approach and their need for structured and repeatable delivery models and implementations. SmartStream is well positioned and has proven experience in responding to any customer, no matter where they currently are in this regard,” he says.

**9 Is your firm looking to rationalize its number of outsourcing relationships?**



- Yes
- No—we are happy with our current arrangement
- No—we have none

**10 Does your firm have a formalized outsourcing strategy framework?**

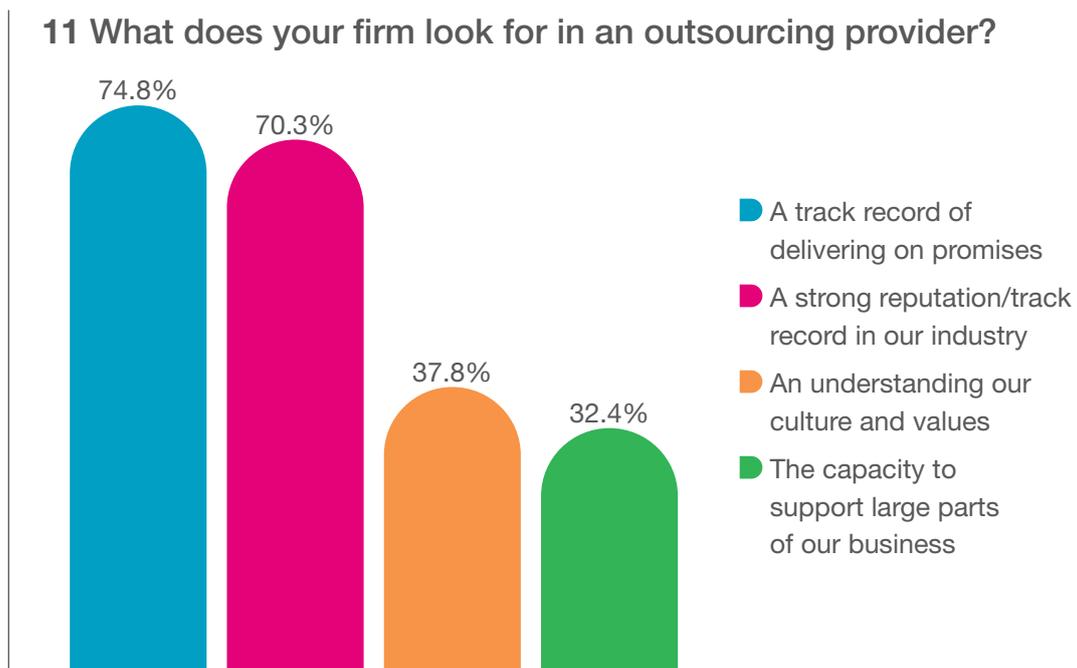


- Yes
- Yes—but we don't follow it closely
- No—but we plan to develop one
- No

## Reputations and Track Records

By far the most important attributes that capital markets firms are looking for from their outsourcing partners/providers are a proven track record of delivering on their promises (74.8%), and a strong reputation in the industry (70.3%), as confirmed in the responses to question 11.

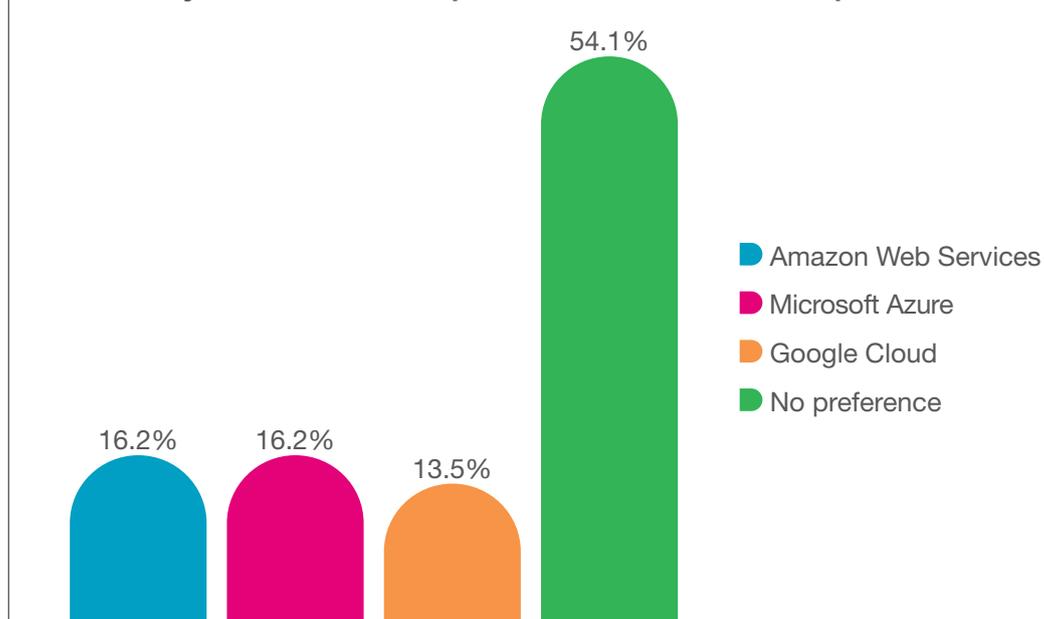
To ensure managed services firms are meeting their commitments to clients, it is vital that both parties understand requirements and expectations through clearly worded and transparent service-level agreements (SLAs). Within these agreements, the focus is shifting away from pure costs and tasks, to more strategic, formalized, outcome-based service arrangements designed to deliver operational best practices. “Throughout our customer engagement, there is complete transparency, through clear business outcome-led discussions, leading to comprehensive and robustly governed SLAs,” Byles explains with regard to how SmartStream ensures that it meets its clients’ expectations. “This provides customers with confidence in and appreciation of service quality and its alignment with their immediate business needs and their targeted business outcomes. The communication and reporting that supports this formalized approach ensures our customers have transparency, measurement and trust in our service delivery and timely engagement throughout. Trusted by the industry and regulators, our solutions have achieved PCI-DSS certification and System and Organization Controls 1, 2 and 3, ISO 27001 and ISO 27002 standards. Given SmartStream’s offerings across the key back-office areas of reconciliations, cash and liquidity management, collateral management, corporate actions [processing], fees and expense management, and reference data, we are able to provide our customers with robust services across these key activities, while ensuring their vendor management is targeted and refined.”



## Cloud Will Become Integral

Dramatically accelerated by the operational challenges posed by the Covid-19 pandemic, adoption of cloud-based managed services solutions will continue to increase. Data and security concerns continue to recede, and firms can now see the undeniable scalability, elasticity and cost benefits that the cloud offers, particularly when delivered by trusted providers. The survey reveals that most capital markets firms (54.1%) are cloud provider-agnostic, with the remainder showing a fairly even split in terms of preference for the main cloud providers (see question 12). “Cloud-based solutions are understandably now widely accepted, especially in the managed services space,” says Byles. “The industry is clearly open-minded to the choice of cloud provider, and individual organizations will often be led by their own internal strategy or through the expertise and experience of the managed service vendor. In a relatively short time, if they haven’t already, cloud-based solutions will have become integral to the overall business model within the enterprise architecture and technology stack. SmartStream’s accredited expertise in cloud-based service solutions ensures that its customers are well positioned to immediately fully leverage the considerable business benefits.”

### 12 Does your firm have a preference for its cloud provider?



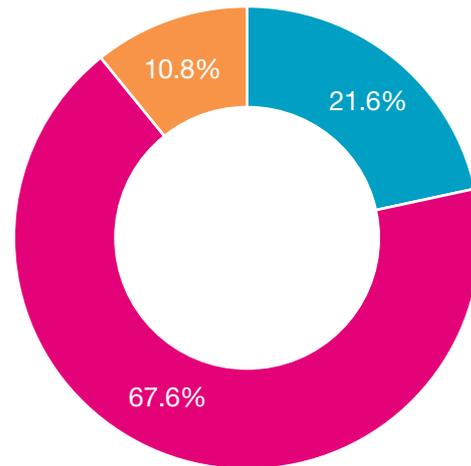
## AI's Undoubted Potential

Artificial intelligence (AI) will undoubtedly impact the future of managed services. The responses to the final question of the survey (question 13) show that, although most capital markets firms (67.6%) say it is too early to predict the extent to which AI will impact outsourcing practices, 21.6% believe it has the potential to dramatically reduce outsourcing costs and complexity. The tangible business benefits offered by AI and machine learning have yet to be fully proven for appreciable numbers of capital markets firms, although the continual internal pressure for strategic automation and technology to replace fixed operating costs and the ongoing challenges posed by manual processes mean that AI and machine learning hold the potential to unlock significant benefits.

“The survey results reflect the current general market sentiment on the impact and direct leverage of AI and machine learning for most organizations,” Byles explains. “However, at SmartStream, we have been investing in this area for some time through our Innovation Lab, where our team of data scientists and mathematicians have developed a solution called SmartStream Air. Within the past year, they have launched version 2 and this technology is now being integrated into all of our solutions so that our customers can realize a material increase in operational efficiencies and control. This latest AI solution is called Affinity. It uses observational learning to identify user-action patterns across significant datasets. Affinity understands the actions taken and replicates them where accurate, offering transparency and business insight, and ultimately realizing cost efficiencies and accuracy benefit gains. All of these advances are being deployed within our managed services, ensuring that our customers see immediate and material business value via this latest technology.”

Byles believes that, over the next few years, AI and machine learning will become a mature element of managed services offerings. “As a managed services provider, AI and machine learning offerings will be vital. Customers will and do demand that we are at the forefront of investing in and providing these solutions. We can expect that a much clearer recognition of the value that AI and machine learning bring to the managed services marketplace—and how mission-critical they are for scalability—will emerge,” he concludes.

### 13 To what extent does AI hold the key to reducing the numbers of support personnel, ultimately reducing costs?



- AI has the potential to dramatically reduce outsourcing costs/complexity
- It's too early to predict AI's impact on outsourcing practices
- AI is unlikely to have a material bearing on outsourcing practices

## Conclusion

The managed services market is set for continued growth and evolution over the next few years as capital markets firms increasingly outsource those processes and functions that are not core to their *raison d'être* and where there is no possibility of competitive differentiation. Capital markets firms will look to leverage the new technologies and comprehensive expertise of proven managed services firms that are able to help them keep up with the rapid pace of change, particularly given the importance of resiliency, responsiveness and scalability in today's market.

Services will evolve further into the front and middle offices, while back-office managed services will continue on its path to becoming the preferred choice for capital markets firms.

Engagement with managed service providers will also evolve. More formalized processes and SLAs will govern a rationalized portfolio of outsourcing providers that are able to deliver on operational excellence and business outcomes, rather than just cost.

## About SmartStream

SmartStream is a recognized leader in financial transaction management solutions that enable firms to improve operational control, reduce costs, build new revenue streams, mitigate risk and comply accurately with regulation.

By helping its customers through their transformative digital strategies, SmartStream provides a range of solutions for the transaction lifecycle with AI and machine learning technologies embedded—which can be deployed in the cloud or as managed services.

As a result, more than 2,000 clients—including 70 of the world's top 100 banks, rely on SmartStream Transaction Lifecycle Management (TLM<sup>®</sup>) solutions to deliver greater efficiency to their operations.



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www.smartstream.com

Whitepaper

# SmartStream RDU – More Pertinent Now than Ever

April 2021

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## Executive Summary

One of the many consequences of the ongoing Covid-19 pandemic is that it has brought to the fore a number of business and operational imperatives for capital markets firms, not least of which is the need to go back to basics and focus on their *raison d'être*. After all, as much as buy-side and sell-side firms might argue that they are technology and data businesses, their core functions remain the provision of financial services to their clientele and not managing complex, expensive and often laborious data management functions—especially when there are specialist providers that can oversee those tasks better, more cost-effectively and more efficiently than they can.

The benefits of the data utility proposition are clear: operational efficiency, cost reduction, shortened time to market, significantly improved data quality, reduced operational risks and access to a support team of subject matter experts with an intimate understanding of clients' challenges based on first-hand experience addressing those same issues while working on the buy side and sell side. These benefits were factored into the collective thinking of Morgan Stanley, Goldman Sachs and a third tier-one bank when the three institutions entered into a joint venture with SmartStream in 2009 that led to the establishment of the Reference Data Utility (RDU) as a means of improving the quality of their listed derivatives data. This whitepaper outlines the history of the RDU, charts its development, scrutinizes its underlying technology and articulates the business benefits that users can reasonably expect on the back of subscribing to it.

## The Business Case for Deploying the Reference Data Utility (RDU)

- **It improves the quality of security master data**—One of the primary reasons for the establishment of the RDU was to improve the quality of the three tier-one banks' listed derivatives data. That support has now been extended to equities and fixed income instruments.
- **It reduces operational risks and overheads**—One of the primary challenges facing all capital markets firms when managing their security master data is sourcing, ingesting and normalizing large volumes of data (invariably in multiple formats) from disparate sources, which, if poorly managed, carry significant operational risks and overheads. The RDU as a managed service takes care of all that.

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- **It improves data accuracy, reliability and lineage**—Not only does the RDU source data from a wide variety of originators and vendors, but it also validates, corrects and manually enhances that data by way of a rules-based data quality program.
- **It reduces head count and costs**—Firms must maintain significant technology, operational and people costs if they opt to manage their security master data sourcing and management functions in-house. The RDU rationalizes those functions and costs, streamlines what can be a complex process, and allows user-firms to deploy staff members in higher-value areas of the business.
- **Data sourcing and management is not capital markets firms' core business**—It is becoming more and more difficult for capital markets firms to justify spending significant sums of money and allocating resources to functions that are not core to their business. Managing security master data is a good example of that—especially given that the RDU offers a more cost-effective and higher-quality means of managing that data than if firms continue to do it themselves.
- **It provides capital markets firms with access to subject matter experts (SMEs)**—The people behind the RDU are SMEs with an intimate understanding of the markets they serve, given that the majority of them worked at capital markets firms themselves. It also benefits clients by way of the community effect, allowing them to profit from the experiences of the RDU's entire clientele.
- **It improves regulatory compliance, understanding and transparency**—The RDU is a single source of security master and regulatory data, designed to help capital markets firms fully understand their obligations and streamline their regulatory reporting functions. Clients have access to SmartStream's SMEs, which can be especially transformative for them on the regulatory reporting front when it comes to understanding the minutiae of the various regulations, and the technology and operational implications of complying with them.
- **It reduces complexity and large numbers of relationships**—Essentially, the RDU reduces upwards of 30 individual data sourcing relationships (when it comes to fixed income) down to just one. In this respect, the one-to-many or "community" effect is an attractive option for capital markets firms.
- **It improves time to market**—The RDU significantly reduces the time it takes for capital markets firms to establish new datafeeds compared with the traditional model where they are forced to manage the vetting process themselves.
- **It keeps regulators and capital markets firms' shareholders and end-investors happy**—All three constituents take comfort from the management of their critical day-to-day operations by an impartial and independent data integration and operations specialist.

## Founding

The establishment of the SmartStream Reference Data Utility (RDU) can be traced back to 2015, when SmartStream entered into a joint venture with three of the industry's largest investment banks, including Morgan Stanley and Goldman Sachs, although it already had an existing outsourcing/managed service relationship with Morgan Stanley that predated the RDU initiative by a number of years. At the time, the three banks were spending a significant amount of time and effort managing their security master reference data and were duplicating a lot of effort. There was no real value in all three of them ostensibly managing the same tasks independently, and so they put out a request for proposal for the creation of a utility that would manage those tasks for them. SmartStream won the contract to build what is now the RDU. In 2019, it acquired the banks' shares and now the RDU is a wholly owned subsidiary of SmartStream.



Linda Coffman

The concept of the RDU was driven by the banks' desire to control their reference data costs and to produce a cleaner set of available data. "Our founding banks discovered that they were devoting a large amount of time and resources to managing their security master, yet they still were not getting the level of quality they wanted," explains Linda Coffman, executive vice-president and head of the SmartStream RDU. "So, by creating a utility, not only did they drive down the cost—they were able to spread that cost collectively among them—but they were also able to drive up their data quality, which was a win-win. And so, on that premise, I think the RDU has succeeded in delivering a more cost-effective and higher-quality set of security and regulatory data for the industry."

## Ongoing Headache

Traditionally, many capital markets practitioners have assumed that reference data is static and simple to source, consume and manage, relative to market data. And, while the industry has focused its technology and operational efforts primarily around market data, it wasn't until fairly recently that the spotlight fell on reference data, driven by the realization that, unless it is managed accurately and efficiently, it can turn out to be an ongoing headache for any capital markets firms.

“As the industry started to shift to electronic trading and a more digitized environment, it became evident that an incorrect piece of reference data had a negative cascading effect on the business, whether it was a missing product, which meant a trader lost time in the market, or an incorrect settlement date that caused issues in the back office,” Coffman explains. “The bottom line was that, as we became more of a fast-moving, digitized industry, the critical nature of reference data became much more evident. This realization continues as firms embrace machine learning where data drives success, so I think it has been a natural evolution for firms to realize that a reference dataset is not static and is critical to many aspects of their business.”

According to Coffman, a case study carried out in 2018 by SmartStream found that a tier-one bank was able to reduce its exceptions by 85% by using the RDU. “Clearly, data quality is key to what we do,” she says. “We’re a data-driven company, and so clean and accurate data is one of our foundations.”

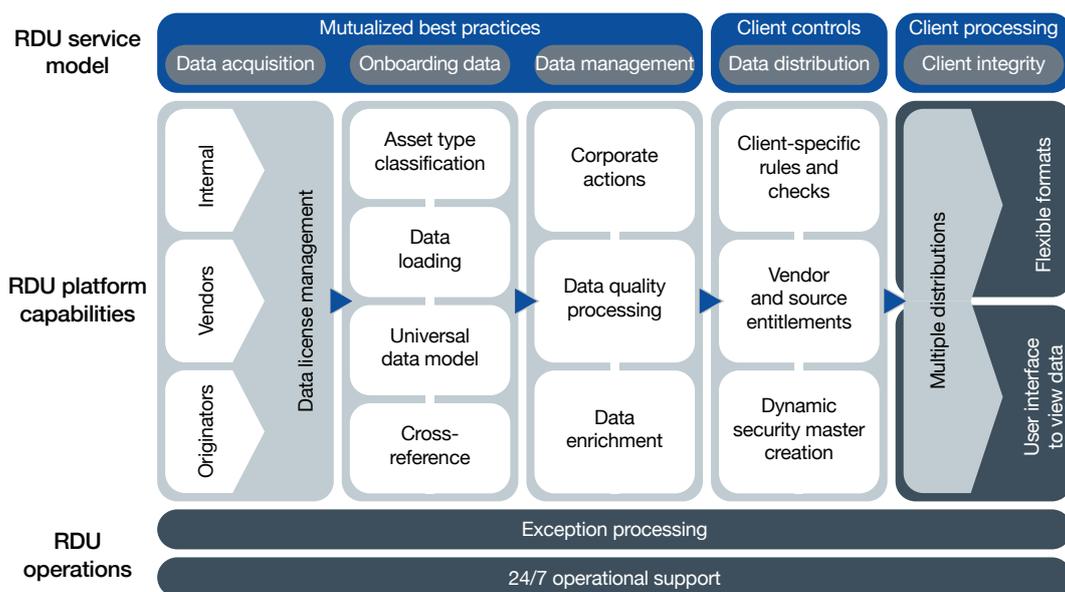
Coffman explains that a key business driver for SmartStream is reducing operational and technology costs for its clients, which it achieves by providing what she calls a “complete data management service”, including feed and exception management support. “Time to market and scalability are other factors, although data quality is by far the main reason we get initial phone calls from firms—they’re either experiencing data quality issues or their data is incomplete,” she says.

## Evolution

Since its launch in 2015, the RDU has evolved on a number of fronts. Given that it started life as a joint venture between SmartStream and three tier-one banks, its initial focus was specific to that segment of the capital markets. As it satisfied those requirements, it moved on to supporting buy-side firms and tier-two and tier-three banks. It also made the move into the regulatory space in 2017, something that wasn't part of its original plan.

The RDU's founding model was to source and comingle data from other data vendors, so that whoever a client was sourcing its security master data from, the RDU would take over the sourcing and management of that data. But, according to Coffman, in the listed derivatives market, that quickly became problematic because firms weren't getting the quality of data they required from their vendors. So, from early on, the RDU's operating model was to evaluate individual sourcing options and allow clients to choose from among the best. "We have very strong collaborative relationships with our partners, including other data providers, which allows us to provide a powerful combination of vendor and directly sourced data that we can then manage and enrich," she says.

The RDU started off in the securities master stream because that's where its original clients experienced their most acute data quality issues. Once it had taken care of listed derivatives, the next asset to tackle was equities. "We rolled out our equities product in 2019, which is built on the strong foundation of established data vendors, and then we enrich the data where there are gaps or data-quality issues," Coffman explains. "Now we've moved to fixed income where we are just scraping the surface as there are so many tranches—governments, corporates, securitized products, mortgage-backed securities and municipals. We started with governments and corporates because those instruments are key to core business functions and we are in the midst of rolling that out in the first half of 2021."



## A Bit Different

In the security master space, data is delivered through a file, an application programming interface (API) or a bespoke arrangement that SmartStream has with its clients. It's about delivering cleansed, integrated and normalized data to clients who can then drop it straight into their preferred data repository. "We're a bit different to some of the other providers we sometimes get compared to in that we don't create a single golden source," explains Coffman. "We onboard the data and then—based on a client's preferences—we create a client-specific distribution. When we do that, we provide the data normalized so that, if they switch vendors or they have multiple sources coming in, it will look the same to them. When we deliver the data, users have access to raw data as well, which was a feature driven by the industry's requirements around lineage and audit functions."

The RDU's regulatory relationship can be traced back to 2017 and the lead up to the implementation of the revised Markets in Financial Instruments Directive (Mifid II) on January 3, 2018. According to Coffman, clients approached the RDU with the idea that a utility would be a good mechanism to house and disseminate regulatory data. Back then, she recalls, when the RDU was building out its equity service, Mifid II was the only issue anyone wanted to discuss. SmartStream realized two things: that a utility is a good place to collect the different pieces of the puzzle required for regulatory reporting, and that it had a team of subject matter experts (SMEs) who could interpret the regulations and then create APIs that clients could embed within their reporting decision matrix. "Our APIs are important as they allow our clients to onboard data quickly," Coffman explains. "However, our regulatory APIs provide more than just access to our data—they provide key derived information to help firms decide whether or not they need to report. And so, in the regulatory data space, it's a bit different—it's not just about collecting aggregating and normalizing data, it's also about providing enterprise too."

## Users

Clearly, given the RDU's origins, tier-one banks are one of its primary targets, although there are others. Hedge funds, for example, which tend to require high-quality data at the start of the trading day, also feature on the utility's client roster, as do market-makers, which need clean, fresh and reliable reference data to create their pricing curves before the markets open. "We pride ourselves in having a best-in-class cross-referenced symbology, which allows our users to accurately communicate with their clients and between their internal systems," Coffman says. "Our timely monitoring of corporate actions means that we can offer more complete and accurate data at the start of the day, which is early enough for market-makers who need to run their models before the markets open."

As detailed in other sections of this whitepaper, SmartStream describes itself as a data integration and operations company. It is therefore looking to work with and support any firm that consumes security master data and has an operations team of any size managing it. The RDU's proposition is simple: it assumes all reference data management functions (cleansing, standardizing, normalizing and combining data) so that clients can better utilize their resources on activities differentiating and driving the business. "It's still the tier-one banks [who are our primary target market]. However, as we expanded our asset class coverage to include equities and fixed income, we are also expanding our client base to include buy-side firms," Coffman confirms. "And now, with our API services, we can start to focus on the smaller players—the prop shops and small analytics firms that need access to data, but don't want to buy a big file."

## Delivery Options

When it comes to the delivery of reference data, clients have two options: they can either receive files from the RDU via a secure file transfer protocol, much in the same way they would from other data providers (such as Bloomberg or Refinitiv), or they can use cloud-based representational state transfer—known as REST—API services. “We have made the APIs and file formats compatible so that if firms are using both they can flip-flop between the two,” Coffman explains. “We have use-cases where, for example, a front office is using our API to access our data, but we’re also sending files to the security master so that they can use it for all the middle- and back-office activities.”

Generally, clients opt to receive full files on the weekends and delta files during the week, which reduces workloads by updating only those parts of a file that have changed. Some clients require intraday data and are therefore sent multiple different files throughout the day, while others prefer a single, daily file. The RDU distribution platform is flexible and therefore distributions are defined according to clients’ requirements. This could mean client-specific content, delivery times or file size to name a few.

When it comes to fixed income, tier-one banks have, on average, upwards of 30 different data providers, and so it makes sense for them to pick up a single file populated with the data from all their providers rather than having to retrieve 30 different files from 30 different providers.

It is no secret that cloud-based data services where clients are able to consume whatever pre-cleaned and normalized data they require on a pick-and-mix basis are starting to emerge across the industry. The cloud model features prominently in SmartStream’s strategy with respect to the availability of cloud-based data services and APIs, designed to allow clients to consume data with the minimum of time and fuss. And, while SmartStream sees the cloud as the future for appreciable numbers of capital markets firms, they still want SmartStream to normalize and manage data and then make it available on the cloud. “Clients like us to manage all of the mishmashing of data so that they have a single representation of their data,” Coffman explains. “A client might say, for example, that it thinks the expiration dates from the direct exchange feeds are cleaner, but that it thinks other attributes coming from Refinitiv are better. They don’t want to have to deal with those rules—they want us to take care of all that for them.”

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## Practically Speaking

From the RDU's perspective, SmartStream is clear about its position in the industry: it is a data integration and operations business focused on delivering timely, accurate and complete reference and regulatory data to its clients. On a daily basis, it sources data from originators (trading venues) and data vendors, which it then validates, corrects and manually enhances. The validation process is driven by the firm's proprietary rules-based data quality program—which, understandably, not a lot of financial services firms can match—allowing it to scale as its datasets grow. Once the data is sourced, validated and enhanced, SmartStream delivers it to its clients in a variety of different ways, depending on clients' preferences: flat file, API or front-end graphical user interface or dashboard. The RDU's operations teams ensure that data is delivered within the established service-level agreements (SLAs), each of which is tailored to clients' specific requirements. "Client-specific SLAs are a critical piece of our managed service—we have dedicated staff to ensure that data is being delivered to specific clients at the time they need it and at the level of quality they expect," Coffman says.

According to Coffman, one of the reasons she believes the RDU stands out from other similar industry data sources is that it features a specialist data operations team, supported by a data research and development team. Both teams consist of SMEs who have a holistic view of the businesses they're supporting and the data they're handling, and are responsible for driving the daily operations. "The feedback from our clients tells us that we're doing something right," she says. "For example, I often hear from clients that they appreciate getting real, unscripted answers from our support teams—we really understand the data because that's all we do. So, I think that having that knowledge embedded in those teams really makes us stand out."

This ability to speak directly to SMEs with an intimate understanding of the markets they serve based on personal experience from having worked in similar roles, is a critical facet of the RDU model and something clients not only expect but are generally willing to pay a premium for. They expect a blend of intimate understanding, accountability, responsibility and responsiveness, and anything less is unacceptable. "That's exactly it," agrees Coffman. "And because we're a managed service, we instill in the operations and mapping teams that we are a branch—an extension—of our clients. This is something they typically do in-house, and we are taking that from them and managing it for them. So we're not just a product, we're a managed service and we act more like a partner."

The confidence that there is someone at SmartStream figuring out and fixing clients' problems in a reasonable time frame is key to the success of the RDU, although that requires the firm to invest significantly in its SMEs, especially on the regulatory front where they need to understand the specifics and technicalities of the regulations, and how they impact clients, both technically and operationally.

## Looking Forward

In the near term, the RDU will focus on building out its fixed income service beyond its initial coverage of government and corporate bonds. It will also continue to expand its APIs, the number of which it foresees continuing to grow based on clients' use-cases. Another goal across both equities and fixed income is to identify areas where clients are struggling or where other data vendors have chosen not to cover and fill those gaps. "In the listed derivatives space, we have succeeded in that and identified all the pain points and we've closed those gaps," Coffman explains. "And then, longer term, we're very interested in the environmental, social and governance (ESG) space—we think that we can really help firms standardize and normalize that dataset. It fits nicely into the utility model and into the instrument and reference data space, so we are currently doing a lot of research and industry outreach when it comes to ESG and how firms are integrating that data into their security master data."

## About SmartStream

SmartStream is a recognized leader in financial transaction management solutions that enable firms to improve operational control, reduce costs, build new revenue streams, mitigate risk and comply accurately with regulation.

By helping its customers through their transformative digital strategies, SmartStream provides a range of solutions for the transaction lifecycle with AI and machine learning technologies embedded—which can be deployed in the cloud or as managed services.

As a result, more than 2,000 clients—including 70 of the world's top 100 banks, rely on SmartStream Transaction Lifecycle Management (TLM<sup>®</sup>) solutions to deliver greater efficiency to their operations.



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# Driving Change and

# Doing Things Better

Haytham Kaddoura, CEO of SmartStream Technologies, explains how the organization was able to maintain the full depth and breadth of its services during the most acute phase of the Covid-19 pandemic, and the significant changes he has introduced to the business since taking up the reins five years ago.

**The onset of the Covid-19 pandemic highlighted the extent to which SmartStream’s cloud and managed services strategies were able to support their users, apparently without missing a step—clients simply accessed the same technologies and services they were used to, but from different locations. How was SmartStream able to adapt so quickly to the operational changes introduced by Covid-19?**

**Haytham Kaddoura:** Managed services and cloud technologies were, and still are, a quintessential part of any business continuity plan for all financial institutions, particularly so during the Covid-19 pandemic. None of us had ever experienced such a large-scale disruption, which swept across the world in a matter of months, and changed many of the fundamentals of doing business. In addition to having our managed services and cloud offerings as an integral part of our solution set, we are geographically diversified, with 21 offices around the world including several disaster recovery sites. This effectively allowed us to mobilize and support our clients instantaneously from any location. In many cases, we were back online with minimal disruption, often much faster than many of our clients.

The pandemic was also accompanied by a significant spike in transaction volumes, and many institutions were not ready to handle that spike on top of the challenges it presented. Managed services and our artificial intelligence (AI)-enabled cloud platforms came together seamlessly to address these spikes with little impact on our clients. Looking back on our pre-Covid momentum compared with today, I think Covid was a catalyst for expediting the adoption of our managed services and cloud offerings with existing and new clients.

**Two of SmartStream’s key offerings are its managed service business and its extensive use of AI technology across its entire product suite. To what extent are those initiatives the manifestation of your vision for the business?**

**Haytham Kaddoura:** When I took the helm of the business back in 2016, I knew we had to do something different to reposition ourselves at the forefront of the industry, reinforce our position with our clients and introduce innovation to our various offerings. As much as one would think that it was all my vision, it wasn’t. At the onset, I spent a good amount of time with people across the business listening, learning and challenging ideas on how we could do things better. You would be surprised at some of the great ideas proposed by junior colleagues across the group. What I heard made sense and it aligned with my vision for the



**Haytham Kaddoura**  
SmartStream

business. I created an environment in which such ideas are nurtured, validated and supported. Our managed services and AI strategy are only a couple of such concepts that are where they are today thanks to the efforts of the whole organization.

While I don’t come from the financial technology industry, I have a strong investment management background and I’ve spent well over a decade with top-tier management consulting firms. One key lesson that my career has taught me is to trust my team to not only advise me on how my vision can be achieved, but to actively have them drive its achievement.

**The changes you have implemented since you became CEO have been significant. Was it always clear to you what needed to be done to ensure that SmartStream as a business was able to fully realize its potential?**

**Haytham Kaddoura:** I’d be lying if I told you my vision for the business was clear when I became CEO. When you take on an initiative such as this, it’s like turning around a battleship—you know the direction you want to go in, you know the major levers you need to pull but, in most cases, the devil is in the detail. I have been involved with SmartStream since 2007, predominantly at board level and working closely with the chairman and shareholders. I was also involved in several organizational overhauls during my consulting days. The combination gave me a good sense of what was needed. While the transition was by no means easy, I was lucky enough to be supported by an amazing team that helped drive the success.

**What plans do you have for the business going forward? Will it be a case of more of the same, or do you have some specific initiatives you would like to introduce at some point in the future?**

**Haytham Kaddoura:** We’ve recently completed a three-year planning exercise, and a lot of ideas came about in terms of expanding our product set and adding new industry-leading functionality. That, coupled with being at the core of the financial services industry—which I believe is currently one of the most dynamic and disruptive industries—means that the next few years for SmartStream should be very exciting.

We continue to work with a number of our clients on some of the strategic initiatives that are being undertaken, especially around AI and machine learning, but also around distributed ledgers, where institutions now have a much better understanding of the value such technologies can offer. There is so much happening right now and it’s very exciting to be at the forefront of the industry’s evolution. [wt](#)

# SmartStream's Managed Services

## Joining the Dots and Responding to Clients' Demands

Mark Morris, head of sales for managed services at SmartStream Technologies, discusses the ongoing surge in demand for managed services, how SmartStream differentiates itself from other similar providers in the industry, and how it is working on joining the dots between all of its on-demand solutions.

**There is little doubt that the popularity of managed services has grown since the onset of the Covid-19 pandemic in the first quarter of 2020. How well prepared was SmartStream to respond to the surge of inquiries from new and existing clients looking to take on either new or additional services from the business? Was it business as usual from SmartStream's perspective?**

**Mark Morris:** I wouldn't call any facet of last year—and certainly not the early part of last year in Q1—normal. I think the Covid-19 pandemic hit financial services firms particularly hard, and I feel a lot of them were ill prepared for the extensiveness of the remote-working requirements and the impact that would have on various aspects of the trade lifecycle, whether in their captive organizations or through a managed service provider. That really hurt them and led them to start looking around to see who had really robust processing capabilities during the advent of the pandemic. Smartstream had multisite capability and 24/5 follow-the-sun accessibility, which was one of the things that stood us in good stead. We were business as usual throughout last year, even during Q1.

**SmartStream is by no means the only provider of managed services in the financial services industry. What factors set SmartStream apart from other similar providers in the space?**

**Mark Morris:** When financial institutions originally set up their own captives or managed service functions, they typically did a “lift and shift”. They didn't send those processes to the receiver (outsourcing provider) with any idea of making efficiency gains/savings and inheriting state-of-the-art technology supported by deep-domain subject matter experts. With us, they get all of that. If they go for the full-blown managed service, they get experts in reconciliations, for example, who intimately understand SmartStream TLM and our Corona solution, and we immediately start looking at their day-to-day [operations] in order to understand how we can drive efficiencies, which equals cost benefits.

We have trusted service provision and we produce key performance indicator packs for our clients where they can review how we and they have performed. Also, with the advent of a lot of the cyber issues we've seen over the past 18–24 months, we offer best-in-class security and all the right regulatory accreditations and external audits, all of which are key aspects of our managed services business.



**Mark Morris**  
SmartStream

**Where are you finding most of the demand coming from right now in terms of the types of capital markets firms looking for managed services support, and specifically what types of managed services are they looking to consume?**

**Mark Morris:** A lot of our demand starts with the tech lead or CIO at companies that may be burdened with expensive datacenters and old kit, and they want to dip their toes into the on-demand or managed services space by moving their technology function to us in the cloud. That's reasonably easy for us to do and there are a number of those projects that we've delivered over the past year. In terms of the types of financial institutions we are talking to,

it varies from tier-one, tier-two and tier-three banks, and broker-dealers to a number of buy-side firms and insurance companies. In some cases, clients want to go straight to a full-blown managed service where we run not just the technology but the day-to-day [business processes] for them as well. For example, we could end up running their entire recs lifecycle.

**What does SmartStream have in store from a managed services perspective for the year ahead, especially considering the range of middle- and back-office platforms sitting within its product portfolio? Is there anything particularly noteworthy that your clients need to know about?**

**Mark Morris:** What we're looking to do—and we've already started this with two key clients—is establish a more collaborative, structured partnership with more spatial awareness across the whole gamut of what we can provide through the various SmartStream components versus what the customer needs.

The segue typically goes like this: we do on-demand reconciliations for a client, which means they get cleaner cash breaks, which in turn means they can use our cash management solution for better forecasting, stress-testing and more accurate intraday liquidity management. If they have clean stock breaks—which we can definitely provide on-demand through machine learning, artificial intelligence and our subject matter experts—that gives them a cleaner stock record, which means their corporate actions and dividend and coupon management is cleaner, and next year, with the advent of the Central Securities Depositories Regulation, there will be reduced numbers of security fails. That is how we are working on joining the dots between our reconciliation solution, cash management solution, corporate actions solution and our collateral management solution. [WI](#)

# SmartStream's Cloud Offering

## Steadfast, Scalable and Secure

Peter Hainz, global head of product management, cloud and managed services at SmartStream Technologies, discusses the importance of cloud security for capital markets firms, the specific problems SmartStream is solving for its clients with regard to cloud-based services, and best practices for software-as-a-service delivery models.

**Many cloud conversations inevitably focus on providers' security measures. What is SmartStream doing to ensure the integrity of its cloud-based services and clients' data residing in the cloud?**

**Peter Hainz:** Security is a top priority for every financial services firm and, as a result, SmartStream complies with the International Organization for Standardization's (ISO's) standard 27001, SOC 2 and the Payment Card Industry Data Security Standard (PCI DSS). SmartStream has, for example, multiple clients in Singapore where the Monetary Authority of Singapore imposes one of the most stringent regulatory regimes in the industry, and we are seeing more and more client requests when it comes to different flavors of encryption. As a result, we have developed various encryption workflows where, for example, clients can use their own key and encryption engine within their own cloud, to which we connect via application program interfaces (APIs). In a recent article published on the AWS website, *Banking Apps Built on AWS*, the security features cited are applied to SmartStream's on-demand solution, such as reconciliations, corporate actions, collateral and cash management.<sup>1</sup> All of these products enjoy state-of-the-art monitoring, alerting and logging workflows.

**What are the key cloud innovations that capital markets firms can utilize to ensure they stay ahead of the curve?**

**Peter Hainz:** There are many that come to mind—artificial intelligence (AI), for example, which is perfect for the cloud because of its scalability and automation. AI, in combination with data lakes, is also a very powerful tool. With cloud automation and orchestration, financial institutions can spin up instances quickly, and they can conduct testing and innovative research based on secure cloud-native templates. Openness is another important trend, which typically includes setting up cloud-native APIs to leverage third-party tools. Banks are not always in a position where they can innovate by themselves, which means they need to connect to third parties such as fintech providers.

Data is currency, and we are hearing increasingly that banks have large volumes of data that can be used in data lakes. Machine learning in combination with data lakes and connecting to third parties can create a powerful ecosystem resulting in innovative and disruptive technologies. Naturally, innovative cloud security is of the utmost importance. The head of IT at a bank we worked with recently stated that they started moving back-office applications to the cloud because it is a much more secure environment and there are no silos. Also, in the cloud, you can more readily manage tech resources and implement software-defined networking, which limits the blast radius of any cyberattack.



**Peter Hainz**  
SmartStream

**What cloud-related problems are being solved by SmartStream for clients now, and how is it going about solving them? What are you hearing from clients?**

**Peter Hainz:** There are a number of innovative projects on which SmartStream has been working recently. For example, we recently established a data lake based on Amazon Redshift [Amazon's cloud data warehouse offering]. Data lakes allow clients to develop deeper insights from the wealth of data they have and establish more detailed reporting.

With regard to AI, at the end of 2019 we launched SmartStream Air, our AI-powered reconciliation platform, which can match any datasets, structured or unstructured, in a matter of seconds rather than weeks. With regard to security, midway through last year, SmartStream achieved the highest level of the PCI DSS certification, which means we are certified against one of the most trusted qualifications in the industry for solutions providers. Finally, with respect to automation and orchestration, we offer our clients templates to spin up instances extremely quickly for the purposes of new initiatives and disaster recovery.

**What are the best practices for software-as-a-service (SaaS) delivery models that providers need to be aware of so their SaaS-based offerings are genuinely fit for purpose and deliver the efficiencies they were designed to?**

**Peter Hainz:** This is the feedback we receive from our clients: who is best placed to operate and maintain a transaction reconciliation platform or any other solution than the people who built it? SmartStream offers on-demand SaaS and business process outsourcing services that entail us running clients' IT infrastructure in the cloud and providing administration and operational controls. Cloud onboarding and maintenance should be conducted by an experienced team of cloud subject matter experts and, in this regard, SmartStream's team has extensive cloud industry-standard certifications. Amazon Web Services (AWS) is our preferred cloud partner. Therefore, I am AWS professional solutions architect, security and database specialty certified. Clients have to rely more on audits and attestations when it comes to SaaS solutions. Therefore, compliance with ISO 27001, SOC 2, PCI DSS and country-specific standards like the German C5 [cloud security standard] are very important. [wt](#)

<sup>1</sup> R Dutt, P Hainz, and S Shah (April 2021), *Banking Apps Built on AWS: A Deep Dive into SmartStream's SaaS Architecture*, AWS, <https://go.aws/2Yf6Utd>

# Observational Learning and Exception

## Management Take Center Stage

Victoria Harverson, global head of business development for SmartStream Air at SmartStream Technologies, discusses the extent to which SmartStream's entire product stable has been artificial intelligence-enabled, Air's unique observational learning functionality and the premium SmartStream places on "white box" solutions.

**To what extent has SmartStream infused its entire product portfolio with artificial intelligence (AI) technology? How is that strategy progressing and how does it align with the firm's managed services push?**

**Victoria Harverson:** It's going really well. Our Innovation Lab in Vienna is responsible for our innovation and incubation functions, and it serves the whole of SmartStream. Given that we're a multiproduct company, we serve many different market segments and so this function is extremely important for us. AI is embedded within nearly all of our solutions and it's in our managed services offering where it is being used to create efficiency gains for our customers.

What we are really focusing on with our AI strategy is observational learning. If you consider how humans learn most effectively, the key is mimicking behavior. For example, we tend not to read cookbooks anymore—we prefer to follow steps and rules and to watch someone perform the task and then copy it. SmartStream calls this type of technology Affinity. It learns patterns, identifies records that belong together and observes how users behave. Once trained, Affinity provides suggestions to users and builds up a confidence level in the machine learning model.

**What does the AI functionality within SmartStream Air allow users to do practically when it comes to managing reconciliations? How does it impact their day-to-day operations/reconciliations roles?**

**Victoria Harverson:** Traditionally, with a reconciliation solution, you need to do some "ETL"—extract, transform and load—and normalization so that you can clean up some of the data before you start to reconcile it. We remove the need to do that through SmartStream Air, our AI reconciliation platform. Users can simply kick off with up to 10 different datasets or data sources.

This can be quite messy data—they don't need to normalize it and clean it up, they can load it straight into Air—and at this point, users don't even really need to understand the data. They simply hit start and the Lightning Engine (the unsupervised AI learning technology and matching engine within SmartStream Air) kicks in and starts looking at the data. It is designed to look at data and develop matching rules autonomously. If you think about taking 10 decks of playing cards and scattering them on the floor, the AI will pick up what it believes the matching pairs should be. It then presents the logic around how and why it matched those records to the end-user.



**Victoria Harverson**  
SmartStream

**To what extent does SmartStream's AI technology allow users to understand how results were obtained? Is SmartStream's AI functionality transparent "white box" technology as opposed to opaque "black box" technology?**

**Victoria Harverson:** We are leading the AI push through our white-box thinking. The Lightning Engine is fully white box in the sense that it generates the rule/matching logic and users can see it. Users also need to be able to look at that logic, confirm it and then move on to the next step of the reconciliation process. The whole process is totally

transparent. With Affinity, every match is a combination of factors that the AI is looking for, and we show that rationale in some detail—we show the underlying logic about why the AI gave a user a particular record. Also, the way we are translating the user experience (UX) into the look and feel [of the Air platform] works with this type of AI. For us to make AI work as a product, our customers need to trust us and be able to look under the hood and see what we have done to give them a result in a way they can easily understand.

**What can clients expect from SmartStream on the AI front going forward? Is there anything special planned for the foreseeable future?**

**Victoria Harverson:** We have been working on a new look and feel in terms of exception management workflows within SmartStream Air. By exception management, I mean users might find a break or error in the data that they need to resolve by putting it through a workflow. This is typically a long process and currently isn't well automated—there are a lot of manual touchpoints. Soon we'll be able to observe the human interactions and follow what the user did to resolve the exception. Users will then be able to say: "We've seen a deal like this before—this is how we resolved it, and we want to do that again." We've just applied an amazing UX design to that process and we'll launch it soon. I'm pretty sure that it's going to be very different to what anyone in the industry has seen before. [wt](#)

## Traiblazer (lifetime achievement) award

# Linda Coffman, SmartStream

By winning the traiblazer (lifetime achievement) category in this year's Witad awards, SmartStream's Linda Coffman has some very large shoes to fill: Previous recipients of this award include Barb O'Malley (Northern Trust), Cathy Bessant (Bank of America) and Refinitiv's Deb Walton.

Coffman, executive vice president and head of SmartStream's Reference Data Utility (RDU) business, is by any definition a trailblazer and veteran of the capital markets. She started in the industry in her early 20s "right out of school" when she joined EJV Partners, a collaboration between several tier-one banks—Citibank, Credit Suisse First Boston, Goldman Sachs, JP Morgan, Lehman Brothers, Liberty Brokerage, Morgan Stanley and Salomon Brothers—where she was the firm's 11th employee, responsible for answering the phones and ordering office supplies. "I helped them get the office up and running," she recalls. "It was a unique opportunity because I was surrounded by a lot of senior people in the data and technology industries, and while I was managing small tasks at the time, I was soaking up knowledge like a sponge. The business grew to about 200 people and there was an opportunity in the data group and thus started my adventures in data."

Unsurprisingly, during Coffman's near 30-year career in the industry she has worked alongside a number of influential men and women, although three—two at EJV Partners and one at Morgan Stanley—were especially pivotal to her career development. "At EJV, two women ran the data organization, which was quite unique at the time, and then at Morgan Stanley, Anna Harrington helped me grow from a very data and operations task-oriented person into more of a strategic thinker," she explains.

Coffman acknowledges that while there are significantly more women in the industry now than when she first started, there is always more work that can be done in terms of promoting diversity across the workplace. The issue, she says, needs to be addressed at the grassroots level by encouraging more young women starting university to focus on STEM subjects/areas.

When asked about her legacy and initiatives she is particularly proud to be associated with, Coffman cites the fixed-income data platform she helped develop the best part of 25 years ago during her time at EJV Partners. EJV eventually became Reuters/Refinitiv, which, as of January this year, is part of LSEG, and the platform is still part of the business. "It's satisfying knowing that we built something from scratch that was solid enough to stand the test of time," she says. "Of course, it's been through many iterations, but a lot of the core functionality is still there."

Coffman is also proud of the organizations she helped create during her career, especially the people and team-building aspects. "I loved going into Morgan Stanley and starting one of their fixed-income operations teams," she says. "I've always liked the process of creating a new system or building a new team, which is why when I made the decision to come to the RDU in 2015 it felt natural because it was a startup and we were doing things from scratch."

—Victor Anderson





# Best AI Technology: SmartStream Technologies

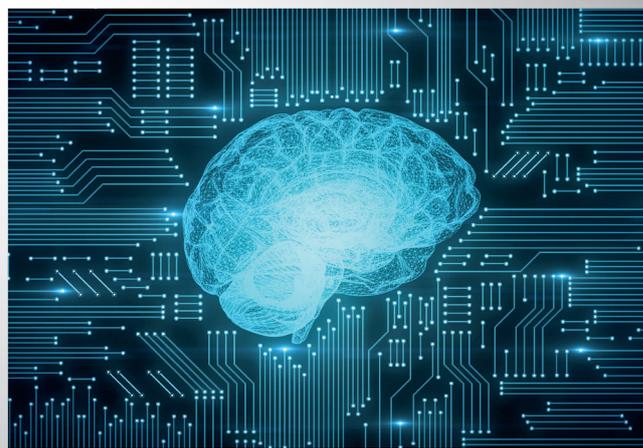
## Product: Affinity and SmartStream Air

### AI and ML

The vendor secured a number of new clients in the telco and retail sectors, as it looks to expand into digital payments using AI and ML.



“The innovations team has been working with a number of Tier-1 clients to identify use cases for artificial intelligence (AI) technologies to increase straight-through processing and optimize costs. Affinity outperforms anything else currently available on the market in terms of matching rates. Client projects have been very successful and they are estimating at least 20% cost savings for their reconciliation business. It is very gratifying that after 12 months of working with clients on our AI solutions, the technology has matured and we are now at a stage to deliver real value. In addition, we are currently starting five new feasibility studies to confirm AI business cases, the demand for new technology is huge and the team is extremely pleased to be partnering with our clients to make this happen.”



### WHY THEY WON

SmartStream won one of this year's most hotly contested categories thanks to its Affinity and Air products, designed to transform incumbent reconciliation processes and save Tier-1 banks as much as \$2 million each year by increasing match rates and helping users cope with vast data volumes.

Affinity, with its observational learning functionality, was especially instrumental in delivering this win for SmartStream.

### WHAT'S NEW

- With SmartStream Air 2.0, the company went live with Affinity, the observational learning feature that learns from rule logic that users change and tweak in the system. As a result, SmartStream Air 2.0 learns how to match a user's unique processes going forward, and results get better and better over time.
- An improved user interface, which has helped lessen the time it takes to train new users on the platform.
- The platform has no constraints in terms of volume or number of files that a user can load in. SmartStream can match high volumes of data very quickly.
- SmartStream added a new business development team for SmartStream Air.

# 8%

SmartStream increased its headcount by 8% in 2020.

### WHAT'S TO COME

- AI and ML technologies will be deployed across SmartStream's suite of solutions. This will increase operational efficiencies for the middle and back office.
- Managed Services and a cloud environment will be available for all solutions in all global regions.
- Future releases of AI technologies will include exception management capabilities and multi-feed matching.



# Best Sell-Side Middle-Office Platform: SmartStream

## Product: TLM Corporate Actions

**50%**

SmartStream saw bookings rise by 50% by the end of 2020, and is seeing 23% growth in revenue for the managed services unit.

**8%**

SmartStream increased its headcount by 8% and in 2020 and this is set to continue.

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“We continue to make investments in our business, specifically in technology that enhances our clients’ service experience, and which allows us to achieve greater operational efficiencies. Through SmartStream’s tailored solution, we achieve automation of our corporate actions operational processes. Given that this project ran in parallel with a number of strategic initiatives, its successful implementation was essential. We value SmartStream’s corporate actions expertise which guided us through the procedure in less than four months.”

**Coronation Fund Managers**

### WHAT’S NEW

- SmartStream added a new user interface for TLM Corporate Actions, UX dashboards, entitlement editing, dividend wizard, and proxy services.
- For the corporate actions business the company will continue to look to improve UI, performance, and user control.
- Corporate Actions has been a growth area for the company because it has been made quicker and easier to deploy via the cloud, which has been a major investment area for SmartStream in the past 12 months.

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“TLM Corporate Actions is readily accessible, without the need for a lengthy implementation phase, making it easy to adopt. The necessity for burdensome infrastructure costs is also removed, thereby providing financial institutions with a very cost-effective route to taking up the new technology. Drawing on past experience, SmartStream has mutualized knowledge from its extensive client base, combining it with industry standards and best practice, to create the ‘model client.’ This accelerates delivery, as well as promoting industry standards and best practice. In addition, the model client enables financial institutions to tailor the solution to their individual requirements. The solution has been designed with flexibility in mind. Considerable investment has been made by SmartStream in its corporate actions processing technology. The high level of investment is reflected in the design of a number of new features, including the solution’s user interface. The UI offers an attractive user experience, it is easy to navigate and presents data clearly while supporting flexible reporting.” **Adam Cottingham, SmartStream**

### WHAT’S TO COME

- SmartStream plans to grow headcount, with a focus on managed services/ outsourcing. The client experience and delivery team will include product management, client governance, risk and control, managed services and on-demand SaaS, support, global solution delivery, and delivery engagement management.
- In addition to hiring for its on-demand SaaS offering, it will look to include new tools and services in 2021.



**Adam Cottingham**  
SmartStream

### WHY THEY WON

SmartStream won this award thanks to its TLM Corporate Actions offering, designed to help institutions improve their corporate actions lifecycle management processes and reduce costs.

The cloud-based platform provides clients with visibility of all corporate actions events impacting the business, reducing their risk of missing event deadlines and providing qualification of custodian event notices.

### Corporate actions

One of the largest growth areas has been with corporate actions, with more and more customers deploying cloud environments.



# Best Reference Data Initiative: SmartStream Technologies

## Product: SmartStream Reference Data Utility

### WHAT'S NEW

- In 2021, SmartStream RDU launched the Exchange Notification Service (ENS), which provides an aggregated, normalised view of exchange notifications related to the management of listed derivatives reference data. ENS tracks updates, maintains changes, and consolidates notices.
- The service supports intraday notifications – notifications published at short notice by exchanges post-market hours, with an effective date of T or T+1, are published immediately. This helps drive quality improvements across functional areas, such as trading, risk mitigation, validating vendor notifications for corporate actions, and feed changes.
- Notifications are delivered via files or SmartStream's new API Suite.

### WHAT'S TO COME

- The RDU will expand ENS to equities and fixed income.



Each exchange publishes notifications in various time intervals throughout the day and does not follow a standard template or delivery method to publish the notifications used across the industry. With this in mind and through conversations with our clients, we decided to build ENS, which can overcome these issues with real-time intelligence, encompassing all the information that a financial firm needs to manage its reference data from the exchanges.

**Linda Coffman, executive vice-president,  
SmartStream RDU**



**Linda Coffman**  
SmartStream RDU



We are pleased to partner with SmartStream and our industry peers on an innovative product that combines emerging technology with a common utility model. We believe this solution presents great value for our organisation and the broader industry.  
**Goldman Sachs**

### WHY THEY WON

SmartStream Technologies won this category thanks to its Reference Data Utility, a platform initially developed in 2015 in partnership with three tier-one investment banks as a means of improving the quality and timeliness of their security master data for listed derivatives. The RDU acts as a processing agent for banks' data sources, whereby it sources, validates and cross-references the required data, thus ensuring that these processes are not duplicated.



# Best Reference Data Integration Vendor: SmartStream Technologies

## Product: SmartStream Reference Data Utility

### WHAT'S NEW

- SmartStream has launched a new API Suite for fast access to high-quality reference data.
- The RDU developed a derivatives component for the Mifid II SI (Systematic Internaliser) regime to meet the September 2020 deadline. This allows trading counterparties to identify who is responsible for reporting trades and addresses the most complex part of the SI regime, which now includes derivatives.
- The RDU has also expanded by including a more comprehensive set of Asian derivatives markets; covering both European Union and Financial Conduct Authority regulations within its Mifid II solutions; and adding a complete set of equity short-sale eligibility data to its equities platform.

### WHAT'S TO COME

- The RDU will expand its global fixed-income coverage in 2021 to include convertibles, municipals, and securitised debt products.
- SmartStream has secured several new clients across all verticals, including the telco, payments, and retail sectors. This marks the start of further expansion plans for its technologies into new industry sectors.



Firms accessing the SmartStream RDU's suite of reference data services can rely on the information they receive being of the best quality. The RDU is proud of its tradition of going beyond the norm to maintain the highest levels of accuracy, cleansing and data verification, yet making it accessible to as many users as possible leading to operational improvements and meeting regulatory needs. Created by teams of highly skilled developers, data scientists and industry professionals, the RDU Suite has been developed with ease-of-deployment and access in mind and has been extensively tested. Accessing reliable reference data is becoming more vital than ever. For firms burdened by legacy architecture, or under pressure to keep costs to a minimum, the REST-based API Suite supplies high-quality reference data, cost-effectively so that digitisation programs can progress unimpeded with minimal disruption.

**Linda Coffman, executive vice-president,  
SmartStream RDU**



**Linda Coffman**  
SmartStream RDU



We are pleased to partner with SmartStream and our industry peers on an innovative product that combines emerging technology with a common utility model. We believe this solution presents great value for our organisation and the broader industry.

**Goldman Sachs**

### WHY THEY WON

SmartStream Technologies won this category thanks to its Reference Data Utility offering, which also won the best reference data initiative category in these awards. The RDU provides capital markets firms with high-quality, complete and timely reference data, and crucially takes care of all the data integration heavy-lifting, a function often overlooked by capital markets firms.

# Best Reconciliation Management Provider: SmartStream

## Product: TLM Reconciliations

“SmartStream’s comprehensive suite of reconciliations solutions incorporates all the latest technologies—including AI/ML—to provide industry-leading exception management, which is essential for the identification, prioritization, allocation, and audit of issues identified by reconciliations. Business users are empowered by powerful analytical tools while reducing reliance on busy IT support teams. The solutions can be flexibly deployed and consumed through the cloud, as microservices, on-premise or via managed services.”  
Roland Brandli, static product manager, SmartStream



**Roland Brandli**  
SmartStream



### WHAT'S NEW

- SmartStream has invested heavily in AI through the years. For example, its Affinity module is used to observe a user’s actions and establishes its own understanding of how to record match. At its core, it acts as a virtual user to support businesses dealing with large amounts of manually matched data—the more it observes, the more accurate it becomes, thereby boosting matching rates.
- The company’s recent moves are aimed at bringing flexibility to reconciliations, while leveraging AI to make the process more efficient, from digital payments to intersystem reconciliations. Each solution can be deployed on the cloud, on-premise or via managed services.
- SmartStream’s Innovations Lab has been working with AI and machine learning modules to reduce manual touch points and improve data quality and insights.

### WHY THEY WON

The growing interest in managed services and cloud deployments is reflected by the rising number of engagements and revenue growth. SmartStream separated itself with voters thanks to its advancements using AI and its shift to the cloud.

### WHAT'S TO COME

- Right now the company is adding AI matching using Affinity Plus, its latest AI observational learning solution to meet the technical demands and business agility for operational data management and data quality processes. This provides more flexibility for specific user learning requests.
- SmartStream also has several planned enhancements for rapid onboarding of reconciliations, but the company is focusing on making sure it doesn’t compromise the accuracy of match results. This is designed to significantly widen the number of users able to configure reconciliations.
- Finally, the vendor will introduce modules to handle digital payments across all solutions, as tier-one banks require more comprehensive functionalities.

# Best buy-side reconciliation platform or service: SmartStream Technologies

## Product: TLM Reconciliations Premium



**Robin Hasson**  
SmartStream Technologies

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“Automating bank reconciliations allowed us to scale our business, and this has had a direct impact on our customers as we are able to reconcile payments much faster.”  
**Prudential Assurance**

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“TLM Reconciliations Premium is a comprehensive platform that incorporates all the latest technologies, including AI/ML to provide industry leading exception management, essential for the identification, prioritization, allocation and audit of issues identified

by reconciliations. Business users are empowered by its analytical tools, while reducing reliance on busy IT support teams. The solution can be flexibly deployed and consumed through the cloud, as microservices, on-premises or via managed services. Aside from our traditional business, we are seeing the take-up among players such as neo-banks, payment service providers and telcos, looking to optimize manual touch points and reduce operational costs.”

**Robin Hasson, senior product manager, TLM Reconciliations Premium, SmartStream Technologies**

### WHY THEY WON

SmartStream's TLM Reconciliations Premium continues to be the benchmark against which all reconciliation platforms are measured. Its infusion of AI-based observational learning technology is genuinely game-changing, especially when it comes to the complex and laborious process of matching apparently unconnected records across vast, complex datasets. The technology observes the rationale a human would use to match two records, which it then mimics and radically improves in terms of accuracy and time.

### WHAT'S TO COME

• SmartStream is set to add AI matching to TLM Reconciliations Premium using Affinity Plus, its AI-based observational learning solution to meet the demands and business agility for operational data management and data-quality processes. This provides more flexibility for specific user-learning requests. TLM SmartRecs widens the number of users able to configure reconciliations. SmartStream is set to introduce a new module to handle digital payments—already available in its out-of-the box solutions—although larger institutions require more comprehensive functionality.

### OVERVIEW

- TLM Reconciliations Premium is designed to help buy-side firms reconcile any data for any reason. Featuring embedded artificial intelligence (AI) and machine learning (ML) technologies, it provides users with fast and accurate exception management capabilities.
- Typical user-firms: Tier-one and tier-two buy-side institutions, including asset managers, pension funds, private banks, wealth managers, insurance firms and hedge funds.
- SmartStream increased its headcount by 8% in 2020 and this trend is set to continue. The industry's growing interest in managed services is reflected by the rising number of engagements SmartStream has had, with bookings up by 50% at the end of 2020. The year to date has seen a 23% growth in revenue for the firm's managed services unit.

### WHAT'S NEW

- SmartStream has enhanced user independence through the release of TLM View, providing increased productivity and greater insights. It has integrated AI capabilities within TLM Reconciliations Premium to optimize accuracy and efficiency around the reconciliations process. Affinity, the firm's latest machine learning technology, is designed to observe users' actions and establish its own understanding of how records correlate. It then assists users to significantly reduce the time it takes to match large, complex datasets. The introduction of AI modules reduces manual touch points and improves data quality/insight. The firm has noted increased interest in the use of reconciliation as a spot check between systems to ensure accuracy, while digital payments processing, already a growing market, has been accelerated by the increased use of contactless payments.