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Preparing for a New Era of Cash and Liquidity Management

Requirements for broader liquidity monitoring and increased liquidity thresholds is transforming cash and liquidity management practices and systems

Special Report
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Contents

FEATURES

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Liquidity Management: Regulators Bare Their Teeth

It is no secret that regulation on both sides of the Atlantic has been one of the primary drivers of operational practices and their supporting technologies across capital markets in the wake of the global financial crisis. In the decade since the crisis, the highest-profile changes have been made to the front and middle offices, but now the back office must fall in line with regulatory mandates—nowhere is this more emphatically illustrated than in the realm of cash and liquidity management. Not only do banks need the capacity to monitor their liquidity in near real time but, crucially, they must be able to provide transparency into the various calculations behind the numbers for regulatory reporting purposes.

Until recently, all but the largest tech-savvy banks administered their liquidity activities manually, which naturally introduced high levels of operational risk, while simultaneously rendering intraday monitoring of these functions virtually impossible. This special report, sponsored by SmartStream Technologies, focuses on the business and operational benefits that banks stand to accrue through the systematization of their cash and liquidity management functions, while also examining the technologies and best practices that firms might look to develop and implement to make such endeavors feasible.

While the development and deployment of liquidity-monitoring tools might be seen by some capital markets firms as a financial burden and an unnecessary cost of doing business, the commercial benefits of making such moves over and above the regulatory implications are clear. In the virtual roundtable section of this report on page 6, SmartStream's Darryl Twiggs provides some color on these advantages, and explains how banks can enhance their funding decisions and integrate their liquidity management functions with their collateral management practices, while offering the potential for generating higher returns.

As with most technology developments in our industry, this is not a trivial exercise, but in this regard the pain is worth the gain. Additionally, banks don't have many other options now that they are under the regulatory microscope—as we have seen in recent months, regulators worldwide have jettisoned the softly-softly approach and are now starting to bare their teeth. W

Victor Anderson
Editor-in-Chief

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Big xyt Launches Cloud Platform Spin-off Liquidity Cockpit

Frankfurt-based data management provider, Big xyt, has unveiled its new product, with additional visualization tools offering market participants enhanced visibility and guidance into liquidity and regulatory constraints before any trading decision is made.

Aimed primarily at the European markets, Liquidity Cockpit was introduced to track liquidity across all asset classes. The new solution uses the same back-end as with Big xyt's primary product, the Cloud Platform, which is able of processing any number of data feeds of any size.

Robin Mess, CEO of Big xyt, says that the Cloud Platform provides data analytics for more than 70 exchanges globally, through a white-label partnership with US-based data vendor Activ Financial.

"Liquidity Cockpit uses the same back-end with the cloud platform, but combines it with interactive analytics in order to provide guidance for the trading community," he says.

Mess says that the intent is to address the issue of liquidity sourcing, and as such, the platform processes trade data across all liquidity pools in Europe. "That means on-exchange, off-exchange, including dark and new execution possibilities such as [large-in-size] trading," he says. "We not only process the trade data but also aggregate, and guide the user through interactive analytics."

Big xyt has built the solution with an emphasis on usability and data quality. "We have our own normalization layer that allows a reliable comparison of the various liquidity pools," Mess says. "Also we have a strong analytics team that is able to integrate analytics such as LIS forecasts."

Essentially, the platform captures all trades, normalizes the data and keeps track of changes in trade conditions by applying custom measures. From that point on, the data is available to the user for download, visualization, and analysis.

Liquidity Cockpit is a web-based tool. It consists of an interactive dashboard with visualization capabilities, allowing users to analyze the data in a number of ways, either by security, venue, index or trade conditions. Analytics are available in real time and can be integrated into any streaming infrastructure, such as order and execution management systems.

Soon after the solution's launch, Big xyt is planning to add more capabilities to meet current trading needs, including new requirements stemming from the review of the Markets in Financial Instruments Directive. "We will soon add double-volume caps, and forecasts for when a security will reach the caps on both a market and a venue level," Mess says. "This will allow market participants to react before something happens." **W**

Aggelos Andreou

BNP Paribas Securities Services Extends Collateral Management Business with Tri-Party Service

BNP Paribas Securities Services has launched a new tri-party collateral management service, connecting the sell side, the buy side and central clearing counterparties to facilitate collateral management functions for financing and OTC derivatives trades.

According to BNP Paribas Securities Services, the recently launched service connects collateral takers and givers, thereby easing the mobilization of collateral and providing access to segregated assets and previously untapped sources of collateral.

Emmanuel Denis, head of tri-party collateral management services at BNP Paribas Securities Services, explains that the firm's global reach and network, alongside the deployment of flexible algorithms, will allow users to monitor collateral needs in real time using intuitive dashboards, anticipate future funding requirements, and set parameters based on specific allocation strategy requirements.

"As the only custodian with both global and multi-local capabilities, we are able to give clients the opportunity to source collateral directly on the markets in which they invest, which means they can mobilize collateral quicker and with reduced administrative and cost burden," Denis tells WatersTechnology. "For the buy side, we can manage the end-to-end process of the underlying transactions from front office to middle- and back-office services, including valuation."

Denis says that the new service, developed over the past 18 months, also aims to alleviate some of the headaches firms are currently grappling with in relation to European Market Infrastructure Regulation (EMIR) compliance. EMIR's revised technical standards (RTS2.0, also known as Level 3 validations), which came into effect on November 1, bringing a renewed focus on trade reporting, whereby both sides of a trade need to be reported for all over-the-counter (OTC) and exchange-traded derivatives transactions across the European Union.

"The tri-party service can be used to manage initial margins for cleared and non-cleared OTC [trades] and variation margins on uncleared OTC [trades] for some actors who have only specific assets, such as equities," he says. "In some cases, EMIR will require participants to source high-quality and liquid assets, which can be sourced via basket repo and which can only be managed in tri-party. Furthermore, we believe that giving access to new liquidity providers (i.e. the buy side) will help the market to manage challenges generated by Basel III or quantitative easing policy." **W**

John Brazier

Fast Forward for SmartStream

In a market all about optimizing operations and extracting more value from systems and services, established software and service providers have an important role to fulfill—and SmartStream is lining up partners and building out expertise to stay at the front of the technology services race

On one side of the pond, firms are gearing up for new regulation that will transform business processes. On the other, there are talks about easing regulation affecting the financial industry. Despite the growing regional differences, the common theme is that financial services firms are faced with constant change, and are under immense pressure to optimize processes to respond to a changing environment and stay ahead of the competition.

Consequently, firms are increasingly exploring new service offerings and new technologies—and thus new ways to service clients. For SmartStream, this market focus has led to expansion in terms of both scope and skill set. New technologies such as artificial intelligence and blockchain are expected to be increasingly important going forward, and SmartStream is ramping up both in gathering business and technical expertise.

In fact, in the markets where regulation is the key driver for investments, SmartStream is working with client firms on analyzing responsibilities. In Europe, it is primarily the second Markets in Financial Instruments Directive (Mifid II) that continues to drive change, and the challenge for firms is to finalize their preparation and training ahead of the January 2018 deadline.

With the lack of clarity often associated with new regulation and growing differences between regional markets, Mifid II and the range of other regulations affecting financial services have also put pressure on vendors to be ever-more agile and flexible. For SmartStream, the focus is now on aligning resources around common themes, which will help the vendor address increasingly varied client requirements. It is about fine-tuning the offering to meet everyone's needs.

When it comes to cash, collateral and liquidity management systems, the changing client requirements are driven by a combination of new regulation and increased pressure from shareholders. Regulation set out to ensure firms hold enough liquidity also affects shareholders, as they are now analyzing new parameters when assessing the risk profiles of their investments.

Haytham Kaddoura
CEO, SmartStream

The pressure on firms to provide shareholders with more information on cash and liquidity profiles has resulted in a change in requirements from a software perspective. For SmartStream, the trend has meant that the tightly interlinked liquidity management, cash management and collateral management solutions are getting their fair share of the development dollars.

In fact, the liquidity, cash and collateral product offerings are in even greater demand than they were last year—a result of the growing focus on risk management and oversight in the current environment. But, although the feedback SmartStream is receiving from clients is that cash and liquidity management are at the top of the agenda these days, SmartStream is spending more on the entire portfolio of products.

Fine-tuning products is one of the key focus areas, and improved flexibility in product offerings will also help SmartStream meet the varied requirements from firms at different levels of maturity. SmartStream is experiencing significant growth in maturing markets, with firms in Africa and Asia investing heavily in upgrading systems and processes to optimize operations and improve services. Saudi Arabia is technology-oriented and becoming a larger market for SmartStream, with Singapore, Australia and South Africa also in the spotlight at the moment.

With key drivers and priorities varying worldwide, flexible offerings and alternative operating models are growing in popularity. This trend has affected the managed services space, and banks and asset managers are increasingly seeking specialist service providers such as SmartStream to assume responsibility of processes they can more efficiently perform.

To meet clients' changing needs, SmartStream is teaming up with other partners, continuing its focus on avoiding "reinventing the wheel". Many smaller players are excellent at what they do, and in certain areas clients could benefit from SmartStream joining forces with other software vendors. The aim is to be even better aligned with partners and the industry and, as part of the new strategy, more announcements will be coming soon.

In addition, the next steps will be looking at where the industry is driving towards, including future developments in areas such as management of blockchain technology and electronic currencies. The growth in blockchain technology—promising increased speed and resiliency in the payments market—is not something to ignore, and SmartStream is currently working on defining its blockchain strategy.

With a packed development schedule and continuous build-out of expertise, SmartStream is set for stable growth in market coverage, number of employees and number of clients. W

Under the Regulatory Spotlight

Cash and liquidity management functions—while not as celebrated as those that typically make up traditional front-office activities—have become increasingly important for the sell side to manage accurately, transparently and in as close to real time as possible, and industry regulators are now taking notice.

This virtual roundtable Q&A features four panelists—SmartStream's Darryl Twiggs, Deutsche Bank's Lothar Meenen, BNP Paribas' Jan Dirk van Beusekom and Aite Group's Virginie O'Shea. They focus on the challenges, opportunities and technology implications that capital markets firms must consider when looking to optimize their cash and liquidity management functions.

Darryl Twiggs, SVP Strategic Initiatives
SmartStream Technologies
www.smartstream-stp.com

What are the tangible business benefits accruing to sell-side firms by them better managing the day-to-day processes that typically fall under the cash and liquidity management umbrella?

Darryl Twiggs, SmartStream Technologies: Recent regulations, such as the Dodd-Frank Enhanced Prudential Standards, the Basel Committee on Banking Supervision's *Principles for Sound Liquidity Risk Management and Supervision*, the International Organization of Securities Commissions' *Principles of Liquidity Risk Management for Collective Investment Schemes* and the Federal Reserve's CFR 249 *Liquidity Risk Measurement Standards*, have forced firms to not only report their liquidity positions and exposures, but also evidence their use of liquidity-monitoring tools.

In following these directives, firms mitigate punitive measures that can be imposed by regulators in direct fines for failing to provide accurate reporting, or in add-ons to capital reserves, which can be dictated where the firm is unable to demonstrate adequate controls; add-ons come from the bottom line of the profit and loss, losing the firm investment funds.

In our experience, firms are seeing that deploying liquidity-monitoring tools not only mitigates compliance, but improves funding decisions and offers the potential for higher returns. Traditional cash management operations are focused on end-of-day balances, not liquidity movements throughout the day. Monitoring minute-by-minute clearly captures the liquidity highs and lows, the consumption of expensive credit lines, the threat of overdrafts and unexpected interest payments.

Moreover, firms are better equipped to understand their costs and allocate these back to the lines of business to show, for example, the cost of credit and mismanaging their positions. This is of particular interest to the front office, which is able to make better funding decisions. And, of course, the second Markets in Financial Instruments Directive (Mifid II) and Markets in Financial Instruments Regulation (Mifir) demand greater transparency of costs.

Firms are also optimizing their global liquidity positions by encompassing all of their legal entities under a centralized liquidity umbrella. New operations policies enable 'follow-the-sun' strategies so, as one trading arena closes, the positions can be picked up by the next. Liquidity tools integrate currency and collateral into a single operational view. Securities held as collateral are an important component of a firm's liquidity, and the ability to monitor the holding, its liquidity and proactive, seamless conversion to more liquid assets is fully integrated into the tools, bringing together currency and collateral assets onto a single centralized platform.

Lothar Meenen, Deutsche Bank: Divesting an integrated division is a major organizational effort, binding management attention and treasury resources. The sell-side firms' and the spin-offs' various stakeholders, such as clients and employees, are concerned by the transactions, revenues and costs that will potentially be adversely affected. These downside risks can be avoided with a thoughtful management process in place.

Sell-side firms with clearly defined processes and efficient liquidity platforms, such as payment and receivable factories or in-house banks, are better equipped to prepare for the exit of a division. Setting up an embedded, stand-alone liquidity infrastructure for the spin-off division will in time secure efficiency and transparency. Also, on this basis, the disconnection and going live of the stand-alone liquidity infrastructure at the moment of transaction closure is technically quickly achievable.

Jan Dirk van Beusekom, BNP Paribas Cash Management: If a firm can make its cash and liquidity management processes more efficient and effective, it will benefit significantly from increased visibility and control over its cash. In addition, the firm will have a more accurate cashflow forecast, and will be in a position to save costs and reduce working capital required.

Virginie O'Shea, Aite Group: The main benefit is meeting various regulatory and risk-related obligations while making the best use of the assets—cash or securities—that you have.

Virginie O'Shea, Senior Analyst
Aite Group
www.aitegroup.com

What technologies are available to sell-side firms that allow them to manage those processes more efficiently and transparently?

Virginie O'Shea: A range of technologies are focused on tying up functions related to liquidity and collateral management. A one-stop-shop approach to these tasks is likely to appeal to sell-side firms, although this may entail a build-and-buy project for firms wary of taking the one-vendor route.

Real-time—or near-real-time—dashboards for monitoring liquidity and collateral exposure are very much on the industry radar. Firms want to be able to quickly assess their intraday exposures and manage them on a regional or global basis. Dashboards have become *de facto* for the risk management function, and a view across the enterprise and operational silos is very important for top-tier sell-side firms.

Darryl Twiggs: Solutions are architected on rules engines, which model operations and provide the platform for 'change-the-bank' and continuous improvement. Rules trigger events, which include warnings and alerts that ensure the firm is aware of negative position movement. Having an interactive solution is critical to supporting the firm's operations. The firm cannot have users monitoring their liquidity every minute—that is the role of the solution. Rules help with the finite thresholds, but today we have increasing utilization of robotics and data analytics to automate the consequential actions: for example, to automatically make necessary payments or establish new rules as a result of analyzing counterparty or agent behavior. In potentially volatile market conditions, identifying atypical behavior is as critical as monitoring breaches of thresholds and minimum positions.

Robotic processing automation builds algorithms to monitor behavior, which baseline the norm. Statistical analysis is used to establish the distribution or probability that a monitored action is outside the norm, and will consequently raise a warning or automatically execute a pre-emptive action, starting a programmatic workflow that mitigates the risk of the action hitting the firm's liquidity or positions.

The need for real-time response is driven by the uptake of real-time payment initiatives. If payments are being made in real time, the tools must be able to respond in real time and take immediate action. The latency for the firm to take a manual action is fast disappearing.

Jan Dirk van Beusekom: There are many technologies, concepts and services available to firms to increase efficiency and transparency. Integration and harmonization of systems— enterprise resource planning (ERP) and treasury management systems, for example—and communication channels, both internally and externally, are the first step, while standardization of processes—accounts payable (AP) and accounts receivable (AR)—and protocols are a second. A third step would be to rationalize your bank relationships and account structure, including in-house banks, on behalf of structures and virtual account services. The most commonly used techniques regarding liquidity management are sweeping or pooling, including foreign exchange services and automated investment in triple A rated money market funds.

Lothar Meenen: From a banking perspective, we focus on efficient electronic banking solutions that provide transparency about liquidity inflows and outflows to our clients at any time. These solutions interface with the sell-side firm's ERP system, thereby supporting reconciliation of payments and receivables and catering for a better cashflow forecast. For instance, Deutsche Bank's browser-based electronic banking tool, Cash Manager, is designed to manage the local AP and AR process while providing a global overview of all accounts and cash positions.

Jan Dirk van Beusekom, Executive Director
BNP Paribas Cash Management
www.cashmanagement.bnpparibas.com

What are the challenges that many sell-side firms currently experience when it comes to managing their cash and liquidity processes?

Jan Dirk van Beusekom: Challenges include a lack of visibility and control, and different means of payment with government and paper-based payment processes pose the most problems. Constantly changing regulations and compliance issues also present challenges. For sell-side firms, the lack of a pan-European acquiring scheme, the many different regulations around collections, and the rapid development of mobile, instant and blockchain-based payments pose the greatest challenges.

Lothar Meenen
Head of Corporate Sales Transaction Banking
Deutsche Bank
www.db.com

Lothar Meenen: These challenges depend on the complexity of the underlying sell-side transaction. The number of involved affiliates and the international footprint of the spin-off are major drivers of complexity. Banking partners with an international network and experience with cross-border transactions are well prepared to support complex international sell-side transactions.

Darryl Twiggs: Intraday liquidity is a new operational role in many institutions, which is in itself a challenge—particularly at a time when operational costs are under the microscope. Cash management is a traditional back-office function, clearly separated from treasury, credit risk and the front office. Intraday liquidity operations reach across these operational boundaries, which is a challenge for many firms. The front office can be viewed as taking central responsibility, but this introduces compliance issues where intraday payments are necessitated.

Firms need to address the operational policies and procedures, and achieve buy-in across the front, middle and back offices in order to be successful, as liquidity management brings these areas together. The monitoring tool will warn and alert of an identified movement that will impact liquidity, while the operational procedure must identify the party responsible to take action and resolve the issue.

The relationship with the firm's agents and counterparties needs to work positively—all parties are dependent on each other. The firm is dependent on timely data servicing from its agents. Historically, agents were not required to time-stamp the payments made on behalf of the firm. Now they are, and this will need to be managed. The firm, too, will evidence the behavior of its counterparties and has the opportunity to work with them to improve services.

Virginie O'Shea: Challenges include increased regulatory pressure on firms over the past couple of years and changes in business opportunities afforded by related market infrastructure.

Cost of cash and collateral is also a challenge. Not only have firms found that the cost of pledging collateral has increased, but they also face difficulties factoring the cost of collateral into their pricing models, which has become a more frequent process as a result of over-the-counter derivatives moving to central counterparty clearing houses. The knock-on impact on cash management has been that liquidity is very restricted at certain points.

What issues and processes do sell-side firms tend to underestimate in terms of complexity when it comes to managing cash and liquidity functions in a more effective manner?

Lothar Meenen: A sell-side scenario typically involves setting up a separate treasury function for the new spin-off company. Decisions must be made with regard to banking partners, treasury systems and liquidity management systems. Although some clients tend to replicate existing solutions, our advice is to first analyze the new situation, then select partners and systems that optimally suit the new setup. We have experienced many sell-side situations and discuss processes and solutions with our clients from a banking and treasury perspective before the separation of the division will be initiated. Our key recommendation is to start the process as quickly as possible.

Furthermore, attracting a qualified treasury manager to navigate the spin-off through the separation can be a challenge. From an employee perspective, the separation of a division can feel like leaving home. As a banking partner, we service the spin-off and its employees with the same professional intensity as before, demonstrating that the new organization and its employees are as important to us as a new client.

Darryl Twiggs: As with all solutions, data is always the challenge. Within the intraday liquidity arena, the need for real-time, time-stamped data is paramount, and this has been a challenge for the industry as a whole. Positions are typically held by numerous systems, each with their own processing data models, data definitions and symbologies. Bringing this data together to form a coherent data stream is a challenge for all firms. This issue is expanded for a multinational firm. Having a stringent data policy helps overcome the problem and is the backbone to success.

The rollout project can also be a challenge. In our experience, the approach is to avoid a 'big bang' and first establish the operational procedures and policies with currencies with lower risk to the firm (this will entail different currencies for each firm according to their markets). This enables a firm to first establish all necessary operational procedures, policies and controls. Once operational, each new currency can be onboarded with minimal risk.

Virginie O'Shea: Siloed infrastructure and the lack of a central view of inventory have given firms data management and reconciliation headaches. A high degree of manual effort and related operational risk are therefore key challenges for financial institutions in the current market environment.

Jan Dirk van Beusekom: Firms tend to underestimate the complexity of integrating their systems and the harmonization and centralization of their AP and AR processes the most. It's also the area where the highest cost reductions can be achieved. W

The Regulatory Opportunity

Preparing for a New Era of Cash and Liquidity Management

Despite opportunities for firms to extract more value from their investments to comply with regulation, organizations may not necessarily be making the most of this work—opting for quick fixes, rather than improving automation and lowering operational costs. Realizing the need for more opportunities for companies to automate and integrate their data to minimize risk and optimize efficiencies, SmartStream examines how firms can prepare for a new era of cash and liquidity management

In the past decade, the financial services industry has ramped up its focus on compliance and poured billions into preparing for new regulations. Professionals with in-depth understanding of regulation have been in more demand than ever before, and the vendors positioned to meet changing requirements have been inundated with enquiries. Considering the strong focus on making changes to IT and operations to comply with regulation, there should have also been opportunities for firms to revamp systems and processes to set up for future success. Instead, many are still hindered by silo-based operating environments and end-of-day processing in areas such as liquidity management.

A *WatersTechnology* survey revealed that one in five firms have disparate systems for cash, intraday liquidity, collateral management and corporate actions, and only a small percentage of the market has combined all of these functions into a single view. Considering the sheer volume of new regulations set to impact cash and liquidity management in the near future, it is no surprise that the majority say the main driver for investments in cash and liquidity management projects right now is the need for centralizing liquidity management and creating liquidity utilities.

Getting Real

There used to be a focus on implementing tactical solutions to meet new regulatory requirements, but these solutions led to challenges with disparate data systems and a lack of standardized data. As firms come to recognize the greater benefits of a strategic approach to cash and liquidity management, the types of projects seen in the market are slowly changing. Preparing for new liquidity requirements is no longer only about addressing needs on a department level, or assessing ways to move treasury books into highly liquid assets and reporting on liquidity levels. Liquidity management is now increasingly viewed as a function that should be managed centrally to reduce risk and improve oversight—rather than a division of processes between front office, treasury and back office. By moving away from disparate processes and systems, firms can generate increased value from the necessary work on cash and liquidity management to comply with regulations—improving automation and data quality, and thus lowering operational costs in the process.

A *WatersTechnology* survey of senior professionals representing banks, asset managers, hedge funds and insurance companies revealed that market participants feel Basel Committee principles are having the most profound impact on liquidity management practices. In January 2013, the Basel Committee published *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*, which set out liquidity coverage ratios (LCR), requiring banks to have at least 60 percent coverage of highly liquid assets to cover their net outflows over a 30-day stress period by 2015. These requirements will increase step-wise to 100 percent LCR by January 2019.

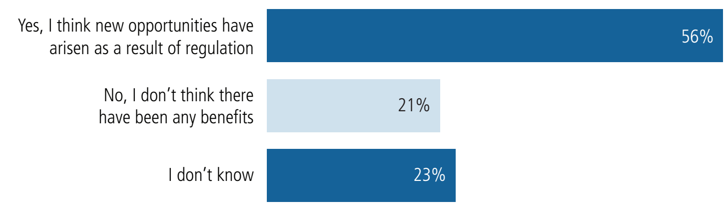
Unlike other regulations that focus on and police trade reporting, meeting liquidity requirements has a potentially positive impact on operations. The survey revealed that the majority of respondents (56 percent) believe new opportunities have arisen as a result of cash and liquidity management regulation, reflecting the fact that regulation within this space is a driver for improved operational efficiency and control. Additional funding for cash and liquidity management projects has created new opportunities for firms once the spark of understanding has been reached, and they have been ready to embark on projects designed to realize the traditional benefits of automation that can deliver new business opportunities when properly implemented (*see Figure 1*).

To meet regulatory requirements for liquidity thresholds, many firms have identified the need for greater insight into assumed net cash positions, and to do this efficiently there has been a growing focus on automating processes to reduce manual intervention and ensure data is standardized across the organization. In the past, cash and liquidity management have included many manual processes, potentially with a firm's various departments using different data sources. As the industry moves away from an end-of-day approach to an intraday model, automation is a must-have.

The Move to Intraday

Details on how banks should handle management of intraday liquidity risk were set out in BCBS 248, and the new reporting requirements—initially scheduled for no later than January 2017, but pushed back to 2018 and 2019 in many countries—have fueled further investment in cash and liquidity management systems. The regulation introduced intraday reporting and external data sourcing requirements, including time stamps from counterparties, which can lead to enhanced visibility into cash positions. The inclusion of external data enables firms to monitor the transactions that have been executed and those that are in the pipeline for the day. The introduction of the new regulation has created an opportunity for firms to receive funding for projects to move to an intraday model—a model more appropriate for closer monitoring of liquidity in a market where payments are starting to settle in real time and advancements in technology have made automation more feasible.

Figure 1: Has the wave of regulation affecting liquidity resulted in benefits to the management of capital and its economic redistribution?



In fact, when asked what changes in the payment services market could have the most profound impact on liquidity management, the most common response was "the move towards real-time settlement, including the impact of Target2-Securities (T2S) in Europe". As payments move in real time, firms will have real-time inflows and outflows, resulting in real-time liquidity positions. Considering this change in payments, firms without insight into liquidity positions could struggle to ensure sufficient funding to cover payments that happen in real time, and risk becoming significantly overdrawn in a day or ending up holding costly collateral.

The second-biggest game-changer in the payments market is, according to the survey, distributed ledger or blockchain technology. The increased use of new technology is also expected to result in improved speed and resiliency in the payments market, strengthening the case for investing in improved automation in cash and liquidity. The changes in the payments technology and infrastructure is affecting the global financial services sector, making it fundamental to improve automation to facilitate intraday or continuous management of cash and liquidity, including automatic adjustments of credit limits.

With this in mind, it is unsurprising that close to 85 percent of respondents consider it is now either "important" or "extremely important" to enable intraday liquidity management. The cost of holding very liquid assets, which is needed to meet the LCR requirements that has, in recent years, resulted in low yields—intraday cash and liquidity management can help firms avoid holding excessive low-yielding assets at the expense of higher-yielding ones. By ensuring more timely access to data, firms are better positioned to avoid regulatory breaches and effectively manage liquidity to optimize profits and lower costs (*see Figure 2*).

Figure 2: How important is it to your firm to enable intraday liquidity management?

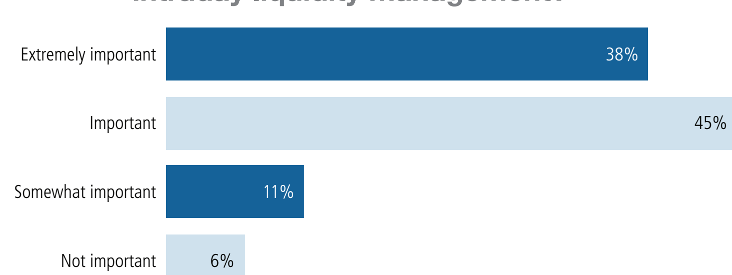
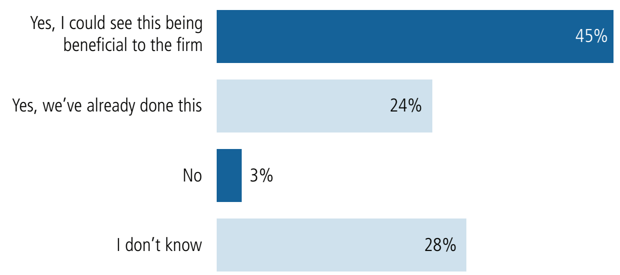


Figure 3: Could your firm benefit from consolidating cash management, intraday liquidity, collateral management and corporate actions into a single holistic platform?



In addition, intraday management of liquidity is essential for analyzing customer behavior, which can improve the accuracy of the inputs used for the stress-testing models that form the basis of LCR calculations. Under Basel III, LCR is calculated on assumed net cashflow for a 30-day stress period, and local regulators are required to approve the stress-testing model and ensure they are appropriate for an institution's business model.

With an improved understanding of intraday customer behavior and outflows, firms can optimize stress-testing models to ensure regulatory compliance and efficient management of liquidity, which could reduce the need for costly intraday borrowing to boost liquidity, ultimately helping to grow the bottom line.

Considering the changes in liquidity regulation, coupled with the payments market moving towards real-time settlement, it is easy to see why intraday liquidity management has been on the agenda for forward-thinking firms for years. For others, however, it is not before new regulation has landed on their table that upgrading systems and processes become a priority. In the survey, only 16 percent of respondents rated their existing ability to monitor and manage intraday liquidity as "excellent", and 28 percent still describe their ability to manage liquidity intraday as "fair" or "poor".

As firms increasingly realize that meeting requirements for liquidity thresholds is not merely a reporting exercise but an opportunity to optimize operations and lower costs, this scenario is set to change. Since firms that do not rate their ability to manage liquidity intraday highly still mainly view it as "important" or "extremely important" to their firm, it is fair to expect that making changes to existing systems and processes will be at the top of their agendas going forward. The next priority will be to improve governance and automation—moving away from silos of liquidity management in the front office, back office and treasury, and implementing new systems to enable straight-through processing.

With improved standardization and an enterprise view of data, firms could be in a position to set up one team and a single platform to service the whole bank. The central service could result in uninterrupted cash and liquidity services, enabling a firm to manage liquidity from when the trading day starts in Tokyo to when the market closes in New York. By moving away from a distributed model and data silos, firms can achieve more with fewer resources, thereby reducing costs.

In addition to improved operational efficiencies, firms would also benefit from enhanced data governance. Data is a key factor of the liquidity management challenge, and having a central liquidity hub would mean one team would be responsible for correcting data errors at the source level. A central view of data would also mean less duplication in the work, and is likely to make it easier for firms to gain an overview of data that needs to be sourced from different internal systems. For SmartStream, this is a key focus area, and its clients benefit from front-end mapping capabilities in the SmartStream cash and liquidity management systems.

Project Prioritization

To be able to respond to market changes, firms are under pressure to continue investing in cash and liquidity management. The projects that receive funding now may typically be designed to help firms efficiently meet regulatory reporting requirements, but an efficient reporting capability is only one of several deliverables. Centralizing systems to allow for an enterprise view of cash and liquidity is also a top priority for firms when setting a strategy for enhancing cash and liquidity management, and projects are no longer simply about ticking off boxes to meet regulatory requirements—the focus is increasingly on solving the bigger problems. One issue is the use of disparate systems for managing data needed for efficient cash and liquidity management, and there is a case for centralizing more data onto a single platform, owing to the number of functions that could affect cash and liquidity positions.

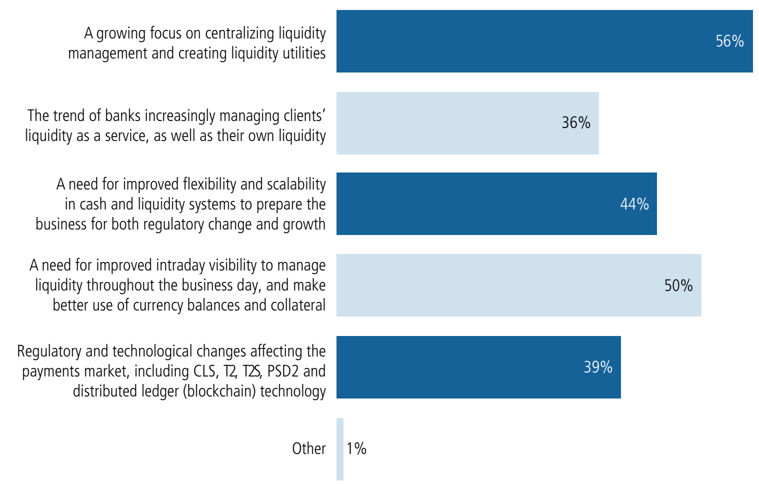
Responding to the survey, one in five say they operate with disparate systems for cash, intraday liquidity, collateral management and corporate actions (21 percent), and only 37 and 38 percent have combined cash management with intraday liquidity and collateral management, respectively. Less than one in four have combined cash management with corporate actions. This is despite the fact that some market events—such as government bond payouts—will always be associated with the value of the collateral that impacts liquidity.

However, market participants increasingly recognize that more needs to be done to bring data sources together to optimize cash and liquidity management to meet expectations from customers and regulators, and reduce operational costs. A few may still have a single architecture underpinning cash and liquidity management services at the moment, but most now realize the value of moving in this direction. According to the survey, 45 percent say they could benefit from consolidating cash management, intraday liquidity, collateral management and corporate actions into a single holistic platform, and 24 percent say they have already done this (*see Figure 3*).

To enable firms to make sound assumptions about collateral, they are increasingly recognizing the need to integrate more data sources and get a full overview of cash and liquidity positions, and market events—ideally in real time. Thus, there is a growing interest in setting up global hubs or utilities that can service a wider community of internal users that are now interested in this data from a regulatory, risk and operations perspective. According to the *WatersTechnology* survey, the majority of respondents (56 percent) say the main driver for investments in cash and liquidity management projects is now this growing focus on centralizing liquidity management and creating liquidity utilities. The second-biggest driver is the need for improved intraday visibility to manage liquidity throughout the business day and make better use of currency balances and collateral (50 percent) (*see Figure 4*).

Cash and liquidity have traditionally been managed at the entity level, but with regulators increasingly asking for broader liquidity monitoring, firms have started exploring other options. By introducing an enterprise-wide liquidity utility, firms could further improve centralization and oversight, bringing together more systems and data, and optimizing operational efficiencies.

Figure 4: Which factors are currently driving investments in cash and liquidity management projects?



Conclusion

As firms continue to face new regulation affecting liquidity thresholds and processes surrounding liquidity management, they must be innovative and generate more value from the investments made in complying with changing requirements. It is not only about being able to fulfil reporting requirements, but about moving beyond regulation to deliver further benefits to the business.

As firms start to recognize the value of bringing liquidity systems and processes together with cash, collateral and corporate actions, and moving to an intraday model, the market is set to see the introduction of more in-house global liquidity utilities. This kind of liquidity utility would manage a firm's global liquidity positions, taking data from multiple entities and aggregating balances to provide improved oversight. By integrating more sources and ensuring a single view of data, firms would also be better placed to validate inputs used for stress testing and verify stress-testing models to avoid holding excessive low-yielding assets at the expense of higher-yielding ones.

In addition, consolidation of data sources is also needed to resolve the issues surrounding collateral and to allow firms to more efficiently assess what is available to underpin and fund trading activity. A centralized approach to cash and liquidity management can enable firms to gain a better understanding of collateral, which would ensure a more robust financial market.

To reach the next level, the first step is for firms to start the groundwork—which includes improving data cleansing and standardization to make it possible to centralize sources, automate processes and ensure real-time delivery of information. When firms have the right foundation and are ready to extract more from the work that goes into preparing for regulation, meeting Basel, Iosco and Dodd-Frank requirements will not be a box-ticking exercise. It will be about lowering operational costs, delivering new business opportunities and maximizing profits. W

Liquidity—Bringing it all Together

Cash and liquidity management systems are becoming increasingly sophisticated, with firms prioritizing projects that can help meet regulatory requirements and deliver improved efficiencies for the business. In a bid to optimize liquidity management, the market has seen firms move toward intra-day models and global liquidity engines. Tine Thoresen reports.

After the fall of Lehman Brothers in 2008, it took some firms days—or even weeks—to identify holdings and positions and, in some cases, liquidity dried up in the process. To avoid this happening again, the changes made in the past years have been profound—new regulation has forced firms to hold more liquid assets such as cash or government bonds, and there has been innovation in the market. Regulators have been busy bringing out new requirements designed to protect the financial system from future crisis, and firms have responded by making substantial investments in initiatives crafted to meet new requirements and create a more robust financial system.

Regulations such as the Dodd-Frank Enhanced Prudential Standards, the Basel Committee on Banking Supervision's (BCBS) Principles for Sound Liquidity Risk Management and Supervision, the International Organization of Securities Commissions' (Iosco) Principles of Liquidity Risk Management for Collective Investment Schemes and Federal Reserve CFR 249 Liquidity Risk Measurement Standards are all raising liquidity thresholds and further narrowing the neck of the collateral bottle.

To justify large reform programs—investments that, in some cases, could impede businesses' ability to exploit other opportunities—firms are increasingly focused on achieving greater value from the work that goes into upgrading systems and processes. This has resulted in projects aimed at meeting regulatory requirements, as well as improved operational efficiencies and more effective control of cash and liquidity management.

The first projects seen to address liquidity regulation after the financial crisis were focused on moving treasury books into highly liquid assets such as cash, government bonds, covered bonds and, to a lesser degree, corporate bonds. Since then, regulators have given guidance on how to address liquidity management. In January 2013, the Basel Committee published *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools* that set out liquidity coverage ratios (LCRs), which required banks to have at least 60 percent coverage of highly liquid assets to cover their net outflows over a 30-day stress period by 2015. These requirements will increase step-wise to 100 percent LCR by January 2019 and, to meet Basel requirements, many firms have identified the need for greater insight into assumed net cash positions, fueling investments in projects designed to improve efficiencies in asset liability management.

The cost of holding very liquid assets has in recent years resulted in low yields, making it essential for firms to get the balance right to avoid holding excessive low-yielding assets at an expense of higher-yielding ones. Due to the risk of regulatory breach and the opportunity for cost savings when getting the LCR right—avoiding the need to boost liquidity through costly intra-day borrowing—projects aimed at delivering improved cash and liquidity management have climbed the agenda, and the focus has been on retiring legacy systems, streamlining processes, reducing manual intervention and ensuring more timely access to data.

The evolution of regulation and the introduction of additional requirements for intra-day liquidity management—as well as the cost-saving potential for intra-day management—have taken projects to the next level. "Everything is moving to an intra-day model," says Kurt Eldridge, executive vice president, global sales, SmartStream. Regulation has been a key enabler for the move to intra-day, and even forward-thinking firms that already had capabilities for intra-day liquidity management have made improvements by, for example, incorporating external data to get time stamps on debits and credits to meet new reporting requirements.

The details on how banks should handle management of intra-day liquidity risk were set out by the Basel Committee in *Monitoring Tools for Intraday Liquidity Management* (BCBS 248), and the new reporting requirements have fueled further investment in cash and liquidity management systems.

At Raiffeisen Bank International (RBI), the new regulation led to the firm working with SmartStream and implementing SmartStream Corona Cash & Liquidity—a central tool to monitor and control all aspects of cash and liquidity management. The bank previously built intra-day cash and liquidity management tools internally, as intra-day management had been an ongoing priority, but Basel III introduced the need to source external data, resulting in enhanced visibility into cash positions. Wolfgang Pollak, senior asset liability manager, RBI, says that, in addition to meeting the new Basel reporting requirements, the project resulted in the bank improving its knowledge of what liquidity it needs to hold because of closer monitoring of nostro accounts and better understanding of cashflows.

RBI's proactive approach has created a robust foundation for cash and liquidity management opening up new opportunities for the firm. "The first step is to monitor your external liquidity. and the next step is to monitor your internal cashflow and your customer accounts where you're the manager," says Pollak, explaining that this would be useful for stress testing.

Under Basel III, LCR is calculated on assumed net cashflow for a 30-day stress period, making stress testing essential for the efficient management of liquidity. For firms going forward, it is now about improving the models by getting the inputs right, improving a firm's ability to meet regulatory requirements, as well as resulting in more efficient management of liquidity and potentially resulting in higher yields on its liquidity portfolio. "If you're running stress tests, you need to model what outflows can happen in times of stress and, to get a more accurate model, you need to know the behavior of your customer, which you only get if you monitor what they're doing," says Pollak, who adds that this would also help the firm improve its own liquidity steering.

Following Basel III, banks have been in continuous dialogue with their local regulators, as it is up to these regulators to approve the stress testing used to calculate LCR to ensure it is appropriate to the business model. Pollak says RBI is now aligning stress assumptions, building out stress tests and validating stress models, as stress testing is an important factor in defining LCR and how much liquidity the firm needs. Getting the models right to potentially reduce the buffer is vital for a bank's performance, and could lead to better allocation of excess liquidity to increase returns.

To achieve this, firms need quality data, integrated systems and tools that enable intra-day customer behavior analysis. Pollak says the firm needs to identify when most payments are affected, as well as the timings and the amounts. "You're almost forced to know your customer-base behavior better, which is definitely an advantage," he says, adding that firms would previously have been looking at this data on an end-of-day rather than an intra-day basis. The improved insight into customer behavior could see the firm being able to give more information to customers on the timings of transactions, which would in turn enable the customer to do more, explains Pollak.

Going Global

There is also a trend toward banks increasingly managing liquidity as a service for customers, as well as their own. To do this effectively, banks are finding they would benefit from moving away from viewing data in disparate systems, and are instead building an integrated view of cash and liquidity and other datasets required for the service, such as costs. In Europe, it is now the Markets in Financial Instruments Directive (Mifid) II that is setting the agenda for many operations projects and, as part of preparing for Mifid II, firms are looking to gain increased visibility into the details of cost allocation. When monitoring a client's liquidity they need to understand the cost every step of the way, allocating costs either to the client or to the firm. "The only way to do that is to bring together cash, collateral, corporate actions, and so on, to understand the details," says Darryl Twiggs, senior vice president, strategic initiatives at SmartStream.

Bringing together cash management systems with intra-day liquidity, collateral and corporate actions management appears to be where the market is now moving, and a combination of past market events and regulation are seen as the background to this. The continuous wave of regulation has led to increased sophistication in the market when it comes to liquidity management. SmartStream, which offers cash and liquidity management software solutions that enable banks to break down silos with an enterprise-wide solution for cash management, treasury management, exceptions management and reconciliations management, has recently entered discussions with customers wishing to set up internal liquidity utilities.

A liquidity utility would manage the global liquidity position for a firm, taking data from multiple entities and aggregating the balances to show the liquidity for the firm. "Many firms have some more local capabilities, looking after their own business, but regulators are now looking for firms to report their global liquidity as well," says Twiggs, explaining: "SmartStream is now seeing potential customers asking to accommodate other sources, including securities—in the form of collateral, and market activity, in the form of corporate events—that also have the concept of a utility."

By integrating more sources, the aim is to have real-time monitoring of liquidity that goes across cash and securitized collateral. For SmartStream customers, these projects leverage the fact that all SmartStream Transaction Lifecycle Management (TLM) solutions are based on a single architecture, making it possible to integrate TLM Cash & Liquidity Management, TLM Corporate Actions Processing and TLM Collateral Management. "We deliver our solutions so that they can be integrated," says SmartStream's Eldridge, adding that projects aimed at centralizing and integrating systems will help firms achieve a complete view of settlement, messaging, what is predicted to be settled and the valuation of collateral against the market.

Under the Basel requirements for intra-day liquidity monitoring, collateral is also mentioned, further strengthening the business case for having an integrated view of short-term liquidity steering and collateral. This is already done at the entity level at RBI, and the next step would be to set up a global hub, which, explains Pollak, can offer a firm increased oversight and be beneficial from an information perspective.

An enterprise-wide liquidity engine could be an additional way of further improving cash and liquidity management and centralizing data, but there will continue to be a need for liquidity management at the entity level, too. "Working in different markets, it's not always possible to shift liquidity from one entity to another," says Pollak, explaining that capital restrictions can hinder movement of cash and collateral between countries, which means it is difficult to have a worldwide view of liquidity monitoring without the country-level focus.

For firms in the process of setting up a global liquidity engine, one challenge they could be looking to address is collateral management. "Collateral is a sensitive topic as its liquidity can be questionable," says Twiggs, citing an example that, if a firm holds US dollars as collateral to cover euro trading, the regulator would question the liquidity of the dollar and its value when needed to convert to euros. In other cases, collateral could be under scrutiny by regulators if the liquidity of the assets is questionable.

As regulatory costs have continued to increase, the focus will remain on identifying ways of enabling banks to maximize returns within the requirements set by the regulators. And the winners are the firms that have first-class systems for monitoring liquidity intra-day—systems that are integrated with cash, collateral and corporate actions, and enable the firm to get quality data for stress tests and make sound assumptions about collateral. W