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FINTECH COLLABORATION: HOW BANKS CAN LEVERAGE THE POWER OF REGTECH

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01
FOREWORD

TURNING COMPLIANCE INTO CASH

By Mike Blalock,
General Manager, Financial Services Industry, Intel

Regulation continues to challenge the financial industry. Banks have been spending billions on compliance every year for the past decade, and as a result of constant regulatory change, compliance remains a major driver of expenditure. The regulatory pressures are not slowing, and new mandates will ramp up the complexity in the compliance space even further.

For example, the revised Payment Services Directive (PSD2) in the EU, which requires banks to open up access to account information to newly-regulated third parties, also demands higher standards of security and authentication, and further complicates KYC and AML processes for banks.

Hard on its heels, the new General Data Protection Regulation will impose more stringent requirements to safeguard customer data – at the same time as banks are being forced to share this more widely by PSD2.

Against this backdrop of regulatory change, it is no surprise that the emerging regtech sector is attracting so much attention. Solutions which make it easier and cheaper for banks to comply with regulation – while also opening up opportunities to leverage compliance investment for additional business benefits – are bound to be appealing.

The regtech movement is also accelerating the adoption of two very critical technologies for financial services institutions to harness in their drive to turn compliance to cash. These are cloud and AI which are closely related and interdependent because of data.

"AI-driven regtech is likely to deliver value to the financial industry in two phases. In the first, it will enable more automation, reducing time to insight and enabling massive productivity and efficiency gains by taking non-value-added human activities out of the picture. The second phase holds the promise of intelligent machines achieving regulatory compliance in real-time on an ongoing basis through completely autonomous processes."

Many regtech applications rely on the analysis of large and expanding amounts of internal and external data which is of course perfect territory for AI. For AI to work effectively, banks need the proper data infrastructure to fully utilise and gain insights from data in real time. Legacy systems and siloed data sets cannot cope with such demands, which leads to the connection between cloud and AI.

AI-driven regtech is likely to deliver value to the financial industry in two phases. In the first, it will enable more automation, reducing time to insight and enabling massive productivity and efficiency gains by taking non-value-added human activities out of the picture. The second phase holds the promise of intelligent machines achieving regulatory compliance in real-time on an ongoing basis through completely autonomous processes.

Most regtechs are cloud native, and banks should strive to take advantage of the opportunity to place compliance workloads in the most appropriate execution venue, whether in a private or public cloud environment, as a critical component of successful regtech strategies.

Ultimately, the intelligent data and technology solutions banks put in place for regulatory compliance can be leveraged to identify new business opportunities and deliver higher standards of excellence in customer experience - thus turning compliance into cash.

This future depends, however, on collaboration today – collaboration between financial institutions, regulators, established, trusted technology providers and innovative fintechs, all working together within the digital ecosystem to enable the regtech movement to realise its full potential.

As a technology and data company, Intel strives to be a key partner for innovation and transformation in financial services, acting as a trusted advisor and an indirect vendor to more than 200 of the top financial services institutions. As a leading enabler of modern foundational technology and sharing best known methods, we are powering more secure cloud, analytics

and AI performance for financial businesses – meeting compliance and risk requirements, operational efficiency, security and customer engagement now and into the future.

We have an established ecosystem of FSI focused OEMs, SIs and ISVs we collaborate with to ensure each customer need is met with the right solution choice, and we are a committed technology partner in the fintech ecosystem. Our venture capital arm, Intel Capital, is actively investing in fintech companies, and we are working with a set of fintech partners to accelerate innovation in AI, cloud and security.

We believe Intel is at the core of the two critical technologies that are fundamental in the regtech landscape: cloud and AI.

We have an expanding portfolio of data centre technologies delivered through our FS solutions ecosystem, and build our technologies on an open architecture which can be scaled for growth while providing the easiest integration of other open solutions faster.

Moreover, in AI, our strategy is to make Intel the driving force of the data revolution across every industry. Intel has committed to three key areas to get us there. These are:

1) Developing a broad product portfolio benefiting from the advancements of Moore's Law
2) Investing in training and resources to help make AI technologies accessible for everyone, and
3) Fostering beneficial uses of AI technology through partnerships and investments.

Most recently, we released the Intel Saffron AML Advisor, which uses explainable AI to enhance decision making for investigators and analysts and helps financial institutions address compliance needs. As we developed this platform with one of our lead banking partners, they observed first-hand the capabilities and opportunities of turning compliance into cash in that they met their regulatory requirements and were also able to drive top and bottom line revenue impact.

Learn more at: intel.com/fsi

02 INTRODUCTION

The burden of regulatory compliance for financial institutions is increasing all the time, and the latest regulation is changing the banking landscape - forcing openness based on APIs and further complicating banks' compliance responsibilities.

Good news then that into the breach comes one of the hottest breeds of fintech – regtech. A plethora of enthusiastic start-ups are rounding on the regulatory space, soaking up investment and promising improved agility and speed and supercharged analytics.

They are harnessing exciting new capabilities in the area of artificial intelligence, while leveraging the flexibility of cloud and promising to ease the regulatory challenge for over-burdened financial services firms worldwide - while also opening up opportunities for banks to leverage compliance investment for additional business benefit.

The question is, can a headline-grabbing new segment of fintech really deliver everything financial institutions need to leverage leading edge technology to boost their compliance capabilities? What other components are required to ensure regtech has the robustness, resilience and scale to make the grade in this mission critical area of financial institutions' operations?

This research paper, produced by Finextra in association with Intel, brings together the views of a broad range of regulatory technology experts from the financial industry globally on how to tackle the key challenges and opportunities banks face as they look to harness the power of regtech.

The paper addresses a number of questions, including:

- How is the regulatory challenge for financial services firms evolving?
- What impact are developments such as open banking having on the regulatory landscape for financial services firms?
- What problems are regtechs trying to solve and how are they doing it?
- What role does AI play in regtech and in helping firms tackle the regulatory challenge?
- What contribution are cloud environments making to firms' regulatory approaches?
- Are today's regtech start-ups able to meet the financial industry's need for resilience, scale and security, and if there are gaps, how can they be filled?
- What role can established, trusted partners to the financial industry play in helping banks to leverage regtech? And
- How will the regtech landscape develop going forward, and what are the likely future models for collaboration to enable regtech to fulfil its potential?

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03

THE EVOLUTION OF REGULATION: IS THE ENVIRONMENT REALLY STILL GETTING TOUGHER?

A decade since the financial crisis, with a huge swathe of new regulation implemented, isn't the industry coming to the end of the cycle of regulatory pressure, and can't financial institutions tick regulation as 'done' for a while?

Unlikely, believes Ghela Boskovich, Head of Fintech and Regtech partnerships at Startupbootcamp. "There has been a lot more regulatory oversight since the financial crisis, for good reason," she says. "It changed because of an industry-created, industry-facilitated problem; now regulation is being applied in a much more active and scrutinised way. We had a global systemic risk problem, and to address this it needed much more regulatory oversight. I don't think this is going to go away any time soon, and I don't think regulation is going to stop: in fact, it's becoming much more active, and it's becoming a question of standards on a mass scale."

In part, regulation has to be a continued focus for banks because there is more regulation still to come, as Ruth Wandhofer, Managing Director, Global Head of Regulatory and Market Strategy, TTS, Citi, points out. "Regulatory requirements continue to evolve," she says. "Following the prudential regulatory wave, the next chapter has been opened with a focus on data protection (for example, the EU General Data Protection Regulation). At the same time, the topic of cyber security is becoming a more pressing regulatory focus."

Indeed, some of the most complex pieces of regulation "are still in flight – like the Fundamental Review of the Trading Book", as Subas Roy, Global Chairman at the International RegTech Association, says.

The industry also still needs to do better to comply with requirements already in force. One good example is the BCBS 239 principles, designed to strengthen banks' risk data aggregation capabilities and internal risk reporting practices to enhance risk management and decision-making. The regulators have been fairly damning about the ability of banks in general to meet these standards, as Dr Maciej Piechocki, Partner and Leader for International Regtech activities at BearingPoint, points out.

"If you look at the regulatory agenda, it is true that banks have many of the post-crisis pieces of regulation more or less under control, but there are always new challenges," he says. "BCBS 239 is principle-based legislation which requires banks to have good governance in dealing with risk data and a very solid architecture for risk aggregation across all types of risk. It's a simple principle - but most large financial institutions today are a mile away from being able to comply with it."

CHANGE IS THE ONLY CONSTANT

Ongoing regulatory change also poses a challenge, believes Kelvin Dickenson, Vice President, Compliance and Data Solutions, Opus. "While after the financial crisis the regulatory pressure was very intense, the reality is that regulations are changing all the time, and recently with much greater frequency," he says.

"While we don't any longer have the obvious calls in the media for financial reforms, there's a much quieter but still fast-paced change to how regulation affects banks. Some of the change is fairly big and some of it is quite small, but it all requires changes in processes and it all requires banks to go and look at how they are complying, validating they have the right processes and are addressing the right issues and reporting the right things."

The banks must also deal with regulatory uncertainty, often driven by politics. As Joan McGowan, Senior Industry Analyst, Celent, says of the US market: "Banks have to weigh up the uncertainty of Trump's move to massively deregulate, balanced against the need for stronger governance following the Equifax breach and the Yahoo disclosure."

There is uncertainty over in Europe as well, points out Parker Crockford, Commercial Director for North America at Onfido. "When it comes to Brexit, there are questions about what will happen in Europe with passporting of licences, as well as what will actually happen to UK regulation after Brexit," he says.

McGowan also emphasises the way in which change increases complexity in the regulatory landscape. "There continue to be increased obligations for banks of all sizes with a heavier burden falling on the smaller banks," she says. "New regulations and amendments to regulations are driving the complexity, volume, and contradiction that banks have to deal with."

The complexity of the regulatory landscape in the US creates a particular challenge for banks reporting in that market, adds Rich Schaberg, Head of the US Financial Institutions Practice Group at Hogan Lovells. "The US has so many overlapping regulators that are not necessarily at cross-purposes but are duplicative," he says.

"So the notion of an elegant technology solution for financial institutions to communicate with them has a lot of merit. If I strip it down, it's a lot of data collection and presentation - and if you are a bank regulated by four banking regulators and you are providing data that's all the same but slightly differently presented, you have a real need to streamline that," he adds.

That said, regulation is very much a global issue and a global challenge, says Mike Blalock, General Manager, Financial Services Industry, Intel. "Regulations in the EU apply to banks in the US and regulations in Singapore apply to banks in the EU and so on, so it continues to evolve and new regulations set the global high watermark," he says. "I'm constantly surprised when I hear banks on Wall Street talking about MiFID II as much as the banks in London."

MORE DEMANDING REGULATORS

Blalock also emphasises "the high cost of inaction". "A recent report from the Boston Consulting Group showed that banks have paid out $321 billion in regulatory fines since the global financial crisis," he says. "Compliance and regulation is something all banks are concerned about, and it's becoming much more difficult with the varying levels of complexity in the compliance as well as the data sources required to evaluate and the speed at which they need to be evaluated. It's a very challenging environment and it will get more challenging as we go forward."

Regulators getting tougher around enforcement is certainly intensifying pressure on the banks, agrees Rob Dickinson, Head of Transaction Monitoring at ComplyAdvantage, and is one of a few 'meta themes' that are making the environment more challenging. "We are seeing a number of changes in the world impacting compliance," he says. "Bad behaviour is becoming harder to spot as money launderers become more sophisticated and the 'cost of terror' reduces; regulators are becoming tighter on the required monitoring and screening firms must undertake, and finally, business demands are increasing, with a focus on operating costs and a need to provide seamless, real-time, customer experience."

To compound the challenge further, "the expectations of the regulators paradoxically have been increased by technological improvement", believes Elizabeth Shriver, Director, Financial Industry Solutions at Saffron Technology, an Intel company. "You have this phenomenon of what we call technical compliance, where the regulators keep on insisting more and more data is reviewed, validated and analysed. Banks' reporting must be more and more data driven and more and more comprehensive," she says.

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>
> JOAN MCGOWAN, SENIOR INDUSTRY ANALYST, CELENT

It is important to keep in mind the purpose of regulation, points out Andrew Brown, Chief Risk Officer, Earthport. "Regulation is not just about meeting some externally derived requirements, it's genuinely about helping the business to avoid the types of risk that will sink it," he says. "There's an easy go-to phrase which is that there is too much regulation and it's a burden. That's not my experience. On the whole it makes sense, at least in the UK where we have a risk-based approach."

If firms have the right internal control frameworks in place, then regulatory change should be manageable, Brown suggests. "In fairness to the regulators, certainly in the UK, the changes generally reflect the learnings from implementations of previous rounds of regulation," he says. "The new legislation is not a fresh start or a rethink. Those firms which have complied not with the letter but with the intent of ensuring resistance to abuse of the system will find the changes more straightforward to implement."

Nonetheless, ongoing regulatory change is inevitable, he acknowledges. "Regulation will change on a regular basis because external threats change all the time. The history of fraud prevention teaches us that. Constantly readjusting to a situation that is permanently evolving is just part of the way we have to do business."

04 WHERE REGULATION MEETS INNOVATION: PSD2 AND OPEN BANKING

Some of the most impactful forthcoming regulation creates a particular challenge for banks, because complying with one mandate potentially makes it harder for them to comply with others. The revised Payment Services Directive (PSD2) in the EU requires banks to open up access to their customers' account information to newly-regulated third party payment providers (TPPs), to enable the provision by these TPPs of innovative new payment services.

In one sense, this contradictory situation is simply part of the ever-evolving regulatory and market landscape, believes Egil Berglund, Founder & CEO at DPOrganizer. "Both technical innovation and regulatory development force and enable financial services to constantly evolve," he says. "Technology allows for the development of new products and services, and these new products and services must fit into current regulatory frameworks. If they do not, regulators will do their best to catch up. Sometimes it's the other way around: regulations can open up traditional, closed markets and make way for new opportunities, which drives the development of technology and new business models."

This may be so, but PSD2 and open banking will also create very specific knock-on compliance challenges, points out Neil Katkov, Research Director, Celent. "Open banking adds complexity to AML/KYC compliance for banks, when banks use (or themselves provide) third party financial services," he says. "In such cases, there is ambiguity about which firm is responsible for AML/KYC – the third party partner or the bank. Banks may in some cases be able to rely on the third party service provider for the AML/KYC checks, but at a minimum will have to do due diligence on the third party provider's AML/KYC processes, and should also have their own KYCC (know your customer's customer) process in place. If the third party is a cloud-based fintech, then the bank is on the hook to verify the cybersecurity credentials of the fintech firm and possibly its cloud provider on top of that."

PSD2 and open banking create both opportunities and challenges for banks, says Philippe Ruault, Head of Digital Transformation, BNP Paribas Securities Services. "We see the open banking model as a way to go to enable our customers and partners – whether they are fintechs, regtechs or universities – to innovate and create a value added ecosystem around our data," he says.

"We will nevertheless have to ensure we fully comply with security and data protection aspects, while being more open, which is a challenge."

Wandhofer at Citi agrees there are opportunities and challenges. "The role of data driven services will become key and the question is in how far banks will be able to leverage this," she says. "Security and data protection are areas where regulatory assurance (in terms of the interaction of PSD2 and GDPR) will be needed, and regarding the role and standardisation of APIs, a market-wide framework and approach will need to be developed (there is a focus on this by the Euro Retail Payments Board)."

Boskovich at Startupbootcamp agrees. "The open banking mandate – to crack open systems and release data for transactions and general data exchange – requires intensive thinking about the standards," she says. "One of the biggest challenges comes in setting the right standard from the get-go. There is the matter of managing data and data privacy regulation. This is not just a call to the banks to open up their systems to allow for easier data exchange, it's what do these particular interfaces look like? How easy is it for someone to access data via these interfaces once they have passed regulatory authorisation and scrutiny, and if they are a trusted third party, do they have their parameters in place to manage data privacy and to be audited just like any other financial services firm will be audited by a regulatory body?

"Those standards need to be easy enough for the industry to deploy and they need to have a futureproof architecture, so that we're not going to be changing the structure of the language in which we code down the line. The primary thing to be addressed first and foremost is that there is a standard that can be globally adopted and that the standard is enforced so that a jurisdiction that is lagging actually still has to meet this baseline standard."

Focusing on how to comply with PSD2 while remaining compliant with other regulation and leveraging the potential of open banking is essential, believes Blalock at Intel. "Data and data security have been a challenge, but they become even more of a challenge with open banking, and this is really forcing financial institutions to implement new frameworks, new ways to look at how they share and aggregate their data, to be able to ensure they are compliant with these regulations that are on the horizon, while leveraging the data that they have to keep their relevance as open banking takes hold, not just in the EU but in other markets around the world," he says.

While open banking will clearly intensify banks' regulatory challenges, it can also be an important "stimulus" for the industry to tackle three major areas related to regulation, points out Keith Saxton, Independent Advisor and Director, and Innovate Finance Ambassador – "data privacy, data security and cyber".

05 SO WHY DO WE NEED 'REGTECH'?

There can be no denying the energy surrounding regtech - a term which the UK FCA says "applies to new technologies developed to help overcome regulatory challenges in financial services". But if, as we are led to believe, banks have done little else for the past 10 years but spend money on regulation – including on technology – why is there now a need for a whole new industry segment around regulatory technology?

One answer to this question is simply that banks need to cut their compliance costs. Says McGowan at Celent: "Banks have spent billions annually on regulatory technology for coming up to 10 years; this is not sustainable. We are beginning to see a plateau and switch in industry technology spend, although it still remains high. There is a top-down push for operational efficiency rather than continued layering of solutions and the addition of compliance staff. The next step for banks is to better operationalise and industrialise compliance production."

Michelle Curtin, EMEA Head of Policy, Regulatory Change & Governance, BNY Mellon, makes a similar point. "The regulatory tsunami that followed the financial crisis has significantly increased the cost of compliance for firms," she says. "Leveraging technology to help manage regulatory change and general compliance in a cost effective and efficient manner has become increasingly important at a time of margin compression. With skilled compliance resource in short supply, utilising technology to reduce certain administrative tasks or to evaluate management information, can allow compliance resource to narrow their focus to key risks."

Blalock at Intel agrees that a key attribute of regtech solutions is that they enable the "mapping of technology into the data and business processes to deliver compliance – and to do it at a manageable cost". "The cost for compliance continues to increase," he says. "There's not an end in sight. So how does the financial services industry do this at a manageable cost?"

Some caution is needed as not all regtech solutions will be cost-effective for all financial market participants – especially at this early stage of the sector's development, as Brown at Earthport points out. "One of the challenges is the cost to value question," he says. "I was looking at a piece of technology recently for facial recognition for KYC. It seemed to work and be a good solution, but it came at a cost that I couldn't justify, because I have solutions currently in place that work. This may be the kind of solution that needs to hit a critical mass of adoption to make it cheaper."

The point, though, is that a regtech solution "either has to bring an improvement in control or a reduction in cost, or ideally a combination of both", he says.

The level of interest in regtech is to be expected given the size of the prize, believes Dejan Kusalovic, Global Head of FinTech Enabling, Intel Corporation. "Studies show that up to 50% of banks' spending on technology is directly driven by regulation," he says. "It's a major driver of expenditure, it's a key aspect of their business processes, so it's not surprising that the solutions out there that have promised to make this more efficient, cost effective and better in general, providing better visibility on risk, are of major interest to financial institutions."

THE DRIVE FOR EFFICIENCY

Closely allied to cost is efficiency – which is widely lacking in the regulatory solutions banks have put in place until now, observers suggest. As Katkov at Celent puts it, "regtech can be defined as solutions or services aimed at dramatically increasing automation, efficiency and efficacy... alleviating the burden of compliance, which has reached mammoth proportions in operational and cost terms".

One problem is the areas that have not been automated. "Take the KYC process," says Dickenson at Opus. "One of the ways banks have often reacted to KYC deficiencies – and we have all seen some of the more spectacular fines in the media – is by adding people to crunch through the large volumes of work. This is every inefficient. It might get the job done, but it is not sustainable."

Dickinson at ComplyAdvantage agrees there is "still a lot of manual work" in the AML area. "Compliance teams need to monitor more activity faster, more accurately and with fewer resources. This cannot be solved by armies of people wading through false positives," he says. Dickenson, too, believes banks are "asking how they can apply the rules with more consistency and more automation and take out the non-value added work, to progress more quickly and with fewer errors".

Another challenge is the areas where automation has been put in place, but not in an optimal way. As Mark McKeon, Head of Product for State Street Global

Exchange, says: “Up until this point, a lot of our clients have been dealing with regulatory pressure – for reporting and transparency – by implementing point solutions. They have tackled a challenge one way in one country and a different way in another, leveraging different tools – rather than solving a challenge once, with a consistent set of data.”

McGowan at Celent agrees that “the majority of banks are still focused on point solutions”. “It’s become a Catch 22,” she says. “The banks are overwhelmed with the burden of compliance and focus on the immediate crisis, rather than taking time out to industrialise the process. Again, this is not sustainable.”

It is not optimal for compliance either – especially with mandates like BCBS 239 which span entire organisations, as Piechocki at Bearingpoint says. “Typically, banks have implemented a lot of point solutions which are not well integrated. It is getting better, but there is still more to do, and the harder the regulators play, the more the banks will have to solve this.”

The situation the banks find themselves in is completely understandable, given the pressures they are under, but point solutions are a barrier to success, believes Shriver at Saffron Technology. “Financial institutions are besieged by these almost tactical day-to-day firefighting requirements that go hand-in-hand with being a financial services business, so when they have to respond to all those immediate demands for information from the regulators, what it produces is a phenomenon and tactical point solutions - and it distracts from the thoughtful, strategic application of really advanced technology that could really help them,” she says.

“It is a rare financial institution that has the discipline and the ability to lift their head from the distraction of fighting those daily regulatory examinations to apply the continuous strategic thinking and implementation that it takes to identify and execute a new technology solution that will solve some of these issues.”

A lack of coherence in the banks’ approaches is nonetheless preventing the industry’s investment in regulatory compliance from delivering its full value, Saxton emphasises. “There is a whole aspect of improving industry productivity that isn’t getting much debate and isn’t translating to much,” he says.

“The solutions implemented have not scaled well enough because institutions have been tackling compliance through multiple different projects, rather than taking a holistic view.”

06
WHAT EXACTLY CAN REGTECH DO FOR THE INDUSTRY?

"Regtech is trying to solve various problems," says Wandhofer at Citi, "relating to the ability of banks to, for example, improve the quality and automation of regulatory reporting. Other areas of focus include helping the industry optimise its ability to manage balance sheets from a Basel metrics transparency and reporting perspective."

Fabian Vandenreydt, Executive Chairman of B-Hive, a European fintech ecosystem, points out that regtech means different things to different types of financial institution. "At B-Hive, we talk about three segments of financial services – banking, both retail and B2B, insurance and market infrastructures (MIs)," he says. "If you talk to these three segments, their definition of what regtech is and what it isn't varies. Insurers might talk about digitalisation of insurance policies as regtech, while for MIs it could cover AML, KYC and cyber. For banks, major areas of focus for regtech are regulatory reporting and interpretation of regulatory documents."

Whether "every piece of technology which has something to do with regulation" can be described as regtech is "a question", according to Piechocki at Bearingpoint. "It's become a marketing buzzword. Regtech needs to really address the cost and efficiency of adhering to regulation," he says.

Even within those parameters, it's a broad church. "For me, regtech is simply technology that can help us comply," says Brown at Earthport. "It is about replacing manual processes with automated solutions and, at the simplest end, it could be a solution to enable the gathering of documents from prospective clients via a portal on your website rather than in the post.

"At the top end, regtech solutions could be sophisticated AI systems that are effectively able to apply human judgement to scenarios. The term also covers the gamut of solutions in between."

MINIMISING MANUAL WORK

For Dickenson at Opus, "there is a lot of low hanging fruit in terms of inefficiencies" to which firms can apply regtech today. "There is a huge leap forward in efficiency when KYC teams don't have to log in to four or five systems and scan documents and store them in Sharepoint or other manual systems," he says. "This can easily be replaced by efficient, cloud-based workflow, enabling a single search, putting all the information on one page. This can take out the 80% of the less valuable process of collecting materials and move analysts more quickly to the point of making a decision."

The manual work involved in transaction monitoring and sanctions management is also ripe for innovation, he reckons. "Transaction monitoring typically involves people spending most of their day looking at transactions which, due to rules, have hit some kind of threshold, only to find that in 99% of cases, the transaction is actually fine: it's an exercise in determining that you didn't need to do anything all along. The irony of this is that the sea of false positives is not only wasteful of resources, but it makes it more difficult to recognise the real evidence of financial crimes – it obscures the view of the financial crimes we are supposed to detect," he says.

The provision of richer and more accurate AML data is another target for regtech companies. "Historically, the incumbent data providers have used hosts of analysts to create their lists," says Dickinson at ComplyAdvantage. "With new technologies (such as natural language processing and other learning algorithms) we can replace human analysts with machines that can read unstructured data to build up profiles that are richer in supporting data and more up-to-date. This better quality data combined with smarter search algorithms helps drive down false positives."

In a sense, regtech is bringing compliance processes into line with other aspects of banking which are already increasingly digital, suggests Crockford at Onfido. "With the ever-expanding scope of regulatory concerns, and the move to a more mobile and less face-to-face financial service industry, where you don't meet that individual in person, the need to go 'remote' in a scalable way is where regtech helps," he says, "providing the capability to streamline user acquisition or their ongoing monitoring, or to reduce manual overheads because that's no longer being dealt with in person."

The volume of regulations and the complexity of each individual mandate have driven a very labour-intensive approach within the banks, believes Kusalovic at Intel. "There are so many regulations and we are talking about thousands of pages sometimes for a single piece of regulation," he says. "There are whole departments dedicated to compliance within the banks, and a lot of the workflows are around reading what the regulation is and then finding pertinent

data inside and outside the organisation, processing that data, making sense of it and recommending the actions that need to be taken."

The idea, he continues, is to automate as much of that as possible, and here technologies under the AI umbrella – like natural language processing (NLP) – come into play. "The machine goes through all these records rather than people, with the goal at this point being to understand what is going on in these documents, to connect them to other documents and data, and to propose actions."

IS REGTECH ALL ABOUT AI?

AI is certainly a good fit for regtech, as Kusalovic continues. "Regtech is one of the areas of fintech that could benefit most from the emerging technologies under the umbrella of AI," he says. "Regtech is all about parsing through huge amounts of data, external and internal. This is a perfect use case for AI, and with advances in AI technology we're getting to the point in time where there's a perfect storm."

The potential is strong, agrees Curtin at BNY Mellon. "AI is an exciting opportunity from a regtech perspective," she says. "Regtech firms are using AI in relation to challenges such as AML, surveillance and more recently interpretation of regulations. In addition, regulators are reportedly considering how AI might help them enforce regulatory compliance."

Early evidence of success is appearing, says McGowan at Celent. "Banks are just beginning to deploy robots and assisted robots to undertake the manual gathering of information in KYC and investigative case management, allowing analysts to focus on higher risk activities," she says. "I am seeing the development of entity resolution analysis using a wider scope of data types. Also, natural language processing is proving helpful in prepopulating SARs. Most of this is taking place in the bigger banks but will trickle down."

AI certainly has promise in the regtech space, believes Vandenreydt at B-Hive. "There are opportunities to leverage AI as a way to augment human intelligence, for interpreting legal documents, for example," he says. "Some MIs we know are already using some form of technology to do this. Although some tasks will still need human intervention, where tasks are manual and fact-based, AI has a place."

Jean Devambez, Digital Transformation – New Business Acceleration, BNP Paribas Securities Services, sees clear applications for AI technologies in the regtech space. "One challenge being tackled by regtech currently is in the production of reports – many of which are standardised," he says. "Take the Key Investor Information Document, for example. Asset managers are required

to produce thousands of these each year. By applying tools such as natural language generation, regtech companies can ease the pressure of creating these reports."

It is important to remember that despite recent advances, these are still early days for AI implementations. As Brown at Earthport says "it's not cheap, so it's not immediately going to be deployed by smaller financial institutions". "If it's going to make an immediate and large impact it will be as a result of investment by those with deep enough pockets to do so – and the fact that it's deployed by large banks and insurance companies doesn't necessarily mean they will make a success of it," he adds. "Technology is often deployed unsuccessfully before we work out how to get the best out of it."

All that said, while AI might be "over-hyped", it has "huge potential", Brown believes. Dickenson at Opus agrees there is "a lot of hype in the market around the term" AI, which is "mostly useful for helping companies update their marketing materials", but, he adds: "When the hype ebbs away, we will be left with augmented intelligence, which will further non value-adding work."

Where today an analyst might comb through a couple of hundred news articles to find just a couple that are relevant, augmented intelligence and NLP could more precisely take the analyst directly to the relevant stories, he says, "guiding human decision-making while taking out work that doesn't require intelligence".

"AI is going to become more important and we are looking at how to incorporate it in a defensible, auditable way that we can show to a regulator as a proven solution," he adds.

A JOURNEY TO REAP THE FULL BENEFITS OF AI

Regulators are not the only entities that need to be kept onside as AI develops, believes McKeon at State Street. "We are doing work with AI, especially in the area of liquidity," he says, "using machine learning to predict the potential liquidity impact of certain events. We created a model for the Brexit vote, for example."

However, he adds: "When you're building these regulatory solutions you have to be careful you are not moving too quickly. Clients are relying on us to have a well thought-through solution so we have to be careful about how quickly we adopt new technologies."

Financial institutions should not overlook what can be achieved in the meantime, points out Berglund at DPOrganizer. "AI is playing a bigger and bigger role, and will definitely grow in importance over the next couple of years, but there is also very much that can be done and made simpler by just

digitalising compliance work and processes which otherwise are often quite manual," he says.

For Blalock, Intel will have short and longer-term impacts in the regtech context. "AI is really playing a strong role in reducing time to insight, enabling the automation of repeatable processes, managing the complex and varied data sets that are out there with very nuanced relationships, and integrating all this data, current data, historical data, real time data, to get a better picture of where the challenges are," he says.

"AI is enabling automation today, and the creation of a more intelligent process tomorrow, going from reactive analytics now to predictive analytics in the future."

If today we are in "wave 1", during which existing processes are being automated, "wave 2 is where we get into completely autonomous processes that are compliant and regulator approved, and where these intelligent machines start to take control and move things forward from phase to phase in an entirely autonomous process", Blalock says.

Kusalovic agrees. "As we progress with AI, the goal is to be more and more automated, so the technology is not just parsing through documents and making recommendations, but being proactive and taking some of the actions."

> **"AI is an exciting opportunity from a regtech perspective. Regtech firms are using AI in relation to challenges such as AML, surveillance and more recently interpretation of regulations. In addition, regulators are reportedly considering how AI might help them enforce regulatory compliance."**
>
> MICHELLE CURTIN, EMEA HEAD OF POLICY, REGULATORY CHANGE & GOVERNANCE, BNY MELLON

07 CAN STARTUPS REALLY DELIVER THE REGTECH VISION?

As Piechocki at Bearingpoint puts it, "the difference between a good idea and a good regtech business is a big one". Estimates vary as to how many regtech startups there are out there, but whether its 500 or 1500 or more, the number of new companies targeting the space is huge. Can startups really meet the financial industry's need for resilience, scale and security, in the regulatory compliance area of all areas?

It is important not to over-emphasise the presence of startups in the regtech context, warns Dickenson at Opus. "There is a presumption that regtech is all about new startups, but that is not really the case," he says. "There are certainly plenty of new small businesses with cool solutions but that financially would be a risk, but there are also well-capitalised, proven companies driving innovation in the marketplace as well."

Startups also bring intrinsic advantages. As Dickinson at ComplyAdvantage says, they present an opportunity for large financial institutions to "outsource R&D".

Earthport's Brown emphasises the flexibility of regtechs as partners.

"We are open to solutions and we work with some regtech providers successfully to enhance some of our systems," he says. "Like most players, we make an investment and then maintain it over a few years so we are not constantly looking for the next tool – rather we are looking for suppliers that are interested in developing the solution going forward so we are not stuck with a legacy system."

For transaction monitoring, Earthport has worked very closely with one regtech, he adds. "The supplier developed the product for us and with us, and both sides continue learning from each other," he says. "Startup regtechs offer this way of working, but traditional technology firms typically don't. You buy what they have."

All that said, the regtech sector is certainly "nascent", as Wandhofer at Citi says, and this means there is a "natural challenge in this space". "Experimentation and collaboration are the first key steps, which can help identify how resilience, scale and security can be embedded in regtech solutions," she adds.

RESOLVING INCOMPATIBILITY ISSUES

Part of the issue is external perception, believes Saxton at Innovate Finance. "If I am a large bank do I really want to put my operational risk on the agenda by telling the world I have outsourced my KYC to a brand new provider?" he asks. "There is certainly an adoption gap between the biggest banks and some of the new solutions from regtech startups."

That disconnect often becomes apparent when regtechs encounter banks' internal processes, points out Matt Elton, Chief Executive Officer, RegTech Canada. "What we have found is that a lot of the larger players in the market don't know how to engage with regtechs - and regtechs don't know how to engage with big players," he says. "Often regulated firms have very tight rules about who they will deal with, and their due diligence requirements ask for 3-5 years of history. This is clearly challenging for relatively young companies, and they might not be in a position to meet traditional due diligence processes."

Wandhofer at Citi highlights this issue from the bank standpoint. "Sometimes challenges to adoption can arise when regtech firms are small and encounter procurement hurdles at larger institutions," she says. "Key questions around security, data protection and compliance standards need to be considered by regtech firms, so that collaboration with and service provision to banks can be facilitated."

Unsurprisingly, Crockford at Onfido believes the answer to the "million dollar question" of whether startups can deliver the regtech vision is yes. "We are using the same level of encryption the banks are using and meeting industry standards," he says. "We believe the scale and the security are there. The question is what stage regtechs have reached in terms of building out their client base and their offering."

He acknowledges the challenges of working with bigger firms, however. "For us, the answer is yes, and it is just a matter of jumping through the questionnaires, the security calls, all those different pieces that add time and resources when working with a large institution."

Shriver at Saffron Technology identifies another challenge. "I know from working inside a compliance unit of a very large financial institution, we are always tempted to go for the start-up that is creative and seems to have this perfect solution, but the reality is that the small nimble start-up is going to crumble under the support needs of a large financial institution," she says.

Incubation by large financial institutions or technology vendors is one option here, Shriver adds – and Curtin at BNY Mellon confirms the validity of this approach. "Through our EMEA Innovation Centre, we at BNY Mellon are actively engaging with fintech and regtech firms, both new and established, to

consider opportunities to leverage technology that will drive efficiencies in our compliance framework," she says.

Startups can also follow a step by step path to achieving recognition for their solutions, suggests Brown at Earthport. "A large bank is never going to let a small startup replace its entire risk framework and then maintain it for the next 20 years. But large banks will look for and implement particular solutions for specific problems or client bases – and that's how these new regtech providers will be tested," he says.

Patience is needed on the part of the start-ups, suggests Devambez at BNP Paribas Securities Services. "Earlier this year, we took a minority stake in Fortia Financial Solutions, which has developed an investment compliance platform, called Innova, which we are rolling out to our depositary banking clients. The company was founded in 2012, so it has taken time to get to this stage – regtechs need to be patient and ensure they work with the financial services industry to get their offering right," he says.

CLOUD: A HELP OR A HINDRANCE?

The fact that regtech solutions are typically cloud-based is surely another potential barrier when it comes to adoption by larger financial institutions?

Indeed, it can "raise some eyebrows", says Elton at RegTech Canada. "The majority of regtechs operate in a hosted cloud model and this can be a challenge for financial services firms as well, forcing them to ask some questions about where data is stored and who can access it," he adds.

From the perspective of a regtech, Crockford at Onfido recognises that cloud can be a double-edged sword. "It counts both ways," he says. "There's the concern on the security front of making sure that when the data's being transmitted and stored it's as secure as possible. There is also the issue of getting our customers comfortable with the ability to have their systems either integrate or be able to pull information out. This is probably the largest concern in the process and it is key to get their security and privacy teams up to speed. It's a very cautious workflow."

On the other hand, being cloud based is allowing firms like Onfido to unleash "the revolution of AI machine learning-type systems", Crockford says. "Hardware and infrastructure don't cost what they used to and so the computing power that we have at our fingertips really allows us to get to scale and deal with the levels of data and volume that our customers are expecting from us.

"Cloud is a necessity for us to be able to perform the services that we do, but it also brings a lot more scrutiny down on the security levels that our systems are built to," he adds.

The reliance of regtech on cloud is pretty clear. As Celent's Katkov puts it: "Commercial cloud environments provide highly scalable, high-performance computing platforms, virtually unlimited data storage, and open source tools that enable the development and deployment of emerging technologies such as big data analytics and AI, without the need to build massive computing capabilities in-house. These are the tools that are powering the fintech revolution and they are also the secret sauce behind many regtech solutions."

The attributes of cloud are also key to deliver the agility firms increasingly need in their compliance infrastructures, argues Dickenson at Opus. "In reality, if you tried to address any of these problems in the old way, you would spend many months taking requirements, putting a project team together, selecting a provider, sourcing the hardware, installing the software, and testing. By the time you're done, the solution is three years out of date," he says. "Where we used to see banks developing their own solutions, the cost overhead and time meant they can't keep up with the pace of change," he adds.

In short, the value of "onsite, large-scale solutions for regulation" is very limited, he suggests.

"Increasingly, banks are becoming comfortable with greater use of packaged products, provided quickly and implemented quickly. This is even more critical now because the regulatory changes are so quick and hard to keep up with. When you have nuanced changes to regulation almost every year, a two-year project internally is clearly not going to work. That's why banks are increasingly looking to outside firms that can keep up with the pace of change, and the nimble, hardware-free cloud technologies that they would have dismissed a few years ago."

"Sometimes challenges to adoption can arise when regtech firms are small and encounter procurement hurdles at larger institutions. Key questions around security, data protection and compliance standards need to be considered by regtech firms, so that collaboration with and service provision to banks can be facilitated."

RUTH WANDHOFER, MANAGING DIRECTOR, GLOBAL HEAD OF REGULATORY AND MARKET STRATEGY, TTS, CITI

REGTECH: A CATALYST FOR CLOUD DEVELOPMENT

Wandhofer at Citi agrees that the regtech phenomenon is influencing the banks' approach to cloud. "At a general level, the majority of fintechs and regtechs operate in a cloud environment," she says. "This is leading banks to become more familiar with this environment, and is also requiring regulators to become more aware and comfortable with the technology."

Cloud adoption is also being made more straightforward by initiatives to bring cloud environments into line with regulatory standards, suggests Berglund from DPOrganizer. "In our field, processing of personal data and data protection, we see that both the customers and the vendors are pushing for the move to cloud for all the obvious benefits: security, scalability, resilience and cost. New regulation, mainly GDPR, actually makes this easier, by putting regulatory pressure directly on the cloud vendors to ensure appropriate security and respect for personal integrity," he says.

Indeed, for some observers, the security concerns around cloud are a thing of the past. "The primary hesitancy was around security and liability for any data breach when the cloud is provided by a third party," says Boskovich at Startupbootcamp, "but at the end of the day, the bank is going to be monitored and overseen for their security governance process for managing and hosting their data with the cloud provider. This has all been addressed and there are rigorous standards to cloud now," she adds.

Issues of security, data sovereignty and data protection cannot of course be overlooked, but it seems clear that, as Intel's Blalock puts it, "cloud is going to contribute to addressing the regulatory challenge".

"Cloud is transformational to financial services in enabling the full access and use of data, where data is the foundation and analytics is the differentiation," he says. "There are various types of cloud solutions that can influence from a regulatory standpoint. The multi-cloud environment – which enables institutions to put workloads into the best execution venue based on performance and security - is the end point. With this approach, the workload is placed in the best execution venue for what the customer is trying to do, whether regulatory compliance or customer engagement."

Kusalovic at Intel agrees. "The cloud – especially multi-cloud – is all about more efficient, more agile, more scalable compute, and is therefore very well aligned with the problems that regtech is trying to solve," he says.

"Regtech is serving as a catalyst for the cloud providers to rethink how security can be provided and made even better – for both the private cloud and the public cloud, and everything in between."

ESTABLISHED TECHNOLOGY PROVIDERS: A USEFUL BRIDGE?

Unlike startups, incumbent providers of technology to the financial industry have trust and credibility based on years of service, and they too are rounding on the regtech opportunity, as Celent's Katkov says. "Incumbent compliance technology providers have developed their solutions over many years and are tried and trusted not just by financial services institutions, but also by regulators," he says. "Incumbents are now building or partnering to add advanced tech capabilities to their products such as AI and cloud deployment and as trusted providers are in a good position to pass regulatory muster quickly."

For Roy at the International RegTech Association, the strategies of the bigger providers will play a key role in the future of the regtech sector. "What we will see in the next three to five years is that some of the startups will become commercially successful, while others will be acquired. We have people on the boards of many of the big tech firms and we are starting to see them formulate good regtech strategies including their own solutions which could be combined with solutions they acquire," he says.

Citi's Wandhofer sees a role for established providers to act as "trusted partners to help evaluate and assess the increasing plethora of regtech solutions that are coming to the market". "They could also support banks by helping to run PoCs and other types of integration and test services," she says.

"Trying to find alignment between the industry's significant compliance and onboarding hurdles and the small regtech solution providers is another space where mediation and support for a common approach could help," Wandhofer adds.

Partnership is critical, says Blalock at Intel, "and it's a partnership across not just financial services but across other industries". "If you look at what we're doing at Intel around the collaborative cancer cloud - how we are taking data, anonymising it and sharing it across medical institutions so they can accelerate developing cures for cancer – there must be opportunities to take some of those processes and apply them in financial services around sharing and aggregation of regulatory data," he continues.

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HOW WILL REGTECH DEVELOP GOING FORWARD?

For Boskovich at Startupbootcamp, the prospect of "shared services that go across geographies for big banks" promises huge efficiencies. "A solution that can manage different regulations in different jurisdictions from a baseline foundational technology enabling shared services would enable a massive amount of operational cost to be saved," she says. "It would radically reduce the complexity of keeping frameworks updated."

There is also potential to leverage shared services beyond individual firms and within financial communities, suggests Piechocki at Bearingpoint. "There is a model for this in Austria, where the regulator together with the banks created a regulatory utility," he says. "Such a shared infrastructure for a non-competitive activity drives powerful economies of scale."

There is a cultural challenge in achieving such common solutions, warns John Colthart, Vice President, Growth, MindBridge Analytics. "This requires a cultural shift among financial institutions," he says. "One of the big barriers I see is forming a common solution. Financial institutions should come together to co-create solutions from the shared knowledge of their different pain points. Without this shared knowledge, there will never be a single bullet company that will be able to provide a perfect solution because none will have the same information.

There is also a need to build automated compliance processes, he adds. "Regulators use online portals that require forms to be filled manually and have file size limitations. Due to this, sending data and information to regulators is complicated. This is another barrier that we as tech firms will need to overcome. What needs to happen is that the regulatory bodies need to join in the conversation, so efficient compliance processes could be designed and technology can be easily adopted."

The ultimate vision of regtech – the "nirvana" – according to Kusalovic at Intel, is real-time regulatory compliance driven by APIs. "The vision is that there are APIs connecting financial services institutions and regulators which the regtechs are tapped into to get the data that's required to provide regulatory

insights in real-time on an ongoing basis, giving visibility on risks as they develop to enable solutions to be developed before problems arise," he says. "Some of the most exciting regtechs are already taking us closer to that vision," he says.

Colthart outlines a similar vision. "As the technological changes become more prevalent, what we may begin to see is the nature of regulation itself shifting," he says. "We may see the transition towards a more technology-enabled regulator, which will lead to more proactive policy-making. When this happens, regulatory reporting may just become a hygiene factor and intelligence gained from artificial intelligence may uncover systemic regulatory risk preemptively. The approach towards the future is geared towards automating existing practices and starting to rethink current regulations and processes."

In any event, collaboration is key, as Curtin at BNY Mellon points out. "To truly leverage the opportunity technology brings to reducing the cost of compliance and developing efficient and effective regulatory frameworks, it is important that compliance and legal teams are engaging and driving the change within their organisations," she says.

"At BNY Mellon, our compliance and legal teams are partnering with our innovation and technology teams to share knowledge and develop solutions. We are also actively engaging with industry associations and informal collaborative forums that have emerged with the goal of bringing like-minded individuals together to discuss regtech. Such forums offer firms the opportunity to understand how others are leveraging technology to solve particular challenges which other firms may share, or spark thoughts on how that technology could be used slightly differently for other challenges."

Wandhofer at Citi agrees that collaboration will be an essential underpinning for regtech to fulfil its potential. "At this point we are seeing many different service offerings and ideas in the area of regtech," she says. "It will take time and collaboration between banking and the regtech industry to arrive in a place where implementation of solutions can become mainstream and operational and data security and overall compliance related demands can be satisfied by regtech firms.

"Scaling solutions with resiliency and being able to seamlessly integrate with banks are going to be the next key challenges that will need to be overcome. The industry will have an interest to help as, ultimately, regtech is poised to deliver tangible benefits."

CAN REGTECH DELIVER BENEFITS BEYOND COMPLIANCE?

For Berglund at DPOrganizer, the future of regtech will be "more about business value and less about compliance". "There is overall understanding in fintech that compliance is your friend and that regulations can create and drive your market," he says, "and I believe that in regtech we must think the same way. The problem isn't really regulations, its living up to expectations from the world around you. Compliance is not the goal, it's part of the solution."

Leveraging regtech to go beyond compliance is a real possibility, according to Elton at Canada RegTech. "Getting a better view of data and customers enables you to move forward from seeing regulatory compliance as a burden, to seeing it as a way to open up other revenue models, by providing services to better meet customers' needs," he says.

Saxton at Innovate Finance agrees. "Banks are pulling together all this data which is essentially the same whether the focus is risk, customers or optimisation – so there must be something in these must-do activities that will enable them to move to a new place in terms of agility and analytics and knowledge," he says.

Ultimately there needs to be a focus on "turning compliance into cash", Intel's Blalock says. "Success in regtech means providing transparency and insight at a reasonable cost. Leveraging regtech for other aspects of growing the business is where we're seeing some banks and partners we are working with starting to focus now," he says.

"When developing solutions to solve compliance problems, banks need to think about creating a structure where they can not only achieve that goal but also deliver value to the business in other ways, adding more value for their customers and growing revenue on the top and bottom line."

> **"We may see the transition towards a more technology-enabled regulator, which will lead to more proactive policy-making. When this happens, regulatory reporting may just become a hygiene factor and intelligence gained from artificial intelligence may uncover systemic regulatory risk preemptively. The approach towards the future is geared towards automating existing practices and starting to rethink current regulations and processes."**
>
> JOHN COLTHART, VICE PRESIDENT, GROWTH, MINDBRIDGE ANALYTICS

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CONCLUSION: FINEXTRA'S FIVE KEY TAKEAWAYS

- **Regulation isn't going away; in fact regulatory change is accelerating** – and old-school ways of implementing solutions will never keep pace with that change. Cloud-based regtech solutions are a vital option for banks looking to upgrade their compliance capabilities, move away from disparate point solutions and eliminate inefficient manual work.
- **Regtech startups are important but regtech is about more than startups** – there's a powerful regtech ecosystem comprising new entrants, established technology providers, financial institutions and regulators, and shared services across the ecosystem will bring the biggest cost, risk and efficiency benefits.
- **Artificial intelligence is a critical component of regtech** – though it's still early days for AI implementation, these technologies will enable efficiency gains in the first phase and raise the prospect of autonomous processes down the line.
- **Regtech will ultimately enable real-time regulatory compliance** – leveraging API technology, regtechs will facilitate sharing of data between financial institutions and regulators to enable proactive resolution of potential problems before they hit.
- **Banks can – and must – leverage their investment in regtech to turn compliance into cash** – exploiting the data and technology they put in place to boost their regulatory efficacy to generate more customer value and top and bottom line gains.

10 ABOUT

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