



A mounting regulatory burden may be driving improvements in systems, but the benefits to financial institutions can extend far beyond facilitating compliance if the right technology is employed in creative ways

Financial Services Solutions

RegTech: Helping Your Data Work Smarter and Harder

WHITE PAPER



There is far more to RegTech than simply regulatory technology, or at least there can and should be. RegTech as it is coming to be understood must be disruptive, something qualitatively different from what it's replacing and not just a somewhat faster and better version of the same thing.

The most important aspect of RegTech systems, properly understood – an ability to generate different kinds of data very rapidly from different sources and for different purposes, and then to reuse it for others – can bridge the gap between what regulators are asking for and what conventional technology has been able to furnish.

More than Regulatory Technology

RegTech is a subject of discussion more often than an object of understanding. The expression, like the technology that gets associated with it, can be used to enlighten and to obfuscate. As with any great buzzword, the brevity, catchiness and novelty of “RegTech” make it easy to misconstrue and also to misuse by anyone trying to contort what appears to be its plain meaning to catch listeners off guard. Anyone contemplating it therefore must take care to consider how the term is being invoked, and by whom.

At its most basic, RegTech is a truncation of Regulatory Technology and an allusion to the more widely used expression FinTech, for Financial Technology. The consultancy Deloitte defines FinTech as “the use of new technologies in the financial services industry to improve operational and customer engagement capabilities by leveraging analytics, data management and digital functions.” RegTech applies similar methods to help institutions make lighter work of the substantially greater burden being imposed on them, now and over the next few years, by legislative and supervisory authorities around the world.

But there is far more to RegTech than simply regulatory technology, or at least there can and should be. Technology to assist compliance reporting has existed for decades, after all. RegTech as it is coming to be understood must be disruptive, something qualitatively different from what it’s replacing and not just a somewhat faster and better version of the same thing.

But disruptive to what end?

Financial supervisors, including national and supranational legislative bodies and the regulators charged with implementing the laws that they enact, are demanding more from institutions when it comes to compliance and reporting. Firms are being instructed to provide more complex and detailed submissions, more often, using a greater variety of measurement methods.

And more does not just mean more. It means better. The information provided, covering risk ratios, balance sheet elements, all the way down to the transaction level, has to be more accurate and consistent than ever across the various departments of the organization that collects it, to the point that it’s bulletproof against the harshest scrutiny.

Step outside the compliance department and it becomes clear that many of the changes being demanded of firms in their reporting, and in governance in general, are useful in all facets of their businesses.



By taking RegTech-based data management capabilities developed ostensibly for compliance and reporting and adding a business information and intelligence component, the shared characteristics of the systems used in these two critical and continually changing endeavors can serve as the technological foundation for a more profitable, efficient enterprise.

The most important aspect of RegTech systems, properly understood – an ability to generate different kinds of data very rapidly from different sources and for different purposes, and then to reuse it for others – can bridge the gap between what regulators are asking for and what conventional technology has been able to furnish.

But supervisory authorities are not the only ones that find value in such information, created in such a way. So do corporate boards and senior management teams. Step outside the compliance department and it becomes clear that many of the changes being demanded of firms in their reporting, and in governance in general, are useful in all facets of their businesses.

RegTech solutions hold the promise of encouraging and executing that significant, disruptive change to the way financial institutions operate. By taking RegTech-based data management capabilities developed ostensibly for compliance and reporting and adding a business information and intelligence component, the shared characteristics of the systems used in these two critical and continually changing endeavors can serve as the technological foundation for a more profitable, efficient enterprise. These include the ability to compile and analyze data generated across multiple functions in a comprehensive, holistic fashion, as well as a dynamic and adaptable approach that allows firms to get ahead – of regulators, the

competition, even customers – rather than merely keep up.

That prospect could herald another disruptive change, in the way that senior management teams consider and employ compliance technology. After spending the better part of a decade shelling out substantial sums for ever more elaborate pieces of tech to meet more onerous reporting requirements, it's about time, many chief executives are saying, for the compliance department and its systems to start paying their own way. RegTech solutions, when designed and implemented to their greatest potential, can help them do that and contribute to the bottom line.

RegTech, the name and the concept, entered common usage among financial supervisors and service providers only two or three years ago, after the UK's Financial Conduct Authority (FCA) defined it as "a sub-set of FinTech that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities." It swiftly became the designated term of art for the application to regulatory reporting of general technological advances like in-memory storage and processing grids, cloud computing and artificial intelligence.

The RegTech concept, although that was not the name he used, was set forth by Andrew Haldane, chief economist of the Bank of England, in a 2014 speech at Birmingham University in which he contemplated "a global financial surveillance system" that "would involve tracking the global flow of funds in close to real time ... in much the same way as happens with global weather systems and global Internet traffic." Haldane was expanding on an idea that he had presented three years earlier in an article in *New Scientist* magazine in which he highlighted a conundrum that regulators face: that the complex interactions within and among participants in the global financial system make it a whole that is much tougher to monitor, let alone control, than the sum of its parts.

An idea born of necessity

In response to that goal chicken-and-egg dynamics had begun to develop soon after the global financial crisis, and it has accelerated over the last few years: Financial supervisors raise their requirements, and technology providers concoct more clever and sophisticated means to meet them amid the broader backdrop of continuously expanding storage capacity and processing power.

A second impetus for the development of RegTech solutions, also driven by supervisors, has been the penalties they have doled out since the crisis, well over \$200 billion to just the 20 most penalized firms, according to Reuters. That has created an incentive to devote greater resources to the prevention of errors and misdeeds than the potentially more expensive cure.

The concept of assigning sophisticated data collection and analytical methods a central role in regulation came together in what amounts to a RegTech manifesto from the Basel Committee on Banking Supervision in its 2013 publication BCBS 239: “Principles for Effective Risk Data Aggregation and Risk Reporting.” BCBS 239 conveys the committee’s faith in the importance of furnishing accurate and timely data to achieve sound governance and effective management in general.

Regional and national lawmakers and regulatory bodies have taken their cues from the document in shaping their own ever more rigorous supervisory regimes. Much of their focus has been on the technology that institutions, and the regulatory bodies themselves, will use to implement the new protocols.

The FCA, for example, long at the forefront of technological developments among supervisory bodies, has introduced Project Innovate to encourage the development of RegTech solutions. Project Innovate encourages firms to create a so-called regulatory sandbox in which new products and services, delivery mechanisms and even business models can undergo a sort of dress rehearsal, a test in real-world conditions, but ring-fenced from other operations so that their customers are protected. As of mid-2016, 24 firms



out of 69 that applied have been approved for testing the sandbox concept.

These RegTech proving grounds are catching on all over the world. Agencies on several continents are introducing or contemplating innovation hubs for developing new ideas and/or sandboxes for testing them, including the Australian Securities and Investments Commission (ASIC), the Hong Kong Monetary Authority (HKMA) and supervisors in Malaysia and Thailand.

In France, the Financial Markets Authority and Prudential Supervision and Resolution Authority, known by the acronyms of their respective names in French, AMF and ACPR, have teamed up to create a Gallic equivalent to Project Innovate. The Monetary Authority of Singapore (MAS) has released a consultation paper proposing guidelines for a regulatory sandbox. The agency also hopes to merge regulations covering payments and remittances to promote the use of blockchains.

The U.S. Consumer Financial Protection Bureau (CFPB) has introduced Project Catalyst “to encourage consumer-friendly innovation in markets for consumer financial products and services,” the agency says on its website. The Dutch National Bank is studying the impact of technological innovation on financial services and supervision, meanwhile, and authorities in Abu Dhabi are exploring ways to amend the emirate’s legal system to facilitate the use of innovative technology in financial services.

As many changes are afoot on the Tech side of RegTech, there could be even more on the Reg side.

Europe: laying down the law – repeatedly

Europeans revere their democratic institutions. So great is their respect for the rule of law, in fact, that bodies such as the European Parliament will pass legislation and then pass it again. The second iteration of the Capital Requirements Regulation (CRR II) and the fifth of the Capital Requirements Directive (CRD V), both of which await parliamentary approval, are considered essential vehicles for adopting Basel and other global regulatory standards into European law.

The 500 pages of updated regulations include many changes intended to accommodate the characteristics of financial service provision that are unique to the region but in general bring European procedures into line with frameworks already established in Asia and North America. CRD V, for instance, contains new rules, due to be enforced in 2019, that cover fundamental review of the trading book (FRTB) for the treatment of market risk and credit value adjustment, practices already in widespread use elsewhere.

The Analytical Credit Dataset project, or AnaCredit, may provide an even greater challenge. The European Central Bank initiative requires firms to compile data to perhaps an unprecedented degree of detail; information regarding loans and counterparties must be presented contract by contract, with regulators in certain countries, Belgium, for instance, demanding daily updates.

These are not the only items on the to-do list in Europe. The Analytical Credit Dataset project, or AnaCredit, may provide an even greater challenge. The European Central Bank initiative requires firms to compile data to perhaps an unprecedented degree of detail; information regarding loans and counterparties must be presented contract by contract, with regulators in certain countries, Belgium, for instance, demanding daily updates. (Wide national discretion is permitted under AnaCredit, as in much of the global and regional supervisory frameworks being implemented.)

As if all of this were not enough, the deadline for implementing IFRS 9 Financial Instruments, the rubric for treating credit impairment for institutions that follow International Accounting Standards Board guidelines, is just months away, in January 2018.

The various revisions to supervisory standards, and the new ones coming along, are exceedingly time and data consuming and are bound to tax the resources of a firm's reporting function. Bankers anticipate the regulations and standards to keep them and their compliance departments busy well into the next decade.

Not only is there more information to collect and present, but, of course, having more facts raises the potential for mistakes. With new regimes like AnaCredit running side by side with established ones like Financial Reporting (FINREP) and Common Reporting (COREP), it becomes all the more likely that errors will be revealed. That could mean uncomfortable questions – and possibly uncomfortable fines – from the authorities and, perhaps worse in the long run, damage to a firm's reputation. One consolation, at least, is that any inconsistencies in results gleaned from the data using disparate methodologies probably will be excused, but it will be a bank's responsibility any time numbers fail to add up in apples-to-apples comparisons.

Asia-Pacific: getting their second wind

Pacific jurisdictions, most notably Japan and Australia, were among the first in the world to adopt Basel standards. Then came a period of calm for the region on the supervisory front, compared to Europe. But activity is picking up again as major pieces of regulatory architecture undergo overhauls of core balance sheet reporting requirements, similar to FINREP in Europe, that will require more frequent and detailed data submissions and significant changes in the information that must be submitted. Some international banks anticipate the costs of complying with the new rules to be so high that they are considering leaving the region.

Significant revisions have been implemented or announced in regulatory regimens such as the MAS 610 and its core set of returns in Singapore, which will have to become more granular in the next two years, and the Economic and Financial Statistics reporting procedures in Australia, for which the country's Prudential Regulatory Authority proposed a makeover in January 2017. The HKMA similarly has mandated broad changes in reporting rules over the last couple of years related to liquidity reporting, exposure limits, net stable funding ratio (NSFR) and the like. Those changes apply to tier 1 and tier 2 banks, while the ones in Singapore cover only the largest firms.

Elsewhere in the region, supervisors in India and Indonesia are moving to transactional reporting. Indian banks must provide tables with all relevant transaction data, and Indonesia is about to go one better, with a requirement to report 100 attributes for each contract.

The new demands are so great that many institutions will have to alter their review and reporting processes substantially. Many are likely to discover that the comparative absence of significant adjustments to regulatory frameworks has left them with stale, antiquated procedures that are inadequate to the reporting requirements of tomorrow and barely good enough for today.

It's common for firms in some jurisdictions to rely on manual or semi-automated data entry when preparing reporting forms. Such methods restrict the amount of data that can be compiled and the depth to which any analysis of it can go, and it leaves it prone to keystroke errors and other inaccuracies.

At least institutions know what they're up against. For instance, in a survey¹ with several dozen Australian banks which Wolters Kluwer conducted in early 2017, banks listed their key regulatory reporting challenges as data management, subject matter expertise, populating forms, GAAP analysis and generating files – the full spectrum, really. Data management, including the consolidation of information from different sources and platforms, was the biggest concern by far, mentioned by just over half of the firms surveyed. Facing new, more stringent reporting requirements, half of the institutions said they were planning to change their approach to data collection; an additional third said they would review their procedures.

Their acknowledged lack of preparation may turn out to be a blessing in disguise, thanks to the advances in RegTech, or at least a problem that is more easily surmounted than firms may realize. The progress that has occurred all around them may allow banks not just to upgrade their systems and operating procedures, but effectively to start from scratch in important respects, unfettered by antiquated legacy systems. Such a thorough overhaul could leave them with data management capabilities that are more efficient, streamlined and cost-effective than if they had attempted to bolt RegTech pieces onto existing, somewhat serviceable, technology.

1. See: <http://www.fintech.finance/01-news/overhaul-of-regulatory-reporting-technology-infrastructure-for-australian-banks/>

The United States: more work and more words

There has been much talk lately in the U.S. Congress about lessening the burden on banks, in particular by eliminating the Dodd-Frank Wall Street Reform and Consumer Protection Act and the CFPB, or at least lightening their impact on financial institutions. The action, however, tells a different story. Regulatory agencies are demanding greater specificity in reports covering day-to-day operations, often down to the transaction and contract level, and in stress test scenarios, too.

Credit impairment, the focus of the new Current Expected Credit Loss (CECL) protocols set out by the Financial Accounting Standards Board, is among the topics of significant interest. Systemic risk data, to be gathered by large bank holding companies and certain other entities for the Federal Reserve in the Banking Organization Systemic Risk Report (FR Y-15), is another focus, as is liquidity coverage.

If deregulation efforts in Washington do gather momentum, the beneficiaries are likely to be smaller institutions, reflecting an expansion of the notion of proportionality that has been catching on in Europe. Small banks are less critical to the stability of the financial system, and their plain-vanilla lending and deposit-taking are seen – not least by them – as broadly less risky than many activities, notably investment banking and proprietary trading, that larger firms engage in.

The uncertainty surrounding U.S. deregulation is affecting supervision farther afield, meanwhile. Some analysts and commentators contend that lawmakers and regulators in Europe are slow-playing the enactment of additional changes to the supervisory architecture there while they await concrete signs from the Trump administration on the direction of regulatory initiatives on that side of the Atlantic.



Regulatory agencies are demanding greater specificity in reports covering day-to-day operations, often down to the transaction and contract level, and in stress test scenarios, too.

Must try harder

Bringing existing technology up to scratch to meet revised requirements is likely to be a formidable task, even for firms that have been diligent about keeping their systems current. Though the industry may have its doubts, the authorities are not devoid of understanding or compassion. Efforts are being made in some jurisdictions to make the various supervisory regimes more compatible with one another.

This is especially so in Europe, where the combination of national and regional standards can make data collection and reporting acutely difficult for institutions doing business across borders. The European System of Central Banks (ESCB), a consortium comprising the ECB and the 28 national central banks within the European Union, have introduced the Banks' Integrated Reporting Dictionary (BIRD), the Single Data Dictionary (SDD) and the European Reporting Framework (ERF) to try to harmonize data collected for different agencies and purposes, using different statistical methods and/or reporting formats.

But if institutions are entertaining hopes that supervisors will have second thoughts and start going easy on them, a progress report released in March 2017 by the Basel committee on the implementation of the principles introduced four years earlier in BCBS 239 should disabuse them of it. "Banks' level of compliance is unsatisfactory and the overall implementation progress remains a source of concern to supervisors," it says. It encourages banks "to step up efforts to comply" and asks regulators "to monitor progress and call on banks to address observed weaknesses."

While addressing those weaknesses will not be easy, it is certainly doable, and if done right it can allow an institution to reap benefits from top to bottom, across all departments, in all major facets of the business, not just when it comes to meeting compliance obligations. The more stringent reporting rules, in fact, can only be understood in the wider context of supervisory efforts to get firms to be more forward looking and holistic in their thinking, a worthy ambition for all sorts of reasons.

The steps to achieve that, like syncing risk and finance functions, are good for business, not just compliance, and so they provide firms with an added incentive to overhaul their technology. That is driving interest in RegTech, although not necessarily a deep comprehension of it. With such a fast-moving target, in which new developments occur continually, it's difficult, especially for anyone with limited expertise in the inner workings of information technology, to maintain a clear understanding of what is and is not RegTech, how it got there and how it can be used to best advantage.

While addressing those weaknesses will not be easy, it is certainly doable, and if done right it can allow an institution to reap benefits from top to bottom, in all major facets of the business, not just when it comes to meeting compliance obligations.

A matter of perspective

Looking from the inside out – from the point of view of someone working in IT – the features that make RegTech disruptive yet incredibly appealing are adaptations to the specific needs of financial compliance and reporting of broad developments in computing along several fronts:

In-memory Data Grid (IMDG)

This is a group of servers configured to permit their random access memories (RAMs) to behave as a single entity, allowing massive datasets to be stored in RAM so that individual bits can be retrieved as much as 500 times faster than if they had been stored on conventional drives within the servers.

In-memory computing grid (IMCG)

The next step beyond the IMDG, in-memory computing links RAMs across servers so that they can process data, not just store it, maximizing the speed with which data can be manipulated and analyzed.

Cloud computing

Hardware has been moving out of the basement and into dedicated, usually third-party, hubs. This reduces infrastructure and IT staffing costs and lets companies concentrate on their primary lines of work. Storing data remotely also allows companies to add or subtract servers owned or leased at a hub to adjust to changes in business volume with minimal effort and expense.

Service-oriented architecture (SOA)

A cousin of cloud computing, with many of the same cost and logistical advantages, this is a way to furnish application programs for various functions remotely. This ensures that the latest version of each piece of software is available to an organization wherever and whenever it's needed.

Artificial intelligence

AI is essentially an ability to mimic sophisticated human thought processes, rather than merely making calculations very fast. That can facilitate the recognition of patterns and trends in data, even those governed by complex, interrelated variables. The ability to tease out trends, moreover, can be used to spot changes in them and signal problems before they are readily apparent through conventional analytical methods.

From the vantage point of senior executives pondering the merits of RegTech solutions – the key attributes that these computing advances afford – speed, agility, scalability and adaptability – are manifested in a set of features that analyze and present data.



From the outside looking in – from the vantage point of senior executives pondering the merits of RegTech solutions – the key attributes² that these computing advances afford – speed, agility, scalability and adaptability – are manifested in a set of features that analyze and present data, especially the complex interactions among various interrelated sources of risk and performance, in ways that are sophisticated, not complicated. That permits their impact on the principal functions within an organization to be understood, evaluated and acted upon without overwhelming users. This is the essence of what RegTech is and does. These features include:

Centralized data management and analysis

Shared analytics and calculation engines facilitate the integration of key functions like risk and finance, helping to break down barriers between silos by rapidly retrieving information wherever it's stored on a firm's servers. By streamlining the collection of contractual, account, risk, finance and transactional information, a holistic oversight of the entire firm can be produced, helping to create truly integrated and consistent data.

Data mapping

In conjunction with a centralized management system, this helps establish connections among pieces of data generated through different collection or analytical methods to match equivalent items stored in different locations. Like an analytical Rosetta Stone, data mapping allows details to be compared and reconciled with one another to discover their meaning and ensure consistency, identify the impact and implications throughout an organization and establish a truer picture of conditions.

Data visualization

In the future, as in the past, a picture will be worth a thousand words – or a thousand numbers. Visualization software presents information in a pictorial or graphic format to make it easier to detect patterns that otherwise might escape notice. In general, it provides a means for users to get their heads and eyes around large, otherwise unwieldy chunks of data and draw useful inferences from them.



Smart Cubes

These are multidimensional matrices that permit data to be presented and interpreted more clearly. They are standardized, automated formats for representing, validating and reporting compiled datasets that leave individual items available to be reused for different purposes. That ensures greater consistency and flexibility and lower cost. Smart Cubes were developed by the Austrian National Bank to help banks and regulatory authorities make sense of all the data that will be required under the Basel guidelines and the various supervisory frameworks that firms will encounter around Europe. The Austrian authorities are at the vanguard of another trend in financial supervision. They are asking firms they monitor to take a kitchen sink approach and submit essentially every piece of data they can muster. The central bank then draws conclusions from the data about each firm and the financial system. As originally envisioned, a bank would have needed a solitary Smart Cube to represent all material information. In the real world, six or seven appears to be the norm.

2. Deloitte report: <https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/performance-magazine/articles/lu-how-agile-regulatory-technology-is-helping-firms-better-understand-and-manage-their-risks-24052016.pdf>

Similar means for multiple ends

These tools work in concert to help meet compliance obligations and produce reports of the highest quality reliably, quickly, consistently and cost effectively. They also serve key operational goals related to risk management and financial performance that go well beyond compliance. What makes that possible is that the processes used to meet both sets of needs are more similar than it might seem at first. They require facile manipulation and management of data in ways that permit a firm to analyze current conditions and forecast future ones, and to gauge the impact on the organization as a whole and on particular segments within it.

In addition to answering every question asked of it efficiently – if we get into a particular business line, say, how well will it mesh with our others and what impact will it have on overall return on capital? How will increasing exposure to one type of asset in a particular portfolio by a certain amount affect key ratios? – a system must be able to alert users to other questions they should be asking themselves, such as why a central bank is prodding us for information about some arcane and outwardly benign criterion. It also must highlight potential sources of trouble ensconced in the data, such as some improbable but not impossible set of economic and financial circumstances that could present an asymmetrical threat to a firm's health.

These tools work in concert to help meet compliance obligations and produce reports of the highest quality reliably, quickly, consistently and cost effectively. They also serve key operational goals related to risk management and financial performance that go well beyond compliance.

The answers to questions like these are unlikely to be discovered in any single place. That's why the most effective RegTech software functions through a combination of analytical breadth and depth. There must be tools that can work across silos by pulling out relevant details from anywhere within the data lake.



If a RegTech solution turns out to have a limited and less beneficial effect than anticipated, a likely reason is that it had a limited scope. Much of the technology promoted as RegTech is created for narrow niches and uses, affording little opportunity to display what is probably the most valuable feature of RegTech, its ability to make sense of data in multiple contexts across an institution. That might be satisfactory for a small firm with a specific technological hole to fill, but something more flexible and with more functionality will be required for use across a sizable, commercially and geographically diverse enterprise.

The brute-force data storage and processing capabilities, meanwhile, allow every transaction, payment and contract to be examined at a more granular level to provide information demanded by regulators, and by boards and shareholders, as well. Senior managements are discovering – and requiring – that their RegTech software can evaluate the profitability of every decision related to every transaction.

The most effective RegTech software functions through a combination of analytical breadth and depth. There must be tools that can work across silos by pulling out relevant details from anywhere within the data lake.

There can, of course, be too much of a good thing, however. As healthy and refreshing as a dip in the data lake can be, it is important not to get dragged too far beneath the surface. Regulatory authorities may be demanding exhaustive amounts of data, down to the minutest detail, but there reaches a point at which more data becomes a hindrance to higher-level analysis, forecasting and decision making, whether for compliance or any other business need. A good RegTech solution knows what material to present and what to skip over. It should allow firms to do more – but also less.



About Wolters Kluwer Financial Services

Wolters Kluwer N.V. (AEX: WKL) is a global leader in information services and solutions for professionals in the health, tax and accounting, risk and compliance, finance and legal sectors.

We help our customers make critical decisions every day by providing expert solutions that combine deep domain knowledge with specialized technology and services.

Wolters Kluwer reported 2016 annual revenues of €4.3 billion. The company, headquartered in Alphen aan den Rijn, the Netherlands, serves customers in over 180 countries, maintains operations in over 40 countries and employs 19,000 people worldwide. Wolters Kluwer shares are listed on Euronext Amsterdam (WKL) and are included in the AEX and Euronext 100 indices. Wolters Kluwer has a sponsored Level 1 American Depositary Receipt program. The ADRs are traded on the over-the-counter market in the U.S. (WTKWY).

For more information about our solutions and organization, visit [WoltersKluwer.com](https://www.WoltersKluwer.com), or for our financial services solutions, visit [WoltersKluwerFS.com](https://www.WoltersKluwerFS.com).

© 2017 Wolters Kluwer Financial Services, Inc. All Rights Reserved.

Contact information:

Wolters Kluwer
25 Canada Square
Canary Wharf
London E14 5LQ
United Kingdom

Please visit www.wolterskluwer.com
for more information.

Copyright © 2017 Wolters Kluwer Financial Services. All rights reserved.

All other registered or unregistered trademarks and service marks are property of their respective companies and should be treated as such.

No part of this publication may be reproduced, transcribed, transmitted, stored in a retrieval system, computer or otherwise, in any form or by any means, magnetic, mechanical, electronic, optical, manual or otherwise, and may not be translated into any language without the express written permission of Wolters Kluwer Financial Services.



Wolters Kluwer

When you have to be right