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Lockdown and Error Proof Unit Pricing

How the new normal presents the perfect opportunity to invest in technology to reduce the risk and reputational damage caused by unit pricing errors

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This paper is adapted from the speech delivered by Terry Kyle, Australia Country Manager for Financial Risk Solutions (FRS), for the International Business Review Annual Unit Pricing Online Forum, November 2020.

Here in Australia and around the world, the lockdown caused by the Covid-19 pandemic has forced firms to re-think how we do business entirely. And while the pain has been widely felt and continues to be, through the hard work of a lot of people, we find ourselves in a position where we are ready to re-open our doors for business, where in Europe, the US and other countries, a long cold winter of isolation awaits some people.

From a business perspective, in March we were faced with a sudden change that needed to be implemented, effectively overnight. That was tough to absorb for some firms, where people had to work from home, losing access to systems, support and expertise, and experience that was available around the water cooler. From a unit pricing perspective that created challenges for firms that didn't have a solid Operational Resilience plan. All this during a time when volatility hit the markets hard.

We got through that and now we have a great business opportunity in Australia. We have a new normal where people don't want to be in the office five days a week, and everything is pointing toward a future where work will take place in a hybrid of the office and the home. The timing of a return to the new normal is more in our hands too and as such, for the funds industry, we need to consider technology in a new light – one where human interaction is focused more on reviewing rather than doing, where oversight is by exception rather than by process, and unit pricing safeguards are controlled centrally when human interaction can't be.

This new normal provides great opportunities. Opportunities I believe this industry is ready for, and that the current and coming conditions have set us up perfectly for, and that is to take a step back to review and refresh our operations, both on the technology front and with our teams, to ensure we weather this storm and transition into the new normal by adapting an operational resilience plan that protects us for years to come and helps us to grow our businesses. We can't assume that COVID is under control in Australia, nor that this will be the only disruption to business as usual that we will come up against, so we must be able to adapt quickly by learning the lessons from the past.

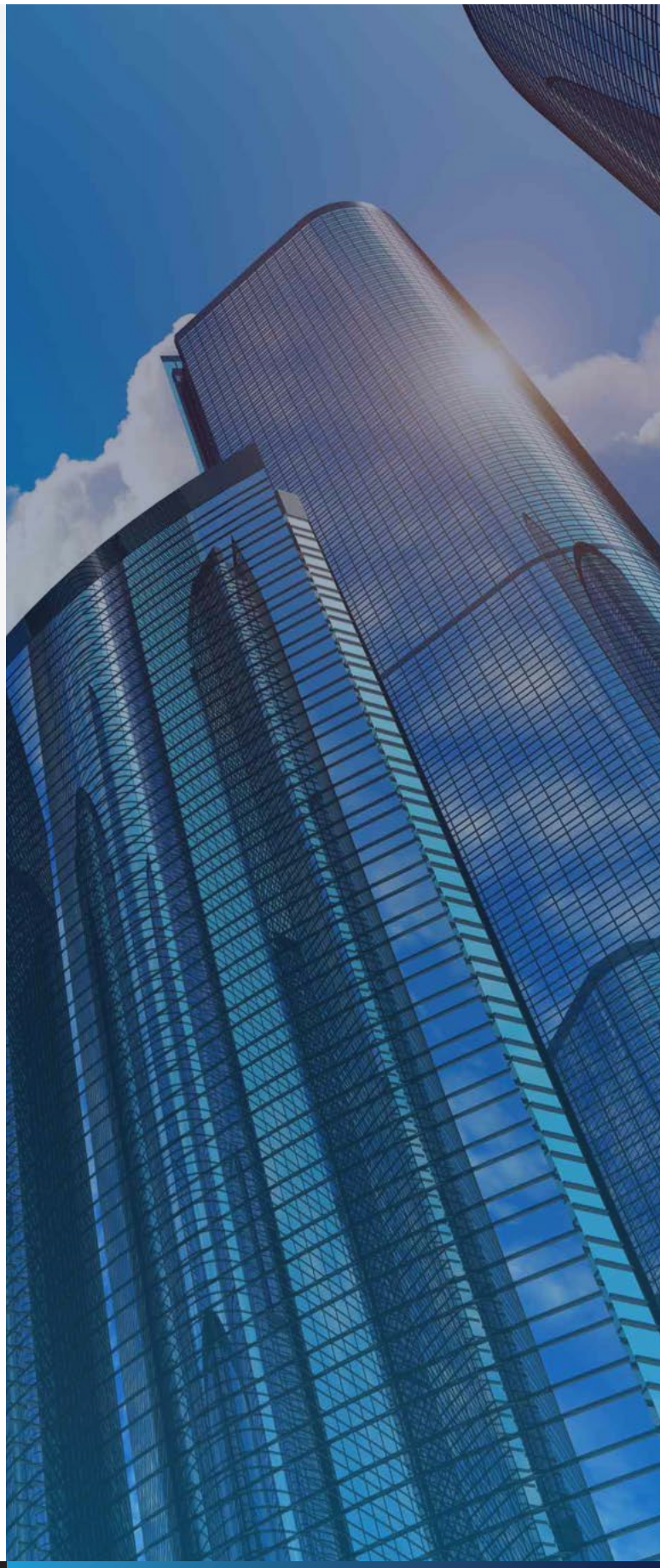
With that in mind, I'd like to explore the challenges we are up against with regard to unit pricing, and look at how, by reviewing and adjusting our operating models, technology and teams, we can move forward with confidence.

Unit Pricing Challenges

For unit pricing, the lockdown experience has provided firms we have spoken to with a fair amount of stress. Even where errors have been managed, there has been flux and pressure. When systems are manual or spreadsheets are used, a key-person risk is evident because one or two people are relied upon as they are often the only ones who know the detail. Complexity is in people's heads and not in the machine.

The calculation of unit pricing has become increasingly complex as investors have become more sophisticated. More data is required from different sources, deadlines are tighter, calculations are more complex.

Staff need more knowledge and experience to ensure the process is delivered to conclusion within deadlines. These challenges just get harder under conditions of the new normal. We need to be more efficient.



The Impact of Unit Pricing Errors

"Unit pricing is hard. There is a lot of stuff that can go wrong and systems need to be very efficient. There are so many unit holders that when you get a problem it can become huge."

- ASIC

So what is the impact of unit pricing errors? Firstly and most importantly, when errors occur the retail investor is not given correct value for their money. The Royal Commission highlighted the essential requirement to ensure customers are treated fairly and correctly. Whilst unit pricing wasn't specifically discussed, the general principle cannot be ignored here. And it seems that the Australian Prudential Regulation Authority (APRA) are upping the ante a little bit to scrutinise some industry based super funds.

The second aspect is that unit pricing errors can linger for long periods of time, increasing the work required to 'make good' the unit holders and calculate the correct prices. Creeping errors stack up over time, and what might be acceptable as a variance in a single day, becomes unacceptable over time. Finding these errors without an automated system can be time consuming and costly.

One example we heard recently was a fund where the provision for bad debts was greater than the actual value of outstanding debtors. A relatively easy error to spot you would have thought. The remediation project took more than 12 months and required resources from both the fund manager and the outsourcer and resulted in a seven digit indemnity payment. But that goes nowhere close to repairing the reputational damage.

Another example of that is a reasonably recent case of a Sydney asset manager who reported unit pricing errors spanning five years from 2011 to 2016. The reputational damage caused by this, along with unexpected costs to repair these errors, resulted in a 62 percent decrease in their net profit the following year. This is a pretty sobering case in a very competitive market.

Unit Pricing is Hard

Unit pricing is hard. Errors are real and the consequences can be dire as the cartoon above demonstrates. Poisoning the well with an error can have a big impact with far-reaching consequences. Harder still is getting rid of all the poison permanently, to a point where people are confident drinking from it again. This analogy applies to unit pricing errors. It is complex and difficult to repair.

Harder still is regaining trust and confidence, particularly in a world where the cost of remediation is ultimately born by the members. If you don't poison the well in the first place it never needs to be fixed.

Why are these Unit Pricing errors happening?

In our experience, most firms use people and spreadsheets to manage some aspects of unit pricing and errors. Spreadsheets have historically been one of the biggest sources of unit pricing errors. And anyone who has been following the UK's attempt to count the number of COVID-19 cases will know that errors caused by spreadsheets still occur. For those who don't know, the UK government under-reported the number of new COVID-19 cases for days because the spreadsheet they had been using ran out of rows and no-one noticed.

We know in the short term it can be easier and cheaper to add a small manual process than to review the entire function, particularly when the core fund administration system lacks the flexibility to adapt to new requirements. However, there is a line where, when crossed, the risk of errors outweighs the short-term benefits.

Handing off a spreadsheet from the person who built them to a new operator is also risky, and in our industry, the ability of someone to understand exactly what the spreadsheet is doing is often limited due to lack of documentation and access to the people who wrote them.

There is also generally a time constraint on fund admin staff between the time they receive the prices from their external outsourcer (or they calculate the prices in-house) and the time they have to publish these prices to the market or other downstream systems.

When working on spreadsheets it's often not possible to do the full range of validations on every fund within that short time window. Some firms do validations on a sample basis and change the funds they sample each day. Others restrict the range of checks they do each day to those that are manageable within the time window.

With current technology advancements there is no need to suffer this trade-off between timeliness and accuracy. With automated oversight technology it is possible to carry out a comprehensive range of validations on every fund unit price every day within the time available. Furthermore it's possible to store the fact that these validations have been executed each day, whether they passed or failed, if they failed how/who resolved them. All this activity is stored for audit purposes. This is real risk management to satisfy RG 259 and minimise unit pricing errors.

The new normal presents the perfect time to invest in technology. A cultural shift is upon us. As a result, firms will be saving millions of dollars over the next 12-18 months as the need for office space, travel, equipment and infrastructure reduce significantly. I believe now is the time to funnel some of those savings into technology that will error-proof unit pricing and provide evidence based practical compliance with RG 259.

The Solution?

MACHINES FOR DOING AND HUMANS FOR REVIEWING

For us at FRS the answer is simple – machines for doing and humans for reviewing. What this means is setting up a system to automatically control aspects in the process that might normally be handled by a human, and to present only exceptions to humans for review and repair. Invest|Pro is helping firms do just that by allowing rules-based oversight against your outsourced unit pricing, while ensuring that internally calculated unit prices are correct too. It's done automatically by machine, leaving a need to review the process only by exception. This ability has always sat well with our clients, but in our new normal in Australia, it has taken on an even greater importance for operational resilience. Less manual work, and errors presented by exception, allowing focus on the problem at hand.

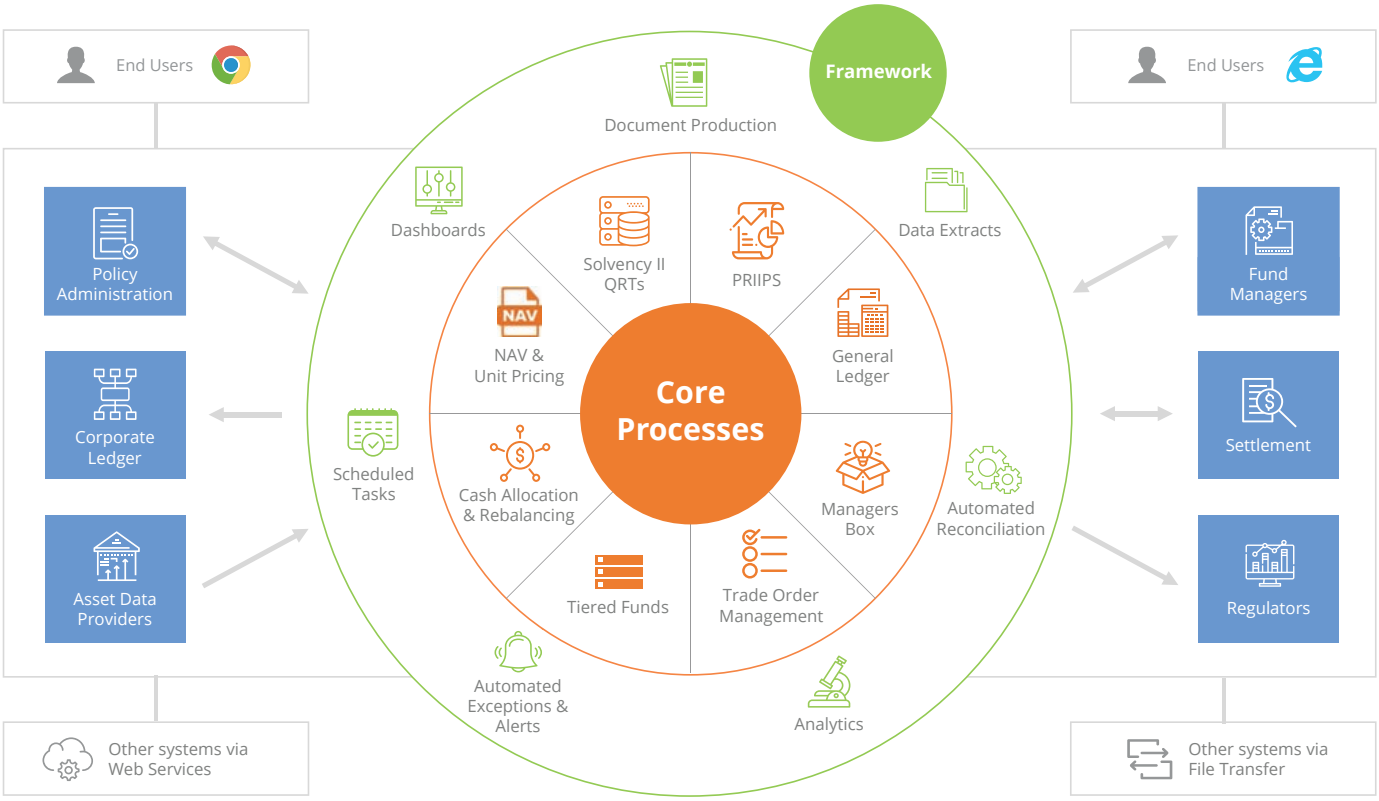
This all means better control. And if the solution is hosted on the cloud, less technology risk as a centralised model needs to be part of our new normal. There are important HR implications too. With modern technology automating the investment admin process, the skillsets people need also changes. They need to be not just more technically savvy but also more investment admin savvy – by that I mean they must have a thorough understanding of the end to end process and the relationships between all of the steps involved.

This will be a marked shift in dynamics. The teams will be smaller but more across the entire process. The machines will do the heavy lifting and the humans will resolve issues identified by the technology.

Team members will be more valuable and can concentrate their time on resolving issues that previously were not even identified.

Of course a good software solution from a good software company makes it easier to determine what the issue is but your training and education processes need to provide your team with the abilities and knowledge to thrive in this new world.

Designing the Optimum Operating Model



So what does this new world look like? We use the graphic above when describing the optimum operating model for businesses. Let's look at the the major components. Firstly, in blue around the edges are the external systems and organisations that need to be interfaced with – clearly this is machine to machine without the need for humans to touch, move or edit files.

In the centre of the diagram are two concentric circles showing in orange a set of business functions that can be selected on a modular basis and combined to provide the functionality specific to your business whether that is unit pricing, oversight and resilience or whether you need regulatory reporting and cash allocation /rebalancing across a fund of funds structure. The modular aspects allow you to choose the components you need to address your business pain point.

Surrounding the core business functions is the most important component – the automation and control framework. Automation is essential but automation without control is dangerous – the equivalent to a car with an accelerator but no brake. This automation and control framework enables the software to be configured to perform the processing itself and to run the required validation checks during the processing – only asking for a human's assistance when an exception is found.

Achieving Operational Alpha

Client Type	Staff Count (FTE)	Multi Asset Funds	Fund of Funds	Mirror Funds	Schemes/ Individual Accounts	Funds per FTE
Pensions Fund Admin	6		6,000	1,000	800	1,300
Third Party Administrator - Life Funds	2.5		370			148
Life and Pensions Organization	3	150	1,925			691
International Life Co	3	300				100

This approach enables you to have fewer people in the investment admin teams and is illustrated by our clients' experience in the image above which shows the full time equivalent headcount, the number and type of funds as well as the funds per FTE from four of our clients. A journey towards operational alpha.

The last line in the table is a great case study of the benefit of automation. Prior to using our software, this client outsourced their 300 daily priced funds to a global custodian. The outsourcer used a popular Investment Accounting software package, yet still required 107 spreadsheets to complete the daily process.

Bringing that process back in-house and deploying Invest|Pro meant efficiencies were gained and the number of staff required was halved.

Previously six staff were required to oversee the outsourcer, whilst today three people process the 300 daily priced funds in-house on shorter timescales and with lower operational risk. And there is now not a spreadsheet in sight for this.

Lastly, we are facing a very different new normal. In Australia 70 percent of workers want to continue to either working at home completely or for the majority of their time. Ninety percent of parents want the same. In India, the CEO of TATA is planning on keeping 75 percent of their workforce at home most of the time. What does this have to do with unit pricing? Well, you won't have easy access to the spreadsheet gurus any more, and it will be more difficult to coordinate complex manual processes. There will be a real drive toward automation and centralisation of critical business processes. Older client server technology will become more problematic, and the sharing of information will be more challenging.

Automated Price Validation

Let's now change gear a little and look at some of practical ideas on how to automate your unit pricing validation, a process that is essential regardless of whether you calculate unit prices in-house or have outsourced the function.

And that's an important place to start. Making sure that your unit prices are correct is a process that everyone must do regardless of whether you have outsourced unit pricing or you do it in-house. The Australian Securities and Investment Commission (ASIC) and APRA made that very clear all the way back in 2008 when they published the good practice to unit pricing guide, which clearly states in section 1 "while you can outsource some of your functions, remember that you cannot outsource your responsibility for those functions." Indeed the good practice guide even goes on to say that "where possible, avoid manual systems and upgrade your old IT systems."

This theme was continued more recently in RG259 issued back in 2017 with a clear statement that where third-party service providers are used, responsible entities retain ultimate responsibility for the operation of the scheme.

Clearly we as an industry are responsible and I don't think anyone can argue with that. But what about the argument that unit pricing is a complex mechanical and logistical process that means absolute perfection can't be attained and that there must always be a trade-off between accuracy and timeliness? By implication this is arguing that we should accept errors or the poisoning of the well as a fact of life.

In our opinion you don't have to accept this and in fact this level of inaccuracies and trade-off doesn't need to be tolerated anymore due to the technology that is now available. Modern systems can solve the accuracy versus time trade-off through automation. More can be done with fewer people.

In practical terms this means harnessing this power into an automated rules-based system that is flexible enough to ensure the key risk areas unique to each fund can be checked as well as running a broad range of standard checks across all funds. Accurate and comprehensive.

We will move onto some examples but one final item before moving on that is often overlooked is ease of use and audit. During the oversight process data is collected and hundreds, maybe thousands of validations are run every day. Saving this data and providing easy access for the operations and audit teams to that data, including source files, is crucial.

We no longer need to accept errors or inaccuracies as part of unit pricing. With an automated solution performing the heavy lifting of loading large quantities of data and performing thousands of validations with humans only required to look at the exceptions you have the ability to remove errors and prevent the poison from entering the well in the first place.

Automated Validations

Starting at fund level and moving all the way down to the security level itself presents the most comprehensive methodology for validating a unit price. Comparing the fund movement versus a universe of peer funds or more simply against a benchmark will highlight any obvious and large issues. Additional checks here could include the use of fund level risk metrics like Sharpe ratio or standard deviation to flag more structural changes with the fund.

A range of checks can be performed automatically on security prices, for example, import the price of the same security from multiple market data vendors and check for consistency between the security price vendors, check for stale security prices, check the movement in the security price is within a fixed tolerance say 3 percent for an equity and 0.5 percent for a bond, even vary that by bond risk ratings or issuer. You can check the movement in the security price against an index if you like. You could do the same for FX rates. These checks can be made in seconds.

Another set of security level validations relates to corporate actions, for example, an automated system can independently interrogate a data vendor system, such as Bloomberg, check for securities which have gone ex-div and then validate that a dividend accrual is included for that security in the NAV. If no action is recorded, this is an exception.

Fees and expenses are an area that are often responsible for errors and can often be the source of creeping errors – this is where daily tolerances are met but tolerances over a longer period of time for example annually are not. Here it's possible to automatically validate that the daily accrual for every charge or expense in the fund is correct as an automated system can calculate the same accruals and compare with the outsourcer's numbers.

A crucial validation for Australian superfunds is the ability to automatically reconcile the Capital Gains Tax (CGT) accrual estimate at the Investor Option level with the actual CGT figures provided by your custodian at portfolio level. This is something that firms tell us they simply cannot do in a spreadsheet, particularly in a complex fund of fund structure, but reconciling this data and analysing the differences automatically via automated software will reduce your unit pricing inaccuracies and errors as well as the end of year true up effort.

It's easy to run a set of reconciliation checks on security positions, unit positions and cash positions. For example for every security in every fund check that yesterday's nominal holdings plus todays trades in the security reconcile to today's nominal holding of that security. A similar check can be run for units in issue and for cash by currency.

With the right system in place you can check the fund complies with its investment mandate every day, for example. if a fund mandate limits the maximum equity exposure of say 50 percent of the fund value this can be automatically checked each day.

All of these checks can be automated for every fund every day. You are also able to keep a full audit history of the process, the source data and all exception management steps for future reference.

FRS Implementation Project Plan

Pre Implementation

Implementation Discovery Workshops	Requirements Analysis	Operating Model Analysis	Data Analysis
	Client Charter	Proposed Operating Model	Project Plan
Agreement	Commercial Agreement	License Agreement	Project Governance

Implementation

Standard Release	Environment Set Up	Standard Operating Model	Training	Data Take On
Enhanced Release Build	Design Item 1	Design Item 2	Design Item 3	Design Item X
	Code			
	Configuration			
	Automated Test			
	QA			
Enhanced Release Delivery	End to End Operating Model Test	Client Environment Localisation	Integration Test	Training and Documentation
Data Take On	Data Template Design	Data Template Population	Data Load	Data Validation and Test

Go Live

Execution Plan	Dry Run	Go Live	Post Go Live Support

Feedback and Learning

Remote Implementations Make Technology Upgrades Easy

As discussed earlier, cloud-hosted technology is a must in today's operating environment, which means there is no reason software implementations cannot be delivered remotely with the same ability to manage projects as being on-site. The last few months have proved our ability to be productive remotely. Our 7-stage implementation process is designed to mitigate project risks and to execute projects in the most efficient manner. This process has served us well and enabled a 20-year track record of over 150 successful implementation and upgrade projects. Many of these have been delivered entirely remotely and I expect this is how we will continue to implement over the coming months.

This framework is central to the strong relationships we enjoy with our clients, and demonstrates how, with the right software partners who are employing the latest technologies across their entire operation - from the software itself, to continuous implementation capabilities, cloud hosting as well as secure online tools for project management and meetings, much of the pain and risk of implementations can be removed.

In summary, as we emerge from the lockdown there are huge opportunities to protect our people in the new normal and grow our businesses. Regulators will become more prominent as greater demands for operational resiliency, transparency and customer focus emerge.

Automation in the new normal is becoming critical as we change our operating models. Now is the time to invest in technology - the operating model of the future doesn't look like what it did pre-lockdown. People have different needs and expectations from their career now. In the coming 12-18 months technology will play a key role in adapting workplace operations to meet the needs of our new normal.

We believe FRS is well positioned to help and most importantly of all unit pricing inaccuracies and errors no longer need to be considered part of 'business as usual.'

About Financial Risk Solutions Ltd (FRS)

With over 20 years delivering Investment Administration software, Financial Risk Solutions Ltd (FRS) is a trusted technology partner to life assurance, wealth and asset management firms worldwide. Led by an expert team of actuaries, compliance and IT specialists, clients license FRS software to help navigate the ever-changing challenges of growth, regulatory pressures and competition in the industry.

The award-winning* InvestPro™ platform is relied on by over 60 blue-chip financial services and BPO clients to reduce operational costs, increase efficiencies and mitigate risk in the manufacture and management of investment products. More than150,000 funds are managed on the Invest|Pro™ platform today.

Delivered on-premise or cloud-hosted, Invest|Pro™ securely automates multiple complex fund administration processes including unit-pricing, cash allocation and rebalancing; oversight and validation of operational activity performed by outsourced partners; and in Europe monitoring and reporting for PRIIPs, KID requirements, and Pillar III asset reporting for Solvency II.

FRS is part of the Constellation Software Inc. group and headquartered in Dublin, Ireland, with offices in Hong Kong and Sydney.

For more information visit frsltd.com or follow FRS on LinkedIn at www.linkedin.com/company/frs-ltd

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a Constellation Software Inc. Company
21 YEARS

Terry Kyle is the Country Manager of Financial Risk Solutions (FRS). In his role, Kyle will be responsible for the growth and localising of InvestPro, FRS' investment administration software, for the Australian superannuation, Asian funds,wealth and managed accounts markets.

*2020 - GRC Product of the Year - Asia Risk.Net Awards, 2019 - Best Solvency II Tech Solution - Insurance Asset Management Awards, Pensions Technology Provider of the Year - Irish Pensions Award, 2017 & 2018 – Tech Firm of the Year – Insurance Asset Management Awards, 2016 – Tech Provider of the Year, Governance Risk and Compliance – Risk.Net Awards.

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