BERMUDA:

LEADING THE REINSURTECH REVOLUTION

INTRODUCTION

New developments in InsurTech are emerging at a rapid rate and they seem poised to completely change how the reinsurance and Insurance-Linked Securities (ILS) markets operate.

The InsurTech revolution has already had a massive impact on the primary insurance market, totally transforming how business is transacted. However, the reinsurance and ILS markets often struggle to align InsurTech and its ideas with its traditional way of operating. InsurTech should be a game-changer for the reinsurance market – however the potential for InsurTech to reinvent the way reinsurance products are created, priced and distributed has yet to materialise.

Reinsurance has always been cautious when it comes to change, and the markets seems content to come second in any technology race – often choosing to collaborate with established vendors to support and improve their businesses, rather than creating anything truly disruptive.

NOW, THERE IS AN ACKNOWLEDGEMENT ACROSS THE MARKET THAT CHANGE MUST HAPPEN – AND AT A FASTER PACE THAN THE INDUSTRY IS USED TO. WELCOME TO THE WORLD OF REINSURTECH.

In a market survey carried out earlier this year, AdvantageGo found that technology is the top concern for the insurance and reinsurance market and upgrading technology was the number one worry listed higher than underwriting performance or the low interest rate environment.

Bermuda has recently been wooing InsurTech start-ups and has set up an innovation hub to help these fledgling companies flourish. The island's government, regulators, development agency and promoters of the domicile are backing this venture. Bermuda describes itself as the 'World's Risk Capital' and it has a well-earned reputation for innovation in risk management and risk transfer. It is home to a thriving insurance, reinsurance and ILS sector, and a vibrant InsurTech sector could help enhance its status as a creative and practical jurisdiction that can stay ahead of the curve.

Earlier this year AdvantageGo gathered a group of market leaders in Bermuda to talk about "ReinsurTech", how it is changing their worlds, and why and how Bermuda is trying to get ahead of other jurisdictions.

During a lively debate, guests talked about this fast-changing landscape and how their companies or the businesses they service are transforming the sector.

They told us that as well as plotting a path through the many facets of new technology, they are also working in partnerships with newcomers to the sector.

1 A WORLD OF OPPORTUNITY

Panellists agreed that there are many opportunities for the reinsurance sector to modernise the way it works, from harvesting data to dramatically improved speed of transactions, and from Artificial Intelligence (AI) to blockchain.

Many said that while insurers, reinsurers and the ILS markets would all benefit from technological advances, the biggest winners would be brokers, who had a real opportunity to become more relevant and stop disintermediation becoming a reality.

Some suggested that InsurTech was a bubble that was going to burst, and others said that incumbents were struggling so much with legacy systems that leaping ahead into the worlds of AI and blockchain is a struggle.

Lee McArthur, Vice President and Co-Founder of Five Fathom – a company that provides big data and analytics services for reinsurers and insurers - summed it up when he said: “AI and blockchain? That’s like rocket science compared to a lot of the things that we fight in the trenches day-to-day.”

Upgrading technology was not the main driver for change at Tokio Millennium Re (TMR), according to Craig Russell, Executive Vice President & Head of Business Change at the reinsurance company. Instead, the goal was to make sure that there is operational flexibility and agility in the company.

He said: “We want to be able to keep adapting quickly - whether that is selling a new product and getting to market quickly or linking in to a new distribution network. It is not something we will ever stop doing. We will continue to invest in and improve our technical architecture in order to make sure we are flexible to change.”

Chris Garrod, a partner at law firm Conyers, which is a leading light on the island in InsurTech, has been involved in initiatives such as the formation of cryptocurrency vehicles using blockchain-based platforms. He wanted to know if companies in Bermuda were building systems internally or bringing in help from an external source.

Craig said that they developed both in-house and with partners, so they could affect change quickly. He said they worked with not only IT/InsurTech companies, but also with clients to ensure that if there was a new idea, they could respond as fast as possible.

2 THE IMPORTANCE OF DATA

Michael Doyle, Senior Vice President of Operations at reinsurer Ariel Re, said for his company, the data that supports technology was key. This information set was not only used for underwriting, but also for regulatory, management and external reporting.

Michael said the industry still faces a huge challenge of bringing its products and systems into a new digitally-focused era. He said:

> "Mostly when adopting technology, you get stuck in the historic uses of how that technology has been defined."

The real question lies in how technology can transform and define data in order to deliver the best results. "That is a really big challenge," he said.

According to Nicole Mitchell, Head of IT at Hiscox Re and ILS, what was important was the quality of data available, in terms of exposures and how they can augment that data in order to get a better picture of risk, and in turn, a better view of pricing and decision making.

She said: "Ultimately, everyone has the same exposure data, but we all interpret risk differently across the industry. What we need to know is how can we augment that data to get a better view on it, with additional information, such as credit scores or additional flood mapping."

Michael added:

> "It is not a question of who has the best data, but who has the best filter."

3 THE NEED FOR SPEED

Technology, for Simon Storey, Principal and Chief Technology Officer at Nephila Capital, is an important catalyst for change across the entire insurance value chain. "The industry is going through a period of radical change and we are going to see everyone leverage technology and data in new and interesting ways. I believe this change in of itself is the key challenge we face. We need to change the entire value chain in a manner that effectively addresses the needs of our clients, partners and investors," he said.

"The rate of technological innovation has also been steadily increasing. This is something the traditional market has not been used to, as a result, companies will have to learn to adapt, evolve and scale accordingly. In order to survive, I think we all will need to become leaner and increasingly agile."

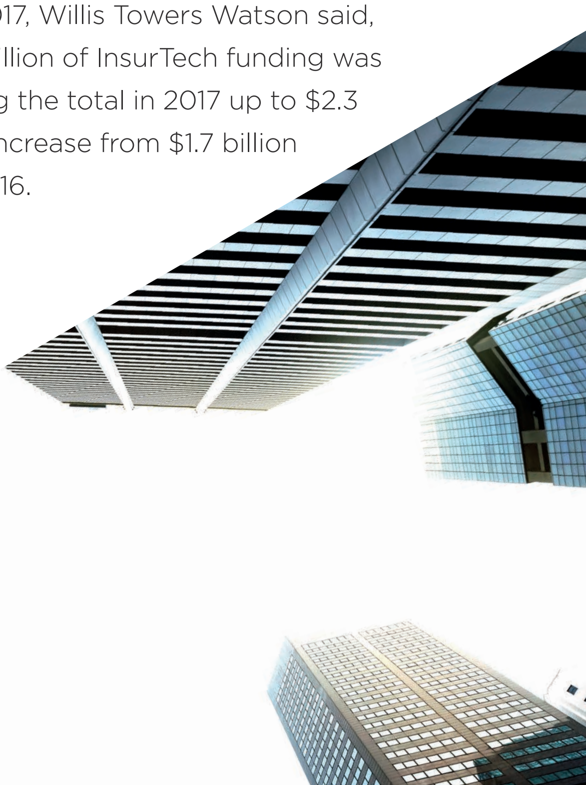
Meanwhile, many companies are stymied by legacy systems, which are not easy to change. Reinsurers have invested a great deal of time and money in these systems, and because of this, can be reluctant to radically alter them, according to Chris Maiato, Principal and Regional Advisory Leader at EY Bermuda Ltd.

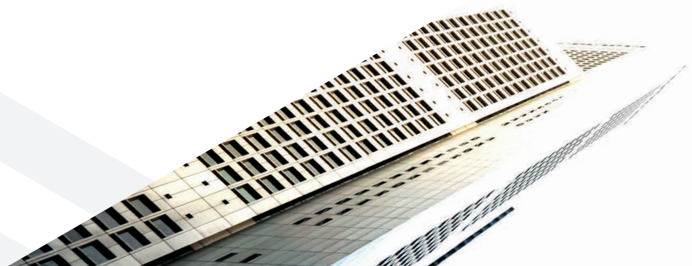
He said: "The technology industry is moving at the pace of customer demand. It is moving fast. Companies want to be flexible, to change and develop products and services, as well as being quick to market, but have a huge investment in existing legacy technology, which can make it difficult to move forward."

Lee McArthur said that his company was seeing a great deal of "make versus buy" on the technology side, driven by underwriters who had a problem that needed to be solved. With a backdrop of difficult market conditions, he said there was a very low tolerance for delays in producing results in terms of value back to the business.

"Gone are multi-year projects," he said. "They just don't exist anymore. There's a real hunt right now in the market from technical buyers for solution providers that recognise what is needed and that can deliver something in weeks, not years."

In a recent InsurTech briefing note from Willis Towers Watson, $724 million of InsurTech funding was made available in Q1 2018 – a total of 66 transactions - which represents the highest number ever recorded. The figures are up from Q4 2017, Willis Towers Watson said, where $697 million of InsurTech funding was raised, bringing the total in 2017 up to $2.3 billion, a 36% increase from $1.7 billion recorded in 2016.





4 CREATING EFFECTIVE COMMUNICATION – TRANSLATING INSURTECH AND REINSURTECH

Mairi Mallon, CEO, Rein4ce commented that there is currently a disconnect between what the industry needs and what many start-ups are working on. Barriers included communications and technical knowledge.

She said:

> "Understanding is the key thing."

"You need that communication between the businesses - with the people who are actually specialists in building the applications, combined with reinsurance expertise - to create something that's an effective solution.

That is a huge issue now. At the moment, many tech start-ups fail because they lack understanding of the market context in which they are trying to operate."

While there were very smart people working in InsurTech, they did not have the advice and market knowledge they need, added John Racher, Vice President, AdvantageGo. He said: "They need help to understand the mechanics of how insurance - and especially reinsurance – works. I've seen people get up on stage and say we raised $35 million, but we need help. We need partnerships and people to take on advisory roles. We need to do anything we possibly can to get them more connected into the industry, rather than working in isolation from it."

5 REGULATION, REGULATION, REGULATION

Many InsurTech start-ups are not constrained by the regulation, which applies to the insurance and reinsurance sectors, and panellists agreed that they must get to grips with these rules.

Nicole said: "In our world, as a global reinsurer, we have new regulation coming in from GDPR, PIPA and NYDFS and legacy systems and data we have to transform to comply with incoming regulation. Start-ups do not have the legacy data, making compliance with these regulations easier. In addition, most are focused on innovation over regulation compliance."

But the smart InsurTechs are, from the get-go, ensuring they comply with financial regulation, said Chris Maiato. He pointed to the island's regulator, the Bermuda Monetary Authority (BMA), and the work it is doing with the InsurTech innovation hub. Chris said: "I think that's a brilliant move from the BMA and it's going to help a lot of the smart InsurTech companies gain a little bit more traction in the market. This is because they can take an offering to a client and say, 'we understand your business, not just the business of insurance but the business of complying with regulation - we understand that risk'. I think the most successful InsurTechs will need to maintain a keen focus on regulation and product innovation."

6 HOW DO YOU SUCCEED IN INSURTECH?

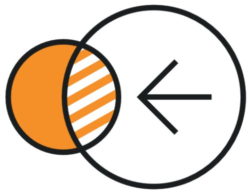
Everyone agreed that businesses partnering with tech providers would be the most effective way of harnessing the opportunities offered by InsurTechs, and the best route to success for start-ups.

"The ones that succeed will be the ones that attack an actual business problem," said Craig, citing issues such as poor customer experience, a new product, or a gap in current reinsurance relationships.

John Racher agreed. He said: "As a technology provider in this industry we have partnered with a number of start-ups and data providers who have their little niche, but they can't see the commercial business value of their offerings to our clients. For us, we translate that, and can expose that value to our customer base and it's going down well."

Lee McArthur said he has been involved in projects where processes that used to take a week, now take 27 seconds, but questioned if that was a measure of success. He said while there is a strong business case to combine the industry's expertise with an InsurTech's vision, it should be the reinsurance sector pushing to find relevant technology to solve problems that really need addressing, rather than the other way around.

Michael Doyle added: "Partnering is probably the optimal path to go down, rather than forging blindly on your own or being led by the nose through technology. It can also provide greater exposure to more opportunities."



"A lot of new technology ventures seem disconnected from the market," according to Simon Storey. "This is typically not because they don't have a great idea, but because the market is not ready or is unable to adapt/embrace the new technology," he said. "For example, the exchange of data and transactional information in this market is extremely poor, leading to massive inefficiencies. Basically, there is no common platform through which people can collaborate and exchange data. In my view, the absence of a digital marketplace for risk transfer is a huge barrier to technological innovation in this market."

Craig Russell agreed that a lack of common standards was an obstruction, adding that uncertain regulatory status could weigh on overall growth for blockchain initiatives and other InsurTech projects. "Not having a standardised data format is the real barrier to exchanging data," he said.

Data standards are being developed in the market by groups like Accord, said Chris Maiato, but challenges with the time lag from development to implementation exist, it is not fast enough. He said: "Common market standards are necessary for this industry because, if not, it will be difficult to connect and seamlessly transact with all the participants in the reinsurance and InsurTech ecosystem to get the benefits of things like blockchain."

Nicole Mitchell said that one of the main benefits of InsurTech was being able to use data in a new way and have a view of losses before insurers even issue their reports.

It was agreed that many reinsurers are looking for claims forensics when it comes to data. Detail about storms, where they were and their size and intensity as well as features such as hail, are seen as fundamental. This data can be checked against claims and used to check for fraudulent claims – and everyone agreed that this use of data has not yet been fully explored.

7 PUSH BACK FROM THE C-SUITE

The consensus from the panel was that much of the industry's C-suite was not "tech-savvy". Many were set to retire and were not keen to push through technology reforms before they left.

"Many current C-suites and the senior executives of organisations, at the risk of being ageist, are not the most tech-savvy people out there," said Michael Doyle. "If you look at the demographics of the industry, it's very top heavy with an ageing population. And coming in underneath that are the younger generations who are already tech-savvy. This is creating quite a big disconnect in terms of how they operate and perform."

Lee McArthur added:

"There is a whole lot of 'not on my watch' going on, right now. It's not front and centre but you can feel it. The presence is there."

8 BERMUDA AS AN INSURTECH BASE

Bermuda is looking to leap ahead of its rival jurisdictions again by providing back-up for InsurTech start-ups. And, while many of the companies that attended were jurisdiction-neutral, the Bermuda-based panellists were right behind these initiatives.

"I think the market in Bermuda has been excellent at creating innovative structures to transact reinsurance business," said Simon Storey. "The reinsurance community has benefited from being able to work very closely together on these structures and transactions. One of our fundamental objectives has always been to reduce the friction that exists throughout this process, this was done with the ultimate goal of creating an effective and efficient marketplace for risk transfer."

Panellists agreed that Bermuda has been a testing ground for insurance for decades and now was an excellent opportunity for the island to be a living lab – a test case for InsurTech.

Chris Garrod added: "Why does it have to be in Bermuda though? Surely with technology, nowadays, it could be anywhere in the world?"

Chris Maiato answered: "Getting access to the insurance and reinsurance companies here is really unique. You can stand in a line of 500 people, with a thousand-people knocking on the door, or you can stand in line with two people with access to 25 of the top reinsurers in the world. It's a very different business and value proposition."

"What you can do here is get access to everybody within two blocks of wherever you land in the city of Hamilton," added Chris Maiato. "You can get access to the executives of top companies reasonably quickly and easily. At a conference recently, someone made the point about being able to put together a billion dollars' worth of cover within 45 minutes to an hour just by walking around town. That type of access to decision-makers you won't find in a large saturated market elsewhere."

The panel agreed that the level of success for tech start-ups is far greater in Bermuda. The fail rate for these initiatives is usually higher elsewhere in the world, but in Bermuda, they tended to be lower because the environment is all geared to ensuring these new enterprises get off the ground.

Defining what success was would be key to measuring that, said Lee McArthur. "Is it about having a meeting or getting the reinsurer to buy something?" he asked.

9 NO MORE SECRET SAUCE – A WORLD OF COLLABORATION

One of the big changes seen by all participants on the island was how companies were being more collaborative about technology and sharing stories of success - and failure. This level of collaboration is unprecedented in other jurisdictions, they agreed.

"In the last two or three years there has been a lot more 'reaching across the aisle' type conversations and building groups," said Lee McArthur. "We've had some interesting chats and created community events. Even just a few years ago you would never have seen those five or six Chief Information Officers (CIOs) across the table talking to each other about 'how did you do it?' 'What mistakes did you make?' and then have them honestly answering those things. There was a greater sense of not wanting to share our secret sauce. There's a lot of mistakes and lessons to be learnt. A lot of people have made mistakes and there's a lot of value in sharing those things. And there's a greater audience for people willing to tell those stories."

10 BROKERS COULD CASH IN ON INSURTECH

There was consensus that out of all market participants, brokers had the most to gain from InsurTech and that it would be a mistake to disintermediate them from the process. The broking sector is gearing up for this change already and could be of massive value.

Chris Maiato agreed that the brokers have an opportunity, pointing to the evolution of the role of a traditional broker. "The brokerage business has continued to evolve as the market changes and is now providing a wider array of value-added services beyond brokerage. I do think brokers have a lot of opportunity here. I don't think they are necessarily going away – they are transforming. They are saying, 'How do we continue to stay relevant in the industry and how can we use technology to do that?'

He continued:

"They are well positioned because they sit on large volumes of cross-industry data, they see everything, they understand all the transactions, they see all the pricing, they see all the losses. There is a massive opportunity both in terms of the value that they bring to the insurance industry and just understanding the value of the capital in the intrinsic nature of what they do."

Chris Garrod said it would be interesting to see how they make use of InsurTech and how their efforts will be affected by artificial intelligence.

11 WILL THE INSURTECH BUBBLE BURST?

The panel agreed that the industry needed to be careful not to over-inflate the InsurTech bubble following the rapid pace of expansion in the digital revolution over recent years. And the question was: would there be a repeat of the dot com bubble in 2000 with InsurTech?

"If you think back in the 2000s with the self-perpetuating tech bubble," said Chris Maiato. "It was a huge delusion, but not everyone died - a few survived. Are we there again in your opinion?" he asked the panel.

John Racher said that he hoped that the industry was not on the verge of the bubble bursting but admitted there was too much navel-gazing from InsurTech's. He said that if you come from outside the market and think you are going to revolutionise the reinsurance industry, then you have to learn the underlying business first – and that requires conversations with the actual carriers.

Investment has already been put into new channels of distribution in the United States and other countries in the last ten years, with the advent of aggregator sites in the direct market, said Craig Russell. He added: "InsurTech is just connecting the growth that's been happening everywhere for a long time. It's not just happened in the short term."

He said the successful InsurTech's will be the ones that combine their technological innovation with the expertise of reinsurers. "We're going to see more disruption from within our own market, with the market leading it. These players that combine technological innovation with reinsurance expertise are going to be more successful than companies new to reinsurance."

Simon Story said he thought that unfortunately a lot of InsurTechs would fail, but those that managed to succeed had the potential to be incredibly disruptive throughout the value chain. "The more involved we are with these start-ups, the greater their chance of success," he said. "We have invested in a number of start-ups and we have been doing this in conjunction with strategic partners from across the industry."

John Racher said: "There will be a transition from the current business model of indemnification to more of a mitigation model. If we look forward ten years, the amount of data from the Internet of Things and the intelligence we can get from it is going to prevent losses and minimise the severity of losses. That mitigation and that type of smart risk management will start to become a key tool in any carrier's kit bag and it will be brought about through the proliferation of data. This is generally available data right now – the challenge is finding its value and use for the carriers that will ultimately carry that loss."

The pace of change meant that what was viewed as radical a few years ago was now the norm. Any disruption to the reinsurance market will be a gradual trickle rather than a wave of change.

12 IT COULD BE A DIFFERENT WORLD IN FIVE YEARS

"Like any journey, there are many roads, you can take many paths," said Chris Maiato. "There is plenty of opportunity for the market to reshape itself completely, and you can look at how you service a client, how to raise capital, how to execute risk.

With the tools and technologies that are out there today, the reinsurance market can build a future to look however they want it to. We could build out a smart concept that automatically places risk directly. It could be a different world."

Chris Garrod said companies had to be willing to change and that must be supported from the top. "I don't know if the adoption rate is going to be there in five years. I don't know what it is going to look like, but it's unlikely to be dramatically different from where we are today. I hope it is. But insurance has typically been a slow adopter. Even though we are picking up pace, we are still not where the banking sector is. The exciting part is that a conversation has started."

Chris Garrod added: "In five years we could be on Mars! Joking aside, the Internet of Things and the introduction of wearables will have a huge impact on the primary market in five or 10 years." He said automation and AI will have a huge impact on the market from all levels and the reinsurance market will have to adapt and evolve to remain relevant.

Nicole Mitchell thought that automation would be a game-changer. "Everyone is looking at streamlining their claims and cleaning up their operations. Particularly around looking at data and how we augment it, potentially what new products come out of that, and how we adjust our pricing."

Michael Doyle added: "The people who are going to be successful are the ones who are already looking five years beyond and engaged in partnerships and in bringing that technology in-house. But there is a lot of legacy clean-up and things that need to be jettisoned before you can move into that space. It will be a really fantastic chapter in this industry if things do transform into that."

Craig Russell said the transition in the next five to 10 years would vary sector by sector but would be radical. "From an organisational perspective, we will have to live through a period of transition. There will be lots of different ways of transacting and distributing risk - some will be through traditional means

and some will be through advanced blockchains. There will be networks of networks, and still, we will have to connect and bring that information into our internal systems. We will have to work through this transition period to make sure we're as efficient as possible and are we connected to all the access to risk."

Lee McArthur said he was surprised to find that his initial thought about the next five to 10 years was pessimistic, but he added: "From an outward perspective, the industry will probably look a heck of a lot like it does today. But past behaviours dictate future outcomes, and I'm basing my predictions on that. The truth is, it will be more of a slow burn to create foundation-level changes. It will be about future-proofing yourself either by shoring up your strategy or working with fintech and, replacing old systems. It feels like the house will look very similar 10 years from now, but the innards will look a heck of a lot more modern."

"Bermuda has a real advantage to take lead as it is not shackled by the complexities of London's insurance market, and the island should be able to innovate and develop new types of products that relate closely to the technology that is now available,"

agreed the panel.

13 ILSTECH

From using blockchain to access capital markets, to using new data sets, ILStech is now a proposition that all market participants have to think about. And as Bermuda remains the jurisdiction of choice for the creation, support and listing of global ILS vehicles, ILS participants have been keeping a close eye on new developments.

Mairi Mallon pointed to a need for certainty in execution and pay-out from capital markets investors and suggested new technology such as blockchain could be used to do this. “Blockchain technology and other technology can enhance efficiency, certainty and standardisation. Standardisation is a big thing in terms of capital market products.”

Craig pointed out that technology was already being used at a high level in ILS – and would continue to transform the sector.

Simon Story agreed that the next frontier for ILStech will be in how Big Data and analytics can assist with more sophisticated and accurate pricing. In the same way that the concept of how to view risk was dramatically altered when catastrophe models were introduced in the early 1990s, being able to slice and dice that data further to improve efficiency and performance would really appeal to the capital markets.

“Harnessing the avalanche of data now being created by the advent of the Internet of Things will, in my opinion, help the ILS sector move into new regions and perils by using a variety of tailored solutions that meet our partners and investors’ needs,” said Simon Storey. “These data sources will allow the market to enter these sectors and offer a variety of new data-driven products and services. I expect the modelling companies and start-ups will look to these data sources and emerging technology to enable them to create these new innovative products and services.”

There was a consensus amongst the panel that large pools of capital are relying on specialist managers because they do not have the expertise. If technology can develop the analytics available to help provide a more nuanced, data-driven view of risk, that will only expand the appetite for ILS, either through specialist managers or on their own.

Nicole Mitchell said: “Our investors see ILS as an alternative investment, and they have hundreds of millions of capital. Five percent of it is allocated to alternative capital, and of that, maybe a percent is reinsurance-related.” She said the bigger question was how to balance profitability for investors as well as shareholders.

THE RACE TO RETHINK REINSURANCE

InsurTech is now central to discussions about the future of insurance, reinsurance and ILS. As discussed by the panel, this change driver is vital as technological innovation has the potential to completely reshape how business is transacted in the future.

"The question is: Who wants to be Sears, and who wants to be Amazon?" said Michael. Sears, the 100-year-old department store where much of America and Canada shopped, has seen declining sales and closed hundreds of stores as competitors, such as Amazon, adjusted to shifting consumer habits.

Michael compared the same dynamic to the reinsurance industry. "This doesn't mean start-ups will have an easy time," he warned.

Technology presents huge opportunities to shake up the reinsurance industry: it could revolutionise the way in which we engage with customers as well as slash costs in an industry where as much as one-third of premiums are eaten up by expense. But the concept of ReinsurTech cannot survive on funding and idealism alone. To crack the reinsurance market, these start-ups require the help of established reinsurers to handle underwriting or manage catastrophic risk.

THE MESSAGE FROM OUR PANELLISTS? CHANGE IS COMING, AND IT IS COMING HARD AND FAST. WATCH THIS SPACE...

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