

## **ISDA Technology Forum**

**November 6, 2019**

### **Opening Remarks**

**Scott O'Malia, ISDA Chief Executive**

Good morning, everyone.

Let's see a show of hands – who has heard The Robots by German band Kraftwerk?

You should. As the title suggests, it's about robotics and the use of technology. But at the time of its release in 1978, the field of robotics was still at a relatively early stage of development.

It's the same story with many other technologies. Back in 1978, the first Sony Walkman had yet to make an appearance, and the first commercially available mobile phone was still a few years away.

It was also six years before the release of the first Apple Mac – part of a revolution in personal computing, which was meant to empower us and transform our lives.

Technology has come a long way since then, and the pace of change shows no sign of letting up. Can you believe the fastest computer today now performs 143 petaflops, or 143 thousand trillion floating-point operations per second?

The advances have come so rapidly that the World Economic Forum has said we're living through the fourth industrial revolution.

Technologies like 5G, artificial intelligence, advanced robotics and nanotechnology are now changing the way we live, work and interact with each other. Who would have thought 10 years ago that drones, driverless cars and private spaceflight companies would be a reality?

There was even a story recently about an American teenager called Dorothy, who, faced with having her phone confiscated by her parents, resorted to tweeting via her smart fridge. If that's true, it is both innovative and desperate.

But what's happening in the derivatives markets while all this technological change takes place in the consumer world? Has technology made a real, fundamental difference to how we manage derivatives transactions?

I'm afraid not. Innovative technologies have been deployed for specific functions, but we're hampered by an ageing infrastructure that has been built piecemeal over time, limiting efforts to automate at scale across firms and platforms.

I would contend that we're not moving fast enough. While the telecoms industry is overhauling its infrastructure and moving to 5G, the derivatives market is still stuck on 2G – at best. Believe it or not, fax machines are still used for collateral exchange.

We have to do better. We need to think bigger and we need to move faster.

Now, I appreciate it is expensive to overhaul legacy infrastructure, and I don't expect a 5G-like big bang. However, we do need a steady transformation, built on robust standards, so industry participants and technology providers can automate the market at scale.

At ISDA, we've been working hard to develop the standards that will drive the scalable automation needed to transform our market.

In my remarks today, I will briefly set out the challenges faced by the derivatives industry, drawing on the findings from a recent set of surveys of our membership.

I will then expand further on the importance of standardization as a pre-requisite to automation, focusing on the importance of the ISDA Common Domain Model.

Finally, I'll describe ISDA's efforts to develop mutualized industry solutions that build on these standards to ensure we're able to make the most of the technological opportunities that lie ahead.

## **Industry challenges**

To really understand the problems, we need to take a step back to the past.

As the derivatives market evolved, each firm developed its own way of doing things, its own systems and its own terminology. That might have been inevitable when the market was in its infancy and a few pioneers were forging the way, but it has led to an incredible amount of complexity and cost.

Because firms record trade information differently, constant cross-checking and reconciliation is required on every trade.

The fact is, we've been trading using an early 1980s framework. This is underpinned by bespoke paper documentation and definitions and an antiquated and incomplete infrastructure that can't deliver the straight-through-processing you would expect in late 2019.

More recently, regulatory reforms have come into force, which require firms to execute on electronic trading venues in certain cases, and to clear, report and margin their trades. These reforms have improved the safety of the derivatives market, but the connectivity and real-time requirements have exposed weaknesses in an ageing, manually intensive infrastructure.

Earlier this year, ISDA ran a series of surveys on post-trade issues, which highlighted multiple inefficiencies and choke points. Our survey on collateral, for example, found that processes are still lacking in automation, and are resource heavy and subject to operational risk.

Firms have to respond to multiple reconciliations and disputes, caused by a lack of data transparency through the lifecycle. These reconciliations and disputes take time and effort to resolve – 15% of respondents said more than one day on average.

This is compounded by a lack of automated collateral transfer settlement – meaning firms need to track this manually, which takes time and resource. It can also lead to settlement failures. Despite the high potential cost of this, 65% of respondents said they are not able to estimate the economic impact of collateral settlement fails because they don't have the data.

Technology offers the potential to transform these legacy processes. Respondents said distributed ledger solutions would reduce the need for position reconciliation and improve speed to settlement. However, only 7% of survey participants are actually using these technology solutions.

We think the potential is much, much greater. The shift to 5G has a very clear goal – to improve connection speeds and expand bandwidth. Our goal should be equally clear: to create efficiency and automation in post-trade processes.

Ultimately, we need to get to a stage where the entire trade lifecycle is fully digitized and automated. This will be our 5G moment, and it is something for which we should all be striving.

## **Standardization**

We need to be smart in addressing this problem. The answer isn't to invest in new technology in isolation. After all, there's little point having the latest iPhone if you're still on a 2G network. Change needs to occur first at the infrastructure level in order to realize the benefits of this new technology.

Likewise, for technology to be effective and scalable in the derivatives markets, standardization must be the pre-requisite – which brings me to the second part of my remarks.

ISDA has been developing standards for the derivatives industry for more than 30 years – it's what we do. We're now focusing on developing the necessary standards to facilitate full-scale automation across the industry.

The ISDA Common Domain Model is a fundamental stepping stone in this journey. The CDM does something that has never been done before – it creates a single digital blueprint for events and processes that occur throughout the derivatives lifecycle.

Establishing a standard set of representations that can be used by the entire market cuts down on the need to constantly cross-check and reconcile trade information, and enables firms to develop automated solutions that can be interoperable and scalable in a way that has not been achieved before.

The model also promotes greater transparency and alignment between regulators and market participants, improving the integrity of regulatory data and removing regulatory and interpretation risk.

We have already shown how this can work for regulatory reporting. Earlier this year, the CDM was deployed by the UK FCA, the Bank of England and certain financial institutions in a digital regulatory reporting pilot to explore how technology might be used to help firms meet their derivatives reporting requirements and improve the quality of the information reported. Thanks to the CDM, this kind of initiative can be adopted more broadly across the industry.

Importantly, the model allows technology providers to focus on what they do best – technology – rather than having to spend time and resources individually interpreting and representing derivatives market events and processes for their systems. When we linked up with Barclays last month to hold the second DerivHack, we saw this in action, as groups of developers with no prior domain knowledge were able to build solutions for the trading and management of securities and collateral. It is the CDM that enabled them to do that.

The ISDA CDM 2.0 is now freely available to all market participants and technology providers to adopt, implement and deploy in their own production environments. It is available in multiple languages to ensure easy but consistent implementation, and we are already seeing a number of firms deploy the model.

Watch this space, and you will see the impact of CDM extend across the industry as major infrastructure and technology vendors use the model to solve some of the biggest industry challenges we face. For example, ISDA's legal work on benchmark reform and the adoption of alternative risk-free rates will be supported by CDM code to help facilitate a smooth transition. The CDM will also form the basis of a new era of efficiencies in collateral management.

Of course, we recognize the CDM won't transform the market overnight, and there is a need for continuous feedback and dialogue to set priorities and make sure our ambitious objectives are realized. To this end, we are establishing a governance framework that will allow the model to evolve quickly in an open-source environment. This will involve feedback from a diverse community of members and non-members to make sure the development of the model meets the requirements of the whole market.

The CDM is a game-changing step in bringing the 5G revolution to the derivatives market. When I said earlier that we need to think bigger and move faster to get beyond 2G, I see the CDM as a critical vehicle to achieve that.

## **Industry Solutions**

While the CDM is a fundamental building block for greater automation through the lifecycle, ISDA has also been working on a number of other initiatives to promote digitization through the use of mutualized industry solutions.

An important strand of that work is to bring greater standardization to legal documentation.

Over time, firms have negotiated small changes to relatively basic clauses within their documents, but with very little real benefit to that bespoke wording.

For example, look at these different ways of drafting ‘additional termination event’. They all achieve more or less the same outcome but are expressed differently – and this can create problems.

For legacy contracts, it makes it more difficult to accurately track key information and can lead to inaccurate regulatory reporting of legal agreement data. For new contracts, it results in time-consuming negotiation and client onboarding. Crucially, the lack of standardization makes it all but impossible to digitize documentation and automate certain contractual terms.

To address these issues, ISDA has developed a taxonomy and clause library related to the ISDA Master Agreement. The project has involved analysis across thousands of ISDA Master Agreements to develop a taxonomy of the most commonly used clauses.

We recognize that market participants will always need to negotiate bespoke terms, but this work will introduce greater standardization in the way firms negotiate and agree certain contractual terms, increasing efficiency in contract negotiation and enabling use of technology to capture structured legal data.

For an example of how standardization leads to digitization, look no further than ISDA Create. Having developed a new set of standardized initial margin documents for phases four and five of the IM regulations, we launched ISDA Create earlier this year – an online tool that automates the process of producing, agreeing and executing documentation. ISDA Create allows firms to digitally capture, process and store data, which can be used subsequently for commercial, risk management and resource management purposes. We started with initial margin documentation, but we have plans to extend it to the Master Agreement next.

ISDA is also working on a number of other initiatives to standardize and digitize legal documentation, such as our work to revise the ISDA interest rate definitions, and the publication of a series of legal guidelines for smart derivatives contracts, intended to raise awareness of important legal terms that should be considered by tech developers.

ISDA is re-imagining the derivatives lifecycle. We build on common standards, integrate these standards into digital definitions and documents, and put all these data solutions on mutualized platforms that market participants can seamlessly access to drive further innovation and automation at scale.

## **Conclusion**

I’d like to finish by asking everyone to take out your phones. Take a look at them. Think about what they can do – make a payment, watch a movie, stream music.

It scarcely seems believable that most of this functionality has only been made possible in the relatively recent past, due to significant improvements in mobile networks and infrastructure.

We should have the same ambition for our market.

In order to do that, standardization is critical. At ISDA, we have made big strides to develop standards in a form that will enable digitization. We believe this is an important pre-requisite to effective automation across our market.

We can all be part of that transformation. Together, let's work to take the derivatives market closer to 5G.

Thank you.