



**ISDA Technology Forum**  
**Opening Remarks: Scott O'Malia, CEO, ISDA**  
**Thursday, November 8, 2018**

Good morning.

Our event today brings together two worlds – finance and technology.

When these two worlds meet, interesting things can happen. Take, for example, an event I attended in September. By ISDA's standards, it was pretty unusual.

Firstly, it didn't take place in a big hotel or conference hall, but in a room under a trendy coffee shop, in an area of London nicknamed Silicon Roundabout.

Secondly, it didn't start at 9 and end at 5, but lasted two whole days and one night. Thirdly – and this is where I really knew I wasn't at a normal ISDA event – I didn't have to wear a tie.

I'm talking about DerivHack, a 'hackathon' hosted by Barclays and supported by ISDA that brought teams of coders face to face with the ISDA Common Domain Model. Their task was to bring the CDM to life using new technologies, and to develop solutions that increase the efficiency of derivatives processing.

Fueled only by enthusiasm, competitive drive, lots of pizza and plenty of coffee, they did an amazing job. You'll be hearing about those solutions from some of the winners of the hackathon later this morning.

Exciting things are happening with the CDM, which I'll share with you this morning. We're also making good progress on other work to automate our legal documents through the new ISDA Create platform, as well as our long-term vision for smart contracts. I'll cover all three topics today.

Let's start by answering two fundamental questions – what is the ISDA CDM and why are we doing it?

The ISDA CDM is essentially a blueprint for how derivatives are traded and managed, expressed in a machine-readable format. Having a standard digital representation of events and actions that occur during the life of a typical derivatives trade will enhance consistency and facilitate interoperability across firms and platforms, irrespective of the programming language ultimately used for each technology.

Now let's turn to the why.

The derivatives market developed over the years in a bespoke and bilateral way, without standard conventions. Each firm – and even each trading desk – established its own systems and its own unique set of representations for events and processes that occur during the lifecycle of a trade.

This not only means counterparties have to continually reconcile their trades to make sure they have the same information – a big drain on resources – it also curtails the potential for greater automation.

Today, market participants spend huge sums to reconcile vital trade data. It is wildly inefficient, it suffers from inaccuracy, and it is labor-intensive.

The Boston Consulting Group has studied this issue, and found that banks are struggling to earn a decent return on equity in the FICC business. Year after year, firms are slashing front-office head count, reducing the universe of products they offer, and cutting regional services. In contrast, back-office processes – and, in particular, legacy IT systems – have been left untouched, as there's been no alternative to the current inefficiencies.

The CDM offers the opportunity for change.

By creating a standard representation for events and products, we will have a consistent, transparent and accurate blueprint of the market that can be used by all market participants, infrastructures, platforms and regulators. This will allow firms to achieve greater automation and innovation – at scale – which will transform the back office and make it much more efficient.

New regulations are the catalyst for this transformation, as they introduced requirements for trade execution, clearing and data reporting. All of these processes are data-driven, and require the highest level of accuracy and automation to meet the new regulatory mandates.

## **Next Steps for the CDM**

So, what are the next steps for the ISDA CDM?

In June, we published an initial digital representation of the CDM, opening the way for all ISDA members to test and validate the model on various new technologies. ISDA CDM 1.0 covers interest rate and credit derivatives products, along with an initial set of core business events, including 'new transaction', 'rate reset', 'partial termination', 'allocation', 'novation' and 'compression'. We will complete the CDM for core interest rates and credit products by the end of this year and release it for use. We are now working on extending the CDM to cover equities, which we're targeting for completion by mid-2019.

The hackathon in September brought the CDM to life. It gave us the chance to test specific use cases, and prod and poke the model to see how it performs in the real world. The 31 teams totaling 140 coders, split between London and New York, set to work on a number of tasks. Several demonstrated the application on different blockchain and cloud environments, and one

person even theorized about enabling Amazon's Alexa to help navigate and learn about the CDM.

A longer-term exploration of various CDM proofs of concept is also under way via ISDA's working groups. We have 80 firms contributing to the design work of the ISDA CDM, and we're always happy to welcome new participants to this process. We need as much feedback as we can get to make the model as robust as possible. This is your chance to shape the future of our industry, so please do get involved.

At the same time, we're developing an open, transparent governance framework so updates and improvements to the CDM can be added as time goes by, ensuring this model evolves to reflect new use cases and ever-changing product definitions.

I want to stress that the CDM will continue to exist in an open-source environment, so any firm can apply it to any technology, using any programming language. The CDM is technology neutral, as is ISDA. With the ground shifting so fast under our feet, we're not in a position to predict which technology will be most widely adopted, if any. It could be blockchain, the cloud, AI, or a mix of all three. It could even be something that no one has thought of yet.

I'm looking forward to hearing the ideas and predictions of our panelists and speakers today. Whatever the future holds, we want the CDM to be a big part of it.

## **ISDA Create**

The CDM is a critical initiative to develop standards for events and processes, but it's by no means our only effort to drive greater standardization and automation.

We're also looking to standardize and digitize key ISDA documentation as a means of automating the negotiation and execution of contracts between counterparties.

Historically, contract negotiation has been largely paper based, which slows the time it takes to negotiate a document, and creates inefficiencies in the process post-negotiation.

Just think about the negotiation of initial margin documentation. This is an incredibly time consuming and complex process, and can often involve a lot of back and forth between parties until the terms of the document are agreed. The resulting data is then manually captured within other internal and external systems, leading to the possibility of errors.

With new mandatory margin requirements being phased in, that's going to put a huge strain on the market. According to ISDA analysis, the phase-five rollout of initial margin requirements in September 2020 will capture more than 1,000 small banks and buy-side firms, equating to about 9,000 trading relationships. Each of those relationships will need to have initial margin documentation in place, stretching the resources of the industry to the limit. Given the scale of this issue, work needs to start now.

In response, we've worked with Linklaters to develop a solution that will provide a more efficient way to negotiate and execute initial margin documentation on a mass scale.

Called ISDA Create – IM, the platform will allow firms to select from a list of standard choices by clicking on a screen, as well as customize documents based on their individual preferences. Once they've made their elections online, they can be shared electronically with multiple counterparties at the same time. The system automatically matches the choices against those made by other parties and highlights any differences.

That will massively cut down on the amount of time it takes to negotiate IM documentation, as well as allow firms to store the resulting data in digital form. Digitizing this legal data opens a broad range of analytical opportunities.

We launched a test version of ISDA Create – IM last month so you now have the opportunity to try it out. We'll be talking more about this initiative later on today. Please also take an opportunity to visit the ISDA Create stand and ask for a demonstration.

Other ISDA documents may be added to ISDA Create in the future. But in order to automate the negotiation and execution of contracts, we first need greater standardization in the documentation.

In the margin space, we're currently drafting next-generation ISDA IM documentation for phases four and five of the IM regulation phase-in, alongside development of ISDA Create – IM. But we're also looking to standardize other documents, starting with the schedule to the ISDA Master Agreement.

Creating a more standardized language and common menu of choices will cut down on the time it takes to negotiate an agreement, and will contribute to the creation of a standard, industry wide legal agreement data model, which can then be part of the CDM.

Our Documents, Data and Digitalization panel this afternoon will explore these developments in more detail.

This focus on standardization – both of events and processes through the CDM and of legal standards – is a critical precursor to smart contracts. I'd like to finish my remarks by touching on the progress to develop smart contracts, and outlining what ISDA is doing in this space.

## **Smart Contracts**

Smart contracts offer tremendous potential for greater efficiency throughout the lifecycle. They could completely revolutionize how derivatives trades are executed and managed, and dramatically reduce the need for manual intervention.

We've already seen a number of early proofs of concepts emerge in the market, typically focusing on very specific functions. It might seem like widespread use of smart contracts in the derivatives market is just around the corner.

But before we can make this vision a reality, we need to think carefully about a number of important issues.

For example, which contractual terms can be automated? All of them? To what extent can we be sure that smart contract code has the same legal effect as a traditional contract in written form? How can this be validated by lawyers?

Evaluating which clauses are good candidates for automation will require an assessment of the efficiency and operational benefits derived from automation. From this perspective, certain clauses may lend themselves well to automation – for example, payments.

Others – like certain types of event of default – involve a large number of complex and interdependent permutations, and may require human intervention. It may therefore not be efficient to automate these provisions.

These are very much live issues.

Along with our papers on the CDM, we recently published a smart contracts white paper in partnership with King & Wood Mallesons that explores these topics in more detail.

We'll also shortly publish a new paper that will provide legal guidelines for smart derivatives contracts. This will be the first in a series of papers aimed at identifying areas of legal complexity within ISDA documentation, and highlighting issues for technology firms to consider as they develop solutions for the derivatives market. This will help identify provisions that might be ripe for further standardization, digitization within the CDM and, ultimately, automation.

There are also broader legal issues that need to be considered. For example, which law applies to assets that have no physical location and exist only in dematerialized form? Next year, ISDA will publish a whitepaper exploring and proposing potential solutions to this issue.

We have an ISDA legal working group set up specifically to debate these topics and think about how to move forward. Please do contact us if you think you can contribute to this important work.

This effort, along with our work on the CDM, is intended to create the foundations for a more automated and efficient derivatives market.

As I noted in the beginning, exciting things are happening at the convergence of finance and technology. KPMG just published a report on the top 100 leading global fintech innovators. While crypto currencies have made a splash in recent years, KPMG identified a list of innovative companies that are disrupting existing systems and processes in banking, finance and investing.

- 34 of the top 100 are companies focused on payments and transactions;
- 21 are focused on lending and credit;
- 14 are trying to disrupt the wealth and brokerage business;

- 10 of the entities are neo-banks – or pure online challenger banks.

They are providing innovation in existing services with brand new business models and digital platforms, bringing new automated services to provide a more efficient and improved service to customers.

While there are no firms in the top 100 that are disrupting the derivatives market, that doesn't mean we should wait for the next Alibaba or Amazon to show up and disrupt our industry. Together, we can continue to make progress by standardizing the description of lifecycle events, exploring smart contracts and digitizing our collateral documents and workflow.

## **Conclusion**

I'd like to close by stressing my belief that technology can fundamentally revolutionize derivatives markets by creating significant efficiencies. What's more, it's becoming more and more important for banks to realize these efficiencies at a time of constrained growth and profitability.

As this push to new technologies gathers pace, you can count on ISDA to bring together the best minds in derivatives and technology and to develop solutions. The world around us is changing, but our goal remains the same – to help market participants solve problems and trade as efficiently as possible. The hackathon was a sign of things to come – although I think I'll hang onto my tie just a little bit longer.

Thank you.