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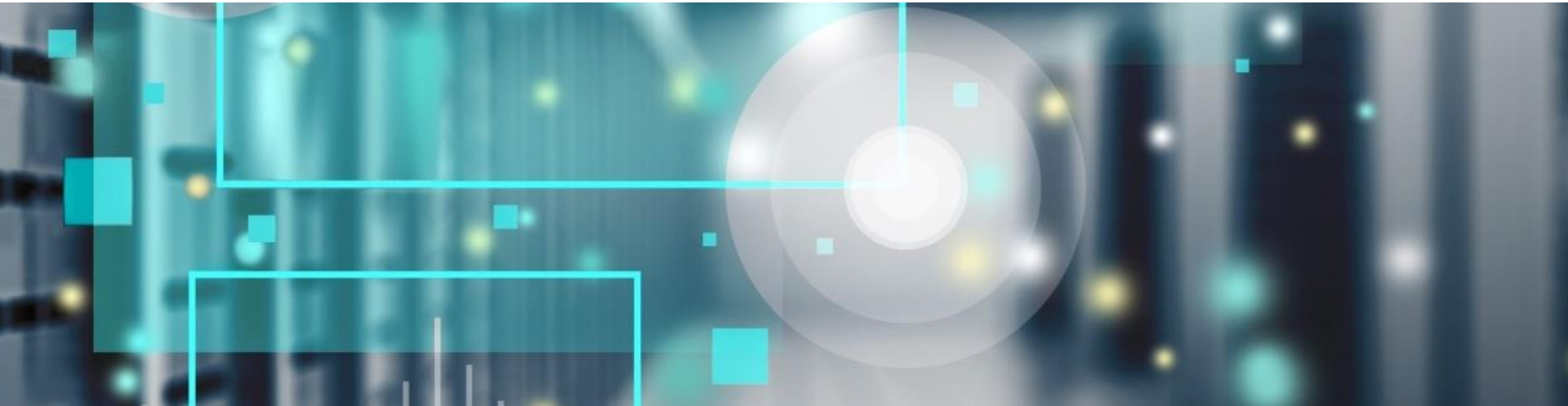
LETZBLOCK

BIL 1856
BANQUE INTERNATIONALE À LUXEMBOURG

When new technology meets financial markets

A look into the future of securities/derivatives transactions



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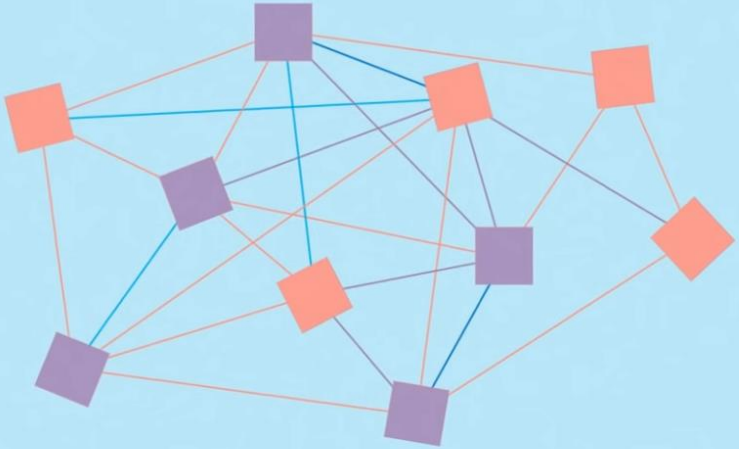

OPEN DECENTRALISED DATABASE
OF EVERY TRANSACTION INVOLVING VALUE

Karl Pardaens
Partner
Elvinger Hoss

The impact of legislation (or absence thereof) on the adoption of technology in financial markets

Introductive considerations

- Limited legal and regulatory framework dedicated to blockchain and smart contract technologies in Luxembourg (as opposed to other EEA countries such as Liechtenstein or Malta for example)
- Very limited guidance and publications from CSSF (as opposed to Switzerland, France, Germany, etc.)

Current set of rules relating to financial instruments and financial markets remains applicable for blockchain and smart contract technologies

Does the absence of specific rules facilitate or prevent the adoption of technology within the financial markets industry?

Adoption of new legislation in Luxembourg

- The CSSF was one of the first European regulators to make a public statement in relation to virtual currencies in February 2014
- Amendment on 1 March 2019 to the law of 1 August 2001 on the circulation of securities
  - Limited scope of application: securities deposited or held on a securities account with an account keeper and transferred by book transfer
  - This law is not meant to regulate initial coin offerings (ICOs) or security token offerings (STOs)
- Two warnings issued by the CSSF on 14 March 2018: one relating to ICOs and tokens and one relating to virtual currencies
- Tax circular published by the Luxembourg tax authorities on 26 July 2018 on the tax treatment of income generated through virtual currencies

Technology meets payment services (“crypto-exchanges”)

- No specific framework or regulations for cryptocurrencies
- Payment Services Law of 10 November 2009, as amended applies in the absence of specific rules
- Main issues for clients and Luxembourg regulator to answer are:
  - Whether coins issued by an issuer may qualify as electronic money (only 6-7 currently recognised)
  - Whether services provided by crypto-exchange require a license for payment services such as execution of payment transactions or money remittance
- Examples of licenses approved by the CSSF: Bitstamp Europe S.A., bitFlyer Europe S.A.

Technology meets financial instruments

- Prospectus Law, Prospectus Regulation, MIFID, law of 5 April 1993 on financial sector and other financial regulations related to financial instruments may apply (and thus their numerous penalties in case of breach)
- Analysis is different depending on the nature of tokens issued
- Security token: whether a token has all the characteristics of a security (negotiability on capital markets, standardization, rights attached are similar to shares or bonds), with the exception of instruments of payments
- Utility token: whether token is a pure utility token or whether additional rights are attached to it which may make it a financial instrument or an instrument of payment
- Hybrid tokens
- CSSF approved a prospectus for debt securities offered to the public and issued in association with tokens (DLT used as a register >< security tokens)
- CSSF accepted to confirm in writing the nature of utility tokens (timing)

No specific framework or regulations for tokens

Case-by-case analysis to be made. Difficulties for security tokens and tokens whose legal qualification is somewhere in between security token and utility Token (not every liquid market is a capital market - ECJ C-97/98 of 21.10.1999). Assessment and determination eventually decide which set of rules (if any) are applicable to the tokens.

Conclusion

- Limited legislation in the domain of blockchain and smart contract technologies does not prevent activity in Luxembourg, but limit them
- Current legal and regulatory framework appears sufficient but only with guidance from regulators (and not only industry associations). Not only useful for practitioners to advise their clients but a requirement for many investors to decide to invest and for players to launch innovative products without the fear of breaching law with penalties attached thereto
- In a perfect world an authority (CSSF?) would set clear guidelines and within a short time frame have authority to confirm the qualification of tokens

Ciarán McGonagle
Assistant General Counsel, ISDA

Smart Derivatives Contracts: overview on documentation and automation of derivatives contracts

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15 OCTOBER 2019

ISDA: Smart Derivatives Contracts

ISDA Safe, Efficient Markets

What are “smart contracts?”

“A smart contract is an automatable and enforceable agreement. Automatable by computer, although some parts may require human input and control. Enforceable either by legal enforcement of rights and obligations or via tamper-proof execution of computer code.” - Clack, C., Bakshi, V., and Braine, L.

- Important to distinguish between:
    - **Smart Legal Contracts**: A written and legally enforceable contract where certain obligations may be represented by or written in code; and
    - **Smart Contract Code:** Code that is designed to execute certain tasks if pre-defined conditions are met.
- Two potential smart legal contract models:
    - **Internal Model**: The provisions that can be performed automatically are included in the legal contract, but are rewritten in a more formal representation than the current natural language form; and
    - **External Model:** The coded provisions remain external to the legal contract, and represent only a mechanism for automatic performance.

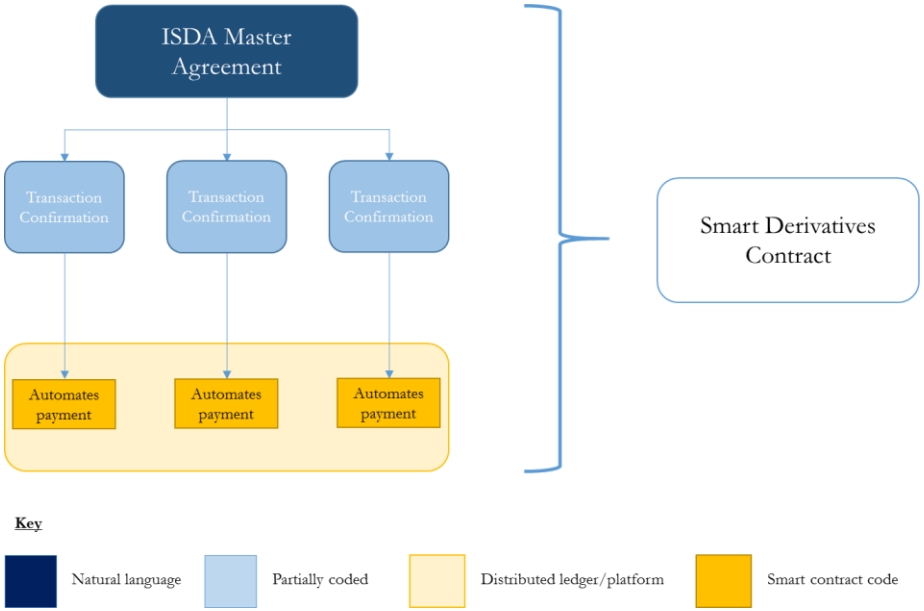
What are Smart Derivatives Contracts?

- The application of smart contracts to the ISDA documentation framework may allow for the potential development of derivatives contracts where some terms are capable of being automatically performed, either:

  (i) by expressing those provisions using some formal representation that enables their automation; or
  (ii) by referring to the operation of smart contract code which is external to the contract.

- Benefits of Smart Derivatives Contracts may include:

  - Increased accuracy and transparency of contractual terms
  - Efficiency in automating performance
  - Less scope for misinterpretation or competing interpretations

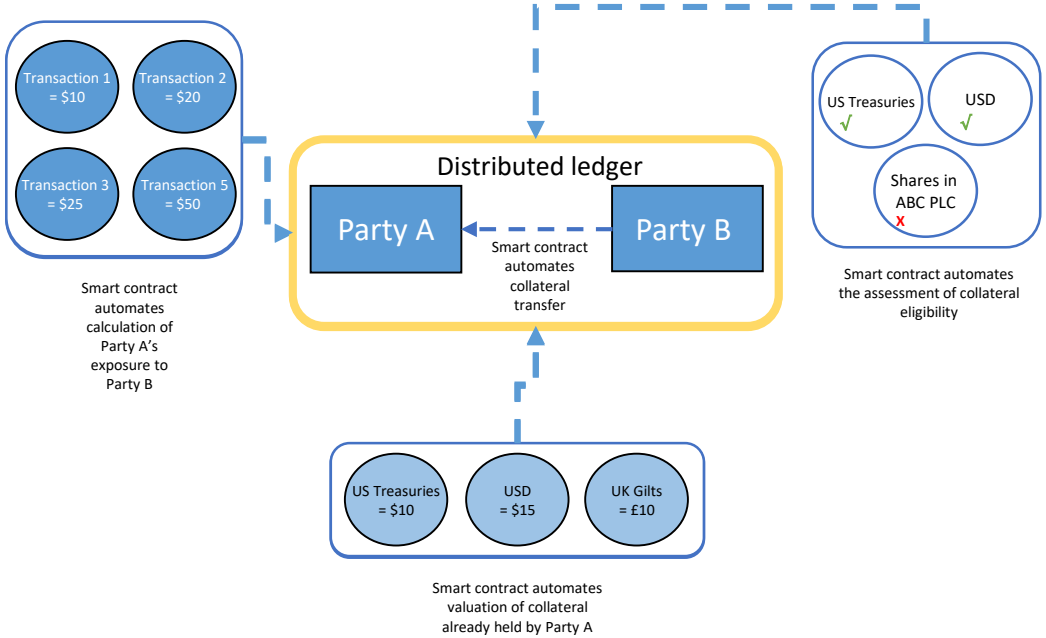


Applications for Smart Derivatives Contracts

- There is likely to be significant potential for the application of smart derivatives contracts in the context of collateral management and regulatory reporting.

- For example, many collateral processes such as:
  - The valuation of exposure and margin requirements;
  - Assessing collateral eligibility;
  - Exchange and return of collateral assets,

  use conditional logic and could lend themselves well to greater automation



Constructing Smart Derivatives Contracts

- These technologies are at a relatively early stage of development and there is still a lack of agreement on, for example, what a smart contract is, what role is can play in the derivatives market, and how it might interact with existing legal standards and documentation.

- Failure to develop common standards may lead to the development of piecemeal and bespoke technology solutions for each group of users that will likely perpetuate the existing fragmented and inefficient derivatives ecosystem.

- Development of smart contracts standards will require us to determine what parts of a contract are best suited for automation.

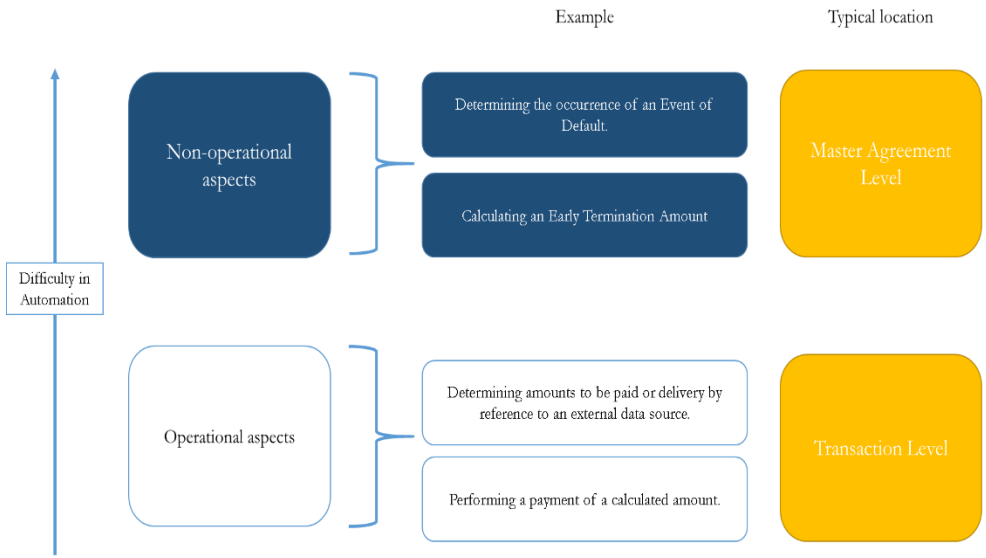
- Two questions:

  - Is automation **effective** i.e. can a contractual provisions be written in code or automated effectively; and

  - Is automation **efficient** i.e. does the benefit of automation outweigh the cost.

Effective Automation

- Contracts might be seen as an evidentiary tool that the parties look to in future in order to determine how some future dispute around performance might be resolved.
- Computer code is more definitive, precise and immediate.
- In determining which parts of a derivatives contract might be susceptible to automation, it is useful to distinguish between 'operational' and 'non-operational' aspects which exist within contractual clauses:
    - **Operational aspects:** those that involve an operation (e.g. a delivery or payment);
    - **Non-operational aspects:** typically include temporal aspects (relating to time) and deontic aspects (relating to rights and obligations).
- In the context of ISDA documentation, many of the non-operational aspects within the overall contract exist at the Master Agreement level.



Efficient Automation

- Not all of the provisions of the ISDA documentation which can be effectively represented in automatable form *should* be automated.

- Consider a technology solution designed to monitor and determine when an Events of Default has occurred and to automate close-out:

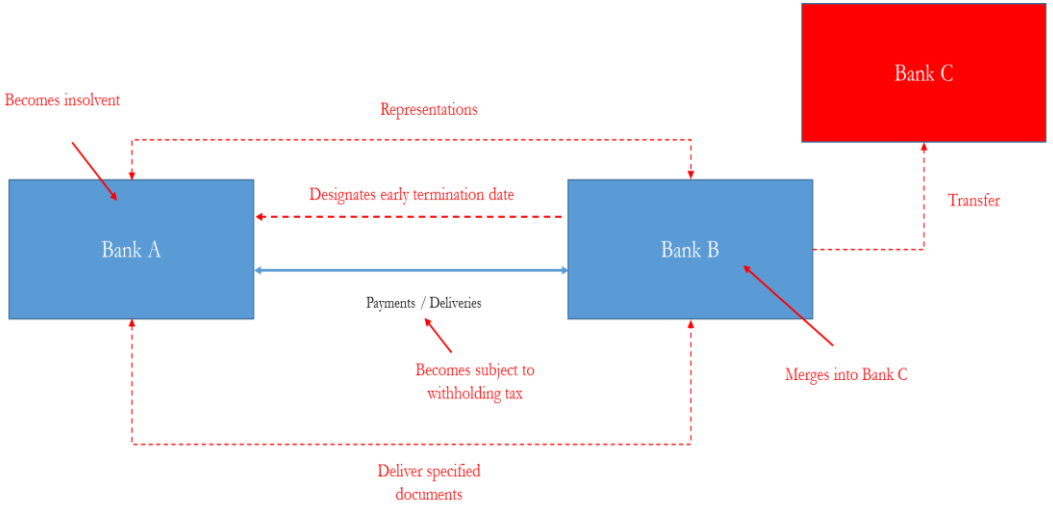
    - Monitoring certain types of external activity might be difficult or inefficient to assess solely through the use of external data sources.
    - The requirements that must be satisfied prior to the occurrence of an event and each of the various external factors that determine their precise parameters and scope will all have to be considered.
    - The occurrence of an Event of Default does not automatically mean that anything will happen.

- This complexity and potential need for human intervention may mean that it may never be efficient or desirable to automate this part of the contract, even if it were technically possible.

Complexity beyond the transaction must also be considered

- Automation should also take into account the overarching contractual terms that derive from the broader contractual relationship.

- For example:
  - The provision of representations;
  - The requirement to deliver certain documents to your counterparty;
  - A payment obligation becoming subject to a withholding tax;
  - The transfer of Transactions as a result of a merger with another entity;
  - The insolvency and consequent default of a party.



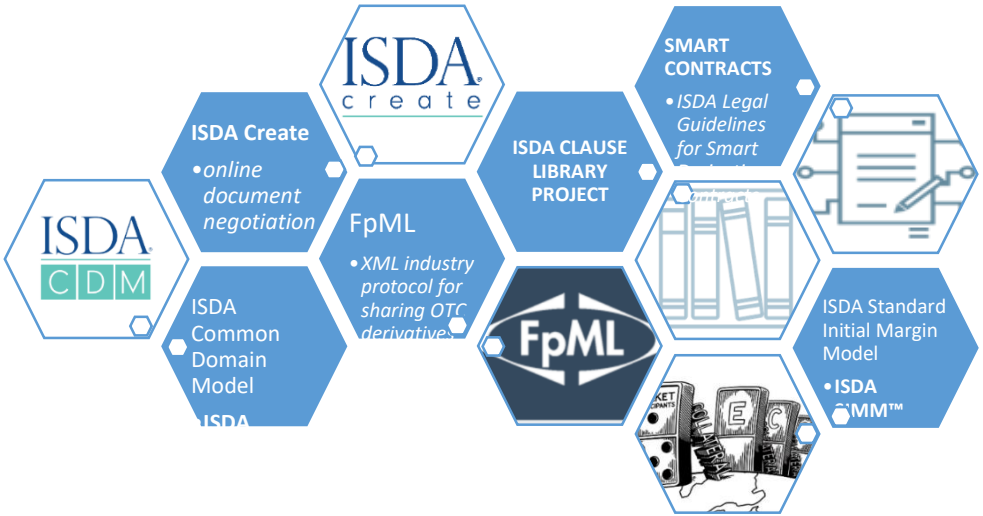
Complexity beyond the transaction

- There are also broader legal and regulatory questions to be considered:
    - Is a smart legal contract a binding legal contract?
    - Are electronic signatures enforceable?
    - How would a court apply existing principles of contractual interpretation to contracts written wholly or partially in code?
    - Where digital or dematerialized assets are transferred through a smart contract, are these assets “property?” Can security be granted over such assets? Where are the assets located?
- Many of these issues are not novel and have been addressed in the past, albeit in a different context
- Can these issues be addressed through existing legal framework?

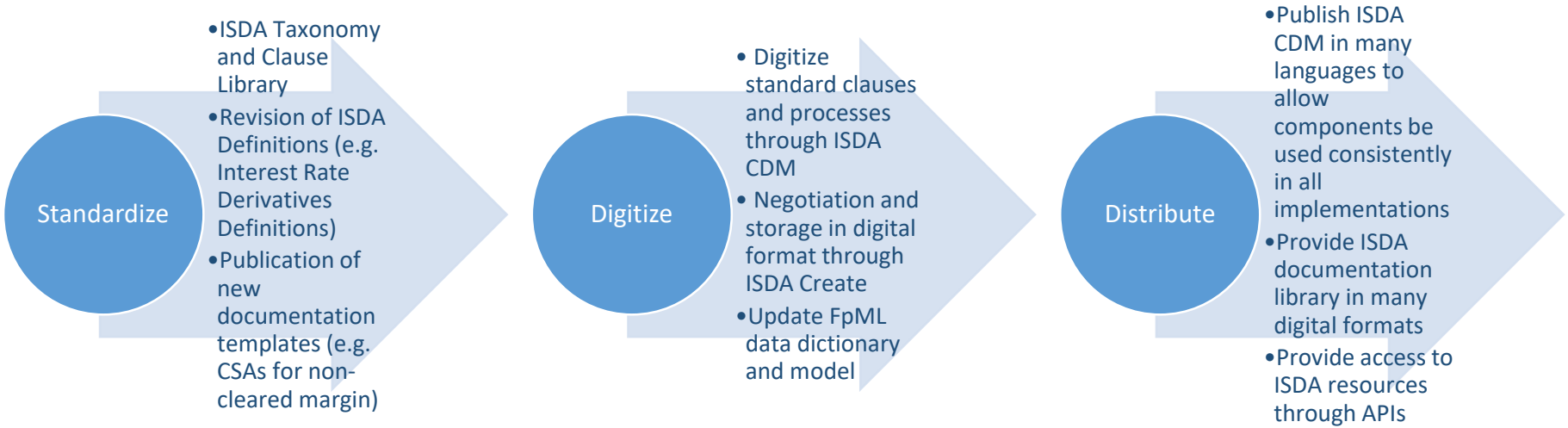
ISDA documentation as a foundation for smart derivatives contracts

ISDA's documentation framework provides an excellent foundation for the development of smart derivatives contracts.

- These documents reflect and are consistent with legal, regulatory and commercial standards for derivatives.
- Importantly, use of ISDA documents would allow the technological framework ultimately used to be consistent with the commercial standards for derivatives contracts.



From documentation to code



Further reading

- August 2017 – "*Smart Contracts and Distributed Ledger – a Legal Perspective"* provided an introduction to the topic, by describing what DLT and smart contracts are and the potential for their use within the derivatives documentation architecture.

- October 2018 - *"Smart Derivatives Contracts: From concept to construction"* explores issues relating to the legal validation of smart derivatives contracts and how an industry framework for determining which provisions could/should be automated might work.

- *"ISDA Legal Guidelines for Smart Derivatives Contracts*":

    - Introduction – Published January 2019
    - ISDA Master Agreement – Published February 2019
    - Collateral – Published September 2019
    - Equity derivatives – To be published by end of 2019
    - Interest rate derivative – To be published by end of 2019

Panel discussion

Looking into the future

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