Accord Project - Financial Services
Smart Legal Contracts: State-of-Play

1. **Contracts, Clauses, and Documents** *(Preliminary list of categories of agreements containing provisions potentially suited to "smart contract" functionality)*
   a. Loan documents
      i. Loan/credit agreement
      ii. Commitment letter
      iii. Intercreditor agreement
      iv. Syndicated lending
      v. Security agreement
      vi. Loan participation agreement
      vii. Borrowing base certificate
      viii. Borrowing request
      ix. Guarantees
      x. Standby letter of credit
      xi. LSTA documentation
   b. Equity
      i. Stock options
      ii. Stock appreciation rights
      iii. Warrants
      iv. Preferred certificates of designation
      v. Transfer restrictions
      vi. Capitalization table
   c. Debt securities
      i. Commercial paper
      ii. Medium term note
      iii. Indenture
   d. Derivatives
      i. Futures
      ii. Swaps
      iii. Options
      iv. Forwards
      v. ISDA documentation
   e. Securitization
      i. Pooling and service agreement
   f. Insurance policies
   g. Other

        i.   Purchase / sale agreement
       ii.   Bill of sale
     iii.   Assignment and assumption agreement
     iv.   LLC payment waterfall
      v.   Paying agency agreement

h. Outside of WG scope
        i.   Venture capital
       ii.   Token sales

i. Smart legal contract templates
        i.   Accord Protocol and Cicero

2. **Financial services players**
   a. Commercial bank
   b. Investment bank
   c. Non-bank lenders
   d. Securities broker-dealer
   e. Futures commission merchant
   f. Interdealer broker
   g. Investment funds
   h. Commodity pool
   i. Commodity pool operator (CPO)
   j. Commodity Trading Advisor (CTA)
   k. Securities exchange
   l. Futures and options exchange
   m. Swaps execution facility
   n. Clearinghouses
   o. Alternative trading system
   p. Money transmitter
   q. Electronic communications network
   r. Dark pool
   s. Registrar / transfer agent
   t. Proxy solicitor
   u. Depositary

3. **Insurance players**
   a. Insurer
   b. Insured
   c. Reinsurance

      d. Captive insurance company

4. Selected Contractual and Related Use Cases
      a. real-time incorporation of market data into financial contracts
      b. dynamic pricing and collateralization
      c. incorporation of data about conditions required to trigger payments, release funds, or restructure ownership
      d. decentralized clearing and settlement infrastructure for securities and derivatives
      e. investment fund governance, reporting, and asset custody
      f. structure and regulation of distributed token-based sales (aka "initial coin offerings")
      g. regulatory capital relief transactions
      h. automating and standardizing trade finance transactions
      i. integration of financing with the purchase of goods and services;
      j. incorporation of data into insurance policies for claims, adjustments, and processing
      k. capturing contracts in shared financial data and processing repositories;
      l. standardized terms and data and transaction structures for tokenized assets
      m. Automation of payment provisions based on objectively ascertainable preconditions
      n. Incorporation of smart legal contracts into existing compliance frameworks and technology
      o. Automated administration of transfer restrictions
      p. Automated application of antidilution provisions

5. Blockchain and Smart Contracts in Financial Services
      a. **Potential Use Cases**
            i. Asset management
            ii. Crowdfunding
            iii. Increased liquidity through use of smart contracts IoT
            iv. Issuance of equity shares
            v. Real-time gross settlement (RTGS) system
            vi. Remittances
            vii. Interbank payments
            viii. Asset transfer
            ix. Clearing and settlement of securities
            x. Financial messaging system

          xi.   Syndicated loans

          xii.   Trade finance

          xiii.   Transfer, clearing, and settlement of securities

          xiv.   Tracking of funds

          xv.   Shareholder voting

          xvi.   Mobile money transfers

   b. **Pilots and Important Recent Developments**
      i.   [Blockchain news from *Financial Times*](#)
      ii. Coindesk news
          1. [Payments](#)
          2. [Capital Markets](#)
          3. [Banking](#)
          4. [Insurance](#)

6. **Blockchain and Smart Contract Players and Initiatives in Finance**
   a. Wall Street Blockchain Alliance
   b. Enterprise Ethereum Alliance
   c. Hyperledger Fabric
   d. Ethereum Quorum
   e. Delaware Blockchain Initiative
   f. Symbiont
   g. R3 CEV
   h. Ripple
   i. Digital Asset Holdings

7. **Challenges to Blockchain/Smart Contracts Adoption**
   a. Legacy technology
   b. Inertia
   c. Regulation
   d. Code reliability (e.g. Ethereum / Parity; Ethereum DAO)
   e. Collective action problems
   f. Interoperability and code diversity
   g. Scalability
   h. Developing permitted cases of override (e.g., by a Court)
   i. Enforceability

8. **Selected Publications**
   a. Finance focused
      i. [Why blockchain is essential to the future of banking and finance](#),

Tech Republic, December 5, 2017
- ii. [Blockchain – Disrupting the Financial Services Industry - Deloitte](#)
- iii. Word Economic Forum, [The future of financial infrastructure](#)
- iv. [An ambitious look at how blockchain can reshape financial services](#) (2016)
- v. [DTCC page](#) on distributed ledger technology

b. Smart contracts and the law generally
- i. [The Idea of Smart Contracts](#) by Nick Szabo, 1997
- ii. [Smart Contracts: 12 Use Cases for Business & Beyond, A Technology, Legal & Regulatory Introduction: Smart Contracts Alliance, In collaboration with Deloitte An industry initiative of the Chamber of Digital Commerce](#) (2016)
- iii. [Are Smart Contracts Smart? A Critical Look at Basic Blockchain Questions](#) by David. M. Alderstein, Coindesk, Jun 26, 2017
- iv. [The Hitchhiker's Guide to Smart Contracts in Ethereum](#), Manuel Araoz, Oct 6th 2017
- v. [Solidity: Introduction to Smart Contracts](#)
- vi. [Hyperledger & Smart Contracts](#)
- vii. [Decentralized Blockchain Technology and the Rise of Lex Cryptographia](#), Aaron Wright & Primavera De Filippi, (2015)