

8. Smart Contract

Smart contracts (SC) are self-enforcing computer programs, which can create legally binding rights and obligations to their parties. As digital programs, based on the *blockchain* (BCT) consensus architecture, they will self-execute when the terms of the agreement are met, and due to their decentralised structure are also self-enforcing and tamper-proof. At its best, SC may change the legal environment from what it is restrictive, antagonistic, contentious, competitive, divisive and costly, into a self-organizing, responsible, responsive and collaborative one.

On the other hand, the grounds for the lawfulness of interactions being automatized are by no means perfect as concerns consent. There is no room for alternative interpretations because a machine does not really understand in the sense of a state of mind with all its possible variations, even code language. In agreements fixed onto BCT on the basis of a human mistake, fraud or at a gunpoint, for example, execution would be inevitable. Contract law rules on e.g. formation of contract and liabilities in cases of breaches of contract are not automatically implemented in the programs, and almost any possibilities of implementation still remain to be assessed.

Try to outline the current situation of SC from the point of view of traditional and developing contract law. Your focus could be e.g. on fitting the general principles of contract law or rules on formation of contract and contractual liability with smart contracts, or on the possible legislative approaches to smart contracting. This may include also digital platforms as a resource in opening contracting interfaces to third parties, as happens e.g. in transfer of payments.

If you like, you can start from the existing legal and methodological background. This includes: (a) *Contract law* (proactive law, relational contract, contract as a process – dynamic contract, digital signatures, formation of contract, liability rules, consumer protection, disclosure duties), (b) *Business law, business economics and arts* (contract management, strategic contracting and contract techniques, legal design and visualisation of contracts), (c) *Business law & technology*: blockchain technology and its legal implications (allocation of trust based risk and liability positions, disclosure duties; Internet of Things (IoT), automated transactions and Big Data, data protection and data security, digital signatures) (d) *Procedural law* (enforcement of contracts, especially online dispute resolution ODR) and (e) *constitutional law* (rule of law, access to justice and legal remedies).

Tästä linkistä löytyy blockchain-tekniikan esittelyä ja soveltamisesimerkkejä erityisesti rahoitusmarkkinoilla:

https://mycourses.aalto.fi/pluginfile.php/564904/mod_resource/content/1/Blockchain.pdf

Riikka Koulun artikkeli "Blockchains and Online Dispute Resolution: Smart Contracts as an Alternative to Enforcement"

https://mycourses.aalto.fi/pluginfile.php/564910/mod_resource/content/1/Riikka%20Koulun%20Blockchain-artikkelik.pdf