

# THE LEGAL FRAMEWORK OF BLOCKCHAIN IN THE ENERGY INDUSTRY

BERLIN, 07.04.2017

STROMMARKTTREFFEN - DIGITALIZATION OF THE ENERGY ECONOMY

OLIVER LOHMANN (ATTORNEY-AT-LAW)

- **AP is a boutique Law Firm** for Energy Law
  - Based in Munich and Berlin
  - Team of 4 specialised lawyers
- AP's services for **the Energy Industry** (selection):
  - General Energy Law: Grid connection & access
  - Energy Contract Law: Electricity Supply Agreements
  - Energy Tax Law: Electricity & Energy Tax Act
  - Renewable Energies: Support pursuant to the German Renewable Energies Act (EEG) or the Combined Heat and Power Act (KWKG)
  - Legal implementation of innovative business concepts (Power-to-X, Virtual Power Plants, concepts of decentralized power supply)
  - Energy Litigation & Arbitration: Claim enforcement
- **Clients** based in whole Germany and the neighboring countries representing the **value chain of the energy industry** (i.a. power utilities, grid operators, investors, project developers)

**A. Introduction**

**B. Blockchain as a radical idea**

**C. Legal reference points**

**D. Ethereum and smart contracts**

**E. Recap**

# A. INTRODUCTION

## ONE LEGAL FRAMEWORK?

- **No general legal framework governing Blockchain**
  - Different settings: public/private Blockchain
  - Technology too young and versatile
  - No technological standards yet
  - Blockchain has to operate under the normal regulatory framework
  
- **Multiple specific “legal frameworks”**
  - Specific legal challenges depending on use case
  - Challenges vary depending on specific law
  - Unforeseeable legal questions

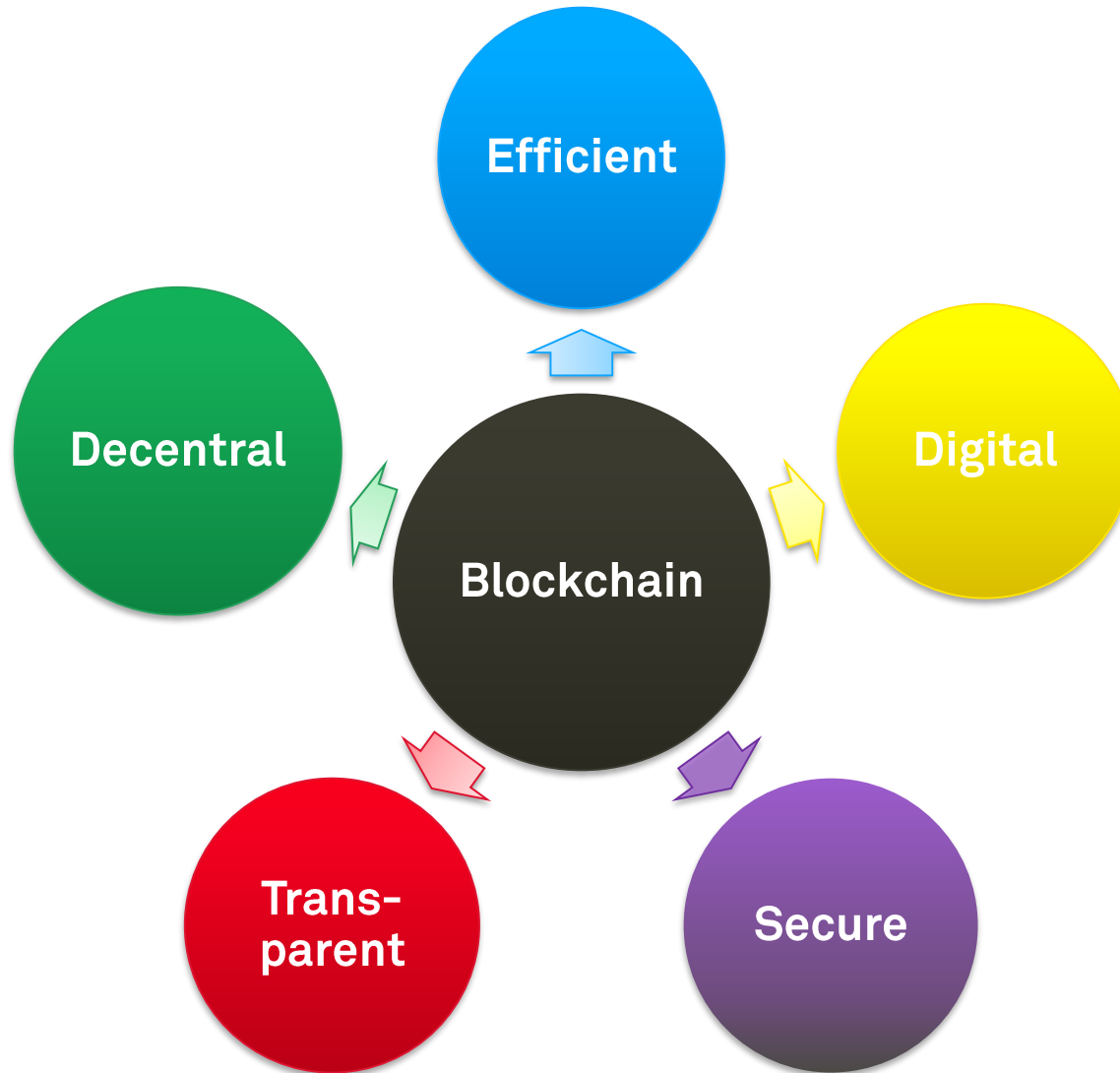
# B. BLOCKCHAIN AS A RADICAL IDEA

## REVOLUTION VS. REGULATION

- **Blockchain originally a radical idea**
  - Pure and open P2P network without hierarchy
  - Exclusion of all intermediaries
  - Self-sustaining system based on algorithm
- **Revolution vs. regulation:** regulation conceptually impossible
  - Excluding intermediaries means no state interference
  - Core idea excludes regulation (origins: philosophical anarchism)
- **Conclusion**
  - Use cases of public blockchain only outside or or in less regulated “pockets” of energy system
  - Private Blockchain more feasible (from a legal standpoint)

# C. LEGAL REFERENCE POINTS

## KEY CHARACTERISTICS OF BLOCKCHAIN



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## KEY CHARACTERISTICS OF BLOCKCHAIN

### 1. **Decentral** (P2P-trading, micro-grids)

- Different legal goals → distribution of rights, duties and obligations
- Fixed roles of participants in the energy system
- Legal responsibilities under Energy Industry Act (“EnWG”), i.a.
  - § 41 EnWG : contents and formalities of energy supply contracts
  - §§ 40, 41 EnWG : formalities for invoices

### 2. **Digital** (metering, M2M)

- Digitalisation of energy transition is legislative goal
- Core: Metering Act
  - Specific technical standards (however, law is neutral)
  - Limited right to use of data

### 3. **Efficient** (clearing, internet of energy things)

- Economic efficiency and efficient use of energy
- § 1 EnWG: efficiency is one of the regulatory goals
- EU-Winter package: tilt towards efficiency

### 4. **Transparent and secure** (certificates)

- “Right to be forgotten” = Right to erasure
  - Now regulated in Art. 17 General Data Protection Regulation (EU) 2016/679
  - Data in Blockchain = personal data?
- “Privacy by design”
  - Privacy as part of engineering
  - Metering Act follows “privacy by design” principle
  - Blockchain partly implements “privacy by design”-principle



# D. ETHEREUM AND SMART CONTRACTS

## ”BLOCKCHAIN ON STEROIDS”

- **Ethereum** = smart contract-compatible, public Blockchain
- **Smart contract** = translation of contractual clauses into code
- **Ethereum + smart contract → DAO** (decentralised autonomous organisation)
- **DAOs are legally challenging: Is code law?**
  - Contract Law, esp. conclusion of a contract (§§ 145 ff. BGB):
    - Smart contract = contract in a legal sense?
    - Translation of code to “plain English” necessary? (information gap, GTC)
    - Consent: Extend of intention to be legally bound
    - Formalities (esp. written form)
  - Corporate Law: Legal form of DAO?
  - Private Law: esp. legal liability (§§ 241 ff. BGB)
    - Law’s currency is rights, duties and ultimately personal liability
    - Who do you sue if the code has a bug?
  - Consumer protection, esp. law on GTC (§§ 305 ff. BGB)

### ▪ **Summary**

- Public vs. private and “dumb” vs. “smart” Blockchains
- Multitude of legal “frameworks”
  - Legal implementation in less regulated areas easier
  - Legal implementation B2B easier
- Autonomous regimes: Competition between law and code

### ▪ **Outlook**

- Regulatory sandboxes possible
  - Exemptions from regulation
  - FinTech: used in Singapore and in the legislative process in Switzerland
  - Known legal mechanism in German Energy Law (SINTEG exceptions)
- Energy 5.0 (smart contract + AI)
  - Smart contracts not yet “legally smart”
  - AI can implement legal principles → real legal automation

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