

Exploring Blockchain for Alternative Finance

Scoping Paper

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EXECUTIVE SUMMARY

ECN is promoting and conducting a wide variety of research on crowdfunding and its impact on economy and society. Distributed ledger technology (DLT) systems, blockchain and cryptocurrencies represent an opportunity to further innovate crowdfunding and alternative finance provision. In this context, a working group has been created to explore blockchain for alternative finance.

By analysing the state of the art, understanding challenges and opportunities, and providing recommendations we aim to leverage the potential of blockchain technologies in the alternative finance sector. The goal of this working group is to enable different target groups of the sector, namely crowdfunding platforms, investors, startups, SMEs, and policymakers to understand, deploy and support blockchain empowered use cases.

The basis of our research will be a set of semi-guided, qualitative interviews with market and technology experts and SMEs, who have experience in blockchain based products/services. Based on these outcomes, we will complement the practical perspectives from a research, legal and technological point of view.

As to facilitate and foster the development, two reports will be published. One assessment report about current obstacles (this scoping paper), and one report (White Paper) providing insights of use case domains and identifying most suitable areas in the alternative finance sector for the deployment of DLT.

INTRODUCTION

Within the last years, early-stage funding has witnessed a small revolution that has the potential to fully change the financial world as we have come to know it. Crowdfunding platforms were launched to provide market testing and funding through large groups of retail investors and private funders. This led to a new, diverse and increasingly professional alternative finance sector in Europe, providing equity-, lending- and reward-based funding options.

In this context, distributed ledger technology (DLT) systems, blockchain and cryptocurrencies represent an opportunity to further innovate crowdfunding and alternative finance provision. Although "DLT systems conceptually emerged in 1982, while the earliest occurrence of the 'blockchain' concept can be traced back to 1991" so far, a "coherent definition for DLT has not yet developed"¹.

For the sake of simplicity, we will interchangeably use the terms blockchain and DLT and refer to a well understandable explanation from the European Commission:

"Blockchain is the best-known distributed ledger technology. A ledger is a database which keeps a final and definitive record of transactions. Records, once stored, cannot be tampered without leaving behind a clear track. Blockchain enables a ledger to be held in a network across a series of nodes, which avoids one centralised location and the need for intermediaries' services. This is particularly helpful for providing trust, traceability and security in systems that exchange data or assets. There is a lot of potential for blockchain to be used in many different areas such as financial services, supply chains or healthcare."²

The crowdfunding and alternative finance industry is aware of the potential of blockchain applications. But current technological challenges, regulatory uncertainties and the lack of clearly explained use cases are impeding the uptake.³

Our focus will be on the use of blockchain technologies in the alternative finance industry, and especially European crowdfunding platforms. To this end, we will also be in dialogue with public institutions and stakeholders at European, international and national levels, taking into account and complementing their initiatives.

¹ Rauchs et al. (2018): Distributed Ledger Technology Systems. A Conceptual Framework. In Cambridge Centre for Alternative Finance Reports, Cambridge Judge Business School, University of Cambridge.

² European Commission (2017), [Factsheet to learn how can Europe benefit from blockchain technologies](#)

³ Tasca, Paolo, and Sebastian Widmann. "The challenges faced by blockchain technologies—Part 1." *Journal of Digital Banking* 2.2 (2017): 132-147 and Tasca, Paolo, and Sebastian Widmann. "The challenges faced by blockchain technologies—Part 2." *Journal of Digital Banking* 2.3 (2018): 259-281.

THE WORKING GROUP

“Exploring Blockchain for Alternative Finance” is a multi-stakeholder working group established with the aim of reflecting the impact of the blockchain technology on the crowdfunding and alternative finance sector as well as identifying opportunities and challenges of implementing blockchain technologies.

The usage of blockchain technology offers the potential to tackle crucial security issues, and achieve considerable cost savings, efficiencies and resilience. We embrace these developments as a key innovation opportunity for the European crowdfunding and alternative finance industry.

The goal of this working group is to leverage the potential of blockchain technologies in the alternative finance sector by analysing the state of the art, understanding challenges and opportunities and providing recommendations for enabling and supporting blockchain empowered use cases for different target groups of the sector, namely crowdfunding platforms, investors, startups, SMEs and policymakers. A key activity is to design and build the 4th ECN CrowdCamp to be held in Berlin, Germany on 13.-14. June 2019⁴.

The working group is led by Christin Friedrich, the chair of the non-executive board of ECN and Conny Weber, Senior Research Analyst at ECN.

Members

- Heike Hölzner, HTW Berlin, Germany
- Paolo Tasca, UCL Centre for Blockchain Technologies, UK
- Dušan Gajić, University of Novi Sad, Serbia
- Jovan Tišma, RealMarket, Serbia
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- Robert Michels, Dentons, Germany
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- Reinhard Willfort, 1000×1000, Austria
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⁴ <https://eurocrowd.org/4th-ecn-crowdcamp/>

KEY QUESTIONS

Our envisioned activities will be informed by the following key questions:

- What is the status quo of the blockchain technologies applicable to the alternative finance industry and what is the outlook, including solving current issues like scalability, security and privacy?
- How will blockchain technology impact the crowdfunding industry?
- What can investors, startups and SMEs active in the field of alternative finance learn from current use cases?
- How can we support policy makers and regulators in the alternative finance industry to understand blockchain and design legal frameworks that support innovation?
- How can the EU and its member states enable startups and SMEs to profit from blockchain technology and support further use cases in the field of alternative finance?
- What can the EU and its member states do to build the foundation for being the main blockchain hub in the world?

PURPOSE AND OBJECTIVES

We purpose to support both the European alternative finance industry and the European Commission in monitoring the development of the sector and the effectiveness and degree of national regulatory approaches, as well as to promote convergence, sharing of best practice and keep developments under review, by assessing the development of blockchain based applications in alternative finance.

So far, blockchain based applications for alternative finance are being tested (ranging from white papers and proof of concepts to prototypes and beta applications) in areas such as payments, asset tokenization, smart contracts, monitoring and oversight functions, e.g., for Anti-Money Laundering (AML), Know your customer (KYC) compliance, market manipulation or insider trading.

Based on these developments, we will start analysing the potential and challenges of blockchain use cases in the field of alternative finance from a practical perspective, and deduct from the results research, legal and technological implications:

OBJECTIVE 1- PRACTICAL PERSPECTIVE

Following an initial feedback from public authorities and industry, we identified a general lack of knowledge with regard to blockchain and DLT use cases, applications and best practices. Therefore, we will analyse and evaluate the main market and regulatory difficulties that crowdfunding platforms or other startups and SMEs encounter when they are seeking to extend their services with DLT (e.g. raise capital, fund projects, and provide credit).

The basis of our research will be a set of semi-guided, qualitative interviews with market and technology experts and SMEs with experience in blockchain based products/services.

The analysis of case studies will also provide insights on blockchain-based tokens. Based on a token economics framework⁵ we will categorize different types of tokens and shedding light onto their intertwining of techno-economic and socio-technical dimensions. Token design is still in its early stages. We will therefore support the categorization and exploration of concrete token-based projects in the industry and their match with the framework of the morphological analysis.

OBJECTIVE 2 - RESEARCH PERSPECTIVE

Based on the information and analysis gained from practical examples, we will deduct in which fields further research is required. Especially security tokens and smart contracts are considered to have a huge impact in the alternative finance industry. Security tokens represent a tokenized share of a company or a derivative of its revenues. Their set of rules and legal implications are defined in smart contracts issued by the companies.

But also tokenization of real assets represents a new challenge which many companies are trying to solve. Tokenization of traditional assets offers multiple advantages such as increased security, transparency, liquidity, immutability and settlement finality.

Thus, everything that can be tokenized will be tokenized? What are the risks and challenges of the tokenization of our economy? Will asset tokenization democratize finance? How can/should we design token and token economic systems to increase

⁵ Hölzner, H.M., Blazickova, C.A. (to appear 2019): Token Economics: Gestaltungs- und Wirkungsdimensionen von Blockchain-Token. University of Applied Sciences Berlin (HTW)

social added value? How can we harness existing knowledge from the behavioural sciences to answer these questions?

OBJECTIVE 3 - LEGAL PERSPECTIVE

As a long-term goal, the working group results aim at providing guidance and recommendations for policy and regulatory assessments. Based on insights and experiences collected within objective 1, we aim to:

- Elaborate guidance towards the general decision of (1) adjusting current capital markets legal frameworks to include DLT based financial instruments and financial transactions or (2) creating of a new “stand alone” legal framework for them.
- Advise on a consistent qualification of various types of tokens: currently most supervisory authorities distinguish three different types of tokens – currency tokens/utility tokens/ security tokens – is this the conclusive qualification for legal purposes?
- Identify regulatory gaps for financial transactions based on DLT: is there any “grey crypto market” which falls out of the scope of the existing legal framework?
- There are many national differences with regard to legal treatment of DLT based financial instruments and transactions – how significant are such differences and can they be overcome by EU-wide harmonization?
- Understand which types of tokens/transactions can easily fit into existing legal frameworks (e.g. could be the case for security tokens) and for which types of tokens a new legal framework should be evolved or the existing one adjusted.

OBJECTIVE 4 - TECHNOLOGICAL PERSPECTIVE

Crowdfunding platforms enhance access to finance for SMEs or entrepreneurs, by linking them to a multitude of private and retail investors through the internet. One of the key challenges for crowdfunding and alternative finance is related to fraud, trust, and confidentiality.

Blockchain technology in combination with smart contracts may provide a technical solution for some issues crowdfunding platforms face. A smart contract is “a self-executing software program that automatically performs some function (e.g.,

makes a payment when the smart contract is triggered by an event)⁶. The idea of “running them in a distributed ledger is that the execution of smart contracts is guaranteed by system rules and the outcome is verifiable and auditable by all network participants.”⁷ Blockchain technology promises to be a verifiable and immutable way to outsource trust, and a more convenient means for the exchange of information and transfer of funds. The technology is programmable and can be extended to cater for any other requirement in the crowdfunding contracts wherever and whenever necessary.

Based on evidence from our use cases, we aim to:

- Elaborate guidance for alternative finance platforms, about how to use smart contracts as a tool to automate business processes across different entities.
- Smart contracts rely on comparatively primitive machine interpretation with no capability of comprehending nuance or the spirit of the law. We aim to explore the potential of smart contracts to provide legally binding, complex commercial agreements in alternative finance.
- Even in its current state, the blockchain technology can be used to modify the role of the platform intermediaries. Does this have any implications on who can access a distributed ledger network and see transactions (public vs. private)?
- Provide initial guidance on architecture design choices regarding the topology of the network, consensus formation, data sharing etc.
- For now, the majority of blockchain implementations are “experimenting with small-scale, isolated networks; live applications are mostly built as ‘permissioned layers’ on public blockchains”⁸. We hope to identify crucial challenges for scaling.

⁶ Hileman, G. & Rauchs, M. (2017): GLOBAL BLOCKCHAIN BENCHMARKING STUDY. In Cambridge Centre for Alternative Finance Reports, Cambridge Judge Business School, University of Cambridge.

⁷ *ibid.*

⁸ *ibid.*

CONCLUSION

Our envisioned activities will consider both the scientific and the industry's perspectives to provide guidance and policy recommendations on the potential establishment of blockchain technologies across Europe within the alternative finance sector.

Following a review of existing blockchain services and applications, we seek to identify application scenarios for crowdfunding platforms and identify opportunities for regulatory approaches.

The results of the working group's activities will be published in two reports. One assessment report about current obstacles (this scoping paper), and one report (White Paper) contributing to research by providing practical insights on use cases and their legal and technological implications.

The outcomes will be directed to the several European institutions and networks, as to provide them with valuable evidence in support of blockchain.



ABOUT THE EUROPEAN CROWDFUNDING NETWORK

The European Crowdfunding Network AISBL (ECN) is a professional network promoting adequate transparency, (self) regulation and governance while offering a combined voice in policy discussion and public opinion building. ECN was formally incorporated as an international not-for-profit organisation in Brussels, Belgium in 2013.

We execute initiatives aimed at innovating, representing, promoting and protecting the European crowdfunding industry as a key aspect of innovation within alternative finance and financial technology. We aim to increase the understanding of the key roles that crowdfunding can play in supporting entrepreneurship of all types and its role in funding the creation and protection of jobs, the enrichment of European society, culture and economy, and the protection of our environment.

In that capacity, we help developing professional standards, providing industry research, as well as, professional networking opportunities in order to facilitate interaction between our members and key industry participants. ECN maintains a dialogue with public institutions and stakeholders as well as the media at European, international and national levels.

