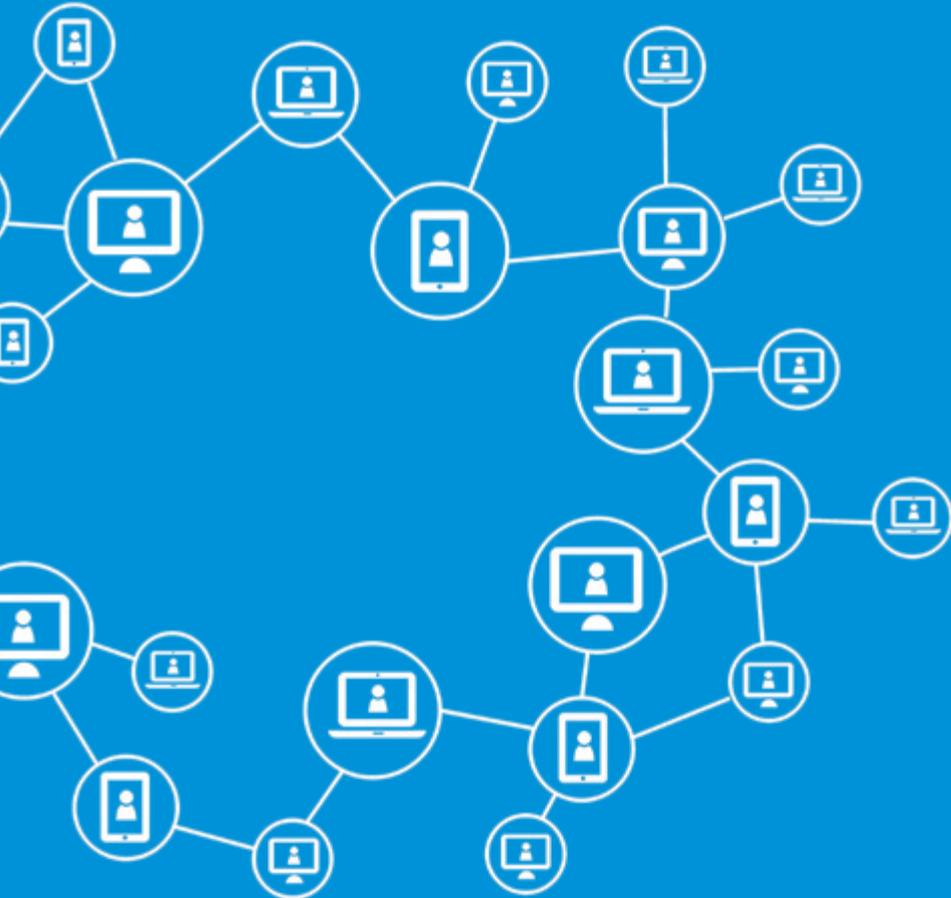


#30 co-session



Opportunities with Blockchain

ORGANIZED BY:

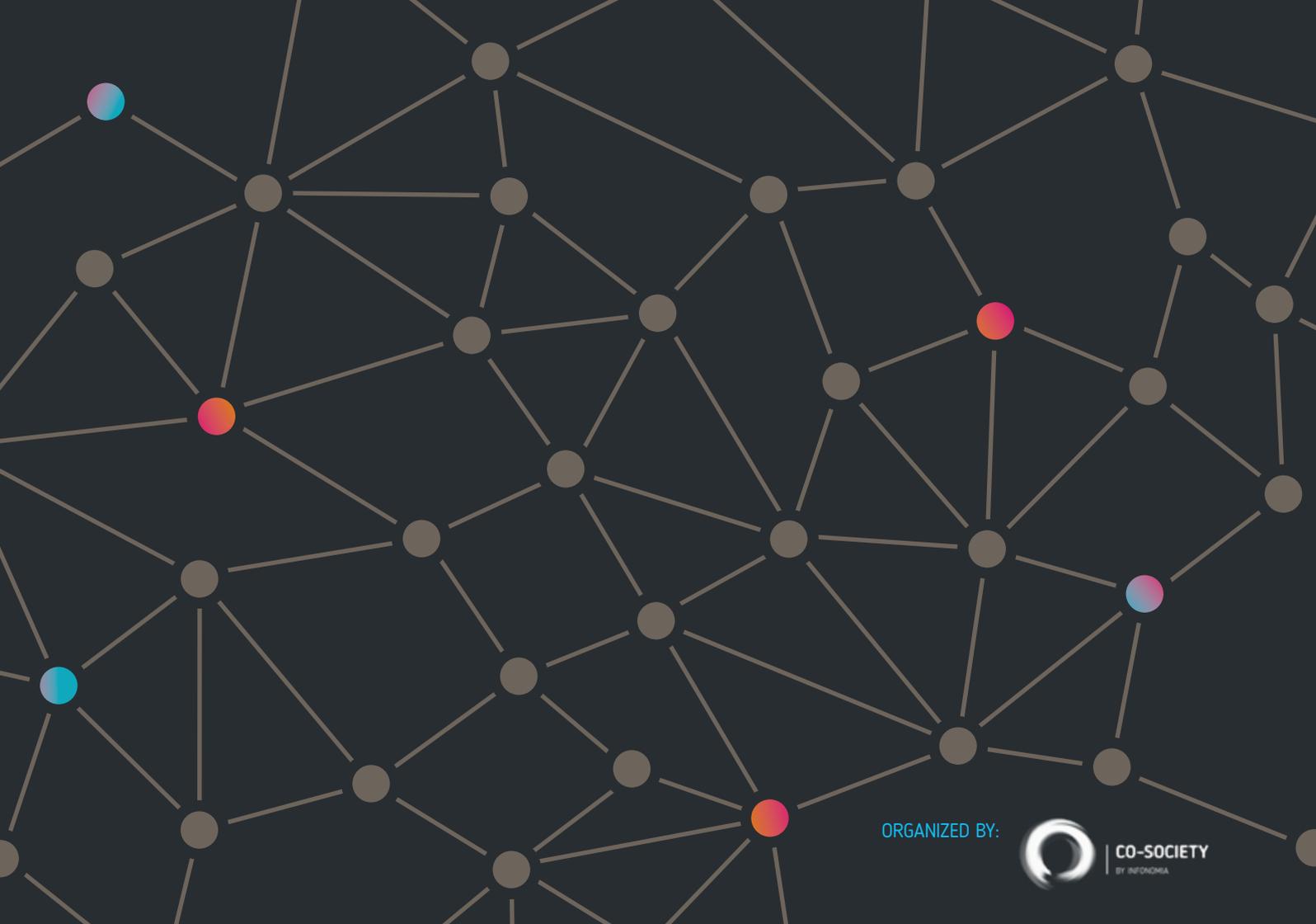


CO-SOCIETY
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A dark grey background featuring a network diagram of interconnected nodes and lines. The nodes are represented by small circles, some of which are highlighted with a pink-to-blue gradient. The lines are thin and light grey, forming a complex web of connections.

#30CO-session

**Opportunities
with
Blockchain**



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We held our 30th Co-Session on the day that Bitcoin monopolized media headlines for being close to reaching an exchange value of 10,000 dollars. It is therefore appropriate that we dedicated the day to Blockchain, the technology on which this and other virtual currencies are based. But it is not just the potential transformation of what we have understood as money for centuries that provides a focus for our attention. Over recent years, Blockchain technology has been on everyone's lips because of the highly revolutionary nature it can represent to the most diverse sectors. It has the potential to transform the future, and many experts predict that it may reach a level of disruption similar to that of the Internet itself over the last couple of decades.



We dedicated this #30 Co-Session to the opportunities offered by Blockchain, but we did so trying to flee from the “hype”, not always based on proven realities, generated recently by this technology. For this reason, we focused on trying to understand the way it works a little better, to get to know first-hand cases of practical applications that are already being developed and, above all, to be able to determine and reflect on the challenges and opportunities that Blockchain can represent for companies that are members of Co-Society and the sectors in which they carry out their activity.

BLOCKCHAIN STATE OF THE ART

But what exactly is Blockchain? This “chain of blocks” can be described as a digital ledger in which all transactions made between two parties can be recorded, being permanently and constantly verifiable. **Alfons Cornella**, founder of Co-Society, started off the day’s series of presentations with an introduction to the concept of Blockchain, the way it works, and its potential impact on business. He also described a state of the art of this technology, including examples of some of the most important initiatives that are currently being carried out in sectors such as retail, logistics, insurance, energy, and banking, based on its use.

Blockchain was rightly defined by “The Economist” as the “trust machine”. Cornella insisted on this as a key factor to understanding the potential implications of a database technology, but one that has the important addition of new and determining factors. These include a distributed and decentralised nature that removes the need for third-party intermediation to ensure the trust between the parties needed in any transaction. Previous revolutions solved the problems of significant deficiencies, such as the possibility of transmitting knowledge (printing), generating force (the engine) or interacting at a distance (internet). For many, the important mission of solving the growing problem of trust in the new digital world in which we are already fully immersed is now up to Blockchain and the new initiatives that may arise on its technological base.

BLOCKCHAIN IN THE

Blockchain can represent, for example, the solution with which to overcome some of the barriers that impede major transformations in the energy generation and distribution sector. As **Oriol Pujoldevall** of the **Energy Web Foundation (EWF)** described, electricity systems and grids are changing. New generation points are appearing. The idea that connecting to a centralized distribution network may be the only way to supply energy is becoming obsolete. In fact, these alternatives are starting to become cheaper. More empowered consumers/prosumers are starting to demand more opportunities to decide on the origin of the energy they consume or even the destination of the electricity they can produce.

Blockchain's ability to transmit peer-to-peer (P2P) electronic value without the need for intermediaries offers a response to cybersecurity problems, transaction costs, and the type of intelligent contracts for an Internet of Things that would make it possible to create energy networks that are more decentralized and have a much higher number of participants. With the aim of accelerating the adoption of Blockchain in the energy industry, the Energy Web Foundation has identified over 180 possible applications of this technology for this sector. These include P2P energy trading, the easier and faster generation of certificates of origin, and the use of smart contracts to instantly materialize purchase agreements and payments for energy consumption on demand.

ENERGY SECTOR

**“MORE EMPOWERED
CONSUMERS/PROSUMERS
ARE STARTING TO DEMAND
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TO DECIDE ON THE
ORIGIN OF THE ENERGY
THEY CONSUME”**

CRYPTO ECONOMICS

Blockchain can become the enabler of the change towards a true digital economy. **Montse Guardia**, director of Digital Services Delivery at Banco Sabadell, was charged with explaining how and why. The key lies in two important concepts linked to this technology: “tokenization” and smart contracts. Blockchain allows any object or physical asset to be “tokenized”, or in other words, uniquely granted with a unique digital, and therefore virtual, identifier. This makes it possible to have an “Internet of Value” that can facilitate the smooth exchange of these assets in a way that is completely transparent for users.

Smart contracts can also be applied to this new Internet of Value. These involve lines of code that can digitally, and in a simple and automatic way, implement business rules agreed by the parties on those value transactions, executing certain actions if certain conditions that have been previously estab-

lished are in place. For Montse Guardia, this type of element poses a scenario of absolute social and economic innovation in which cryptocurrencies that work independently of monetary policies or fixed exchange rates are a good example.

In the second part of her practical presentation, the Banco Sabadell director also provided us with more information on the tools and process involved in learning how to create our own electronic portfolio and how to acquire and exchange cryptocurrencies like Bitcoin and Ether.

UNDERSTANDING ETHEREUM

The aim of the presentation from **Adrià Massanet**, a freelance developer specializing in security, cryptography, and Ethereum, was to go into more depth on the special characteristics of this platform and protocol that were originally conceived as an improved version of the blockchain that supports Bitcoin. Created with the initial purpose of decentralizing the web, Massanet said that Ethereum can be seen as a single secure global computer. This security becomes a key differentiator: while on the Internet that we know today secure transmission occurs between nodes and applications, in Ethereum this security is implicitly built into the system itself.

Blockchain is going to decentralize everything. Therefore, Massanet proposed a system to seek challenges and opportunities in our own sectors that stem from this new context. Firstly, we need to think about which intermediaries can disappear if a fully horizontal governance model is applied to known business models. Subsequently, we have to become a new player capable of providing new value in this new model of 100% horizontal governance.

Finally, we also heard about some of the most innovative projects based on this technology that are currently underway. They include Brave Payments, a cryptocurrency created to easily and automatically reward the creators of content consumed in the network, and Polkadot, a project that aspires to make it possible to connect different blockchains, creating what could be called an “Internet of blockchains”.



HANDS-ON WORKSHOP



HOW A BLOCKCHAIN WORKS

Explaining exactly how Blockchain works is not a simple task. It was therefore a good idea to recreate how it functions by making some of the main processes of the system tangible and converting the Co-Society fellows into distributed nodes and ledgers. It was time to stop listening to presentations and get into “hands-on” mode in a workshop led by Co-Society collaborator **Josep Lluís Sánchez**. Participants physically represented the basic elements of a Blockchain environment (network, transaction, ledger, and block), as well as the rules and processes under which these elements relate to one another.

To do this, 10 groups were formed, each acting as a node involved in the process of a theoretical bitcoin transaction. Each group worked with two sheets of paper representing two blocks from the same ledger. A simple algorithm allowed the transactions to be signed digitally. Then it was time to transmit each transaction to the entire network, represented by the rest of the groups (nodes). Adhesive labels were used as the support for the digital signature of each transaction. The corresponding figure certifying the origin of the posting line was written on them before they were passed to the other tables where they were recorded and validated by participants in their own copies of the ledger.



WITCOIN: A CRYPTOCURRENCY FOR KNOWLEDGE EXCHANGE

Today, many of our assets have been digitized: our photographs, our medical records, our signature and even our identity. In addition, our money is already principally a posting line in digital format. **Pep Lluís de la Rosa**, a professor at the University of Girona and a specialist at Intelligent Agents, presented us with another of the many disruptive ideas that Blockchain can make possible: we can also digitize the value of our knowledge, converting it into a currency that allows us to openly reward its exchange.

As we all know, time is money. This is also the case with knowledge, although it is not always easy to convert it. Knowledge creates value, but most of the time there is no easy way to recognize this merit. is mooted as a currency that can facilitate the transaction of knowledge without the need for the type of bureaucracy (patents, management of intellectual property, etc.) that is necessary nowadays to recognize the value contributed by the person who generates it. Using the Ethereum platform, Witcoin makes it possible to certify every instant of knowledge transaction, thereby transforming it into an asset. Its promoters intend to eliminate the fear of copying or the lack of recognition that precludes a greater flow and exchange of ideas, which are the driving force behind the generalization of the concept of Open Innovation and the basis of a true Knowledge Economy.

WHAT'S IN IT FOR ME

Finally, after everything we had learned during the day, it was time to reconsider and debate what Blockchain can mean for each of our companies and sectors. This time for reflection was set out in terms of challenges and opportunities, with a questionnaire completed beforehand in which participants were required to answer three main questions about Blockchain: What could it help us achieve in relation to our business and processes, what would we be obliged to do if it became generalized, and finally, what do we need in our organizations to be able to use its capabilities and take advantage of them.

Certain consensus was reached in relation to the first question, focusing on the most likely potential benefits of Blockchain in reducing operational costs and automating certain processes, especially those related to transactions, certifications and asset management. Also apparent was the significant barrier to entry that existing systems of trust and traceability imposed by large companies on all their suppliers can represent to highly regulated sectors such as heavy industry or manufacturing. On the other hand, Blockchain will make it obligatory to generate talent resources that are specialized in this

technology, which are still very scarce today. It will also force business or even social change that truly demands levels of transparency that it makes possible. In any event, in order to take advantage of Blockchain, companies will above all need expert advice, greater knowledge of the opportunities that it can generate for them and the necessary requirements for this to take place.



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