

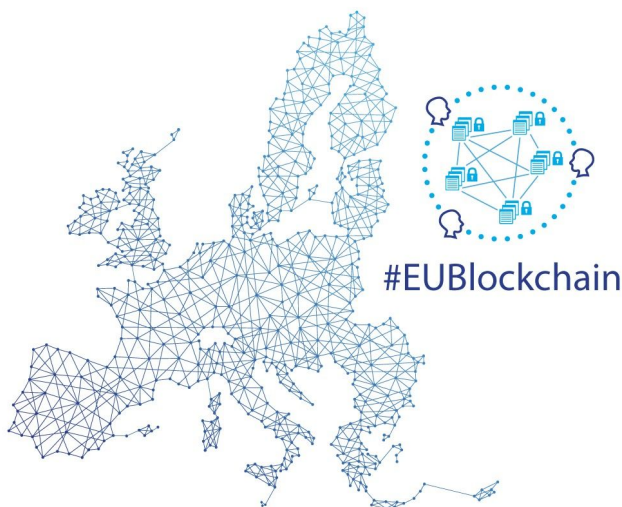


An initiative of the



EU BLOCKCHAIN OBSERVATORY & FORUM

Workshop Report - Use cases in social impact – Barcelona, 30 January, 2020



By the European Commission, Directorate-General of Communications Networks, Content & Technology.

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Author: Tom Lyons

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Comments and inquiries may be addressed to the following email: info@eublockchainforum.eu

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Presentation – An overview of social issues and the blockchain potential

Speaker: Vanessa Grellet (ConsenSys)

- There is a USD 2.5tn annual funding gap to achieve the UN's Sustainable Development Goals, yet the problem is not a lack of capital but a lack of focus. The challenge is to link private funds to SDG-advancing projects.
- Blockchain is an appropriate technology when you need or have:
 - a shared repository;
 - multiple writers/stakeholders who need access to the same information (see for example refugee situation, where one agency identifies refugees, another provides health services, another one food, etc - all need a holistic view of the people they are serving);
 - minimal trust (for example in situations with risk of corruption, where you need to track funds, or when you want to track the actual impact of funds)
 - a high number intermediaries that drive up costs (for example banks taking fees for remittances);
 - transaction dependencies.
- Among 20 case studies involving 33 ConsenSys spokes and 50 members of the Blockchain for Social Impact Coalition, the following use cases were found to be particularly impactful/interesting:
 - **Identity and vulnerable populations**, and in particular self sovereign identity (SSI) for refugees.
 - **Financial inclusion**, including everything related to cash transfers, remittances, avoiding high fees and banking the unbanked.
 - **Supply chain**, for instance food safety and security (a huge focus in China), sustainability, etc.
 - **Energy and Environment**, for instance creating and transmitting records around carbon footprints, new ways to manage energy, p2p energy trading.
 - **Human rights activists**, including protecting freedom of speech, security/identity for human rights activists.
 - **Democracy**, including supporting direct democracy, evoting, fighting fake news
 - **Philanthropy**, including track and trace for donor funds, measuring impact.
 - **Education**, including educational credentials, attestations, future of work use cases.
- Of the group of projects mentioned above, we can also observe that many of the projects were around one or more of the UN SDGs, that on average the projects have been in

existence for almost 2 years, that 40% are in the testing phase and 40% are live, and that they are distributed globally (not just in Silicon Valley).

- Issues and blockers for social impact projects using blockchain include regulation and the fact that many larger actors remain uncomfortable with crypto due to money laundering concerns or fallout from the ICO bubble.
- Funding is also important: social impact projects need patient capital and collaboration with the public sector. Particularly when you work with vulnerable populations you simply need more time. This can be achieved among other things through dedicated funding vehicles and accelerators, tax incentives, government support in funding and testing solutions.
- Among the blockchain for social impact projects that ConsenSys is involved are:
 - **LACChain:** A coalition containing a large number of diverse actors in Latin America working to create a settlement layer for an interoperable network based on Ethereum with tokenised fiat money and SSI to use across Latin America.
 - **Impactio:** Leverages a global distributed network of subject matter experts as well as 'Impactio Tokens' to match social and environmental impact projects with support and funding.
 - **i2i:** A financial inclusion project involving rural banks in the Philippines that are not linked to the country's central bank or larger commercial banks. The project links the banks through a blockchain platform that allows for quicker interbank transfer and reconciliation.
 - **Worker's rights in Mexico:** ConsenSys developed a blockchain-based system for a joint project of Harvard University, the New America think tank and Levi Strauss designed to augment outside auditors of factory health and safety with self-reporting by workers in Levi-Strauss Mexican factories.
 - **Project Unblocked Cash:** a Cash and Voucher Assistance program pilot built on the Ethereum blockchain mainnet for the Pacific island nation of Vanuatu.

Panel discussion – Blockchain for financial inclusion of the unbanked

Speakers: Miguel Prados Rodríguez (Caja de Ahorros Digital), Gustav Arentoft (MakerDAO), Raphaël Mazet (Alice). Moderated by Vanessa Grellet.

- Blockchain can improve financial inclusion in different ways. In our profit-driven system, financial services are provided in those areas where it is profitable to do so. A trustless blockchain-based financial framework can be very cost efficient and so help extend these services to areas that are not profitable today. Blockchain can also help address the massive information asymmetries that are keeping capital from going where it is most needed or most effective.

- **Caja de Ahorros Digital** creates a local community coin on blockchain, which in turn creates a savings bank and an ecosystem of local coins in a city. The coin of the City Council is generally the main player, but not the only one. Other local communities – agricultural, cultural, etc. – issue their own tokens too. There is also a liquidity system.
- **MakerDAO** is a decentralized and transparent financial ecosystem in which you don't have to rely on a single trusted party. It has a credit facility, where there is no credit counterparty or intermediary: people can lock up collateral, and based on that generate a stablecoin called Dai against their collateral. The interest that people pay in does not go to anyone, but is rather used to make the system self-sustaining and resilient against risks. A specific part of such interest (the concrete amount is decided by a decentralized governance) goes back to Dai holders who decide to use the so-called Dai Savings Rate (DSR). . Right now the DSR is approx. 7.5% and is available to any Dai holder. .
- **Alice** is a protocol that incentivizes the creation of transparent and validated impact data. The idea is to break out data about how effective a project is from its current data silos and make sure that all can see what works and what doesn't, and so help people make more informed decisions. The project reduces costs by allowing for more efficient due diligence procedures and management procedures. It also provides a quasi real time view of what is going on in a project. That is useful because among other things because many social impact projects don't get paid until the outcomes have been achieved.
- Large stablecoin projects like Libra hold much potential for financial inclusion, especially as they will likely be acceptable to and accepted by institutional clients as well as end users, but they also raise questions. Smaller or more decentralised projects can address these issues. Issuing a currency on a large platform is actually not that difficult: the real question is who governs the currency. The case for multiple local currencies with sufficient liquidity is that they can have their own cultural and local governance. Cities are also resilient. Most countries in Europe are 500 years old. Cities like Barcelona trace their lineage back thousands of years. Also, a project like Libra generates profits for its investors. In a decentralised platform like MakerDAO sustainability and financial inclusion is built into the system, which is designed to serve all its users.
- Among the challenges is the gap between technologists and social activists, both in terms of social activists understanding how technology works, and in terms of technologists understanding how social inclusion works. A community coin, for instance, will not be inclusive if only the poor in the community have it. To be successful, it has to be inclusive in an overall way: the coin of the richest as well as the poorest. A solely poor person's coin increases exclusion.
- The industry is also still quite immature, and much needs to be built. The Maker vision was published in 2015, but the full update only launched in November 2019.
- Regulatory uncertainty and the continuing reputational issues of crypto among many institutional organisations remain major hurdles. The paradox is that there is still a lot of mistrust in trustless systems.
- Central bank digital currencies (CBDC) could be a positive addition to the equation, helping the adoption of crypto currencies. In the end, we will live in a multi-currency

world: you will hold many different digital currencies, fiat and private, in your wallet. CBDCs have a dark side as well however. A retail CBDC could be used to control who citizens transact with, to monitor citizens, and to reverse transactions. Data privacy is incredibly important, as the ECB itself recently pointed out.

Panel discussion – Blockchain as a tool to empower citizens and help promote peace, justice, human rights and responsible behaviours

Speakers: Franck Nouyrigat (Electis), David Bovill (DEIP), Bernhard Kowatsch (World Food Programme). Moderated by Faustine Fleuret (ConsenSys)

- **DEIP** has a custom built blockchain that aims to support open innovation by bringing the participants in the knowledge economy together and aligning the incentives in a more democratic, bottom-up participatory way than has been possible in the past. Blockchain allows the alignment of financial incentives with democratic control.
- The **World Food Programme** has two blockchain projects. In one, it combines blockchain with a mobile app in refugee camps to allow refugees to pay for food. It also has an education program where it trains people in camps who have been out of education for a long time to be micro workers.
- **Electis** is a project to use blockchain to help update the software for democracy, a bit like Tinder for democracy. Its three main projects currently are: Vote for universities (global voting system for university students); Vote for COP26 (cross-border delegate voting ahead of the UN Climate Change Summit in Glasgow); and Vote for Asylum Seekers (a decentralised register of asylum applications across the EU).
- To unite the world's knowledge economy, you need to be able to protect intellectual property and finance projects/research. This includes having the ability to prove who came up with an idea first as well as to have ways to unite a community to work together on public goods projects. Blockchain is excellent for this.
- Blockchain is also very good in supply chain situations where you can benefit from real-time transparency and support coordination among people who do not necessarily trust each other.
- Trust is also the key element that makes blockchain interesting for e-voting. There are other technologies that can probably handle e-voting better from a technical and privacy standpoint. But if the participants in a vote do not trust each other, which is often the case, the decentralisation and trust provided by blockchain is incredibly important.
- The real strength of blockchain is as a technology to connect ecosystems, to support collaboration and shared knowledge. It is more than just a technology as it embodies human psychology and economics in the technology itself. It is also a grand experiment

and global laboratory of the future of governance. If it can help restore trust in the way democracy works, it can help strengthen democracy.

Presentation – World Food Programme: overview of projects leveraging blockchain

Speaker: Bernhard Kowatsch (World Food Programme)

- One in nine people globally is considered hungry, meaning they do not have enough calories daily to live a normal life. This number has gone down over the past ten years but is lately rising again due among other things to conflict. Wherever you see the UN is providing food somewhere, that is the World Food Programme (WFP) at work.
- Blockchain is part of the WFP's efforts to do more to reach the UN's SDGs through innovating at scale.
- **Building blocks** is a WFP project to provide cash transfers on blockchain that was first piloted in Pakistan and is now live in Jordan. The program provides cash to Syrian refugees in Jordan so they can buy food in stores using a ledger on the Ethereum blockchain that allows refugees to go in a store, authenticate a transaction with an iris scan, and then purchase the food. Every refugee has a virtual wallet on the blockchain, and transfers payments once a week to retailers. There is a little fee involved, but the system is faster and more secure than the systems in place before.
- **Blocks for transport** is a project to create a digital platform to digitise the supply chain between Djibouti and Ethiopia. Right now the journey, which should take 3-5 day, takes 10-12 due to lack of accountability as well as inefficiencies (from which certain parties benefit). The project aims to create visibility, traceability, efficiency, and compliance along the supply chain. Among the hurdles have been the user interface and getting the authorities to accept the digitised paperwork.
- **The Atrium** is an interagency development sandbox designed to enable collaboration across UN agencies who are interested in blockchain technology. It provides access to learning, resources and a community of UN blockchain developers. The project was borne out of the realisation that often what is built for one use case may be valuable to others in different contexts.
- The WFP takes data privacy very seriously, which is important when using identification technologies like biometrics with large, at-risk populations. One advantage of being part of the UN is that the WFP cannot be legally forced to divulge data. A direct payment system like Building Blocks can also have data privacy advantages; for example, by not using banks, there is no need to share refugee identity data with them.
- A key success factor to a successful blockchain for impact project is the skillset of the team – along with a healthy dose of humility, a focus on human centric design, and an understanding of the need to iterate. Most likely the first plan won't survive the first pilot, so people should not be upset by setbacks.

Panel discussion – Blockchain used to reconnect people with society

Speakers: Ivan Basart (Validated ID), Mara Balestrini (Ideas for Change), Arancha Martinez (itwillbe). Moderator: Ludovic Courcelas (ConsenSys)

- **Itwillbe** is an organisation that supports projects with high social impact. Current projects include the Child Protection People App (ChildPPa) that helps provide identity documentation for street children in India.
- **Ideas for Change** is a consultancy that leverages the power of emergent technologies and trends in order to create the interactions of the future.
- **Validated ID** is a company launched in 2012 by several enthusiasts from the world of digital ID and electronic signatures that provides electronic signature and related services.
- Sharing data is a big part of using blockchain to reconnect people with society. But there is no doubt that identity on the Internet today is a mess. The Internet was created to authenticate computers, not people.
- Data from individuals can be very useful for the common good. In the Barcelona part of the Decode project individuals put environmental sensors in their homes that generated environmental data that, in aggregate, was very useful to the city. The project allowed citizens to pair their Decode identity with the sensor, which also allowed them to share the data in a GDPR-compliant way. But it was still complex. Environmental data, even if not directly attributable to a name or an address, can reveal a lot of personal information indirectly. So we need to understand how data useful to a community should safely be shared.
- Successfully developing user-centric digital identity on the Internet will require standards and interoperability. It needs to work seamlessly everywhere, like email does today. Right now there are too many identity standards. One reason Facebook Connect could become so huge is that there were no other widely accepted standards to turn to. Blockchain, particularly to the extent that it enables self-sovereign identity (SSI), could greatly help with this.
- It is important however that projects developing identity solutions with blockchain or any other technology are user driven, not founder driven. It shouldn't be what the project thinks is right, but what the users find useful. One panelist discussed a Fair Trade traceability pilot around artisanal products using blockchain that was built on the assumption that consumers would like to know who made their product. This turned out not necessarily to be the case. What was interesting however was that it made a huge difference to the artisan to know who had purchased their work. So it was easier to implement the project in the field in the producing country than among consumers in the purchasing country.

- Experience with the Decode project revealed that citizens don't really care if blockchain is involved or not. The key element of citizen participation is addressing issues that citizens are concerned about. The problem is that this often leads to participation only by those people who are otherwise active politically or in their communities.
- Usability is a huge problem in the identity space on many levels. Current digital identity solutions are difficult to work with. Also, it is challenging to create a transparent system that makes it easy for people to understand where their data is going and who has access to it. If you can do that, you then have the problem of getting people to actively manage that data. We are constantly being bombarded by information these days, and it is probably wrong to think that on top of that people are going to constantly want to be making decisions about use of their data, even if we can now make that technically possible. So another design challenge in user-centric identity is reducing cognitive overload.
- Another major piece of the identity puzzle when thinking about blockchain for communities is the legal and regulatory framework. We need EU-wide regulation in order to have European identities. Another pathway forward may be multiple identity frameworks. Right now nation-states provide identities. In future, it will come from different places: nations, communities, countries.

Appendix

Workshop slides

- [EU Blockchain Observatory and Forum Social Impact Workshop Deck](#)

Workshop videos

- Videos from this and all other workshops can be found on the [EU Observatory website under reports](#).
- Videos specific to this workshop:
 - [Social Impact Workshop Video - Part 1](#)
 - [Social Impact Workshop Video - Part 2](#)
 - [Social Impact Workshop Video - Part 3](#)
 - [Social Impact Workshop Video - Part 4](#)

Official agenda

Time	Activity
9:45	Registration & Welcome Coffee
10:00	Introduction of the day from the Digital Future Society
10:15	Presentation – An overview of social issues and the blockchain potential Content: "Social impacts" encompass various challenges that citizens and companies want to tackle with blockchain. Speaker: Vanessa Grelet (ConsenSys)
11:00	Panel discussion – Blockchain can help financial inclusion of the unbanked Content: Blockchain aims at solving the current flaws of the traditional financial, banking and payment systems, and provides new solutions to fight against financial exclusion and better allocate financial resources among those who needs. Speakers: Miguel Prados Rodríguez (Caja de Ahorros Digital), Gustav Arentoft (MakerDAO), Raphaël Mazet (Alice)
11:50	Panel discussion – Blockchain as a tool to empower citizens and help promote peace, justice, human rights and responsible behaviours Content: Citizens bet on blockchain solutions to become more active participants in the protection of their rights and the reduction of inequalities. Speakers: David Bovill (DEIP), Bernhard Kowatsch (World Food Programme)
<i>12:40-14:00 Lunch break</i>	
14:00	Presentation – World Food Programme: overview of projects leveraging blockchain Speaker: Bernhard Kowatsch (World Food Programme)
14:40	Panel discussion – Blockchain used to reconnect people with society Content: Some decentralized projects strive to address the marginalization of underprivileged communities and minorities. Speakers : Gilles Mentré (Electis), Ivan Basart (Validated ID), Mara Balestrini (Ideas for Change), Arancha Martinez (itwillbe)
15:30	Conclusions from the workshop
16:15	End of the day