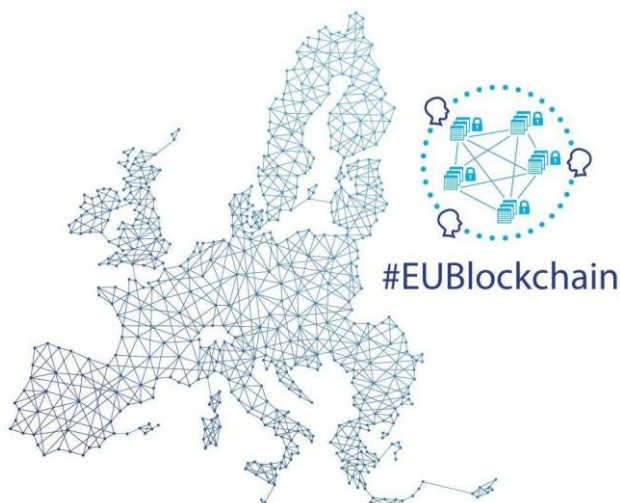# EU BLOCKCHAIN OBSERVATORY & FORUM

BLOCKCHAIN & EUROPE'S GOVERNANCE TRANSFORMATION
FROM GLOBAL TO LOCAL

In the framework of the Blockchain for the UN Charter Values and the SDGs Initiative (BC100+)
Turin, Italy – 17 May 2023

#EUBlockchain

Authors: Tonia Damvakeraki, Marianna Charalambous
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Comments and inquiries may be addressed to the following email: info@eublockchainforum.eu

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INTRODUCTION

This international hybrid meeting, in the framework of the ASviS Festival, and with the scientific cooperation of the Associazione Comunicazione Pubblica, considered the importance to regenerate a society of confidence and trust, able to secure the necessary level of resilience of our territories and risk mitigation in the public interest as well as the importance to increase the level of accountability on the basis of commitments made in relation with the SDGs and UN Charter Values.

The meeting analysed how blockchain can contribute to multi-stakeholders, multi-levels empowerment processes to accelerate the transformation and increase the resilience of Europe (as a European Political Community and the EU), Italy, its Regions and Cities and empowerment of Local Communities and Citizens.

The EU Blockchain Observatory and Forum (EUBOF), as a member of the steering committee of the BC100+ initiative, undertook the responsibility as event rapporteur.

WELCOME

The event was opened by **Prof. Francesco Profumo**, Fondazione Compagnia di San Paolo, who welcomed participants:

In this rapidly evolving world, we find ourselves at the forefront of a new era, where the convergence of artificial intelligence, blockchain, and other groundbreaking technologies has opened up unprecedented avenues for progress.

We are living in a new "Data Age": all the technologies have emerged as a game-changer, revolutionising industries and transforming the way we live, work, and interact. The ability to analyse vast amounts of data, learn from patterns, and make intelligent decisions has the potential to solve some of humanity's most pressing problems. From healthcare and education to transportation and energy, they are driving innovation and paving the way for more efficient and sustainable development.

Blockchain technology, in particular, is rewriting the rules of trust and transparency. By decentralising information and enabling secure, tamper-proof transactions, it has the power to revolutionise various sectors, such as finance, supply chain management, and governance. Blockchain's inherent features, including immutability and traceability, can enhance accountability, reduce fraud, and promote ethical practices, fostering sustainable development.

But these technologies are not mere tools. They can enable positive change for a better world: the true power of AI and blockchain lies in their potential to create a fairer and more equitable society. They can empower marginalised communities, bridge the digital divide, and provide equal access to education, healthcare, and economic opportunities. By leveraging these technologies responsibly, we can really ensure that no one is left behind in our pursuit of progress.

Emphasis should be placed on the following: we know something about AI, blockchain and their potential, but my feeling is that we don't know everything about its applications. We are still in a discovery era. So, we must also remain cognizant of the ethical implications and potential risks. We must prioritise privacy, security, and the ethical use of AI, ensuring that the technology is designed with human values and rights at its core. We must continue to explore and refine the governance frameworks for blockchain, fostering collaboration and accountability to maximise its positive impact.

But, in front of us, we have huge opportunities: recent research conducted by McKinsey mapped 160 application areas of disruptive technologies in the social sphere, with a prevalence for the health and environmental sectors. For example, the study went on to show how AI can actively contribute to the achievement of all 17 Sustainable Development Goals. In a recent article published in the science journal "Nature", Jeffrey Sachs, the "father" of the SDGs, theorised that the Fourth Industrial Revolution is one of the six transformations needed to achieve the 2030 Agenda.

Today, we have gathered here not only to celebrate the immense potential of AI, blockchain, and other technologies but also to acknowledge the responsibilities that come with harnessing their power. It is our collective duty to steer these innovations toward sustainable development, guided by principles of social good and environmental stewardship.

In this context, the strategy adopted by the EU emphasises the importance of a human-centric approach, transparency, and accountability in the development and use of AI and seeks to establish a regulatory framework that enables innovation and growth while upholding fundamental ethical principles.

Europe must confirm our leadership in this field. Like today, let us foster collaboration and dialogue, bringing together diverse perspectives and expertise. From academia, industry, government and also philanthropic actors like the Compagnia di San Paolo Foundation. Let us embrace innovation while upholding the values of ethics, inclusivity, and sustainability. By working together, we can harness the potential of AI, blockchain, and other transformative technologies to create a better world for generations to come.

I sincerely wish you a fruitful work: we have a great responsibility to take together.

MEP BRANDO BENIFEI, EUROPEAN PARLIAMENT RAPPORTEUR ON ARTIFICIAL INTELLIGENCE:

Brando Benifei,member of the European Parliament since 2014: Currently, I'm also the head of the delegation of the Partito Democratico in the group of the Socialists and Democrats , where, together with the Secretariat of the Parliamentary Committee for Internal Market, we are formalizing the final details that will constitute the general position of the European Parliament on the European Draft Regulation on Artificial Intelligence, together with the LIBE Committee.

After months of really a lot of work on this fundamental and comprehensive piece of legislation, the only one in its genre so far at the global level, we are coming to a topical

turning point. The discussions are focused on blockchain as a major tool to promote SDGs, and there are two significant remarks that need to be highlighted:

- the first one to introduce the concept of responsible innovation. While approaching the work on artificial intelligence, but more generally the digital revolution, as S&D we had in mind a clear red line. We as Europeans must lead the example of innovating for the people. The European Union is the only player at the global level who is willing to harness technological innovation so that it serves people and so it always respects human rights and democracy. Sometimes it's not easy to predict how technology will or could evolve. Sometimes the market drives change. We as legislators wanted to be sure that despite the unpredictability around this disruptiveness of these new technologies we would avoid circumstances where we could have to amend for mistakes exposed or introduce new legislation every now and then. We wanted to lay down an architecture to serve for the future and for the people to be empowered. This value or this goal if you wish guided our work and should continue guiding technology delivery.
- The second remark regards the concepts of transparency and trust. The pandemic has seen an exponential increase of digitalization, but with it came also an exponential increase in consumer frauds, disinformation, cyber attacks, evidence of digital divide, and of lack of digital literacy. All of which undermine citizens' trust and even raise fears in new technologies. As we recover from the pandemic, we are now in a constitutive phase where we get to reveal the overall vision for the recovery of our continent.

It is key to ensure that nobody is left behind in this transition, and that digitalization does not happen at the expense of citizens. For example, by collecting their data without their knowledge. We need empowered citizens, workers and consumers as to their data collection. And we see an increased demand for this control, for this empowerment. We need to provide citizens with tools to decide themselves what to do with their data.

And to do so, we need them to know why their data is valuable. These two red lines shape our idea of the future, and I wanted to put them on the table of your discussions. I sincerely hope that we will build this very much needed comprehensive framework of an ethical digital change, let us say from all points of view.

Indeed blockchain in particular, considered as open decentralized ledgers that record transactions between two parties without the need for third-party authentication, has recently emerged as a bearer of ethical values that could solve social challenges of great importance in various fields, as for example the health care, the supply chain management, and food safety.

It also offers positive features like anonymization, enhanced data security, immutability, and consensus-driven tools. And it can operate as a transparency machine. Moreover, blockchain's traceability and data integrity are features that show the capacity to operate in a decentralized manner.

All of this could be crucial in ensuring that the data used in AI systems are reliable, of high quality, and bias-free. There is obvious connection in this work and in conclusion blockchain technology has really this potential to create this value in an ethical way and Europe has a

unique opportunity to lead in establishing an ambitious model for digital rights and for an artificial intelligence that is human-centric and trustworthy and can make citizens able to exploit their benefits and the enormous potential of these technologies and blockchain can help us on that if we direct our policies towards clear objectives linked to the SDGs.

BLOCKCHAIN FOR SDGs, LUCAS ZAEHRINGER

Thank you so much for the invitation and the inspiring introduction. I feel honored to be here as a representative of civil society, as well as a proud EU citizen. I believe that new technologies like Blockchain can help us address today's major issues and create a more sustainable, regenerative, respectful, inclusive, and fair world. Today, I will be discussing the Blockchain for Good report, as well as our work at Positive Blockchain and the BC100+ initiative.

I am a founder and volunteer at Positive Blockchain, an association that has contributed to the Blockchain for SDGs report. Additionally, I am a steering member of the BC Hundred Plus initiative, which aims to bring together ecosystem players under the values of the UN Charter. I am also invested in and involved as the Head of Europe for a startup called Verity Tracking. Verity Tracking operates in the impact space, tracking and monitoring carbon emissions and insets in biofuel value chains. When I first started my journey, along with other volunteers and entrepreneurs, exploring the intersection of Blockchain technology and social and environmental impact, we felt quite alone. At that time, Blockchain was mostly associated with cryptocurrencies, bitcoin wallets, tokens, and initial coin offerings for funding new ventures. This focus on cryptocurrencies, along with scams and scandals, dominated the media's attention.

However, we believed that the potential of Blockchain technology went far beyond just cryptocurrencies. We saw the opportunity to fundamentally change how we transact with institutions and each other. Over the past five years, the ecosystem has come a long way. Today's event is a testament to the growing maturity and integration of decentralized technology in our lives and institutions.

Positive Blockchain has primarily focused on creating and curating a database of use cases and startup projects that address different areas of the sustainable development goals. Our database is organized into 14 core categories and 57 subcategories, mapped with the SDGs and other filters. I invite you to explore the database through the provided link. We recently deployed a new version of the database, which will offer more features and graphs in the coming weeks and months.

One of the major outcomes of our work is disseminating knowledge through reports. We have collaborated with various partners on reports such as "Blockchain in Africa" and "Blockchain in Community Currencies." One significant achievement is a 400-page report on blockchain and sustainable development, which involved many experts in the field. You can download this report from blockchainforgood.fr, a core partner of Positive Blockchain. The report is published annually and is available in French, English, and Spanish. We are also striving to make it available in other languages, such as Italian.

The report is structured around twelve core chapters covering topics like digital identity and ownership, environmental and climate issues, agriculture and food, government and democracy, art and sciences, among others. Each chapter includes numerous projects sourced from the Positive Blockchain database. It provides insights into industry-specific use cases, trends, and issues. At the end of each chapter, we highlight best-in-class projects that have demonstrated maturity and significant impact. The report also includes an analytics section that delves into the database's data and trends.

Now, when we started, we had around 100 projects listed. These projects were primarily startups, but there were also initiatives from governments, big corporations, partnerships, and nonprofit organizations. Back in 2017 or 2018, when we had a hundred projects, we were confident that we had identified most of the projects in the space. However, fast forward five years, and we now have 1400 projects. Yet, this number represents only a fraction of all the projects out there that are utilizing decentralization and web three technologies for social and environmental impact.

As you can observe on the map, these projects originate from all over the world. While the majority still come from the USA, Europe, especially countries like Switzerland, France, UK, Germany, and the Netherlands, has also been actively involved. Interestingly, we are witnessing an increase in projects emerging directly from regions in the south, rather than projects based in the US seeking to implement solutions in the global south. Local communities, particularly in Southeast America, West and Eastern Africa, are taking the initiative to tackle their countries' and societies' problems by leveraging technology and developing solutions themselves. This trend is highly encouraging.

The projects primarily fall into various categories, as indicated by the split in the database. These categories include finance and insurance, logistics, sustainability, health, energy, and identity. However, it's important to recognize that this is still an early industry, especially when it comes to sustainability. Like any other domain of innovation and new technologies, startups face risks and difficulties, and they may fail for various reasons. Presently, out of all the projects we have tracked, 40 of them are inactive due to different factors. Some realized that blockchain was not a core component of their business case, while others simply did not progress beyond the early stages. It takes time for projects to experiment and scale.

Let me show you an example on the timeline. The United Nations World Food Program embarked on a project called Building Block in early 2017. This initiative aimed to utilize blockchain for disbursing cash and registering identities of refugees in camps around Pakistan and Jordan. Initially, the project supported around 100 people, and it took nearly five years to reach 1 million users. The World Food Program, along with other international organizations such as UNICEF, has been at the forefront of adopting blockchain technology. Scaling such projects requires time, and we must allow for that maturation process across various use cases.

Undoubtedly, there are several adoption challenges that need to be addressed. For instance, there are concerns related to education, user experience, custodial management of digital assets in wallets, regulatory frameworks, finding skilled developers, and adequate resources for project implementation. Additionally, the industry sometimes suffers from a negative reputation and scams, often perpetuated by centralized cryptocurrency players who repeat

mistakes from the past.Furthermore, access to funding and capital is crucial for the success of these projects. All of these challenges emphasize the need for technology to mature.

Speaking of maturity, certain technologies have reached the plateau of productivity, such as cryptocurrencies, decentralized apps, blockchain wallets, decentralized finance (DeFi) commonly known as DeFi, stablecoins, and non-fungible tokens (NFTs). These technologies can be readily integrated into various projects today, including those focused on social and environmental impact. In the Blockchain for Good space, we have observed both trends and significant advancements. In 2017 and 2018, the focus was primarily on financial inclusion, providing financial solutions for the unbanked, migrants, and refugees. There was also considerable discussion surrounding the use of blockchain for global trade facilitation and finance, with a particular emphasis on trade accessibility. More recently, parametric insurance has emerged as a game-changer for individuals and businesses lacking access to traditional insurance coverage.

There has also been a lot of hype surrounding the tokenization of natural carbon capital assets or natural assets in general through NFTs or ESG tokens. I believe this trend will continue this year and probably next year, along with a significant movement around Rely or DSI for regenerative finance and decentralized science. I encourage you to conduct research in this field. Numerous startups are emerging worldwide, aiming to address issues and create a more regenerative finance world. What sets today apart from five years ago is the advancement of these technologies. Five years ago, they were still in their early stages, but now, if you want to solve a problem in the world, such as making it greener one tree at a time, you have all the tools available to do it on your own.

Recently, I attended a presentation in Berlin by a former military member from the Netherlands who knew nothing about Web3 but taught himself and created a startup called Kurst. It has now reached maturity and is commercially available. With the current tools, you can onboard agroforestry projects worldwide, geolocalize trees, and create digital twins using non-fungible tokens. Through partnerships in a decentralized manner, you can verify the growth of biomass using satellite images, as demonstrated by Floodlight. This satellite partner ensures the tree's health and sends a signal through a blockchain software called an Oracle, powered by Chainlink. The Oracle triggers a function on the smart contract, minting kilograms of CO_2 to represent the carbon stored in the soil thanks to the tree.

This process follows an S curve, representing the real science and biology of carbon sequestration for a specific tree in a particular region. All the data, evidence, satellite imagery, monitoring, and user identity are transparent and available for public review at any time. Furthermore, external certification is provided for retail or corporate users. With just a few clicks, you can create a wallet or connect to your existing wallet on MetaMask or Wallet Connect to transact these NFTs and CO_2 tokens. If you want to demonstrate your positive actions in compensating for emissions by supporting Agroforestry projects, you can do so. A blockchain certificate is issued to prove that you have retired and burned the token. All of this is accessible today.

These incredible tools for innovation and solving social and environmental issues were not available three or five years ago. We have witnessed many other remarkable examples, such as 2500 nonprofits accepting crypto donations through the giving block, supporting causes

like the Ukrainian war and recent events in Turkey. These demonstrate the mobilization of global communities through cryptocurrencies. Projects like Plastic Bank have successfully prevented the use of over 67 million plastics through their applications. German startup Etherisk has onboarded nearly 20,000 farmers for their blockchain-based insurance, and Cardano has made significant strides in Africa, particularly in Ethiopia, where they have onboarded 5 million students for an application aimed at improving digital identities and education in schools.

Regarding concerns about energy consumption, significant progress has been made. Many technology platforms have developed new consensus protocols with low energy consumption. Examples of such platforms include Celo, Cardano, and more. The transaction costs and energy consumption associated with these platforms are now close to zero. Numerous initiatives allow you to calculate the real-time energy and carbon costs of transactions on the blockchain. Efforts are also being made, including with Ethereum, to offset previous emissions from years when a different consensus protocol was employed, which consumed more energy.

The ecosystem has evolved, as evidenced by the various players and organizations involved. Positive Blockchain, Climate Change Coalitionand many others have mobilized to address the potential of blockchain technologies in addressing systemic issues. Recently, we formed the BC100+ in partnership with several other organizations.

There was a talk just before in May 2023, and actually yesterday, the finance ministers finally approved the MiCA Crypto regulation, which paves the way for an unharmonized market infrastructure and regulation. I believe this demonstrates Europe's leadership in the space. Today, there will be several projects presented, including Titan, which has received funding from the European Union. In fact, up until 2022, multiple projects in the blockchain space have been funded with €347,000,000. I invite you to explore these projects as they cover interesting areas where the EU is conducting research and innovation. I will share detailed slides and examples of projects to conclude, and I also invite you to join us in Berlin in two weeks, on June 1st and 3rd, to celebrate the five-year anniversary of Positive Blockchain. It will be an opportunity to meet with many other ecosystem stakeholders, continue the discussions we are having today, and connect with purpose-driven blockchain members and ecosystem players.

I sincerely hope you have fruitful discussions and valuable learnings today, and I believe this is only.
the beginning of further exploration, innovation, and discussions in the space.

Thank you very much, and have a good afternoon.

BLOCKCHAIN FOR CIVIC PARTICIPATION AND SOCIAL ECONOMIES, CHIARA SONZOGNI

The topic is currently at the core of our challenges because we are facing a crisis of trust and the need for change in Europe. Blockchain technology can play a significant role in addressing these issues. While many people typically associate blockchain with financial speculation and cryptocurrencies like Bitcoin, there is a substantial community focusing on utilizing blockchain for other beneficial purposes at the civic and local levels. The European Union has even adopted the term "blockchain for social good." The objective is to reintroduce technologies that are primarily utilized in the global financial sector back to the local and community levels for social benefits. Consequently, it may seem unusual for most people to hear the terms "blockchain" and "social good" together, but that is precisely the subject of our program. We aim to align with the UN Charter values and Sustainable Development Goals (SDGs) among the social goods we aspire to achieve.

Today, we will be discussing this topic and sharing some stories. Thank you for joining us.

GUIDO BOELLA & CLAUDIO SCHIFANELLA

This event is at the core of what our organisation is doing as a research group. We are working on blockchain for civic participation and social economies. This work is financed through several European projects.

Some questions we need to address include:
1) Why is blockchain for social good not developed as the DeFi and NFT market?

The answer is because
- ➜ DeFi is mainly based on speculation, while SG requires stable markets
- ➜ Many DLT projects are accessible to a very specialized audience
- ➜ The shift in technological design and development is consistently under-estimated
- ➜ Difference in organisational cultures between DLT innovators, public sector and non-profit organizations

Furthermore, it is essential to have regulatory support for cross-jurisdictional primitives as well as public funding in order to speed-up blockchain adoption for social good!

In the Report on Blockchain for Social Good, there are mentions of 14 categories of Blockchain application. Our work addresses three of them, and namely:

- Peer-to-Peer Electronic Cash System & Programmable Money
- Government & Democracy
- Production and Consumption.

We refer to each of these 3 categories in a broader sense, i.e., Peer-to-Peer Electronic Cash System & Programmable Money as Social Collaborative Economies, Financial Inclusion, Non monetary exchanges; Government & Democracy as Citizen participation and commoning; Production and consumption as local retail and tourism, circular economy.

United by the social and economic nature of the processes addressed, and by the local scale/ community level at which all the socio-economic processes supported by the blockchain, happen.

For each of these categories, the Blockchain for Good 2022 Report points out some challenges, such as: how to overcome technical obstacles to the adoption of peer to peer cash systems, or how to support new forms of participatory governance, or the low number of active uses.

The research project presented is an attempt to address these challenges, by making the blockchain accessible to local communities. Why?

- To make the blockchain advantages accessible to local communities.

- To support social collaborative economies and related participatory processes.

- To offer an alternative to speculative cryptocurrencies in global financial markets.

The way to achieve this is through Internet of Values 2.0 and technical and economical accessibility.

Blockchain is relevant for local communities, as, for example, cities are often organised in small, interconnected communities, made up of citizens, associations, etc., that are managed with different tools and rules. Tokenization and smart contracts can provide a layer to represent communities' rules with common tools, enhance interoperability and create new inter-community services.

A particular example looking into these, is the "CommonsHood" project that aims at providing communities with instruments for financial inclusion, supporting sustainability of the local economy, facilitating and enhancing the interactions among the local socio-economic actors, avoiding the fees and data control on services and finally creating a toolkit replicable in different communities. CommonsHood is a blockchain based platform especially devoted for financial inclusion and especially also devoted to the financial inclusion in local communities. Our approach is not focused on global communities, but it is an approach based on local communities, small communities in general, small communities within cities, within small villages and so on. Also we would like to present this approach because we believe it could be also replicated in different cities, in different communities. We also created a toolkit that can be replicated and we also experimented this process in different projects.

CommonsHood promotes an Internet of Values 2.0 revolution. In analogy with Web 2.0, the project allows non-technical users to create and distribute different types of tokens; It is designed to democratize local financial instruments to support urban commoning efforts by offering to users a single wallet Dapp. Focused on the local dimension through geolocalization (integrated with the geolocated civic social network FirstLife). Each user is able to create and distribute different kinds of content. So videos, images and so on. In this line also we want to introduce that we want to be able for each user to create and also distribute different kinds

of web three artifacts and in particular tokens NFT and different kinds of initiative based on web3.0 tools. The project allows non-technical users to create tokens by themselves. What can the token represent? What are their use cases? Some examples include access rights, reward, voting rights, coupons, digital collectibles, complementary currencies, loyalty tools, crowdfunding, etc.

In conclusion, one of the ongoing projects at the Museum of Science Fiction is centered around NFTs, specifically the creation of a unique NFT by the artist based on digital artworks. In this case, users, citizens, and Museum clients have the opportunity to participate in Museum activities by acquiring and exchanging NFTs. Another noteworthy project is the CoThree project, a European initiative where we explore the combined use of various disruptive technologies such as blockchain, augmented reality, geolocation, liquid democracy, and gamification. The aim is to create what we call the "augmented commoning area," a local space in which citizens can actively engage in initiatives, particularly in Turin. Within these spaces, users have the opportunity to explore the environment and discover augmented reality artifacts, among other experiences.

The user can interact with the augmented reality artifact. For example, they can participate in a crowdfunding initiative by acquiring tokens through an AirDrop program, among other options. Another essential component is the wallet utilized in this project. In conclusion, the main goal of the common study is to provide local communities with the ability to leverage blockchain technology without requiring extensive knowledge of it. Thank you very much.

PANEL DISCUSSION:BLOCKCHAIN & GOVERNANCE AT THE WEB3.0 DEMOCRACY AGE, EMPOWERMENT FROM GLOBAL TO LOCAL & EUROPE'S TRANSFORMATION

Moderated by Mercedes Bresso, MEP

Keynotes:
- *Raymond Van Ermen, The-EPE*

Europe is called upon to change profoundly in the age of 21st century totalitarianism and the need to create a new relationship with the citizens of all of Europe as well as with the Global South.

In the framework of a "global digital empire" in the making, this conference is the opportunity to address and assess a 'game changer', a new tool, new methods, new approaches. What role can a blockchain strategy play in supporting UN Values and the SDGs in a reshaped world order ?

China, Russia, Brazil, United Arab Emirates, Saudi Arabia are convinced that the future will no longer be placed under Western-American hegemony. Energy, raw materials including critical minerals, currencies, production and logistics chains, migratory movements, climate, rainforests, food, oceans are all security issues concerned by this 'reshaped world order' where totalitarian powers and autocracies intend to be in a leading position and will use all the digital powers available.

On the other hand, "capitalism no longer needs an imperial nation to rule the world". "The merchant order will try another strategy to survive set up a heartless form "the digital heart". It will be inspired by the experience of the extraterritoriality of American law, it will want to be a "digital empire". For Jacques Attali, it will be the world of "the most absolute disloyalty, masked in compassionate altruism" where "investors, data management companies, insurers will set the standards in place of parliaments" and will want "to put an end to the services and public goods".

Faced with the "global digital empire", marked by corruption and the "most absolute disloyalty", the BC100+ initiative seeks to build - in an ecosystem - a partnership to prevail transparency, trust (MRV) and redistribution of values in support of the UN Charter and the SDGs.

A European geopolitical blockchain for SDGs strategy should be part of the European soft power. And it is proposed to put it in place by starting with a few flagship parts of BC100+ at the initiative of Europeans as Self Sovereign Identity, Transparency in Public Funding, Food systems , Oceans, Climate and Youth skills. These themes cover key dimensions of trade, finance and planetary issues on both an ecological and social level and will be combined with others taken in charge by other parts of the world such as rainforests, regenerative finance, blood minerals etc.

The European Political Community of 48 Countries should put blockchain on its agenda with a focus on (i) Web 3.0, values and participatory democracy (Aarhus Convention), European public goods, (ii) the fight against corruption starting with public funding of infrastructure investments in all Europe (iii) impact investing and due diligence, redistribution of value, monitoring, verification and reporting on commitments. (iv) ReFI Regenerative and Inclusive sustainable finance (proposals 3, 6,7)
The key role of the EU. Facing the 'global digital empire', the EU should adopt a blockchain geopolitical strategy in line with its policies such as Next Generation EU, the Green deal, Sustainable Consumption & Production and Zero Carbon, its legislative initiatives as EU regulatory monitoring requirements to provide traceability, transparency and trust as well as "due diligence» , Shape Trade 20265 , the EU Raw Materials Act and provisions on "public procurement". The European Blockchain Geopolitical Strategy for the SDGs should have a finance chapter (proposal 6) & maybe the EU Observatory and Forum might be willing to provide an overview of Trade 2026 & Blockchain, as Commodity Traders are a bastion of wild capitalism and Multinationals and banks are already very present in the field of related blockchain trading and shipping platforms (proposal 10).

EU Partnerships with the Global South. Europe should be an active player to develop blockchain eco-systems for its global agenda, on self sovereign identity, climate and energy, oceans, rainforests, food systems, renewable energy. By doing so, Europe 's blockchain geopolitical strategy will be a "game changer" in relation to many issues such as agriculture, livestock, sea food, maritime transport and logistics, nature protection, maritime protected areas, plastics (proposals 13 to 19). We would need an African Union-Europe Blockchain for SDGs Partnership (proposal 4)

The EU's credibility is at stake if there is no coherence. Take the example of the 'green digital and energy transition' and the EU Raw Materials Act on one hand, and the horrible Blood

Minerals case as COLTAN in the East of the DRC on the other hand. Why can't we imagine a transparent win-win trade where the industry develops and pays for the raw materials at their fair price? Today we hear about 'green cars', green economy, energy transition. But in the Congo, the color is red, the red of the blood shed every day. (Doctor Mukwege, Peace Nobel Prize). This is why we insist on the urgency of a feasibility study to explore how to address blockchain for peace & the value chain of blood minerals (proposal 18).

In conclusion, the High-Level Advisory Board on Effective Multilateralism (HLAB), appointed by the UN Secretary-General has published a report that outlines "an ambitious plan to strengthen the multilateral system," so it can better address current and future challenges, including climate change, rising inequalities, the lack of finance for sustainable development, and growing threats to democracy and stability.The report calls for six transformational shifts to which BC100+ can contribute in particular in:
   • Rebuilding trust in multilateralism through inclusion and accountability;
   • Ensuring abundant and sustainable finance that delivers for all.

- *Tommaso Astazi, Blockchain for Europe Ronald Steyer, KfW German Development Bank, Innovation & Digitalisation*

Introduction Blockchain for Europe, work and objectives
- Engage with policymakers, lobbying but especially education, ensuring the EU acknowledges potential of blockchain technology and introduces regulatory frameworks that allow it to exploit this potential while protecting consumers, economy and society. The key however remains to develop trust towards this sector, which in the past years has shown that unfortunately that are many ways in which trust can be exploited for personal gains;
- We are working hard to distinguish between blockchain and crypto, not because crypto is not an important part of the wider "Web3" sector, but because focusing attention of the public debate on cryptocurrencies and speculative aspects does not help showing the bigger picture to policymakers and wider public and creating that trust we need;
- Partnerships with initiatives like this helps us to showcase the potential of blockchain technology to address these major challenges in our society and develop this trust across all sectors of society.

The step forward taken by the European Union as a global example and for the European Political Community of 48 Countries
- Honoured to be part of this conversation and to be able to bring a perspective from Brussels and the EU level, which can be a great example for the European Political Community of 48 Countries and for any other regional/national/local jurisdiction that is thinking of how to approach blockchain technology and the regulation of this sector.
- We have been directly involved in shaping the MiCA regulation since even before its publication. Our Association was launched in 2018 during an event in the European Parliament where we started talking for the first time about blockchain technology to EU policymakers. Very few people knew what we were talking about and especially had no idea that these debates would have been interesting also for those working in different policy areas than just purely financial services, such as those working on energy or healthcare policies of the EU.

- That was the start of the process, which then culminated with the publication in September 2020 of the Markets-in-Crypto-Assets (MiCA) Regulation. Now after almost 3 years we have finally adopted the text of this massive piece of regulation.
- MiCA will provide the first comprehensive regulatory framework for crypto assets and entities that provide related services. This will be the first of its kind in the world put forward by a major jurisdiction.
- This is already key by itself, as now the EU will introduce that legal clarity needed by this sector. This will legitimise the technology and innovative services that are being developed in this sector, while introducing clear rules and strict requirements that providers will need to comply with to ensure consumers are informed and protected and that markets remain functional. Also important to avoid fragmentation of rules, gold plating by national governments, race to the bottom in terms of taxes and protection.

Not only MiCA, but overall regulatory environment created by the EU will help the uptake of
blockchain technology and the Web3 ecosystem
- MiCA is not the only piece of legislation put forward by the EU to create a clear regulatory environment which supports the innovation brought by blockchain technology and the wider Web3 ecosystem;
- Other important pieces are the DLT pilot regime and the AML package, which however remain in the realm of financial services legislation. AML package discussions particularly relevant as there are still some policymakers that attempt at introducing old regulatory frameworks that worked for traditional sectors but need to be revisited for new innovative technologies and services;
- Even more interesting is the approach taken by the European Commission with the establishment of the EBSI and the blockchain partnerships, with a key focus on digital and decentralised identity and the development of the EU Digital Wallet legislation. This area will probably be the game changer in the way that regular citizens and governments across the globe look at blockchain technology as something that can directly improve the way we deliver public services to our citizens and make them more efficient and transparent – which in turns should also help establish again trust between citizens and governments and public institutions, can help fight corruption and increase transparency on public spending.
- Digital / decentralised identity solutions will also be key to closing this gap in the regulatory approach towards money laundering and terrorist financing – the current approach is to identify everyone but that does not fit with the pseudonymity and transparency on the blockchain. SSI and ZKPs will provide those technological solutions to be able to identify malicious actors and comply with KYC rules without putting users' personal and financial privacy at stake.

EU, European Political Community and every other jurisdiction should now focus on shifting conversation from Financial Services realm and start discussing blockchain potential for social and environmental issues
- As mentioned, the biggest challenge we face right now when talking with policymakers in the EU and all over the globe is to move the conversation away from the focus on FS and start talking about the impact that blockchain technology can have on all other sectors of society as well;

- These initiatives, BC100+ and similar ones are great to discuss the potential of the technology to address social issues in our society and how can we make this impact evident also to policymakers and regulators;
- Climate change action and sustainability are also an extremely important area where blockchain technology can help address many of the challenges that we face. As part of our efforts in showcasing this potential, we wrote with IOTA an article providing a compact overview of some of the many innovative projects in the ReFi space that are using blockchain technology to help climate action activities, create a truly circular economy, make carbon market and energy systems more efficient etc. We hope these examples will help moving the debate from its current focus on "the high energy consumption of PoW networks" (Blockchain's Sustainability) to "how can blockchain technology help our sustainability objectives" (Blockchain FOR Sustainability).

- *Dr. Ronald Steyer, KfW German Development Bank, Innovation & Digitalisation*

I'm extremely grateful for the invitation to this conference and the opportunity to present the results of our long-standing efforts. What I will be sharing is a practical illustration of how blockchain technology can be applied to address a specific government challenge. This is particularly relevant to the topic of governing international development cooperation, which I will delve into shortly.

At KfW, we consider ourselves early adopters of this concept, as Lucas introduced it earlier, and we are fully committed to exploring the potential of blockchain technology. As Tomaso just mentioned, it's crucial to distinguish blockchain from cryptocurrency. In our case, we are utilizing the technology to tackle a specific issue that may not be widely known to everyone here: International Cooperation.

International Cooperation falls within the realm of foreign policy and involves donor organizations as well as multinational institutions providing assistance to countries and institutions, primarily in the global south or emerging nations. We have identified this as a key area where blockchain can make a significant impact.

It's not just an opportunity; it also presents challenges for these countries. Take Ethiopia, for instance, where numerous partners are involved in this policy domain. KfW is one such partner, but there are many others, and it's possible that this isn't the complete picture. The specific challenge arises from the fact that each partner has its own procedures, which poses a significant burden not only on the country itself but also on coordinating the policy field to achieve maximum efficiency and impact for the people in these countries. To address this, we need to examine the systems that support these policies. On the operational side, we observe that this sector operates in silos and suffers from fragmented data.

What you see here is a government IT system, along with donors who have their own systems securely enclosed within their firewalls. They exchange information, usually through email, which is a limited method of cooperation. One of the major drawbacks of this setup is the absence of real-time data, resulting in a sluggish process. The response times are slow, necessitating constant data alignment and leading to redundancy. Furthermore, errors and misunderstandings are easily created in this system. The data is highly opaque, making it difficult to ascertain the truth within these isolated islands or silos. Each participant possesses

their own version of the truth, but establishing a common understanding or consensus is challenging within these systems. Over the past few years, we have developed a solution, which I would like to mention is open-source software.

Since 2019, the solution has been available on GitHub, catering to those who possess a higher level of technical expertise in this domain. Moreover, it has recently obtained certification as a Digital Public Good by the Digital Public Good Alliance. The essence of our work here revolves around blockchain technology. Specifically, we have developed a blockchain-based platform called True Budget, which serves as an organizing tool for workflows and data sharing.

Contrary to the previous chart, the system depicted in the middle is not reliant on the exchange of emails. Instead, it facilitates data sharing among all participants on an immutable blockchain-based system. This setup ensures that the data is securely stored on the blockchain, providing a permanent and tamper-proof audit trail. Consequently, mutual accountability is fostered among the participating institutions.

The data within the system is synchronized across all participants, establishing a shared truth and understanding. Any information added to or retrieved from the blockchain is considered relevant and reliable, creating a foundation of trust for all involved parties.

The other notable positive aspect is the real-time availability, which represents a significant qualitative advancement compared to previous systems. In simple terms, what does this mean for the participants? Well, it means we now have transparency through real-time data. It also fosters mutual accountability, as the shared data capability enhances trust among participants. This aspect is particularly crucial for systems based on cooperation rather than hierarchy, as it enables mutual understanding, traceability, and real-time control of user funds. Consequently, this contributes to the development of mutual trust. This aspect is more of a technical nature. Partner systems can be seamlessly integrated into this existing system through an API. Rather than introducing an entirely new system, it focuses on enhancing and building upon what is already in place. Consequently, project implementation will be improved, transaction costs will decrease, and overall, the structural effectiveness and sustainability of the system will experience a significant improvement.

So, let me briefly explain where we have already introduced these systems. We have seen a wide range of participants, including countries, international organizations, and regional organizations. This diverse range of stakeholders has provided us with valuable experience. Now, let me briefly discuss the findings from the past four or five years of experience with the system. We have encountered varying expectations regarding the technical setup, which is understandable considering it is a new technology. It has been challenging to address these expectations and implement the system effectively. The process of educating and training individuals has taken longer than anticipated. However, we are now entering a new phase where we aim to scale up the system. Our goal is to onboard at least 20 to 30 additional institutions and countries onto the system. To achieve this, we intend to standardize the use case, making it easier to implement and aligning it more closely with the business logic.

We aim to incorporate a wider range of diverse technical models, utilizing nodes and even developing entire systems from scratch. Additionally, we are actively exploring technological

advancements to ensure that we can offer new opportunities and capitalize on emerging technologies. Thank you for your patience and attention.

- *Antonio Lanotte, EUBOF Expert*

According to the European Environmental Agency, a circular economy is a part of the green economy that more widely addresses human welfare, lifestyles, and consumption models. Since 1900, the world's population has quadrupled. Resource consumption has grown by a factor of 10 and is expected to double by 2030 (OECD).

A circular economy is an industrial model that is intentionally regenerative. Products are designed to facilitate reuse, disassembly, restoration, and recycling to encourage the reuse of materials. Businesses keep resources in use as long as possible to obtain the maximum value, and then recover and regenerate products and materials at the end of their service lives. Eco-design is a key element of the circular economy. New engineering (or re-engineering) of production processes, goods, services, and value chains according to the eco-design criteria includes:

A. boosting resource and energy efficiency;
B. eliminating toxic and dangerous chemicals;
C. reducing environmental impacts in production, consumption, and end-of-life
D. management;
E. increasing products' reuse, regeneration,
F. and material recycling; and
G. preventing waste production and disposal.

To meet the EU's 2030 climate and energy targets and achieve the objectives of the European Green Deal, it is crucial to redirect investments toward sustainable projects. The COVID-19 pandemic has reinforced the need to redirect capital flows to sustainable projects to make economies, businesses, societies and health systems more resilient in the face of climate and environmental shocks.

Shifting toward a circular economy will involve designing a new sustainable tax system for renewable and non renewable resources. Sustainable taxation should encourage positive activities and discourage negative activities. In a sustainable economy, taxes on renewable resources (including labor) are counterproductive and should be abandoned. The resulting loss of revenue could be made up by taxing the consumption of non renewable resources and undesired wastes and emissions. Such a shift in taxation would promote a circular economy with local low-carbon and low resource solutions. It would be more labour-intensive than manufacturing because economies of scale in a circular economy are limited. Taxes on non-renewable resources could be charged in a similar way to today's VAT, including on imported goods. Also, not taxing labor would considerably reduce tax administration, labor tax is based on a large number of small incomes, and reduce incentives for work in the shadow economy, which accounts for a double-digit percentage of many national GDPs.

Simpler rules and strategic vision are key priorities for Europe towards a common fiscal framework and towards a European Digital Single Market; in this light tax systems can play a key role in achieving common goals. Such a shift in taxation would promote and reward more inclusive circular economy business models with its local low-carbon and low-resource

solutions in accordance with the next European taxonomy. To realise this green potential, digital technologies need investment and legislation that encourages them to flourish, for example MiCA. Europe therefore needs to step up its digitalisation efforts — such as boosting connectivity and increasing funding for research and development. For this to happen, Europe must look at digital and climate action together, rather than separate policy areas. The next and highly revised "Stability and Growth Pact" needs therefore to reflect not only the dramatic effect of the pandemic event and the strong dependency from the Russian gas but also and most importantly the direction European Union and primarily the European Union Market wants to have for the next decades. The way the "Next Generation EU" has been built, the mutualisation of the sovereign debt caused by the pandemic event, and most importantly its fundamental directives such as a European Green New Deal which will, in its ambitious targets, will lead to a "net zero" emissions in 2050 and the Digital Transformation which will disrupt some of the traditional business models and surely bring new dynamics in terms of digital infrastructures and different approaches to traditional finance.

For example "renewable energy communities (RES communities)" are a growing and extraordinarily multifaceted phenomenon which involves a range of possible activities around renewable energy (notably, production, supply, distribution, sharing and consumption) collectively carried out by citizens, often in partnership with small and medium enterprises and local public authorities. The Clean Energy Package (CEP) is expected to represent a turning point for the development and diffusion of RES communities in Europe, as for the first time both their very existence and their potential role in the energy transition receive legal recognition at the EU level. In this direction a renewed fiscal framework would be more effective if complemented with spending reviews and better public investment management systems that also contribute to increasing high quality public investments. The REPowerEU Plan can respond to this ambition, through energy savings, diversification of energy supplies, and accelerated roll-out of renewable energy to replace fossil fuels in homes, industry and power generation. The Recovery and Resilience Facility (RRF) is at the heart of the REPowerEU Plan, supporting coordinated planning and financing of cross border and national infrastructure as well as energy projects and reforms.

Blockchain and smart contracts have essential characteristics to cope with the industrial transition to a circular economy. Blockchain is useful in addressing data challenges (for example, the recording and traceability of production loops in multi-tiered supply chains), while smart contracts can automate important processes. Blockchain can be used to track items in traditional supply chains in real-time. In a circular economy, blockchain can be used to organize, analyze, and manage complex networks in reverse logistics – that is, the tracing of outputs that become inputs for recycling or remanufacturing processes (Wang et al., 2020). Some examples of live-projects that are already providing similar innovative solutions include Real Items (source: Digital Twins for the Circular Economy), the largest Web3 platform for tracing products across all stages of the supply chain, with more than 11.5 million products already on-chain, as well as the Recycle-to-Earn blockchain protocol created by the Zero Waste Foundation, which aims to establish the decentralized incentive structure needed to achieve high performance recycling on a global scale. As the circular economy gains traction, participants such as customers, producers, distributors, and retailers will be more involved in the process where parallel production loops occur, increasing the complexity as well as opportunities to aggregate value by recycling, reusing, refurbishing, remanufacturing, or repairing. Under this new paradigm, elevating the costs of acquiring information is a losing game for everyone, whereas information sharing, cooperation, and securing knowledge aim

at value creation. In order to achieve value creation, firms, distributors, retailers, consumers, and manufacturers are more than ever compelled to simultaneously compete and cooperate, coining the new term "coopetition" (Narayan & Tidström, 2020). Under "coopetition", participants interact and iterate in every possible loop. In this case, it is necessary to create a technological ecosystem where all relevant parties can exchange information without restrictions. Blockchain is precisely a technology that enables data to be created, organized, and managed in complex networks. In addition to blockchain, tokenization can facilitate systemic coordination in a multi-tiered circular economy. The resulting token contains metadata and interoperates with smart contracts for faster validation of resource provenance, tags, or digital passport verification. The token also allows queries for peer-to-peer cooperation in circular production loops. Also, the token can facilitate investment allocation, the implementation of green taxation, or the monitoring of environmental regulatory compliance.

A tokenized product can aggregate data in any transaction. In a second layer, blockchain applications process data, generate analytics and provide tracking and traceability services used in developing applications for the different users in the ecosystem. During the design stage, the token can incorporate data from the materials for the manufacturing process, or data from recycled or repaired components required for remanufacturing. The information permits tracking materials to be recycled or products to recuperate for redesign purposes. In the manufacturing stage, smart contracts can automate procurement processes by checking if suppliers meet the fulfillment conditions. Also, additional qualifications in the item (for example, green digital passports, certifications, or watermarks) can be aggregated into the token's data. Customers can also use information in the token to select green products or re-use/repair products to avoid waste. The outcome is an immense cloud of information, accessible and trustworthy enough to incentivize "coopetition" schemes.

Tokenization of an asset is the creation of digital tokens on the blockchain representing that asset. A token is thus a digital representation of a real tradable asset, the so-called Digital Twin. Any asset can be tokenized and the rights to that asset can be represented on a DLT (blockchain). Issued tokens exist on the blockchain and also carry with them the rights to the assets they represent, acting as a store of value. The assets for which tokens are issued continue to exist in the real world and, in the case of physical assets, these typically need to be guarded to ensure that the tokens are constantly supported by those assets. The common advantages of asset tokenisation are increased liquidity, greater accessibility, improved transparency and transaction efficiency. The ability to tokenize different types of assets, products or services and thus to "generate a token in the virtual world and link it to a real asset via a smart contract" could have a significant impact in terms of increasing speed and security but also in lowering the cost of transactions. The increasingly central role that tokenization will play in the area of data protection and payment security in particular should be emphasized. Indeed, by relying on a distributed and decentralized ledger, tokenization makes it possible to protect sensitive data (thus digital assets of all kinds) from users who do not have permission to access or manage them. When we talk about tokens, we are not just referring to cryptocurrencies. Current applications of tokens are basically pilot or experimental projects, but this technology is constantly evolving. Tokenized asset classes can include securities (such as stocks and bonds), commodities (such as gold), and real assets (such as real estate). Prominent among the benefits of asset tokenization is the efficiency resulting from automation and disintermediation. In addition, faster clearing and settlement

processes promote transparency and, most importantly, increased liquidity. Asset tokenization could be an alternative way to achieve fractional ownership of an asset, as it reduces barriers to investment and allows more inclusive access by retail investors to some traditionally illiquid asset classes. Of course, asset tokenization is not without risk. Decentralized networks (DLTs) in token markets face several challenges due to their innovative nature. Operational vulnerability; uncertainty about the purpose of settlement; interoperability between different networks that will allow connectivity of different infrastructures; interoperability of DLT-based infrastructure with traditional infrastructure; network stability; robustness of market infrastructure; and threats of cyber attacks. The OECD also points to governance risks associated with fully decentralized ledgers because of the difficulty in identifying a single owner or node responsible for the entire network. The absence of a single actor in charge of the process is a major challenge in regulating DLT networks and assigning responsibility for any network problems.

Emissions trading systems (ETS) have proven to be an effective and efficient form of carbon pricing and are an important climate policy instrument, with the ability to mitigate climate change on a large scale. Achieving Paris Agreement climate targets will require the widespread use of carbon pricing to steer the world onto a low-carbon pathway. ETS cap and reduce emissions through tradable emissions allowances that induce emissions reductions at the lowest total cost to society. The most potent tool in combating climate change is undoubtedly a price on carbon and the use of advanced technology such as blockchain and AI (machine learning) to shape virtuous and more sustainable "circular" business models. The process of tokenization for example — that is, converting the rights to an asset into a digital token within a blockchain, with one token representing an intangible asset or a defined portion thereof e.g. Carbon credits— plays a considerable role in the exchange of information. Everything is recorded on the distributed and decentralized ledger, which increases trust and transparency between counterparts. Lifting responsibilities from the companies that have been granted access to a public and permissioned blockchain allows the entire ecosystem to focus on its respective businesses and obligations. They can also anticipate their future objectives and projects by using smart contracts. Innovation companies and multinational enterprises are also moving items of value across blockchain networks. The process of tokenization, that is, converting the rights to an asset into a digital token within a blockchain, with one token representing an intangible asset or a defined portion thereof, plays a considerable role in the exchange of information. Everything is recorded on the distributed and decentralized ledger, which increases trust and transparency between counterparts.

In the case of carbon credits, it is essential to mention that monitoring, reporting, and verification practices in more than 90% of the cases are currently done in an analogue fashion, requiring in-person audit visits. The digital solutions used until now are not much better because of a lack of appropriate security and trust, which reduces the utility of the data due to a lack of confidence in it. Investors, sellers, buyers, and other stakeholders are limited from participating in climate markets and climate finance without secure, immutable, and reliable data sources available in near real-time. An innovative project in this regard is Covalent, which is developing an all-in-one platform for carbon credit management, providing stakeholders with a safe and reliable platform to issue, purchase and trade carbon credits that are certified by the ratings of independent researchers & organizations.

Moreover, carbon credit NFTs have multiple advantages. For example, they can prevent greenwashing and double counting, and they can also produce effective liquidity. NFTs can provide a transparent solution that keeps track of all transactions in an immutable way, giving buyers complete information and records about the carbon credit. Moreover, they eliminate the risk of double counting because of their non-fungibility. Sadly, double counting is a constant threat in the carbon credit market, where two or more organizations claim the same emission reduction. Furthermore, carbon credits are not easy to sell as long as they are liquid assets; however, when they are minted and part of a marketplace, they are easy and quickly accessible. Furthermore, carbon credit NFTs can be staked to generate passive income for the organization that owns them. In addition, NFTs can be linked to a specific high-quality carbon offset initiative to support its financing.

- *Vasilisa Marinchuk, Centre Blockchain de Catalunya*

The main problems of modern governance and democracy sum up into:
➔ voters disengagement
➔ bureaucracy & corruption
➔ exclusion and inequality
➔ voting for politicians instead of decisions

To address the above, blockchain offers:
- Greater voters engagement
- Transparency
- Inclusion
- Low costs
- Programmable flexibility

All these directly lead to a direct and liquid democracy!

Currently, the problem we are facing is that we are trying to fit decentralised/ distributed frameworks into centralised structures. This is a problem, because although technology is agnostic, people are not. Blockchain is a powerful tool: If blockchain and digital identity systems are designed in a centralized manner, this could lead to potential surveillance and control over individuals' actions and identities, thus compromising privacy and individual freedoms for citizens.

By taking the best features of the current identities (identity verification, strong security, interoperability, accessibility and inclusivity) and adding blockchain to the equation, one can further gain decentralisation, individual data ownership, user-centric design and portability.

By embracing blockchain based voting systems and decentralised digital identity, we will lead to Governance 3.0.

PANEL DISCUSSION: BLOCKCHAIN, THE GREEN INDUSTRIAL REVOLUTION & THE GREEN DEAL, NET ZERO AGENDA

Moderated by Flavio Brugnoli, Centro Studi sul Federalismo
Keynotes:

- *Marieke de Ruyter de Wildt, TITAN EU project, Blockchain & Food Systems*

My name is Marieke and I have been in the space of blockchain and food for the past 6 years. The reason why I fully jumped into blockchain is because it has such a transformative power for the most important thing in our lives, which is food. Let me explain about this a little bit, and how to approach it on the food chain. My organisation is no longer for profit, but has become a foundation. The reason why we made that move is because there is a need for something that is really neutral and available to everyone.

In food, the issue is that we lose a lot of money because we don't have the data. Consumer insight, about where your food comes from, how it is made is one thing, but the key value proposition of Web3.0/ blockchain is that it actually brings much more efficiency and less loss of assets (i.e., food waste and money).

What we have learned over the past 50 years, is that none of the existing software or digital solutions have been able to solve the problem. To date, agrifood is still the least digitised industry of all industries. I really think that as humanity we should feel uncomfortable with that fact. How can it be that we have digitised everything around us except our food? What we have seen is that there is a mushrooming of proprietary solutions with a lot of software companies making a lot of money, and the food system is really suffering from declining margins. This is something that we as Open FoodChain feel has to stop. and we need the European Union, we need the people in the room here to really make a change because if we continue as we do, we will no longer have any chocolate, because it doesn't pay off to produce chocolate or cacao.

Now, a public infrastructure will solve what the problem is, and that is because a public infrastructure is interoperable, there are shared costs only between competitors but also between industries, and it is user-owned. This last aspect of "user-ownership" is very native to web3.0, where it shouldn't be owned by a tech company, or by us; it should be owned by the ones that are using it. Data should be owned by those who have the data.

The traditional supply chain is a chain where we have a lot of data systems that do not communicate. What Open FoodChain does and what blockchain does, what public blockchain does, is that it allows each player in the industry to actually protect its own data, and make the data publicly verifiable. You can either put data on the blockchain or you can really put protective data. Meaning that if there is a recall, if there is a food safety issue, you can then unlock the information and we all know how to solve it.

We have a few case studies, one of them is JuicyChain, with a QR code on the bottle, providing the "best before date" and a unique identifier of this particular bottle, and you can see the actual journey of your juice. You can see where the fruits come from, you see the respective certificates, and you can have certainty that this particular bottle of juice has certain proofs of sustainability.

Another implementation we have is the Blockchain Burger - we do this with chefs; the reason we do this is because as a chef you want to have certainty on your ingredients. So, you want to know that what you think you are putting into your recipe, is exactly what it is. And chefs

don't know, and they have a problem with that. If you click on each of the ingredients you can see where they come from but also you can see the nutritional information and you can see for example CO2 emissions and food miles.

What we are here to talk about is the Titan Project (titanproject.eu), a four-year project, with a mission to provide transparency solutions for transforming the food system, and we work on two cases: 1) olive oil and 2) shrimps. The pilot is focused on shrimp production in Vietnam. Most of you should know that there is a lot of modern slavery, a lot of forced labour in the fishing industry, and what we will do here is guarantee the whole supply chain of shrimps are produced in a human rights' setting that is actually up to standards.

We need the European Union to make this grow bigger. We want Europe to be the leader that will help make our systems fair; and we see that with GDPR, and the adoption of the MiCA regulation. The EU should make our food more reliable, safer and more sustainable.

- ● *Nena Dokuzov, European Blockchain Partnership*

Thank you very much for the introduction and for having me here today. Today we have heard about a lot of use cases as well as considerations from one or more specific points of view, but also, from horizontal points of view.

I would like to congratulate you for the European Consultation Paper that you launched. In 2018 really positive things happened at EU level, when the European Blockchain Partnership was launched, but at that time, I also participated in the creation of a White Paper, which was called Blockchain for SDGs - a UNC White Paper. The paper took into account the practical use of blockchain for each SDG, and after this, we started to also develop a kind of white paper for interoperability on blockchain also for UNC Fact. At the same time, the European Blockchain Services Infrastructure (EBSI) started being developed. Pierre Marro in the following presentation will probably tell us more about this.

Last year, for the first time, the European Commission decided to finance certain use-cases from the Digital Europe Programme. These use cases that were developed alongside EBSI, were mostly focused on self-sovereign identity, diplomas, notarisation and traceability. We now have the opportunity also to finance those types of projects, and to develop them even further. What is important - and this is why I mentioned the European Consultation Paper - there digital identity was mentioned; when we are talking about blockchain technology we are talking about self-sovereign identity. It is part of what blockchain is: what can we do with our data? we know that the regulation that is behind all those use cases or the implication of use cases that can be realised in the future. But what is also important is that we can connect those projects; for example, we have Trace4EU, and I consider it as a very big success because it addresses more than one SDGs.

Marieke previously spoke about food. It is our aim to develop Trace4EU based on two certain pillars; one pillar is traceability of data and documents, and it is very important to make a difference between traceability of data and documents and traceability of products and materials. In the case of data and documents we have already recorded evident information, somewhere in the system. For products and materials we analyse different types of use cases that were implemented, either agrifood use cases, sea food use cases, etc. All these use cases that can be attributable to SDGs - to sustainable production and consumption/ circular economy, we can probably align these with SDGs.

You mention in the European Consultation Paper **four very important issues**: 1) we really need to make a step forward when we support Green Deal, when we support Energy Efficiency within the Green Deal, when we support carbon trading systems, ESG measurements through the use of blockchain technology, but not only for green transition. We can see the technology as an enabler for the green transition. Maybe we are still talking about energy consumption here, which I don't agree on, as today we have the protocols that are very efficient, which have the potential to be integrated to EBSI and with this potential, we will make EBSI broadly usable; the use cases that will be developed will be broadly deployed, because more people will have the access to those use cases; and the third thing is that we will increase awareness of what are the benefits of blockchain technology. The benefits, which can also be realised either through BC100+, which is focused on SDGs, or Blockchain for Good which was also discussed here, and I really agree with you that we need some strong streamlining. We need some strong MS, like Germany, France, Slovenia, Spain, but also out of EU, UK maybe, to set up some kind of dedicated European blockchain for SDGs.

The report from Blockchain for Good will be very useful and I am hardly waiting to find the time to go through it, but what I wanted to highlight is, that with this interoperability we will be able to embrace also use case from abroad, out of the EU, and this is why we are talking about EU-Africa Blockchain cooperation or EU-Africa Blockchain Alliance.

The report provides the potential for the projects that have been developed under the EBP or the EBSI to be embedded in this Blockchain for SDGs.

Thank you!

- *Pierre Marro, DG Connect European Commission*

Over the past years we have launched different actions or initiatives at EU level. We have facilitated the creation of the European Blockchain Partnership with the cooperation of the MS to help exchange experiences within the European ecosystem. The EBP has a particular objective which is to develop and deploy the European Blockchain Service Infrastructure (EBSI).

EBSI is an ambition from the different member states who jointly develop and deploy an infrastructure which is governed by public authorities but aims to support first public services in a cross-border way but is not limited to supporting services. This infrastructure could be used for more private services, if there is a need. So, it is not what is called in a different context - a public blockchain/ permissionless blockchain, this one is permissioned but it is implemented at a pan-European level and can be used in Europe, in a decentralised model for different types of application.

We have also facilitated the creation of INATBA, an association which is international but established in Europe, which includes different market players or solution providers for DLT or blockchain, but which also animates different groups, gathering representatives of different regions, public authorities from different regions and what is called the Government Advisory Board. INATBA also organizes regular discussions and is also a very helpful instrument that we aim to leverage in order to further support a blockchain type of application.

In particular we have launched different initiatives, one of them being also the European Blockchain Observatory and Forum which is supporting this event. It was the first big action that we launched and then it has continued. We always praise the work delivered by this blockchain partnership, which, a bit like today, helped to organize debate with different, let's say, stakeholders. Being solution providers, being people on demand for solutions that could be brought by the blockchain based approach or by, let's say, regulators, depending on the topics that were discussed. It's a unique forum in order to exchange views and also to provide some reports which help to advance on different topics including the contribution of blockchain to the Green Agenda or to sustainable goals.

We are currently working on various legal acts proposed by the Commission, which are adopted after a decision process to improve the legal framework. Our objective is to gradually address issues related to blockchain technology. This is an important aspect of the work we do in the Commission. Recently, we adopted the Mika regulation, which focuses on regulating crypto assets and also includes considerations for the sustainability of blockchain solutions. As you can see, anything related to the Green Agenda or sustainability is always taken into account in the initiatives proposed at the Commission level, and this is also true for MiCA. We actively support projects through the Research Innovation program. Later on, I will provide you with a more detailed slide that will give you an idea of the different sectors covered by these projects. You will see that sustainability, product traceability, and energy efficiency are well addressed by our initiatives, among others.

We also take action to support standardization activities by collaborating with international standardization bodies. We reinforce the participation of European experts in these standardization processes, encouraging them to play important roles such as sharing working groups or engaging in similar activities. This allows us to swiftly return to the open blockchain partnership.

Furthermore, all member states are currently collaborating and regularly meeting to exchange views on blockchain and its development. The primary focus of the Blockchain partnership has recently been on the European Blockchain Service infrastructure. This infrastructure is built upon key principles that promote diverse values and the principles discussed today.

Specifically, we aim to leverage the decentralized model to provide improved services. Our objective is to keep citizens at the forefront while also offering new services to businesses and organizations.

Reinforcing trust and resilience in services is crucial, with a particular emphasis on privacy. Privacy has been significantly emphasized through the data protection regulation at the EU level. Additionally, sustainability aspects should be considered right from the beginning, along with cross-border and pan-European dimensions. It is essential to support policy and ensure compliance with EU regulations, especially for this European Privacy Certification (EPC). The EPC is governed by public authorities working together, enabling the reinforcement of Europe's autonomy in an open manner. When we talk about autonomy in Europe, it does not imply a closed infrastructure that lacks opportunities for interaction or interoperability with other initiatives elsewhere.

In terms of the use cases we have been working on in this initiative, our focus so far has been on the Verifold credential. Additionally, Nina mentioned the importance of developing more use cases related to document traceability and product traceability. Specifically, the digital product passport is a crucial component of the green dealer. Unfortunately, due to time constraints, I won't delve into the topic of legal certainty. However, I would be pleased to address any questions later when providing an overview of the Research Innovation project. It's worth noting that we have provided support for approximately 350,000,000 euros over the past five years, and we are committed to continuing our support for projects. As you can see, sustainability, energy efficiency, and food security, as mentioned in the previous presentation, have been significant areas that we have focused on in our support.

There is no need to present the entire blockchain observatory and forum, just the two last words. This was mentioned in the previous session. When discussing blockchain, it is necessary to promote and work on its use for system aspects. The common feedback at the policy level discussion is that blockchain is not sustainable on its own, and it is crucial to always clarify that blockchain is evolving. We have moved beyond the Bitcoin blockchain and proof of work consensus mechanism, and now we need to demonstrate it. This is addressed through two different EU initiatives, namely the MiCA regulation and the Digital Energy Action Plan. The Commission has committed to establishing an energy efficiency level for blockchain, which will rely on standardization work. It is important not to forget that being able to better explain and demonstrate why blockchain can now be a sustainable solution on its own is a crucial element.

There are other aspects that were addressed, but I will not elaborate on them at this stage. One important area to focus on is how blockchain or DLT (Distributed Ledger Technology) can be used to achieve green or sustainable objectives. The Commission has launched various initiatives in this regard. Our colleagues from Digital Climate are conducting a study to explore the potential use of blockchain and how it can contribute to different aspects of their policy. It may be worth mentioning this in a previous presentation. Blockchain can be beneficial for emission trading systems and can also enhance trustability, as mentioned by Nena. We are currently working on how blockchain can support the Digital Product Passport and other traceability initiatives that align with the objectives of the Open Green Deal. This is also applicable to the FC initiative.

Thank you very much - I will be happy to take any questions later on.

- *Almudena de la Mata, DApp EU Project, Citizens contribution to Air Quality*

Thank you very much. Thank you for this initiative, which is really great. I've been learning a lot from everyone before. This application on air quality is called DivAirCity. It's a European funded project and the objective that we're having is to improve air quality in five European cities: Castellon, Orieto, Potsdam, Bucharest and Aarhus, medium-sized cities, thanks to the collaboration of citizens and based on diversity criteria. Citizens are called to contribute with their actions, with their behavior. So it's fostering behavioral change through tokenization. They are called to change their behavior to be greener if they want to be more sustainable in their daily life and receive or be incentivized for this behavioral change through tokens that can be exchanged or represented as digital assets, representing access to services or values. These values, these incentives are going to be, or are currently being co created and

determined collaboratively by the citizens themselves, group by group of diversity, group by diversity group with the cities and also with the private sector.

It also includes a public private partnership aspect towards sustainability. The way to connect the citizens with the cities and to connect their behavior to the actual improvement of air quality is blockchain based decentralized application called DivAirCity dApp. Of course we're using blockchain because it's bringing all the values that we all know. Trust connection of different actors that don't trust each other. So a multistakeholder process. We use smart contracts to connect and to create a process. We use tokenization which are basically the incentives. We're using it because it uses data, which is trustworthy, traceable, connected and also programmable to create a new social model or a new social opportunity. This allows the city to have a clear public procurement system which is based on which is compliant with the local legislation. It allows it to share the source of information with all the parties at the same time, real time and automatize the process and of course the direct execution.

When the citizens act, they receive the tokens immediately. So it's unreal time. That the perception of the citizens is that they receive something immediately, they don't have to wait for it. It's hopefully stimulating their behavior in a stronger way. Of course, when you deal with citizens and you deal with blockchain and you deal with behavior, there are big questions that appear that we're facing and that are big challenges of this project. I assure you that it's costing us an extraordinary amount of time and discussions and thoughts and stuff which is privacy, data privacy. Of course that we don't want to control the citizens, we don't want to know where they are and how they move and what they do specifically linked to their identity. Here we want to prevent privacy according to our common vision. For that we have introduced the sovereign identity tools.

We are working on different sovereign identity systems to integrate into our application and prevent citizens from losing their privacy or from being too exposed with their data. Therefore we have a very we're looking forward and we're developing also this is part of the co creation process with each of the groups because they are different. It's elderly, it's young, it's women, it's racial, it's social differences. Each one has a different need in terms of user experience. We're working on different models of user experience and then connecting them through blockchain, introducing in the middle the self-sovereign identity tool and allowing this exchange to happen digitally and hopefully having an effect on the air quality of the city. Also focusing on analyzing the diversity aspect. According to our research and this project we have 26 partners, many of them are highly technical partners, very knowledgeable about sustainability and energy and also diversity.

We have identified that socially disfavored or socially less favored communities are in general more exposed to bad air quality. We consider all these aspects and introduce them into the dApp. At the end of the day, it's about collective action. The idea is that action changes things but it needs to be collective but coming from the individual. There is an option for each of us to decide at a certain moment "do I take the bike or not?"; "Do I use the bus or the car?"; We want to get people to take the right direction. Then, little by little, one by one, create a real change through these collective agents. In that sense, give them the impression that they empower the citizens. Give them the impression, and not only the impression, but make it real that they can be change makers, they can change the world.

If we do it together and create this community of changemakers in all different spheres of social life. We do this with the application. The idea is you are motivated to be green; you get something in between in return because it's not very easy to be green. Sometimes it's more comfortable to take the car eventually than walking or taking the bike. We want to incentivize so that if you've been green you get something, you get a reward for that. The idea is to integrate all this into the application as a bridge between each of the cities and each of the citizens and then group by group of diversity that everybody is represented and everybody has a voice. The voice is not only a voice, but it's actually to adapt the result and the rewards to each of the individuals so that each one has its own personalized kind of application in the sense of the rewards, the user experience and the type of actions that they are invited to take.

Very broad in the scope and very diverse in each of the actions. So it's a challenge. The idea is to make it easier for people to contribute through our application and end up with a common good.

To end up with changing our air which is the objective ultimately of the project. We also have side effects which are very important because we change our people, we change individuals in the way they think they behave and also they consider themselves in the society as an actor of society, as a change maker. And we also change society. Of course we change the air, but making people aware, making people feel empowered, increasing collaboration, introducing the concept and letting them co create so they are owners of the application. They don't only get it from the city, they are developing it. It's probably going to be very adapted to their needs. Also introducing the concept of self responsibility. And with it comes self esteem. And for that they deserve social compensation. This has an impact on society because we create social action, we create new collaborative ecosystems, we introduce because the rewards are also co created with the private sector.

We create a mentality of public private partnership and citizens companies collaboration approach. We enhance structures for cooperation and foster new mindsets in this public sector so that's the objective and that's what we're pursuing. I think for me, this as well, we're very motivated, we're working very well together. It was not easy because the public sector, private sector, cities, citizens, scientists all together for this common purpose. We're actually experiencing the process now. After one and a half years in August we have to present the pilot of the application we already have, we are already using it and we're very thrilled with this project.

Thank you very much.

Debate with respondents:

- *Sonya Fuchi, Associazione Italiana della Comunicazione Pubblica e Istituzionale*

Briefly, Sonia explained that her association works within a public institution, with the specific purpose of bridging the gap between citizens and the public administration. They believe it is crucial to actively involve citizens in these matters. Sonia expressed hope for more projects on these topics coming from the European Union. She also emphasized the personal

significance of sustainability based on her own experiences. Additionally, the association focuses on training individuals within the public administration to effectively communicate and utilize the opportunities presented by blockchain technology.

- *Silvio Ranise, Fondazione Kessler*

Thank you for the introduction. I'm Silvio Ranise, a professor at the University of Trento and the director of the Cybersecurity Center at the Bronze Castle Regain in Trento. Being an engineer and a technical expert, my focus is on digital identity, as well as the security and privacy of distributed and decentralized systems. I found the previous talks to be very interesting as they shed light on the underlying applications and divisions of this technology. The discussions have been highly informative and have emphasized the importance of raising awareness and empowering citizens in different capacities. I would like to share two observations and remarks. Firstly, I'd like to discuss the concept of trust. Trust can be seen as a two-sided medal. On one side, there is the need for awareness and education to engage citizens and users, clarifying that the tools and instruments used are not magical wands that can solve all problems instantaneously.

Especially when referring to AI systems like machine learning algorithms, etc., the deployment of cryptographic techniques is necessary. Additionally, it is crucial to educate the operators responsible for managing the infrastructure and ensuring its security. This is an extremely important aspect that cannot be overlooked. Another point that deserves more attention, in my opinion, is the consensus algorithm for blockchains. As mentioned earlier by Pierre, striking a balance between security levels and energy efficiency is crucial. We should aim to reduce energy consumption significantly to contribute to the decarbonization of these technologies, while still maintaining scalability. Achieving this delicate trade-off requires careful advancements both at a theoretical and engineering level. These are the key points I wanted to address. Thank you for inviting me to this event; it was truly interesting.

Despite the opportunities and great potentials of Blockchain technologies, they bring a series of cybersecurity risks that may result in negative consequences for various stakeholders and in particular for end users that may see their fundamental rights and freedom violated. This could result in a lack of trust by users in digital ecosystems based on distributed technologies with the implication that their benefits cannot be ripped and users fail to be empowered with new capabilities to interact with digital services and applications. The problem is further exacerbated by the integration of digital and physical technologies whereby data are acquired from sensors and then processed by an IT infrastructure or actuators are controlled by digital services and applications. In these (so called) phygital scenarios, guaranteeing the integrity of data when crossing the digital and physical worlds is one of the main challenges. For these reasons, we propose two main (cross-cutting) initiatives for the secure and trustworthy integration of Blockchain Technologies in larger phygital systems.

Trust and awareness. Decentralization is a relatively new technology that promises to eliminate the need of trusted (centralized) third parties that guarantee the integrity of the data being processed. This—depending on the different use case scenarios in which such a technology is deployed—seems to bring several advantages including reduced fees for financial transactions because of disintermediation and increased privacy and control on the sharing of personal data by citizens when interacting with Public Administration or in the

context of Smart Cities. While the need for trusted third parties is eliminated, trust is still present in Blockchain-based systems as it is often implicit in the code implementing the cryptographic primitives and the consensus algorithms used to guarantee a strong level of integrity. In other words, users need to trust software and ultimately its developers. This is so even despite the release of the code as open source since understanding the subtleties of sophisticated cryptographic primitives and the complexity of consensus algorithms is far from being a trivial task even for experts. As a consequence, developing approaches that allow for the exhaustive auditing of such systems by the involved stakeholders and increase the awareness of the trust assumptions for the largest possible audience of stakeholders, including end users, is crucial to promote acceptance and ripe the benefits of Blockchain solutions. This can be done by extending available risk-based approaches to Cybersecurity that are based on the following observation—in the words of Salman Rushdie—that ''There is no such thing as perfect security, only varying levels of insecurity.''

Securing the flow of data from physical to digital domains and vice versa. Data is increasingly being acquired through sensors while actuators allow for the development of a variety of applications in which users are assisted for carrying out activities in the physical world (e.g., Industry 4.0 deployments or applications for assisted driving) because of the development of technologies such as the Internet of Things and Machine Learning algorithms. In such scenarios, integrity is fundamental to guarantee the accuracy of data and, as a consequence, the safety of the systems operating in physical environments. While Blockchain technologies can provide a high level of assurance in the integrity of digital data, securing its flow from the physical to the digital world and vice versa is outside their scope. Indeed, guaranteeing the integrity of inaccurate data processed by Blockchains is useless or their unauthorized modifications after the extraction from Blockchain-based storage shall be avoided. As a consequence, it is crucial to develop appropriate approaches to guarantee the integrity of the data flowing across the two realms to enable their overall integrity while they are being processed in physical systems. These approaches require the consideration of both technical, procedural, and organizational aspects of Cybersecurity to guarantee that the data transfer is adequately protected.

This includes the development of appropriate training to enable users and operators to exploit the wealth of advantages of these technologies while ensuring an adequate level of security and safety.

- *Daniele Tumietto, Italian Digital SME Alliance*

It seems that the Italian SMEs are recognizing the importance of scientific innovation for their businesses. However, they also emphasize the need for a reliable legal framework to support these efforts, as relying solely on voluntary actions is no longer sufficient. On a positive note, there has been an acceleration in this process, and an alliance is now focusing on collecting best practices and case studies, particularly in certain areas.

One of the concerns highlighted is the risk of "greenwashing," which refers to the deceptive marketing or promotion of products as environmentally friendly when they may not truly be. This issue likely emphasizes the need for clear regulations and standards to prevent misleading claims and ensure genuine environmental sustainability.

Additionally, the alliance is interested in expediting custom activities, which could refer to streamlining administrative procedures and reducing bureaucracy to facilitate business operations. Another focus area is the traceability of pharmaceutical products, particularly in the context of the circular economy. This suggests a desire to improve the transparency and accountability of the pharmaceutical supply chain to ensure proper handling, disposal, and potential recycling of pharmaceutical products.

Lastly, the alliance is exploring the topic of garbage recycling across different supply chains. This likely involves identifying innovative approaches and best practices for effective waste management and recycling processes in various industries.

Overall, the Italian SMEs recognize the importance of scientific innovation and are seeking a reliable legal framework to support their efforts. They are actively working on collecting best practices and case studies in areas such as preventing greenwashing, expediting customs activities, improving traceability in the pharmaceutical industry, and enhancing garbage recycling in different supply chains.

PANEL DISCUSSION: BLOCKCHAIN TO REDUCE INEQUALITIES
Moderated by Marco Ciurcina, Forum Disuguaglianze e Diversità

Thank you all very much for the invitation. I am honored to be here and to have the opportunity to moderate this panel. In order to save time, I will keep my remarks brief. I want to emphasize an aspect that I believe is of utmost importance based on what has been discussed thus far. It is evident that blockchain, like any other technology, can have both positive and negative implications. This is not a new phenomenon; it has been observed with the introduction of various technologies throughout history. Initially, there is often excitement and hype, followed by a period of disillusionment. However, technologies continue to be integrated into our lives. The key point of our discussion today is how we can harness the potential of blockchain technology for the betterment of society, particularly in terms of reducing inequalities. The phrase "social good" has been frequently used, and this panel specifically aims to address this objective.

Certainly, if utilized properly, blockchain can be an effective tool in reducing inequalities. I would like to share a phrase that resonates with me, one that I often recall. It's from the movie "Who Framed Roger Rabbit" when Jessica Rabbit says, "I'm not bad, I'm just drawn that way." This applies to every technology, including blockchain. The important work we are engaged in here involves thoughtful consideration and exploration of how we can leverage blockchain for the greater social good. With that said, I will conclude my remarks and hand over the floor to our esteemed speakers. I have received a request from one of our speakers, Alexis, who would like to address the audience first due to some urgent matters. If there are no objections from the other speakers, I will give the floor to Alexi.

Keynotes:
● *Alexi Anania, EUBOF Expert*

Good afternoon ladies and gentlemen, esteemed regulators and policymakers.

Thank you to the **Secretariat** and **event organisers** for inviting me to speak today. It is an honour to be here and I hope that I can share value to this panel, through my own insights.

To truly grasp the power of **public blockchains**, let us first understand their essence. A public blockchain is fundamentally a **single consolidated source of truth**, that's all it is. And you can imagine how you can apply the concept of a **single verifiable truth** to practically anything. Imagine a world where trust is inherent, where transparency reigns supreme, and where every action is held accountable. Public blockchains offer precisely that.

I'd like to take a deeper dive, particularly in the context of **inclusivity** as well as the core democratic values of Europe.

In the pursuit of achieving the **Sustainable Development Goals** outlined by the United Nations and upholding the values enshrined in the UN Charter, blockchain has emerged as a powerful tool that holds immense potential for promoting **transparency**, **accountability**, **and inclusivity**.

Today, we have explored countless real-world examples where blockchain has the potential to increase accountability and contribute to the realisation of these goals, all while embracing Europe's core democratic values and solidarity.

What does "Democratic" mean today, and how has it changed since its inception in 508 BC? I would also like to discuss DAOs (Decentralised Autonomous Organizations). A DAO is a complex term that describes a simple on-chain governance process. So, what exactly is a DAO? I recently heard it being described as a chat group with a wallet, but that description falls short. In reality, a DAO is an organisation that operates on-chain through smart contracts, rather than relying on traditional centralised control. It is designed to be autonomous and governed by its participants, who collectively make decisions through a decentralised consensus mechanism. Participation in a DAO requires holding the underlying digital asset, and subsequent governance can follow democratic, capitalistic, quadratic, or hybrid models.

Democratic governance ensures that all participants have a vote, regardless of the amount they hold. Capitalistic governance gives participants with a larger ownership stake a weighted advantage in decision-making. Quadratic governance, on the other hand, aims to address the issue of majority dominance by allowing participants to allocate a quadratic number of votes to different proposals, enabling a more nuanced expression of preferences.

Governance in a DAO is tamper-proof, with all parameters and bylaws decided beforehand. Participants choose to join a DAO based on their alignment with a governance structure that appeals to them.

Therefore DAOs, with their decentralised and participatory nature, provide valuable lessons for real-world governance. They offer a framework where decision-making power is truly distributed among participants, allowing for broader participation and more democratic processes.

Let's also explore the concept of **regenerative finance** in DeFi. Regenerative finance seeks to create a financial system that not only sustains itself but also generates a positive social and environmental impact. DeFi aligns with this vision by leveraging blockchain technology to build decentralised financial systems that are **open**, **transparent**, **and accessible to all**.

DeFi holds tremendous promise in addressing inequalities and empowering underserved or underbanked populations. Through DeFi, individuals can **participate** in financial activities without the need for traditional **intermediaries**. This eliminates **barriers to entry** and **empowers individuals**, particularly those who have been historically under-served by the traditional financial system without credit history or collateral, depriving them of opportunities for growth and economic stability.

By enabling access to a wide range of financial services such as **lending**, **borrowing**, **and investment**, DeFi promotes **financial inclusion** and equal opportunities for all. It allows individuals to have control over their finances, participate in economic activities, and generate wealth, ultimately contributing to regenerative finance by creating a system that benefits society as a whole.

Blockchain also has the potential to revolutionise **humanitarian aid**, making it more **efficient**, **accountable**, **and inclusive**. There are today real-world examples involving renowned humanitarian aid agencies such as the United Nations World Food Programme.

In the face of global hunger and food insecurity, the WFP has been at the forefront of harnessing the power of public blockchains to ensure aid reaches those most in need. By implementing a public blockchain-based system, the WFP has successfully facilitated secure and transparent transactions, minimising intermediaries and reducing corruption.

This transformative approach has enabled the WFP to deliver assistance to vulnerable populations with enhanced speed, accuracy, and cost-effectiveness.

Now, let's bring this closer to home, to Europe—a region deeply rooted in **democratic values**, **solidarity**, **and social justice**. The European Union already recognizes the potential of public blockchains to bolster its efforts for equality. By embracing the power of decentralisation and transparency, the EU can ensure that its programs target those in need, with minimal bureaucratic hurdles and maximum efficiency.

European solidarity and blockchain, despite belonging to seemingly different domains, share remarkable similarities that make them natural allies in the pursuit of a fair and inclusive society. Just as blockchain technology promotes transparency and trust by establishing a **single verifiable truth**, solidarity embodies the principles of unity, cooperation, and support for those in need.

Both concepts strive to eliminate disparities and create a level playing field, ensuring that everyone's voice is heard, and their contributions are valued. Solidarity and blockchain are

interconnected by their commitment to **fairness**, **accountability**, and the **collective well-being of individuals and communities**. By harnessing the power of blockchain and embracing the values of solidarity, we can pave the way for a future where transparency, equality, and mutual support thrive hand in hand.

And so, the potential of public blockchains to reduce inequalities is immense. By leveraging these transformative conceptual blockchain features, regulators and policymakers in Europe can create an environment where trust and transparency are embedded.

Let us wholeheartedly embrace the power of public blockchains to empower the under-served, and build a more inclusive and equitable future.

Thank you.

- *Ingrid Vasiliu-Feltes, CEO Softhread, CIO Government Blockchain Association*

Introduction
The deployment of blockchain technology holds significant promise in promoting social equity and financial inclusion by offering innovative digital identity solutions, facilitating access to funding through a wide array of investment vehicles, creating blockchain-based marketplaces, and enabling educational pathways that help reduce inequalities.

Barriers
However, to fully realize the benefits of blockchain technology, it is crucial to address certain barriers, such as lack of digital literacy and the ongoing digital technology divide. Lack of digital literacy can hinder adoption and use of blockchain-based solutions due to their complexity. Furthermore, the decentralized and distributed nature of blockchain-based solutions can present unique challenges that may be difficult to navigate for those that lack digital fluency. The digital divide presents yet another obstacle to blockchain adoption, particularly in regions where access to technology and internet infrastructure is limited. Addressing this challenge requires targeted investments in digital infrastructure, alongside initiatives that promote digital inclusion and provide access to technology and training for marginalized communities.

Opportunities
Blockchain technology can play a key role in creating a more inclusive and accessible education ecosystem by providing decentralized and transparent learning records. This can help bridge the skills gap and improve the employability of individuals, particularly those from underserved communities. By offering a secure and verifiable record of educational achievements, blockchain technology can provide greater recognition of non-traditional learning experiences and promote lifelong learning. Additionally, blockchain-based educational platforms and marketplaces can provide learners from diverse backgrounds with access to high-quality educational resources and opportunities. This can help reduce educational inequalities and equip individuals with the tools they need to participate fully in the digital economy.

Blockchain technology offers significant potential in the area of digital identity by providing secure and decentralized solutions that offer greater control over personal data. By using

cryptographic techniques to secure personal data and identities, blockchain-based solutions can help prevent identity theft and other forms of fraud. Additionally, blockchain-based identity solutions can help reduce the need for intermediaries and central authorities, increasing the efficiency and accessibility of identity management.

Dynamic informed digital consent is another critical consideration in the context of blockchain-based solutions. Blockchain technology can provide individuals with greater control over their personal data, enabling them to manage and share their data in a transparent and ethical manner.

This can be achieved by using smart contracts and other blockchain-based tools to enable individuals to specify the terms and conditions under which their data is shared. Conversely, it can enable individuals to revoke their consent and retract their data at any time, giving them greater control over their digital identities. This can help address concerns around privacy and data protection while empowering individuals to make informed decisions about how their data is used.

Access to funding is another area where blockchain technology can help reduce economic inequalities and promote financial inclusion. Alternative investment vehicles such as angel investments, venture capital (VC), corporate venture capital (CVC), crowdfunding, Special Purpose Vehicles (SPVs), and bonds can provide individuals and businesses with access to capital in a more efficient and decentralized manner. This can stimulate entrepreneurship and innovation, particularly in regions where conventional funding sources may be limited.

The creator economy is another area where blockchain technology can help reduce inequalities and enhance financial inclusion. Blockchain-based marketplaces and platforms can offer creators new opportunities to monetize their content and reach a global audience. This can help promote diversity and inclusion in creative industries, particularly for creators who may have limited access to traditional distribution channels.

Blockchain technology has the potential to enhance diversity, equity, and inclusion by creating new opportunities for marginalized groups and promoting greater transparency and accountability in a wide range of industries.

One of the key ways that blockchain can enhance diversity, equity, and inclusion is by providing greater access to financial services and enabling individuals and businesses to participate in the global economy more effectively. Blockchain-based solutions can promote greater financial inclusion by reducing the barriers to entry and enabling individuals and businesses to transact in a more secure and transparent manner.

By reducing reliance on centralized intermediaries and enabling greater participation from a wider range of stakeholders, blockchain technologies can promote more equitable and inclusive decision-making processes, therefore enabling greater participation from traditionally marginalized groups.

Blockchain-based solutions can also promote greater transparency and accountability in industries such as supply chain management, where issues such as labor exploitation and environmental degradation can be addressed through greater traceability and accountability.

Conclusion

Large scale deployments of blockchain technologies have the potential to promote social equity and financial inclusion. Future efforts should focus on developing more scalable, highly interoperable, net-zero-focused blockchain-based solutions that are accessible, user-friendly, and aligned with the needs and values of diverse communities. For example, the converging capabilities of blockchain and AI, specifically federated learning, can significantly enhance financial inclusion by enabling greater access to financial services for underserved, underbanked populations.

The development of a blockchain code of ethics and blockchain solutions that aim to preserve digital human rights are both critical for a blockchain-enabled democracy, and can therefore augment global financial inclusion and justice efforts. Additionally, blockchain-powered SDG13- centric solutions can become key levers in a transparent and responsible net zero economy, creating new jobs and further enhancing financial inclusion.

Debate with respondents:

Julio Linares, Economic Anthropologist and Outreach for the Basic Income Earth Network

Thank you so much for the invitation, specifically to Sowellu. My name is Julio Linares and I serve as the public outreach for the Basic Income Earth Network, or BIEN. BIEN is a network that was established in the 1980s with the goal of promoting the study and implementation of unconditional Basic Income. Basic Income is an idea that is now gaining traction worldwide, where individuals receive regular cash transfers without any conditions attached. In addition to my role at BIEN, I am also one of the co-founders of Circles UBI. Circles UBI is a protocol that operates on the Gnosis blockchain, where individuals are empowered to issue their own currency. In Circles, to participate in the program, individuals need to join what we refer to as a "web of trust" or an open PGB (Personal Growth Bonding) protocol. This trust network enables connections between people, and through these connections, individuals can send money to each other directly or indirectly.

We have been running a pilot program in Berlin for the past year and a half to two years, involving approximately 1000 participants. These individuals have been receiving and utilizing a basic income to cover their essential needs such as food, healthcare, and therapy. It's truly remarkable to witness this experiment unfold, especially considering that we are conducting it independently, without the involvement of the Berlin or federal government. Through the implementation of blockchain technology and utilizing protocols like Circles, a UBI protocol, we have been able to establish a local monetary system. This system enables people to exchange goods and services, effectively regionalizing the economy. Currently, there is considerable discussion surrounding the need for system change, including concepts like degrowth, post-growth, and green growth.

I believe many of these proposals are highly theoretical and often lack practical strategies for implementation. However, projects like Circles, which leverage blockchain and emerging post-blockchain systems, offer tangible pathways towards transitioning into a new economy. I will conclude my remarks here to ensure we have ample time for the other speakers. Although

we may have exceeded our allotted time, I would like to express my gratitude to everyone who invited me. I am delighted to connect with all of you and contribute to the ongoing efforts of fostering collaboration and solidarity.

Cinzia Maiolini, CGIL Nazionale

As trade unionists, our focus lies in addressing the impact of digital technologies on work and workers. We firmly believe that technology should be governed, particularly when it is applied to work settings. In this context, it is crucial for workers and trade unionists to be well-informed. But informed about what, exactly? Specifically, we emphasize the need for transparency regarding the application and purpose of blockchain technology.

As we mentioned earlier, the certification of various aspects within employment relationships becomes essential due to legal requirements or provisions outlined in national collective contracts. For instance, let's consider the obligation to provide training for apprentices, as mandated by law. Additionally, national contracts may stipulate the right for workers to receive training during working hours. In such cases, if the union is integrated into the blockchain, it can ensure that it remains informed about relevant developments and occurrences.

By being part of the blockchain network, trade unions can gain insights into what is happening within employment relationships. This access to information empowers unions to fulfill their roles effectively and advocate for the rights and interests of workers. The utilization of blockchain technology can contribute to transparency and accountability, ensuring that the necessary certifications and obligations are met in accordance with legal and contractual frameworks.

The same principles can be applied to the supply chain of a product, as highlighted by a previous speaker who mentioned the concept of an open food chain. In today's consumer landscape, individuals have the desire to be fully informed about the products they choose to purchase or utilize. For instance, an eco-friendly product can be certified at every stage of its journey, from raw material sourcing to distribution. Similarly, it should also be possible to certify that all workers involved in the supply chain have received fair and regular compensation and have been provided with safe working conditions. In this context, trade unions can play a vital role as a block within the chain.

The CCIL (Confederation of Italian Trade Unions) believes that any certification related to labor and workers that can and should be implemented must consider the utilization of blockchain technology. For example, we can explore the concept of the workers' electronic file, as mandated by the Italian law 152/2015. This file serves as a comprehensive record of a worker's competencies, specialized training, and continuous professional development throughout their working life, while ensuring compliance with GDPR legislation.

In summary, CCIL believes that the adoption of innovative, transparent, and ethical technologies, such as blockchain, can help establish a framework that upholds the principles of trust and dignity within the labor market. It is foreseeable that blockchain technology can find applications in various aspects of employment relations, including contractual

agreements, social security, taxation, and occupational health and safety. By involving trade unions in the decision-making process, we can ensure transparency and secure social benefits. It is crucial for trade unions to understand the technology choices made by employers and the underlying reasons behind them, as this helps guarantee transparency and promote the well-being of workers.

Livio De Santoli, Sapienza Università di Roma

Thank you all for the invitation. Good evening, everyone. I would like to summarize and build upon some of the key points raised in the previous interventions.

The fundamental essence of blockchain lies in its ability to provide an alternative and reliable mechanism within established environments that often lack transparency and accountability. This attribute is of utmost importance as it ensures trust and security while offering visibility to all network participants. As previously mentioned, this empowers each participant, granting them significant influence.

It is worth noting that blockchain presents both technical and non-technical challenges. Consequently, numerous teams are devoted to leveraging blockchain technology to address these challenges and reduce inequalities. Here are a few brief examples to illustrate this concept.

One crucial aspect lies in blockchain's potential to tackle financial inclusion. By enabling access to basic financial services for individuals who are currently excluded from the traditional system, blockchain can offer solutions to promote financial inclusivity.

Furthermore, traceability and transparency within the supply chain of goods are vital considerations. Blockchain technology can enhance transparency in the supply of goods, such as food, medicine, and other essential products. This ensures that consumers have access to reliable information about the origin and journey of these goods.

In addition, energy can be seen as a common good, necessitating socially responsible practices that are accessible to all. Blockchain can contribute to this goal by providing a framework for ensuring equitable access to energy resources.

Another significant aspect that has been emphasized by previous speakers is the potential of decentralized crowdfunding and participatory financing. Blockchain technology can facilitate decentralized crowdfunding efforts, enabling greater participation and democratization of investment opportunities.

These are just a few examples of the various ways blockchain can address non-technical challenges and contribute to a more inclusive and transparent society.

In terms of green finance, it is crucial to emphasize its significance as one of the pillars of the Sustainable Development Goals (SDGs) agenda. Green finance plays a pivotal role in facilitating sustainable development initiatives.

Furthermore, it is important to highlight the potential of decentralized governance as a relevant aspect. By implementing decentralized governance systems, decisions can be made in a more inclusive and participatory manner, aligning with the principles of the SDGs.

To illustrate the intersection of technological and non-technological challenges, let's consider the field of energy and the concept of energy communities. Energy communities serve as a tool for decarbonization, addressing Goal 7 of the Agenda 2030, which focuses on clean energy for all. In Italy, significant funding from the PNR (National Recovery and Resilience Plan) is being allocated towards these initiatives.

Energy communities enable the validation of self-consumption, leveraging innovative tools such as demand response and energy storage, while also promoting the utilization of self-produced renewable energy. This approach empowers citizens to transition from passive consumers to active participants, known as prosumers. Prosumers contribute to the production and consumption of energy, fostering energy independence. Blockchain can provide valuable support to prosumers, offering a platform for optimizing the entire process within energy communities.

However, an important challenge lies in designing and managing a dedicated platform specifically tailored to the needs of energy communities. This task requires careful consideration and effective management to harness the full potential of blockchain technology. Addressing this challenge successfully would bring together non-technological aspects with technological advancements, expanding the scope of blockchain's application.

In summary, the integration of blockchain technology within energy communities represents an opportunity to overcome both technical and non-technical challenges. By leveraging blockchain in this context, we can optimize energy systems and realize the transformative potential of sustainable energy solutions.

CONCLUSIONS

Dasha Silovic, The-EPE

Thank you very much for the plethora and the richness and the wealth of the different aspects that we have heard today. I'm really daunted by the amount of knowledge and understanding and the perceptions and some of the visions that our esteemed participants and speakers have put on the agenda. I'm sure that my colleague Professor Dastoli will have a similar problem,as to wind up this discussion and as much as possible represent some of the views that you have expressed.

One of the things that has been striking in this discussion is the fact that we are now embarking on a new age.

In this discussion, both in terms of governance and in terms of technological and digital advances, I think somebody mentioned a new industrial, technological, digital revolution. The question for us is really how we can manage to harness this innovation, how we can manage to the best of our abilities, profit from this innovation and including the upcoming discussion

on artificial intelligence or blockchain technologies for the benefit of mankind and for strengthening our democracies, our transparency and our development. Having said this, one thing that was also present in the discussion is that, yes, these are innovations, they are new, many of them untried. As there is a lot of discussion these days, especially on the question of AI and the artificial intelligence issues, the challenge for us will be also how to be vigilant so that we can profit from this technology, rather to prevent its misuse and a potential negative impact as we embark on a journey of the future.

Above all, this is now happening. I will now particularly talk about Europe, but also in the world that is very challenged politically, economically, socially, culturally, and, as we have seen technologically. There's a war in Europe and there's a threat of nuclear arms, which is heightened. We are entering, according to some, into a new Cold war. Democracy as we know it is threatened by the rise of authoritarianism. My colleague Raymond has spoken about it and totalitarian tendencies, lots of abuse of human rights, social inequality and in a way dismantling a system which has up to now given its benefits after the Second World War in terms of our social and economic systems. How do we one hand manage to safeguard this by using the innovation and on the other hand move forward in a way that would be actually beneficial to humankind and the planet, as Raymond would say, a planetary humanity's new phase.

In this sense, the discussion I think has gone beyond the concept of resilience because we use the concept of resilience in terms of strengthening our capacities around institutions and systems. Now we are actually moving into that unchartered, still territory that we are testing and that we have tested in this discussion on the innovative technologies and the blockchains as a potential tool and instrument to address the different facets of our planet and our lives and our societies. That means how to empower citizens, how to strengthen democratic processes and many of you have spoken about that. How to strengthen our institutions, economic and social distribution, financial transparency and compliance with the commitments and the values that we have in Europe and I think that we are advocating for in the world. That's why I found this discussion very useful and comprehensive in the sense that we were on one hand addressing the European context and what we can do at the European Union level and on the other hand, the global perspectives through the UN SDGs and their implementation.

As we know, it's not easy to shift a paradigm. I think the challenge is before us. I would like to congratulate my colleagues on pushing forward the BC 100+ manifesto, and hopefully that you will receive it soon and that you will join us in this so that we can actually work with institutions at the European level. We will be focusing on reaching out to the decision makers in Brussels. We are already in touch with the decision makers at the UN level and the President of the UN General Assembly who is supporting us so that we can actually move one step forward in a discussion in an institutional context that could also and should also address the potential fallouts in a more legal and institutional framework and help us actually get grips with the challenge that we have ahead of us. I think this event today was important also because of the partnerships that are now developing and being developed with the different facets and in a more comprehensive way how to use the blockchains.

I have to divulge that every time I talk with people who are not in this sector and I say blockchains the first thing I hear is cryptocurrency and it does take some advocacy on our

parts to be able to explain and advocate for the instrument. That is far beyond the question of cryptocurrency as it is and cryptocurrency being in trouble these days. It would also be important to explain why we are here and what we are advocating for.

I think you will be getting a report from this discussion as well as the manifesto and we will continue working on issues of self sovereign identity, food systems, blood minerals, oceans, rainforests and so on. Once we get the report, we hope and we look forward to continuing this discussion with all of you and thank you very much to the University of Torino for hosting us today and continuing a partnership that we can at different levels of work and positions that we have.

We can work together on that. I would also like to say, when I spoke about the European Union level, many mentioned the local level and the potential of the instrument or the tool to be instrumental at local levels. I would also like to address the European political community, and tell them that they could profit from us taking it further into a context which we may encounter relatively soon, I hope, in terms of the enlargements and closer cooperation with the neighborhood. Therefore, this discussion has been impressive, it has been innovative. It has demonstrated not only the potential, but also progress that we have made in many fields.

Pier Virgilio Dastoli, EMIT

First and foremost, I would like to draw attention to the fact that our event is taking place within the framework of the Festival of Sustainable Development, which currently hosts approximately 400 events across Italy. This marks the fifth year of the festival's organization in Italy. To my knowledge, this is the largest event in Europe dedicated to the Sustainable Development Goals and is particularly unique as it is organized by ASVIS (Alliance for Sustainable Development Goals in Italy).

Additionally, it is important to recognize that we are currently in the midst of the 2030 Agenda, which was established in 2015. Through this agenda, we have set ambitious targets for Europe. While our ambition for 2030 remains steadfast, it is crucial to acknowledge that we are now in the middle of the timeline. At this stage, only a few goals have been achieved or are well on their way to realization. When we consider the original set of 17 goals, if we adopt an optimistic perspective, we can identify a limited number of goals that have made significant progress. However, there are also goals where we have encountered setbacks rather than advancements.

In light of our discussions today, which centered around practical suggestions, it is worth noting that several of these 17 goals could benefit from the utilization of blockchain technology. For instance, poverty alleviation, food security, hunger eradication, and education are areas where the role of local communities and the potential impact of blockchain were highlighted. By leveraging blockchain and similar technologies, we can contribute to the advancement of these specific goals within the broader Sustainable Development Agenda.

Among the various goals outlined, we have specific objectives pertaining to citizens, cities, and local communities. This underscores the importance of considering their needs and interests within the broader framework. It is worth noting that progress has been made since the Echo 92 summit in Rio, held in 1992. However, despite these steps forward, we are still far from achieving the objectives set forth in the agenda for 2030.

During today's meeting, valuable suggestions were put forth, which can be incorporated into the consultation paper, particularly through the expertise of Ramon, who can update it accordingly. One noteworthy aspect that emerged from our discussions was the role of the European Union in the realm of artificial intelligence. Here, the European Union possesses a distinct advantage and added value on the global stage. Notably, the EU is uniquely positioned to navigate the complex relationship between ethics and artificial intelligence, not only from an ethical standpoint but also by leveraging its ability to translate ethical considerations into legal frameworks. This allows for the establishment of common rules and regulations at the European level.

There is a prevailing concept being discussed, where in the United States, people refer to "big tech," while in China, it is referred to as "big state." In these contexts, the emphasis is on the dominance of either the technology sector or the state apparatus. However, as the European Union, we can adopt the notion of "big democracy." This term underscores the importance of democracy on a large scale. It distinguishes our approach from the concentration of power observed in big tech or big state scenarios.

Another significant point to consider relates to a challenging English word to translate into other languages: "empower." Empowerment goes beyond merely retaining power; it signifies being aware of our capacity to play a meaningful role. This aspect is crucial when discussing participatory democracy. Today, one of the key focuses was on the concept of "bottom-up" participation. In this context, we believe that blockchain technology can be utilized in a positive manner, particularly in conjunction with artificial intelligence, as it enables the use of technology to enhance democratic processes.

Lastly, during the latter part of our European movement discussions, we touched upon the upcoming European elections. The Council will soon determine the dates for these elections, and it is highly likely that they will take place from the 6th to the 9th of June next year, giving us a relatively short timeframe of 55 weeks. In light of this, we need to concentrate our efforts on formulating specific legislative priorities for the next term, based on the practical suggestions discussed today. These priorities hold significant ethical importance, as well as being vital for the promotion of public goods and the protection of fundamental rights.

Our idea, which we would like to share with you today, revolves around the dynamic nature of electoral campaigns for European elections. We propose considering the possibility of launching a few citizen initiatives next year, particularly in relation to participatory policies. We are aware that the Treaty of Lisbon, specifically Article Eleven, grants one million citizens the right to petition the European Commission to propose European laws in certain areas that require attention at the European level.

Given this provision, we believe it would be worthwhile to leverage the momentum of the European electoral campaign to launch citizen initiatives. The aim would be to urge the newly

elected European Commission, following the upcoming elections, to incorporate some of the ideas discussed during our event, as well as those that will be discussed in autumn during the upcoming meeting organized by the University La Sapienza.

Furthermore, we envision the potential for transforming our practical ideas into a comprehensive program that could serve as a governmental agenda. This could be pursued next year. It is important to note that the 17 Sustainable Development Goals constitute a program of global governance. We hope that every government, when formulating its agenda, will adopt these 17 goals as a blueprint for governance. Similarly, it is crucial for the European government to incorporate these goals within its framework.

The seventeenth goal, which focuses on partnerships, holds particular significance. In the Millennium Development Goals, partnerships were considered instrumental, whereas in the context of the 17 goals, partnership is not merely a means to an end but a goal in itself. This underscores the importance of fostering partnerships between the private and public sectors, as well as between local communities and cities at a grassroots level.

We propose that these ideas be pondered upon and further deliberated during our next meeting scheduled to take place in Rome during autumn, as well as in subsequent meetings that we organize collaboratively.

Appendix

Conference Video

The full video of the event can be found [here](#).

Official agenda

TIME - EEST	ACTIVITY
	Welcone
2.00 - 2.10 P.M.	**Welcome**
	Guido Boella, Università di Torino **Francesco Profumo**, Fondazione Compagnia di San Paolo **Brando Benifei,** European Parliament Rapporteur on Artificial Intelligence
2.20 - 2.35 P.M.	**Blockchain for SDGs**
	The Blockchain for Good report 2022, Lucas Zaehringer, BC100+ Steering Group
2.35 - 2.50 P.M.	Blockchain for civic participation and social economies
	Blockchain for civic participation and social economies, Guido Boella, Università di Torino*
3.00- 4.00 P.M.	Session 1: Blockchain & Governance at the Web 3.0 Democracy Age, empowerment from global to local & Europe's transformation
	Blockchain & Governance at the Web 3.0 Democracy Age, empowerment from global to local & Europe's transformation, moderated by Mercedes Bresso, MEP Keynotes: Raymond Van Ermen, The-EPE *

	Tommaso Astazi, Blockchain for Europe Ronald Steyer, KfW German Development Bank, Innovation & Digitalisation Antonio Lanotte, EUBOF Expert* Vasilisa Marinchuk, Centre Blockchain de Catalunya Debate with respondents: Alexi Anania, EUBOF Expert
4.00- 5.00 P.M.	Session 2: Blockchain, the Green Industrial Revolution & the Green Deal, Net Zero Agenda
	Blockchain, the Green Industrial Revolution & the Green Deal, Net Zero Agenda, moderated by Flavio Brugnoli, Centro Studi sul Federalismo **Keynotes:** Nena Dokuzov, European Blockchain Partnership Pierre Marro, DG Connect European Commission Marieke de Ruyter de Wildt, TITAN EU project, Blockchain & Food Systems Almudena de la Mata, DApp EU Project, Citizens contribution to Air Quality **Debate with respondents:** Luigi di Marco, ASviS Leda Guidi, Associazione Italiana della Comunicazione Pubblica e Istituzionale Silvio Ranise, Fondazione Kessler Daniele Tumietto, Italian Digital SME Alliance
5.15- 6.15 P.M.	**Session 3: Blockchain to reduce inequalities**
	Blockchain to reduce inequalities, moderated by Marco Ciurcina, Forum Disuguaglianze e Diversità **Keynotes:** Julio Linares, Economic anthropologist and outreach for the Basic Income Earth Network, Circles UBIe Alexi Anania, EUBOF Expert Ingrid Vasiliu-Feltes, CEO Softhread, CIO. Government Blockchain Association **Debate with respondents:** Cinzia Maiolini, CGIL Nazionale Livio De Santoli, Sapienza Università di Roma

6.15- 6.45 P.M.	**Conclusions**
	Dasha Silovic, The-EPE Pier Virgilio Dastoli, EMIT
6.45 P.M.	**End of event**