BLOCKSTAND

D4.4 Europe's Blockchain Leadership Outlook: contributions and successes (v1)

April 2024

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V0.2	29.4.2024	Justina Bieliauskaite, DSME	Draft review and changes submission
V0.3	30.4.2024	Veronica Salsano, UNINFO	Review and approval of the proposed draft

List of abbreviations

Acronym	Explanation
EBP	European Blockchain Partnership
EBSI	European Blockchain Services Infrastructure
EC	European Commission
EMB	External Management Board
EU	European Union
GDPR	General Data Protection Regulation
KPI	Key Performance Indicator
PMB	Project Management Board
R&I	Research & Innovation
SDO	Standards Developing Organisation
SMEs	Small and Medium Enterprises
TCB	Technical Coordination Board
WP	Working Package

1. Introduction

The Europe's Blockchain Leadership Outlook provides a set of the success stories and illustrations of the created impact, identified through the continuous engagement with the supported standardisation experts. It also includes a short overview of all Blockchain standardisation contributions and expected impact provided by the BlockStand experts. An updated version of this report will be shared in M24 (April 2025).

The following information pertains to various tasks and work packages related to supporting the European Commission's efforts in Blockchain standardization (WP3, T3.1) since the deliverables provided by supported experts (WP4, T4.1 and T4.2) are closely linked to the priorities outlined in the Rolling Plan and will significantly aid in its implementation. Given that the experts' contributions are deliberated and assessed within the TCB (T3.2), its objective is to align the technical endeavors of experts to EC policies, EU values, and long-term objectives.

Moreover, experts' deliverables and contributions are made available through the Blockchain Standardisation Facility & Community Tool (T5.1), fundamental tool for the Blockchain Projects' Innovation Community Engagement (T5.3). The experts' work is to be considered one of the most important components to be leveraged in the communication and promotion strategy (T6.1).

1.1   Experts' profiles and contributions

As of April 2024, BlockStand has approved 17 proposals involving 40 deliverables.

An updated version of the Outlook will be published soon and made available at the following link https://blockstand.eu/blockchain-standardisation-facility-community-tool/ .

As of April 2024, the supported eexperts come from 10 EU Countries.

1. Spain
2. France
3. Germany
4. Ireland
5. Luxembourg
6. Austria
7. Italy
8. Austria
9. Bulgaria
10. Estonia.

Julien Bringer

Expert in cybersecurity and cryptography, involved in security business since 20Y, entrepreneur in Blockchain and identity space. Standardization expert in cybersecurity, privacy, identity, biometrics, authentication and Blockchain since more than 10Y. Co-convenor of ISO/TC 307/JWG 4 "Joint ISO/TC 307 - ISO/IEC JTC 1/SC 27 WG: Security, privacy and identity for Blockchain and DLT. Julien leads and guides the development of the standards in Blockchain and DLT area (ISO/TC 307) connected to the existing landscape of security, privacy and identity standards (ISO/IEC JTC 1/SC 27) as convenor of ISO/TC 307/JWG 4, and related to the growing market needs (e.g. to support EU and related international initiatives).

Maria Lluïsa Marsal

Dr Lluïsa Marsal is an architect and blockchain specialist, with a background in urban planning and applied IT. After spending more than 20 years in public sector (academia and government) she is now working as independent consultant on Blockchain applications to the real world. Dr Marsal will develop a proposal to standardise individuals' self-sovereign identity in virtual worlds (i.e metaverses) through Blockchain's abstract accounts with the aim of easing accessibility of citizens to both, blockchain technology and virtual worlds.

Belen Suarez Lopez

Belén Suarez is an expert at UNE CTN 166 and at ISO/TC 279 Innovation Management. Actively engaged in the development of ISO 56008 Innovation Management Operation Measurement and ISO 56001 Innovation Requirements. Liaison with ISO/TC 307 Blockchain and Distributed Ledger Technologies and convenor of CEN/CENELEC JTC 19/WG 2 Sustainable Blockchain standardization initiative. Member of the Standardization Committee at the Alastria Ecosystem, developing several technical reports. Belen will work on Blockchain applications for sustainability and eco-design requirements.

Mickaël Gaborit

Partner at Blooo, expert in trusted digital solutions (identity, blockchain, cybersecurity), Mickaël is contributing to AFNOR, CEN, ISO, eIDAS working groups within these areas. Collaborating with regulatory bodies and security experts, Mickaël will compile a comprehensive set of standards for digital identity (EU Digital Identity Wallet, EBSI, Verifiable Credentials, e-signature

protocols, secure elements) to support the digitalization of identification and authentication means, and enhance security, privacy, and user convenience across the EU.
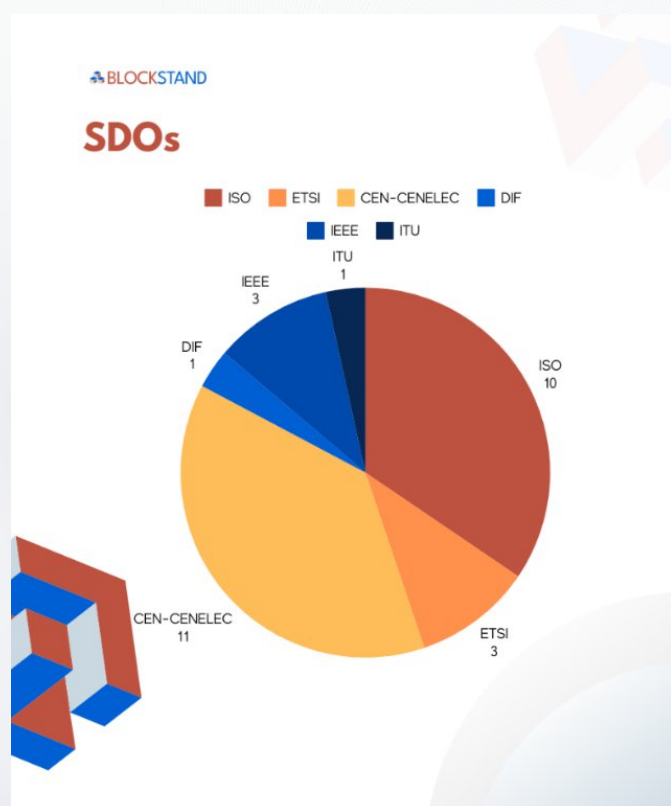
Steffen Schwalm

Steffen supports for 15 years clients in high-regulated industries on digital identity and trust. Hehapes decentralized ecosystems in Europe using DLT through international projects like EBSI-VECTOR & TRACE4EU and takes part in international Blockchain standardization process in e.g. ISO and CEN. Steffen will focus his work on the creation of sustainable standards for proven security and trust in DLT. The aim is solving main challenges in using DLT in high-regulated industries by definition of requirements for QTSP for Ledger or using DLT in eIDAS 2.0.

Robin Renwick

Robin Renwick has a multidisciplinary background in networks, technology, and people. Through their BlockStand grant, they will animate ISO TC307/JWG/PWI 12833 "Requirements and guidance for improving, preserving, and assessing the privacy capability of DLT systems", and PWI 23042 "Decentralized Identity". Within CEN/CLC/JTC 19, they will animate WG 2 "Environmental Sustainability". Robin is very much interested to gauge how these projects will support the wider market adoption of DLT, especially their potential relation to European Digital Identity and the proposed Digital Euro.

Jedediah Grant

Financial Technology Executive with more than 15 years' collective experience in regtech, fintech, pre-sales, enterprise deals, cryptocurrency, security & investigations, and software development. Jedediah will focus his work on blockchain information exchange.

Paolo Campegiani

Paolo Campegiani is Head of Strategy and Innovation at Bit4id. With a strong engineering background and a Ph.D. in Computer Science Engineering, his area of expertise is centred around Blockchain

technology and digital identity questions. He has been a member of CEN-CENELEC's JTC19 "Blockchain and DLT" since 2018 and is also part of IEEE's Computer Society Special Technical Committee on Blockchain. Paolo will work on issues related to decentralized identity and the eIDAS2 Regulation.

Giampiero Zito

Giampiero, Founder and CEO of Boutique Consulting and Innovative Startup MEDITERRANEO LAB 4.0, serves as an innovation manager and IT strategy consultant for various companies. With support from BlockStand, he will contribute insights on electronic certificates and smart contracts.

Markus Sabadello

As the CEO of Danube Tech, a company specializing in modern technologies in digital identity and personal data, and Chair of the Identifiers & Discovery Working Group at the Decentralized Identity Foundation (DIF), Markus will concentrate his efforts on decentralized identity.
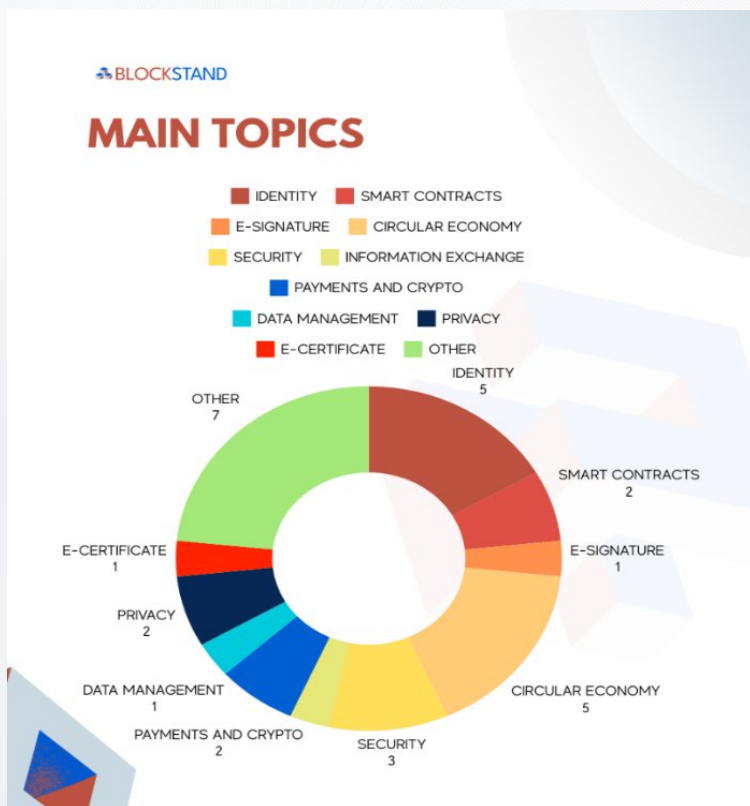
Limara Haque

Limara is a professional with over 20 years of experience as a Compliance Officer, with proven expertise in managing compliance functions for regulated corporates and investment firms. She is an accredited Standards Expert with ISO & UNE for Distributed Ledger Technologies and their

Applications, Environmental Sustainability and DAOs. Supported by BlockStand, Limara will work on social responsibility and sustainable development related to Decentralised Autonomous Organisations (DAOs).

Soumya Datta

Soumya is a professional with more than 12 years of professional experience Cybersecurity, IoT, WoT, blockchain, and their standardisation. He has been actively contributing to the W3C Working Groups since 2015 and IEEE P2415 since 2021. Soumya

will focus his work on requirements and data formats, templates for smart contract in current standardisation effort.

Olvis Enrique Gil Rios

IT professional with a proven track- record of driving success in Web3 technology integration. With a comprehensive background in Blockchain and DLT standardization, Olvis Enrique have focused on enhancing cross-border payment efficiency, security, and interoperability. His work spans key SDOs like ISO/TC 307 and ITU-T Study Group 16, advocating for standards ensuring regulatory compliance and innovation. Supported by BlockStand Olvis Enrique will focus on Blockchain interoperability and secure transaction Protocols.

Michal Kit

As a Principal Technology Officer at the Blockchain & Climate Institute, a Liaison Organization with ISO/TC307, Michal collaborates with experts in international standards development, thus contributing to Blockchain and DLT standardization efforts. With a background spanning finance, IoT, and contributions to projects like R3 Corda, Michal will offer invaluable insights for defining standards in this dynamic field. His work will focus on the development of a Blockchain/DLT "Decision tree" framework and methodology.

Jerome Pons

With over 20 years of experience in standardization, Jerome has contributing extensively to Blockchain and DLT standards development working on, among others, ISO/TC307 standards such as vocabulary, reference architecture, taxonomy, and ontology, as well as decentralized identity and smart contract. Jerome is currently contributing to AFNOR/CN Blockchain, ISO/TC307, CEN-CENELEC/FG BDLT and CEN-CENELEC/JTC19 and will work on Blockchain use cases and solutions for sustainable development with a focus on circular economy, climate action and biodiversity preservation.

Petko Karamotchev

Petko is a professional with expertise in DLT and Digital Smart Legal Agreements. Petko has advised the All-Party Parliamentary Group on Blockchain, contributed to ISO/TC 307 Committee for Blockchain, and served as an Industry Associate at UCL Centre for Blockchain Technologies. He's authored contributions in the Artificial Intelligence domain and is a recognized expert in blockchain, AI, automation, industrial IoT. Petko will provide his contribution on on-ledger and

off-ledger data also proposing a new work item related to the development of a new framework for its classification.

Georg Brameshuber

Georg is a Blockchain and DLT standardization expert actively involved in industry groups and regulatory initiatives. In Austria, he played a pivotal role in crypto tax reform, emphasizing fair tax regimes for crypto assets. Collaboration with ITSA, Blockchain4Europe, and DAAA showcases his dedication to fostering innovation and balanced regulatory frameworks. Georg will focus on custodian services within the Blockchain and DLT industry and their affect on regulatory obligations and operational risks for SMEs.

2. Blockchain standardisation contributions – created impact

As of April 2024, BlockStand has approved 17 proposals and 40 deliverables.

The contributions provided by the experts are fully aligned with the standardisation priorities set by the European Commission in key strategic documents such as the EU Rolling Plan for ICT standardisation 2024 and the Annual Union Work Programme. In doing so, BlockStand is not only enabling European leadership in global Blockchain standardisation but also ensures that internationally used Blockchain standards reflect European values and needs. In fact, through the coordination of experts' input related to Blockchain standardisation activities, the project is an essential means to prop up Europe's strategic autonomy. Moreover, the project is creating a Blockchain community comprised of all stakeholders which works in a continuous collaboration.

As already mentioned, the fields of work for the supported experts cover various topics of great relevance.

One of the most relevant is sustainability and the role that Blockchain applications could play in fostering a more sustainable approach. On this topic, in partnership with BlockStand, the DIGITAL SME Focus Group Blockchain has organised a Workshop "Environmental Sustainability of Blockchain" held in Brussels and online on 25th April 2024. The Workshop was organized at the initiative of the funded expert Belen Suarez Lopez with the aim of obtaining input from the industry on a draft Technical Report on Environmental and Sustainability Classification Methodology for Blockchain & DLTs. During the event a brief overview of the Technical Report under development to enable participants to comment and exchange ideas over it was shared.

New work items and standardization proposals pertaining to security, privacy, governance, identity, and web3, among other topics, will be introduced by supported experts across various Standards Developing Organizations (SDOs) at both the international and European levels. Substantial impact is anticipated through the publication of use cases, guidelines, and concrete references for training materials on the BlockStand website, which will subsequently be disseminated through pertinent channels. Some of these documents will be tailored specifically for SMEs, aiding them in enhancing their prospects of integrating Blockchain standards into their operations.

As the Project also aids experts in organizing and participating in various Technical Committees and Working Groups, significant impact in this regard is expected in the coming months. Experts are also encouraged to share their ideas, feedback, and updates on their work in BlockStand's Stakeholder Forum, which fosters better interaction among active individuals in the European Blockchain ecosystem. More than just a discussion platform, registered users have access to online seminars, training opportunities, and other relevant materials.

By interacting with other users – who may be from industry, academia, policy circles or others, new collaboration streams for cross-sectoral Blockchain solutions and standards will emerge.

2.1   Expected impact and support for European interests'representation.

The next paragraph will offer an overview on the expected impact of the contributions regarding various EU priorities, particularly focusing on the Rolling Plan for ICT standardisation. Additional details will be accessible through the deliverables, which will be publicly accessible on the website and D4.5 – Europe's Blockchain Leadership Outlook: contributions and successes (v2).

Julien Bringer

Julien will primarily concentrate on identifying existing gaps, use cases, and facilitating standardization processes while fostering collaboration among diverse stakeholders. His work aims to foster the development of EU-friendly solutions based on Blockchain and DLT, driving further innovation in the EU market and providing tools and regulatory considerations in different areas such as security, privacy, and identity. Furthermore, the activity seeks to promote constructive collaboration between different standardization working groups, including ISO/TC 307, ITU-T SG17, and CEN/CLC JTC19, to ensure that future international standards can be effectively leveraged in the EU market while aligning with existing EU frameworks such as GDPR, CRA, eIDAS v2, and EBSI.

Maria Lluïsa Marsal

Maria Luisa's work will contribute to the EU standardisation landscape addressing gaps, particularly in virtual worlds and smart cities domains also identifying use cases relevant to the EU ecosystem. It will also involve various areas of Blockchain standardization and expand existing works related to GDPR, ePrivacy, and eIDAS. Additionally, by crafting an all-encompassing standardization framework for web3-based identification mechanisms, encompassing metaverses, smart city tools, and identity protocols, her contribution will promote interoperability and the integration of open solutions.

Belen Suarez Lopez

Belen's work aligns with strategic priorities outlined in the EU Rolling Plan for ICT Standardization 2023, particularly focusing on the deployment of the Digital Product Passport, application of the Digital Services Act, and ensuring the reliable exchange of data. It also supports the identification of use cases relevant to EU regulatory requirements, specifically in the development of standards for environmental sustainability in Blockchain and DLT. The activity contributes to the EU's political goals, supports the European Standardization Strategy, and enhances the efficiency of public services with trusted applications and technologies for sustainable development.

Mickaël Gaborit

Through his work, Mickaël will foster the establishment of standardized frameworks for digital identity, certificates, e-signatures, and secure elements in Europe. This will promote seamless interaction among systems, enhancing connectivity and fostering a cohesive digital environment. Moreover, it will bolster cybersecurity by implementing consistent measures, thereby reducing vulnerabilities and fortifying protection against cyber threats. His work will also promote cross-border access to digital services within the EU, efficiency and accessibility.

Robin Renwick

Robin's work aligns with the EC Rolling Plan for ICT Standardisation 2023, particularly in supporting the ongoing development of two new PWIs within the ISO/TC 307/JWG4. These efforts directly impact harmonization elements related to DLT privacy technologies and assessment, as well as digital identity. Additionally, the proposal contributes to actions aimed at identifying relevant EU use cases, evaluating existing Blockchain/DLT implementations, and

supporting DLT standardization efforts at CEN/CENELEC. This includes the development of a classification methodology for environmental sustainability.

Jedediah Grant

Jedediah's work will contribute to the actions listed in the Rolling Plan for ICT Standardisation 2023 addressing policy objectives by focusing on trusted decentralized services and transparent transaction systems. Gap analysis, identification of use cases, collaboration with other organizations, and development of interoperability standards will be performed. Moreover, the contribution will contribute to fostering data security and authentication in line with EU regulations like GDPR and eIDAS. Overall, his work will provide a valuable contribution to the EU's goals of fostering interoperability, transparency, and governance in Blockchain and DLT technologies.

Steffen Schwalm

Steffen's work aligns with multiple actions outlined in the standardisation plan since it focuses on analysing standardisation gaps, identifies relevant use cases, defines comprehensive requirements for new work items. It also involves identifying Blockchain/DLT implementations in the EU, assessing the need for standardisation, supports the development of standards supporting the eIDAS2 proposal and conformity assessment criteria development for QTSPs and electronic ledgers.

Giampiero Zito

Giampiero's work will contribute to the actions outlined in the Rolling Plan for ICT standardisation and more broadly to the EU priorities providing an analysis of standardization needs, updating white papers, identifying relevant use cases, assessing implementations, and standardizing permissioned distributed ledgers. Additionally, a specific focus will be devoted to the collaboration among standardization organizations and the development of a governance framework for European DLT networks to facilitate smart contract flow. These actions collectively aim to promote interoperability, efficiency, and effective governance in the Blockchain/DLT ecosystem in the EU.

Paolo Campegiani

The proposed activity aims at supporting the goals of the eIDAS2 Regulation, aiming to provide decentralized identity to EU citizens thus supporting Europe's leadership in the field. By

providing technical expertise, Paolo will contribute to the development of a resilient and decentralized infrastructure.

Soumya Kanti Datta

Soumya's activity, focused on smart contracts, aims at enhancing interoperability, security, and reliability across Blockchain platforms, fostering trust and facilitating cross-platform transactions in the EU. This will provide a contribution to Blockchain adoption by reducing development costs and time and by making it more accessible to businesses. Moreover, standardized contracts ensure legal compliance, particularly crucial for international transactions and supply chains, promoting enforceability and regulatory adherence.

Limara Haque

Limara's report will showcase how DAOs contribute to societal challenges, align with European values, and enhance various Sustainable Development Goals (SDGs). By addressing interoperability challenges and regulatory implications, Limara's work will assist regulators in governing DAOs effectively, ensuring transparency, accessibility, and compliance with EU standards. Additionally, it will highlight the transformative nature of DAOs in governance and their potential to promote a more democratic and sustainable life for EU citizens.

Markus Sabadello

Markus' work is closely linked to eIDAS 2.0 regulation, EU Digital Wallet initiatives and the activities developed within the European Blockchain Service Infrastructure (EBSI) and the European Self-Sovereign Identity Framework (ESSIF).

Olvis Enrique Gil Rios

Olvis Enrique's contribution will address key areas such as interoperability, security, privacy, and regulatory compliance thus supporting the EU's objectives of fostering innovation, enhancing cybersecurity, ensuring regulatory compliance, and promoting sustainable growth in the digital economy. Ultimately, his activity contributes to creating a cohesive digital single market, fostering financial inclusion, and enabling businesses, particularly SMEs, to thrive in the global digital landscape.

Michal Kit

Michal's activity aligns with the EU Rolling Plan for ICT Standardisation 2023 addressing standardization gaps and guiding the selection of permissioned Blockchain solutions. It will offer

a structured framework for evaluating scalability, security, consensus mechanisms, and interoperability, aiding informed decision-making.

Jerome Pons

Jerome's work aligns with the EU Rolling Plan for ICT standardisation 2023 by addressing actions related to identifying relevant use cases and assessing CO2 footprint, ICT Environmental Impact by supporting standards development to support UN SDGs, and Circular Economy by engaging in standardization activities for circular economy objectives, including the Digital Product Passport.

Petko Karamotchev

The proposed standardization activities align closely with and actively contribute to various EU actions outlined in the EU Rolling Plan for ICT Standardisation addressing key actions such as analyzing standardisation gaps and relevant use cases, assessing the need for standardisation, coordinating among SDOs, developing governance frameworks, and supporting eIDAS2 requirements. By focusing on interoperability, security, and compliance with EU regulations, these activities lay a solid foundation for a secure, interoperable, and regulatory-compliant Blockchain ecosystem in the EU.

Georg Brameshuber

The proposed activities, including the development of a Technical Report on Custody Solutions Framework, SME Guidelines for Custodian Services, and educational blog posts, closely align with the Blockchain/DLT standardization priorities outlined in the Rolling Plan for ICT Standardisation 2023. They contribute to enhancing digital trust and security, supporting SMEs and innovation, and raising awareness and understanding of ICT standards within the Blockchain and DLT industry, thereby advancing standardization and interoperability as per the plan's objectives.

2.2   Expected sustainability impact

As briefly mentioned, overall, experts' initiatives aim to foster a resilient and environmentally responsible economy. The following paragraph will provide a brief overview of the expected impacts of the contributions concerning sustainability. More information will be made available through the deliverables, which will be publicly released on the BlockStand website and in the D4.5 – Europe's Blockchain Leadership Outlook: contributions and successes (v2).

Experts' deliverables will address the following topics related to sustainability, promoting environmental sustainability and the adoption of greener practices within the context of Blockchain and DLT solutions:

- green public procurements, sustainability reporting, regulatory proposals for environmental sustainability and internal market mobility;

- circularity, the green and digital transition, and the greening of the European economy by addressing the environmental impact of Blockchain and DLT solutions;

- encourage the use of energy-efficiency consensus mechanisms in Europe, reducing energy consumption in both permissionless and permissioned deployments;

- establishment of energy-efficiency labels for Blockchain and DLT;

- encourage decentralized energy markets, improve waste management by providing data on product recycling and promote transparency in supply chains, encouraging greener practices and reducing overproduction;

- promote eco-friendly technologies and reduce greenhouse gas emissions;

- facilitation of the selection of environmentally responsible Blockchain solutions thus fostering a resilient and environmentally responsible economy.

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