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## D2.2 OPEN CALL SPECIFICATION AND LAUNCH DOCUMENTS OPEN CALL 2

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## EXECUTIVE SUMMARY

This report is the deliverable “D2.2 – Open Call Specifications and launch package documents” of the European project “TrustChain– Fostering a Human Centered, Trustworthy and Sustainable Internet”. It provides the necessary documents for the successful execution of the TrustChain Open Call 2. The documents are included as Annexes and depict the TrustChain background as well as all the specifications and support material for the applicants related to TrustChain open call 2. It follows the order presented hereafter:

- **Annex 1: TrustChain background** - It is intended to provide a technical background to potential applicants of the 5 Open calls activated by TrustChain.
- **Annex 2: TrustChain Call Announcement** - This is the reference document for the European Commission that can be used to disseminate the call on proper websites (i.e. funding and tenders Portal of the European Commission, Specific publications, etc.)
- **Annex 3: TrustChain Guide for Applicant** - This is a step-by-step guide with detailed information on the application process. The Applicants are presented the call’s specific scope, eligibility criteria, expected projects’ types, preparation and submission guidelines as well as the communication flow and evaluation process.
- **Annex 4: TrustChain Administrative form and additional applicant’s template** - This is a document presenting all the questions and disclaimers the Applicants need to complete online in order to submit their entries for TrustChain Open Call 2 Experiments as well as a template to be fill if natural persons or legal entities are more than 3 for the same application. This latest template, once completed, is to be attached as a PDF file to the online Application Form.
- **Annex 5: TrustChain Proposal Description template** - This template document presents all the elements to be described by the Applicants in their proposal. This template, once completed, is attached as a PDF file to the online Application Form.
- **Annex 6: TrustChain Frequently Asked Question (FAQs)** - This document lists some of the most popular questions related to TrustChain Calls, available in a form of a repository of knowledge, supporting the Applicants during the application process.

The Guide for Evaluators is a confidential document; hence it is not included in this deliverable. It is for external experts hired to assess the Applicant’s proposals. It includes detailed information on the scoring process, regulations and scheduling during the evaluation as well as the evaluators’ obligations and registration requirements.

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## ANNEX 1- TRUSTCHAIN BACKGROUND

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## EXECUTIVE SUMMARY

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This document is intended to provide a technical background to potential applicants of the cascading calls activated by TRUSTCHAIN. The Next Generation Internet (NGI) is a European Initiative for building an Internet for Humans that respects fundamental human rights, including the values of privacy, participation and diversity. TRUSTCHAIN – Fostering a Human-centered, Trustworthy and Sustainable Internet is a 3-year project funded by the European Commission under the Horizon Europe Research and Innovation program (GA 101093274), which aims to create a portfolio of Next Generation Internet protocols and an ecosystem of decentralized software solutions that reach the highest standards of humanity such as those chartered by the United Nations including the respect of human rights, ethics, sustainability, energy efficiency, our care for the environment and our respect for the World's cultural history.

The digital era and existence of the internet is revolutionizing our health, our wellbeing, our social life, our education, our information. Spirit of the first-generation Internet based on individual freedom and material progress. Nowadays, essential ethical and democratic principles that should underline this technology are at stake. The design choices of the past based on a mix of centralized networked and device-based technologies, makes today's Internet obsolete when it comes to empowering all citizens to act in/for the green and digital transitions, as well as to create a more resilient, inclusive and democratic society, addressing inequalities and human rights, prepared and responsive to threats and disasters.

For TRUSTCHAIN, the current emergence of Internet of Things (IoT), Decentralized Oracles, Artificial Intelligence (AI), Cloud-to-Edge (aka Fog) Computing, Distributed Ledger (DLT) and Digital Twin (DT) technologies created the need to build democratic systems without central points of control that can establish the missing link between universally agreed objectives in the physical world, and the digital representation of the reality, thus contributing to the realization of trusted relationships in the Next Generation Internet. This can be achieved by using various consensus mechanisms that associate proofs with digital representations and thus help humans understand the objective truth, achieve trusted relationships on the digital world, allowing them to undertake well-informed decisions, in either a manual or automated manner. The ability to arrive at the objective truth by employing democratic governance mechanisms, consensus-based proofs, verification and certification can lead to a Next Generation Trusted Internet supporting humanity in all aspects of life. Today more than ever, challenges faced all over the world push for our society to reorganize itself to survive. The United Nations has called to reach 17 Sustainable Development Goals. Essentially, TRUSTCHAIN must be leveraged to embed in the Next Generation Internet principles of human-rights, sustainability, ethics and other human values that have been developed and maintained through long lasting centuries of human evolution.



Through its five Open Calls, TrustChain will support top Internet innovators (academies and high-tech companies) with a total amount of 8,8 M€ distributed with focus on :

1. Decentralized digital identity,
2. User privacy and data governance,
3. Economics and democracy, and
4. Multi chains support for NGI protocols, and
5. Green scalable and sustainable DLTs.

The 5 Open Calls are the following:

○ **Open Call 1- Decentralized digital identity**

The overall objective of Open Call 1 was to define and develop:

- A framework for decentralized user-centric identity management;
- Protocols for trustworthiness assessment of entities and their data by means of verifiable credentials and decentralized reputation systems;
- Smart oracles assessing the trustworthiness of data. This is the main focal point of this call.

○ **Open Call 2- User privacy and data governance**

The objective of this OC is to develop tools, cryptographic mechanisms, and other algorithms for data handling and sharing as well as for the management of data lakes in compliance with the GDPR and other regulations that implement techniques such as:

- Multi-party data sharing mechanisms
- Federated learning mechanisms considering both vertical and horizontal frameworks
- Encrypted data analytics based on homomorphic encryption
- Secure and privacy preserving data analytics mechanisms
- Privacy-preserving usage of Artificial Intelligence, IoT, Digital Twins, Cloud-to-Edge services, or combination of those

- **Open Call 3- Economics and democracy**

The objective of OC3 will be to define and build mechanisms for smarter data exchange and data trading as well as innovative win-win federated business models' open data.

- **Open Call 4- Multi chains support for NGI protocols**

OC4 goal will be to design and build the gateways that will make it possible to transfer knowledge/metadata/data/process/requirements from one chain to another in a trustworthy and secure manner. Interoperability across multiple chains will be a cornerstone in this call.

- **Open Call 5- Green scalable and sustainable DLTs**

This call will build on top of all past OC1-4 calls. Its objective will be to employ digital identities, trustworthy data, and already designed novel mechanisms for the ecosystems' economy, in order to achieve high energy efficiency and optimization of DLTs. We are looking for the most appropriate, relevant and pertinent trade-offs between the use of technologies, the security of consensus protocols on one side, and the sustainability and energy efficiency requirements on the other.

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## 1. INTRODUCTION

“The overall mission of the Next Generation Internet initiative is to re-imagine and re-engineer the Internet for the third millennium and beyond. We envision the information age will be an era that brings out the best in all of us. We want to enable human potential, mobility and creativity at the largest possible scale – while dealing responsibly with our natural resources. In order to preserve and expand the European way of life, we shape a value-centric, human and inclusive Internet for all.”<sup>[1]</sup>

The Internet has turned our existence into the digital era, revolutionizing our health, our wellbeing, our social life, our education, our information. However, multiple threats related to truthfulness, trust and identity (ID) have been identified when people interact in this digital world: delusion and manipulation, personal privacy violation & personal data exploitation, unknown provenance of information, anonymity in favor of criminal activities, biases in AI algorithms, spread of fake news, skills mismatches, serious breaches of security to mention some of them.

The spirit of the first-generation Internet based on individual freedom, material progress, and moral community is slowly turning to individualism, materialism, and moralism, diverging also from essential ethical and democratic principles that should underline this technology. The design choices of the past based on a mix of centralized networked and device-based technologies, makes today's Internet obsolete when it comes to empowering all citizens to act in/for the green and digital transitions, as well as to create a more resilient, inclusive and democratic society, addressing inequalities and human rights, prepared and responsive to threats and disasters.

<sup>[1]</sup> “Next Generation Internet 2025. A study prepared for the European Commission DG Communications Networks, Content & Technology” <https://nlnet.nl/NGI/reports/NGI-Study-ISBN-9789279864667.pdf>

The key hypothesis investigated by TrustChain is that with the emergence of Internet of Things (IoT), Artificial Intelligence (AI), Cloud-to-Edge computing, Distributed Ledger (DLT) and Digital Twin (DT) technologies, and their proper use, created the need to build democratic systems without central point of control that can establish the missing link between our common perception of objective truth in the physical world, and the digital representation of the reality, thus contributing to realization trusted relationships on the Next Generation Internet.

This can be achieved by applying various consensus protocols that associate proofs with digital representations and thus help humans understand the objective truth, achieve trusted relations on the Internet, and consequently undertake well-informed

decisions, being manual or automated. The ability to arrive at the objective truth by employing democratic governance mechanisms, consensus-based proofs, verification and certification may lead to a Next Generation Trusted Internet supporting humanity in all aspects of life.

Today more than ever, challenges faced all over the world push for our society to reorganize itself to survive. The United Nations have called to reach 17 Sustainable Development Goals.\* Essentially, our present knowledge of technology (IoT, AI, Cloud-to-Edge, DLT, DT etc.) must be leverage , in order to embed in the Next Generation Internet principles of human-rights, sustainability, ethics and other human values that have been developed and maintained through long lasting centuries of human evolution.

\* UN's Sustainable Development Goals, <https://sdgs.un.org/goals>

## ○ Internet Threats Today

Currently, the society organization, the governance and the policies structure a framework to facilitate free speech and private enterprise; nevertheless, it cannot from its current standpoint, assure that any bias or systematic abuse of global trust is avoided. Moreover, the success of the Internet lies in permission-free innovation, openness, interoperability and the non-limitation of choices. At the same time, there are specific indications that the trade-off between openness and trustworthiness is questioned. More specifically in day-to-day interactions of people with the Internet, the following threats summarized in the table have been identified:

- **Centralization of power:** Innovative ideas and uniqueness of their services offering made many popular websites such as Google, Facebook, YouTube and Amazon emerge into robust centralized platforms. Even though the Internet started as a truly decentralized network, balance of power has been broken by the dominating services that now support the Internet. The networks of today are completely centralized, with the power of information and knowledge being in the hands of only a few actors. This concentration of power has made these few companies the gatekeepers of knowledge and information, which the public now has no choice but to trust in order to use knowledge and information in a responsible and fair manner. Keeping the knowledge and ontologies for themselves while serving them to billions of users, the gatekeepers can easily dictate what is true and what is false.
- **Unknown provenance of information:**<sup>[2]</sup> We all make daily decisions, short and some even long-term plans on the basis of information we find on the Internet (What will the weather be like on my holiday? What are the market trends for the neighbourhood in which I am planning to buy a new family home? What food sources are healthy for me? What drugs are related to causing cancer?).

The provenance of information (source, source credentials, trustworthiness and reliability, information dissemination path) coming from reliable and unreliable sources is hard, slow, and costly to verify. Also, the quality of the information in question is often uneven and unassessed. Someone with no credentials or expertise but with a large community gets high credibility on social networks and ultimately in mainstream media. Misinformation and mal-information get shared and propagate to unforeseeable extent. Given the right platform any information can appear as legitimate, and conflicts are often resolved unfairly. Even with a fair ontology (fair governance and recording process) information can be corrupted by malicious storage and network, or by censorship. With misinformation creating a new world disorder,<sup>[3]</sup> the time for addressing data traceability and provenance is long overdue.

- **Anonymity and unreliable identities:** The practice of publishing anonymously or pseudonymously has a long history in the arts, particularly in literature and journalistic or political writing. Even though there is no way to be truly anonymous on the Internet today there is a need to retain at least some amount of anonymity and protect the privacy of the people who need it. Fear of judgement, condemnation and retribution with the absence of identity protection will lead to a culture of fear and censorship, moving us away from the fundamental European values. Removing anonymity from the Internet should not be addressed as part of the effort to mitigate information disorder. Even with the anonymity removed, the issue of misinformation will remain: real people can and will provide false information for different reasons. Trustworthiness of different pseudo-identities should be properly assessed to mitigate misinformation. Moreover, to enable users to manage their own data and to facilitate anonymous trustworthy interactions, decentralized identity verification based on multiple attributes should be provided.
- **No fair rewards for good quality contributions:** Linked the remuneration issue is the problem of evaluating the quality of each single contribution (e.g. scientific paper, report, etc.). Various platforms publicly expose users' ratings as metadata over the public internet (e.g. rating of restaurants from Google, customer reviews for other goods and services like books from Goodreads.com), typically relating to the profile of single users. This model is flawed in two ways; first, it allows spam to mislead prospective consumers, while past consumers have little incentive in providing their feedback; second, the revenue that service providers make are not shared with the users that took the time to provide feedback. Beyond simple customer ratings and reviews, this problem applies to the reuse of users' contributions in all online services, and in social networks. The main challenge here is to filter spam out to incentivize and reward quality contributions. On the ground of better content quality control, supporting quality reward systems brings together the concepts of truthfulness between multiple users on the one hand, and cryptocurrencies on the other. This feature, which is lacking in the

open Internet and that is a focus of NGI, will sparkle a new, fair ecosystem of high-quality user-generated content.

- ***Bias in AI software:*** The under-representation of some social groups (Black, Asian and Minority Ethnic, people with handicap and victims of discrimination in general) both in privately owned companies and in governments de facto excludes those groups from contributing to ethical questions and discussions. For example, Amazon's recruiting engine was shelved because it was shown to unfairly discriminate against potential female hires. In 2015 Google's image search software identified a black software developer and a friend as gorillas. Identifying and mitigating bias in AI systems is essential to building trust between humans and machines that learn. As AI systems find, understand, and point out human inconsistencies in decision making, they could also reveal ways in which we are partial, parochial, and cognitively biased, leading us to adopt more impartial or egalitarian views. In the process of recognizing our bias and teaching machines about our common values, we may improve more than AI. We might just improve ourselves.
- ***Trustworthy blockchain service interoperability:*** Today there are hundreds of active blockchain projects in the GitHub repository. Dozens of new projects are emerging each year, competing among each other in the somewhat futile task of developing the "best" blockchain. Often, they would emphasize their product's alleged market readiness, arguing that it is secure, scalable and compared to a supposed rival. Regardless of whether their claimed characteristics are true or not, those projects represent stand-alone, disconnected blockchains. They entail different ecosystems, hashing algorithms, consensus models and communities. As a result, the blockchain space is becoming increasingly siloed and its core philosophical concept, the idea of decentralization, is being undermined. Focusing on trustworthy information exchange between multiple blockchains without an intermediary in the process, as well as integration with existing systems would allow them to be exploited to their full potential. This is the way to go, as according to Forrester's predictions for the DLT for the year 2020 interoperability is taking central stage.

<sup>[2]</sup> <https://science.sciencemag.org/content/359/6380/1146>

<sup>[3]</sup> <https://www.scientificamerican.com/article/misinformation-has-created-a-new-world-disorder/>

## 2. SPECIFIC OBJECTIVES

The TrustChain considers Distributed Ledger Technologies (DLTs) and especially Blockchain to have potential to shape in a decentralised manner, a greener, more secure and resilient digital future. These technologies can fundamentally transform our global society whether socially, environmentally, culturally and economically. Most importantly, it can respond to the current needs of our society in terms of identity, privacy, security and user control of their digital life. Their relevance to a number of different domains including financial, governance, health, education, business and industry has been already in part demonstrated, but limitations persist to make them efficient building blocks of the future Internet: a human centric, trustworthy, greener, more secure and resilient Internet.

The overall objective of TrustChain is to create a portfolio of Next Generation Internet protocols and an ecosystem of decentralised software solutions that reach the highest standards of humanity such as those chartered by the United Nations including the respect of human rights, ethics, sustainability, energy efficiency, our care for the environment and our respect for the World's cultural history.

TrustChain will tackle several challenges pertaining to trustworthy and reliable digital identity, to resilient, secure and reliable data pathways, to economics and trading of data, to energy efficiency for data storage, transport and sharing, to seamless services and data flows. A new trustworthy data governance and sharing model in line with the European regulatory framework and taking into account European values will be developed that will ensure Trusted Data Ecosystems.

To achieve this overarching goal, TrustChain will pursue the following key specific objectives, addressing many of the challenges listed in the call as well as providing one step further beyond the state of the art. They will guide 5 Open Call development and are systematically related to them as well as to the key exploitable results intended for.

- **Specific Objective 1: Empowering citizens, civil society and organisations to better govern their online data thanks to a human centric approach**

Aligned with Data Governance Act and the GDPR, TrustChain intends to empower citizens, civil society and organisations to better govern their online data thanks to a human centric approach. Citizens and organisations perceptions will be the centre of all TrustChain interventions. Third party innovators will be guided through the human centred approach to be implemented and supported with a framework to follow all along their experiment for adopting users requirements and users validation. User perception of data security, privacy and trust will be investigated before internet solutions towards security and privacy actions are developed and offered to them. The framework includes: 1-Tackling the conceptual understanding of data security, privacy and trust as well as the social constructions around them, 2-Understanding how online trust is built by citizens/organisations, 3- Investigating the difference between what



citizens/organisations know to be the best practices and what they really do when the time comes to make decisions during their online interaction. Once those three concepts will be understood within the societal context, crucial specific elements around human centric approach will be tackled: democracy and trust, economics/business for online data sharing; trust on the Internet and democratic organisation; green processes and energy efficiency on the Internet.

- **Specific Objective 2: Ensuring individuals self-sovereign identity and virtual identity management**

Aligned with the existing regulation, TrustChain will foster new use-cases for digital identity such as remote working, skill matching or remote presence; enable flexible access control to identity data and robust credential verification; create a fully decentralised identity management system where the end user is in full control; include secure and privacy preserving mechanisms by design; make the identity management available via multiple digital and non-digital interfaces (e.g., paper-based, smart cards, phones) and practical and easy to use for everyone, including vulnerable and non tech-savvy population.

- **Specific Objective 3: Ensuring data privacy and resilience with secure and trustworthy data pathways**

TrustChain will follow a privacy-by-design and a security-by-design approach towards a market framework for the privacy-aware and secure data exchange, which deals with the predicament between user privacy versus commercial exploitation of personal data. The framework will systematically take into account the stakeholders' *incentives* and *concerns*: Data contributors will be compensated by data clients in direct proportion to the usefulness of the data for the client's purposes. Personal data aggregators, e.g., super markets, ISPs, utility companies, etc., will be able to participate in this market as data providers, provided that the real data owners are explicitly informed for the data exchange, the privacy-leakage for the data owner is measured and controlled by means of privacy enhancing technologies, the data exchange is protected by means of a certain service level agreement (verifiable by blockchain technology), and an appropriate compensation is given to the data owner. At the same time, personal data will be appropriately protected to a degree that satisfies the contributors' privacy concerns. Market clearance will happen only if the degree of data protection desired by the contributors is compatible with the degree of data accuracy desired by the collectors. TrustChain will provide support for both implicit and explicit (and dynamic) elicitation of *user consent* for the use of her/his data. Data transactions will be recorded in the blockchain for data transfers and handling. Data handling should be ensured to be done according to the contract and in compliance to GDPR requirements.

○ **Specific Objective 4: Ensuring trust on the Internet and empowering citizen with online democratic organization and mechanisms**

Assessing the trustworthiness of entities and data is the main focus here. Moreover, reaching coordinated outcomes, e.g., rulesets, in decentralized settings (or virtual organizations) are also of key interest. Identities of different entities and their verifiable credentials (VCs) will be employed, and potentially combined with “word- of-mouth” social reputation systems. Different distributed consensus mechanisms, e.g., Proof of Work, Proof of Stake, Proof of Location, etc., which provide trustworthy evidence on different aspects of reality come into play. For example, Proof of Location provides convincing evidence on the real location of a device. Moreover, mathematical modelling that assess data trustworthiness based on redundant data sources are also relevant towards this objective. Real world data can be employed in blockchain smart contracts by means of data oracles. Unless this data is trustworthy, employing DLT technology for enhancing transaction trustworthiness is in vain.

○ **Specific Objective 5: Developing new business and sustainable models for data sharing and online services exchange based on decentralized technologies and open source**

The project intends to provide analyses, toolkits, building blocks and libraries (SDKs and APIs) in the blockchain domain for economically sustainable data and services exchange. More specifically, it will aim to:

- Define elaborate sustainable business models for data exchange.
- Employ data tokenization for data value sharing and royalties.
- Define data valuation and pricing mechanisms.
- Define algorithms, mechanisms and frameworks for SLA compliance checking through smart contracts and oracles.
- Define and implement market mechanisms for data exchange, i.e., data transactions, data supply chain management, micropayments, billing, etc.

○ **Specific Objective 6: Ensuring greenness and energy efficiency of the TrustChain ecosystem of decentralized software solutions**

The project intends to provide analyses, approaches, protocols, toolkits and libraries (SDKs and APIs) towards:

- Designing and developing novel energy-efficient decentralised and permissionless, scalable consensus protocols and blockchain networks

- Enabling incentive mechanisms and tokenomics to motivate the use of green energy in blockchain
- Supporting a green digital transformation in various domains (e.g. energy trading, e-mobility, etc.) by establishing trustworthy and transparent energy policies that will be enforced with fast, verifiable and tamper- proof P2P energy transactions
- Enabling novel market models and energy democratization
- **Specific Objective 7: Interoperable DLT protocols and standardisation for decentralised Internet services and protocols**

There are very few projects that currently facilitate a decentralized Internet (e.g. TOR, Decenternet). As the idea grows more popular among citizens of countries with totalitarian or authoritarian governments whose lives are on stake, and journalists that perform anonymous research while working on hard-to-break cases, such policies, protocols, standards and platforms will be of high demand. The project aims thus here to:

- define and deploy new interoperability solutions and protocols for inter-chain seamless communication, and state/value exchange;
- contribute towards standardization activities on semantic/syntactic interoperability across blockchains, and on decentralized Internet protocols and services.
- **Specific Objective 8: SO8-Building and sustaining a European ecosystem of top Internet innovators, setting the course of the Internet evolution according to a human-centric approach.**

Based on the above context, TrustChain aims to bring together citizens, the civil society, organisations, Internet innovators to cross fertilise their views, knowledge, skills to explore novel concepts, technologies and innovative future interoperable Internet decentralised solutions in order to set the course of the Internet based on EU values and digital strategies and addressing its current limitations including those related to scalability, interoperability, energy efficiency, privacy and security. To be effective, the framework for cooperation organised around five open calls will be as flexible as possible, will foster easier entry into collaboration thanks to relevant agreements and last but not least will ensure sustainability of the collaboration beyond the lifetime of the project thanks to a pertinent business model and exploitation plans. Third party innovators supported by the TrustChain core consortium will be invited to propose open source technologies and innovative concepts according to the 5 open calls topics

and develop the TrustChain framework in collaboration with the citizens, the civil society, and organisations that will define the needs. On top of the funding support to the third parties innovators, the fruitful collaboration with them will be also ensured by training, mentoring and coaching around key specific disciplines such as e.g. latest decentralized Internet technologies, cyber security, user centric design approach to innovation in the digital sector and communication to raise awareness around innovation.

### 3. CONCEPT AND METHODOLOGY

The internet has had a profound impact on our lives, revolutionizing the way we communicate, learn, and access information. However, this digital revolution has also created new threats to truthfulness, trust, and identity. One of the most significant threats posed by the internet is the spread of misinformation and disinformation. This can be done through fake news articles, social media posts, and even deepfake videos. Misinformation can have a real impact on people's lives, leading them to make bad decisions or even take harmful actions.

Another threat posed by the internet is the erosion of privacy. The internet makes it easy for people to share personal information, and this information can be used by criminals or other bad actors to track, target, or exploit people. Finally, the internet makes it easy for people to create fake identities. This can be used for a variety of purposes, including fraud, identity theft, and even terrorism.

These threats are a serious challenge to our society, and we need to find ways to address them. One way to do this is to educate people about the dangers of misinformation and disinformation. We also need to strengthen privacy laws and regulations, and make it more difficult for people to create fake identities.

In addition to these measures, we also need to rethink the way we design the internet. The current design is based on a centralized model, which makes it easy for bad actors to control and manipulate information. We need to move towards a more decentralized model, which would make it more difficult for bad actors to control the flow of information. The internet has the potential to be a force for good in the world, but it is important that we take steps to protect ourselves from the threats it poses. By working together, we can create a safer and more secure internet for everyone.

There exist the following threats to truthfulness, trust, and identity in the digital world:

- **Delusion and manipulation:** The internet has made it easier than ever for people to be deceived. With the click of a button, we can access information from all over the world, and it can be difficult to tell what is true and what is not. This can lead to people being misled about important issues, such as politics, health, and science.

- **Personal privacy violation & personal data exploitation:** The internet has also made it easier for people to have their privacy violated. When we use online services, we often give up personal information without realizing it. This information can then be used by companies to track us, target us with advertising, or even commit identity theft.
- **Unknown provenance of information:** The internet has also made it difficult to know where information comes from. When we read an article online, we often don't know who wrote it or who published it. This can make it difficult to assess the credibility of the information.
- **Anonymity in favour of criminal activities:** The internet also makes it easier for people to commit crimes anonymously. This is a problem for law enforcement, as it makes it difficult to track down criminals and bring them to justice.
- **Biases in AI algorithms:** Artificial intelligence (AI) algorithms are increasingly being used to make decisions about our lives, such as what jobs we get, what loans we qualify for, and even who we are matched with on dating apps. However, these algorithms can be biased, which can lead to unfair treatment.
- **Spread of fake news:** The internet has made it easier than ever for fake news to spread. With the click of a button, we can share news stories with our friends and followers, even if they are not true. This can have a real impact on our society, as it can lead to people making decisions based on false information.
- **Skills mismatches:** The digital revolution is changing the skills that are needed for employment. As a result, many people are finding themselves with skills that are no longer in demand. This can lead to unemployment and economic hardship.
- **Serious breaches of security:** The internet is a target for hackers, who are constantly looking for ways to steal personal information or disrupt computer systems. These breaches can have a devastating impact on individuals and businesses.

These are just some of the threats to truthfulness, trust, and identity in the digital world. It is important to be aware of these threats so that we can take steps to protect ourselves.

The primary focus of TrustChain is to investigate the core hypothesis that the emergence of Internet of Things (IoT), Artificial Intelligence (AI), Cloud-to-Edge computing, Distributed Ledger (DLT), and Digital Twin (DT) technologies has created the necessity to construct democratic systems that operate without a central point of control. These systems aim to bridge the gap between our collective understanding of objective truth in the physical world and the digital representation

of reality. By doing so, they contribute to the establishment of trusted relationships within the context of the Next Generation Internet.

To accomplish this objective, TrustChain proposes the utilization of various consensus protocols that link proofs with digital representations. This approach facilitates human comprehension of objective truth, fosters trusted relationships on the Internet, and enables well-informed decision-making, whether manual or automated. The ability to attain objective truth through the application of democratic governance mechanisms, consensus-based proofs, verification, and certification has the potential to give rise to a Next Generation Trusted Internet that supports humanity across all facets of life.

In the present era, global challenges are urging society to reorganize itself in order to ensure its survival. The United Nations has advocated for the achievement of 17 Sustainable Development Goals.<sup>1</sup> Essentially, our current understanding of technologies such as IoT, AI, Cloud-to-Edge computing, DLT, DT, and others must be harnessed in order to incorporate principles of human rights, sustainability, ethics, and other enduring human values into the Next Generation Internet. These values have been developed and upheld throughout centuries of human evolution.

### 3.1 THE PROJECT'S OVERALL METHODOLOGY AND OPEN CALLS

TrustChain is a cascade funding project organised into 5 carefully crafted open calls. The overall idea of the open calls is to establish a technological framework that addresses the objectives of the project.

- **Open Call 1 (OC1):** Today, the digital identity is an essential component of any application and computing system. The digital identity is usually established by mechanisms of proving a secret that we have (e.g., password), what we possess (e.g., an identification card) or what we are (e.g., biometric data). However, in the complex world of today a much stronger and more fine-grained Decentralised Identifiers (DIDs) are necessary to be used in order to achieve privacy on one hand, and security on the other. Capability to autonomously manage different facets of identity brings light to Self-Sovereign Identities (SSIs). The trustworthiness and/or credentials of SSIs or DIDs cannot be taken for granted, but should be assessed by means of verification from certification authorities or by means of decentralized reputation mechanisms. The Decentralised Identifiers (DIDs) and the Verifiable Credentials (VCs) are also emerging standards of the Semantic Web. Moreover, the credibility of data shared online or employed in smart contracts in the blockchain is questionable and it should be assessed. Trustworthy decentralized identities and data are the focus of Open Call 1 (OC1) on “Decentralised Digital Identity”.
- **Open Call 2 (OC2)** on “User privacy and data governance” will deal with user privacy protection, data identification, data access control, personalized data

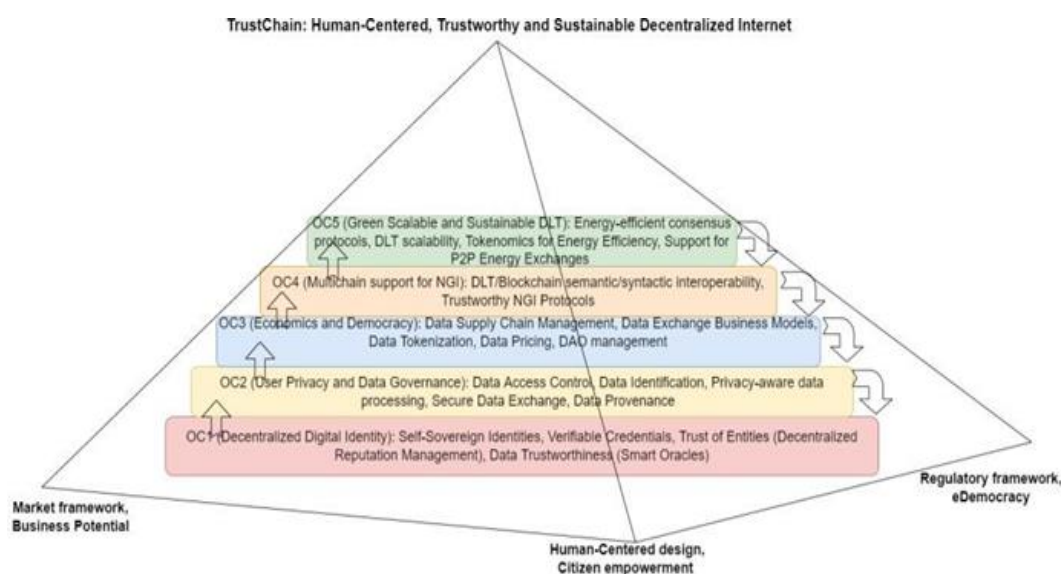


management in decentralized data stores or “datapods”, secure data exchange, privacy-aware data processing and data provenance. OC2 is designed to explore new, DLT and cryptography assisted ways of establishing privacy, security and other properties of data in specific data management processes. Obtaining records (verification, certification) of policy-compliant (e.g. GDPR- compliant) data processing activities in industrial and social settings will be explored and the most successful mechanisms will be funded.

- **Open Call 3 (OC3):** Economics and democracy is designed to facilitate an ecosystem economy of data and associated services. Here, on our semantic marketplace data will be accompanied with quality proofs, verification and certificates, so that the value of such data can be established by using inherent and external properties and the wider usage context. Data supply chain and data tokenization for value sharing will be investigated. Data price determination schemes will be defined. Various democratic means (e.g., Decentralized Autonomous Organizations, DAOs) of establishing data management policies will be explored. The use of tokenomics (such as various ERC-20, 721, 1155 tokens) would be also explored throughout the data lifecycle.
- **Open Call 4 (OC4):** The transfer of value including the transfer of data (and/or state) from one ecosystem to another will be explored by the OC 4. Multi chains support for NGI protocols. In order to address the blockchain interoperability issues, the project will consider different blockchain networks, such as Ark, which uses Smart Bridges architecture to address this challenge, plus cross-blockchain communication and transfers. In addition, TrustChain will consider techniques from Cosmos, which uses the Inter Blockchain Communication (IBC) protocol to enable blockchain economies to operate outside their silos and can transfer files between each other. TrustChain will contribute to standardization efforts towards cross-chain syntactic/semantic interoperability. To overcome the challenges to integrate blockchain with the legacy systems, the project will explore new solutions, such as Modex<sup>33</sup> so that some of the interoperability and privacy issues can be overcome. Moreover, this open call will procure more secure and decentralized Internet protocols with blockchain support, e.g., BGPChain.
- Finally, **Open Call 5 (OC5):** Green scalable and sustainable DLTs is designed to explore the properties of the new ecosystems from the viewpoints of identity management, data trustworthiness, scalability and sustainability. Most of the blockchain technology uses Proof of Proof-of-Work (PoW) as consensus mechanism for validating transactions. However, these protocols require users to solve complex mathematical puzzles, and require tremendous computing power to verify and process transactions and to secure the network. To overcome this issue, the project will develop more efficient consensus algorithms that are less energy taxing, e.g., Proof-of-Stake (PoS). The project will also explore scalability solutions, such as the Lightning Network<sup>34</sup>, which consists of adding a second layer

to the main blockchain network to facilitate faster transactions. In addition, it will consider sharding the group subset of nodes into smaller networks or ‘shards’ which can then be responsible for the transactions specific to their shards. Towards energy sustainability, this open call will also investigate incentive mechanisms for using greener energy and protocols for P2P energy exchange in various sectors.

All funded third-party projects in the open calls will be steered by the core consortium towards following a human-centered approach in compliance with the regulatory framework and that properly fits to the market framework, i.e., each fund third-party project will have a useful, legal and commercially viable end product. The overall structure of the open calls is summarized in the figure below. Note that each OC provides input to the subsequent ones, while also the opposite way of interaction can be followed by subsequent calls, e.g., OC2 to pose some additional requirements for the final outcomes of OC1 projects.



The methodology of TrustChain is carefully designed in a way it is not significantly harming any of the six environmental objectives of the EU Taxonomy Regulation presented hereafter.





### 3.2 TrustChain Open Calls and Intervention Logic with Third Parties Innovators

TrustChain aims to support cross-collaboration in the conceptualization, development, experimentation, and integration of new Blockchain technologies that aim to ensure energy efficient, resilient, seamless, secure and reliable data flows while preserving the integrity and reliability of the information shared on the Internet as well as ensuring trustworthy and reliable digital identity for the benefit of the citizens, organisations, industry and governments. Last but not least they should allow innovative market mechanisms for data exchange and data trading for the benefit of the data owners.

Overall, the purpose of the 5 open calls is to:

- Attract and engage as many Blockchain & DLTs technology researchers, startups and SMEs.
- Leverage the development of new research fields and innovative products/service applications.
- Build upon existing tools.
- Implement and feedback on Project new business models.
- Boost the innovative research topics, experiments, and applications, broadening the portfolio of the TrustChain offers.
- Increase outreach towards new regions and enhance the TrustChain concept footprint towards exploitation.
- Ensure that potential market barriers are removed through validated demonstrations.

TrustChain value proposition for attracting third parties will be as follows:

- EU Funding up to €117.000 per sub-grantee,
- Access to mentoring and coaching for scaling up innovative business and/or service models,
- Access to various expertise e.g., stemming from the academic, business, through the advisory board members,
- Promotion of project/ achievements towards TrustChain community and beyond,
- Access to a wide network of blockchain experts & researchers and wider NGI community, raising opportunities to setup new research and cross-collaboration projects,
- Presence in top EU events related with blockchain,
- Matchmaking service between innovators, connections with some accelerators and/or venture capitalists for the ones who end up implementing the solutions.

## 4. IMPACT

The Internet has acquired greater influence on people's lives and the way that industries operate today or the way that they are expected to be organised in the future is fuelling great interest. It is highly positive that regulators and policy makers have taken over and have put priorities on high impact policy initiatives (such as the NGI) at European and international level. TRUSTCHAIN envisions contributing to the success of NGI and to advance the ability of Europeans to flourish individually and collectively within this new era and to fundamentally change the way that we perceive the digital world around us. TRUSTCHAIN's immediate impact consists of the following core points:

- Growing the blockchain and next generation internet communities with a focus on user-centric approach, through a 3-year project with many vertical and horizontal actions towards the empowerment of communities, as well as the inclusion of cross-sectorial applications and the involvement of experts, covering a wide spectrum of expertise.
- Educating and providing funding to a large number of researchers, innovators, start-ups, SMEs, use-case holders (practitioners), increasing their awareness

towards a more trustworthy and decentralised internet that could offer several societal and economic benefits.

- Providing the guidance and workspace for the building and validation of new technological frameworks, created within TRUSTCHAIN, and proposing new economic schemes towards a human-centric evolution of the future internet.
- Creating the required proof-of-concept and the adequate knowledge for providing recommendations and a roadmap towards a more focused and efficient European policy-making process.

Specifically, TRUSTCHAIN expects to generate impact on the following further elaborated aspects.

- **A greener more secure and resilient global Internet based on a decentralized architecture stemming from the evolution of TCP/IP and the advent of distributed ledger technologies (DLT) and Blockchain**

Blockchain technology has opened a huge market for decentralized Internet services and applications. Opening siloed data, dealing with lack of trust online and avoiding privacy losses are just some of the promises that make this technology attractive to end users and create market potential for providers of decentralized services and applications. TrustChain will provide essential technological solutions and building blocks for the development of decentralized protocols, services and applications, and thus the business interest for its outcomes is expected to be very high. : On the societal outcome, TrustChain aims to decentralize the current Internet towards higher security, more privacy, trustworthiness assessment of entities and data, and, overall, citizen empowerment in digital interactions. |In terms of environmental outcome, TrustChain will develop more energy efficient and scalable DLT/blockchain protocols, so that the benefits of decentralization do not come at the expense of the environment or of the deterioration of performance. TrustChain, as one of the biggest cascade funding project for advances in DLT/blockchain technology in the EU, will play a fundamental role so that this technology fulfils promises to EU citizens.

- **Increased European competitiveness and open strategic autonomy in core Internet technologies, DLT and Blockchain, reinforcing the European Internet and Blockchain ecosystems and excellence in research and innovation**

TrustChain envisions a platform which adopts new solutions and new applications build upon the common resources; provides high-valued services to people and

generated value for blockchain participants in an economically sustainable way; expands the functionality developed in ONTOCHAIN and providing an underlying interoperable infrastructure across multiple chains; and, being EVM-compliant (Ethereum Virtual Machine) and thus EBSI-ready, provides a knowledge base and software portfolio for innovative DLT-based services and infrastructures in EU. Such functionality entails decentralized identity features (decentralization, privacy-preservation, user sovereignty, ease of use, practicality) that for now have only been achieved in isolation. TrustChain is pursuing a public blockchain ecosystem, which is by definition open to new players, new businesses, and new use cases.

- **A European ecosystem of top Internet and Blockchain innovators, with the capacity to set the course of the Internet evolution and strengthen the role of Europe in Internet standard setting.**

TrustChain builds on top of ONTOCHAIN, EBSI and NGI wider communities, which are already formed and well maintained. By actively engaging numerous target groups during its different types of Open Calls and the related campaigns TrustChain will provide fertile ground for the blockchain research and innovation communities. Custom tailored strategies will continue to be organised to attract top talents and internet innovators to be supported with the proposed technological, business, end-users oriented, EBSI experts, regulatory framework to solve remaining challenges established by TrustChain objectives. This collaboration of TrustChain experts and an already established and growing community will give rise to co-creation of ideas and projects that lead towards. A growing ecosystem will be established and nurtured to adopt the TrustChain framework and develop disruptive applications and solutions, filling in the most pressing issues, to be identified through the cooperation of partners, EBSI experts, advisory board, end-users involvement and top talent developers. TrustChain envisions -through a focused communication campaign and the appropriate blend of partners that has onboard- to match deep-tech entrepreneurs with the right foreseen activities.

- **New business and sustainability models based on decentralised technologies and open source**

New open-source applications that demonstrate transparent and traceable management of data within a democratic system have great possibility to improve trust and hence, contributed to the evolution of the trusted semantic marketplace. New open-source solutions that serve the decentralisation of Internet, and test interoperability of DLT protocols. TrustChain exploits and extends the established business models and opportunities by providing a common vision, coaching innovators to adopt this vision and framework, and driving them to implement it and

demonstrate it. New business models are based on decentralized technologies so that data trading can happen in a trustworthy and privacy preserving manner. The P2P and token-based model will be explored and supported to contribute to maintenance costs and ensure business interest of innovators to contribute further solutions to the derived platform/ecosystem. Solutions are provided for core user concerns, such as trust and privacy, and have facilitated business building blocks, such as identity management, market mechanisms.

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## 5. CONCLUSION

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This document describes the research and innovation agenda of the TRUSTCHAIN project. The TRUSTCHAIN project is a Next Generation Internet project focusing on the advancement of technologies for the management of data, metadata, semantics, knowledge and information. TrustChain will tackle several challenges pertaining to trustworthy and reliable digital identity, to resilient, secure and reliable data pathways, to economics and trading of data, to energy efficiency for data storage, transport and sharing, to seamless services and data flows. A new trustworthy data governance and sharing model in line with the European regulatory framework and taking into account European values will be developed that will ensure Trusted Data Ecosystems.

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## ANNEX 2- TRUSTCHAIN OPEN CALL 2 ANNOUNCEMENT

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## 1. THE TRUSTCHAIN PROJECT

The Internet has pushed our existence into the digital era, revolutionising our health, our wellbeing, our social life, our education and our information. Today we approach the Internet with our digital identities. There is a plethora of such digital identities that currently do not properly serve their purpose. Multiple threats related to truthfulness, trust and identity (ID) arise when people interact in this digital world: delusion and manipulation, personal privacy violation and personal data exploitation, unknown provenance of information, anonymity for performing criminal activities, spread of fake news using fake identities, skills mismatches, serious breaches of security are only a few of the threats that have emerged. The spirit of the first-generation Internet based on individual freedom, material progress, and moral community is slowly turning into individualism, materialism, and moralism, diverging from essential ethical and democratic principles that should underline this technology. The design choice of the past, based on a mix of centrally managed networking and device technologies makes today's Internet obsolete when it comes to empowering all citizens to act for a more environmentally friendlier digital transformation, as well as to create a more resilient, inclusive, and democratic society, addressing inequalities and human rights, better prepared for and responsive to threats and disasters.

For TRUSTCHAIN, the current emergence of Internet of Things (IoT), Decentralised Oracles, Artificial Intelligence (AI), Cloud-to-Edge (aka Fog) Computing, Distributed Ledger (DLT) and Digital Twin (DT) technologies created the need to build democratic systems without central points of control that can establish the missing link between universally agreed objectives in the physical world, and the digital representation of the reality, thus contributing to the realisation of trusted relationships in the Next Generation Internet. This can be achieved by using various consensus mechanisms that associate proofs with digital representations and thus help humans understand the objective truth, achieve trusted relationships on the digital world, allowing them to undertake well-informed decisions, in either a manual or automated manner. The ability to arrive at the objective truth by employing democratic governance mechanisms, consensus-based proofs, verification and certification can lead to a Next Generation Trusted Internet supporting humanity in all aspects of life. Today more than ever, challenges faced all over the world push for our society to reorganise itself to survive. The United Nations have called to reach 17 Sustainable Development Goals. Essentially, TRUSTCHAIN must be leveraged to embed in the Next Generation Internet principles of human-rights, sustainability, ethics and other human values that have been developed and maintained through long lasting centuries of human evolution.

The key concept of TRUSTCHAIN is to embed the key humanity principles in the co-creation of the Next Generation Internet and to provide autopoietic, evolutionary, decentralised and therefore democratic, transparent, traceable, and regulatory compliant mechanisms that can support any ecosystem of entities and actors participating with their digital identities. The basis for this to happen is the use of



decentralised digital identity architectures together with IoT, AI, Cloud-to-Edge, DLT and DT. Our intention is to embed in such solution's important societal goals in accordance with objective truth and therefore, trustworthiness.

**TRUSTCHAIN - Fostering a Human-Centred, Trustworthy and Sustainable Internet** is a European project funded by the European Commission under the European Union's Horizon Europe Research and Innovation Programme and the call topic CL4-2022-HUMAN-01-03. As such, it is part of the **European Commission's Next Generation Internet (NGI) initiative**. Its overall objective is to create a portfolio of Next Generation Internet protocols and an ecosystem of decentralised identity management software solutions that is transparent to the user, interoperable, privacy aware and regulatory compliant that can seamlessly integrate and interoperate with any of the existing decentralised applications. **TRUSTCHAIN was launched in January 2023 to address the inherent challenges within the current centralised Internet architecture that is not transparent to the user, does not protect the privacy-by -default and does not scale well through 5 Open Calls and an overall budget of 8,775 M€.**

The 5 Open Calls are the following:

#### ○ Open Call 1- Decentralised digital identity

The overall objective of Open Call 1 was to define and develop:

- A framework for decentralised user-centric identity management;
- Protocols for trustworthiness assessment of entities and their data by means of verifiable credentials and decentralized reputation systems;
- Smart oracles assessing the trustworthiness of data.

This is the main focal point of this call.

#### ○ Open Call 2- User privacy and data governance

The objective of this OC is to develop tools, cryptographic mechanisms, and other algorithms for data handling and sharing as well as for the management of data lakes in compliance with the GDPR and other regulations that implement techniques such as:

- Multi-party data sharing mechanisms
- Federated learning mechanisms considering both vertical and horizontal frameworks
- Encrypted data analytics based on homomorphic encryption
- Secure and privacy preserving data analytics mechanisms

- Privacy-preserving usage of Artificial Intelligence, IoT, Digital Twins, Cloud-to-Edge services, or combination of those

#### ○ Open Call 3- Economics and democracy

The objective of OC3 will be to define and build mechanisms for smarter data exchange and data trading as well as innovative win-win federated business models' open data.

#### ○ Open Call 4- Multi chains support for NGI protocols

OC4 goal will be to design and build the gateways that will make it possible to transfer knowledge/metadata/data/process/requirements from one chain to another in a trustworthy and secure manner. Interoperability across multiple chains will be a cornerstone in this call.

#### ○ Open Call 5- Green scalable and sustainable DLTs

This call will build on top of all past OC1-4 calls. Its objective will be to employ digital identities, trustworthy data, and already designed novel mechanisms for the ecosystems' economy, in order to achieve high energy efficiency and optimisation of DLTs. We are looking for the most appropriate, relevant and pertinent trade-offs between the use of technologies, the security of consensus protocols on one side, and the sustainability and energy efficiency requirements on the other.

This document is specifically dedicated to the **Open Call 2 and outlines its context and its application modalities.**

## 2. OPEN CALL 2 (OC2): USER PRIVACY AND DATA GOVERNANCE

### 2.1 INTRODUCTION TO OC2

The call was open for submission from 20<sup>th</sup> July 2023 (12:00 PM CET) until 20<sup>th</sup> September 2023 (17:00 CEST).

It's indicative budget is 1.989.000 € and will be distributed among up to 17 selected projects led and executed by a critical number of developers, innovators, researchers, SMEs and entrepreneurs among others, actively involved in research, development and application activities in the fields of user privacy, data governance, blockchain, semantic web, ontology engineering, software engineering, Cloud engineering, digital twins, edge and fog computing, ecosystem economics, smart applications, cryptography, standardisation and security engineering.

Selected projects will last for a duration of 9 months. However, the TrustChain overall action lasts 36 months, and the selected projects are requested to participate after

these 9 months in future Joint Meetings for knowledge and know-how transfer to TrustChain Open Call #3-5 and for the development of the TrustChain ecosystem.

As part of the TrustChain action, experts in diverse fields will also provide to Third party innovators selected technology development guidance, working methodology as well as access to technical infrastructure, training in business model development and data related topics, coaching, mentoring, visibility, and community building support.

Applicants are invited to submit their proposals on any topic that serves the overall TrustChain Open Call #2 vision and objectives. Their proposed solution should consider as minimal requirement to:

- Use standard technology for full stack development,
- Be open source,
- Extend the state-of-the-art in the domain of user privacy, and/or solve existing real-world problems with data governance and provide new highly usable software solutions.

Using the mandatory TrustChain proposal template, applicants are expected in relation to the specific objectives identified hereafter to explain in their application:

- The specific technological innovation they propose to develop and how it is clearly different from alternative solutions that are already available in the market, or developed by previous EU research and innovation actions (i.e., the EU ONTOCHAIN Project and any other projects),
- The specific user privacy and data governance needs or challenge they propose to address and who would benefit from it immediately and in the longer term,
- Whether the innovation will focus on the development of new solutions for existing areas, or a totally disruptive approach or idea,
- Any work they have already done to respond to this need, for example if the project focuses on developing an existing capability or building a new one,
- Any challenges or opportunities relating to equality, diversity, ethics, and inclusion arising from their project,
- Explain how their proposed solutions will align with the building blocks developed as part of the Open Call #1 call on digital identity (more details are available on the [TrustChain webpage](#)).

Applicants when applying should clearly specify the Open Call #2 challenges they are going to address.

## 2.2 OC2 SPECIFIC OBJECTIVES

It has become increasingly important to minimize the amount of data needed for specific online services. As more and more organizations share business sensitive data, it is important to preserve privacy while maintaining data utility. Therefore, to give the control of their online data sharing back to the user and ensure privacy preserving ways of data exchange on the future internet is currently needed. Establishing privacy, security and consent in specific data management processes should be a pre-requisite condition of online data sharing.

The objective of this Open Call is to develop tools, cryptographic mechanisms, and other algorithms for data handling and sharing as well as for the management of data lakes in compliance with GDPR and other regulations that implement techniques such as:

- Mechanisms for multi-party data sharing that lies in the scope of the call and addresses the stated challenges below,
- Protocols for privacy-preserving data sharing using techniques from technologies such as federated learning both vertical and horizontal framework,
- Privacy-preserving data processing, data storage and data computation techniques such as differential privacy, data obfuscation/perturbation, anonymization techniques,
- Encrypted data analytics based on homomorphic encryption and Trusted Execution environment,
- Protocols to verify authenticity and accuracy of data using technologies like zero knowledge proofs,
- Protocols to support the digital sovereignty-based data flow and data spaces initiatives.
- Data identification, data provenance, data tracking mechanisms or protocols should be built so that the data that is exchanged can be tracked, so that trustworthy data handling according to the user consent can be verified.

Applications should cover real needs of the end-users in one a specific sector such as for example banking, education, healthcare, or e-government.

## 2.3 OC2 CHALLENGES TO BE ADDRESSED

In the current Internet, all user data is owned and managed by a few handful organizations, which dictate the terms of data exchange with third parties. In most cases, user consent is either not explicitly specified or is masked in elaborate notices. Purpose limitation and data minimization is a key data management practice that the current Internet is missing.

Today's digital systems are faced with a multitude of challenges due to the centralised nature of the Internet. The Internet was initially developed without the human in the loop. However, with the exponential growth of online usage, evolution of decentralised systems and the power of cloud and edge computing has made the centralised model obsolete for many future online applications. In order to develop effective user privacy preserving and state-of-the-art consent- based data management, the following challenges that exist today need to be addressed:

- The online data sharing model is flawed as it encourages data duplication, long term data retention and intensive data collection across service providers. There is also lack of data traceability and accountability in online data sharing,
- Privacy is important when user data is employed for training machine learning models and computation. Information leakage in training models is a persistent problem. Local differential privacy with federated learning models can be explored to address this challenge,
- Data accuracy vs privacy trade-off in privacy-preserving techniques like differential privacy is an open challenge and its solution can be key to solving many open-source data sharing issues,
- Privacy-aware data processing needs to be encouraged from the design phase of any data sharing/processing protocol,
- Similarly, illegal data copying is a big challenge in user privacy and data governance models today which needs to be addressed,
- A trust layer is missing, and it is often difficult to ensure authenticity of data. Thus, trustworthy data access and data integrity mechanisms based on SSI technologies, including decentralized identifiers and Verifiable Credentials, needs to be designed,

- In line with providing a trust layer supporting user privacy, data provenance ontologies and data transaction logging should be available to users,
- Users have little to no control over access to their personal data shared online. Therefore, automated user consent/smart user consent for data sharing needs to be implemented,
- Data owners currently do not have means to be compensated or to enable fair data value sharing with the big players in the market. When users want to participate in the data economy, they should be able to do so by means of data tokenization/trading capabilities,
- Users should be empowered to add the necessary levels of anonymity in order to share their data with a third party.

A user centric design approach should frame the developed solution carefully consider the following:

- data privacy protection,
- privacy aware data processing,
- data provenance,
- data use policies,
- data retention and data deletion, right to be forgotten, data minimization, and trustworthiness,
- data minimization and user informed data deletion.

## 2.4 OC2 SPECIFIC REQUIREMENTS

### 2.4.1 Technical Requirements

In general, a user centric design and implementation, a co-created process with citizens as well as a use case driven approach will frame the proposed innovative solution development that should carefully consider the needs for security, privacy, human-rights, sustainability, and trustworthiness. Interoperability, scalability, greenness, openness, standards, as well as legal and regulatory compliance should be also considered, calculated, and assured.

The proposed solutions are intended to be co-created with end users focusing on online user privacy and data governance, adopting a user-friendly design. Therefore, they should be designed, implemented, piloted, and validated using a specific predefined and justified set of end users in an identified use case. The co-creation and validation approach should be clearly elaborated in the applicants' proposal. A citizen digital vulnerable collectives' approach that puts in the centre the needs of the general population and vulnerable people, instead of technical/experts' users should be considered. It is intended that the solution is accessible for the general population as well as for the marginalized/vulnerable communities.

To this end, the applicant should show collaboration with an EU end-user organisation (i.e., banking, healthcare, education, policing etc.) as well as consider vulnerable groups for the evaluation /validation process if possible.

The focus should be on what is currently missing (e.g., trustworthy data access, ensuring clear and informed user content and expanding what already exists, thus scaling) rather than building something new from scratch. It is desirable that the selected projects be able to demonstrate their solution at TRL 7 in a real end-user setting. If something completely new must be built (see point above), then it should be well motivated why the nature of the problem warrants a new solution and why the state-of-the-art solutions do not solve it today (i.e., barriers to technology adoption).

The proposed solution should work within a specific business context and emphasis should be put on its scalability, on its energy efficiency and its minimum value proposition. Cross-border data sharing, moving data across EU-international borders should be carefully considered. It should be also compatible with existing data sharing frameworks, standards and demonstrate the energy efficiency through measurements that are quantifiable.

Finally, focus should also be put on demonstration of the technology. In particular, the applicant should demonstrate to have access to an infrastructure that is EVM compatible where it can be deployed and piloted.

**Link with other Open Calls:** This Open Call is closely related to Open Call #1 "Decentralized digital identity". Solutions to be developed in Open Call #2 should consider some of the approaches and outcomes identified in Open Call #1 for digital identity management. Joint activities between Open Call #1 and Open Call #2 innovators will be facilitated by the Trust Chain consortium.

### 2.4.2 Sustainability requirements

Various emerging technologies currently pose huge environmental impact. This negative impact should be assessed against the benefits from using these technologies. The applicants are requested to provide a short assessment of the trade-



offs, considering from one viewpoint the benefits when using the technology, and from another, the potential energy-inefficiency. Various best effort solutions should be used as a baseline for providing such self-assessment.

### 2.4.3 Regulatory and standards requirements

Applicants are requested to present in a clear and concise manner any existing and/or emerging privacy-enhancing data sharing platform (i.e., GAIA-X & IDS, DECODE) / infrastructure standards with which they intend to comply with, or they wish to contribute to within the course of the proposed project. They should also identify how the project aligns with the Digital Services Act (DSA) and the Digital Market Act (DMA).

### 2.4.4 User Centricity requirements

As mentioned above, the proposed solutions should be designed, implemented, piloted, and validated using a specific predefined and justified set of end users in an identified use case. The co-creation and validation approach should be clearly elaborated in the applicant's proposal and the vulnerable collectives' approach should be used for the user testing.

A first step is to establish target groups of users. Once this is done, the users should be involved in the co-creation process. Then, accessibility standards should be incorporated through the onboarding according to the vulnerable collectives' approach.

Following that, a roadmap with the appropriate methodologies should be set up. The roadmap should include the approach, objectives and phases of the testing, and sample size. The sample needs to be representative and randomized but within the relevant characteristics of the target population.

User should be onboarded in the design process (if applicable). Proposals for improvement and insights should come from the users during the co-creation process. Complementarily, insights can be proposed by non-users (for example developers, or business partners). This decision must be justified in the corresponding deliverable.

## 2.5 EXPECTED OUTCOMES AND POSSIBLE APPLICATION DOMAINS

Open APIs, SDK, and libraries related to privacy-enhancing technologies and privacy-aware data sharing are expected outcomes. These outcomes should provide:



- Privacy-preserving data oracles,
- Privacy-preserving data processing techniques using technologies such as Homomorphic Encryption and Trusted Execution Environments,
- Data anonymization and perturbation techniques,
- Privacy-by-design microservice architectures,
- General-purpose DLT-based solutions for privacy and data governance,
- Smart contracts for user privacy and data governance.

Possible use-cases and application domains include the following:

- Records of data processing activities (ROPAs) with verification and certification for GDPR-policy compliance,
- Data processing in Trusted Execution Environments,
- Consent management systems,
- Collaborative secure data sharing platforms,
- Privacy-preserving social networks,
- Privacy preserving machine learning models.

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## 2.6 OC2 MANDATORY DELIVERABLES

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Projects selected and funded by the TRUSTCHAIN consortium will have to deliver four deliverables during their participation process. These deliverables are mandatory. They are defined below:

- **D1:** State of the art overview, use case analysis and preliminary technical specification of the solution. The document should clearly specify how the proposed solution extends and/or upgrades the state-of-the-art.
- **D2:** Detailed technical specification of the solution, software implementation work plan, demo scenarios, the number of end users that will be involved in any pilots, and preliminary business plan.
- **D3:** Implementation, deployment in an appropriate TRUSTCHAIN platform, testing, demonstration and validation roadmap in a real-life application (i.e.,

banking, education, healthcare, utilities, defence or cross-border travel) and result of the validation process.

- **D4:** Modularised software components ready for distribution, full documentation for developers/users, final business plan.

### 3. SUPPORT SERVICES PROVIDED BY TRUSTCHAIN TO THIRD PARTIES

Selected participants will receive support with the following services:

- **Access to Infrastructure:**

Applicants will be provided with Alastria blockchain infrastructure (two different networks, T Network based on GoQuorum and B Network based on Hyperledger Besu), compliant with Ethereum, for demonstration purposes for those that may request to use it for testing their proposed solution. This will be made available by Alastria through TRUSTCHAIN, at no cost for the third-party innovators selected, in a BaaS model without need for them to install any blockchain node.

- **Use of token:** The TRUSTCHAIN consortium understands that the ultimate value of a new and innovative application should be shown in business context, for example, by demonstrating that the users (physical persons or companies) are willing to pay for using the service. In this context, the TRUSTCHAIN core consortium partners are willing to consider the possibility of issuing a crypto-token for the purpose of demonstration of the applications' business value, should such an interest be expressed by the applicants.

- **Business support services:** To support the selected third-party innovators to exploit their use cases and successfully reach the market, different trainings and sessions with mentors will be organised. Depending on the team profile, aspects such as Value Proposition, pitching or IPR (among others) will be explored.

- **Communication support services:** Major visibility, promotion and networking opportunities are offered as part of the TRUSTCHAIN project and the Next Generation Internet initiative. Selected third party innovators will:

- have access to communication tool kits and co-branding materials,
- be showcased in the TRUSTCHAIN project website,
- be interviewed and promoted on relevant media channels.
- be invited to participate in top events.
- connect with a vibrant ecosystem of innovators, investors, industry players and public authorities.

Each third party selected will be assigned one or more mentors from the TRUSTCHAIN consortium to follow their progress and support them with specific expertise (technical, user centric, legal aspects, business aspects) all along their project on a regular basis.

## 4. ANNOUNCEMENT

Submission to the TRUSTCHAIN Open Call 2 will open on the 20<sup>th</sup> July 2023 (12:00 PM CET) and close the 20<sup>th</sup> September 2023 (17:00 CEST). Dates for the different phases are outlined below but may be subject to change if any modifications in the project's schedule occur.

The table below presents the indicative dates during which each phase of TRUSTCHAIN Open Call 2 will take place.

<b>Call Announcement</b>	20 <sup>th</sup> July 2023 at 12:00 PM CET
<b>Call closure and submission deadline</b>	20 <sup>th</sup> September 2023 at 17:00 CEST
<b>Total EU funding available for OC1</b>	1.989.000 €
<b>Evaluation Period</b>	Up to three months after the call closure
<b>Signature of Sub-grant Agreement</b>	Up to one month after the announcement of the final list of selected projects
<b>Expected duration of projects</b>	9 months
<b>Task description</b>	<p>Today, it has become increasingly important to minimize the amount of data needed for specific online services. As more and more organizations share business sensitive data, it is important to preserve privacy while maintaining data utility. Therefore, to give the control of their online data sharing back to the user and ensure privacy preserving ways of data exchange on the future internet is currently needed. Establishing privacy, security and consent in specific data management processes should be a pre-requisite condition of online data sharing.</p> <ul style="list-style-type: none"> <li>In order to achieve TrustChain vision, it is expected that applicants will develop tools, cryptographic</li> </ul>

	<p>mechanisms, and other algorithms for data handling and sharing as well as for the management of data lakes in compliance with GDPR and other regulations that implement techniques such as:</p> <ul style="list-style-type: none"> <li>• Mechanisms for multi-party data sharing that lies in the scope of the call and addresses the stated challenges below,</li> <li>• Protocols for privacy-preserving data sharing using techniques from technologies such as federated learning both vertical and horizontal framework,</li> <li>• Privacy-preserving data processing, data storage and data computation techniques such as differential privacy, data obfuscation/perturbation, anonymization techniques,</li> <li>• Encrypted data analytics based on homomorphic encryption and Trusted Execution environment,</li> <li>• Protocols to verify authenticity and accuracy of data using technologies like zero knowledge proofs,</li> <li>• Protocols to support the digital sovereignty-based data flow and data spaces initiatives.</li> </ul> <p>Applications should cover real needs of the end-users in a specific sector such as for example banking, education, healthcare, or e-government.</p> <p>To develop effective user privacy preserving and state-of-the-art consent- based data management, Applicants are requested to addressed current challenges:</p> <ul style="list-style-type: none"> <li>• The online data sharing model is flawed as it encourages data duplication, long term data retention and intensive data collection across service providers. There is also lack of data traceability and accountability in online data sharing.</li> <li>• Privacy is important when user data is employed for training machine learning models and computation. Information leakage in training models is a persistent problem. Local differential privacy with federated learning models can be explored to address this challenge.</li> <li>• Data accuracy vs privacy trade-off in privacy-preserving techniques like differential privacy is an open challenge and its solution can be key to solving many open-source data sharing issues.</li> <li>• Privacy-aware data processing needs to be encouraged from the design phase of any data</li> </ul>
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	<p>sharing/processing protocol.</p> <ul style="list-style-type: none"> <li>• Similarly, illegal data copying is a big challenge in user privacy and data governance models today which needs to be addressed.</li> <li>• A trust layer is missing, and it is often difficult to ensure authenticity of data. Thus, trustworthy data access and data integrity mechanisms based on SSI technologies, including decentralized identifiers and Verifiable Credentials, need to be designed.</li> <li>• In line with providing a trust layer supporting user privacy, data provenance ontologies and data transaction logging should be available to users.</li> <li>• Users have little to no control over access to their personal data shared online. Therefore, automated user consent/smart user consent for data sharing needs to be implemented.</li> <li>• Data owners currently do not have means to be compensated or to enable fair data value sharing with the big players in the market. When users want to participate in the data economy, they should be able to do so by means of data tokenization/trading capabilities.</li> <li>• Users should be empowered to add the necessary levels of anonymity to share their data with a third party.</li> </ul> <p>A user centric design approach should frame the developed solution carefully consider the following:</p> <ul style="list-style-type: none"> <li>• data privacy protection,</li> <li>• privacy aware data processing,</li> <li>• data provenance,</li> <li>• data use policies,</li> <li>• data retention and data deletion, right to be forgotten, data minimization, and trustworthiness.</li> <li>• data minimization and user informed data deletion</li> </ul>
<b>Submission and evaluation process</b>	<p>Proposals are submitted in a single stage and the evaluation process is composed of three phases as presented hereafter:</p> <ul style="list-style-type: none"> <li>o Phase 1: Admissibility &amp; eligibility check</li> </ul>

	<ul style="list-style-type: none"> <li>Phase 2: Proposals evaluation carried out by the TRUSTCHAIN Consortium with the assistance of independent experts.</li> <li>Phase 3: Online interviews (10 minutes pitching &amp; 20 minutes of Q&amp;As) and final selection carried out by the TRUSTCHAIN Consortium and the TRUYSTCHAIN Advisory Board Members.</li> </ul>
<b>Further information</b>	<p>Further details are available at:</p> <p><a href="https://trustchain.ngi.eu/apply">https://trustchain.ngi.eu/apply</a></p>

## 5. SUPPORT TO APPLICANT

The TRUSTCHAIN consortium will provide information to the applicants only via [trustchain@ngi.eu](mailto:trustchain@ngi.eu). No binding information will be provided via any other means (e.g., telephone or email).

- More info at: <https://trustchain.ngi.eu/apply>
- Apply via: <https://www.f6s.com/trustchain-open-call-2>
- Support team: [trustchain@ngi.eu](mailto:trustchain@ngi.eu)
- Personal Data Protection Policy available at: <https://trustchain.ngi.eu/privacy-policy/>

The TRUSTCHAIN consortium will also organise webinars to connect with interested applicants so stay updated and get involved!

## 6. KIT FOR APPLICATION

The TRUSTCHAIN Open Call 2 supported material is the following:

- The TRUSTCHAIN Open Call 2 text**  
The present document.

- The TRUSTCHAIN Guide for applicant**

This document provides in details the information to help apply to the TRUSTCHAIN Open Call 2 such as an abstract of the TRUSTCHAIN action, a description of the TRUSTCHAIN open call 2, the modalities for application, the evaluation process, the scheme of the funding support, the IPR aspects related to TRUSTCHAIN and how to prepare and submit a proposal: It is available at: [Open Call #2 - TrustChain \(ngi.eu\)](https://trustchain.ngi.eu/open-call-2)

This document also contains in annex the administrative forms preparation template, the proposal description template and the TRUSTCHAIN additional applicant's template.

- The TRUSTCHAIN Application material
  - **Administrative forms preparation template:** which presents the list of administrative information that you need to fill in directly in the [F6S portal](#).
  - **Proposal description template:** a mandatory and editable document to describe your proposal.
  - **Additional applicant's template:** In case your proposal has more than 3 applicants participating as individuals (Natural persons) or/and more than 3 applicants participating as organisations (Legal entities), you will have to fill in this document and upload it in section 3 of the [F6S form](#).

○ The indicative sub-grant agreement form

This document provides a template of the sub-grant agreement that only the selected applicants will be requested to sign. It is not necessary to send this document at the time of application.

**All documents are available at:** [Open Call #2 - TrustChain \(ngi.eu\)](#)

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## ANNEX 3 – TRUSTCHAIN GUIDE FOR APPLICANTS

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## 1. THE TRUSTCHAIN PROJECT

The Internet has pushed our existence into the digital era, revolutionising our health, our wellbeing, our social life, our education and our information. Today we approach the Internet with our digital identities. There is a plethora of such digital identities that currently do not properly serve their purpose. Multiple threats related to truthfulness, trust and identity (ID) arise when people interact in this digital world: delusion and manipulation, personal privacy violation and personal data exploitation, unknown provenance of information, anonymity for performing criminal activities, spread of fake news using fake identities, skills mismatches, serious breaches of security are only a few of the threats that have emerged. The spirit of the first-generation Internet based on individual freedom, material progress, and moral community is slowly turning into individualism, materialism, and moralism, diverging from essential ethical and democratic principles that should underline this technology. The design choice of the past, based on a mix of centrally managed networking and device technologies makes today's Internet obsolete when it comes to empowering all citizens to act for a more environmentally friendlier digital transformation, as well as to create a more resilient, inclusive, and democratic society, addressing inequalities and human rights, better prepared for and responsive to threats and disasters.

For TRUSTCHAIN, the current emergence of Internet of Things (IoT), Decentralised Oracles, Artificial Intelligence (AI), Cloud-to-Edge (aka Fog) Computing, Distributed Ledger (DLT) and Digital Twin (DT) technologies created the need to build democratic systems without central points of control that can establish the missing link between universally agreed objectives in the physical world, and the digital representation of the reality, thus contributing to the realisation of trusted relationships in the Next Generation Internet. This can be achieved by using various consensus mechanisms that associate proofs with digital representations and thus help humans understand the objective truth, achieve trusted relationships on the digital world, allowing them to undertake well-informed decisions, in either a manual or automated manner. The ability to arrive at the objective truth by employing democratic governance mechanisms, consensus-based proofs, verification and certification can lead to a Next Generation Trusted Internet supporting humanity in all aspects of life. Today more than ever, challenges faced all over the world push for our society to reorganise itself to survive. The United Nations have called to reach 17 Sustainable Development Goals. Essentially, TRUSTCHAIN must be leveraged to embed in the Next Generation Internet principles of human-rights, sustainability, ethics and other human values that have been developed and maintained through long lasting centuries of human evolution.

The key concept of TRUSTCHAIN is to embed the key humanity principles in the co-creation of the Next Generation Internet and to provide autopoietic, evolutionary, decentralised and therefore democratic, transparent, traceable, and regulatory compliant mechanisms that can support any ecosystem of entities and actors

participating with their digital identities. The basis for this to happen is the use of decentralised digital identity architectures together with IoT, AI, Cloud-to-Edge, DLT and DT. Our intention is to embed in such solution's important societal goals in accordance with objective truth and therefore, trustworthiness.

**TRUSTCHAIN - Fostering a Human-Centred, Trustworthy and Sustainable Internet is a European project funded by the European Commission under the European Union's Horizon Europe Research and Innovation Programme and the call topic CL4-2022-HUMAN-01-03.** As such, it is part of the **European Commission's Next Generation Internet (NGI) initiative**. Its overall objective is to create a portfolio of Next Generation Internet protocols and an ecosystem of decentralised identity management software solutions that is transparent to the user, interoperable, privacy aware and regulatory compliant that can seamlessly integrate and interoperate with any of the existing decentralised applications. **TRUSTCHAIN was launched in January 2023 to address the inherent challenges within the current centralised Internet architecture that is not transparent to the user, does not protect the privacy-by -default and does not scale well through 5 Open Calls and an overall budget of 8,775 M€.**

The 5 Open Calls are the following:

- Open Call 1- Decentralised digital identity

The overall objective of Open Call 1 was to define and develop:

- A framework for decentralised user-centric identity management.
- Protocols for trustworthiness assessment of entities and their data by means of verifiable credentials and decentralized reputation systems;
- Smart oracles assessing the trustworthiness of data.

This was the main focal point of this call.

- Open Call 2- User privacy and data governance

The objective of this OC is to develop tools, cryptographic mechanisms, and other algorithms for data handling and sharing as well as for the management of data lakes in compliance with the GDPR and other regulations that implement techniques such as:

- Multi-party data sharing mechanisms
- Federated learning mechanisms considering both vertical and horizontal frameworks
- Encrypted data analytics based on homomorphic encryption

- Secure and privacy preserving data analytics mechanisms
- Privacy-preserving usage of Artificial Intelligence, IoT, Digital Twins, Cloud-to-Edge services, or combination of those

#### ○ Open Call 3- Economics and democracy

The objective of OC3 will be to define and build mechanisms for smarter data exchange and data trading as well as innovative win-win federated business models' open data.

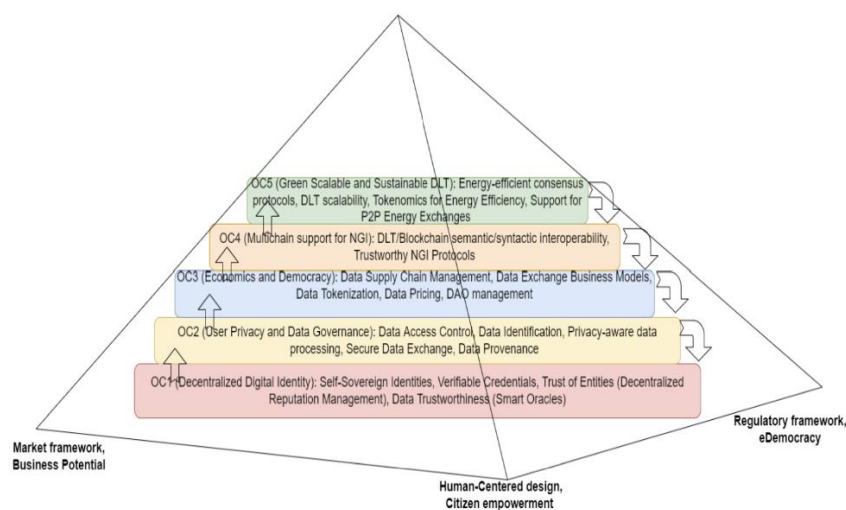
#### ○ Open Call 4- Multi chains support for NGI protocols

OC4 goal will be to design and build the gateways that will make it possible to transfer knowledge/metadata/data/process/requirements from one chain to another in a trustworthy and secure manner. Interoperability across multiple chains will be a cornerstone in this call.

#### ○ Open Call 5- Green scalable and sustainable DLTs

This call will build on top of all past OC1-4 calls. Its objective will be to employ digital identities, trustworthy data, and already designed novel mechanisms for the ecosystems' economy, in order to achieve high energy efficiency and optimisation of DLTs. We are looking for the most appropriate, relevant and pertinent trade-offs between the use of technologies, the security of consensus protocols on one side, and the sustainability and energy efficiency requirements on the other.

The overall structure of the open calls is summarized in the figure below. Note that each OC provides key technologies that can be used as basis for development in the subsequent calls, while also the opposite interaction can be employed by later calls, e.g., OC2 can pose additional requirements for the final outcomes of OC1 projects.



In this technological framework, TrustChain Open Call #2 is thus closely related to Open Call #3 “Economics and democracy” and Open Call #4 “Multi chains support for NGI protocols”. Better solutions to user privacy and data governance will ensure better data economics and democracy and subsequently encourage ways for multi-chain interaction to exchange data/assets. Thus, knowledge created within this Open Call #2 will be transferred / integrated into future Open Call #3 and Open Call #4 calls.

Following the spirit of the H2020 Calls for the Next Generation Internet, the TRUSTCHAIN Research and Innovation Action encourages presentation of results as open-source software and open hardware designs, open access to data, standardisation activities, access to testing and operational infrastructures as well as an IPR regime ensuring interoperability, reusability of results, lasting and sustainable with a long-term societal impact.

**This guide is specifically dedicated to the Open Call 2 and outlines its context and its application modalities.**

## 2. OPEN CALL 2 (OC2): USER PRIVACY AND DATA GOVERNANCE

### 2.1 INTRODUCTION TO OC2

Its indicative budget is 1.989.000 € and will be distributed among up to 17 selected projects led and executed by a critical number of developers, innovators, researchers, SMEs and entrepreneurs among others, actively involved in research, development

and application activities in the fields of user privacy, data governance, blockchain, semantic web, ontology engineering, software engineering, Cloud engineering, digital twins, edge and fog computing, ecosystem economics, smart applications, cryptography, standardisation, and security engineering.

Selected projects will last for a duration of 9 months. However, the TrustChain overall action lasts 36 months, and the selected projects are requested to participate after these 9 months in future Joint Meetings for knowledge and know-how transfer to TrustChain Open Call #3-5 and for the development of the TrustChain ecosystem.

As part of the TrustChain action, experts in diverse fields will also provide to Third party innovators selected technology development guidance, working methodology as well as access to technical infrastructure, training in business model development and data related topics, coaching, mentoring, visibility, and community building support.

Applicants are invited to submit their proposals on any topic that serves the overall TrustChain Open Call #2 vision and objectives. Their proposed solution should consider as minimal requirement to:

- Use standard technology for full stack development,
- Be open source,
- Extend the state-of-the-art in the domain of user privacy, and/or solve existing real-world problems with data governance and provide new highly usable software solutions.

Using the mandatory TrustChain proposal template, applicants are expected in relation to the specific objectives identified hereafter to explain in their application:

- The specific technological innovation they propose to develop and how it is clearly different from alternative solutions that are already available in the market, or developed by previous EU research and innovation actions (i.e., the EU ONTOCHAIN Project and any other projects),
- The specific user privacy and data governance needs or challenge they propose to address and who would benefit from it immediately and in the longer term,
- Whether the innovation will focus on the development of new solutions for existing areas, or a totally disruptive approach or idea,
- Any work they have already done to respond to this need, for example if the project focuses on developing an existing capability or building a new one,
- Any challenges or opportunities relating to equality, diversity, ethics, and inclusion arising from their project,



- Explain how their proposed solutions will align with the building blocks developed as part of the Open Call #1 call on digital identity (more details are available on the [TrustChain webpage](#)).

Applicants when applying should clearly specify the Open Call #2 challenges they are going to address.

## 2.2 OC2 SPECIFIC OBJECTIVES

It has become increasingly important to minimize the amount of data needed for specific online services. As more and more organizations share business sensitive data, it is important to preserve privacy while maintaining data utility. Therefore, to give the control of their online data sharing back to the user and ensure privacy preserving ways of data exchange on the future internet is currently needed. Establishing privacy, security and consent in specific data management processes should be a pre-requisite condition of online data sharing.

The objective of this Open Call is to develop tools, cryptographic mechanisms, and other algorithms for data handling and sharing as well as for the management of data lakes in compliance with GDPR and other regulations that implement techniques such as:

- Mechanisms for multi-party data sharing that lies in the scope of the call and addresses the stated challenges below,
- Protocols for privacy-preserving data sharing using techniques from technologies such as federated learning both vertical and horizontal framework,
- Privacy-preserving data processing, data storage and data computation techniques such as differential privacy, data obfuscation/perturbation, anonymization techniques,
- Encrypted data analytics based on homomorphic encryption and Trusted Execution environment,
- Protocols to verify authenticity and accuracy of data using technologies like zero knowledge proofs,
- Protocols to support the digital sovereignty-based data flow and data spaces initiatives.
- Data identification, data provenance, data tracking mechanisms or protocols should be built so that the data that is exchanged can be tracked, so that trustworthy data handling according to the user consent can be verified.

Applications should cover real needs of the end-users in one a specific sector such as for example banking, education, healthcare, or e-government.

## 2.3 OC2 CHALLENGES TO BE ADDRESSED

In the current Internet, all user data is owned and managed by a few handful organizations, which dictate the terms of data exchange with third parties. In most cases, user consent is either not explicitly specified or is masked in elaborate notices. Purpose limitation and data minimization is a key data management practice that the current Internet is missing.

Today's digital systems are faced with a multitude of challenges due to the centralised nature of the Internet. The Internet was initially developed without the human in the loop. However, with the exponential growth of online usage, evolution of decentralised systems and the power of cloud and edge computing has made the centralised model obsolete for many future online applications. In order to develop effective user privacy preserving and state-of-the-art consent- based data management, the following challenges that exist today need to be addressed:

- The online data sharing model is flawed as it encourages data duplication, long term data retention and intensive data collection across service providers. There is also lack of data traceability and accountability in online data sharing,
- Privacy is important when user data is employed for training machine learning models and computation. Information leakage in training models is a persistent problem. Local differential privacy with federated learning models can be explored to address this challenge,
- Data accuracy vs privacy trade-off in privacy-preserving techniques like differential privacy is an open challenge and its solution can be key to solving many open-source data sharing issues,
- Privacy-aware data processing needs to be encouraged from the design phase of any data sharing/processing protocol,
- Similarly, illegal data copying is a big challenge in user privacy and data governance models today which needs to be addressed,
- A trust layer is missing, and it is often difficult to ensure authenticity of data. Thus, trustworthy data access and data integrity mechanisms based on SSI technologies, including decentralized identifiers and Verifiable Credentials,

needs to be designed,

- In line with providing a trust layer supporting user privacy, data provenance ontologies and data transaction logging should be available to users,
- Users have little to no control over access to their personal data shared online. Therefore, automated user consent/smart user consent for data sharing needs to be implemented,
- Data owners currently do not have means to be compensated or to enable fair data value sharing with the big players in the market. When users want to participate in the data economy, they should be able to do so by means of data tokenization/trading capabilities,
- Users should be empowered to add the necessary levels of anonymity in order to share their data with a third party.

A user centric design approach should frame the developed solution carefully consider the following:

- data privacy protection,
- privacy aware data processing,
- data provenance,
- data use policies,
- data retention and data deletion, right to be forgotten, data minimization, and trustworthiness,
- data minimization and user informed data deletion.

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## 2.4 OC2 SPECIFIC REQUIREMENTS

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### 2.4.1 Technical Requirements

In general, a user centric design and implementation, a co-created process with citizens as well as a use case driven approach will frame the proposed innovative solution development that should carefully consider the needs for security, privacy, human-rights, sustainability, and trustworthiness. Interoperability, scalability, greenness, openness, standards, as well as legal and regulatory compliance should be also considered, calculated, and assured.

The proposed solutions are intended to be co-created with end users focusing on online user privacy and data governance, adopting a user-friendly design. Therefore, they should be designed, implemented, piloted, and validated using a specific predefined and justified set of end users in an identified use case. The co-creation and validation approach should be clearly elaborated in the applicants' proposal. A citizen digital vulnerable collectives' approach that puts in the centre the needs of the general population and vulnerable people, instead of technical/experts' users should be considered. It is intended that the solution is accessible for the general population as well as for the marginalized/vulnerable communities.

To this end, the applicant should show collaboration with an EU end-user organisation (i.e., banking, healthcare, education, policing etc.) as well as consider vulnerable groups for the evaluation /validation process if possible.

The focus should be on what is currently missing (e.g., trustworthy data access, ensuring clear and informed user content and expanding what already exists, thus scaling) rather than building something new from scratch. It is desirable that the selected projects be able to demonstrate their solution at TRL 7 in a real end-user setting. If something completely new must be built (see point above), then it should be well motivated why the nature of the problem warrants a new solution and why the state-of-the-art solutions do not solve it today (i.e., barriers to technology adoption).

The proposed solution should work within a specific business context and emphasis should be put on its scalability, on its energy efficiency and its minimum value proposition. Cross-border data sharing, moving data across EU-international borders should be carefully considered. It should be also compatible with existing data sharing frameworks, standards and demonstrate the energy efficiency through measurements that are quantifiable.

Finally, focus should also be put on demonstration of the technology. In particular, the applicant should demonstrate to have access to an infrastructure that is EVM compatible where it can be deployed and piloted.

**Link with other Open Calls:** This Open Call is closely related to Open Call #1 "Decentralized digital identity". Solutions to be developed in Open Call #2 should consider some of the approaches and outcomes identified in Open Call #1 for digital identity management. Joint activities between Open Call #1 and Open Call #2

innovators will be facilitated by the Trust Chain consortium.

### 2.4.2 Sustainability requirements

Various emerging technologies currently pose huge environmental impact, and they should be evaluated against any potential benefit from using these technologies. The applicants are requested to provide a short assessment of the trade-offs, from one viewpoint the benefits when using the technology, and from another, the potential energy-inefficiency. Various best effort solutions should be used as baseline for providing such self-assessment.

### 2.4.3 Regulatory and standards requirements

Applicants are requested to present in a clear and concise manner any existing and/or emerging privacy-enhancing data sharing platform (i.e., GAIA-X & IDS, DECODE) / infrastructure standards with which they intend to comply with, or they wish to contribute to within the course of the proposed project. They should also identify how the project aligns with the Digital Services Act (DSA) and the Digital Market Act (DMA).

### 2.4.4 User Centricity requirements

As mentioned above, the proposed solutions should be designed, implemented, piloted, and validated using a specific predefined and justified set of end users in an identified use case. The co-creation and validation approach should be clearly elaborated in the applicant's' proposal and the vulnerable collectives' approach should be used for the user testing.

A first step is to establish target groups of users. Once this is done, the users should be involved in the co-creation process. Then, accessibility standards should be incorporated through the onboarding according to the vulnerable collectives' approach.

Following that, a roadmap with the appropriate methodologies should be set up. The roadmap should include the approach, objectives and phases of the testing, and sample size. The sample needs to be representative and randomized but within the relevant characteristics of the target population.

User should be onboarded in the design process (if applicable). Proposals for improvement and insights should come from the users during the co-creation process. Complementarily, insights can be proposed by non-users (for example developers, or business partners). This decision must be justified in the corresponding deliverable.

## 2.5 EXPECTED OUTCOMES AND POSSIBLE APPLICATION DOMAINS

Open APIs, SDK, and libraries related to privacy-enhancing technologies and privacy-aware data sharing are expected outcomes. These outcomes should provide:

- Privacy-preserving data oracles,
- Privacy-preserving data processing techniques using technologies such as Homomorphic Encryption and Trusted Execution Environments,
- Data anonymization and perturbation techniques,
- Privacy-by-design microservice architectures,
- General-purpose DLT-based solutions for privacy and data governance,
- Smart contracts for user privacy and data governance.

Possible use-cases and application domains include the following:

- Records of data processing activities (ROPAs) with verification and certification for GDPR-policy compliance,
- Data processing in Trusted Execution Environments,
- Consent management systems,
- Collaborative secure data sharing platforms,
- Privacy-preserving social networks,
- Privacy preserving machine learning models.

## 2.6 OC2 MANDATORY DELIVERABLES

Projects selected and funded by the TRUSTCHAIN consortium will have to deliver four deliverables during their participation process. These deliverables are mandatory. They are defined below:

- **D1:** State of the art overview, use case analysis and preliminary technical specification of the solution. The document should clearly specify how the proposed solution extends and/or upgrades the state-of-the-art.
- **D2:** Detailed technical specification of the solution, software implementation

work plan, demo scenarios, the number of end users that will be involved in any pilots, and preliminary business plan.

- **D3:** Implementation, deployment in an appropriate TRUSTCHAIN platform, testing, demonstration and validation roadmap in a real-life application (i.e., banking, education, healthcare, utilities, defence or cross-border travel) and result of the validation process.
- **D4:** Modularised software components ready for distribution, full documentation for developers/users, final business plan.

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## 2.7 MODALITIES FOR APPLICATION

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### 2.7.1 WHAT TYPES OF PROJECTS WILL BE ELIGIBLE?

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Applications must be based on the TRUSTCHAIN proposal description template (Annex 3) and must clearly fit the objective of TRUSTCHAIN OC2 described above.

Furthermore, Applicants should demonstrate their long-term commitment to the TRUSTCHAIN research and innovation agenda. Selected Applicants will work to demonstrate that the proposed solution progresses from the beginning of the project, reaching a higher maturity level and take-up by the end of the action. Thus, all the projects must evidence substantial progress with a particular focus on the interoperability and sustainability of the outcomes according to the TRUSTCHAIN framework.

Thus, following the spirit of the H2020 Calls for the Next Generation Internet, the TRUSTCHAIN Research and Innovation Action encourages open-source software and open hardware design, open access to data, standardisation activities, access to testing and operational infrastructure as well as an IPR regime ensuring interoperability, reusability of results, lasting and sustainable impact. If the expected results of the proposed project cannot be released as open source, it should be duly justified in the application document.

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### 2.7.2 WHAT HAPPENS AFTER THE PROPOSALS ARE SUBMITTED?

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Immediately after the submission deadline is over, the evaluation process begins (as described in detail in Section 6 of this Guide).

Experts will evaluate proposals and score them adequately according to the quality of the content presented.

The goal of the process is to select up to 17 high value proposals with the procedure defined in section 6. Selected applicants will be invited to join the TRUSTCHAIN

Research and Innovation Action. The exact number of selected projects will be subject to the quality of the proposals and the funding available.

## 2.8 ELIGIBILITY CRITERIA

All applicants will have to abide by all general requirements described in this section to be considered eligible for TRUSTCHAIN. Therefore, applicants are requested to read the following section carefully.

### 2.8.1 TYPES OF APPLICANTS

The target applicants of this call are developers, innovators, researchers, SMEs and entrepreneurs working on different NGI relevant topics and application domains at the intersection between the technical field (e.g Software Engineering, Network Security, Semantic Web, Cryptography, Blockchain, Digital Twin, Blockchain Security, Digital Identity, Blockchain Protocol), the Social sciences and Humanities (e.g Social Innovation, not-for-profit sector, Social Entrepreneurship, public goods) as well as any others including economics, environment, art, design, which can contribute to NGI TRUSTCHAIN relevant vision.

Applicants can apply as individuals or linked to a legal entity. Hence, the participation is possible in several ways:

- Team of natural person(s):

Team of individuals, all established in any eligible country. This does not consider the country of origin but the residence permit.

- Legal entity(ies):

One or more entities (consortium) established in an eligible country.

It can be Universities, research centres, NGOs, foundations, micro, small and medium-sized enterprises (see definition of SME according to the Commission Recommendation 2003/361/EC), large enterprises working on Internet or/and other related technologies are eligible.

- Any combination of the above.

In addition, the following condition apply:

- The participating organisations should not have been declared bankrupt or have initiated bankruptcy procedures.
- The organisations or individuals (Team of natural persons) applying should not have convictions for fraudulent behaviour, other financial irregularities, and



unethical or illegal business practices.

## 2.8.2 ELIGIBLE COUNTRIES

Only applicants legally established/resident in any of the following countries (hereafter collectively identified as the “Eligible Countries”) are eligible:

- The Member States (MS) of the European Union (EU), including their outermost regions.
- The Overseas Countries and Territories (OCT) linked to the Member States<sup>1</sup>;
- Horizon Europe associated countries, as described in the [Reference Documents](#) and the [List of Participating Countries in Horizon Europe](#) according to the latest list published by the European Commission.

## 2.8.3 LANGUAGE

English is the official language for TRUSTCHAIN open calls. Submissions done in any other language will be disregarded and not evaluated.

English is also the only official language during the whole execution of the TRUSTCHAIN programme. This means any requested submission of deliverables must be done in English in order to be eligible.

## 2.8.4 PROPOSAL SUBMISSION

Proposals must be submitted electronically, using the TRUSTCHAIN Online Submission Service accessible via <https://www.f6s.com/trustchain-open-call-2>. Proposals submitted by any other means, will not be evaluated.

**Only the documentation included in the application will be considered by evaluators. It will be composed by a form with administrative questions to be completed directly in the platform and the proposal description attached in PDF format. To be eligible, Applicants must strictly follow the proposal template provided in the annexes as well as the page limitation.**

<sup>1</sup> Entities from Overseas Countries and Territories (OCT) are eligible for funding under the same conditions as entities from the Member States to which the OCT in question is linked

The information provided should be actual, true and complete and should allow the assessment of the proposal.

The preparation and submission of the proposal and other actions that follow this procedure (such as withdrawal) fall under the final responsibility of the Applicant.

### 2.8.5 Multiple submissions

Given the fact that this call is a competitive one, and one Applicant should focus on only one specific topic the following apply:

- Only one proposal per **Applicant** should be submitted to this call, and only one proposal per **Applicant** will be evaluated. In the event of multiple submissions by an applicant, only the last one received (timestamp of the system) will enter the evaluation process. Any other submitted proposals by the same Applicant or involving the same Applicant will be declared non-eligible and will not be evaluated in any case.
- Only one proposal per **Individual** should be submitted to this call whether he/she applies within as a Team of natural persons or as part as part of a consortium member. If an individual is taking part in several teams/consortiums, the members of the other teams/consortium will be informed about the participation of an individual in multiple teams/consortiums. Then, only the last proposal received (timestamp of the system) including the individual will enter the evaluation process. Any other submitted proposals involving this Individual will be declared non-eligible and will not be evaluated in any case.

Note that the regular functioning of the F6S platform limits to one application submission per F6S user in each call. If an F6S user wishes to submit more than one application, **for example on behalf of different Applicants**, the F6S user should request support from the F6S support team ([support@f6s.com](mailto:support@f6s.com)) at least 10 days prior to the open call deadline.

### 2.8.6 Participation to the 5 TRUSTCHAIN Calls and funding rules

TRUSTCHAIN is an opportunity to fund truly multidisciplinary projects involving partners from different (natural and humanistic) disciplines relevant to Internet development. Thus, applicants can apply, participate and benefit from the 5 TRUSTCHAIN open Calls but as the main objective of the action is to support large number of third parties through open calls, the maximum amount to be granted to each third party is EUR 200 000 to allow cases were a given legal entity (e.g. large research, academic or industrial organisations) may receive several grants (e.g. from

different calls).

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### 2.8.7 Complaint due to a technical error of the TRUSTCHAIN Online Submission Service

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If you experience any problem with the application submission system prior the deadline of the open call, you should reach F6S by e-mail through [support@f6s.com](mailto:support@f6s.com), cc'ing the TRUSTCHAIN Team ([trustchain@ngi.eu](mailto:trustchain@ngi.eu)), and explain your situation.

If you believe that the submission of your proposal was not entirely successful due to a technical error on the side of the TRUSTCHAIN Online Submission Service, you may lodge a complaint by email through [support@f6s.com](mailto:support@f6s.com) cc'ing the TRUSTCHAIN Team ([trustchain@ngi.eu](mailto:trustchain@ngi.eu)) and explain your situation. For the complaint to be admissible it must be filed within **3 calendar days following the day of the call closure**. You will receive an acknowledgement of receipt, the same or next working day.

**What else to do?** You should secure a PDF version of all the documents of your proposal holding a timestamp (file attributes listing the date and time of creation and last modification) that is prior to the call deadline, as well as any proof of the alleged failure (e.g., screen shots). Later in the procedure you may be requested by the TRUSTCHAIN IT Helpdesk to provide these items.

For your complaint to be upheld, the IT audit trail (application log files and access log files of TRUSTCHAIN Online Submission Service) must show that there was indeed a technical problem at the TRUSTCHAIN consortium side which prevented you from submitting your proposal using the electronic submission system.

Applicants will be notified about the outcome of their complaint within the time indicated in the acknowledgment of receipt. If a complaint is upheld, the secured files (provided to the IT helpdesk) for which the investigation has demonstrated that technical problems at the TRUSTCHAIN consortium side prevented submission will be used as a reference for accepting the proposal for evaluation.

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### 2.8.8 CONFIDENTIALITY AND DEADLINE

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Any information regarding the proposal will be treated in a strictly confidential manner.

Only proposals submitted before the deadline will be accepted. After the call closure no additions or changes to receive proposals will be considered.

Proposals must be submitted before **20th September 2023, 17:00 CEST**. To avoid missing the deadline, you are encouraged to submit your proposal as soon as possible.

## 2.8.9 CONFLICT OF INTEREST

Applicants (even individual members of applicants) shall not have any actual or/and potential conflict of interest with the TRUSTCHAIN selection process and during the whole programme. All cases of conflict of interest will be assessed case by case. In particular, applicants (even individual members of applicants) cannot be TRUSTCHAIN Consortium partners or affiliated entities nor their employees or co-operators under a contractual agreement, nor a member of the TRUSTCHAIN Advisory Board.

If a conflict of interest is discovered and confirmed at the time of the evaluation process, the proposal will be considered as non-eligible and will not be evaluated.

## 2.8.10 OTHER

Each Applicant must confirm:

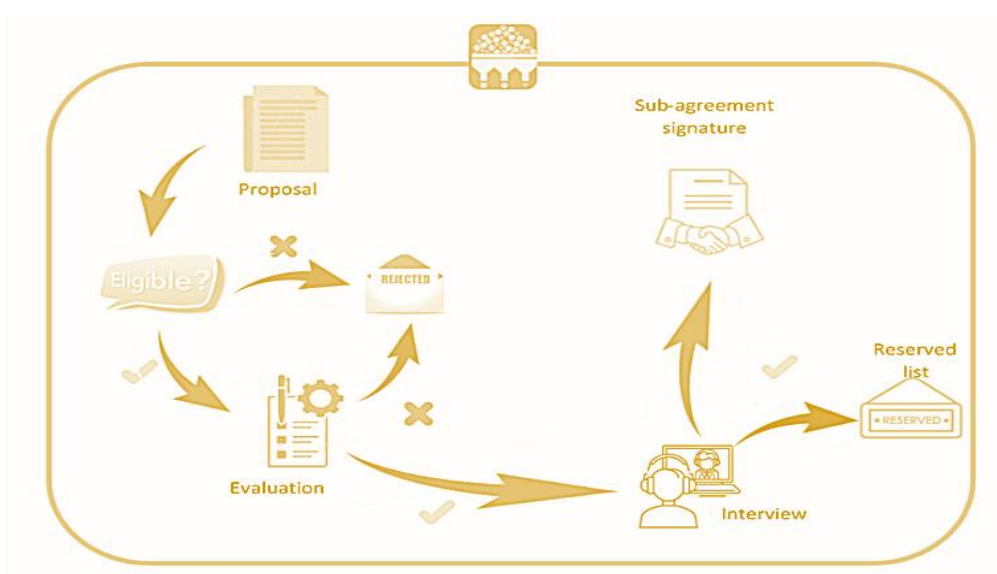
- It is not under liquidation or is not an enterprise under difficulty according to the Commission Regulation No 651/2014, art. 2.18,
- Its project is based on the original works and going forward any foreseen developments are free from third party rights, or they are clearly stated,
- It does not receive extra funding for the development of its proposal from any other public or private entity.
- It is not excluded from the possibility of obtaining EU funding under the provisions of both national and EU law, or by a decision of both national or EU authority,
- Via the principal investigator that he/she agrees with the terms presented in Annex 1-Indicative Sub-grant Agreement Form.

## 3. PROPOSAL EVALUATION AND ACCESS TO TRUSTCHAIN FUNDING

### 3.1 EVALUATION PROCESS

Proposals are submitted in a single stage and the evaluation process is composed of three stages as presented hereafter.

- **Stage 1:** Admissibility & eligibility check
- **Stage 2:** Proposals evaluation
- **Stage 3:** Online interviews and final selection



### 3.1.1 Admissibility and eligibility check

Admissibility and eligibility criteria for each proposal are performed by the TrustChain Consortium staff. A proposal may be declared ineligible or inadmissible at any stage.

To be considered admissible, a proposal must:

- Be submitted in the electronic submission system before the call deadline,
- Be compliant with the specific eligibility conditions set out in the relevant parts of this guide (see Section 5). The eligibility filter enables the creation of a shortlist of proposals to be evaluated,
- Be readable, accessible and printable,

- Be completed and include the requested administrative data, and any obligatory supporting documents specified in the call (following the template presented in Annex D, compulsory, and Annex E, if necessary),
- Include the proposal description. Applicants must strictly follow the template instructions as well as the page limitations for drafting the research proposal that are included in this guide (Annex D). A proposal will only be considered eligible if its content corresponds specifically to the objective of the TrustChain Open Call #2 or is proposed as an “open topic” and demonstrates that it aims to advance the state-of-the-art especially with regards to the TrustChain Open Call #2 Framework and application domain.

### 3.1.2 Proposal evaluation

The evaluation of proposals is carried out by the TRUSTCHAIN Consortium with the assistance of independent experts. TRUSTCHAIN Consortium staff ensures that the process is fair and in line with the principles contained in the European Commission's rules on Proposal submission and evaluation. To facilitate the independent experts and the evaluation process, the EasyChair platform (<https://easychair.org/>) will be used.

Experts perform evaluations on a personal basis, not as representatives of their employer, their country or any other entity. They are required to be independent, impartial and objective, and to behave throughout in a professional manner. They sign an expert contract, including a declaration of confidentiality and absence of conflict of interest, before beginning their work.

All experts must declare beforehand any known conflicts of interest and must immediately inform the TRUSTCHAIN Consortium staff if they detect a conflict of interest during the evaluation. The expert contract also requires experts to maintain strict confidentiality with respect to the whole evaluation process. They must follow any instruction given by the TRUSTCHAIN Consortium to ensure this. Under no circumstance may an expert attempt to contact an applicant on his/her own account, during the evaluation process. Confidentiality rules must be adhered to at all times before, during and after the evaluation.

Each proposal is evaluated by a set of 2 experts (one from the TRUSTCHAIN Consortium and one external) according to the following criteria:

- 1- Excellence and innovation (40% weighting)**
  - Clarity, pertinence, soundness of the proposed solution in the TRUSTCHAIN context and credibility of the proposed methodology including the User Centric Approach.
  - Extend that the proposed work is beyond the state of the art and demonstrate innovation potential in relation to TRUSTCHAIN objective (e.g. ground breaking objectives, novel concepts and approach, new products, services, or business and organisational models)
  - Excellence, capacity of the Applicant to deliver the proposed solution
- 2- Expected impact and value for money (30% weighting)**
  - Contribution to TRUSTCHAIN overall goal to create a portfolio of Next Generation Internet protocols and an ecosystem of decentralised identity management software solutions that is transparent to the user, interoperable, privacy aware and regulatory compliant.
  - Impact of the proposed innovation on the needs of European and Global markets
  - Quality of the proposed measures to exploit and disseminate the project results (including management of IPR) and to manage research/sensitive data where relevant in the context of TRUSTCHAIN.
- 3- Project Implementation (30% weighting)**
  - Quality and effectiveness of the work plan, including extend to which the resources assigned to the work are in line with its objectives and deliverables
  - Quality and effectiveness of the management procedures including risks and mitigation management
  - Integration capacity in the TRUSTCHAIN ecosystem

The experts will score each award criterion on a scale from 0 to 5 (half point scores may be given):



- 0=Proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.**
- 1=Poor**, criterion are inadequately addressed or there are serious inherent weaknesses
- 2=Fair**, proposal broadly addresses the criterion but there are significant weaknesses.
- 3=Good**, proposal addresses the criterion well, but a number of shortcomings is present.
- 4=Very good**, proposal addresses the criterion very well but a small number of shortcomings is present.
- 5=Excellent**, the proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

For each criterion, the minimum threshold is 3 out of 5 points. The default overall threshold, applying to the sum of the three criteria scores with the corresponding weight each, is 10.

Each evaluator establishes an individual evaluation report.



Following the individual evaluations by the 2 experts, a consensus activity, typically mediated by the evaluation tool is organised between the 2 experts to find a consensus between them on the quality of the proposal based on the 2 evaluation reports. Comments and scores are validated by the 2 experts in a consolidated evaluation report.

Where necessary, an additional review of projects for which there was a lack of consensus in terms of scoring by individual evaluators or for which additional clarifications are required is undertaken by the TRUSTCHAIN call referent, member of the TRUSTCHAIN Consortium staff. In this case, an additional external evaluator is appointed to review the proposal. The final score is obtained based on the consensus of the 3 evaluators, one internal and 2 externals to the consortium.

The TRUSTCHAIN consortium then formally approves the ranked lists.

The admission to the online interview for applications follows these rules: **the first 20 ranked proposals are admitted to the online interview.**

In any case, all proposals admitted to the online interview must reach the scores threshold.

Regarding the communication of the results, each applicant will receive via e-mail a letter informing of the decision whether a rejection decision motivated by an Evaluation Summary Report or an invitation to the online pitching and interview session.

### 3.1.3 Online interview and final selection

According to the rules, the top projects at the end of the proposal evaluation stage will be invited to the final selection stage. The applicants invited to the online interview will receive via e-mail, an invitation letter the online interview as well as relevant guidelines. It is worth mentioning here that an invitation to the interview is not a formal invitation for funding. The interview aims to better understand the project concept, scope, and centrality to the TrustChain vision, the team skills and competencies, capacity, and willingness to exploit the results under a commonly agreed plan with the rest of the TrustChain ecosystem and TrustChain partners. Most importantly, the online interview aims to clarify still unclear aspects of the proposal which have been identified during the proposal evaluation. The proposal evaluation report is not circulated to the applicants before the interview but forms the basis for the interaction with them.

In practice, the interview will be carried out by the evaluation board composed of the TrustChain core partners and the TrustChain advisory board members. It will be recorded to assure maximum transparency. It is based on 10 minutes pitch



presentation and 20 minutes of Q&As to clarify some aspects regarding the quality of the proposal and its relevance for TrustChain, as well as to reach a final agreement about scores and the Evaluation Summary Report (ESR). The comments on the ESR are taken into consideration for the preparation of relevant questions during the online interview and they are not communicated beforehand to the applicants.

The ESR will be structured according to the 3 criteria mentioned in the previous section (i.e., excellence and innovation, expected impact and value for money, project implementation) and will consolidate the comment of the proposal evaluation and the clarifications and overall impression obtained during the online interview. Based on the final consolidate score, the short list of winners will be produced and only at this stage the final ESR will be communicated to the applicants.

Remaining proposals will be maintained on a reserve list and potentially be later admitted in case of withdrawal or failure of one of the projects initially admitted to successfully complete any phase of the contract signing process.

The list of selected projects is then submitted to the European Commission for final screening and validation.

### 3.1.4 Scientific misconduct and research Integrity

Issues of scientific misconduct and research integrity are taken very seriously. In line with the Horizon Europe Rules for Participation, appropriate action such as disqualification of the application, termination of the Grant Agreement Preparation phase or, if the Grant Agreement has been signed, the implementation of liquidated damages and financial penalties, suspension of payments, recoveries and termination of the Grant Agreement, will be taken against any applicants/beneficiaries found to have misrepresented, fabricated or plagiarised any part of their proposal.

### 3.1.5 THE AGREEMENT PROCESS

The objective of the agreement process is to fulfil the legal requirements between the TRUSTCHAIN consortium and each selected project of the call. It covers essentially the status information of the beneficiaries. The legal requirements for legal entities and natural persons are provided in the table hereafter.

For legal entities	For teams of natural persons
<p><b><u>A legal existence:</u></b></p> <p>Company Register, Official Journal and so forth, showing the name of the organization, the legal address and registration number and, if applicable, a copy of a document proving Intra EU VAT registration (in case the VAT number does not show on the registration extract or its equivalent)</p> <p><b><u>Specifically for SMEs:</u></b></p> <p><b>1. A proof of the SME condition is required:</b></p> <ul style="list-style-type: none"> <li>- If the applicant has been fully validated as an SME on the Beneficiary Register of the H2020 Participant Portal, the PIC number must be provided.</li> <li>- If the applicant has not been fully validated as an SME on the H2020 Participant Portal, the following documents will be required to prove the status as an SME:</li> </ul> <p><b>2. In the event the beneficiary declares being non-autonomous, the balance sheet and profit and loss account (with annexes) for the last period for upstream and downstream organizations is required.</b></p> <p><b>3. Status Information Form.</b> It includes the headcount (AWU), balance, profit &amp; loss accounts of the latest closed financial year and the relation, upstream and downstream, of any linked or partner company.</p> <p><b>4. Supporting documents.</b> In cases where either the number of employees or the ownership is not clearly identified: any other supporting documents which demonstrate headcount and ownership such as payroll details, annual reports, national regional, association records, etc.</p>	<p>A copy of the ID-card or passport of participant(s) in the project team will be required.</p> <p>A proof for each participant in the project that (s)he is legally established and working in an eligible country (see section 3.2).</p>
<p><b>Bank account information:</b></p> <p>The account where the funds will be transferred will be indicated via a financial information form signed by the entity, individuals and the bank owners. The holder of the account will be the legal entity and/or all the individuals or the coordinator of the group on its own (consortium of legal entities or consortium of legal entities and natural persons) if allowed by the other team members.</p>	

#### **Sub-grantee funding agreement:**

**Signed between the TRUSTCHAIN Consortium (represented by its coordinator European Dynamics), and the beneficiary/ies.**

**Have a careful look at the document in Annex 1.**

This information will be requested by the TRUSTCHAIN consortium according to specific deadlines. Failing to meet the deadlines requested will directly end up the agreement process. These deadlines will be announced in the decision letter for successful applicants.

### **3.1.6 MONITORING PROCESS ALL ALONG THE SUB-PROJECTS DURATION**

For the monitoring of the progress and proper evolution of the selected projects, selected Third Parties will have to attend several mandatory internal events organised with the TRUSTCHAIN Consortium. Indicatively they are the following:

- Kick-off event devoted to knowing the different selected Third Parties and their foreseen contribution to TRUSTCHAIN.
- Meeting for the set-up of clear KPIs that will be linked to the funding of the selected Third Parties.
- Midterm event devoted to the follow up of the progress of the Third Parties according to the defined KPIs with pitch contest where the Third Parties will present their projects outcomes in particular their prototype and their deployment scenarios.
- Final event with pitch contest where the Third Parties will present their solution in particular their modularised software components ready for distribution.

### **3.1.7 FINANCIAL SUPPORT**

#### **Indicative distribution of the funds**

Selected third party innovators will become part of the TRUSTCHAIN programme and will go through an exhaustive sequential process which will last 9 months. The

maximum amount of the fund will vary depending on the type of team (See Section 3.1 Type of Beneficiaries) as indicated in the table below and providing that all the phases have been completed.

Type of team	Maximum funding
Team of natural persons	97K € + 2K €
Legal entity or consortium of legal entities or combination of legal entities and natural persons	115K € + 2K €

Payments will be done in 4 instalments based on concrete results (one prefinancing, one interim payment and one final payment). A detailed evaluation process will be presented in the TRUSTCHAIN Open Call 1 guide for implementation for the related periods. **The 2K € extra funding will be provided in case of the project outcome results in a peer reviewed journal publication with a minimum impact factor of 2.5.**

#### ○ **Beginning of the implementation and Pre-financing:**

During the first weeks of the project implementation, each team will define with their coaches a set of clear and objective KPIs to be achieved and linked with the funding. These KPIs are different for each team and are related to the solution to be implemented. These KPIs will help measure the progress if any, but also the commitment and involvement of the third party innovators (i.e., attending periodic call meetings with the coaches, meeting the deadlines for reporting, etc.). After this KPIs definition, a pre-financing of **30%** will be released.

#### ○ **First midterm review linked to the delivery of deliverable D2 and 2nd payment:**

At first midterm of the project implementation, the coaches will assess the KPI's percentage of execution of the project based on the evaluation of the deliverable D2. A 100% completion of the KPIs for the related period will unlock the total of the 2nd payment which is **20%** of the total amount. A lower completion of the tasks will launch the proportional payment. If the KPIs for the related period are met by less than 50%, the payment will be retained until KPIs for the period are assessed as completely reached. If less than 25%, the third party innovators will be automatically disqualified from the process.

- **Second midterm review linked to the delivery of deliverable D3 and 3rd payment:**

At the second midterm of the project implementation, the coaches will assess the KPI's percentage of execution of the project based on the evaluation of the deliverable D3. A 100% completion of the KPIs for the related period will unlock the total of the 2nd payment which is **30%** of the total amount. A lower completion of the tasks will launch the proportional payment. If the KPIs for the related period are met by less than 50%, the payment will be retained until KPIs for the period are assessed as completely reached. If less than 25%, the third party innovators will be automatically disqualified from the process.

- **Final review and last payment:**

At the end of the project implementation, third parties will be paid according to their overall completion of KPIs materialised by the deliverable D4.

A final event will be used to evaluate third parties on a face-to-face pitch contest. The third parties will present their implemented solution, and their business plan in the context of TRUSTCHAIN.

A panel of evaluators consisting of the TRUSTCHAIN Consortium and Advisory Board members, will assess the third-party innovators to release the final payment (remaining 20%). Only in the case of an underperformance below of a 25% the team will be disqualified, and no further payment released.

## Summary of the funding per type of beneficiary

	Project			
	Pre- financing 30% of the total funding	Interim Payment 20% of the total funding	Pre- financing 30% of the total funding	Final Payment 20 % of the total funding
Indicative dates	M2	M4	M7	Project end
Team of Natural persons	29 100 €	19 400 €	29 100 €	19 400 €
Legal Entity(ies) or combination of legal entities  or combination of legal entity (ies) and individual(s)	34 500 €	23 000 €	34 500 €	23 000 €

These numbers are indicative, detailed payment schedule and payment conditions will be settled in the Sub-grant Agreement (Indicative, Annex 1) at the time of the signature. **The 2K € extra funding will be released in case of the project outcome led onto a journal publication in a peer review journal with a minimum impact factor of 2.5.**

## Origin of the Funds and specific Provision regarding multiple beneficiaries

Any selected proposer will sign a dedicated Sub-Grantee Funding Agreement (Annex 1) with the TRUSTCHAIN project coordinator (on behalf of TRUSTCHAIN Consortium).

### Specific provision regarding contracting in case of multiple beneficiaries

In the case of projects with multiple beneficiaries (Team of natural persons, combination of legal entities, combination of legal entities and individual(s)), a Team/Consortium Agreement that designates among other the Coordinator/Authorized representative of the Team/Consortium must be adopted

and signed by the multiple beneficiaries prior to the signature of the TRUSTCHAIN Sub grantee Agreement.

The Coordinator/Authorized representative of the Team/Consortium signs the TRUSTCHAIN Sub grantee Agreement on behalf of the multiple beneficiaries.

The Coordinator/Authorized representative receives the funding and must distribute the payments between the beneficiaries according to the conditions set in the Team/Consortium Agreement.

The funds attached to the Sub-Grantee Funding Agreement come directly from the funds of the European Project TRUSTCHAIN, and the TRUSTCHAIN consortium is managing the funds according to the Grant Agreement Number 101093274 signed with the European Commission.

As will be indicated in the Sub-Grantee Funding Agreement, this relation between the sub-grantees and the European Commission through the TRUSTCHAIN project carries a set of obligations to the sub-grantees with the European Commission. It is the task of the sub-grantees to accomplish them, and of the TRUSTCHAIN consortium partners to inform about them.

### 3.2 PREPARATION AND SUBMISSION OF THE PROPOSALS

The submission will be done through the F6S platform (<https://www.f6s.com/trustchain-open-call-2/apply>) which is directly linked with the TRUSTCHAIN Programme. The applicants are required to register a profile at F6S to be able to submit a proposal.

The documents that will be submitted are:

- **Application form (Annex 2):** administrative questions to be completed directly in the F6S platform. In addition, some general questions for statistical purposes and tick boxes to be clicked by the third parties confirming they have read the conditions and agree with the conditions defined in this document. In addition, an Annex 4 will be uploaded in case that more than 3 applicants participate as individuals (natural persons) or/and more than 3 applicants participate as organisations (Legal entities) filled with the information about the applicant(s) that do not fit in the application form.
- **Proposal description (Annex 3):** document in PDF format containing the description of the project. It will include three different sections:
  - (1) Project Summary,
  - (2) Organisation background,
  - (3) Detailed proposal description.

The project proposals must strictly adhere to the template provided by the TRUSTCHAIN consortium via the F6S platform, which defines sections and the overall length.

Participants are requested to carefully read and follow the instructions in the form. Evaluators will be instructed not to consider extra material in the evaluation.

Additional material, which has not been specifically requested in the online application form, will not be considered for the evaluation of the proposals. Data not included in the proposal will not be taken into account.

It is strongly recommended not to wait until the last minute to submit the proposal. Failure of the proposal to arrive in time for any reason, including communication delays, automatically leads to rejection of the submission. The time of receipt of the message as recorded by the submission system will be definitive.

TRUSTCHAIN offers a dedicated support channel available for proposers at [trustchain@ngi.eu](mailto:trustchain@ngi.eu) for requests or inquiries about the submission system or the call itself. Those received after the closure time of the call will neither be considered nor answered.

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## 3.3 APPLICANTS COMMUNICATION FLOW

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### 3.3.1 GENERAL COMMUNICATION PROCEDURE

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The applicants will receive communications after each step of the evaluation process indicating if they passed or not. A communication will also be sent to applicants rejected, including the reasons for the exclusion.

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### 3.3.2 APPEAL PROCEDURE

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If, at any stage of the evaluation process, the applicant considers that a mistake has been made or that the evaluators have acted unfairly or have failed to comply with the rules of this TRUSTCHAIN Open Call, and that her/his interests have been prejudiced as a result, the following appeal procedures are available.

A complaint should be drawn up in English and submitted by email to [trustchain@ngi.eu](mailto:trustchain@ngi.eu).

Any complaint made should include:



- Contact details.
- The subject of the complaint.
- Information and evidence regarding the alleged breach.

Anonymous complaints or those not providing the mentioned information will not be considered.

Complaints should also be made within **five** (calendar) days since the announcement of the evaluation results to the applicants.

As a general rule, the TRUSTCHAIN Team will investigate the complaints with a view to arriving at a decision to issue a formal notice or to close the case within no more than twenty days from the date of reception of the complaint, provided that all the required information has been submitted by the complainant. Whenever this time limit is exceeded, the TRUSTCHAIN Consortium will inform the complainant by email of the reasons for the unforeseen delay and the subsequent steps.

### 3.4 SUPPORT SERVICES PROVIDED BY TRUSTCHAIN TO THIRD PARTIES

Selected participants will receive support with the following services:

- **Access to Infrastructure:**

Applicants will be provided with Alastria blockchain infrastructure (two different networks, T Network based on GoQuorum and B Network based on Hyperledger Besu), compliant with Ethereum, for demonstration purposes for those that may request to use it for testing their proposed solution. This will be made available by Alastria through TRUSTCHAIN, at no cost for the third-party innovators selected, in a BaaS model without need for them to install any blockchain node.

- **Use of token:**

The TRUSTCHAIN consortium understands that the ultimate value of a new and innovative application should be shown in business context, for example, by demonstrating that the users (physical persons or companies) are willing to pay for using the service. In this context, the TRUSTCHAIN core consortium partners are willing to consider the possibility of issuing a crypto-token for the purpose of demonstration of the applications' business value, should such an interest be expressed by the applicants.

- **Business support services:**

To support the third-party innovators to exploit their use cases and successfully

reach the market, different trainings and sessions with mentors will be organised. Depending on the team profile, aspects such as Value Proposition, pitching or IPR (among others) will be explored.

- **Communication support services:** Major visibility, promotion and networking opportunities are offered as part of the TRUSTCHAIN project and the Next Generation Internet initiative. Selected third party innovators will:
  - have access to communication tool kits and co-branding materials,
  - be showcased in the TRUSTCHAIN project website,
  - be interviewed and promoted on relevant media channels.
  - be invited to participate in top events
  - connect with a vibrant ecosystem of innovators, investors, industry players and public authorities.
  -

### 3.5 INTELLECTUAL PROPERTY RIGHTS (IPR)

The ownership of IPR created by the beneficiaries, via the TRUSTCHAIN funding, will remain with them. Results are owned by the Party that generates them. The Sub-Grant Agreement (Annex 1) will introduce provisions concerning joint ownership of the results of the sub-granted projects.

### 3.6 COMMUNICATION OBLIGATIONS

Any communication or publication of the beneficiaries shall clearly indicate that the project has received funding from the European Union via the TRUSTCHAIN project, therefore displaying the EU and project logo on all printed and digital material, including websites and press releases. Moreover, beneficiaries must agree that certain information regarding the projects selected for funding can be used by the TRUSTCHAIN consortium for communication purposes.

### 3.7 SUPPORT FOR THE APPLICANTS

For more information about the TRUSTCHAIN Open Calls, please check the Frequently Asked Questions (FAQs) section included at <https://trustchain.ngi.eu/faq/>.

For further information on the Open Call, in case of any doubt regarding the eligibility

rules, the information that is to be provided in the Application Form, or if you encountered technical issues or problems with the Application Form, please contact TRUSTCHAIN Technical Helpdesk email: [trustchain@ngi.eu](mailto:trustchain@ngi.eu)

### 3,8 INDICATIVE TIMELINES

Submission to the TRUSTCHAIN Open Call 2 will open on the **20<sup>th</sup> July 2023 (12:00 PM CET) and close the 20<sup>th</sup> September 2023 (17:00 CEST)**. Dates for the different phases are outlined below but may be subject to change if any modifications in the project's schedule occur.

The table below presents the indicative dates during which each phase of TRUSTCHAIN Open Call 2 will take place.

Description	Indicative dates
<b>Call Announcement</b>	20 <sup>th</sup> July 2023 at 12:00 PM CET
<b>Call closure and submission deadline</b>	20 <sup>th</sup> September 2023 at 17:00 CEST
<b>Evaluation Period</b>	Up to three months after the call closure
<b>Signature of Sub-grant Agreement</b>	Up to one month after the announcement of the final list of selected projects
<b>Projects</b>	9 months

## ANNEX 1- INDICATIVE SUB-GRANT AGREEMENT FORM

# TRUSTCHAIN SUB-GRANT AGREEMENT FORM

## 1.CONTRACTING PARTIES

The rights and obligations contained in this Funding Agreement derived from the TRUSTCHAIN Grant Agreement and Consortium Agreement.

This TRUSTCHAIN Funding Agreement for providing financial support to the Selected Third Party, hereinafter referred to as the "Agreement", is entered into by and between:

EUROPEAN DYNAMICS LUXEMBOURG (ED), established in rue Jean Engling 12, Luxembourg 1466, Luxembourg, VAT number: LU17535424, represented for the purposes of signing the Agreement by Mr. Konstantinos Velentzas, legal representative of ED, hereinafter referred to as "**Cascade Funding Partner**",

And

- [if a legal entity]:

**[OFFICIAL NAME OF THE SELECTED THIRD PARTY (Acronym)]**

VAT Number: **[VAT]**

Legal Status: **[XXX]**

PIC Number: **[PIC NUMBER]**

Name of the legal signatory: **[Name]**

Legal office address: **[ADDRESS and COUNTRY]**

- [if a Team of Natural persons]:

**[FIRST AND LAST NAME OF THE NATURAL PERSON 1]**

ID card/Passport Number: **[Number]**

Date of issue: **[Date]**

Taxpayer identification Number: **[Number]**

Legal address: **[ADDRESS and COUNTRY]**

**[FIRST AND LAST NAME OF THE OF THE NATURAL PERSON 2]**

ID card/Passport Number: **[Number]**

Date of issue: **[Date]**

Taxpayer identification Number: [Number]

Legal address: [ADDRESS and COUNTRY]

[FIRST AND LAST NAME OF THE OF THE NATURAL PERSON 3],

ID card/Passport Number: [Number]

Date of issue: [Date]

Taxpayer identification Number: [Number]

Legal address: [ADDRESS and COUNTRY]

- [if a Consortium of legal entities]:

[OFFICIAL NAME OF THE SELECTED THIRD PARTY 1 (Acronym)], Project Manager and Authorized representative of the consortium,

VAT Number: [VAT]

Legal Status: [XXX]

PIC Number: [PIC NUMBER]

Name of the legal signatory: [Name]

Legal office address: [ADDRESS and COUNTRY]

[OFFICIAL NAME OF THE SELECTED THIRD PARTY 2 (Acronym)],

VAT Number: [VAT]

Legal Status: [XXX]

PIC Number: [PIC NUMBER]

Name of the legal signatory: [Name]

Legal office address: [ADDRESS and COUNTRY]

[OFFICIAL NAME OF THE SELECTED THIRD PARTY 2 (Acronym)],

VAT Number: [VAT]

Legal Status: [XXX]

PIC Number: [PIC NUMBER]

Name of the legal signatory: [Name]

Legal office address: [ADDRESS and COUNTRY]

Referred to as “Selected Third Party”,

Hereinafter sometimes individually or collectively referred to as “Party” or “Parties”.

Whereas European Dynamics and its partners according to the TRUSTCHAIN Consortium Agreement, (hereinafter sometimes collectively referred as the “**TRUSTCHAIN Beneficiaries**” and individually and alternatively referred as a “**TRUSTCHAIN Beneficiary**”) participate to the H2020 project entitled “**TRUSTCHAIN - Fostering a Human-Centred, Trustworthy and Sustainable Internet**” (hereinafter the “**TRUSTCHAIN Project**”).

Whereas the TRUSTCHAIN Beneficiaries entered into a Grant Agreement N° 101093274 with the European Commission (the “**Grant Agreement**” or “**GA**”) and signed together in 2023 a Consortium Agreement with respect to the TRUSTCHAIN Project (the “**Consortium Agreement**” or “**CA**”).

Whereas the TRUSTCHAIN Project involves financial support to selected third parties through a cascade funding scheme (hereinafter “**Cascade Funding**”).

Whereas further to an open call for specific research as described in Annex 1 “**TRUSTCHAIN Specific Contract**”, the Selected Third Party has been selected to implement such research.

Whereas the Selected Third Party will be in charge of the implementation of such research with also the participation of the TRUSTCHAIN Beneficiaries identified in Annex 1 “**TRUSTCHAIN Specific Contract**”.

Whereas the Cascade Funding Partner is willing to provide technical and financial support to the Selected Third Party for the implementation of such Research and the Selected Third Party is willing to receive such funding under the terms and conditions of this Agreement.

Whereas in accordance with the Grant Agreement and the Consortium Agreement, the Cascade Funding Partner shall sign an agreement with the Selected Third Party compliant with the GA and CA, after validation by the other Participating Partners.

Whereas the Cascade Funding Partner is responsible for the execution of this Agreement with the Selected Third Party and for the monitoring of the Research.

Now therefore it has been agreed as follows:

## 2. DEFINITIONS

Words beginning with a capital letter shall have the meaning defined in the preamble of the Agreement or in this Section:

- **Access Rights** means rights to use Results or Background in accordance with the stipulations of the H2020 General MGA – Multi and under the terms and conditions laid down in this Agreement.
- An **Affiliated Entity** of a TRUSTCHAIN Beneficiary means any legal entity shown in Attachment 4 to the CA, directly or indirectly Controlling, Controlled by, or under common Control with that Party, for so long as such Control lasts.
- **Agreement** means this Funding Agreement, together with its Annexes.
- **Background** means any and all, data, information, know-how– whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights – listed in Annex 1 “**TRUSTCHAIN Specific Contract**” – that is Needed to implement the Project or exploit the Results and that is:
  - owned or controlled by a Party or a TRUSTCHAIN Beneficiary prior to the date of signature of the Specific Contract (Annex 1); or
  - developed or acquired by a Party or a TRUSTCHAIN Beneficiary independently from the work in the Research even if in parallel with the performance of the Research, but solely to the extent that such data, information, know-how and/or intellectual property rights are introduced into the Industrial Experiment by the owning Party.
- **Controlled Licence Terms** means terms in any licence that require that the use, copying, modification and/or distribution of Software or another work (“**Work**”) and/or of any work that is a modified version of or is a derivative work of such Work (in each case, “**Derivative Work**”) be subject, in whole or in part, to one or more of the following:

- (where the Work or Derivative Work is Software) that the Source Code or other formats preferred for modification be made available as of right to any third party on request, whether royalty-free or not;
- that permission to create modified versions or derivative works of the Work or Derivative Work be granted to any third party;
- that a royalty-free licence relating to the Work or Derivative Work be granted to any third party.

For the avoidance of doubt, any Software licence that merely permits (but does not require any of) the things mentioned in a) to c) is not under Controlled Licence Terms (and so is under an Uncontrolled Licence).

- **Exploitation or Exploit** means the use of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities;
- **Financial Support** means the cash element of the financial support to be given by the Cascade Funding Partner to the Selected Third Party for the implementation of the Industrial Experiment as detailed in Annex 1 “TRUSTCHAIN Specific Contract”.
- **Research** means the research detailed in Annex 1 “TRUSTCHAIN Specific Contract” to be carried out by TRUSTCHAIN Beneficiaries and the Selected Third Party.
- **Result** means the outcome of the Research, which may entail the generation of Works protected by intellectual property rights.
- **Participating Partners** means the entities and organisations participating in the Research, as listed in Annex 1.

### 3. CONDITIONS FROM THE GRANT AGREEMENT AND THE CONSORTIUM AGREEMENT REFLECTED IN THE AGREEMENT

The Cascade Funding Partner receives funding from the European Commission for organizing the Research. Under the TRUSTCHAIN Grant Agreement or the Consortium Agreement, some of the obligations have to be imposed on the Selected Third Party. Those obligations are reflected in this Agreement. The specific obligations that the Selected Third Party must ensure are described in the Multi-Beneficiary General Model Grant Agreement (H2020 General MGA – Multi), available at: [http://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-multi\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-multi_en.pdf), in articles 6, 22, 23, 35, 36, 38 and 46. These articles are part of the Agreement, by reference only.

The Selected Third Party acknowledges and agrees that these obligations comprised in this Agreement including Annex 1 and in the Multi-Beneficiary General Model are fully applicable to it and shall do everything that is necessary to comply with these obligations, it being understood that the Selected Third Party is only bound by this Agreement and not by the GA or CA.

### 4. TERMS AND CONDITIONS FOR THE FINANCIAL SUPPORT

4.1 The Selected Third Party shall take part in the Research in accordance with the state of the art. The Selected Third Party shall carry out the tasks according to the schedule set forth in Annex 1 “TRUSTCHAIN Specific Contract” at the latest and shall report to the Cascade Funding Partner on the activities’ progress in regular intervals as indicated in Annex 1 “TRUSTCHAIN Specific Contract”.

4.2 The Selected Third Party shall attend all group and individual coaching and mentoring sessions provided by the TRUSTCHAIN Beneficiaries or the Cascade Funding Partner over the course of the Research.

4.3 The Cascade Funding Partner shall give Financial Support for the Research carried out by the Selected Third Party, within the limits and in accordance with the Guide for Applicants and schedule of payments specified in Annex 1 "TRUSTCHAIN Specific Contract" and always subject to:

- A favourable resolution by the evaluators and coaches responsible for assessing the Project in each of the stages (a set of deliverables and KPIs will be set-up by coaches and sub-grantees and their achievement monitored during the projects' execution)
- The availability of funds in TRUSTCHAIN bank account during the relevant payment period
- The prior written notice to the Selected Third Party of the date and amount to be transferred to its bank account
- Payments to the Selected Third Party will be made by the Cascade Funding Partner. In particular:
  - The Cascade Funding Partner reserves the right to withhold the payments in case the Selected Third Party does not fulfil its obligations and tasks as per the Guide for Applicant.
  - Banking and transaction costs related to the handling of any financial resources made available to the Selected Third Party by the Cascade Funding Partner shall be covered by the Selected Third Party.
  - Payments will be released no later than fifteen (15) calendar days after the notification by the Cascade Funding Partner.
  - The Selected Third Party is responsible for complying with any tax and legal obligations that might be attached to this financial contribution.

4.5 A written payment request must be sent by the Selected Third Party to the Cascade Funding Partner after reception of the favourable resolution by the evaluators and coaches.

4.6 The Selected Third Party shall complete in a comprehensive manner Annex 4 "Selected third party financial information" to the Agreement and shall notify any changes to the Cascade Funding Partner as soon as it has occurred. The Cascade Funding Partner shall not in any case be liable for any late payment incurred by a change in the financial identification of the Selected Third Party.

## 5. LIABILITY

5.1 The Selected Third Party shall comply with all applicable laws, rules and regulations, including, but not limited to safety, security, welfare, social security and fiscal laws, rules and regulations.

5.2 Selected Third Party shall not be entitled to act or to make legally binding declarations on behalf of the Cascade Funding Partner or any other TRUSTCHAIN Beneficiary and shall indemnify all of the latter from any third-party claim resulting from a breach of these obligations.

5.3 The contractual liability of the Cascade Funding Partner under this Agreement shall in any case be limited to the amount of the Financial Support provided to the Selected Third Party hereunder and the Cascade Funding Partner. The Cascade Funding Partner shall not in any case be liable for any indirect or consequential damages such as:

- loss of profits, interest, savings, shelf-space, production and business opportunities.
- lost contracts, goodwill, and anticipated savings;
- loss of or damage to reputation or to data;
- costs of recall of products; or
- any other type of indirect, incidental, punitive, special or consequential loss or damage.

5.4 This limitation of liability shall not apply in cases of wilful act or gross negligence.

5.5 The Selected Third Party shall fully and exclusively bear the risks in connection with the Research for which Financial Support is granted by the Cascade Funding Partner. The Selected Third Party shall indemnify the



TRUSTCHAIN Beneficiaries and the Cascade Funding Partner for all damages, penalties, costs and expenses which the TRUSTCHAIN Beneficiaries or the Cascade Funding Partner as a result thereof would incur or have to pay to the European Commission or any third parties with respect to such Research financially supported and/or for any damage in general which the TRUSTCHAIN Beneficiaries or the Cascade Funding Partner incur as a result thereof. In addition, should the European Commission have a right to recover against the Cascade Funding Partner or another TRUSTCHAIN Beneficiary regarding the Financial Support granted under this Agreement, the Selected Third Party shall pay the sums in question in the terms and the date specified by the Cascade Funding Partner. Moreover, the Selected Third Party shall indemnify and hold the TRUSTCHAIN Beneficiaries and the Cascade Funding Partner, their respective officers, directors, employees and agents harmless from and against all repayments, loss, liability, costs, charges, claims or damages that result from or arising out of any such recovery action by the European Commission.

5.6 In respect of any information or materials (including Results and Background) supplied by one Party to another Party or to a TRUSTCHAIN Beneficiary, or by a TRUSTCHAIN Beneficiary involved in the applicable Research to a Party, no warranty or representation of any kind is made, given or implied as to the sufficiency, accuracy or fitness for purpose nor as to the absence of any infringement of any proprietary rights of third parties.

Therefore,

- the recipient shall in all cases be entirely and solely liable for the use to which it puts such information and materials (including Results and Background), and
- there is no liability in case of infringement of proprietary rights of a third party resulting from any Access Rights.

## 6. INTELLECTUAL PROPERTY RIGHTS POLICY

The Selected Third Party acknowledges the terms of the "Intellectual Property Rights Policy" defined hereinafter. The Selected Third Party agrees that it will comply with the TRUSTCHAIN Intellectual Property Rights Policy to ensure that the Cascade Funding Partner will always be able to comply with such terms towards the other TRUSTCHAIN Beneficiaries.

"Intellectual Property" means the Background and the Results (foreground) generated in the project.

The background of the third party(ies) is described in Annex 1.1 "TRUSTCHAIN Specific Contract" Article 1.

The background of TRUSTCHAIN partners is described in Annex 1.4 "TRUSTCHAIN consortium background".

### 6.1. GENERAL PRINCIPLE REGARDING OWNERSHIP

Results are owned by the Party or by the TRUSTCHAIN Beneficiary that generates them.

### 6.2. JOINT RESULTS

As requested in the Consortium Agreement signed between the TRUSTCHAIN Beneficiaries and the Cascade Funding Partner, all Results generated in the course of the Research within the framework of the project by the Selected Third Party with one or several TRUSTCHAIN Beneficiaries shall be jointly owned between the Selected Third Party and the respective TRUSTCHAIN Beneficiaries.

One or more TRUSTCHAIN Beneficiaries may contribute ideas, knowhow, concepts and other insights (together referred to as "Input") which, while not in themselves protected under intellectual property rights, are conducive to the generation of the Results. The TRUSTCHAIN Beneficiaries and the Selected Third Party agree that any Results which have been generated on the basis of the Input, shall be construed as Results jointly owned by the TRUSTCHAIN Beneficiary (or -ies) which provided the Input and the Selected Third Party which generated the Result.

Where such joint Result is covered by intellectual property rights, the joint owners shall execute a joint ownership agreement regarding the allocation and the terms and conditions of Exploitation of the joint Results as soon as possible and before any industrial or commercial Exploitation.

Unless otherwise agreed:

- each of the joint owners shall be entitled to use their jointly owned Results for internal non-commercial research activities and educational purposes on a royalty-free basis, and without requiring the prior consent of the other joint owner(s), and
- each of the joint owners shall be entitled to otherwise exploit the jointly owned Results, including by granting non-exclusive licences to third parties (without any right to sub-license), if the other joint owners are given:
  - (a) at least 45 calendar days advance notice; and
  - (b) fair and reasonable conditions compensation taking into account the specific circumstances of the request for access, for example the actual or potential value of the results or background to which access is requested and/or the scope, duration or other characteristics of the exploitation envisaged.

The joint owners shall agree on all protection measures and the division of related cost in advance.

## 6.3. ACCESS RIGHTS

6.3.1 The Selected Third Party endeavours to detail in Annex 1.1 “TRUSTCHAIN Specific Contract” Article 1 the Intellectual Property under Controlled License Terms that will be used in the Research.

During the Research, the intended introduction of Intellectual Property (including, but not limited to Software) under Controlled Licence Terms in the Research requires the prior approval of the Cascade Funding Partner and of the Participating Parties to implement such introduction.

6.3.2 Due to provisions of the Consortium Agreement signed between the TRUSTCHAIN Beneficiaries, Access Rights to Background and Results may be requested by the Selected Third Party from a Participating Partner only in the following case and if the following conditions are fulfilled:

- Selected Third Parties have Access Rights to Background and Results if and when such Access Rights have been agreed upon on a case-by-case basis in a separate written agreement between the Selected Third Party and the TRUSTCHAIN Beneficiary/ies concerned. Such separate agreement shall not affect any legitimate right of another TRUSTCHAIN Beneficiary nor violate any of the provisions as set out in the GA and/or CA. The separate agreement shall ensure that the other TRUSTCHAIN Beneficiaries have access to the Background and Results of the Selected Third Parties if needed for the Implementation of the Project or Exploitation of its own Results.
- Selected Third Parties which obtain Access Rights in return shall fulfil confidentiality obligations at least as stringent as the obligations stated in the Consortium Agreement to be arranged in a separate confidentiality agreement between the Selected Third Parties and the TRUSTCHAIN Beneficiaries concerned.
- Access Rights may be requested by the Selected Third Party up to twelve (12) months after the end of the Research.

6.3.3 The Selected Third Party shall grant Access Rights on its Background and/or Results to the TRUSTCHAIN Beneficiaries as far as such Background and/or Results are needed for implementation of the Research and/or implementation of the TRUSTCHAIN Project, and/or exploitation of the TRUSTCHAIN Beneficiaries' Results.

6.3.3.1 Where any TRUSTCHAIN Beneficiary has Access Rights on the Selected Third Party's Results and/or Background for implementation of the Research, such Access Rights shall be granted on a royalty-free basis.

6.3.3.2 Where Access Rights on Results and/or Background of the Selected Third Party are needed by TRUSTCHAIN Beneficiaries in order to implement the TRUSTCHAIN Project:

- Access Rights to the Selected Third Party's Results shall be granted on a royalty-free basis and shall comprise the right to sublicense such Results to the other selected third parties participating in the TRUSTCHAIN Project;
- Access Rights to the Selected Third Party's Background shall be granted only if such Background is needed to use the Selected Third Party's Results to implement the TRUSTCHAIN Project. Such Access Rights shall be granted on a royalty-free basis, and shall comprise the right to sublicense such Background to the other selected third parties participating in the research under the TRUSTCHAIN Project;
- as far as these other selected third parties need to have access to such Background to use the Selected Third Party's Results to carry out their own research under the TRUSTCHAIN Project; and
- if no major interest opposes.

6.3.3.3 Where Access Rights on the Selected Third Party's Results and/or Background are needed by TRUSTCHAIN Beneficiaries in order to exploit their Results, the conditions on which Access Rights will be granted shall be negotiated between the Selected Third Party and the TRUSTCHAIN Beneficiary concerned and agreed in a separate written agreement.

Access Rights may be requested by the TRUSTCHAIN Beneficiaries up to twelve (12) months after the end of the Research.

## 6.4. OPEN SOURCE

Without detriment to the provisions stated in article 6.1, any Result (including documentation, source code and application programming interfaces), shall be published with a permissive open-source licence (e.g., Apache v2.0 or equivalent) within the TRUSTCHAIN file repository (ies).

If part of the Result is delivered under a proprietary license it shall be duly identified and justified in advance by the Third Party. TRUSTCHAIN beneficiaries will have the right to access to it for evaluating the progress of activities during the TRUSTCHAIN project. Non-disclosure of these proprietary result shall be ensured.

## 6.5. EXPLOITATION OF THE RESULTS

Selected Third Parties are required for up to 4 years after the Research to use their best efforts to exploit their Results directly or to have them exploited indirectly by another entity, in particular through transfer or licensing. The Selected Third Party can request the TRUSTCHAIN Beneficiaries to assist in the exploitation of the Results. To this end, the TRUSTCHAIN Beneficiaries will implement during the TRUSTCHAIN Project an exploitation mechanism based on tailor-made cryptocurrency. During the course of the TRUSTCHAIN Project such assistance will be provided free of charge, whereas TRUSTCHAIN Beneficiaries shall have the right to charge a reasonable fee for their assistance with the exploitation after the TRUSTCHAIN Project's end.

If, despite the Selected Third Party's best efforts, the Results are not exploited within one year after the end of the Research, the Selected Third Party must request the TRUSTCHAIN Beneficiaries to assist in the exploitation. The TRUSTCHAIN Beneficiaries shall then use best efforts to assist in such exploitation.

## 7. CONFIDENTIALITY

7.1 All information in whatever form or mode of communication, which is disclosed by a Party or an TRUSTCHAIN Beneficiary (the "Disclosing Partner") to the other Party or to any TRUSTCHAIN Beneficiary (the "Recipient") in connection with the Project during its implementation and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been

confirmed and designated in writing within 15 calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is “Confidential Information”.

7.2 The Recipients hereby undertake for a period of four (4) years after the end of the Research:

- not to use Confidential Information otherwise than for the purpose for which it was disclosed;
- not to disclose Confidential Information to any third party (other than to its Affiliated Entities and Subcontractors) without the prior written consent by the Disclosing Partner, wherein the Recipient must ensure that an arrangement is in place prior to such disclosure that subjects the Affiliated Entities and/or Subcontractors to provisions at least as strict as provided in this Section 10;
- to ensure that internal distribution of Confidential Information by a Recipient, its Affiliated Entities, Subcontractors shall take place on a strict need-to-know basis; and
- to return to the Disclosing Partner, or destroy, on request all Confidential Information that has been disclosed to the Recipients including all copies thereof and to delete all information stored in a machine readable form to the extent practically possible. The Recipients may keep a copy to the extent it is required to keep, archive or store such Confidential Information because of compliance with applicable laws and regulations or for the proof of on-going obligations provided that the Recipient comply with the confidentiality obligations herein contained with respect to such copy for as long as the copy is retained.

7.3 The recipients shall be responsible for the fulfilment of the above obligations on the part of their employees, its Affiliated Entities or third parties involved in the Project having access to Confidential Information pursuant to this Section and shall ensure that they remain so obliged, as far as legally possible, during and after the end of the Project and/or after the termination of the contractual relationship with the employee or third party.

7.4 The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient can show that:

- the Confidential Information has become or becomes publicly available by means other than a breach of the Recipient’s confidentiality obligations;
- the Disclosing Partner subsequently informs the Recipient that the Confidential Information is no longer confidential;
- the Confidential Information is communicated to the Recipient without any obligation of confidentiality by a third party who is to the best knowledge of the Recipient in lawful possession thereof and under no obligation of confidentiality to the Disclosing Partner;
- the disclosure or communication of the Confidential Information is foreseen by provisions of the Multi-Beneficiary General Model Grant Agreement;
- the Confidential Information, at any time, was developed by the Recipient completely independently of any such disclosure by the Disclosing Partner;
- the Confidential Information was already known to the Recipient prior to disclosure without any confidentiality obligation to the Disclosing Partner, or
- the Recipient is required to disclose the Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order.

7.5 The Recipient shall apply the same degree of care with regard to the Confidential Information disclosed within the scope of the Project as with its own confidential and/or proprietary information, but in no case less than reasonable care.

7.6 Each Party shall promptly advise the other Party or the concerned TRUSTCHAIN Beneficiary in writing of any unauthorised disclosure, misappropriation or misuse of Confidential Information after it becomes aware of such unauthorised disclosure, misappropriation or misuse.

7.7 If any Party becomes aware that it will be required, or is likely to be required, to disclose Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, it shall, to the extent it is lawfully able to do so, prior to any such disclosure:

- notify the Disclosing Partner, and
- comply with the Disclosing Partner's reasonable instructions to protect the confidentiality of the information.

## 8. DISSEMINATION

- Each Party agrees that any dissemination activity (including publications, presentations, contributions to any standards organisation or open-source code) by the Selected Third Party is subject to the prior written approval of the other Participating Partners and upon proper citation of the TRUSTCHAIN project (cf. paragraph 6.4).
- By 30 days from its dissemination request the Selected Third Party will receive the approval to disseminate or the indication of how/when to proceed in the requested dissemination activity. The Selected Third Party has to be aware that a premature dissemination activity could negatively affect IPRs, as patent applications. Moreover, dissemination activities should be compliant with suggested EU commission guidelines about open access publishing.
- The Selected Third Party and the other TRUSTCHAIN Beneficiaries are entitled to include the main issues and information regarding the Research in their reporting towards the European Commission, subject to prior written notification to the Cascade Funding Partner.
- Unless explicitly agreed by the Cascade Funding Partner, any dissemination of results (in any form, including electronic) must display the NGI emblem and the following text: "This project has received funding from the European Union's Horizon 2020 research and innovation program through the NGI TRUSTCHAIN program under cascade funding agreement No. 101093274."

## 9. CHECKS AND AUDITS

9.1 The Selected Third Party undertakes to provide any detailed information, including information in electronic format, requested by the European Commission or by any other outside body authorised by the European Commission to check that the Research and the provisions of this Agreement are being properly implemented.

9.2 The Selected Third Party shall keep at the European Commission disposal all original documents, especially accounting and tax records, or, in exceptional and duly justified cases, certified copies of original documents relating to the Agreement, stored on any appropriate medium that ensures their integrity in accordance with the applicable national legislation, for a period of five years from the date of payment of the balance specified in the grant agreements.

9.3 The Selected Third Party agrees that the European Commission may have an audit of the use made of the Financial Support carried out either directly by the European Commission staff or by any other outside body authorised to do so on its behalf. Such audits may be carried out throughout the period of implementation of the Agreement until the balance is paid and for a period of five years from the date of payment of the balance. Where appropriate, the audit findings may lead to recovery decisions by the European Commission.

9.4 The Selected Third Party undertakes to allow European Commission staff and outside personnel authorised by the European Commission the appropriate right of access to the sites and premises of the Selected Third Party and to all the information, including information in electronic format, needed in order to conduct such audits.

9.5 In accordance with Union legislation, the European Commission, the European Anti-Fraud Office (OLAF) and the European Court of Auditors (ECA) may carry out spot checks and inspections of the documents of the Selected Third Party, and of any recipient of Cascade Finding, including at the premises of the Selected Third Party, in accordance with the procedures laid down by Union law for the protection of the financial interests of the Union against fraud and other irregularities. Where appropriate, the inspection findings may lead to recovery decisions by the European

Commission. The Articles 22 and 23 of the Multi-Beneficiary General Model Grant Agreement, also apply to the Selected Third Party.

## 10. EXPLOITATION

Without prejudice to clause 6.5 above, as also mentioned in the previous chapter, the EU Commission gives high priority that results of RIA projects generate sustainable business. Most importantly, TRUSTCHAIN aims towards the development of a sustainable blockchain ecosystem. Hence, before the end of this subproject, an exploitation agreement will be signed between the TRUSTCHAIN consortium and the third party about common exploitation activities of the subproject results, subject to a negotiation process.

## 11. TERMINATION

11.1 The Cascade Funding Partner can terminate this Agreement with immediate effect through written notice to the Selected Third Party and to the other Participating Partners:

- if the Selected Third Party is in breach of any of its material obligations under this Agreement, which breach is not remediable, or, if remediable, has not been remedied within thirty (30) days after written notice to that effect from the party not in breach,
- if, to the extent permitted by law, the Selected Third Party is declared bankrupt, is being wound up, is having its affairs administered by the courts, has entered into an arrangement with its creditors, has suspended business activities, or is the subject of any other similar proceeding concerning those matters, or
- if the Selected Third Party is subject to an Event of Force Majeure, which prevents the Selected Third Party from correct performance of its obligations hereunder and such circumstances have lasted or can reasonably be expected to last more than 3 months.

11.2 Access Rights granted to the Selected Third Party shall cease immediately upon the effective date of termination.

## 12. CONCLUDING CONDITIONS

12.1 The Parties will not sign Annex 1, and the terms of this Agreement (for the sake of clarity this includes Annex 1) will not be effective, until the Cascade Funding Partner has received written confirmation from each Participating Partner that it agrees to their content. This written confirmation can be given by each Participating Partner sending by email or facsimile to the Cascade Funding Partner.

Once each written confirmation is given by each Participating Platform Partner, any ancillary agreements, amendments, additions or modifications to this Agreement shall be made in writing and signed by the Parties but will only become effective after the Cascade Funding Partner has received written confirmation from each Participating Partner that it agrees to their content, such written confirmation to be given in the manner set out at the above paragraph.

12.2 The Selected Third Party's consistent level in its respective field of expertise played a key role in the selection of the Selected Third Parties to implement the Research. Any total or partial transfer of provisions and the rights and duties it entails in the prior formal approval of all signatories.

12.3 Any subcontract by the Selected Third Party concerning some of its tasks under this Agreement requires the prior written consent of the Cascade Funding Partner and does not affect its own obligations resulting from this Agreement. The Selected Third Party shall secure that the subcontractor will comply with all obligations – especially coming from the Multi-Beneficiary General Model Grant Agreement, and with regard to confidentiality – resulting from this Agreement and that the results attained by the subcontractor will be available in accordance with Section 5.

12.4 The Agreement will enter into force on the date of the last signature by the Parties.



12.5 This Funding Agreement shall continue in full force and effect until complete fulfilment of all obligations undertaken by the Parties. However, this Funding Agreement or the participation of one or more Parties to it may be terminated in accordance with the terms of this Funding Agreement.

12.6 Parties that fail to meet reporting/mandatory activities deadlines must be aware that their non-respect of reporting/mandatory activities deadlines may lead to their costs being considered zero for the corresponding period and they will be excluded from the respective payment.

12.7 In the event that a breach by a Party of its obligation under this contract is identified by the Cascade funding Partner such as improper implementation of the research, the Cascade funding Partner will formally notify the considered Party to remedy this breach. If it is not remedied in reasonable time, the Cascade funding Partner may decide to declare the Party to be a defaulting Party and, on the consequences, thereof which may include termination of its participation and reimbursement of all or part of the financial provision.

12.8 In the event of the termination of the contract by a Party before its legal termination as set in the Annex 1, the Cascade funding Partner may decide to declare the Party to be a defaulting Party and, on the consequences, thereof which may include reimbursement of all or part of the financial provision.

12.9 If any provision of this Agreement is determined to be illegal or in conflict with the applicable law, the validity of the remaining provisions shall not be affected. The ineffective provision shall be replaced by an effective provision which is economically equivalent. The same shall apply in case of a gap.

12.10 This Agreement shall be governed by and construed in accordance with the laws of Belgium.

12.11 Any disagreement or dispute which may arise in connection with this Agreement and which the Parties are unable to settle by mutual agreement will be brought before the courts of Brussel, Belgium.

Done in two originals, one for each Party.

<b>On behalf of the Cascade Funding Partner:</b> European Dynamics	<b>On behalf of the Selected Third Party (Authorized representative in case of Team/Consortium):</b> [Complete]
<b>Signature of the authorized representative:</b>   Name: Title: Date:	<b>Signature of Selected Third Party (Authorized representative in case of Team/Consortium):</b>   Name: [Complete] Title: [Complete] Date: [Complete]

## ANNEX 1.1 – TRUSTCHAIN SPECIFIC CONTRACT

This TRUSTCHAIN Specific Contract for implementation of Research by the Selected Third Party, hereinafter referred to as the “Specific Contract”, is entered into by and between:

EUROPEAN DYNAMICS LUXEMBOURG (ED), established in rue Jean Engling 12, Luxembourg 1466, Luxembourg, VAT number: LU17535424, represented for the purposes of signing the Agreement by Mr. Konstantinos Velentzas, legal representative of ED, hereinafter referred to as “**Cascade Funding Partner**”,

and

- [if a legal entity]:

**[OFFICIAL NAME OF THE SELECTED THIRD PARTY (Acronym)]**

VAT Number: **[VAT]**

Legal Status: **[XXX]**

PIC Number: **[PIC NUMBER]**

Name of the legal signatory: **[Name]**

Legal office address: **[ADDRESS and COUNTRY]**

- [if a Team of Natural persons]:

**[FIRST AND LAST NAME OF THE NATURAL PERSON 1]**

ID card/Passport Number: **[Number]**

Date of issue: **[Date]**

Taxpayer identification Number: **[Number]**

Legal address: **[ADDRESS and COUNTRY]**

**[FIRST AND LAST NAME OF THE OF THE NATURAL PERSON 2]**

ID card/Passport Number: **[Number]**

Date of issue: **[Date]**

Taxpayer identification Number: **[Number]**

Legal address: **[ADDRESS and COUNTRY]**

**[FIRST AND LAST NAME OF THE OF THE NATURAL PERSON 3]**

ID card/Passport Number: **[Number]**

Date of issue: **[Date]**

Taxpayer identification Number: **[Number]**

Legal address: **[ADDRESS and COUNTRY]**



- [if a Consortium of legal entities]:

[OFFICIAL NAME OF THE SELECTED THIRD PARTY 1 (Acronym)], Project Manager and Authorized representative of the consortium,

VAT Number: [VAT]

Legal Status: [XXX]

PIC Number: [PIC NUMBER]

Name of the legal signatory: [Name]

Legal office address: [ADDRESS and COUNTRY]

[OFFICIAL NAME OF THE SELECTED THIRD PARTY 2 (Acronym)],

VAT Number: [VAT]

Legal Status: [XXX]

PIC Number: [PIC NUMBER]

Name of the legal signatory: [Name]

Legal office address: [ADDRESS and COUNTRY]

[OFFICIAL NAME OF THE SELECTED THIRD PARTY 2 (Acronym)],

VAT Number: [VAT]

Legal Status: [XXX]

PIC Number: [PIC NUMBER]

Name of the legal signatory: [Name]

Legal office address: [ADDRESS and COUNTRY]

Hereinafter referred to as “Selected Third Party”;

Hereinafter sometimes individually or collectively referred to as “Party” or “Parties”.

Whereas the Cascade Funding Partner and the Selected Third Party have agreed the main terms and conditions to implement the Research in the course of the TRUSTCHAIN Project by signing the Standard Research Contract to which this Specific Contract is annexed.

Now therefore it has been agreed as follows:

## 1. ENTRY INTO FORCE

The specific contract shall enter into force on the day of its signature by the last Contracting Party as a rule of thumbs no more than 15 days after the announcement of the selection. The Cascade Funding Project Manager/ Authorized representative of the consortium shall sign this contract, only after all of the following documents have been received from the Selected Third Party:

- [if a legal entity]:

- The original signed Declaration of Honour (as given in Annex 6 of the Standard Research Contract) by the Project Manager/Authorized representative;
- The SME Declaration form (as given in Annex 7 of the Standard Research Contract);
- The copy of the original Extract of SME;
- The Proof of VAT;
- The Bank Information Form (as given in Annex 3 of this Contract).
- The Estimated budget for the action (as given in Annex 2 of this Contract)

**- [if a Team of Natural persons]:**

- The original signed Declaration of Honour (as given in Annex 6 of the Standard Research Contract) by the Project Manager/Authorized representative;
- Copy of ID-card or Passport of the legal representative(s) of the Team;
- Bank Information Form (as given in Annex 3 of this Contract).
- Estimated budget for the action (as given in Annex 2 of this Contract)
- A copy of the signed team agreement with the denomination of the Authorized representative.

**- [if a Consortium of legal entities]:**

- The original signed Declaration of Honour (as given in Annex 6 of the Standard Research Contract) by the Project Manager/Authorized representative;
- SME Declaration form (as given in Annex 7 of the Standard Research Contract) if applicable;
- Copy of the original Extract of SME if applicable;
- Proof of VAT;
- Bank Information Form (as given in Annex 3 of this Contract).
- Estimated budget for the action (as given in Annex 3 of this Contract)
- If a group of legal entities, copy of the signed consortium agreement with the denomination of the Authorized representative.

**All documents shall be sent to the Cascade Funding Partner via email to the following address:**  
**[caroline.barelle@eurodyn.com](mailto:caroline.barelle@eurodyn.com)** as a rule of thumbs no more than 15 days after the announcement of the selection

## 2. TERMS AND CONDITIONS FOR THE RESEARCH

The Selected Third Party shall implement the Research in accordance with the following:

Description of the Research	
Acronym	[Complete]
Full Title	[Complete]
TRUSTCHAIN call identification	TRUSTCHAIN Open Call 1
Starting date of the Research:	[Complete]
Duration of the Research:	9 months
Date of selection of the Selected Third Party(ies)	[Complete]

Participating Partners involved in the Research	
<b>Cascade Funding Project Manager</b>	<b>European Dynamics Luxembourg SA</b>
Name & surname	Caroline Barelle
Tel:	+35 220 40 08 90
Email:	caroline.barelle@eurodyn.com
<b>Selected Third Party 1 Project Manager Authorized representative</b>	[Complete]
Role	The authorized representative is the intermediary between the party (ies) and the Cascade funding project Manager. In particular, the authorized representative shall be responsible for : -Setting a team agreement of all the Third Party(ies) Partners involved in the Research if relevant -Monitoring compliance with obligations stipulated in this contract. -Keeping partners when relevant, updated. -Collecting, reviewing and submitting reports/deliverables and specific requested documents to the Cascade funding project Manager on time. -Transmitting documents and information connected with the research to any other party (ies) concerned. -Administering the financial contribution related to the research and fulfilling the financial tasks related to the research.
Name & surname	[Complete]
Tel:	[Complete]
Email:	[Complete]
<b>Selected Third Party 2</b>	[Complete]
Role	[Complete]
Name & surname of the Representative	[Complete]
Tel:	[Complete]
Email:	[Complete]
<b>Selected Third Party 3</b>	[Complete]
Role	[Complete]

Name & surname of the Representative	[Complete]
Tel:	[Complete]
Email:	[Complete]

Implementation of the Research	
WP 1	[Complete]
Task 1.1	[Complete]
Starting date	[Complete]
Duration	[Complete]
Objectives	[Complete]
Description	[Complete]
Expected outcomes	[Complete]
Task 1.2	[Complete]
Starting date	[Complete]
Duration	[Complete]
Objectives	[Complete]
Description	[Complete]
Expected outcomes	[Complete]
WP 2	[Complete]
Task 2.1	[Complete]
Starting date	[Complete]
Duration	[Complete]
Objectives	[Complete]
Description	[Complete]
Expected outcomes	[Complete]
Task 2.2	[Complete]
Starting date	[Complete]
Duration	[Complete]
Objectives	[Complete]
Description	[Complete]
Expected outcomes	[Complete]
[Add as many tasks as necessary]	

The expected research outcomes are listed hereafter

Expected research outcomes	
Expected results in terms of Research	[Complete]

Expected results in terms of IPR, software, know-how	[Complete]
--	------------

The following deliverables are mandatory. They are linked to the release of the funding.

Mandatory deliverables and reports		
Deliverable (number)	Deliverable/ Report name	Delivery date
D1	State of the art overview, use case analysis and preliminary technical specification of the solution. The document should clearly specify how the new solution extends and/or upgrades the state-of-the-art.	M2
D2	Detailed technical specification of the solution, software implementation work plan, and demo scenarios and preliminary business plan.	M4
D3	Implementation, deployment in appropriate TRUSTCHAIN platform, testing, demonstration and validation roadmap in a real-life application (i.e., banking, education, healthcare, utilities, defence or cross-border travel) and result of the validation process.	M7
D4	Modularised software components ready for distribution, full documentation for developers/users, final business plan.	M9

The following complementary activities are also linked to the release of the funding.

Mandatory complementary activities
<p>The selected third Party(ies) attend several mandatory internal events organised with the TRUSTCHAIN Consortium:</p> <ul style="list-style-type: none"> <li>-Kick-off event devoted to knowing the different Third Parties and their foreseen contribution to TRUSTCHAIN.</li> <li>- Meeting for the set-up of clear KPIs that will be linked to the funding of the selected Third party (ies).</li> <li>- Midterm event devoted to the follow up of the progress of the Third Party (ies) according to the defined KPIs with a pitch contest where the Third Party (ies) will present their project outcomes in particular their prototype and their deployment scenarios.</li> <li>-Final event with pitch contest where the Third Parties will present their solution in particular their modularised software components ready for distribution</li> </ul>

The IPR background of the third party (ies) is described hereafter:

Third party(ies) IPR Background	
Selected Third Party Partner 1 - Project Manager	[Complete]

Selected Third Party Partner 2	[Complete if relevant]
Selected Third Party Partner 3	[Complete if relevant]

Financial conditions	
Financial Support	<ul style="list-style-type: none"> <li>-Team of natural persons: 97K € + 2K €</li> <li>-Legal entity(ies): 115K €+ 2K €</li> </ul>
Schedule of payment	<ul style="list-style-type: none"> <li>- Pre-financing:M2</li> <li>- First Interim payment:M4</li> <li>- Second interim payment: M7</li> <li>- Final payment: End of the project</li> </ul>
Payment conditions	<ul style="list-style-type: none"> <li>○ <b><u>Beginning of the implementation and Pre-financing:</u></b> During the first weeks of the project implementation, each team will define with their coaches a set of clear and objective KPIs to be achieved and linked with the funding. These KPIs are different for each team and are related to the solution to be implemented. These KPIs will help measure the progress if any, but also the commitment and involvement of the teams (i.e., attending periodic call meetings with the coaches, meeting the deadlines for reporting, etc.). After this KPIs definition, a pre-financing of <b>30%</b> will be released.</li> <li>○ <b><u>First midterm review linked to the delivery of deliverable D2 and 2nd payment:</u></b> At first midterm of the project implementation, the coaches will assess the KPI's percentage of execution of the project on the basis of the evaluation of the deliverable D2. A 100% completion of the KPIs for the related period will unlock the total of the 2nd payment which is <b>20%</b> of the total amount. A lower completion of the tasks will launch the proportional payment. If the KPIs for the related period are met by less than 50%, the payment will be retained until KPIs for the period are assessed as completely reached. If less than 25%, the teams will be automatically disqualified from the process.</li> <li>○ <b><u>Second midterm review linked to the delivery of deliverable D3 and 3rd payment:</u></b> At the second midterm of the project implementation, the coaches will assess the KPI's percentage of execution of the project on the basis of the evaluation of the deliverable D3. A 100% completion of the KPIs for the related period will unlock the total of the 2nd payment which is <b>30%</b> of the total amount. A lower completion of the tasks will</li> </ul>

	<p>launch the proportional payment. If the KPIs for the related period are met by less than 50%, the payment will be retained until KPIs for the period are assessed as completely reached. If less than 25%, the teams will be automatically disqualified from the process.</p> <ul style="list-style-type: none"> <li>○ <b><u>Final review and last payment:</u></b> At the end of the project implementation, third parties will be paid according to their overall completion of KPIs materialised by the deliverable D4. A final event will be used to evaluate third parties on a face-to-face pitch contest. The third parties will present their implemented solution, and their business plan in the context of TRUSCHAIN. <p>Overall, failing to meet any of the research conditions and milestones aforementioned may result to an early discontinuation of the project and the corresponding disruption of the funding.</p> <ul style="list-style-type: none"> <li>○ <b><u>Extra payment for project outcomes publication:</u></b> 2K € extra funding will be released at the end of the project only if part of all outcomes of the project are published in a peer review journal with a minimum impact factor of 2,5. Proof of acceptance of such publication must be provided by the third party to the TRUSTCHAIN consortium to get paid.</li> </ul> </li></ul>
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### 3. MISCELLANEOUS

3.1 This Specific Research Contract, supplemented by the Standard Research Contract and its Annexes 1 to 8 included, constitutes the sole and complete understanding of the Parties with respect to its subject matter and supersedes all prior or contemporaneous communications between the Parties concerning such subject matter. This Specific Research Contract will be governed and construed according to the choice of governing and constructive law set forth in the Standard Research Contract.

3.2 Save to the extent expressly modified in this Specific Research Contract, all of the terms of the Standard Contract and Annexes 1-8 included shall apply to this Specific Contract. Save to the extent expressly specified in this Specific Contract, all capitalized terms used in this Specific Contract which are defined in the Standard Research Contract shall have the meaning given in the Standard Research Contract.

3.3 The terms of Clause 11.1 of the Standard Research Contract will apply to the signing and enforceability of this Specific Research Contract.

Done in two originals, one for each Party.

<b>On behalf of the Cascade Funding Partner:</b> European Dynamics	<b>On behalf of the Selected Third Party:</b> [Complete]
<b>Signature of the authorized representative:</b>	<b>Signature of the authorized representative:</b> [Complete]

Name:	Name:[Complete]
Title:	Title:[Complete]
Date:	Date:[Complete]



## ANNEX 1.2 ESTIMATED BUDGET FOR THE ACTION

Expenditures	Total in EUR
A.1. Staff costs (where applicable)	[Complete]
A.2. Travel and subsistence	[Complete]
A.3. Equipment and materials	[Complete]
A.5. Conferences and seminars	[Complete]
Total	[Complete]
Revenues	Total in EUR
R.1. TRUSTCHAIN Grant	[Complete]
R.2. Income generated by the action	[Complete]
Total	[Complete]

All amounts should be provided in euro.

Staff costs will be calculated on the basis of the actual daily salary/fees of the employee/service provider, multiplied by the number of days to be spent on the project. This calculation may include, if necessary, all the normal charges paid by the employer, such as social security contributions and related costs, but must exclude any bonus, incentive and profit-sharing arrangements or running costs. Staff costs may not exceed the normal costs for each staff category in the country concerned.

Name of the Authorized representative of the Selected Third Party (ies):

[Complete]

Function of the Authorized representative of the Selected Third Party (ies):

[Complete]

Signature of Authorized representative the Selected Third Party (ies):

[Complete]

## ANNEX 1.3 - SELECTED THIRD PARTY FINANCIAL INFORMATION

H2020 HORSE Funding Agreement

### ANNEX 4 - SELECTED THIRD PARTY'S FINANCIAL IDENTIFICATION



#### FINANCIAL IDENTIFICATION

PRIVACY STATEMENT

[http://ec.europa.eu/budget/contracts\\_grants/info\\_contracts/financial\\_id/financial\\_id\\_en.cfm#en](http://ec.europa.eu/budget/contracts_grants/info_contracts/financial_id/financial_id_en.cfm#en)

Please use CAPITAL LETTERS and LATIN CHARACTERS when filling in the form.

#### BANKING DETAILS ①

ACCOUNT NAME ②			
IBAN/ACCOUNT NUMBER ③			
CURRENCY			
BIC/SWIFT CODE		BRANCH CODE ④	
BANK NAME			
ADDRESS OF BANK BRANCH			
STREET & NUMBER			
TOWN/CITY		POSTCODE	
COUNTRY			

#### ACCOUNT HOLDER'S DATA

AS DECLARED TO THE BANK

ACCOUNT HOLDER			
STREET & NUMBER			
TOWN/CITY		POSTCODE	
COUNTRY			

REMARK	
--------	--

BANK STAMP + SIGNATURE OF BANK REPRESENTATIVE ⑤	DATE (Obligatory)
	SIGNATURE OF ACCOUNT HOLDER (Obligatory)

① Enter the final bank data and not the data of the intermediary bank.

② This does not refer to the type of account. The account name is usually the one of the account holder. However, the account holder may have chosen to give a different name to its bank account.

③ Fill in the IBAN Code (International Bank Account Number) if it exists in the country where your bank is established

④ Only applicable for US (ABA code), for AU/NZ (BSB code) and for CA (Transit code). Does not apply for other countries.

⑤ It is preferable to attach a copy of RECENT bank statement. Please note that the bank statement has to confirm all the information listed above under 'ACCOUNT NAME', 'ACCOUNT NUMBER/IBAN' and 'BANK NAME'. With an attached statement, the stamp of the bank and the signature of the bank's representative are not required. The signature of the account-holder and the date are ALWAYS mandatory.

## ANNEX 1.4 - TRUSTCHAIN CONSORTIUM BACKGROUND

Background description	Specific limitations for the Implementation	Specific limitations for the Exploitation

## ANNEX 1.5 - THIRD PARTY(IES) PROPOSAL

[to be integrated]

## ANNEX 1.6- DECLARATION OF HONOUR

### APPLICANT DECLARATION OF HONOUR

Title of the proposal:

**On behalf of**

(Name of the third party) established in  (legal address), VAT number , [1] represented for the purposes of signing and submitting the proposal and the Declaration of Honor by  (Name of the legal representative),

By signing this document, I declare that

- 1) I have the power of legally binding the above-mentioned party on submitting this proposal.
- 2) The above-mentioned party has not submitted any other proposal under TRUSTCHAIN Open Call 1. In case the above-mentioned party has submitted more than one proposal in this Open Call, all associated proposals will be automatically excluded from the evaluation process.
- 3) The party(ies) that I legally represent is(are) fully aware and duly accept all TRUSTCHAIN rules and conditions as expressed in TRUSTCHAIN Open Call documents and all Annexes and will fully respect any evaluation decision and proposal selection under TRUSTCHAIN activities.
- 4) If relevant, the information included in the Annex 7: SME Declaration Form is true and legally binding.
- 5) All provided information in this declaration is true and legally binding.

**Third party(ies) representative Contact Information:**

Title (Mr, Mrs, Dr.)	[Complete]
Name	[Complete]
Surname	[Complete]
Position in the organisation (If relevant)	[Complete]
Full Address	[Complete]
Country	[Complete]
Email Address	[Complete]
Telephone	[Complete]
Mobile	[Complete]
Signature of the representative and stamp of the organisation (if relevant)	[Complete]

## DECLARATION OF HONOR ON EXCLUSION CRITERIA AND ABSENCE OF CONFLICT OF INTEREST

By signing this declaration of honour, I declare that all provided information below is true and legally binding both for me and for the organisations that I legally represent:

1. I declare that me and/or the organisations that I legally represent (If relevant) is not in one of the following situations:

- a) it is bankrupt or being wound up, is having its affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, is the subject of proceedings concerning those matters, or is in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- b) it or persons having powers of representation, decision making or control over it have been convicted of an offence concerning their professional conduct by a judgment which has the force of res judicata;
- c) it has been guilty of grave professional misconduct proven by any means which the contracting authority can justify including by decisions of the European Investment Bank and international organizations;
- d) it is not in compliance with its obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which it is established or with those of the country of the contracting authority or those of the country where the contract is to be performed, to be proved by the deliverance of official documents issued by the local authorities, according to the local applicable rules;
- e) it or persons having powers of representation, decision making or control over it have been the subject of a judgment which has the force of res judicata for fraud, corruption, involvement in a criminal organization or any other illegal activity, where such illegal activity is detrimental to the Union's financial interests;
- f) is subject to an administrative penalty for being guilty of misrepresenting the information required by the contracting authority as a condition of participation in a grant award procedure or another procurement procedure or failing to supply this information or having been declared to be in serious breach of its obligations under contracts or grants covered by the Union's budget.

2. I declare that the natural persons with power of representation, decision-making or control over the above-mentioned SME are not in the situations referred to in a) to f) above;

3. I declare that:

- a) Neither myself or any person (s)/organisation (s) that I represent is (are) subject to a TRUSTCHAIN conflict of interest;
- b) I have not made false declarations in supplying the information required by participation in the Open Call of TRUSTCHAIN Project or does not fail to supply this information;
- c) I am not in one of the situations of exclusion, referred to in the abovementioned points a) to f).
- d) I am aware and fully accept all TRUSTCHAIN condition and rules as expressed in TRUSTCHAIN Open Call documents.

4. I certify that I or the organisation(s) that I represent:

- Is (are) committed to participate in the abovementioned project;

- has stable and sufficient sources of funding to maintain its activity throughout its participation in the above-mentioned project and to provide any counterpart funding necessary;
- has or will have the necessary resources as and when needed to carry out its involvement in the above-mentioned project.

<b>Full name:</b> <input type="text"/>  <b>On</b> <input type="text"/> <b>behalf</b> <b>of</b> <input type="text"/> <b>SME:</b> <input type="text"/>	<b>Signature and stamp (if applicable)</b>  <input type="text"/>
<b>Done at (place)</b> <input type="text"/> <b>the (day)</b> <input type="text"/> <b>(month)</b> <input type="text"/> <b>(year)</b>	

[1] VAT is mandatory during the contract preparation for legal entities. Failure of providing a valid VAT of the specific SME will result in automatic rejection of the proposal.



## ANNEX 1.7- SME DECLARATION FORM

### Declaration of SME Status

Precise identification of the SME:

Name or Business name	[Complete]
Address (of registered office)	[Complete]
Registration / VAT number	[Complete]
Names and titles of the principal director(s)[1]	[Complete]

Type of enterprise:

Tick to indicate which case(s) applies to the applicant enterprise:

<input type="checkbox"/>	<b>Autonomous enterprise</b>	My enterprise holds less than 25% (capital or voting rights) in another enterprise and/or another enterprise holds less than 25% in mine.  <i>* Note: there are exceptions for certain types of investors. See Article 3(2)(D) in the Annex of Commission Recommendation 2003/361/EC.</i>
<input type="checkbox"/>	<b>Partner enterprise</b>	My enterprise holds at least 25%, but no more than 50% in another enterprise and/or another enterprise holds at least 25%, but no more than 50%, in mine.
<input type="checkbox"/>	<b>Linked enterprise</b>	My enterprise holds more than 50% of the shareholders' or members' voting rights in another enterprise and/or another enterprise holds more than 50% in mine.

Data used to determine the category of enterprise:

Calculated according to Article 6 of the Annex to the Commission Recommendation 2003/361/EC on the SME definition.

Reference period (*):		
Headcount (AWU[3])	Annual turnover (€)(**)	Balance sheet total (€)(**)
[Complete]	[Complete]	[Complete]

(\*) All data must be relating to the last approved accounting period and calculated on an annual basis. In the case of newly established enterprises whose accounts have not yet been approved, the data to apply shall be derived from a reliable estimate made in the course of the financial year.

(\*\*) EUR 1000

### Signature

Name and position of the signatory, being authorised to represent the enterprise:

[Complete] .....

"I declare on my honour the accuracy of this declaration."

"I declare on my honour that in case of change affecting my SME status, I will immediately inform the Agency."

"I declare having taken knowledge of the Commission Recommendation 2003/361/EC on the SME definition."

Done at (date and place): [Complete] .....

Signature:

[Complete]

[1] Chairman (CEO), Director-General or equivalent.

[2] Annual Working Units = number of full-time equivalent employees.

## ANNEX 2- ADMINISTRATIVE FORM

Find hereafter the list of administrative information that you need to fill directly in the F6S portal to apply.

### ADMINISTRATIVE FORM

This administrative form has the following mandatory sections:

- SECTION 1: Proposal identification
- SECTION 2: Administrative Data
- SECTION 3: Proposal Description
- SECTION 4: Final questions

Documents to be reviewed when preparing the application:

- TRUSTCHAIN Open Call 1 Text, a document that provides the technical details for the TRUSTCHAIN Open call 1 available at: <https://trustchain.ngi.eu/apply>.
- TRUSTCHAIN Guide for Applicant, defining the Open Call Terms & Conditions available at: <https://trustchain.ngi.eu/apply>.
- Proposal Description Template, a mandatory and editable document to describe your proposal, available at: <https://trustchain.ngi.eu/apply>.
- TRUSTCHAIN Additional Applicant(s) Template, only needed if your proposal involves more than 3 individuals (Natural persons) or/and more than 3 organisations (Legal entities), available at: <https://trustchain.ngi.eu/apply>.
- Indicative Sub-grant Agreement Form, a template of the sub-grant agreement that the selected applicants will be requested to sign, available at: <https://trustchain.ngi.eu/apply>. It is not necessary to send this document at the time of application.

If you have any questions, feel free to contact the TRUSTCHAIN team ([trustchain@ngi.eu](mailto:trustchain@ngi.eu)). Failure to provide the required information in all sections will result in disqualification.

### SECTION 1: PROPOSAL IDENTIFICATION

1. Proposal Title \*
2. Proposal Acronym \*
3. Keywords \*

Please select the keywords related to your proposal

- ☐ Trustworthy hardware & manufacturing
- ☐ Software Engineering (Including protocols, interoperability and fundamentals e.g. cryptography, algorithms, proofs)
- ☐ Cloud engineering, digital twins, edge and fog computing
- ☐ cryptography, standardisation and security engineering

- ☐ digital twins, edge and fog computing
- ☐ Operating Systems, firmware and virtualisation
- ☐ Measurement, monitoring, analysis & abuse handling
- ☐ Middleware, distribution, deployment, operations, DNS, authorisation, authentication, reputation systems
- ☐ Decentralised solutions, blockchain, distributed ledger
- ☐ semantic web, ontology engineering
- ☐ Data & AI
- ☐ Services & Applications (e.g. email, instant messaging, search, video chat, collaboration, community)
- ☐ Trustworthiness (Including: transparency, auditability and security)
- ☐ Resilient, robust and dependable
- ☐ digital identity management, self-sovereign identity
- ☐ Privacy and confidentiality
- ☐ Empowerment and self-determination
- ☐ Inclusiveness, accessibility diversity and democracy
- ☐ Permission less innovation, decentralisation and level playing field
- ☐ Social good, fairness and ethical behaviour
- ☐ Sustainability/Eco-friendliness
- ☐ ecosystem economics, Well-balanced economy
- ☐ Green, environmental sustainability

## SECTION 2: ADMINISTRATIVE DATA APPLICANT(S)

4. You are applying as: \*

Notice that as team of individuals (two or more natural persons), you will get a maximum of 97K€+ 2 K€. Any other configuration involving legal entities can obtain up to 115K€+ 2K€. The funding will be automatically calculated according to the selection below.

- ☐ A single organization (legal entity)
- ☐ A group of individuals (team)
- ☐ A group of organisations (consortium)
- ☐ A group of individual(s) and organisation(s)

## APPLICANT(S) INFORMATION (INDIVIDUAL(S))

Please fill in the following information about the individual(s) applying as a natural person(s).

**WARNING: if in the previous question you indicated you apply as a legal entity, or consortium, do not fill the Individuals section.**

### INDIVIDUAL - NATURAL PERSON 1

5. Name
6. Surname
7. E-mail
8. ID type (Citizen card, passport, or other)
9. ID number
10. Country of residence/work

11. Has been funded by the European Commission through H2020 before? (Grant or subgrant)

- ☐ Yes
- ☐ No

12. Has been funded by other NGI projects?

- ☐ Yes
- ☐ No

If yes, please indicate which one, explain the overlaps and differences with the current proposal and indicate the total funding amount received.

13. Has recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to?

- ☐ Yes
- ☐ No

If yes, please indicate which one and explain the overlaps and differences with the current proposal.

## INDIVIDUAL - NATURAL PERSON 2

14. Name

15. Surname

16. E-mail

17. ID type (Citizen card, passport, or other)

18. ID number

19. Country of residence/work

20. Has been funded by the European Commission through H2020 before? (Grant or sub grant)

- ☐ Yes
- ☐ No

21. Has been funded by other NGI projects?

- ☐ Yes
- ☐ No

If yes, please indicate which one, explain the overlaps and differences with the current proposal and indicate the total funding amount received.

22. Has recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to?

- ☐ Yes
- ☐ No

If yes, please indicate which one and explain the overlaps and differences with the current proposal

## INDIVIDUAL - NATURAL PERSON 3

23. Name
24. Surname
25. E-mail
26. ID type (Citizen card, passport, or other)
27. ID number
28. Country of residence/work
29. Has been funded by the European Commission through H2020 before? (Grant or subgrant)
- ☐ Yes
- ☐ No
30. Has been funded by other NGI projects?
- ☐ Yes
- ☐ No

If yes, please indicate which one, explain the overlaps and differences with the current proposal and indicate the total funding amount received.

31. Has recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to?
- ☐ Yes
- ☐ No

If yes, please indicate which one and explain the overlaps and differences with the current proposal

## APPLICANT(S) INFORMATION (ORGANISATION(S))

Please fill in the following information about the organisation(s) applying as legal entity/ies

### ORGANISATION - LEGAL ENTITY 1

32. Entity legal name
33. Legal status of your organisation
- ☐ Secondary or Higher education establishment
- ☐ Research organisation
- ☐ SME
- ☐ Large enterprise
- ☐ Public Body
- ☐ A non-for profit organisation, association, NGO
- ☐ Foundation
- ☐ International organisation
- ☐ Other? Please specify
34. Country
35. VAT number
36. Incorporation year

37. Contact person email

38. Has the legal entity been funded by the European Commission before? (Grant or subgrant)

- ☐ Yes
- ☐ No

39. Has the legal entity been funded by other NGI projects?

- ☐ Yes
- ☐ No

If yes, please indicate which one, explain the overlaps and differences with the current proposal and indicate the total funding amount received.

40. Has the legal entity recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to?

- ☐ Yes
- ☐ No

If yes, please indicate which one and explain the overlaps and differences with the current proposal

## ORGANISATION - LEGAL ENTITY 2

41. Entity legal name

42. Legal status of your organisation

- ☐ Secondary or Higher education establishment
- ☐ Research organisation
- ☐ SME
- ☐ Large enterprise
- ☐ Public Body
- ☐ A non-for profit organisation, association, NGO
- ☐ Foundation
- ☐ International organisation
- ☐ Other? Please specify

43. Country

44. VAT number

45. Incorporation year

46. Contact person email

47. Has the legal entity been funded by the European Commission before? (Grant or subgrant)

- ☐ Yes
- ☐ No

48. Has the legal entity been funded by other NGI projects?

- ☐ Yes
- ☐ No

If yes, please indicate which one, explain the overlaps and differences with the current proposal and indicate the total funding amount received.

49. Has the legal entity recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to?

- ☐ Yes
- ☐ No

If yes, please indicate which one and explain the overlaps and differences with the current proposal

### ORGANISATION - LEGAL ENTITY 3

50. Entity legal name

51. Legal status of your organisation

- ☐ Secondary or Higher education establishment
- ☐ Research organisation
- ☐ SME
- ☐ Large enterprise
- ☐ Public Body
- ☐ A non-for profit organisation, association, NGO
- ☐ Foundation
- ☐ International organisation
- ☐ Other? Please specify

52. Country

53. VAT number

54. Incorporation year

55. Contact person email

56. Has the legal entity been funded by the European Commission before? (Grant or subgrant)

- ☐ Yes
- ☐ No

57. Has the legal entity been funded by other NGI projects?

- ☐ Yes
- ☐ No

If yes, please indicate which one, explain the overlaps and differences with the current proposal and indicate the total funding amount received.

58. Has the legal entity recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to?

- ☐ Yes
- ☐ No

If yes, please indicate which one and explain the overlaps and differences with the current proposal

### ADDITIONAL APPLICANT(S)?



59. If your proposal has more than 3 applicants participating as individuals (Natural persons) or/and more than 3 applicants participating as organisations (Legal entities), please upload the Annex 3 – Additional Applicant(s) Template, filled with the information about the applicant(s) that did not fit in this form. (Max file size 30MB.)

UPLOAD FILE

## CONTACT PERSON (COORDINATOR)

Contact person for the proposal and coordination of the project what ever the type of Applicant you are.

Notice that the result of the evaluation will be sent to this person.

60. Full Name \*

61. Entity (If applicable) \*

62. E-mail \*

63. Phone number \* (Include country code)

## SECTION 3: ETHICS

### 3.1. HUMAN EMBRYOS/FOETUSES

64. Does your innovation project involve Human Embryonic Stem Cells (hESCs)? \*

- ☐ Yes
- ☐ No

65. Does your innovation project involve the use of human embryos? \*

- ☐ Yes
- ☐ No

66. Does your innovation project involve the use of human foetal tissues / cells? \*

- ☐ Yes
- ☐ No

### 3.2. HUMANS

67. Does your innovation project involve human participants? \*

- ☐ Yes
- ☐ No

68. Are they volunteers for social or human sciences research? \*

- ☐ Yes
- ☐ No

69. Are they persons unable to give informed consent? \*

- ☐ Yes
- ☐ No

70. Are they vulnerable individuals or groups? \*

- ☐ Yes
- ☐ No

71. Are they children/minors? \*

- ☐ Yes
- ☐ No

72. Are they patients? \*

- ☐ Yes
- ☐ No

73. Are they healthy volunteers for medical studies? \*

- ☐ Yes
- ☐ No

74. Does your innovation project involve physical interventions on the study participants? \*

- ☐ Yes
- ☐ No

### 3.3. HUMAN CELLS / TISSUES

75. Does your innovation project involve human cells or tissues (other than from Human Embryos/ Foetuses)? \*

- ☐ Yes
- ☐ No

### 3.4. PERSONAL DATA

76. Does your innovation project involve personal data collection and/or processing? \*

- ☐ Yes
- ☐ No

77. Does it involve the collection and/or processing of sensitive personal data (e.g: health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)? \*

- ☐ Yes
- ☐ No

78. Does it involve processing of genetic information? \*

- ☐ Yes
- ☐ No

79. Does it involve tracking or observation of participants? \*

- ☐ Yes
- ☐ No

80. Does your innovation project involve further processing of previously collected personal data (secondary use)? \*

- ☐ Yes
- ☐ No

### 3.5. ANIMALS

81. Does your innovation project involve animals? \*

- ☐ Yes
- ☐ No

### 3.6. THIRD COUNTRIES

82. In case non-EU countries are involved, do the innovation project related activities undertaken in these countries raise potential ethics issues? \*

- ☐ Yes
- ☐ No

83. Do you plan to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)? \*

- ☐ Yes
- ☐ No

84. Do you plan to import any material - including personal data - from non-EU countries into the EU? \*

- ☐ Yes
- ☐ No

85. Do you plan to export any material - including personal data - from the EU to non-EU countries? \*

- ☐ Yes
- ☐ No

86. In case your innovation project involves low and/or lower middle income countries, are any benefits-sharing actions planned? Are they children/minors? \*

- ☐ Yes
- ☐ No

87. Could the situation in the country put the individuals taking part in the innovation project at risk? \*

- ☐ Yes
- ☐ No

### 3.7. ENVIRONMENT & HEALTH AND SAFETY

88. Does your innovation project involve the use of elements that may cause harm to the environment, to animals or plants? \*

- ☐ Yes

- ☐ No

89. Does your innovation project deal with endangered fauna and/or flora and/or protected areas? \*

- ☐ Yes  
☐ No

90. Does your innovation project involve the use of elements that may cause harm to humans, including innovation project staff? \*

- ☐ Yes  
☐ No

### 3.8. DUAL USE

91. Does your innovation project involve dual-use items in the sense of Regulation 428/2009, or other items for which an authorisation is required? \*

- ☐ Yes  
☐ No

### 3.9. EXCLUSIVE FOCUS ON CIVIL APPLICATIONS

92. Could your innovation project raise concerns regarding the exclusive focus on civil applications? \*

- ☐ Yes  
☐ No

### 3.10. MISUSE

93. Does your innovation project have the potential for misuse of innovation project results? \*

- ☐ Yes  
☐ No

### 3.11. OTHER ETHICS ISSUES

94. Are there any other ethics issues that should be taken into consideration? \*

- ☐ Yes  
☐ No

If yes, please specify

95. Ethics issues \*

- ☐ I confirm that I have taken into account all ethics issues described above

96. Does your innovation require prior approval by a competent ethics or data protection body?

- ☐ No  
☐ Yes, i.e. \* (please specify which ethics/data protection body as well as the time period required for such approval)

Please note that seeking and obtaining the mandatory approvals in a timely manner from competent ethics and/or data protection bodies are the applicant's sole and exclusive responsibility and that the absence of such approvals, when and where legally required, may void the eligibility of the applicant's proposal.

## SECTION 4: PROPOSAL DESCRIPTION

97. Please upload your proposal in Portable Document Format (pdf). Use the official template available at: <https://trustchain.ngi.eu/apply/>\*. Applicants using other kind of template/ document structure will be automatically ineligible.

UPLOAD PROPOSAL (Max file size 30MB.)\*

## SECTION 5: FINAL QUESTIONS

98. Acceptance of the TRUSTCHAIN Open Call Terms & Conditions Full call documents available at <https://trustchain.ngi.eu/apply/>\*

- By ticking this box, I/we confirm that we have reviewed, accept and comply with the TRUSTCHAIN Open Call Terms & Conditions as defined in the Guide for Applicant

99. Authorisation to apply in the name of

- By ticking this box, I confirm the information submitted within this application is true. I am authorised to apply in the name of my entity/group of natural persons.

100. Conflict of interest avoidance with TRUSTCHAIN consortium

- ☐ By ticking this box, I confirm the members of the team involved in the proposal are not employees of any of the legal partners or their associated/linked-entities identified in the Grant Agreement No. 101093274 with the EC.

101. Fraudulent behaviour avoidance

- ☐ By ticking this box, I confirm the organisation(s) or individual(s) applying do not have convictions for fraudulent behaviour, other financial irregularities, unethical or illegal business practices.

102. Bankruptcy information

- ☐ By ticking this box, I confirm the participating organisation(s) do(es) not have been declared bankrupt or have initiated bankruptcy procedures.

103. Multiple submissions

- ☐ By ticking this box, I confirm that all the members involved in the proposal (natural persons/legal entities) are only submitting one proposal under this open call

104. European Commission Regulation No 651/2014, art. 2.18

- ☐ By ticking this box, I confirm the applicant(s) is not under liquidation or is not an enterprise under difficulty according to the Commission Regulation No 651/2014, art. 2.18.

105. Originality and freedom to operate

- ☐ By ticking this box, I confirm the project is based on original works and going forward any foreseen developments are free from third party rights, or they are clearly stated.

#### 106.Applicant(s) eligibility

- ☐ By ticking this box, I confirm the applicant(s) is not excluded from the possibility of obtaining EU funding under the provisions of both national and EU law, or by a decision of both national or EU authority.

#### 107.TRUSTCHAIN Sub-grant Agreement

- ☐ By ticking this box, I confirm the principal investigator involved in the proposal agrees with the terms presented in the Indicative Sub-grant Agreement Form.

#### 108.Double funding and operational capacity

- ☐ By ticking this box, I confirm the applicant(s) has not received funding for a similar project and that the applicant(s) has enough Operational Capacity to carry out the work. In addition, the applicant(s) gives consent to the TRUSTCHAIN consortium to share the needed information (such as entities names and project details (abstract or the full proposal)) with other NGI RIAs projects for the only purpose of cross-checking that there is no double funding or operational capacity conflict.

#### 109.How did you hear about TRUSTCHAIN?

- ☐ News/Media
- ☐ Event
- ☐ E-mail
- ☐ NGI portal
- ☐ Referral
- ☐ Social media
- ☐ Through an TRUSTCHAIN partner
- ☐ F6S portal
- ☐ European Commission portal
- ☐ Other

## ANNEX 3- PROPOSAL DESCRIPTION TEMPLATE

### SECOND OPEN CALL FOR PROPOSALS

Closing dates for proposals: 20<sup>th</sup> September 2023, 17:00 CEST

#### GENERAL INSTRUCTIONS ON THE TEMPLATE

This template is to be used for the TRUSTCHAIN Open Call 2 submission procedure.

The structure of this template must be strictly followed when preparing your proposal. It has been designed to ensure that the important aspects of your planned work are presented in a way that will enable the experts to make an effective assessment against the evaluation criteria.

**All proposers should organise their information as focused as possible, explaining at least the following aspects of their projects: overall description of the application; potential users/customers and markets; methods and approaches for users/customer engagement; resolution of the ownership (including preferably open source licensing approach for the results); positioning on the market against existing similar solutions/services; clear description of the added value; data quality properties that will be achieved by the application solution; time to market of the proposed solution/application.**

Please be aware that proposals will be evaluated as they were submitted, rather than on their potential if certain changes were to be made. This means that only proposals that successfully address all the required aspects will have a chance of being funded. There will be no possibility for significant changes to content, budget and team composition during grant preparation.

**Total page limit: Sections 1, 2 and 3, together, should not be longer than 10 pages.**

All tables, figures, references and any other element pertaining to these sections must be included as an integral part of these sections and are thus counted against this page limit.

The total page limit will be applied automatically; therefore you must remove this instruction page before submitting.

After the deadline, excess pages (in over-long proposals/applications) will not be taken into consideration by the experts.

The proposal is a self-contained document. Experts will be instructed to ignore hyperlinks to information that is specifically designed to expand the proposal, thus circumventing the page limit. Please, do not consider the page limit as a target! It is in your interest to keep your text as concise as possible, since experts rarely view unnecessarily long proposals in a positive light.

The following formatting conditions apply: The reference font for the body text is Arial. The use of a different font for the body text is not advised and is subject to the cumulative conditions that the font is legible and that its use does not significantly shorten the representation of the proposal in number of pages compared to using the reference font (for example with a view to bypass the page limit). The minimum font size allowed is 11 points.

Standard character spacing and a minimum of single line spacing is to be used. Text elements other than the body text, such as headers, foot/end notes, captions, formula's, may deviate, but must be legible.

The page size is A4, and all margins (top, bottom, left, right) should be at least 20 mm.

**Delete the guidance text in each section.**

## TRUSTCHAIN SECOND OPEN CALL FOR PROPOSALS

**Acronym of your proposal**

**Full title of your proposal**

### Table of Contents

<b>1. PROJECT SUMMARY .....</b>	<b>4</b>
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----Page count starts here----

## 1. PROJECT SUMMARY

(Maximum 300 words)

-Describe your proposal at a high level.

Please note that this information may be used for dissemination purposes (only if your proposal is accepted and funded by the TRUSTCHAIN program).

Insert text here.

## 2. APPLICANT BACKGROUND

(Maximum 1 page)

### 1. Organisation profile (If applicable, in case a single organisation apply)

-Describe the organisation proposing the collaboration (size of organization, type of organization, how many people, capital, and market), main expertise and business area.

-List the members of your organisation that will directly work on the project (name, job title, main expertise & role in the project).

-Describe the main publications, projects, product/service portfolio, patents and relevant contributions in line with your proposal.

-Explain how your organisation profile matches the expertise needed for the TRUSTCHAIN 1st Call.

### 2. Team/consortium profile (If applicable, in case a team of natural persons/ consortium of legal entities apply)

-Describe the natural persons/organisations part of the team/consortium proposing the collaboration (size of organization, type of organization, how many people, capital, and market if applicable), their main expertise and their business area.

-For each participating organisation, list the members of the organisation that will directly work on the project (name, job title, main expertise & role in the project).

-Describe the main publications, projects, product/service portfolio, patents and relevant contributions of the different natural persons/organisations part of the team/consortium in line with your proposal.

-Describe the team/consortium partners' synergies and their relevance for the proposed project and TRUSTCHAIN 1st Call.

Insert text here.

## 3. DETAILED PROPOSAL DESCRIPTION

(Maximum 8 pages)

### 3.1 CONCEPT AND OBJECTIVES

(Maximum 1 page)

-Describe the specific objectives of your proposal and explain the overall concept underpinning your proposed solution considering the TRUSTCHAIN overall goals and specific OC1 objective on Decentralised digital identity.

-It should be clear:

- What are the needs?
- What TRUSTCHAIN OC1 challenges are you solving with your proposal and how?

- What existing solutions (including your own) from the industry and from the scientific literature partly address the challenges?
- The human centric approach you are going to follow.
- What new value proposition are you offering?
- What would be the benefits for TRUSTCHAIN Large Scale Pilot.

Insert text here.

### 3.2 PROPOSAL SOLUTION

*(Maximum 2 pages)*

-Give a description of the product/prototype with which you want to face the challenge.

-Indicate:

- How the solution will approach the challenge. You should particularly take care of the relevance of your solution according to current challenges related to Decentralised digital identity as well as to TRUSTCHAIN objectives and requirements
- What is the main differentiator of your proposition compared to the state of the art? You should put emphasis on its originality and innovation aspects.
- Explain the maturity of your product/prototype and the expected maturity at the end of the project (current and expected Technology Readiness Level)
- What will be the approach to validate your proof of concept? Indicate and justify the size of the deployment, the test you intend to conduct (ethical clearance, number of users, devices ...)

Insert text here.

### 3.3 EXPECTED IMPACT

*(Maximum 2 pages)*

-Describe how your proposal will contribute to:

- The objectives of the TRUSTCHAIN project as well as to better acceptance of decentralised digital identity by specific groups of end users
- Add value to the TRUSTCHAIN project.
- Create industrial impact at the European level and worldwide.
- Enhance your own business/competitiveness.
- Create socio- economic and environmental impact when relevant.

-Present your dissemination and communication plan to maximise the impact foreseen

-Provide a description of your Data Management Plan

Insert text here.

### 3.4 BUSINESS MODEL AND SUSTAINABILITY

*(Maximum 1 page)*

-What is the business potential of the proposal?

-What is the business model? Explain how you will make money with this product or service (revenue model, etc.).

- Explain the next steps towards economic sustainability of your project and towards deploying your solution at a larger scale.
- Justify how you are going to comply with environmental sustainability with your solution.

Insert text here.

### 3.5 IMPLEMENTATION (Maximum 2 pages)

- Provide an overview of your overall work plan considering the 9 months' timeframe of TRUSTCHAIN Open Call 1.
- Provide the functionalities that are going to be delivered
- Describe the activities that you will carry out in order to implement your project: objective, duration, implementation steps, resources available. Illustrate the timing of your activities using a Gantt diagram or similar. The co-creation approach should be made evident. Use the table hereafter in order to help you present the requested information.

Insert text here.

**TABLE 1: EXAMPLE TABLE**

Work plan tasks	Description	Starting Month	Ending Month

#### 3.5.1 Deliverables and Milestones

Please add a list of deliverables and milestones using the provided table. 4 deliverables are mandatory for TRUSTCHAIN, please consider them in the list of deliverables (e.g. documents, reports, user manual, a tool ...) you intend to submit. Justify each of them with a small description and state the relevant TRL level for each deliverable.

**TABLE 2: TABLE OF DELIVERABLES AND MILESTONES**

No.	Deliverable or milestone name	Description	Type	Delivery Month	TRL level

-Indicate how you intend to manage your activities during your project lifecycle (9 months) including progress monitoring and risks management procedures

Insert text here.

**----Pages count finishes here----**

## ANNEX 4 - ADDITIONAL APPLICANT(S) TEMPLATE

### SECOND OPEN CALL FOR PROPOSALS

#### GENERAL INSTRUCTIONS ON THE TEMPLATE

If your proposal has more than 3 applicants participating as individuals (Natural persons) or/and more than 3 applicants participating as organisations (Legal entities), please upload to SECTION 3 of your application this Annex, filled with the information about the applicant(s) that did not fit in the F6S form.

The structure of this template must be followed when preparing your proposal. Applicants using other kind of template/ document structure will be automatically ineligible.

Only applicant(s) that successfully address all the required aspects will have a chance of being funded.

**There is no page limit for this document.** Please respect the structure of each table. The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 25 mm.

If you attempt to upload a document with other content than the requested, it will not be taken into consideration.

**Please delete this page when submitting the document.**

## Acronym of your proposal

## Full title of your proposal

### 1. ADDITIONAL APPLICANT(S) PARTICIPATING AS INDIVIDUAL(S) (NATURAL PERSON)

Information type	Fill this column
Name:	
Surname:	
E-mail:	
ID type of document:	
ID number:	
Country of residence/work:	
Has been funded by the European Commission through H2020 before? (Grant or subgrant) (Yes/No)	
Has been funded by other NGI project? (Yes/No) If yes, please indicate which one and explain the overlaps and differences with the current proposal.	
Has recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to? (Yes/No) If yes, please indicate which one and explain the overlaps and differences with the current proposal.	

*Copy and add as many tables as applicants participating as legal entities which did not fit in the F6S form.*

### 2. ADDITIONAL APPLICANT(S) PARTICIPATING AS ORGANISATION(S) (LEGAL ENTITY)

Information type	Fill this column
Entity legal name	
Legal status of your organisation (Indicate only one type)	
1. Secondary or Higher education establishment 2. Research organisation 3. Large enterprise 4. Small or medium enterprise 5. Public body 6. A non-profit organisation, association, NGO 7. Foundation 8. International organisation 9. Other	
VAT number	
Incorporation year	
Contact person email	
Country	
Has the legal entity been funded by the European Commission through H2020 before? (Grant or subgrant) (Yes/No)	
Has the legal entity been funded by other NGI project? (Yes/No) If yes, please indicate which one and explain the overlaps and differences with the current proposal.	
Has the legal recently applied to an NGI call or another EC funding instrument that is under evaluation or plans to apply to? (Yes/No) If yes, please indicate which one and explain the overlaps and differences with the current proposal.	

*Copy and add as many tables as applicants participating as legal entities which did not fit in the F6S form.*

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## ANNEX 4 - TRUSTCHAIN ADMINISTRATIVE FORM AND ADDITIONAL APPLICANT'S TEMPLATE

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It corresponds to the Annex 2 and Annex 4 of the of the Trust Chain Guide for Applicant

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## ANNEX 5 – TRUSTCHAIN PROPOSAL DESCRIPTION TEMPLATE

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It corresponds to the Annex 3 of the of the TrustChain Guide for Applicant

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## ANNEX 6 – TRUSTCHAIN FREQUENTLY ASKED QUESTIONS (FAQS)

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## About TRUSTCHAIN

### Q: What is TRUSTCHAIN?

**A: TrustChain – Fostering a Human-centered, Trustworthy and Sustainable Internet** is a 3-year project funded by the European Commission under the Horizon Europe Research and Innovation program (GA 101093274), which aims to create a portfolio of Next Generation Internet protocols and an ecosystem of decentralized software solutions that reach the highest standards of humanity such as those chartered by the United Nations including the respect of human rights, ethics, sustainability, energy efficiency, our care for the environment and our respect for the World's cultural history.

### Q: What is NGI?

**A:** The Next Generation Internet (NGI) initiative, launched by the European Commission in the autumn of 2016, aims to shape the future internet as an interoperable platform ecosystem that embodies the values that Europe holds: openness, inclusivity, transparency, privacy, cooperation, and protection of data. The NGI will drive this technological revolution and ensure the progressive adoption of advanced concepts and methodologies spanning the domains of artificial intelligence, Internet of Things, interactive technologies and more, while contributing to making the future internet more human-centric

## Trustchain Open Calls

### Q: How do TrustChain Open Calls work?

**A:** TrustChain will tackle several challenges pertaining to trustworthy and reliable digital identity, to resilient, secure and reliable data pathways, to economics and trading of data, to energy efficiency for data storage, transport and sharing, to seamless services and data flows through 5 Open Call as follows:

Open Call 1: Decentralized Digital Identity;  
 Open Call 2: User privacy and data governance;  
 Open Call 3: Economics and Democracy;  
 Open Call 4: Multi chains support for NGI protocols; and,  
 Open Call 5: Green scalable and sustainable DLTs.

Through these 5 Open Call, (up to) 75 selected projects would have the potential to entail a substantial advance in the state-of-the-art, delivering new software solutions and services to the TrustChain ecosystem with potential to improve the Internet infrastructure and/or reach the market in the short run.

### Q: What is the value for third parties in participating in TrustChain Open Calls?

**A:** TrustChain offers equity-free funding (up to €117k per sub-grantee), access to mentoring and coaching for scaling up and business aspects, access to a wide network of blockchain experts and researchers and wider NGI community, access to top infrastructure, presence in top EU events related with blockchain, matchmaking services, as well as visibility and promotion through the TrustChain community and beyond.

### **Q: What are TrustChain timelines?**

**A:** TrustChain is a 3-year funded project. The indicative timelines for the active Open Calls are as follow:

- Open Call 2: User Privacy and Data Governance

Call announcement: 20th of July 2023 at 12:00 pm CET

Call closure and submission deadline: 20th of September 2023 at 17:00 CEST

Evaluation period: Up to three months after the call closure

Signature of sub-grant agreement: Up to one month after the announcement of the final list of selected projects

Projects: 9 months

### **Q: What kind of projects is TrustChain Open Call #2 looking for?**

**A:** TrustChain Open Call #2 welcomes applications that will clearly define, upgrade/extend the state-of-the-art, and develop the following types of solutions: The objective of this Open Call is to develop tools, cryptographic mechanisms, and other algorithms for data handling and sharing as well as for the management of data lakes in compliance with GDPR and other regulations that implement techniques such as:

- Mechanisms for multi-party data sharing that lies in the scope of the call and addresses the stated challenges below,
- Protocols for privacy-preserving data sharing using techniques from technologies such as federated learning both vertical and horizontal framework,
- Privacy-preserving data processing, data storage and data computation techniques such as differential privacy, data obfuscation/perturbation, anonymization techniques,
- Encrypted data analytics based on homomorphic encryption and Trusted Execution environment,
- Protocols to verify authenticity and accuracy of data using technologies like zero knowledge proofs,
- Protocols to support the digital sovereignty-based data flow and data spaces initiatives.

- Data identification, data provenance, data tracking mechanisms or protocols should be built so that the data that is exchanged can be tracked, so that trustworthy data handling according to the user consent can be verified.

**Q: Is there a fixed duration for projects supported by TrustChain?**

**A:** Projects supported by TrustChain Open Calls have a duration of 9 months.

**Q: What is cascade funding?**

**A:** Cascade Funding, also known as Financial Support to Third Parties (FSTP), is a mechanism of the European Commission to distribute public funds in order to create new companies, increase their scalability, SMEs and / or mid-cap companies, in the adoption or development of digital innovation. The main objective of this financing method is to simplify administrative procedures with SMEs, thus allowing some projects financed by the EU to issue, in turn, open calls to obtain more funding.

**Q: Where does the funding come from?**

**A:** Funding is given by the TrustChain project under a [Sub-Grantee Agreement](#) signed by selected applicants and the TrustChain consortium. Funds are from the European Commission (Horizon Europe Framework Programme), which uses TrustChain as intermediary.

**Q: How does the funding mechanism work?**

**A:** The funding mechanism relies on a cascade-funding scheme involving Horizon Europe funds. The scheme is based on a Grant Agreement signed by the European Commission and the TrustChain consortium partners. The Consortium partners receive the HE funds which are then transferred to the winners of the TrustChain Open Calls based on the rules and regulations explained in the [Guide for Applicants](#). It means that funds received by call winners are Horizon Europe funds.

## OC - Eligibility

**Q: Who is eligible for TrustChain Open Calls?**

**A:** Applicants can apply as individuals or linked to a legal entity. Hence, the participation is possible in several ways:

- Team of natural person(s): Team of individuals, all established in any eligible country. This does not consider the country of origin but the residence permit.
- Legal entity(ies): One or more entities (consortium) established in an eligible country. It can be universities, research centres, NGOs, foundations, micro, small

and medium sized enterprises (see definition of SME according to the Commission Recommendation 2003/361/EC), large enterprises working on Internet or/and other related technologies are eligible.

- Any combination of the above.

In addition, the following conditions apply:

- Participating organisations should not have been declared bankrupt or have initiated bankruptcy procedures.
- Organisations or individuals (team of natural persons) applying should not have convictions for fraudulent behaviour, other financial irregularities, and unethical or illegal business practices.

Check the [Guide for Applicants](#) for more details.

### **Q: What are the countries eligible for funding under TrustChain Open Calls?**

**A:** Only applicants legally established/resident in any of the following countries (hereafter collectively identified as the “Eligible Countries”) are eligible:

- The Member States (MS) of the European Union (EU), including their outermost regions.
- The Overseas Countries and Territories (OCT) linked to the Member States;
- Horizon Europe associated countries, as described in the [Reference Documents](#) and the [List of Participating Countries in Horizon Europe](#) according to the latest list published by the European Commission.

### **Q: Can a legal entity or a natural person benefit from other funding for the same project on top of the one received with TrustChain?**

**A:** Third parties’ funds under the TrustChain Open Calls come from the Horizon Programme. This means the Horizon Programme regulation will apply to these funds as well. If you get additional public funding from other entities it will be your responsibility to assure the compatibility of the different sources of funding whether you are a legal entity or a natural person.

## **OC - Participation**

### **Q: How do I apply to TrustChain Open Call #2?**

**A:** The F6S platform is the entry point for all proposals at <https://www.f6s.com/trustchain-open-call-2/apply>. Submissions received by any other channel will be automatically discarded.

Remember to read the [Guide for Applicants](#) to get all the information you need to apply successfully.

### **Q: Can I submit several projects to one specific call?**

**A:** Open Calls are competitive and applicants should focus on one specific topic, so TrustChain consortium recommends you to submit one application per call, whether you are a legal entity and/ or a team of natural persons. In the event of multiple submissions, only the last one received (timestamp of the F6S system) will be considered for the evaluation process. Any other submitted proposals involving the same applicant will be declared non-eligible and will not be evaluated in any case.

**Q: Can I apply to TrustChain five Open Calls?**

**A:** Yes, you can. However, note that the maximum funding eligible per third party within the TrustChain project is limited to €200,000.

What is the deadline to apply for Open Call #2?

Open Call #2 closes on September 20 2023 at 17:00 (CEST).

**Q: What are the funding criteria?**

**A:** Each eligible application will be evaluated by a set of two independent experts, following three main criteria:

- Excellence and innovation (40% weighting);
- Expected impact and value for money (30% weighting);
- Project implementation (30% weighting).

**Q: What kind of information is required for the application process?**

**A:** Applications must submit the following documents:

- **Application form:** administrative questions to be completed directly in the F6S platform. In addition, some general questions for statistical purposes and tick boxes to be clicked by third parties confirming they have read and agree with the conditions defined in this document.
- **Proposal description:** document in PDF format containing the description of the project.

In addition, the **Annex IV: Additional Applicant(s) Template** has to be uploaded in case that more than 3 applicants participate as individuals (natural persons) or/and more than 3 applicants participate as organisations (legal entities) filled with the information about the applicant(s) that do not fit in the application form.

**Q: When should I expect to have the results from my application?**

**A:** The Evaluation & Selection phase is expected to last upto 3 months from date of call closing.

## OC - Evaluation Process

### Q: How will applications be evaluated?

**A:** The evaluation of the applications is carried out by the TrustChain consortium with the assistance of independent experts. TrustChain consortium members ensure the process is fair and in line with the principles contained in the European Commission's rules on Proposal submission and evaluation. Experts perform evaluations on a personal basis, not as representatives of their employer, their country or any other entity. Each proposal is evaluated by a set of two experts according to the following criteria:

- Excellence and innovation (40% weighting)
- Expected impact and value for money (30% weighting)
- Project Implementation (30% weighting)

### Q: Who are the evaluators?

**A:** The evaluation of applications is carried out by the TrustChain consortium with the assistance of independent evaluators. The independent evaluators are experts with various expertise related to the TrustChain project. Experts are required to be independent, impartial and objective, and to behave throughout the evaluation process in a professional manner. They sign an expert contract, including a declaration of confidentiality and absence of conflict of interest, before beginning their work.

## Granted projects

### Q: How and when projects funded by TrustChain will get paid?

**A:** Payments will be done in 4 instalments based on concrete results (one pre-financing, two interim payments and one final payment). The 2K € extra funding will be provided in case the project outcome results in a peer reviewed journal publication with a minimum impact factor of 2.5.

A detailed evaluation process is described in TRUSTCHAIN Open Call 2 [Guide for Applicants](#).

- Beginning of the implementation and pre-financing:

During the first weeks of project implementation, each team will define together with their coaches/ mentors a set of clear and objective KPIs to be achieved and linked with the funding. These KPIs are different for each team and are related to the solution to be implemented. They will help measure the progress, if any, but also the commitment and involvement of the third party innovators (i.e., attending periodic call meetings with the coaches, meeting the deadlines for reporting, etc.). After this KPIs definition, a pre-financing of 30% will be released.

- First midterm review linked to the delivery of deliverable D2 and 2nd payment:  
At the first midterm of project implementation, the coaches will assess the KPI's percentage of execution of the project based on the evaluation of deliverable D2. A 100% completion of the KPIs for the related period will unlock the total of the 2nd payment which is 20% of the total amount. A lower completion of tasks will launch the proportional payment. If the KPIs for the related period are met by less than 50%, the payment will be retained until KPIs for the period are assessed as completely reached. If less than 25%, the third party innovators will be automatically disqualified from the process.

- Second midterm review linked to the delivery of deliverable D3 and 3rd payment:

At the second midterm of the project implementation, the coaches will assess the KPI's percentage of execution of the project based on the evaluation of the deliverable D3. A 100% completion of the KPIs for the related period will unlock the total of the 2nd payment which is 30% of the total amount. A lower completion of the tasks will launch the proportional payment. If the KPIs for the related period are met by less than 50%, the payment will be retained until KPIs for the period are assessed as completely reached. If less than 25%, the third party innovators will be automatically disqualified from the process.

- Final review and last payment:

At the end of the project implementation, third parties will be paid according to their overall completion of KPIs materialised by the deliverable D4.

A final event will be used to evaluate third parties on a face-to-face pitch contest. The third parties will present their implemented solution, and their business plan in the context of TRUSTCHAIN.

A panel of evaluators consisting of the TRUSTCHAIN Consortium and Advisory Board members, will assess the third party innovators to release the final payment (remaining 20%). Only in the case of an underperformance below of a 25% the team will be disqualified, and no further payment released.

### **Q: Will the funding count as de minimis aid?**

**A:** According to the minimis regulation (EC No 1998/2006), TrustChain is not a State Aid and therefore the funding does not count as minimis grant.

Do projects supported by TrustChain have to keep track of expenses to justify the costs?

Payments will be done based on concrete results, and not in financial execution. However, your costs and funding breakdown will be required to ensure that the funding is used for the right purpose, as well as for traceability and accountability.



**Q: Is subcontracting allowed under TrustChain Open Calls?**

**A:** Subcontracting is not encouraged. The general rule applicable to the TrustChain project is that beneficiaries must have the appropriate resources to implement the full set of tasks needed within the project. This means it is not allowed to subcontract key parts of the project.

Examples (not restricted to) of subcontracting not desired are, as follows:

1. paying an external developer not in the company to develop technical tasks;
2. paying a research centre or foundation to execute technical tasks;
3. Among others.

Note: Employees of a company are never considered subcontractors but as part of the company resources.

Examples (not restricted to) of subcontracting activities that could be appropriate if needed are legal services and/or design services.

The subcontracting amount should not represent a relevant amount of the total budget and should be justified on the submitted proposal.

**Q: Do projects supported by TrustChain have to keep track of expenses to justify the costs?**

**A:** Payments will be done based on concrete results, and not in financial execution. However, your costs and funding breakdown will be required to ensure that the funding is used for the right purpose, as well as for traceability and accountability.

**Q: Can a third-party change team member during the implementation of the project?**

**A:** If you participate as a team of individuals, you have to stick to the initial team members. Only new members can be added to improve the overall team, but not to change it.

If you are participating as an entity, you are free to add new employees from the firm to the team.