STREAMR NETWORK AG

Unstoppable Data for Unstoppable Apps: DATAcoin by Streamr

CROWDCONTRIBUTION INFORMATION SUMMARY

12 September 2017

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1. SUMMARY

1.1. Streamr Project and the Token Contribution

Streamr Network AG (**Streamr**) is currently contemplating a crowdcontribution of cryptographic tokens that would enable token holders to utilize Stream's software platform (**Streamr Platform**). The tokens to be distributed to participants of the crowdcontribution are tentatively called **DATAcoins** (Streamr may change the token name or symbol at its discretion)

DATAcoin crowdcontribution will take place in two phases: a public pre-contribution (**Pre-contribution**) and the actual crowdcontribution (**Crowdcontribution**) (in addition, certain entities and individuals have participated in a private pre-contribution). The Pre-contribution phase will be managed by Bitcoin Suisse AG (**Bitcoin Suisse**). At the date of this document it has not been determined whether Streamr will operate and manage the Crowdcontribution itself or use a third party (such as Bitcoin Suisse) for the process; the details and Governance Terms of the Crowdcontribution will be published in due time before the Crowdcontribution on the Streamr Project website (https://www.streamr.com).

Upon completion of the Pre-contribution and/or the Crowdcontribution, an automated smart contract system operating on the Ethereum blockchain (**Smart Contract System**) will create and allocate the DATAcoins to contributors (either directly or via third party distributor such as Bitcoin Suisse) as set out in the Smart Contract System. The Smart Contract System addresses and system code are available on the Streamr Project website.

Of the total amount of DATAcoins created, a maximum of 65 percent will go to contributors participating in the private pre-contribution, the Pre-contribution or the Crowdcontribution; the rest will be allocated to Streamr, team members and advisors as described in Section 5.3.

The Streamr Platform is currently under development and development will be funded partly by the funds received from the crowdcontribution for the DATAcoins. The project for development of the Streamr Platform and related ecosystem is called the **Streamr Project**.

1.2. Purpose of this Document

The purpose of this document is to provide a general summary of the Streamr Project, the upcoming crowdcontribution and the DATAcoin token. Streamr has also published a whitepaper setting out the technical description of the Streamr Platform architecture and functionalities (**Whitepaper**) as well as certain DATAcoin characteristics. Additional information can be found on the Streamr Project website (https://www.streamr.com). Please note that the information in this document, the Whitepaper, on the Streamr Project website and other channels is for informational purposes only and subject to change at Streamr's discretion from time to time.

The DATAcoin crowdcontribution will be governed by the Governance Terms available on the Streamr Project website. The Governance Terms and the Smart Contract System source code are the prevailing terms and conditions applicable to the DATAcoin crowdcontribution. The Governance Terms and the Smart Contract System source code shall prevail in case of any conflicting information in this document, the Whitepaper or elsewhere.

2.   **RISK FACTORS**

Streamr believes that there are numerous risks involved in the DATAcoin crowdcontribution as well as the development, maintenance and operation of the Streamr Platform, many of which are beyond the control of Streamr. You should peruse, comprehend and consider carefully the risks described below as well as in the Governance Terms and the Smart Contract System source code before deciding to participate in the DATAcoin crowdcontribution. In the following, the term "User" denotes you and any other contributor or user who holds DATAcoins and/or participates in the crowdcontribution.

- **Risk of software weaknesses**: The underlying software application and software platform (i.e. the Ethereum blockchain) are still in an early development stage and unproven, and there are no warranties or covenants that the process for creating or distributing DATAcoins will be uninterrupted or error-free and why there is an inherent risk that the software could contain weaknesses, vulnerabilities or bugs causing, inter alia, the complete loss of Funds and/or DATAcoins.

- **Risk of cryptographic weaknesses**: The blockchain and all software dependant thereon, such as the Streamr Project and DATAcoin are based on the effectiveness and reliability of cryptographic solutions. However, cryptography is evolving and cannot guarantee absolute security at all times. Advances in cryptography, such as code cracking, or technical advances such as the development of quantum computers, could present risks to all cryptography-based systems including the Streamr Project and DATAcoin. This could result in the theft, loss, disappearance, destruction or devaluation of the DATAcoins held by the User.

- **Regulatory risk**: The blockchain technology allows new forms of interaction and it is possible that certain jurisdictions will apply existing regulations on, or introduce new regulations addressing, blockchain technology based applications, which may be contrary to the current setup of the Smart Contract System and which may, inter alia, result in substantial modifications of the Smart Contract System and/or the Streamr Project, including its termination and the loss or devaluation of DATAcoins held by the User.

- **Risk of insufficient information**: The Streamr Project is at a very early developmental stage and its philosophy, consensus mechanism, algorithm, code and other technical specifications and parameters could be updated and changed frequently and constantly. While the Whitepaper contains the up-to-date key information related to the DATAcoin at the date of the Whitepaper, it is not complete or final and is subject to adjustments and updates that Streamr may make from time to time. Streamr is not in a position, nor obliged, to keep the Users closely posted on every detail of the Streamr Project's development (including its progress and expected milestones, whether rescheduled or not) and therefore will not necessarily provide the Users with timely or full access to all the information relating to the Streamr Project that may emerge from time to time.

- **Risk of abandonment / lack of success**: The creation and distribution of the DATAcoins and the development of the Streamr Project may be abandoned for a number of reasons, including lack of interest from the public, lack of funding, lack of commercial success or prospects (e.g. caused by competing projects). The DATAcoin is not expected to be popular, prevalent or widely used soon after its launch. The DATAcoin and the Streamr Project may remain marginalised in the long run, appealing to only a minimal portion of users. There is thus no assurance that, even if the Streamr Project is partially or fully developed and launched, the User will receive any benefits through the DATAcoin held by him/her/it.

- **Risks related to unverified source code**: The source code of the Streamr Platform may be licensed under open-source license terms and any party related or unrelated to the Streamr Project can propose updates, amendments, alterations or modifications to the

source code. Streamr may not be able to verify or guarantee the precise results of such updates, amendments, alterations or modifications and as a result, any update, amendment, alteration or modification could lead to an unexpected or unintended outcome that adversely affects the Streamr Project or the DATAcoin value.

- **Risks related to competition**: The source code of the Streamr Platform may be licensed under open-source license terms. As a result, anyone can legally copy, replicate, reproduce, engineer, modify, improve or otherwise utilise the source code and/or underlying source code of the Streamr Platform in an attempt to develop a competing protocol, software, system or virtual platform or virtual machine, which is out of Streamr's control and may consequently compete with or even overshadow or overtake the Streamr Project, which may adversely affect the Streamr Project or the DATAcoin value.

- **Risk of withdrawing partners**: The feasibility of the Streamr Project depends strongly on the collaboration of banks and other crucial partners of Streamr. There is therefore no assurance that the Streamr Project as a whole or parts thereof will be successfully executed as set out in these Terms or otherwise.

- **Risk associated with other applications**: The Streamr Project may give rise to other, alternative projects, promoted by unaffiliated third parties, under which DATAcoins will have no intrinsic value.

- **Risk of loss of private key**: DATAcoins can only be accessed by using an Ethereum wallet with a combination of the User's account information (address), private key and password. The private key is encrypted with a password. If the User's private key file or password is lost or stolen, the DATAcoins associated with the User's account (address) or password will be unrecoverable and will be permanently lost.

- **Third party risk**: Streamr may use Bitcoin Suisse and/or other third parties to manage and operate the Pre-contribution and Crowdcontribution processes. Streamr has no visibility into, or possibility to control, the software or mechanisms used by such third parties, and cannot verify or guarantee the proper functionality of the third parties' software or operations. This may lead to the User losing all or part of the Funds transferred to the third party and/or an incorrect distribution of DATAcoins after the contribution period.

- **Risk of theft**: The platform used by Bitcoin Suisse for managing the Funds, the Smart Contract System concept, the underlying software application and software platform (i.e. the Ethereum blockchain), or other assets of the Streamr Project, may be exposed to attacks by hackers or other individuals that could result in theft or loss of DATAcoins or Funds, which may lead to a loss or devaluation of Funds and/or DATAcoins and the ability to develop the Streamr Project.

- **Risk of Ethereum mining attacks**: As with other cryptocurrencies, the blockchain used for the Smart Contract System is susceptible to mining attacks, including but not limited to double-spend attacks, majority mining power attacks, "selfish-mining" attacks, and race condition attacks. Any successful attacks present a risk to the Smart Contract System, expected proper execution and sequencing of DATAcoin transactions, and expected proper execution and sequencing of contract computations.

- **Risk of changes in Smart Contract System**: The network of miners will be ultimately in control of the Smart Contract System. A majority of these miners could agree at any point to make changes to the Smart Contract System and to run the new version of the Smart Contract System, which could lead to reduced functionality of the Streamr Platform and/or devaluation of DATAcoins.

- **Risk of incompatible Wallet service:** The cryptographic wallet software or wallet service provider of the User must be technically compatible with the DATAcoin. The failure to assure this may lead to the User being unable to gain access to his DATAcoins.

3.   PROJECT OVERVIEW

3.1.   Vision

Streamr's vision is to deliver unstoppable data to unstoppable applications. It is the real-time data backbone of decentralized apps (Đapps). It is a peer-to-peer (P2P) network for scalable, low-latency, untamperable data delivery and persistence, powered by the DATAcoin token. Anyone — or anything — can publish new data to data streams, and others can subscribe to these streams to power Đapps, smart contracts, microservices, and intelligent data pipelines.

There's a built-in mechanism for data monetization. Valuable data from security exchanges, connected devices, IoT sensors, and social media can be offered to companies, developers, and private citizens. Machines can autonomously sell their data, get paid, and purchase the data they require. A global market for real-time data emerges, with built-in data provenance, encryption, and access control.

Alongside the decentralized data network and marketplace, the full Streamr stack includes an analytics engine and a visual programming user interface for rapid development of real-time Đapps. Data streams, smart contracts, and decentralized computing resources can be interconnected in a low-code environment using high-level building blocks. Streamr aims to be the easiest place to create real-time, data-driven, and trustworthy blockchain applications.

We see a revolution is taking place where centralized cloud services are one by one being superseded by tokenized, decentralized solutions. Golem, for example, replaces Azure Virtual Machine, and IPFS replaces Azure Blob Storage. Streamr intends to join the revolution by providing a decentralized solution to messaging and event processing, targeting to replace platforms such as Azure EventHub and Azure Stream Analytics.

3.2.   History and Current State of the Streamr Platform

The first version of the software that resembles what is the current Streamr vision was created for internal use in algorithmic high-frequency trading soon 5 years ago. Core team members all come from a financial background, being either quants, trading system developers, algorithmic traders and, in some cases, all of the above. Quantitative finance is a field where automatic processing of high volumes of real-time data has been the reality for the past 10-15 years and more. It is only the past few years where the same kind of modus operandi and the same kind of tools and platforms are finding their way into the world of IoT, IoE, and now into the blockchain space.

Streamr has created a functional and highly advanced platform for creating data pipelines, visualization, off-chain processing, and integration with Ethereum smart contracts. The current-day software is built for the cloud environment with scalability, integrations, and fault tolerance in mind. Big data frameworks like Kafka and Cassandra are used for data transport and storage. A version of the Streamr Platform has been demonstrated live in EDCON in February 2017 and in various blockchain meetups since.

The current Streamr Platform is functional, scalable, and in live use by corporate customers. Most of the infrastructure does not, however, translate directly to the new decentralized world. Among other tasks, publish/subscribe messaging and data persistence need to be decentralized, data monetization and encryption built into the transport layer, and the peer-to-peer network established along with node coordination and incentivization. The roadmap of how to do these things is presented in Section 4 (and in detail in the Whitepaper).

3.3.   Technical Overview

Streamr Platform developed in the Streamr Project will consist of several layered technologies. Some of the layers are yet to be created, as set out in further detail in Section 4. Once

completed, the decentralized real-time data pipeline will be built on top of a multi-layered technology stack:

- Streamr Editor constitutes a usability layer and toolkit which enables rapid development of decentralized, data-driven apps.

- Streamr Engine is a high-performance event processing and analytics engine that executes off-chain in a decentralized fashion. It can run on a decentralized computing provider such as Golem.

- Streamr Data Market is a universe of shared data streams which anyone can contribute and subscribe to.

- Streamr Network is the data transport layer, defining an incentivized peer-to-peer network for messaging in the decentralized data pipeline.

- Streamr Smart Contracts enable nodes in the Streamr network to reach consensus, hold stream metadata, handle data permissioning and integrity checking, and facilitate secure token transfers.

For more information on the technical aspects of the Streamr Network, please see the Whitepaper available at the Streamr Project website.

4.   PROJECT ROADMAP

4.1.   General

The Streamr Project is still in its infancy. A significant amount of work and resources are needed in order to bring forth all the technology layers described in Section 3.3 above. The development of the Streamr Platform will be funded by the contributions in the DATAcoin crowdcontribution as well as potential other funding later received by Streamr.

In addition to development of the Streamr Platform, contributions from the DATAcoin crowdcontribution will be used for general development and governance of Streamr, such as legal services, marketing and business development. A current estimate of a percentage-wise budget breakdown is as follows:
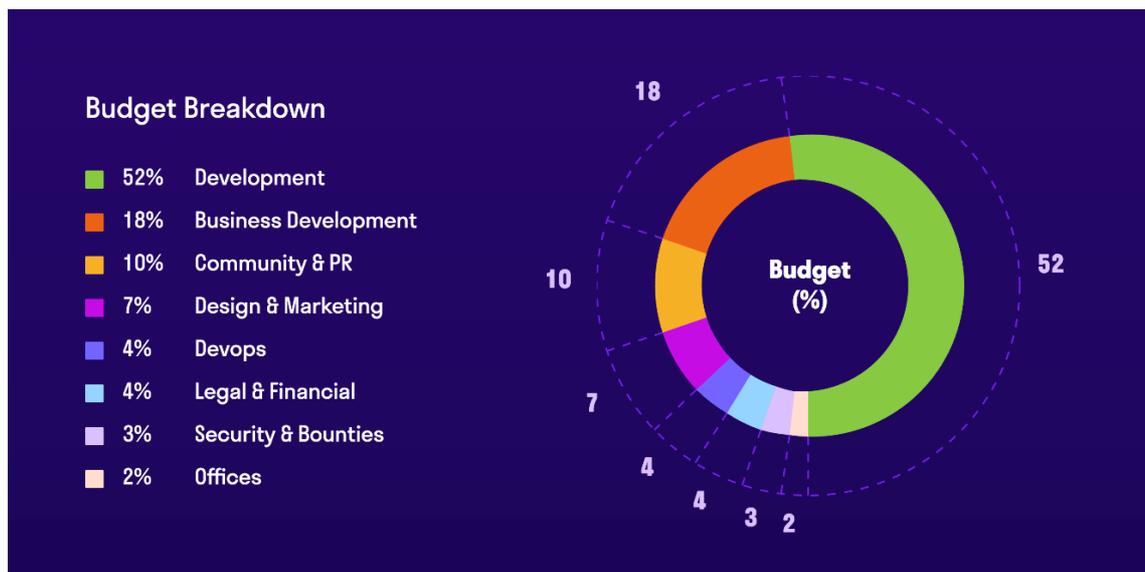
Please see the FAQ on the Streamr Project website (https://www.streamr.com) for more information on Streamr Project budget, intended business development goals etc.

4.2.   Streamr Platform Development Stages

Depending on the amount of funding received in the DATAcoin crowdcontribution, Streamr intends to carry out development of the Streamr Platform in development milestones and work packages. The below is a summary, the full description of the development milestones and work packages can be found in the Technical Whitepaper. Please note that the below is Streamr's current best understanding of the necessary and/or preferred development targets, but Streamr may at any time determine to amend the development plan and/or reprioritize its efforts.

M1 M2 M3

WP4

WP3

WP7 WP10

WP2 WP6 WP9

WP1 WP5 WP8

Streamr Editor

Streamr Engine

Streamr Data Market

Streamr Network

Streamr Smart Contracts

Event Storage
(e.g. IPFS, decentralized DB)

Computing Resource Provider
(e.g. Golem)

Ethereum
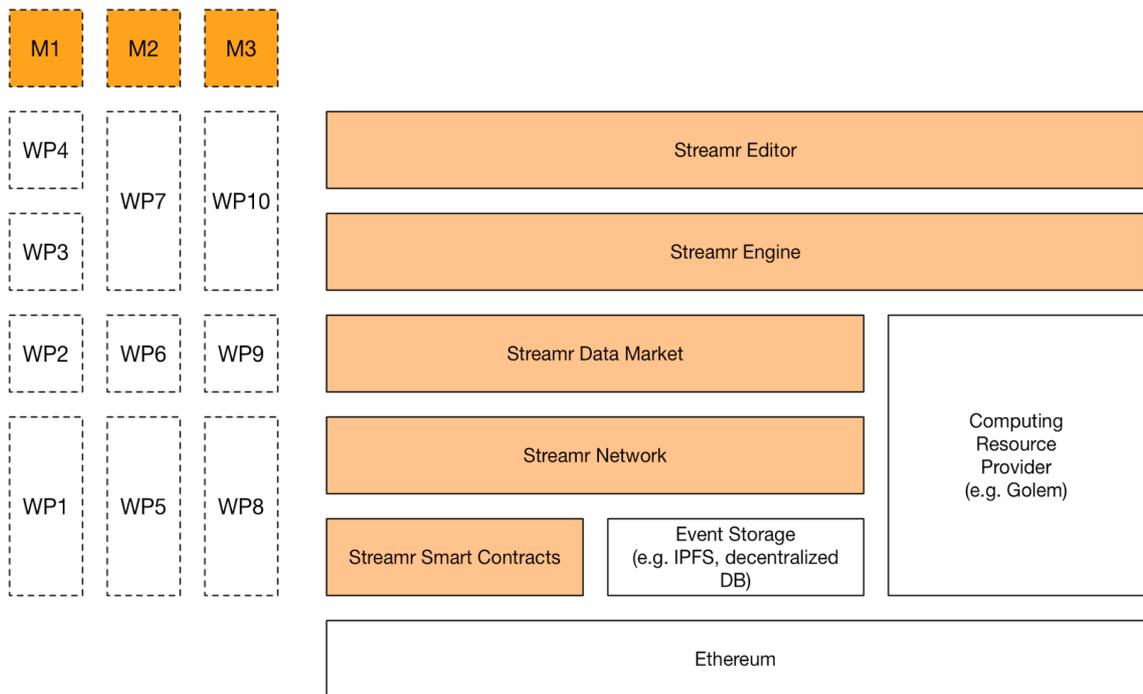
The roadmap is divided in three milestones (M1-M3). Each milestone iteratively brings new features into layers of the stack. Each of the three milestones consists of work packages (WP1-WP10). Completing all WPs in a milestone completes the milestone. Each work package has a specific focus on certain layers in the stack. All WPs in a milestone will be worked on roughly simultaneously, but WPs in the next milestone will not begin before the current milestone is complete.

There will be a security audit at the end of each milestone. All smart contracts will be audited, as will relevant parts of any non-smart contract code, such as code for the broker client itself.

4.3. Legal, Compliance, Accounting and Auditing Costs

Streamr Network AG is a Swiss legal entity. The intention is to continue development, operations and business out of Switzerland.

Achieving legal compliance is of utmost importance for Streamr. Streamr has been engaging with Swiss law firm MME for legal services to develop the terms and governance of the crowdcontribution, ensuring full business compliance. The legal and compliance work does not end to the crowdcontribution and token offering, and we will continue to work with MME and legal service providers in other jurisdictions so that the Streamr Network complies with various legal requirements.

5. DATACOIN AND THE TOKEN CONTRIBUTION

5.1. DATAcoin

DATAcoin will be needed to operate the Streamr Platform. The role of token is twofold: it is both a usage token on the Streamr network and a payment token on the Streamr marketplace.

As described above, the Streamr network is a decentralized P2P network. It is used to transport real-time data from data producers to data consumers. Using the services of the network - publishing and subscribing to data - requires a small amount of DATAcoin tokens which are consumed as fees. The fees are earned by nodes which constitute the network and provide the data transport service.

The token also represents value in the data content. The Streamr marketplace allows data producers to receive payments in DATAcoin for a data license, i.e. a permission to access and use the data. Access to data can be traded on the marketplace by companies, organisations, individuals, and machines, offering a novel monetization mechanism for data content.

DATAcoins <u>do not</u> carry any express or implied rights other than a limited right to use DATAcoin as a mean to enable usage of and interact with and within the Streamr Platform. In particular, DATAcoins <u>do not</u> represent or constitute any ownership right or stake, share or security or equivalent rights nor any right to receive future revenues, shares or any other form of participation or governance right in or relating to the Streamr Project and/or Streamr.

DATAcoin will be implemented as an ERC20 token on Ethereum. The Smart Contract System maintains DATAcoin balances, and ensures that payments are handled in a trustless and secure way. Following the ERC20 standard ensures interoperability with wallets and other tokens.

For a full description of the DATAcoin and its characteristics, please see the Technical Whitepaper.

5.2. Crowdcontribution

Please note that you may not participate in the DATAcoin crowdcontribution if you are a citizen or resident of the United States, Japan or Finland. For other eligibility requirements and terms and conditions of the Pre-contribution or Crowdcontribution, please see the Governance Terms available on the Streamr Project website (https://www.streamr.com).

Prior to the Pre-contribution, Streamr has agreed in a "private pre-contribution process" with certain entities and individuals that they will participate in the Pre-contribution and guaranteed a certain amount of DATAcoins for such contributors. The public DATAcoin crowdcontribution will have two phases:

- <u>Public Pre-contribution</u> will start on the date and time to be announced on the Streamr Project website.

  o The minimum investment amount in the Pre-contribution will be equivalent to CHF 5,000. The maximum investment amount per contributor will be equivalent to CHF 75,000.

  o All participants that contribute in the Pre-contribution will receive as bonus 10 percent more tokens than their contribution amount entitles to.

  o The aggregate maximum contribution amount for the Pre-contribution will be defined as a hard cap and amounts to the equivalent of CHF 5,000,000, calculated using the exchange rates determined by Bitcoin Suisse.

o   The Pre-contribution continues for a period of two (2) weeks or the moment when maximum Pre-contribution amount has been reached, whichever occurs earlier.

- Actual Crowdcontribution will start after the Pre-contribution period, at a time and date to be determined by Streamr and notified on the Streamr Project website.

   o   The aggregate maximum contribution amount for the Crowdcontribution depends on the amount contributed in the private pre-contribution and public Pre-contribution processes, but the aggregate amount of the private pre-contribution, the Pre-contribution and the Crowdcontribution cannot exceed an amount that is equivalent to CHF 30,000,000.

   o   The Crowdcontribution is estimated to run for two (2) weeks or until the aggregate maximum contribution amount has been reached, whichever occurs earlier.

   o   The exact terms of the Crowdcontribution will be determined by Streamr prior to the commencement of the Crowdcontribution.

The Pre-contribution process will be managed by Bitcoin Suisse, a Switzerland-based funding platform that connects investors to token sales. Using Bitcoin Suisse to manage the the contribution process will ensure compliance with all anti-money laundering and know-your-client requirements.

Please note that all transactions in the Pre-contribution process will need to go through Bitcoin Suisse, and it will not be possible to transfer funds directly to an address on the Ethereum blockchain to participate in the Pre-contribution process.

In the Pre-contribution and the Crowdcontribution, the contribution rate for the allocation shall be 18.25 DATAcoins for every contribution of 1 CHF. In addition, in the Pre-contribution, the contributor shall receive a bonus of 0.1 DATAcoins for every 1 DATAcoin contributed.

If the aggregate amount of funds contributed in the private pre-contribution and the Pre-contribution is less than the equivalent of CHF 7,500,000, the Pre-contribution is considered to have failed and the funds will not be contributed.

Streamr may at any time determine to make changes to the crowdcontribution structure, including cancellation of the Pre-contribution or Crowdcontribution process. You can receive updates and announcements related to the DATAcoin crowdcontribution on the Streamr Project website and the websites of our authorized partners (such as Bitcoin Suisse).

5.3.   DATAcoin Allocation

The aggregate maximum DATAcoin token supply is 1,000,000,000 DATAcoins. The aggregate amount of DATAcoin will depend on the effective amount of contributions made in the Pre-contribution (including the private pre-contribution) and the Crowdcontribution periods.

Up to 65% of the maximum DATAcoin token supply will be distributed to participants of the Pre-contribution (including the private pre-contribution) and Crowdcontribution. The DATAcoins will be distributed or allocated (either directly or via a third party such as Bitcoin Suisse) to contributors and other stakeholders as follows:

- Pool A consists of a maximum of 65% of the total DATAcoin token supply. Pool A is intended to be created by the Smart Contract System at the end of the Pre-contribution and/or the Crowdcontribution period and ultimately distributed (either directly or via third party such as Bitcoin Suisse) to participants that have made contributions.

- Pool B consists of 150,000,000 DATAcoins (i.e. at least 15% of the total DATAcoin token supply). Pool B will at Streamr's discretion be allocated and distributed to persons who participated as managers, founders or team members, or worked to develop the ideas, implementations and supporting structures of the Streamr Project. The DATAcoins in Pool B are subject to a lock-up period and will not be transferable until one (1) year from the end of the contribution period (or such longer time as determined by Streamr in its full discretion).

- Pool C consists of 150,000,000 DATAcoins (i.e. at least 15% of the total DATAcoin token supply). Pool C will be allocated to Streamr.

- Pool D consists of 30,000,000 DATAcoins (i.e. at least 3% of the total DATAcoin token supply). Pool D will at Streamr's discretion be allocated and distributed to partners and advisors of the Streamr Project.

- Pool E consists of 20,000,000 DATAcoins (i.e. at least 2% of the total DATAcoin token supply). Pool D will be allocated to Streamr for distribution to the community of the Streamr Project (via rewards, airdrops etc.). The effective distribution will be fully at the discretion of Streamr.

Any DATAcoins in Pool A that have been created but not paid for by the end of the Pre-contribution and Crowdcontribution periods (e.g. private pre-contribution funds that have not been received until the creation of the DATAcoins) shall be allocated to Streamr and shall be further disposed of at Streamr's discretion for purposes of the long-term benefit of the Streamr Project.

6. ABOUT STREAMR

6.1. Streamr Network AG

Streamr Network AG is a public limited company (Aktiengesellschaft) incorporated in the Canton of Zug in Switzerland. The company is the entity organizing the crowdcontribution and will control the funds received as well as coordinate and manage the implementation of the Streamr Project.

6.2. Management Team

The management team of Streamr consists of Henri Pihkala (CEO), Risto Karjalainen and Nikke Nylund. Each of them is a shareholder in Streamr and will receive an allocation of DATAcoins (part of Pool B in Section 5.3. above). Together, the management team (and entities controlled by them) controls approximately 60 percent of the shares and votes in Streamr.

Henri Pihkala, M.Sc.

> CTO at two algorithmic trading companies, one of which he co-founded. Built infrastructure & tools for data for 10 years. Founded Streamr to make data more usable & valuable to all. Strong believer in the decentralization of applications and data infrastructure.

Risto Karjalainen, Ph.D.

> Ph.D. from the Wharton School at U. Penn — behavioural finance, machine learning & evolutionary computation. Quant and portfolio manager with JP Morgan & Merrill Lynch before getting hooked on real-time data and decentralized computing.

Nikke Nylund, B.Sc.

> Serial entrepreneur and outside-the-box thinker with several successful exits. Among his successes is Quartal, with Quartal Flife sold to Investis Ltd (UK), Quartal Financial Solutions acquired by KMU Capital AG, and Quartal Content Management bought by Satama Plc.

6.3. Advisors

The Streamr Project is being advised by a number of individuals, including the following. Some of the advisors may receive DATAcoins (from Pool D) in consideration for their advisory services..

> Julian Zawistowski
> CEO, GOLEM

> Wendell Davis
> ETHEREUM, GOLEM, OMISEGO

> Thomas Greco
> ETHEREUM, COSMOS, OMISEGO

> Alex Leverington
> ETHEREUM, GOLEM, ÐΞVP2P

> Dr. Luka Müller
> LEGAL PARTNER, MME

Nicolai Oster
BITCOIN SUISSE

Kimmo Halunen
CYBERSECURITY RESEARCHER