Project AIUR by Iris.ai

Democratize Science through blockchain-enabled disintermediation.

There are a number of problems in the world of science today hampering global progress. In an almost monopolized industry with terrible incentive misalignments, a radical change is needed. The only way to change this is with a grassroots movement – of researchers and scientists, librarians, scientific societies, R&D departments, universities, students, and innovators – coming together. We need to remove the powerful intermediaries, create new incentive structures, build commonly owned tools to validate all research and build a common Validated Repository of human knowledge. A combination of blockchain and artificial intelligence provides the technology framework, but as with all research, the scientist herself needs to be in the center. She will have the right incentives to publish openly, do thorough peer reviews, publish failed results and be more rigorous about the reproducibility of her work - and so will all of her connected peers across the globe. This is what we are proposing with Project Aiur, and we hope you will join us.

Iris.ai

Iris.ai is an international startup aiming to democratize science, disrupt research system incentives, and improve scientific content, making it more transparent, accountable and widespread in society.

Current problems faced by the scientific community and the users of scientific content today include: (1) information overload; (2) access barriers; (3) reproducibility issues; (4) built-in biases; and, (5) incentive misalignment. Iris.ai's mission is to act as a catalyst of profound system changes and address those researchers' issues. The company is currently developing an AI Science Assistant that has the goal of assisting researchers in the five-step process outlined below.

While Iris.ai has proven success in solving problem 1) and 4), addressing the remaining issues requires additional effort beyond what the company can achieve on its own. To equip it to succeed, Iris.ai is currently in the process of launching Project Aiur. With Aiur we aim at democratizing Science through blockchain-enabled disintermediation – and we do so by initially creating an open, community-governed AI Engine for Knowledge Validation, and later

leveraging the engine for the creation of a Validated Repository for scientific content.

Product overview

Project Aiur has the following goals: (1) to bring together researchers, coders, and anyone interested in science into an open-governed community that will work to address the 5 problems outlined above; (2) to build together with the community an AI engine for Knowledge Validation; and, (3) to provide to the outside world a Validated Repository of scientific content.

The members of the community will be the owners and will be able to benefit from the use of the software tools developed and the data produced. Each member will have voting rights based on their contributions and the characteristics of these (i.e. volume, type, etc.) to steer the community into the right direction via changing the processes, mechanics and ideas whenever needed.

The outlined core software tool of the community will be the Knowledge Validation Engine (KVE). It will be a fully-fledged technical platform able to pinpoint:

- the building blocks of a scientific text;
- what the reader needs to know to be able to understand the text;
- what are the text's factual sources; and,
- what is the reproducibility level of the different building blocks.

The platform will take a scientific document in the form of a scientific paper or technical report as an input, and it will provide an analytical report presenting:

- the knowledge architecture of the document;
- the hypotheses tree supporting the presented document's hypothesis;
- the support level found for each of the hypotheses on the hypotheses tree; and,
- their respective reproducibility.

All of this will be based on the knowledge database of scientific documents accessible to the system at any given point in time (knowledge in an Open Access environment).

The KVE brings possibilities to gather and build a Validated Repository for scientific content, where each article, along with its content, will have a report outlining what are the building blocks, what else you should read, what are possible reproducibility issues, will give additional review information and will aim to speed up the implementation process.

Blockchain beyond currency

Censorship resistance, a pivotal feature underpinning justified blockchain deployments, is a very present issue in the current world of research, is. In fact,

as a researcher, if you are not able to publish your work to a well known conference or journal, a process currently plagued with systematic biases, your research risks not being found by search engines, constituting a modern age form of censorship.

Beyond censorship resistance, we believe that intertwining blockchain mechanics and AI through decentralising and opening up how machine algorithms are fed factual data, presents great impact potential for humanity as a whole. We believe it should result in better quality algorithms with greater traceability, removing of conscious and unconscious biases in how we build the datasets used to teach machines how to understand fact based reasoning.

Whilst many blockchain developments have focused on anonymity as a key underlying feature, we are attracted by the flip side of full anonymity. A flip side that, ironically, only distributed ledgers can empower today: full scrutiny. Entity-independent trust fuels this new brand of scrutiny that, in our view, should power how scientific knowledge is organized and advanced forward in the current digital era.

The emergence of this full scrutiny paradigm demands twin developments: technology developments, on one hand, and governance developments, on the other. Uniquely, both required developments can be attained through the design and implementation of smart contracts.

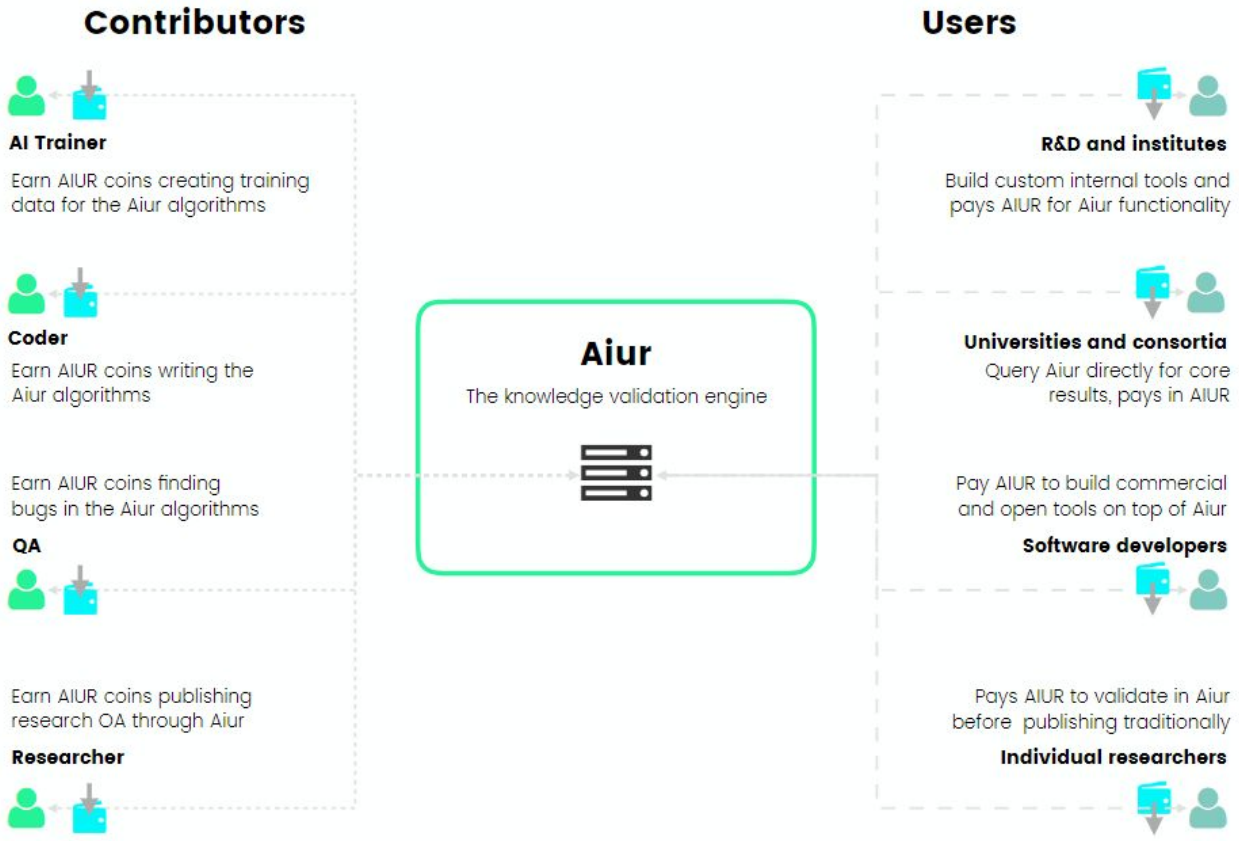
Token Overview

The AIUR token will be introduced as the main operating unit in the Project Aiur ecosystem. Everyone owning at least 0.01 AIUR will be considered a full member of the community. Besides granting membership, AIUR will be used to give access to the KVE and possible other 3rd party applications developed on top of the community's software. A mechanism will also be provided to earn tokens based on the member's contribution to the community. Staking tokens will also give users voting rights for different aspects of the system.

In this ecosystem, forged around a shared vision - to democratize access to and extend the reach of scientific knowledge world-wide, we envision at least four profiles contributing value to the design and development of the proposed Knowledge Validation Engine: (1) AI trainers; (2) coders; (3) quality assurance; (4) researchers and reviewers. At the same time, we contemplate four basic user profiles leveraging Aiur: (1) software developers, both commercial and open source; (2) R&D departments and research institutes; (3) academic research departments and consortia; and, (4) individual researchers.

With clear 'proof-of-human-work' characteristics in its design, the AIUR token falls within those identified as holding greater value resiliency and potential among the broad scope of functional tokens currently being ideated. We have fundamentally modelled the AIUR token as: (1) the sole instrument available for

the community to tap into Aiur directly via an Application Programming Interface ('API'); and, at the same time, (2) a voucher, i.e. a significantly discounted digital right to purchase products built on top of Aiur, including Iris.ai-developed services. This means that AIUR tokens will be, for example, redeemable for services and priced in this initial sale at a deep discount to Iris.ai's rate card. And this will be so from the initial project launch, before any tokens are made available to users. Far from an instrument suited to short term financial speculation, AIUR tokens are designed for natural holders, who believe in the value-added that Aiur will bring either to them directly or to other third party use-cases.
AIUR tokens will be generated every time an Aiur contributor submits an accepted contribution to the system, for instance, when an individual AI trainer submits a successful training input.



Token sale
Our token sale will target raising c. EUR 10,000,000 (more specifically its ETH equivalent at the time of opening the sale) in overall sale proceeds, with a minimum floor for completion set at 60% and a hard cap of 500%. The sale will run until the earlier of: (1) oversubscription is reached related to the hard cap; or, (2) time for the sale has expired. If oversubscribed, allocations will be scaled down by the oversubscription multiple, and will then be determined in line with the criteria laid out in token pricing section of the white paper. Ether will be the only acceptable currency for the orders placed.

We will assign 75% of the amount raised through this initial token sale to fund the ongoing development of the Aiur Knowledge Validation Engine and the

Validated Repository. These funds will be placed in an Escrow smart contract and will be released subject to the achievement of milestones, in an open, competitive environment, subject to community scrutiny and ultimate decision-making. The remaining 25% will be allocated to Iris.ai as payment for its services to the community on account of the ideation, design and planning of project Aiur, the formation and initial organization of the community and to cover other expenses required to successfully kick-off the project. Iris.ai's founders will not receive any direct monetary compensation, in either fiat, cryptocurrency or AIUR tokens. If the sale does not complete in the pre-announced time frame the received ETH will be returned to its original holders in full.

For the token sale we introduce a couple of straight-forward adjustments: (1) give priority to existing Iris.ai users (via pre-sale targeted to them); (2) divide the sale into weekly tranches and introduce stepped price increases for each successive tranche; and (3) limit purchasing orders to a maximum of 2% of the overall sale cap, for which the mechanism to enforce it will be applied after the closing of the sale. Buying orders above [a certain limit] will require full identity disclosure. Our tokens will be priced at [ETH 0.01] per token at the beginning of the sale.

Project operation and community governance
Building Aiur and the targeted ecosystem around it requires twin technology and governance developments. On the technology side, smart contracts will establish an Institution regulating: (1) how tokens will be generated, making valuable contributions to the platform; and, (2) how tokens will be used, tapping into the platform's algorithms. This 'Institution' will set the system's policies relying on an Oracle that will make external market readings to set a rate between AIUR and ETH and compute the minimum viable transaction limit and a few additional properties, like applicable taxation level, etc.(see Supply and demand policies section below).

On the governance side, we will define smart contracts to enact a Constitution, regulating: (1) how the ecosystem will function initially ('Phase 1'), until the earlier of the two takes place - initial stability targets being reached or the [12 months] after the first token generation event backstop; and, (2) community member rights and obligations, consensus building and decision making mechanism, particularly relevant post transfer of full control to the community ('Phase 2').

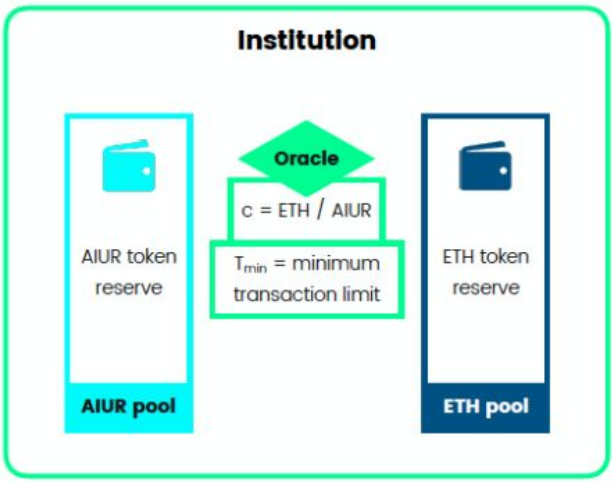
We believe the kind of centralized trust model put in place during Phase 1, where Iris.ai will act, in essence, as project lead and core developer (i.e. in a role akin to that of a service contractor), will be not only useful but absolutely required in the project's early stages, whilst acknowledging, at the same time, that it clearly would not be sustainable in the long term.

In 'Phase 1' Iris.ai will be holding 50% of the tokens in circulation, and after the transition to 'Phase 2' it will transfer to the Institution all tokens outside of the

allowed 2% holding cap, thus becoming an equal member of the community – a possible reaction of the Institution in order to keep the economy stable would be to burn most or all of the tokens received.

Supply and demand policies

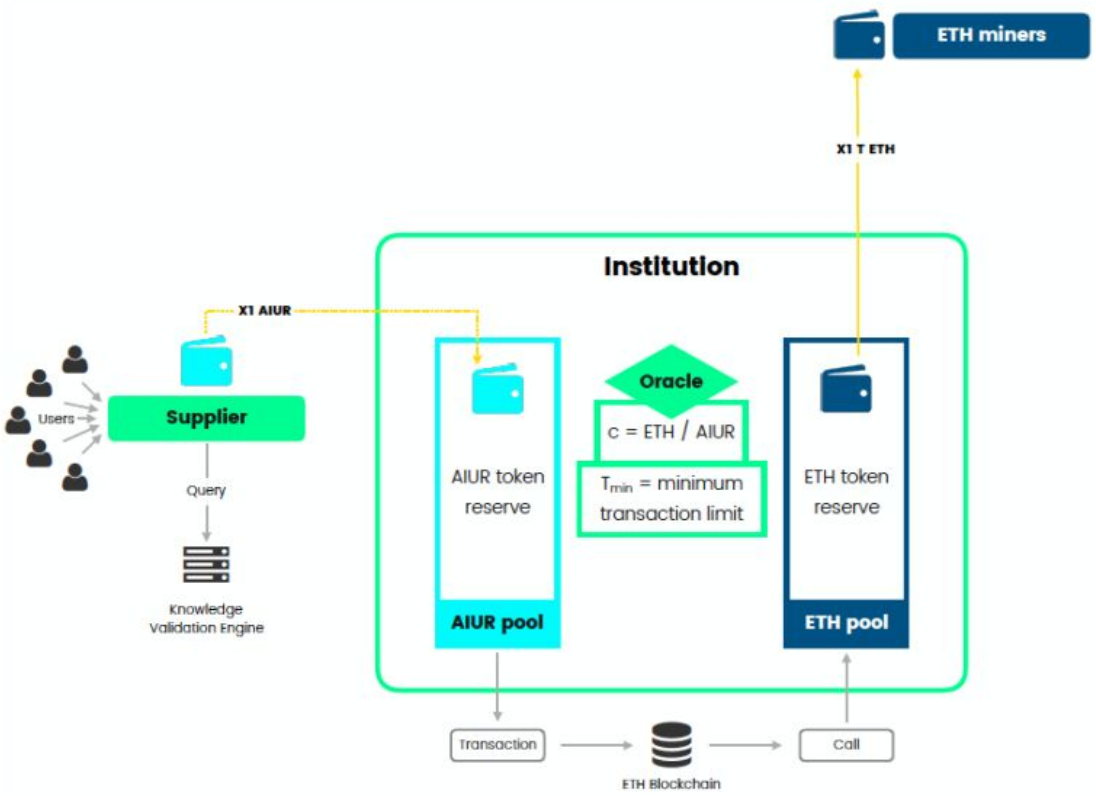
To ensure proper operation of the community, reduce potential destabilizing impact from the outside world and minimize the centralization around one or more community members, we will develop a self-organizing automatic economic stability system in the form of smart-contracts that will mimic the responsibilities of a central bank in real world and mitigate the economic risks around the ecosystem.



As reflected in the figure above, this central institution will consist of (1) reserves of ETH and AIUR tokens, (2) an Oracle that samples various indicators to track the evolution of relative prices between ETH and AIUR and the volume of transactions within the AIUR economy. On the back of these continued market reads, the Oracle will operate in the market with the goal of providing stability to the system. Possible operating mechanisms may include making AIUR and ETH exchange, introducing taxation mechanisms for preventing unwanted behaviour in the community (i.e. 'hodling'), etc.

The Institution will also support the community by covering the ETH gas prices in cases where underlying transactions are beneficial for the ecosystem. (i.e. actions driving more stable prices, fueling user liquidity, or recording contribution events).

An example is presented on the figure below: the Institution has the goal of ensuring that usage of the KVE is somewhat shielded from ETH gas price fluctuations from end-users' point of view. The idea is to ensure that the price of use will be more predictable and dependent mainly on events and market mechanics related to supply and demand within the community. Thus every time an end-user queries the KVE, through a third-party built intermediate product, the Institution's AIUR token pool will increase, but the ETH pool will decrease. The Institution will be able to rebalance its ETH holdings through market operations or introducing taxation. *(Note: the Institution is a complex system and full mechanics of its operation are NOT the purpose of this document)*



In contrast with other token sale processes, our token supply will be variable with the sole purpose of enabling the Institution to burn or issue new tokens in order to control inflation and deflation and support economic stability. The decisions for such issuance or burning events will be based on: (1) customer demand for AIUR tokens from KVE users (measured in usage, transaction volume, rate to ETH, etc.); and, (2) the token generation rate of the community contributors (measured in progress towards a milestone, training datasets, etc.).

We envision a world where the right scientific knowledge is available at our fingertips. Where all research is validated and reproducible. Where interdisciplinary connections are the norm. Where unbiased scientific information flows freely. Where research already paid for with our tax money is free to us.

Join us!