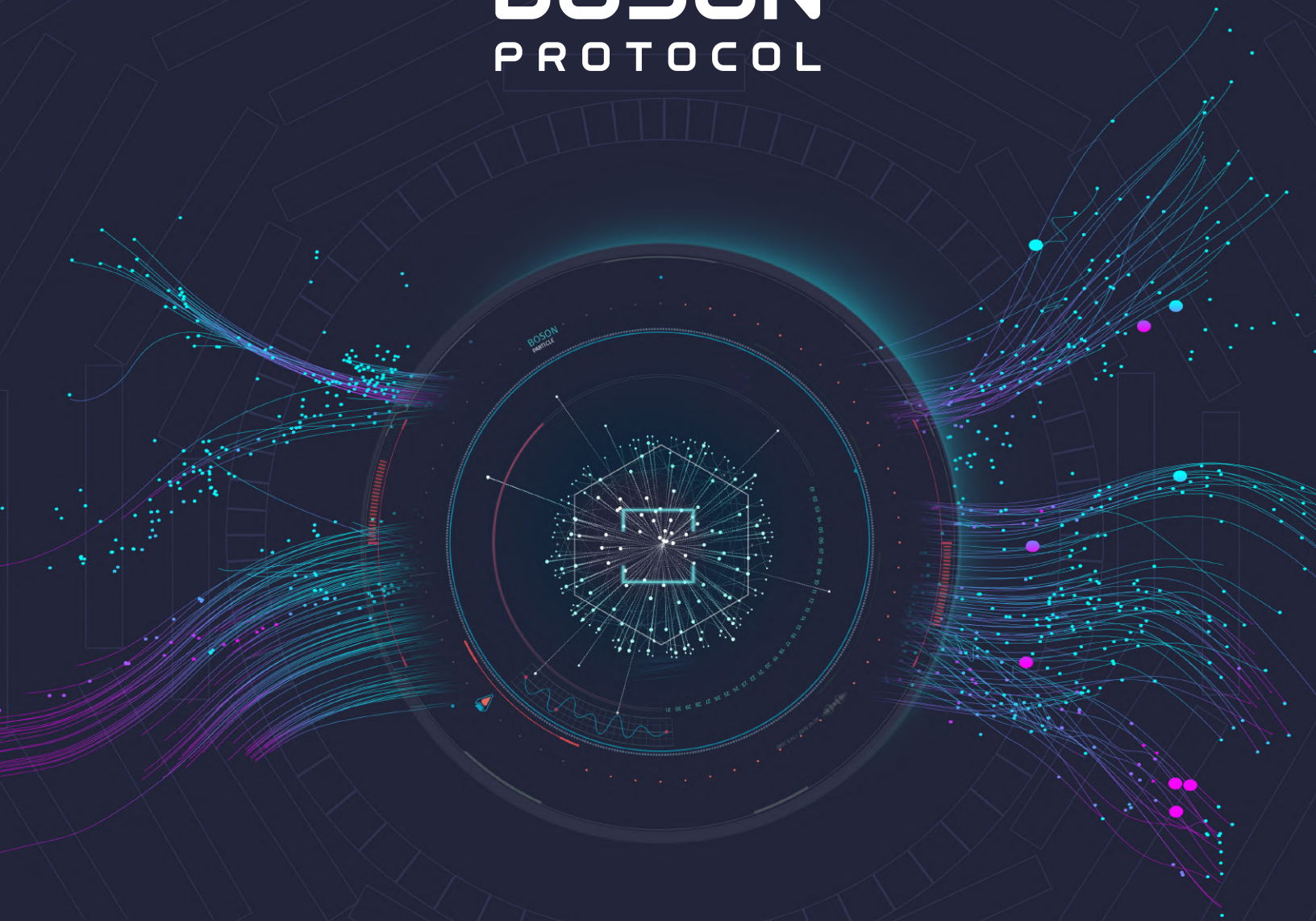






BOSON
PROTOCOL



LIGHT PAPER

Version 1.1 - February 2021



Boson Protocol enables a
decentralized commerce
ecosystem where all participants
share in the value they create.

#dCommerce



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“Commerce
is a human
endeavour that
should not
have its value
captured by the
few.”

Justin Banon,
CEO - Boson Protocol

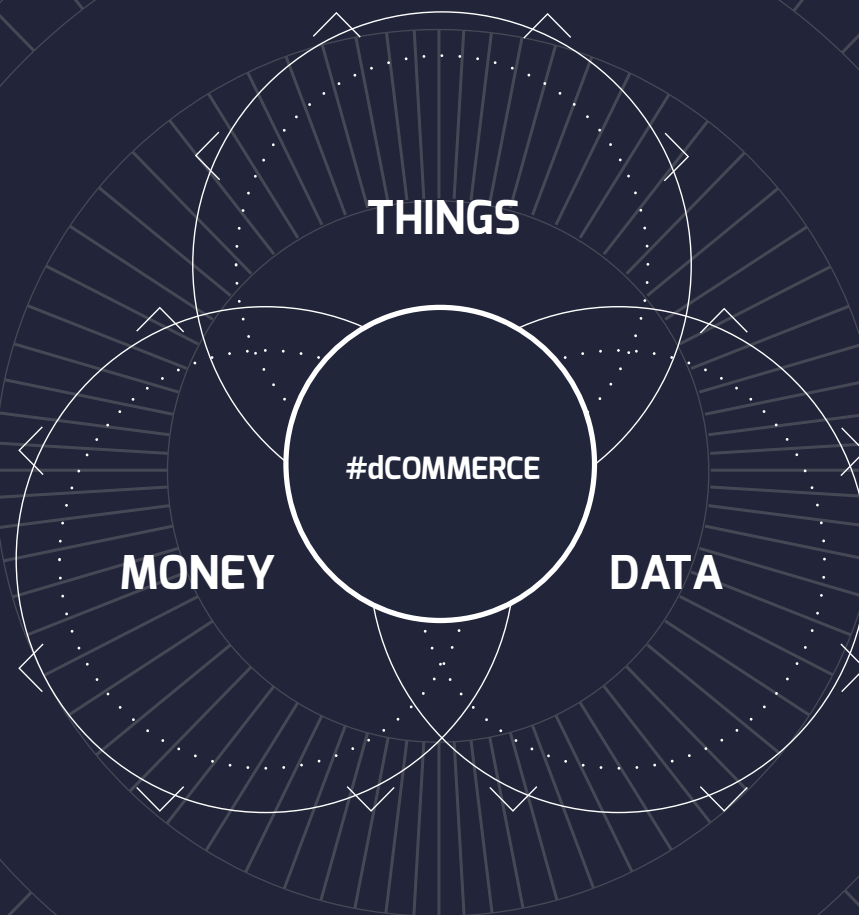
We are here to replace a broken system.

In our digital world, e-commerce is commerce. Financial value is exchanged for goods and services, and nearly all of this happens within closed, digital platforms. The invention of TCP IP could have provided a perfect market, where merchants and buyers could interact seamlessly, peer-to-peer, and with minimal intervention. Instead, just like banking, powerful ecommerce platforms have captured the market.

These monolithic intermediaries extract excess value. It is their prime directive. They feign customer-centricity when what they are really doing is hoarding data and separating people from the value they create. Worse than that, they distort markets and supply chains and interfere with our economic systems, imperilling consumers, firms and even governments.

While the first-generation decentralized commerce platforms have proven the technical feasibility of displacing centralized platforms, they have as yet failed to address all the needs of consumers and thus they have not seen significant consumer adoption. Unless we can solve this problem: **we face the prospect of the total capture of commerce and its supply chain by a few extractionary monopolies.**

THINGS¹, MONEY AND DATA: AN OPEN TOKENIZED ECONOMY



Boson Protocol's vision is to enable a **decentralized commerce ecosystem** by funding and enabling the development of a stack of specialized applications to disrupt, demonopolize and democratize commerce.

¹Things: products, services, and real world items.

Boson Protocol enables this via
an open tokenized economy of Things which:

Automates the redemption of
digital rights for physical assets
using NFTs encoded with game
theory.

Disrupts e-commerce platforms
by tokenizing Things and their data
within a liquid digital market, built
on DeFi.

WE CALL THIS
DECENTRALIZED
AUTONOMOUS
COMMERCE

The interplay between Things, money and data is at the heart of Boson Protocol. Boson enables for any Thing: the automation of digital to physical redemption, liquid digital markets, and a planetary-scale Web3 commerce data market.

THINGS

AUTOMATE DIGITAL TO PHYSICAL REDEMPTIONS

Commerce transactions require coordination in order to handle disputes and reversals. This coordination can be performed by centralized platform intermediaries, but they have an imperative to abuse their trusted position by extracting excessive rents and exploiting consumer data.

Decentralized commerce is an alternative, but existing solutions retain the cost and friction of human arbitrators. This limits the scope of ecommerce, and disconnects smart contracts from the multi-trillion dollar commerce market.



WHAT IS NEEDED IS A WAY TO EXECUTE COMMERCE TRANSACTIONS WITHOUT HUMAN INTERMEDIARIES OR ARBITRATORS.

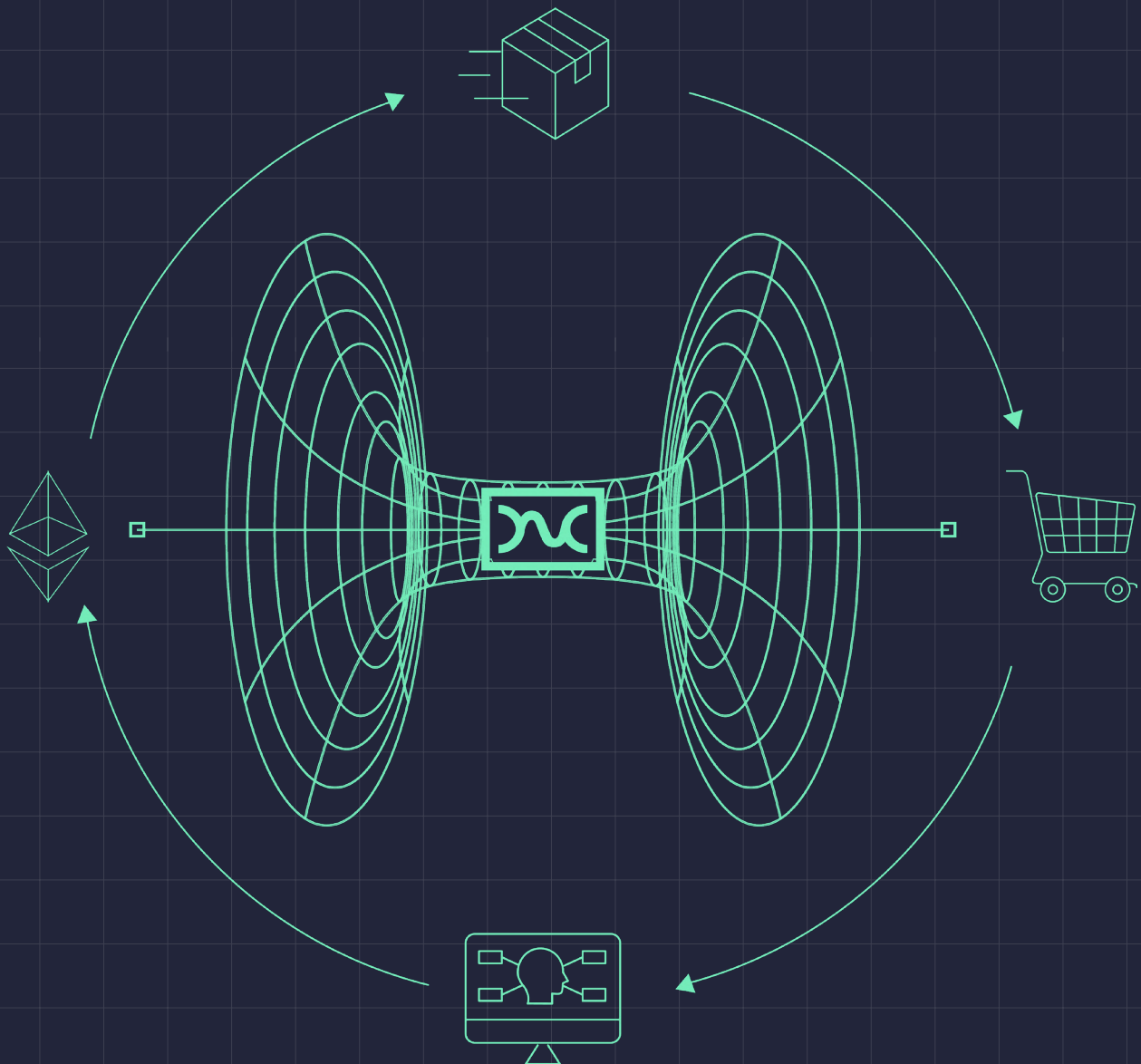
Boson automates digital to physical redemptions by tokenizing commitments to trade real world Things as **non-fungible tokens** (NFTs), which are governed by a novel sequential game. The result is the elimination of centralized intermediaries and the minimization of arbitration, cost and friction.

Boson can be conceived as a **commerce bridge between the Metaverse and the universe**, which **enables smart contracts to connect to real world commerce** using **decentralized commerce infrastructure** that **everyone can trust and anyone can use**.



COMMITMENT TOKENS

Boson automates digital to physical redemptions by tokenizing a Buyer and Seller's commitment to exchange digital value for a real world Thing at a later date. Commitments are made by depositing digital value into an escrow contract within a stateful non-fungible commitment token.



These commitments can be thought of as futures contracts for a Thing, programmed within NFT commitment tokens. Having custody of a commitment token grants the holder the right to redeem the token for a particular thing in an automated, reliable and secure way, as well as the right to transfer the token by transferring the commitment token from a crypto wallet just like any other NFT.

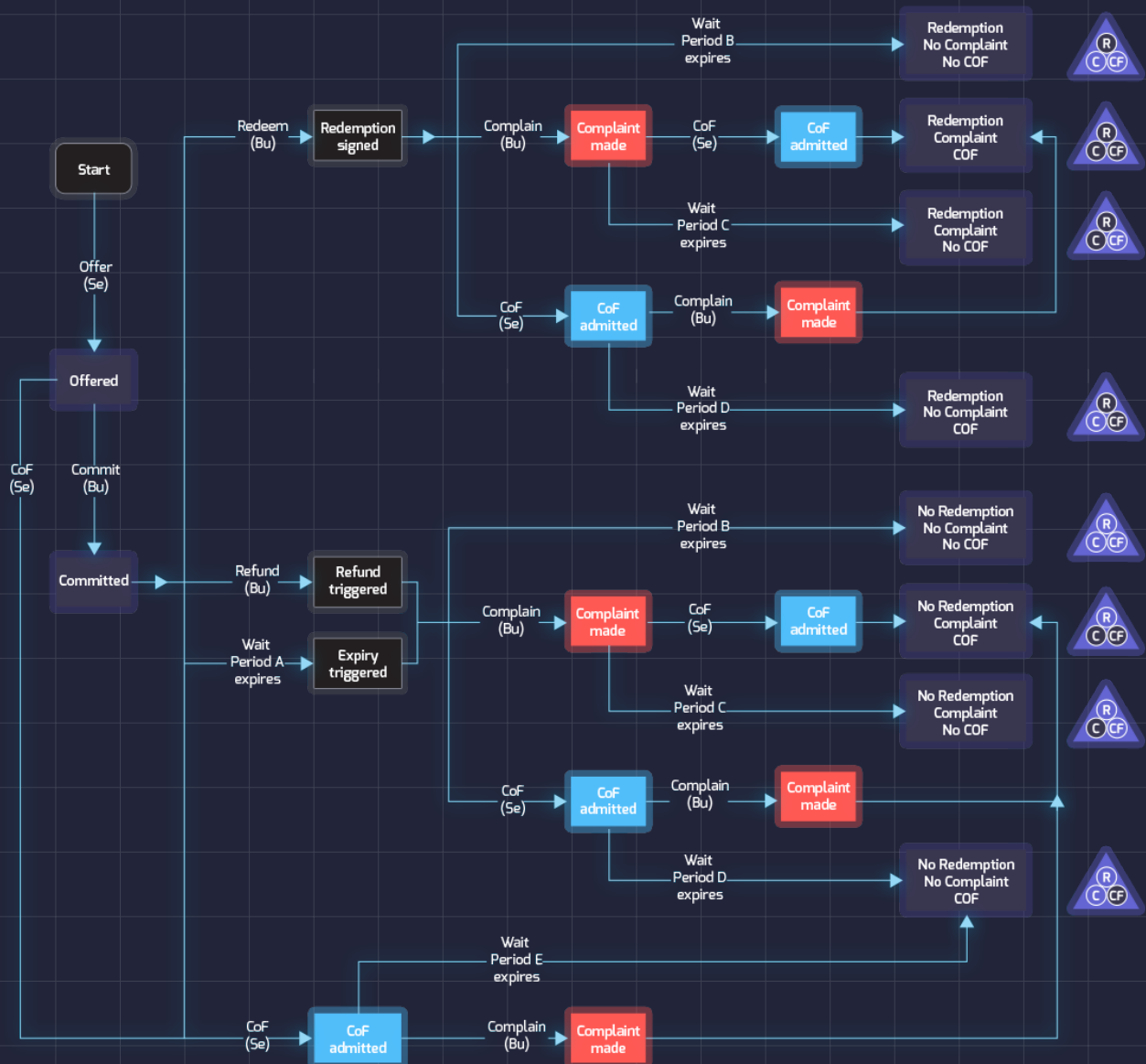
Representing the commitment to exchange Things as NFTs which are programmable, interoperable and composable with rules encoded within them is very different from simply rebuilding an ecommerce platform on a blockchain.

BOSON COMMITMENT TOKENS ARE:



CORE EXCHANGE MECHANISM

Commitment tokens are governed by Boson's core mechanism, which is a type of sequential game in which buyer and seller commit deposits up-front. Game rules and the final deposit transfer scheme is designed in such a way that coordinates transactions and incentivizes parties to behave fairly. Or more formally, we say that: "subgame perfect equilibrium² implementation corresponds to the honest behavior of both players."



² "Subgame perfect equilibrium - Wikipedia."

https://en.wikipedia.org/wiki/Subgame_perfect_equilibrium. Accessed 24 Jan. 2021.

MONEY

DISRUPTING CLOSED PLATFORMS WITH OPEN, LIQUID DIGITAL MARKETS FOR THINGS

AN OPEN THING ECONOMY

The world's commerce infrastructure has been captured by monopolistic and extractionary e-commerce platforms. Decentralised commerce presents an alternative solution, however existing implementations retain a platform design pattern.

This simply replaces centralized with decentralized technology - which in this context is less performant.

What is needed is commerce decentralized and rebuilt with the disruptive design pattern demonstrated by DeFi: an open tokenized economy.

In the same way that DeFi is disrupting banks with money tokens flowing around an open tokenized money ecosystem, and Ocean Protocol is disrupting Facebook and Google with data tokens flowing around an open tokenized data economy.

BOSON PROTOCOL DISRUPTS ECOMMERCE PLATFORMS WITH THING TOKENS FLOWING AROUND AN OPEN THING ECONOMY.³

³"Datatokens 1: Data Custody. Data access control, meet crypto" 8 Nov. 2019, <https://blog.oceanprotocol.com/data-tokens-1-data-custody-1d0d5ae66d0c>. Accessed 17 Jan. 2021.



THING TOKENS

Each type of NFT commitment token can be purchased with a specific Thing token. Because Thing tokens are standard (ERC20) tokens- think ‘generalized unisocks’⁴, they can be transferred and traded using standard crypto infrastructure such as wallets and exchanges. Most powerfully, Thing tokens plug into DeFi infrastructure to enable liquid digital markets for any Thing. This includes using decentralized exchanges (DEXs) like Balancer and Uniswap to enable price discovery and yield optimization of existing products, and crowdfunding of future products via Initial Thing Offerings (ITOs).

Boson Thing tokens are fully interoperable and composable within the DeFi ecosystem which enables “liquid marketplaces of physical assets by enabling real-time discoverability, usability and payment ⁵.”

⁴“Unisocks Exchange.” <https://unisocks.exchange/>. Accessed 24 Jan. 2021.

⁵“The Economy of Things - IBM.” <https://www.ibm.com/thought-leadership/institute-business-value/report/economyofthings>. Accessed 17 Jan. 2021.

DATA

A PLANETARY-SCALE WEB3 COMMERCE DATA MARKETPLACE

As a protocol for coordinating commercial exchange, Boson Protocol will be in a position to pool a valuable graph of consumer preference data. Web 2 tech titans capture users' data and separate users from the value their data creates, but Boson Protocol incentivizes voluntary data sharing by providing users with an equitable distribution of the proceeds from monetizing their data.

Boson Protocol leverages Ocean Protocol to develop a planetary-level Web3 data marketplace for commerce in which data buyers may purchase personal, product preference, pricing and ratings data to predict consumer buying behaviour, inform product development or develop market insights.

THE OPEN THING ECONOMY

“BOSON IS ENABLING AN OPEN THING ECONOMY BY INCENTIVIZING THE DEVELOPMENT OF TOOLS AND INTERFACES FOR THE dCOMMERCE STACK THROUGH A dCOMMERCE DAO.”

THE dCOMMERCE STACK

Boson Protocol enables a swarm of specialist, composable dCommerce applications, to work in concert to unbundle existing eCommerce monopolies. To kick-start this dCommerce stack, Boson is developing a library of developer tools and a number of reference applications including a decentralized marketplace for Things and a p2p reference application for real world redemption.

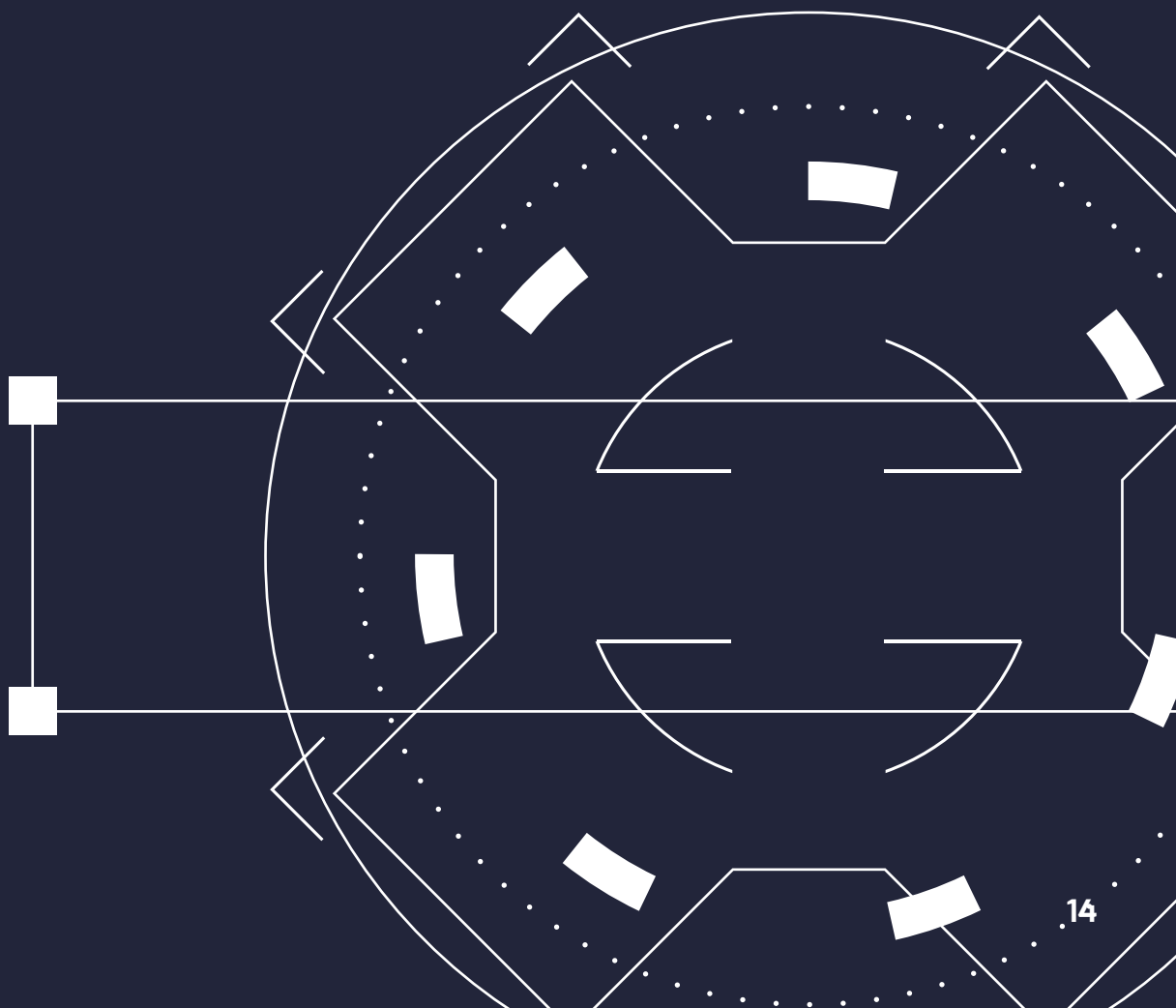
THE dCOMMERCE DAO

Following the principles of a Web3 Sustainability Model⁶, the dCommerce DAO will be a community-governed DAO for funding the growth of the dCommerce ecosystem. Curated by the community, the dCommerce DAO will fund projects which build core Boson Protocol software, applications, tools and integrations, as well as the growth of the ecosystem via supply, demand and developer initiatives.

⁶“The Web3 Sustainability Loop. A system design for long-term” 1 Sept. 2020, <https://blog.oceanprotocol.com/the-web3-sustainability-loop-b2a4097a36e>. Accessed 23 Jan. 2021.

USE CASES

Boson Protocol's universality spawns a wide range of use cases: a subset is described ahead:





ONLINE COMMERCE

Open digital marketplaces where any Thing can be offered, searched and exchanged with minimized trust and cost.



CRYPTO EXCHANGES

Enabling exchange tokens to be redeemed for real world rewards directly from an exchange marketplace without touching fiat, differentiating by rewards rather than competing on fees, and thus increasing token value.



TOKENIZED NETWORKS

Enabling users to exchange their network tokens for digital and physical goods and services, in order to increase user-perceived value and token value.



LOYALTY AND REWARDS

Enabling loyalty programs and credit card rewards to offer any digital or physical Thing in a standardized, composable and interoperable digitized format, without the cost and friction of intermediaries.



GAMES

Enabling video games to gift or grant permission to buy rare or special items. For example, on reaching Grand Wizard status, a player has the right to buy a special t-shirt.



I-GAMING

Enable online and on-chain casino customers to earn real world prizes and purchase real world items with winnings without touching fiat.



PHYSICAL TWINS OF DIGITAL ART

Enable NFT artists to offer physical twins, trustlessly via NFTs redeemable for physical artefacts.



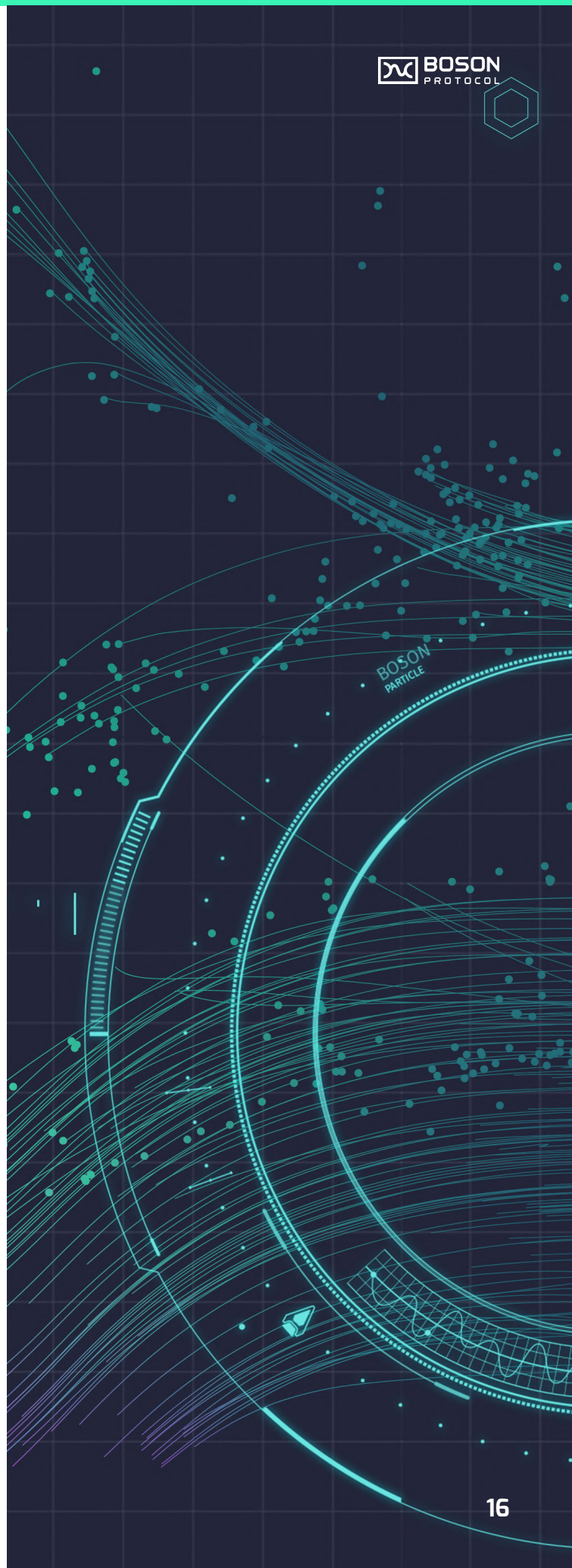
MACHINE-TO-MACHINE COMMERCE

Enabling self-driving cars to purchase tyres or servicing with autonomous management of disputes and redemption.

GOVERNANCE

To implement a governance model across the three phases of: start-up, scale-up and decentralized organization which will progressively enable the following properties:

- **Fair and equitable distribution** of ownership, value and control.
- **Capture resistance** - from centralized, extractive entities.
- **Regulatory compliance** - with legitimate authorities.
- **Community ownership** and operation.



PARTNERSHIPS & INTEGRATIONS

A vibrant ecosystem emerges when dreamers and builders unite to create the future. Boson Protocol is honored to be partnering with several companies and projects, developing the initial proof of concepts and use cases that one day will not only become the dCommerce ecosystem, but Commerce as we know it.

For a comprehensive list of partners, please refer to [our website](#) and [Medium announcements](#).



FOUNDING TEAM & ADVISORS



Justin Banon

CEO & Co-Founder

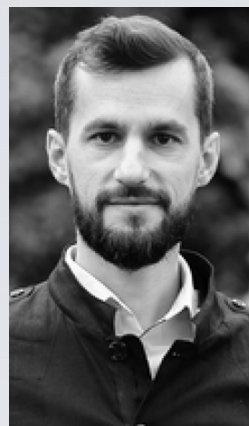
Tech unicorn builder

As global MD, blitzscaled Priority Pass Group from a \$50m to \$1Bn revenue digital voucher marketplace.

Blockchain strategy consultant

Digital business model researcher

MSc innovation,
MSc Digital Currency



Gregor Borosa

Tech Co-Founder

Lead engineer

Major bank & payment systems ,
including Central Bank of Slovenia

Blockchain technologist

Taught masters blockchain courses
Blockchain architecture consultant & dev

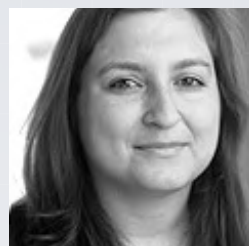
Computer science background

Masters Business Informatics, MSc
Digital Currency



Dr Trent McConaghy

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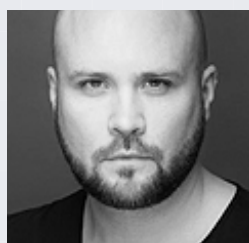
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Legal & Governance Advisor

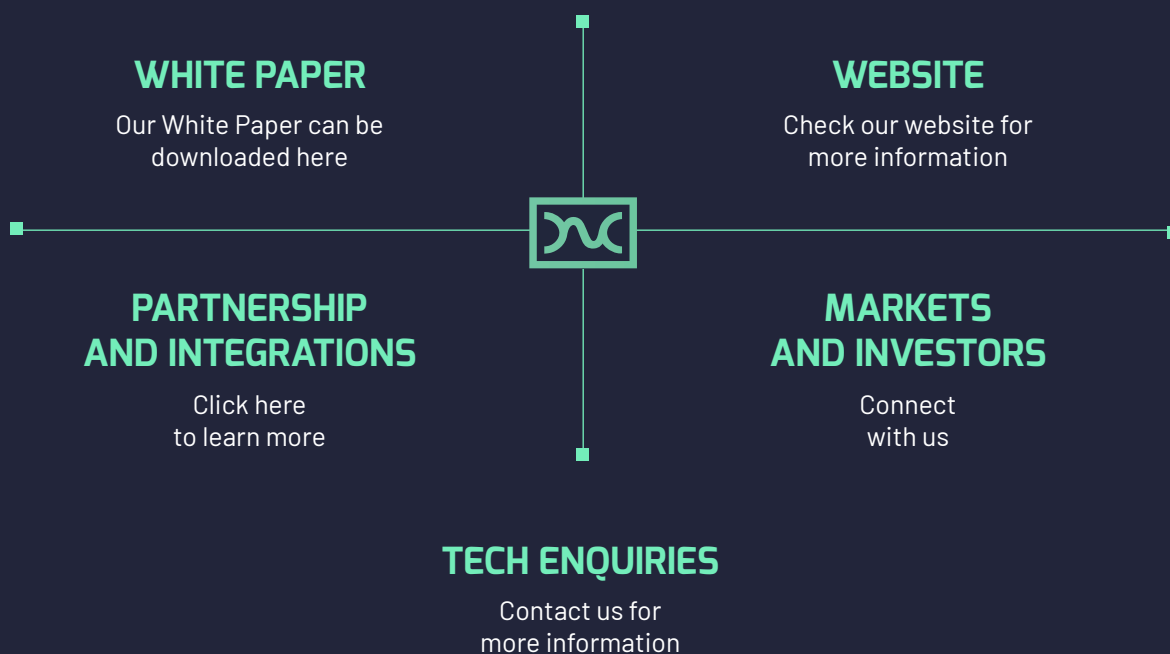


Jordan Lyall

Founder of \$MEME Project
Product Lead at Consensys

READY TO LEARN MORE?

CONTINUE YOUR RESEARCH OR JOIN US
IN PIONEERING THE
dCOMMERCE ECOSYSTEM.



YOU CAN FOLLOW BOSON PROTOCOL ON:

