

LANEAXIS[®]

SHIPPER - CARRIER DIRECT INTERACTION PLATFORM



White Paper



LaneAxis has invested over a decade of research and development into solving the glaring inadequacies and stale, outdated processes crippling the freight transportation industry. Even in 2021, trucking remains entrenched in antiquated and extremely inefficient labor conventions such as phoning, faxing and emailing. This is untenable.

LaneAxis' patented operational Network Platform targets the removal of \$200 billion in managed broker fees per annum - and that is only in the U.S. This is a global, multi-trillion dollar quagmire that LaneAxis ultimately seeks to solve on a global scale. The core LaneAxis SaaS platform is fortified by layering in blockchain smart contract functionality and collecting, collating and digitizing industry-wide transportation data - which today is virtually non-existent. As this critical network data grows exponentially, the thirst and demand for this business intelligence will skyrocket. Everyone reading this will benefit from a streamlined, efficient and transparent supply chain.

The main users of the network are shippers (such as raw materials producers, manufacturers and retailers) and carriers (trucking companies). Drivers participate under their carrier's operating authority, and contribute valuable load-level data (which they consent to providing), such as real-time tracking, available capacity, and location based availability. This key information will fuel numerous network features such as AI-powered predictive analytics and driver/carrier performance ratings.

These data sets are then presented in the most relevant manner, whether in the form of hard data bundles and/or data visualization of KPIs. This empowers the negotiating parties to make better informed decisions.

Bottom Line for Truckers/Carriers:

- Direct Freight/Direct Negotiations
- Guaranteed Pay - Usually within 24 hours of delivery
- Simplified Fleet Management and regulatory compliance
- No crypto background needed - simple to use interface
- Lower overhead - no more brokers

Bottom Line for Shippers:

- Automated Contract and Carrier Management
- Real-time shipment visibility and e-docs
- Blockchain reliability, speed and security
- AI to identify available capacity when and where it is needed
- Lower overhead - reduced head count thanks to automation and digitization
- Carrier/Driver data-based performance ratings - work with the best

An overview of the market the company is looking to penetrate.

LaneAxis is building the first Brokerless Shipper-to-Carrier Direct Freight Network in the United States - eliminating the need for costly and inefficient intermediaries.

This network will be powered by patented software, artificial intelligence, and blockchain technology. The AXIS token will serve as both a blockchain API access key and an intra-network verification, data access and payment mechanism. While LaneAxis' immediate target is the \$1 Trillion U.S. transportation sector, our solution solves supply chain pain points on a global scale. As LaneAxis continues to expand its footprint and gain significant market share in the U.S., the company's long-term plans include penetrating international markets in a measured, strategic, and phased manner.

Total Addressable Market (TAM)

Broadly speaking, LaneAxis is participating in the Global Logistics Market, having the potential to provide expanded services to other segments in this market such as rail, waterways, and air logistics. This is the market we define as its Total Addressable Market (TAM). The Global logistics Market was valued at \$11,078 billion in 2016 and is projected to reach \$12,256 billion by 2023 with a Compound Annual Growth Rate (CAGR) of 3.48%. The major attributions of the growth are the rise in global trade activities, trade-related agreements, global logistics infrastructure, and advancements in the Information Technologies and transportation sectors. The top players in this market include XPO Logistics, J.B. Hunt Transport Services, UPS, DHL, C.H. Robinson, Expeditors International of Washington and FedEx – all transportation companies that utilize brokers and utilize a process known as “purchased transportation” - whereby a large carrier essentially subcontracts freight to smaller carriers, always at a reduced rate for the smaller carrier and often without the knowledge of the original shipper. LaneAxis seeks to eliminate the need for both brokers and the controversial practice of “purchased transportation.”

Serviceable Addressable Market (SAM)

When it comes to the Serviceable Available Market (SAM), we looked at the **Global Freight Trucking Industry**. According to a report from Transparency Market Research, this market has achieved \$3,844.76 billion revenue in 2016 and is expected to reach \$6,252.81 billion by the end of 2025 with a CAGR 5.6%. For regional markets, Asia Pacific achieved the highest market share in 2016 and the market is set to witness steadily rising demand from North America. Among the truck types, Full Truckload Segment captures the highest market share.

Serviceable Obtainable Market (SOM)

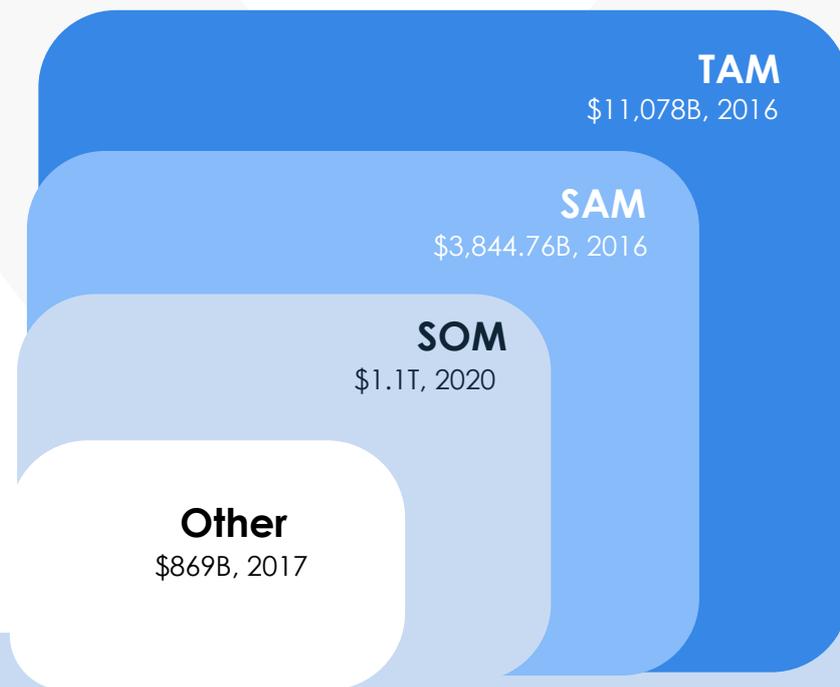
In terms of how much LaneAxis is able to capture, the **North American Freight Trucking Industry** is defined as the Serviceable Obtainable Market (SOM). The trucking logistics industry is unique in the U.S, which represented 79.3% of the nation's freight volume by weight in 2017. This industry generated \$726 billion revenue in 2015, \$676 billion in 2016 and \$700.1 billion in 2017. As of 2020, the U.S. freight trucking industry is estimated at \$1.1 trillion, according to a study by "Research and Markets."

As of 2021, there are approximately 3.5 million professional truck drivers in the U.S., according to the U.S. Census Bureau. 33.8 million trucks are registered and used for business purposes in the U.S. Moreover, the industry is very fragmented given the fact that in 2017, the number of for-hire carriers on file with the Federal Motor Carrier Safety Administration totaled 777,240, private carriers totaled 700,591. 91% of independent trucking companies operate 6 or fewer trucks and 97.3% operate fewer than 20 trucks. Further, the top 10 trucking logistics carriers currently only acquire 10% of the market share collectively.

Other Related Markets

The Global third-party logistics (3PL) market: valued at \$869 billion in 2017, and is projected to reach \$1,513 billion by 2025, with a CAGR of 7.1% from 2018 to 2025. For the regional market, the Asia-Pacific region garnered the highest share in 2017. This market is forecast to have a significant increase due to the growth of e-commerce and the focus of manufacturers and retailers on their core business and subcontracting activities, such as logistics where they have less expertise.

The Global Digital Freight Brokerage Market was valued at over \$1.3 billion in 2019 and is projected to reach \$26 billion million by 2030, with an expected CAGR of 33% during that time. Specifically, the roadway freight market is expected to remain dominant during this period. The development of on-demand/app-based trucking solutions is gaining a significant amount of investment and attention proven by the successful fundraising of numerous transportation-based apps.



Total Addressable Market (TAM)

- Focus on Global Logistics Market
- Valued at \$11,078B, 2016
- Projected reach is \$12,256B, 2023

Serviceable Obtainable Market (SOM)

- Focus on North American Freight Trucking Industry
- Valued at \$1.1T, 2021
- Expected to increase by 2.3% per year

Serviceable Addressable Market (SAM)

- Focus on Global Freight Trucking Industry
- Valued at \$3,844.76B, 2016
- Projected reach is \$6,252.81B, 2025

Other Related Markets

- Global 3PL Market valued at \$869B, 2017
- Global 3PL Market projected to reach \$1,513B, 2025
- Global Digital Freight Brokerage Market valued at \$836.06M, 2017
- Global digital Freight Brokerage Market projected to reach \$21,355.49M, 2026

Need to Solve Current Inefficiencies of the Broker-Dominated Freight Trucking Industry

Numerous inefficiencies plague the North American Freight Industry, including the following:

Inefficiency & Lack of Transparency

Brokering a shipment between carrier and shipper often takes hours. Brokers routinely have to call the drivers every 15 minutes while the shipment is in-transit in order to make sure the driver is still on-time and on the way to the delivery or pick-up location.

Brokerage Sector Growth Magnifies Inefficiencies

Apart from the fragmented competition posed by on-demand trucking apps like Uber Freight, Convoy, and blockchain companies like LaneAxis and Fr8 Network, the number of freight brokerage companies is expected to increase 4% year-over-year due to e-commerce growth. As a result, certain inefficiencies accompanying the sector are expected to grow as well.

CONCERNS TO BE ADDRESSED:

- Load capacity efficiency. Nearly 20% of the miles covered are taking place with empty trailers. This amounts to an estimated 20 billion+ empty miles driven by U.S. trucks every year.
- Waiting times. Nearly 63% of the drivers spend more than three hours at the shipper's dock waiting to (un)load. This is known as "Detention Time." Not only does this cost driver's valuable time, in many cases it costs them money - as detention disputes often result in unfair penalties levied against the carrier.
- Driver shortages.
- Rising rates due to regulatory compliance e.g. Electronic Logging Device (ELD) rules and random events e.g. weather patterns, Demand surge.
- Time consuming regulatory compliance checks, verification and validity of documents.
- Diverse set of contractual obligations.
- Issues relating to trust

Some brokers are being pushed to use new technology solutions to improve their efficiency in business management, marketing, and accounting. Those solutions may provide some advancements which address certain inefficiencies, but the solutions themselves are generally disparate and incompatible, introducing a new type of inefficiency and complexity.



No Driver Network

A lack of a driver network means shippers and truckers rely on digital load boards, instead of connecting directly.



Costly “Managed Services”

Shippers turn to “managed services” - for a 15-50% fee - to handle tasks such as contracts, insurance, and freight tracking.

CURRENT PROBLEMS



20 Billion Empty Truck Miles

The lack of visibility means trucks driving 20 billion + miles hauling empty trailers every year.



No Visibility

90% of trucking companies own 6 trucks or less. A lack of tech means phone calls, emails & faxes still dominate

Inability to Directly Negotiate Freight Shipments.

The fact it is not possible for shippers and carriers to efficiently, directly negotiate the shipment of freight loads, virtually necessitates the continued utilization and growth of the freight brokerage industry, along with the challenges that come with it. Given that technology has advanced significantly, it is time to bring to market a solution that addresses the main root cause of the problem, instead of adding complexity hoping that the trade-off will have a positive net effect.

Initially the platform's main functionality will include:

- Shippers and carriers searching for and connecting with each other based on operational and strategic commonalities. By contracting directly with each other (without the need for an intermediary), shippers can leverage load-management automation, self-executing smart contracts, and blockchain security to contractually manage hundreds of thousands of trucking companies directly and simply. This has long been an impossibility - until now.
- Bidding and negotiating load manifest requirements such as terms and freight fees. Shippers maintain individual business contractual terms important to their operations.
- Accessing the historic records of each user according to his/her role in the network. This data is also stored on the blockchain for impenetrable, historical archival record keeping.
- Developing "FICO" style performance scores for drivers, providing the network accurate insights into the quality and performance history of the driver. This is a major AXIS Token utility component.
- Developing overall carrier performance ratings and data-backed network risk assessments. This is another token utility component that insurance companies, suppliers, government agencies and other vested parties will seek out.
- Developing shipper performance scores. These will be generated based on average loading and unloading times and other key metrics that will better inform future rates for trucking companies - which only make money when they are moving.

In addition, drivers are offered a wide range of related services and products provided by both third parties and the network itself.

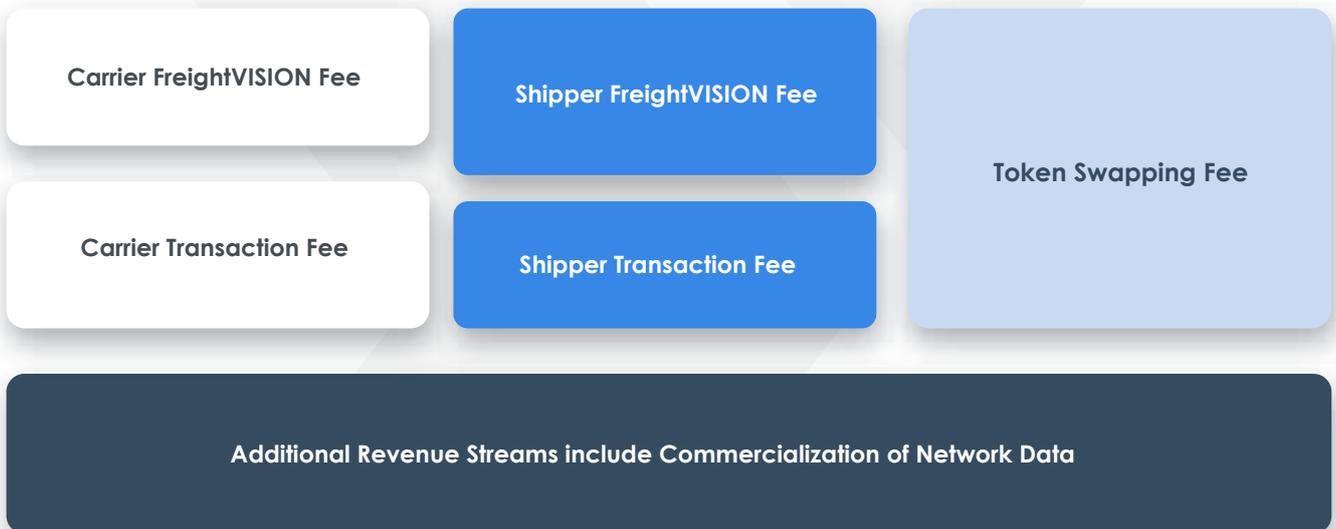
The ability for a carrier and shipper to negotiate a freight load directly, without the need for costly and cumbersome brokers, automatically reduces the inherent complexity and commissions (20-50% per shipment) of an additional party to the transaction. Further, the network search function combined with geolocation data and available load capacity maximizes the utility of the fleet while mitigating driver shortages.

Waiting times will be reduced and generally better handled by the shippers, since they will have access to a range of data which will simplify the process of dock scheduling, which trucks to load first, and more. Timestamped geofence data also confirms exact arrival and wait times for drivers, likely leading to a drastic reduction in costly detention disputes - which is another multi-billion dollar problem. Further, a common set of contractual obligations provides a framework in which all parties have a mutual understanding of the liabilities and requirements involved in freight movements. Performance data "feeds" culled from connected mobile devices will verify the validity of reported incidents. This aspect further adds to the inherently "trustless" transactional attributes a blockchain implementation offers to its stakeholders.

A major focus as the Network grows will be the continual addition of AI components added monthly that will provide further valuable utility data sets.

There is no charge for Carriers or Shippers to join the network. Shippers pay a 1% per load transaction fee upon rate confirmation, and a \$5 equivalent token per load as a FreightVision tracking fee. Carriers are deducted a 1% transaction fee upon final settlement. Carriers have the option of utilizing FreightVISION for \$1 or 1 USDC per load. AXIS Tokens will be utilized for building Network connections and accessing Network data on the platform

Current Network Revenue Streams:

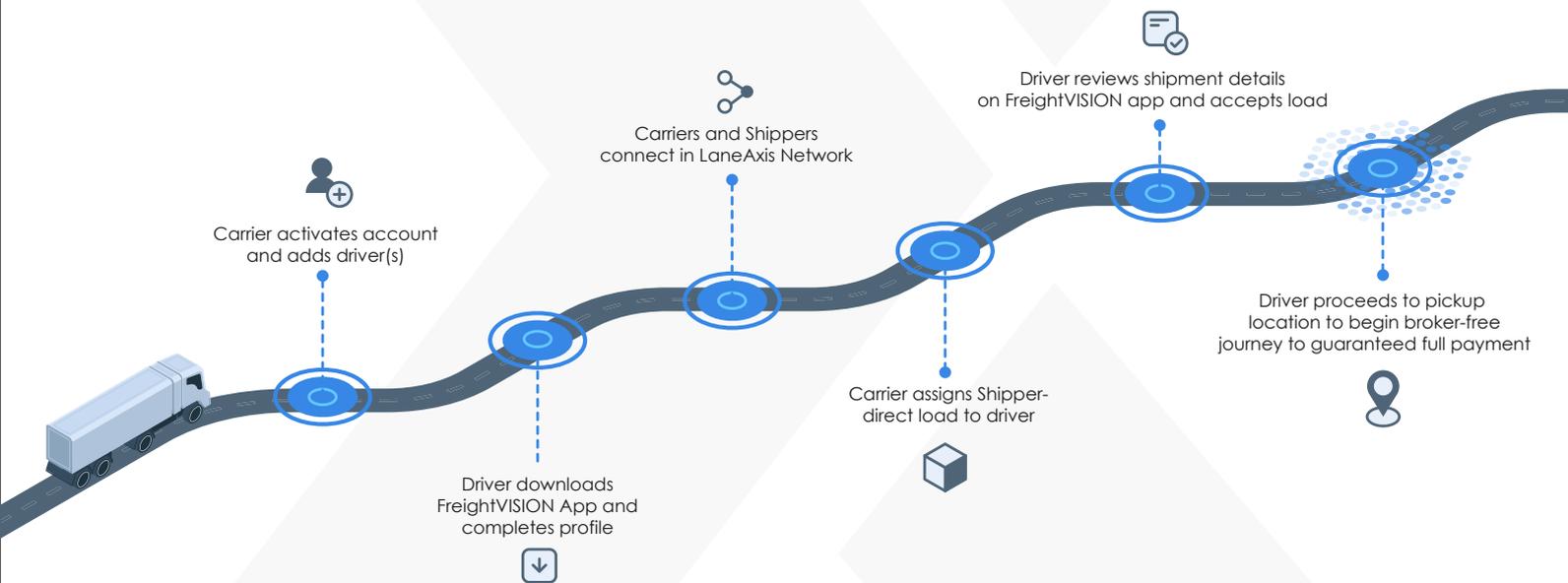


This represents a fraction of potential future revenue streams, which will include (among others) in-app advertising and a wide range of ancillary services for carriers, shippers, and interested third parties.

How users will interact with the system itself.

Users are expected to interact with the system through the web interface and mobile application - both of which will be interfaced with the blockchain of choice, leveraging web3 and providing cryptographic token wallet functionality.

How it Works



The AXIS Token is an ERC20 standard token that exists on the Ethereum blockchain. Lately, due to explosive growth in its use, the transaction fees (aka gas fees) on the Ethereum network have skyrocketed to new highs. The cost of transferring an ERC token in USD can be as high as \$20 per transaction.

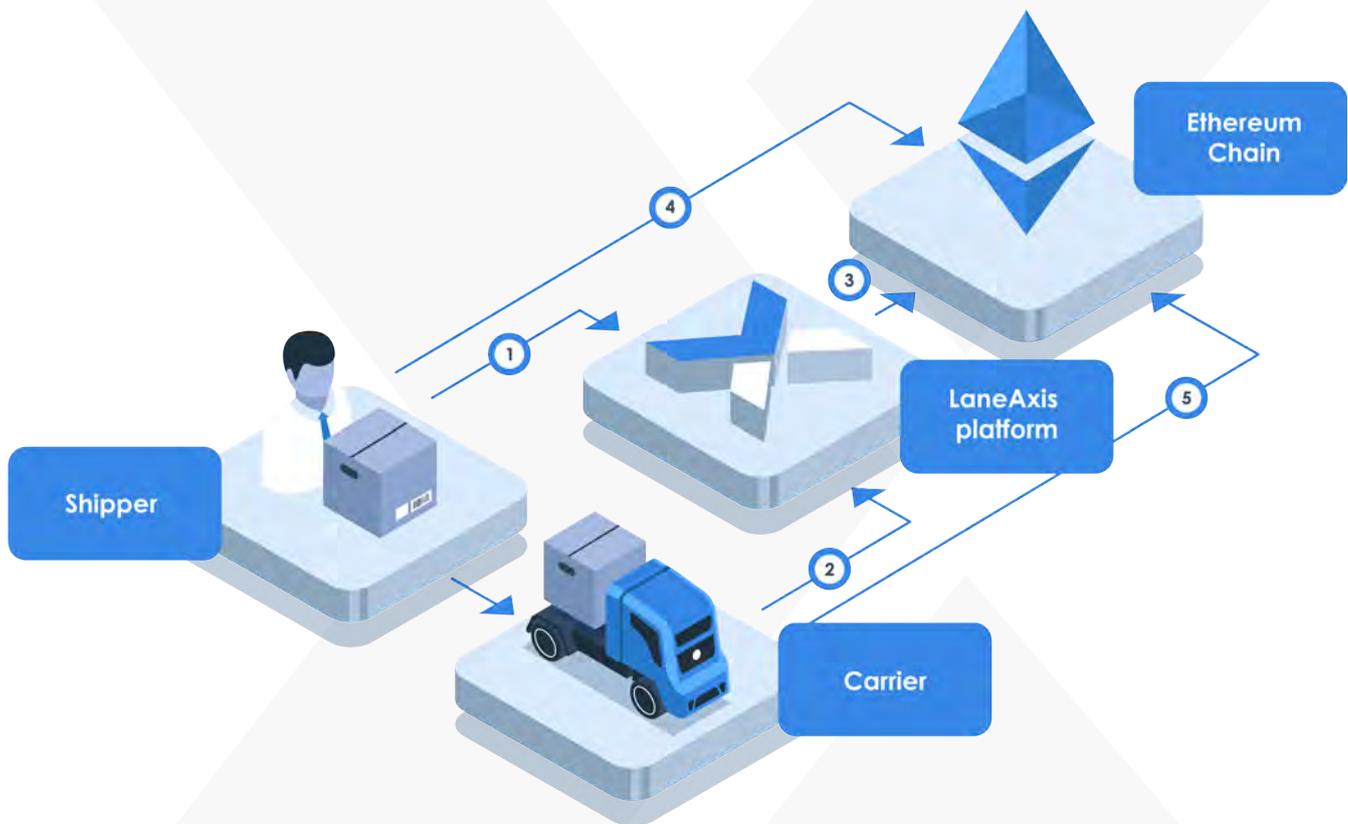
Ensuring scalability and usability of the LaneAxis blockchain solution and keeping the transaction costs down has always been a top priority. The AXIS token will run on this L2 solution, providing low transfer fees and fast transaction throughput. A Layer Two solution takes some of the transactions off the main Ethereum blockchain to a parallel network, and only reports the minimal required information to the Ethereum main net. The end result is significantly reduced gas fees (up to 100x lower) and a significantly higher rate of Transactions per Second (TPS).

LaneAxis will operate Circle USDC stablecoin for payments and escrow operations and Ethereum ERC-20 standard for the AXIS utility token. Payments and escrow operations will be operated by Ethereum smart contracts.



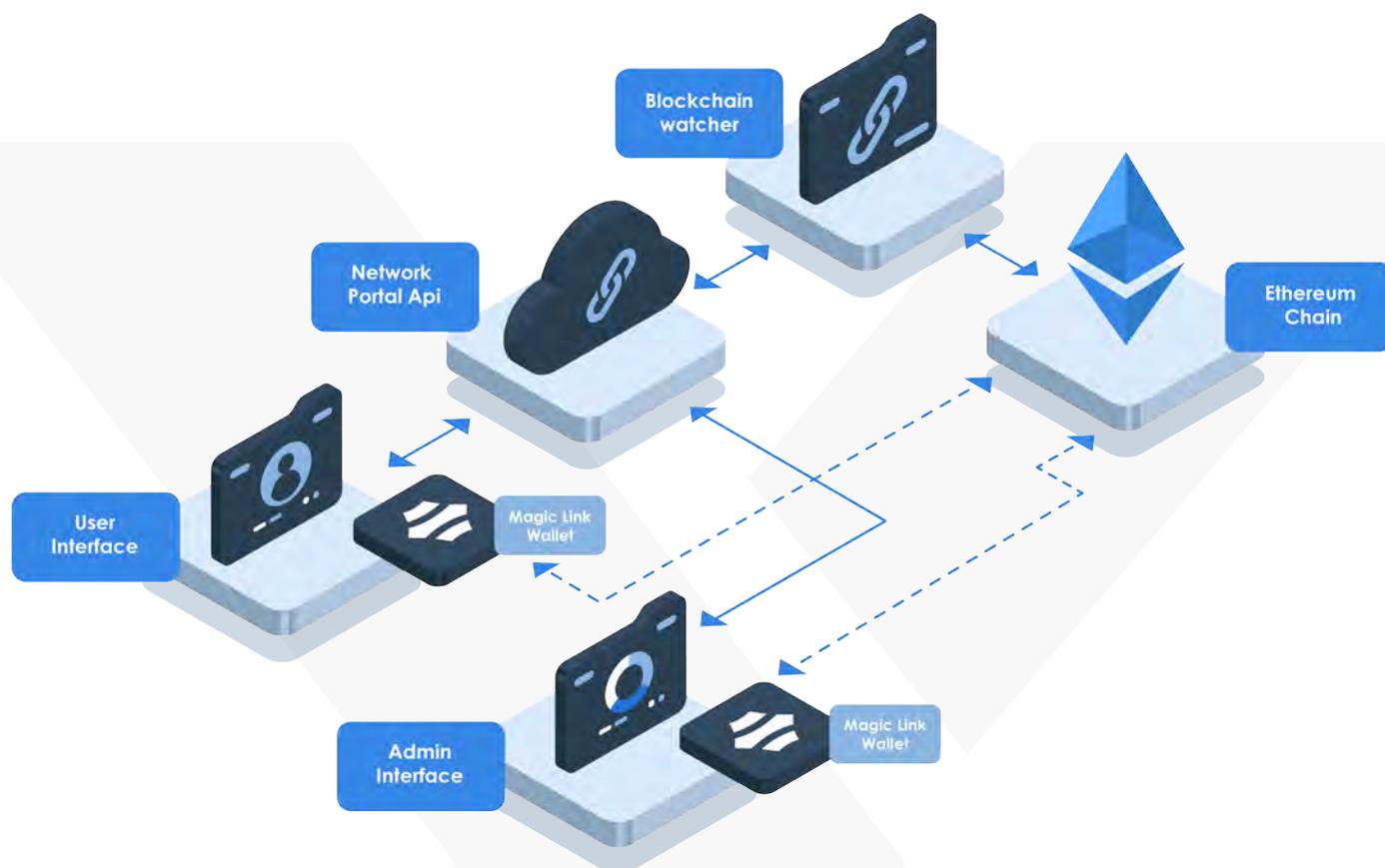
Order Lifecycle

Since Ethereum is a public blockchain, orders and transactions on the LaneAxis platform will have to be anonymized. To achieve the appropriate level of anonymization and prevent unauthorized access to order information, we'll use collateralization with the CREATE2 EVM OpCode. It allows you to receive the address of a smart contract before it is actually created. This way a shipper can create collateral by transferring stablecoins to a contract address that does not yet exist, making the transaction highly secure. When the collateral needs to be withdrawn, the contract is deployed and executed.



- 1** Shipper creates an order in the system. The system assigns a unique ID to the order;
- 2** Carrier bids for the order. The winning bid is accepted.
- 3** The system generates a smart contract address for the order, that corresponds to the order, the shipper and the carrier. The contract is not created on the blockchain.
- 4** The shipper deposits the amount to the contract address that will serve as an escrow for the transaction(contract is still not created)
- 5** After the shipment is delivered, the carrier will send a transaction to the blockchain, which will create the smart contract, the balance of which has already been deposited in step 3.
- 6** The deployed contract allows the carrier to withdraw USDC from the contract, according to conditions and business logic, including a mandatory 24-hour hold period for dispute resolution, to its wallet address. Fee from transaction is stored on Controller and can be withdrawn by Owner(Admin) to desired address.

Components



Services

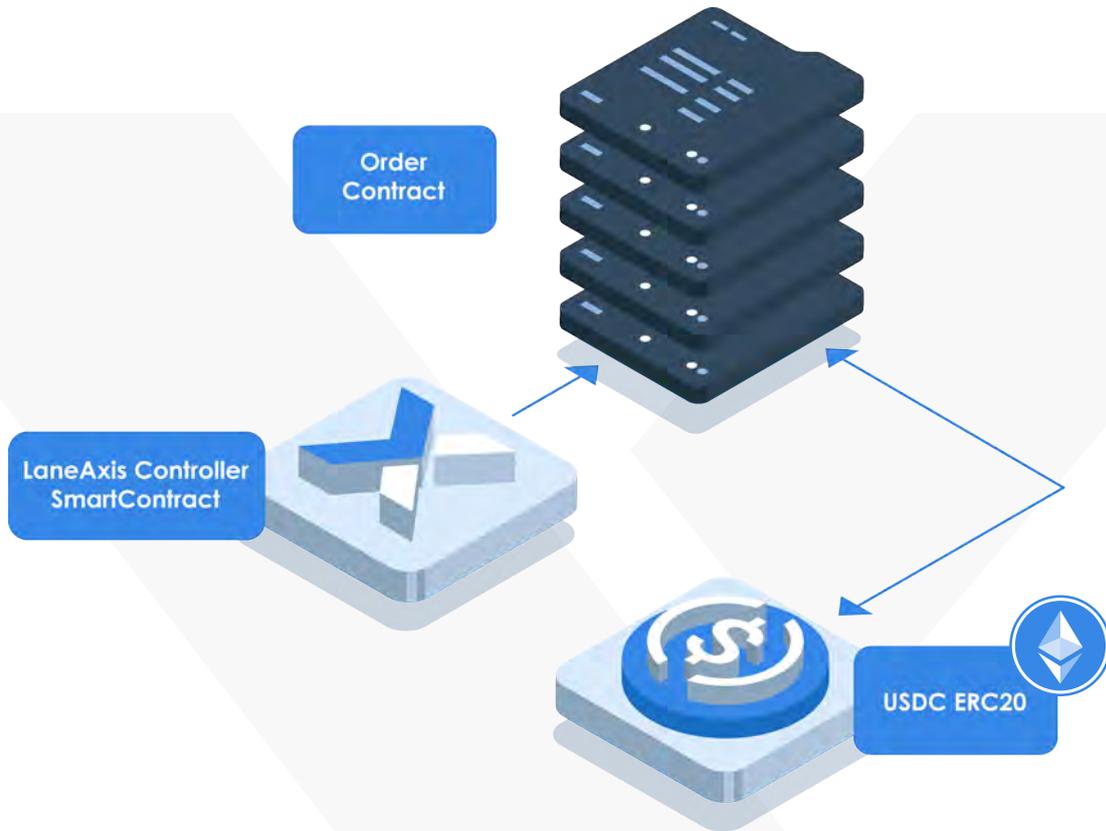
TX Watcher

TX watcher is a Node.js service that will be monitoring events on the blockchain. The service notifies the rest of the system if trigger operations are detected and stores them in the transaction history. It provides an interface for retrieving the transaction history.

Blockchain Integration

A Magic Link Wallet will be used as an integrated wallet address for user interaction with smart contracts. For convenience, it will be implemented into the registration process as an additional end step.

Smart Contracts



● LaneAxis Controller Smart Contract

The main smart contract of the system, the action coordinator, responsible for creating order smart contracts, including the order dispute procedural logic.

● Order Smart Contract

The order smart contract will be responsible for the implementation and final settlement of a specific order. It includes order identifier, shipper and carrier addresses, as well as the delivery time of the cargo. Order smart contracts will be created by LaneAxis Controller Smart Contract. They will interact with LaneAxis Controller Smart Contract in the case of a dispute.

● USDC ERC20 Smart Contract

Already existing Ethereum Chain Smart Contract.

● Synthetic Circle USD (scUSD)

We should develop mintable, burnable ERC20 tokens. We will use this contract as user circle balance storage.

Shipment Tracking

The Carriers track their loads using the FreightVISION app. This shipment tracking service will be consumed through the token. The pricing structure will allow tracking each load individually.

Network Connections

The Carriers send invitations to connect to shippers to connect directly. This service is provided in exchange for a payment made in AXIS token.

Information Services

Drivers, shippers, carriers and third parties such as insurance companies will be able to purchase information services from LaneAxis in exchange for AXIS token(s). Information services may include: waiting times at destination points, detention time data, statistical reports for advertising companies, insurance companies, federal and state government agencies, along with all types of various industries tied to transportation/supply chain.

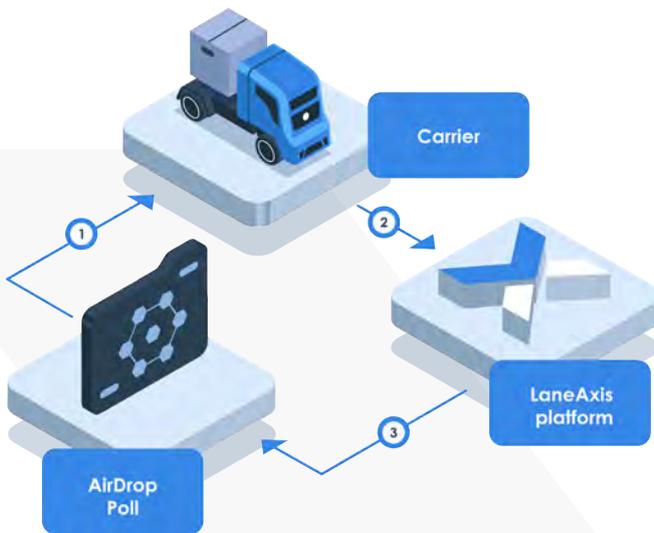
Other Services

LaneAxis platform will offer new services to its users, that may include decentralized lending, load matchmaking, spare capacity trading, insurance market and network advertising. These services will be paid for in AXIS tokens.

Token Staking

AXIS token holders will be able to stake their tokens for a set period of time and earn a yield in AXIS token for their contribution.

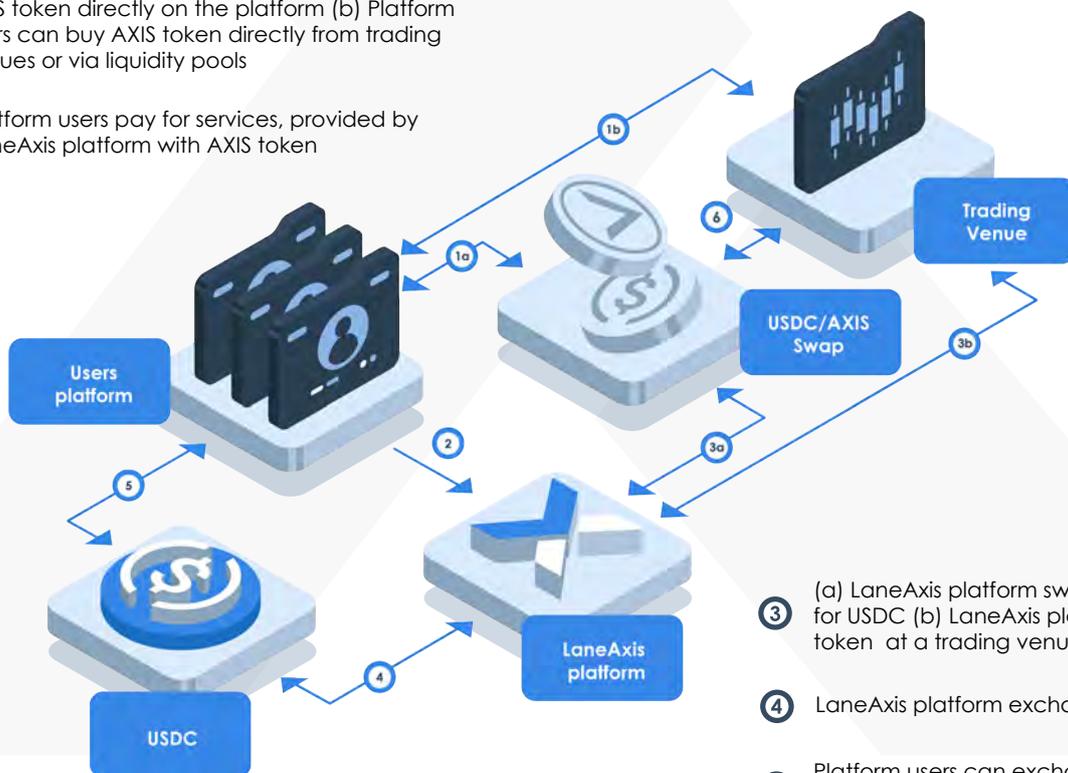
Initially, AXIS tokens will be distributed to carriers through token airdrops.



- ① AXIS utility token is airdropped to carrier wallets
- ② The carriers use AXIS token to obtain services from LaneAxis platform
- ③ AXIS token, received from carriers is circulated back into the airdrop pool

System users will be able to purchase AXIS tokens from the platform, in exchange for USDC or at trading venues, such as decentralized and centralized crypto exchanges like Circle.

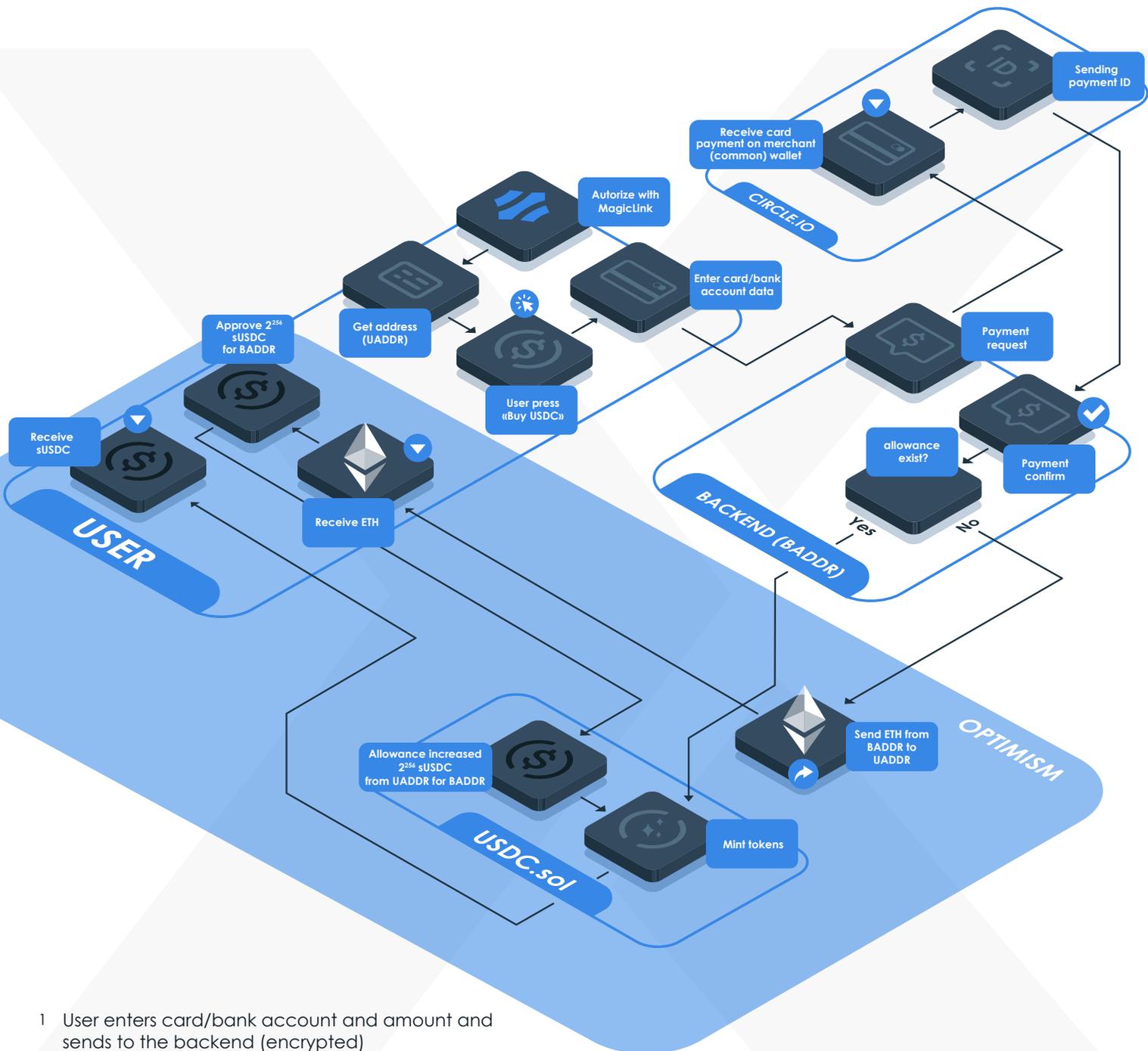
- ① (a) Platform users can swap USDC they have for AXIS token directly on the platform (b) Platform users can buy AXIS token directly from trading venues or via liquidity pools
- ② Platform users pay for services, provided by LaneAxis platform with AXIS token



- ③ (a) LaneAxis platform swaps AXIS token for USDC (b) LaneAxis platform sells AXIS token at a trading venue
- ④ LaneAxis platform exchanges USDC for USD
- ⑤ Platform users can exchange USD for USDC to buy more AXIS token

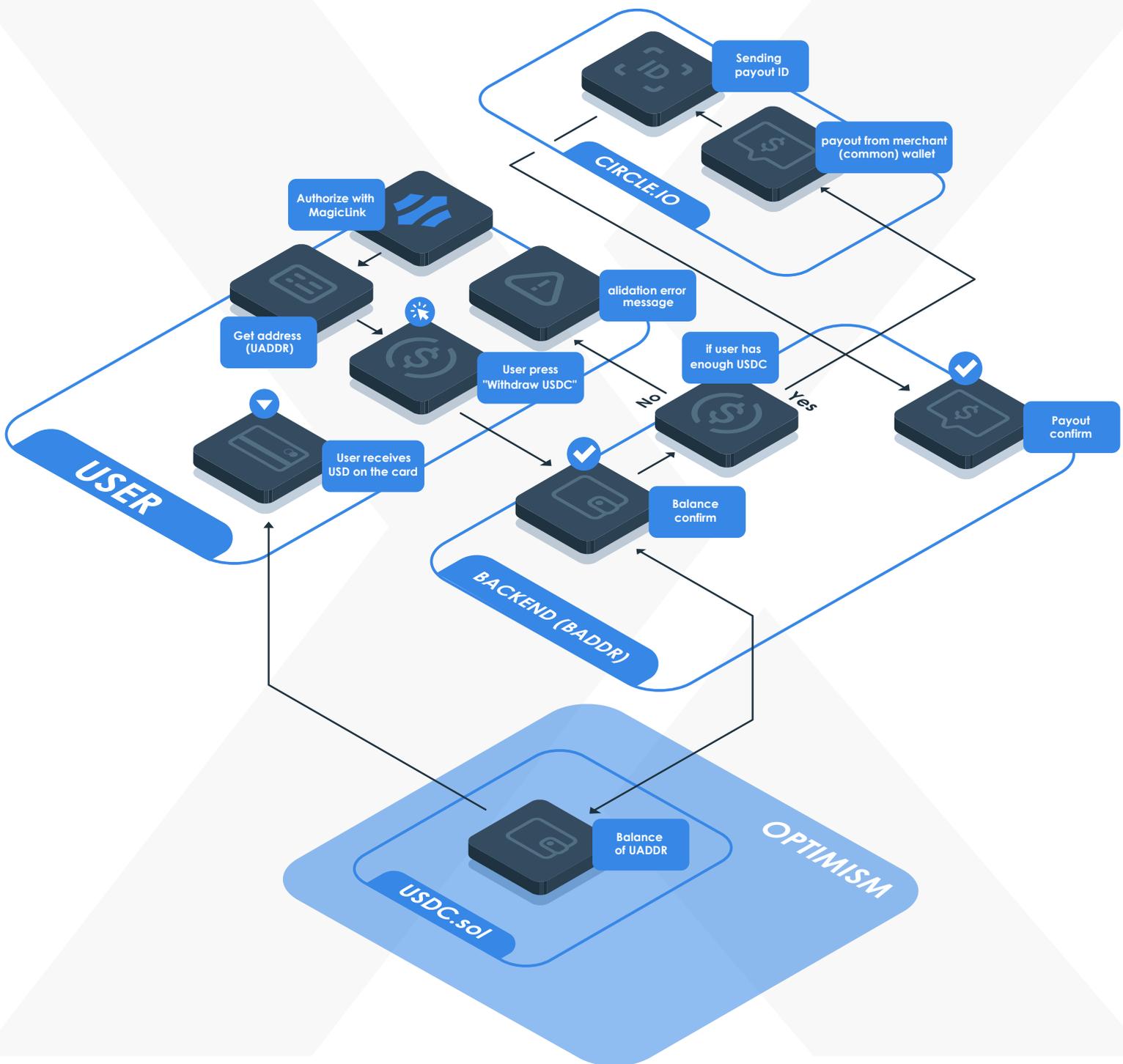
- 1 Platform users can swap sUSDC they have for AXIS token directly on the platform
- 2 Platform users can buy AXIS token directly from trading venues or via liquidity pools.
- 3 Platform users will pay for services provided by LaneAxis platform with AXIS and sUSDC tokens.
- 4 Platform users can exchange USD for USDC to buy additional platform functionality such as the purchase of Loads, Shipments, additional Axis tokens, and so on.
- 5 Once the user buys extra USDC tokens they will be kept in the Circle address account, and additional synthetic USDC tokens will be minted and given to the user Magic Link wallet as active currency.
- 6 Users will be able to withdraw USD via USDC from LaneAxis platform. Once the user selects a bank account for fiat destination, USD will be sent to the selected account and sUSDC and USDC will be burned.

LaneAxis processes payments from users using Circle.io and mints scUSD tokens which are added to the user's balance.



- 1 User enters card/bank account and amount and sends to the backend (encrypted)
- 2 The backend calls a payment request in circle.io
- 3 Circle.io confirms the request, creates Payment ID and gather USDC in user subwallet in circle.io
- 4 The backend mints scUSD to user MagicLink wallet address

Create circle.io payouts and burn user's scUSD balance once the USD is sent to user fiat bank account.



Swap scUSD to AXIS L2

Using a swap mechanism, we manage the user's circle balance in UCDS, and balance in scUSD. Here's how this will be achieved:

- 1 User initiates USDC to AXIS swap
- 2 We transfer user's scUSD tokens to our backend account
- 3 Using uniswap v3, we send USDC which is taken from user sub-wallet circle address to the swap contract, then it sends AXIS tokens to our backend account
- 4 The backend burns user's scUSDC tokens
- 5 Our backend account transfers AXIS tokens to the user

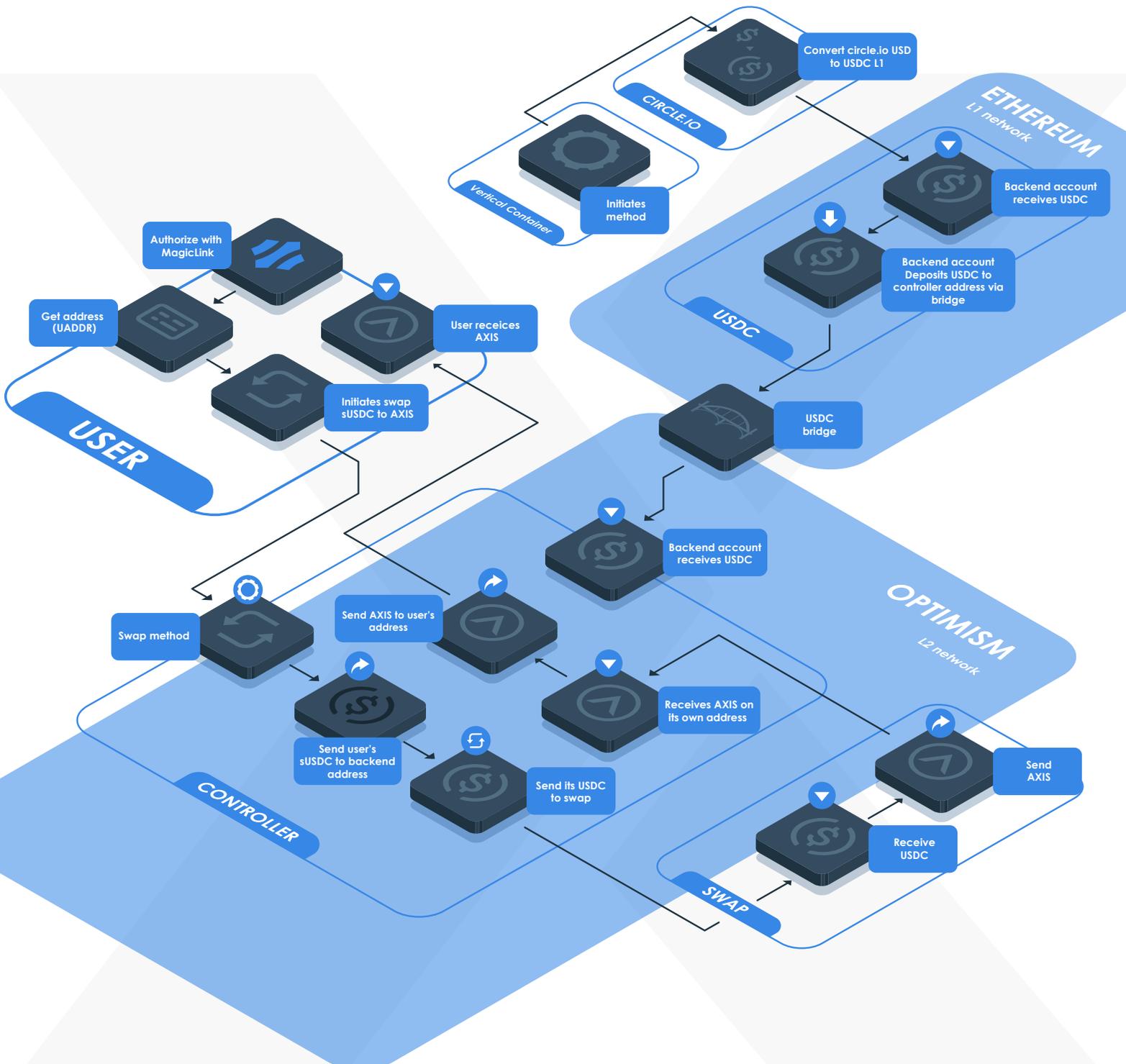
Swap AXIS L2 to scUSD

- 1 User initiates AXIS to USDC swap
- 2 AXIS sending from user address to backend account
- 3 AXIS from backend account swaps to USDC and tokens sends to backend account
- 4 scUSD sends from backend account to user

Circle.io USD > USDC L1 > USDC bridge > swap USDC pool

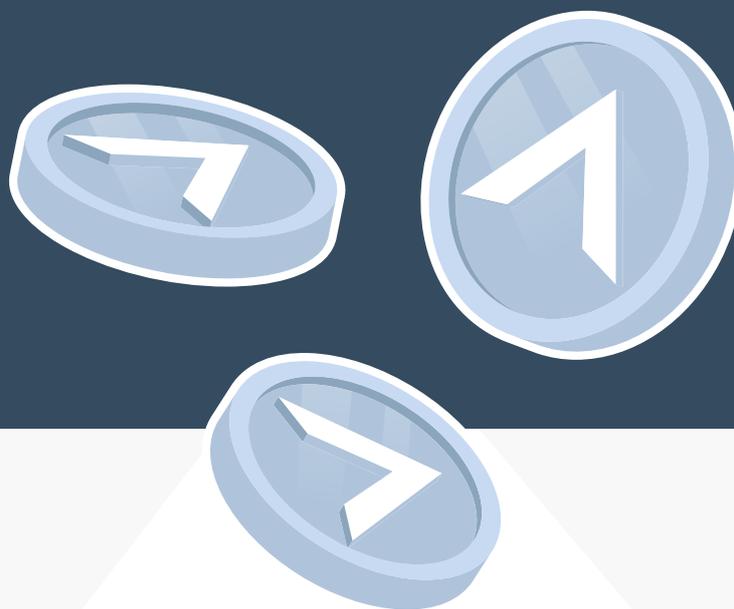
How to increase swap pool in USDC?

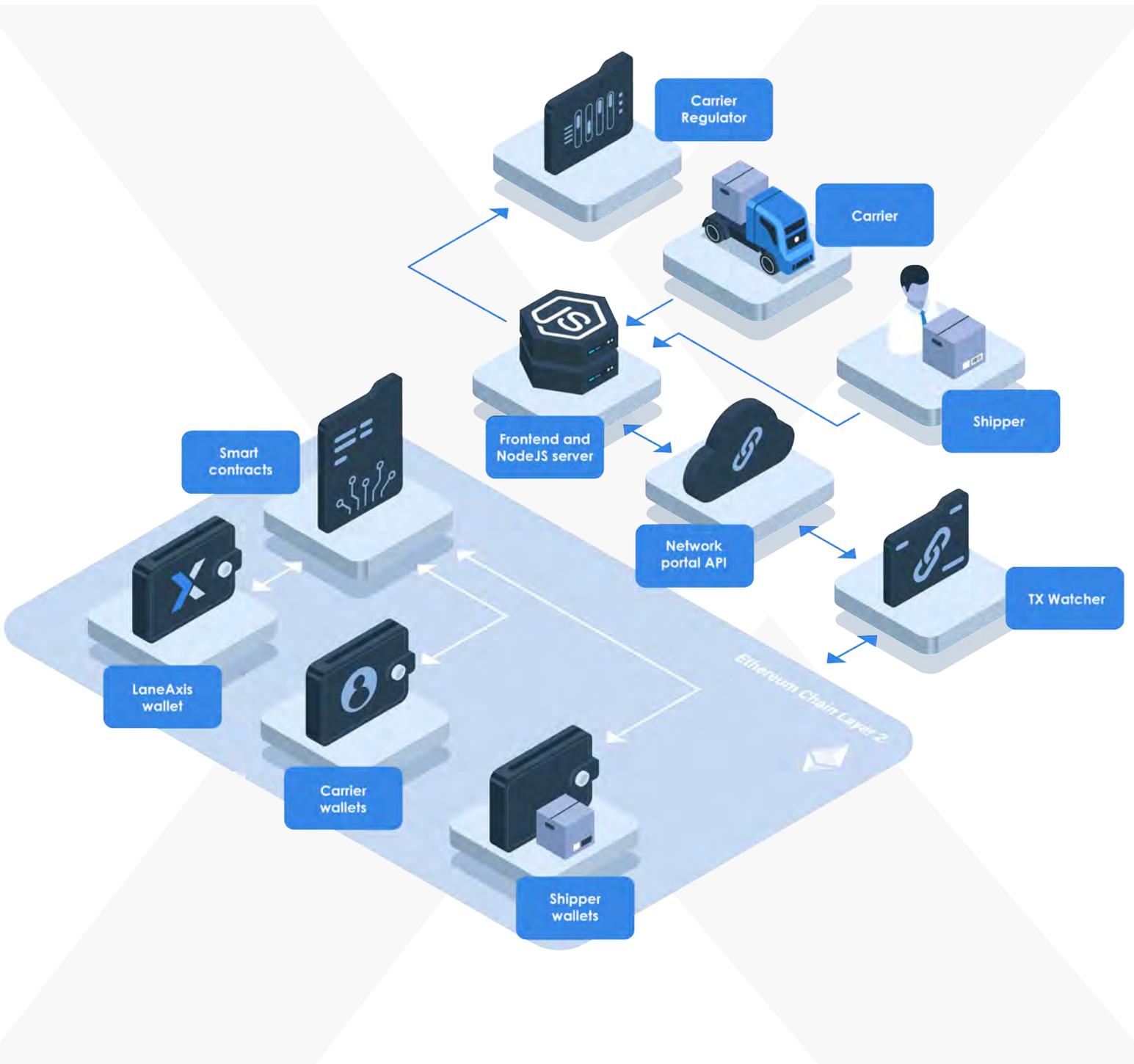
- 1 Post transfer from circle.io to bridge in ethereum (L1) network to backend account In
- 2 Optimism (L2) network backend account receives USDC L2



Total supply – 1,500,000,000 AXIS

Reserve	40%	600,000,000 AXIS
Private Sale	10%	150,000,000 AXIS
Marketing	15%	225,000,000 AXIS
Network Circulation	35%	525,000,000 AXIS





OPTIMISM (L2) NETWORK

AXIS bridge

Bridge to swap AXIS L1 to AXIS L2. It's necessary for increasing the swap pool or transferring already existing user balances in the Ethereum (L1) network to Optimism (L2) network.

USDC L2 to AXIS L2 swapper

This swapper should influence the AXIS token price, because we're swapping real USDC L2 instead of scUSDC. Once the correct amount of USDC is captured by swapper, scUSDC is burned.

ETHEREUM (L1) NETWORK

Circle USD > USDC > bridge

It's going to be used to increase the swapper pool in USDC tokens. See Circle.io
USD > USDC L1 > USDC bridge > swap USDC pool

Order payment

Pay scUSDC

Our backend calls the Smart Contract which transfers early approved scUSD to the order address

Pay AXIS

Our backend calls the Smart Contract which transfers early approved AXIS to the order address

Increasing Token allowance on first payment

To simplify user experience and reduce the cost of transaction fees we can use an allowance mechanism. By making the first transaction, the user approves the allowance and our backend sets it to $2^{256} - 1$. This way we don't have to manage the user's balance in ETH (pay fees) and we don't need to have access to the user's private key. (compound, cream.finance also approves such amounts for their contracts)

Security and Privacy

As an Ethereum-based ERC-20 token, AXIS is secured by the proof-of-stake (PoS) consensus mechanism. Unlike the proof-of-work (PoW) consensus utilized by Bitcoin, PoS relies on the amount of staked tokens for selecting node validators. PoS protocols were created with the idea to battle the vast power consumption required by PoW systems. PoS models are becoming increasingly popular as they need less electrical power and are easily scalable. While PoW has proven itself a reliable consensus mechanism, Ethereum and all other ERC-20 tokens have been growing rapidly and setting the trend in the space. All actions that have influence with the user funds will be stored in the smart contract, where the code will be public and anyone can check for correctness.

Example: <https://etherscan.io/address/0x53d1bfb13aa387ed4e22e6ad780de3d23122cdef#code>



Rick Burnett

Chief Executive Officer (CEO)



Mason Burnett

Chief Operations Officer (COO)



Andrew Rivera

Chief Marketing Officer (CMO)



Harsh Yadav

Chief Technology Officer (CTO)



Elvis Rodrigues

Product/Project Manager



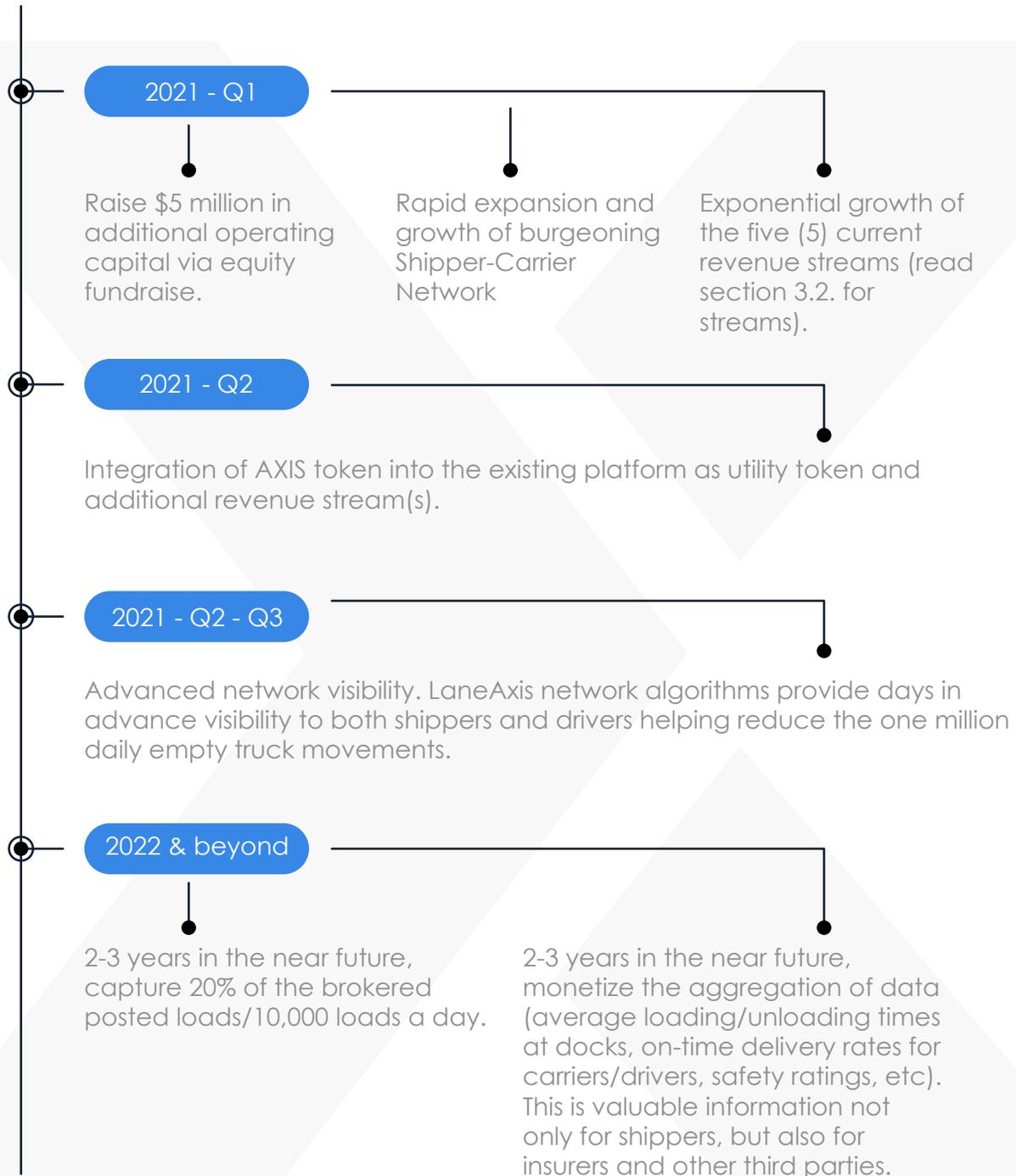
Ellie Burnett

Creative Director

Company Overview

LaneAxis is a Delaware C-Corp established in 2015 with primary business focus in transportation software. LaneAxis currently has one patent published and has filed for 29 track 1 filings for a February 2017 decision and 32 additional patents with multiple associated processes. LaneAxis has built the freight industry's first "brokerless" shipper-to-carrier direct freight network, eliminating the need for costly and inefficient intermediaries, as well as providing automated real-time shipment management from prior-to-pickup through to proof-of-delivery and settlement. LaneAxis' primary mission is to directly connect shippers with carriers - and in the process drive the global logistics supply chain into the blockchain era. Currently, two million truckload shipments operate daily in America, with roughly half of them returning "home" with empty backhauls.

Despite advances in technology, much of the U.S. trucking industry still relies on archaic technologies, such as fax machines, phone calls, and paper processes to initiate, manage and track shipments. LaneAxis fixes this by implementing the latest technological solutions that promise to cut costs, increase profits, and increase efficiency across all supply chain channels.



- Immediate recruitment of AAOO's 100,000 member base.
- Outbound call center to get shippers on board.
- Google ads campaign running on sites that are "trucking" focused.
- Extensive satellite radio advertising - Red Eye Radio ad campaign with 14 30-second commercials per week, an initial on air interview to kick off campaign, sponsorship of the "Owner Operator Report," digital billboard on redeyeradioshow.com for 3 months.
- iHeart Radio ad campaign on a couple different blue collar trucker relevant shows with four (4) ads, each of thirty (30) seconds duration per week for three (3) months.
- Online and print advertising through CCJ digital, Overdrive Online, and other transportation-focused outlets.
- Billboard advertising along heavily traveled freight lanes.
- In-store advertising at major truck stops.
- Trade Shows and Industry Events (both transportation and blockchain).
- Work with "Market Makers" and Influencers.
- Aggressive social media campaign, with a focus on Facebook and LinkedIn (paid ads and organic posts).

The Philosophies and Ethics that Underpin the Company

LaneAxis has deep experience in and a deep love for the trucking industry. For us, it's personal. LaneAxis is focused on establishing efficiency, fairness and transparency for the badly broken freight transportation industry. The LaneAxis Shipper-Direct, brokerless Network replaces archaic and costly supply chain processes with patented processes that benefit the entire freight logistics ecosystem, consumers, and the environment.

LaneAxis will always remain nimble in its quest to improve the movement of goods from point A to B.