

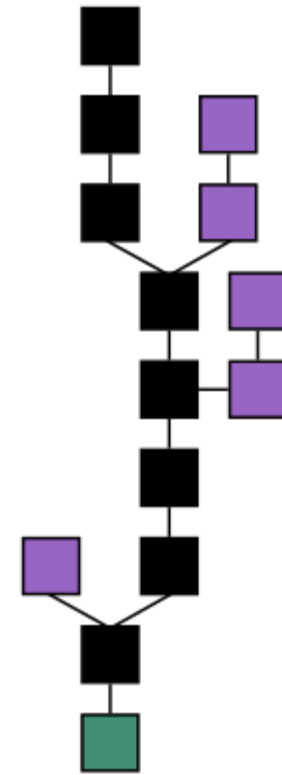


# BLOCKCHAIN, MODES AND MEANS OF TRANSPORT

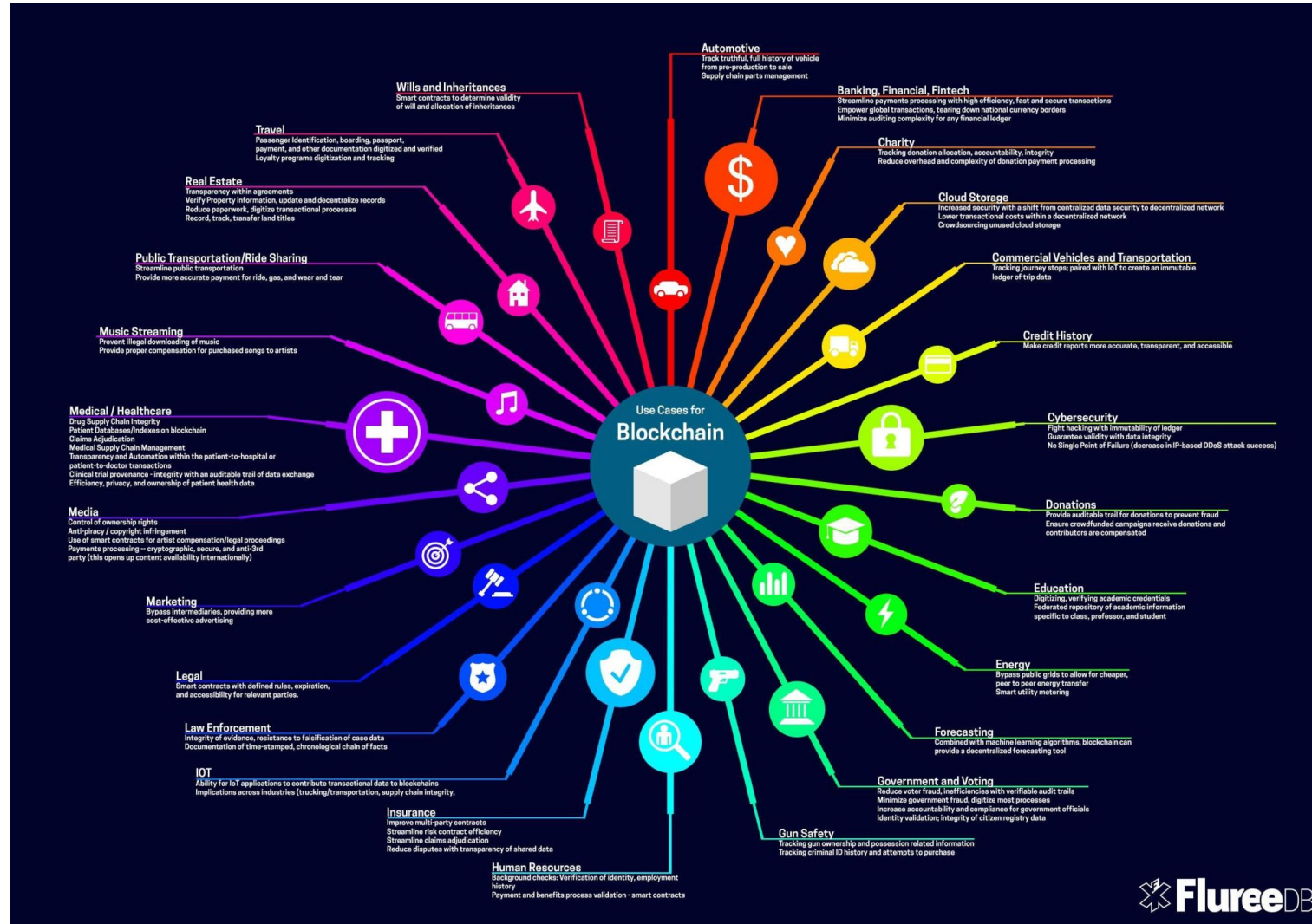
The ILS approach

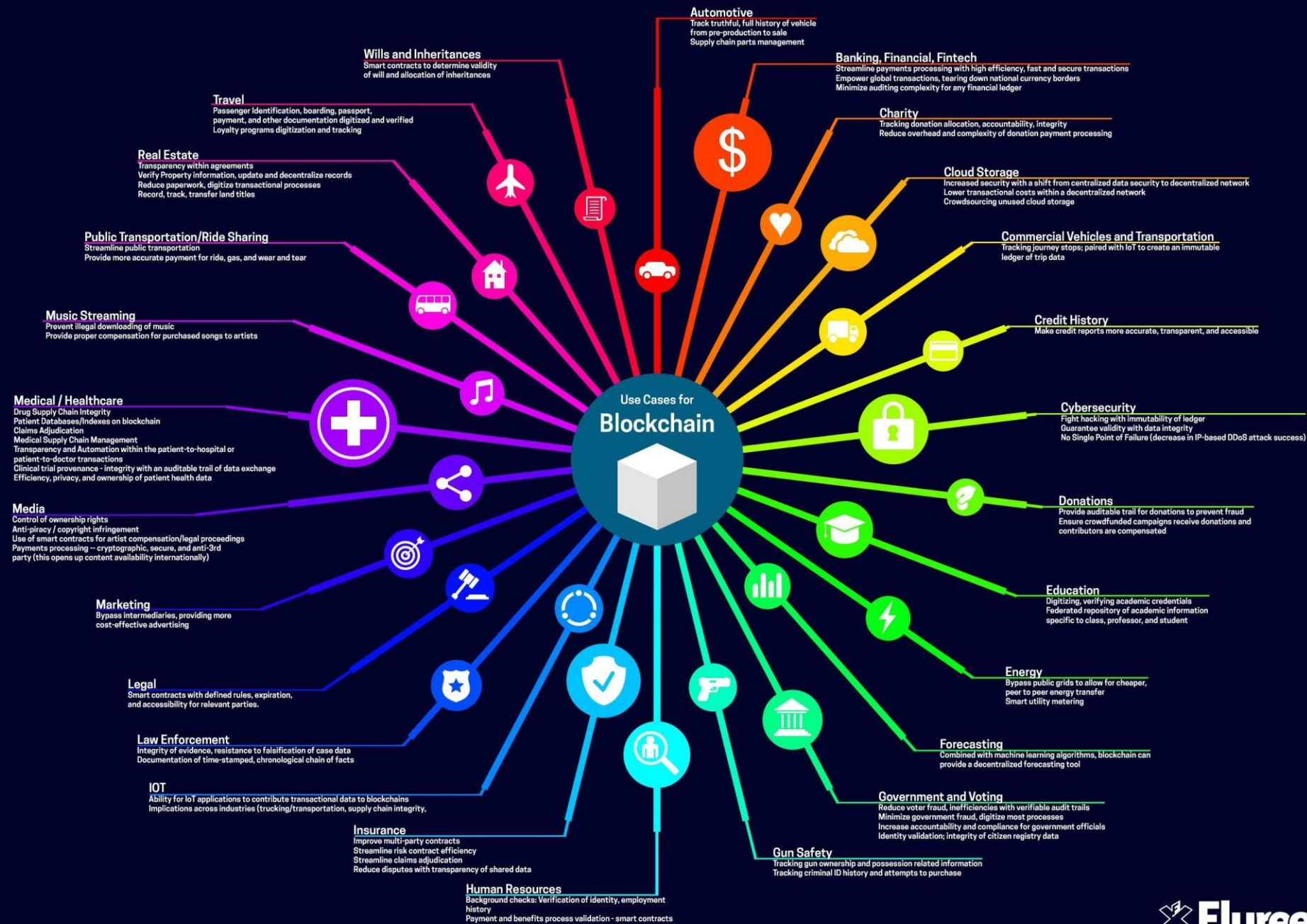
# BLOCKCHAIN

**Blockchain** is a continuously growing list of records, called *blocks*, which are linked and secured using cryptography. Each block typically contains a cryptographic hash of the previous block, a timestamp and transaction data.



# BLOCKCHAIN INDUSTRIES/USE CASES





# MEANS AND MODES OF TRANSPORT

**Mode of transport** is a term used to distinguish substantially different ways to perform. The different modes of transport are air, water, and land transport, which includes rail, road and off-road transport. Other modes also exist, including pipelines, cable transport, and space transport

**Means of transport?**

**Air:** Aircraft, Air balloon

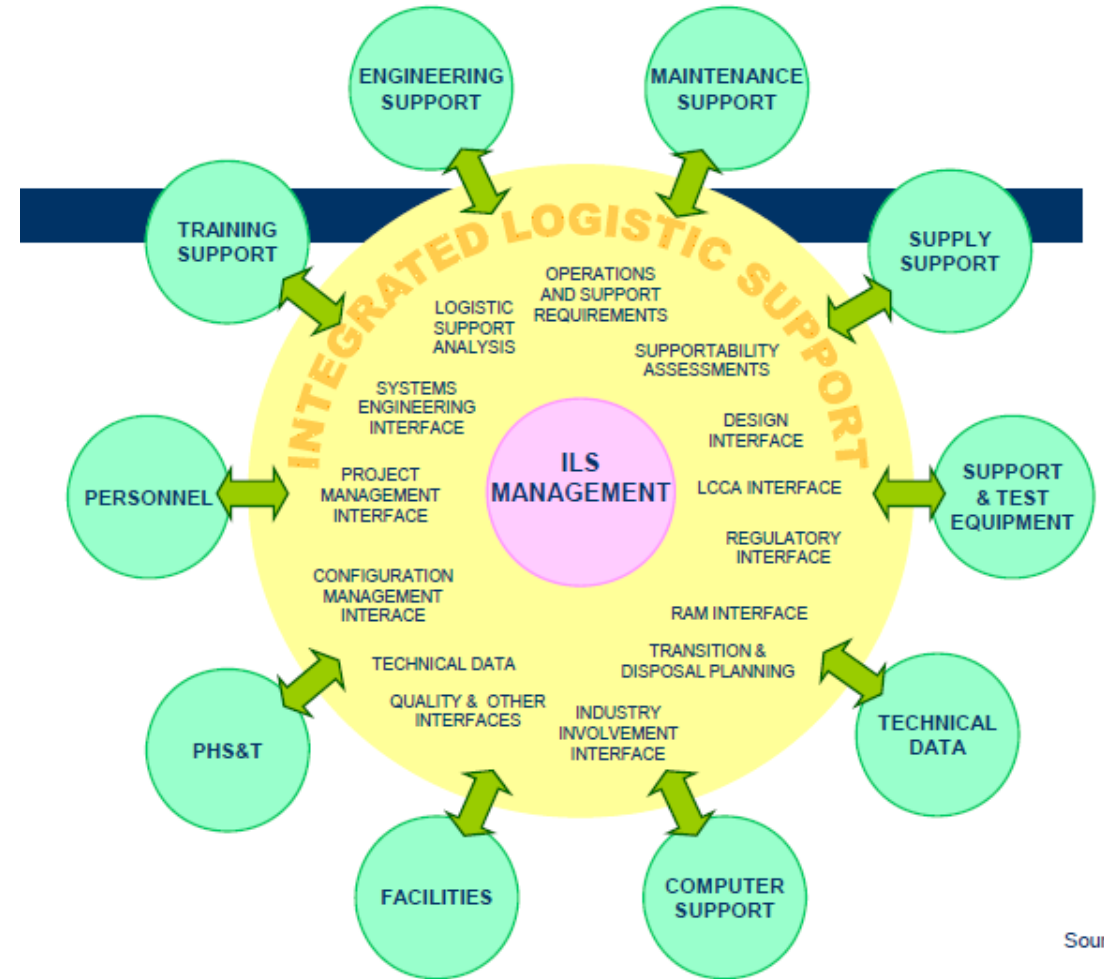
**Land:** Cars, Motorbike, Train



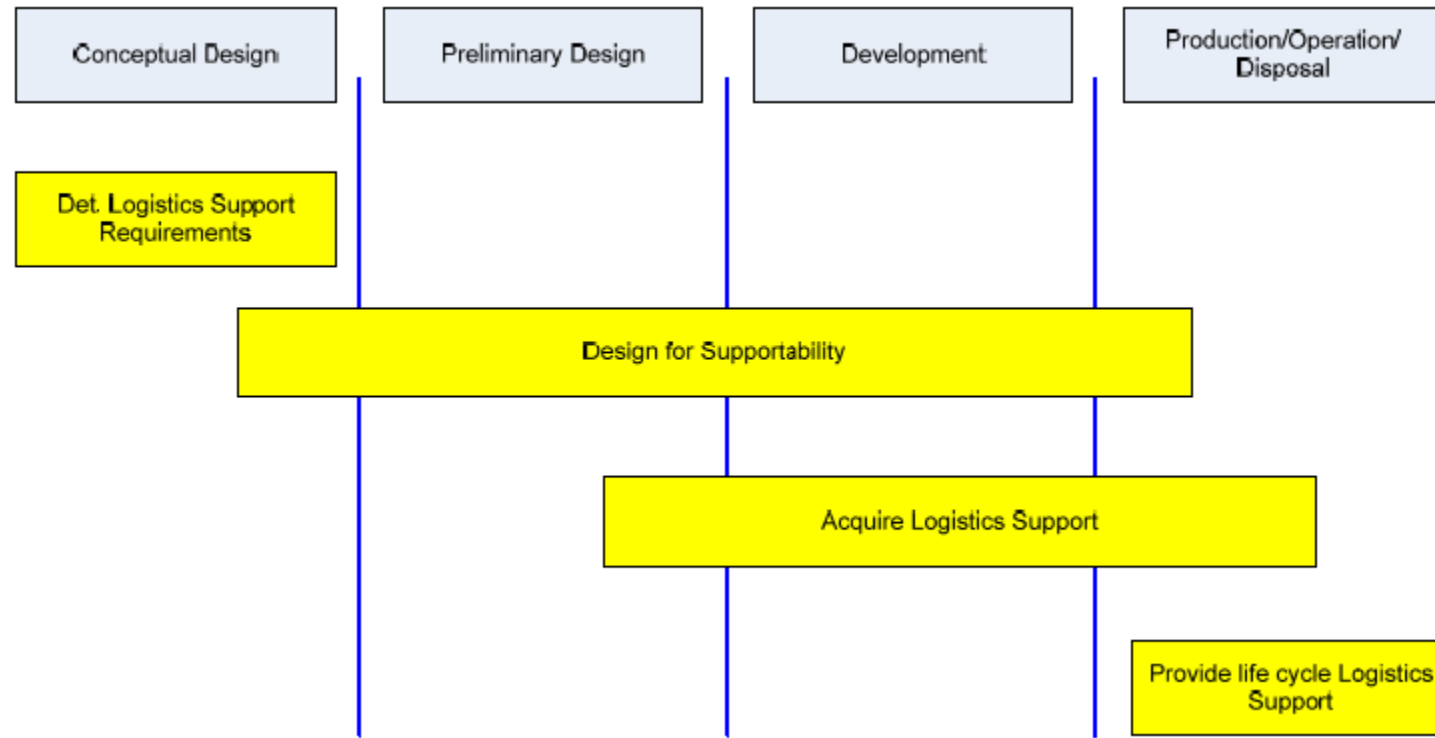
# ILS

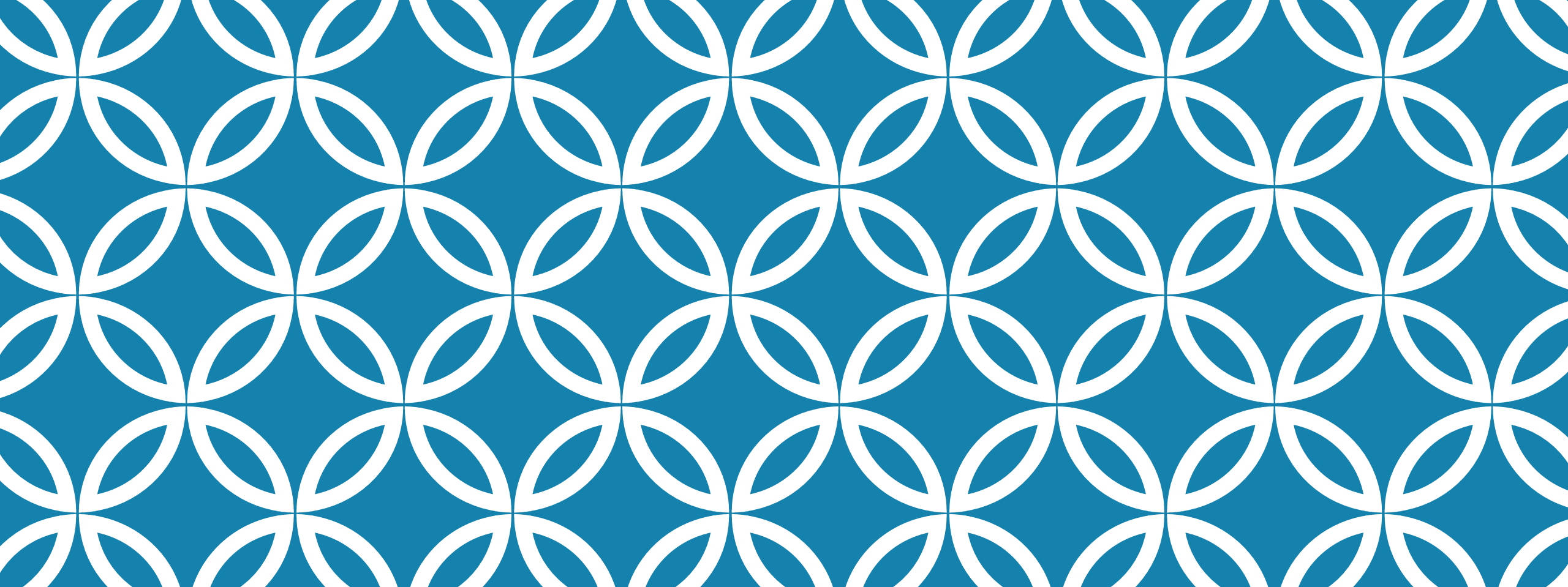
**Integrated Logistics Support (ILS)** is a disciplined, unified and iterative approach to:

- Integrate support considerations into design
- Develop support requirements (readiness objective compatible)
- Acquire required support
- Provide required support during operations at minimum cost.



# THE SYSTEM AND PROJECT LIFE CYCLES





**HireGo**

BLOCKCHAIN P2P CAR HIRE

by Land

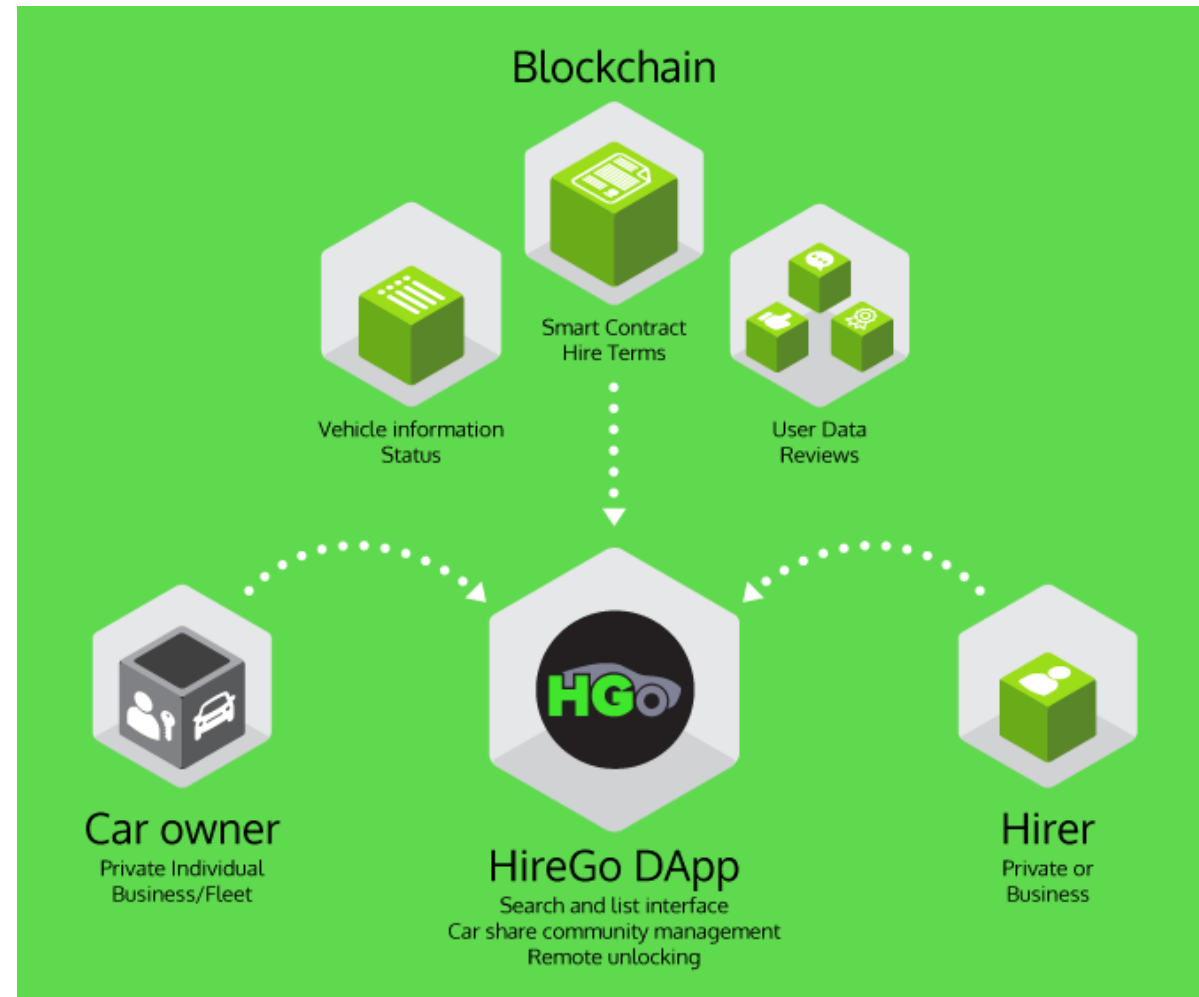


# HireGo

B L O C K C H A I N P 2 P C A R H I R E

HireGo is a decentralised car sharing platform which is reinventing car sharing using smart contracts and blockchain.

HireGo is building a decentralised, peer-to-peer marketplace that allows its users to lease their vehicles in a trustless and secure environment. The marketplace leverages the Ethereum blockchain as both a public ledger for lease transactions, and for conducting the transactions themselves, using a smart contract framework.



# TECHNICAL FEATURES

- Build on Ethereum using Origin Protocol SDK (origin.js and its smart contracts) which cover the basics of sharing platforms: creating, editing and deleting listings. It also allows us to store user content such as images in a decentralized environment through its use of IPFS.io (Inter-planetary file system).
- Tools used to build the back end/front,
  - Back end using NodeJs
  - Web DApp using ReactJs
  - Mobile app using Xamarin (native)
  - Smart contracts in Solidity/Truffle
- Vehicle unlocking integration: At HireGo we have termed this Decentralized Keyless Unlocking – DKU. We have an internal hardware and firmware team that are developing unlocking kit which will be installed in vehicles at users request. This will allow the holder of a valid hire token to unlock the vehicle using their our app if the are standing next to the vehicle within the hire period.
- Each vehicle listed on the marketplace is represented as an ERC721-compliant token.

# TECHNICAL FEATURE

- The HireGo marketplace will deploy three smart contracts to the Ethereum network: the HGO token, a Vehicle non-fungible token and a Rental contract.
- An additional storage contract will be deployed for use in a hub-and-spoke model, ensuring that any updates or bugfixes may be released in a timely manner, without loss of data.



Communities



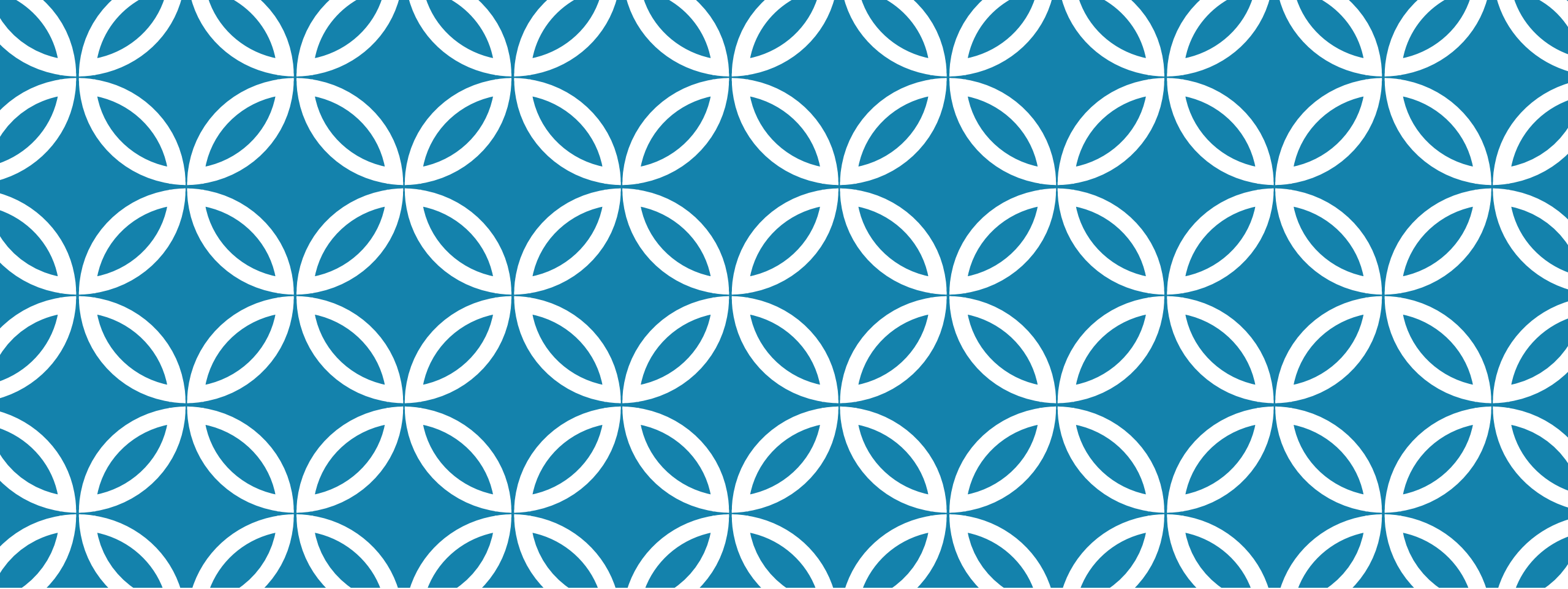
Trust



IoT Ready



Smart Contracts



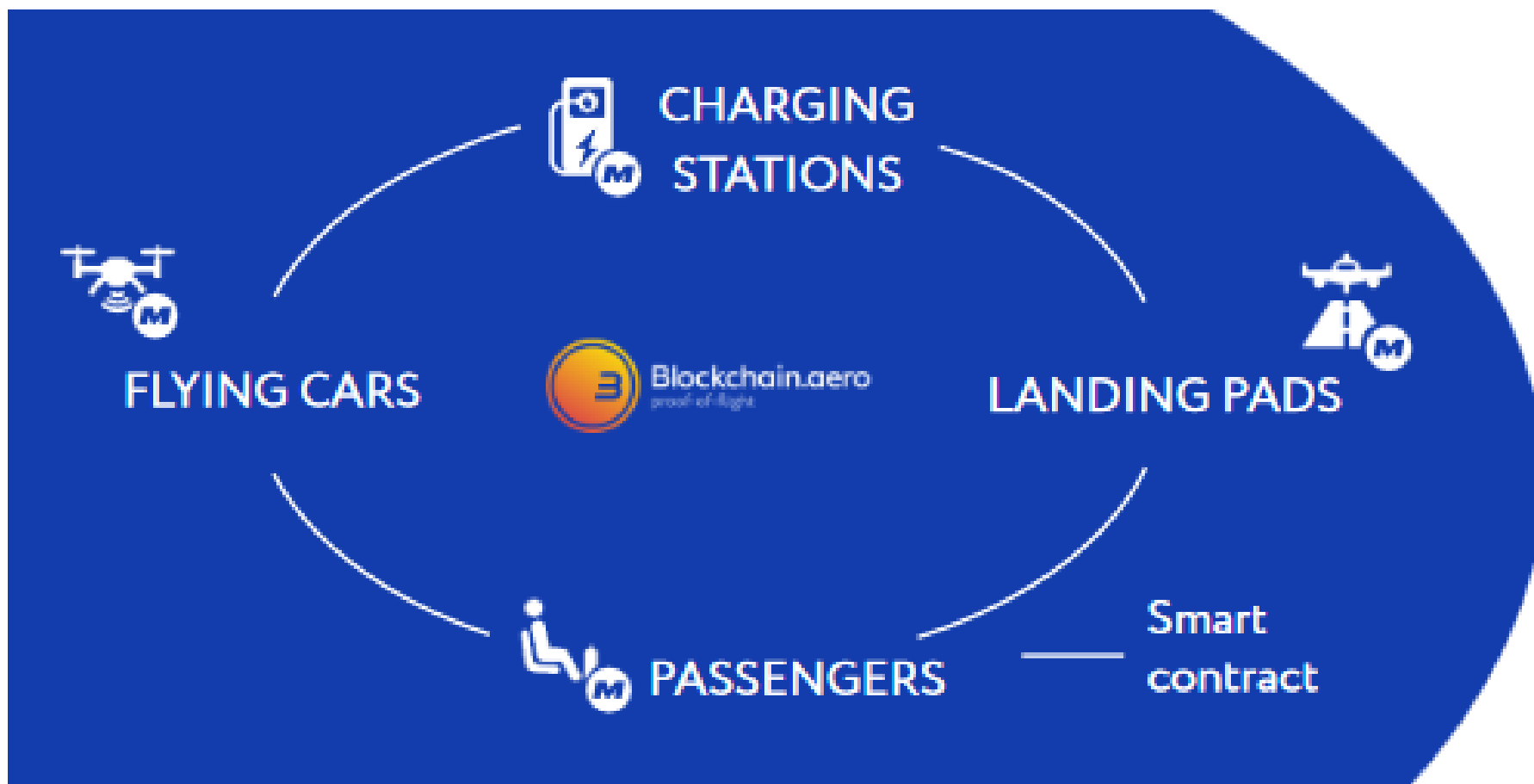
**McFly**

By Air

McFly.aero is a solution to the "who owns the button" problem on the air taxi market. It will use blockchain technology to give the Button to You, push for operational efficiencies, provide volumes to partners and great prices to passengers.



# McFly





# TECHNICAL FEATURES

- Proof-of-flight (PoF) is meant to be an algorithm designed for McFly.aero Air Taxi grid, where the creator of the next block is chosen as a consensus function of hash signatures of all wallets of all devices and people that were involved in and therefore signed off the actual act of flight: passengers, pilots, vehicles, landing pads, charging stations, dispatch organizers, air traffic control systems, service and maintenance personnel.
- The Proof-of-flight protocol accounts for a number of actions required for the flight and additional maintenance and confirms that the flight took place, and that the technical, operational and financial network resource was engaged and utilised during this flight.
- At peaks the system has to sustain up to 1000 transactions per minute per one city of operation. Which makes it 1 million transactions per minute for a network of 1000 cities.

# TECHNICAL FEATURES

- The vehicle developed by Bartini is the two and four-passenger self-navigated aircraft (or a cargo aircraft carrying 400kg), sedan-sized, combines quadcopter with carrying wing. Passenger inputs the destination, the vehicle takes-off vertically from any surface, tilt-shifts engines to “airplane” (horizontal) flight mode, which allows to cover distances up to 150 km at 300 km/h on one battery charge (over 600 km on hydrogen fuel-cells), then lands vertically on arrival.

VTOL AV — vertical take-off and landing aerial vehicle



**BARTINI**

speed

**300 km/h**

flight time

**30 min**

flight range

**150 km**

above ground

**Up to 900 m**

# TECHNICAL FEATURES

- The Heparid is being designed as small, fast, quiet, low-maintenance, and low-cost urban transport and comes in two models, an “urban” and “sport” model, which namely offers 1 or 2 seat configurations, as well as a co-pilot manual mode in the 2 seat version. Safety is a priority and is achieved through multiple redundancy which provides extreme fault tolerance.



VTOL AV — vertical take-off and landing aerial vehicle



speed

**150** km/h

flight time

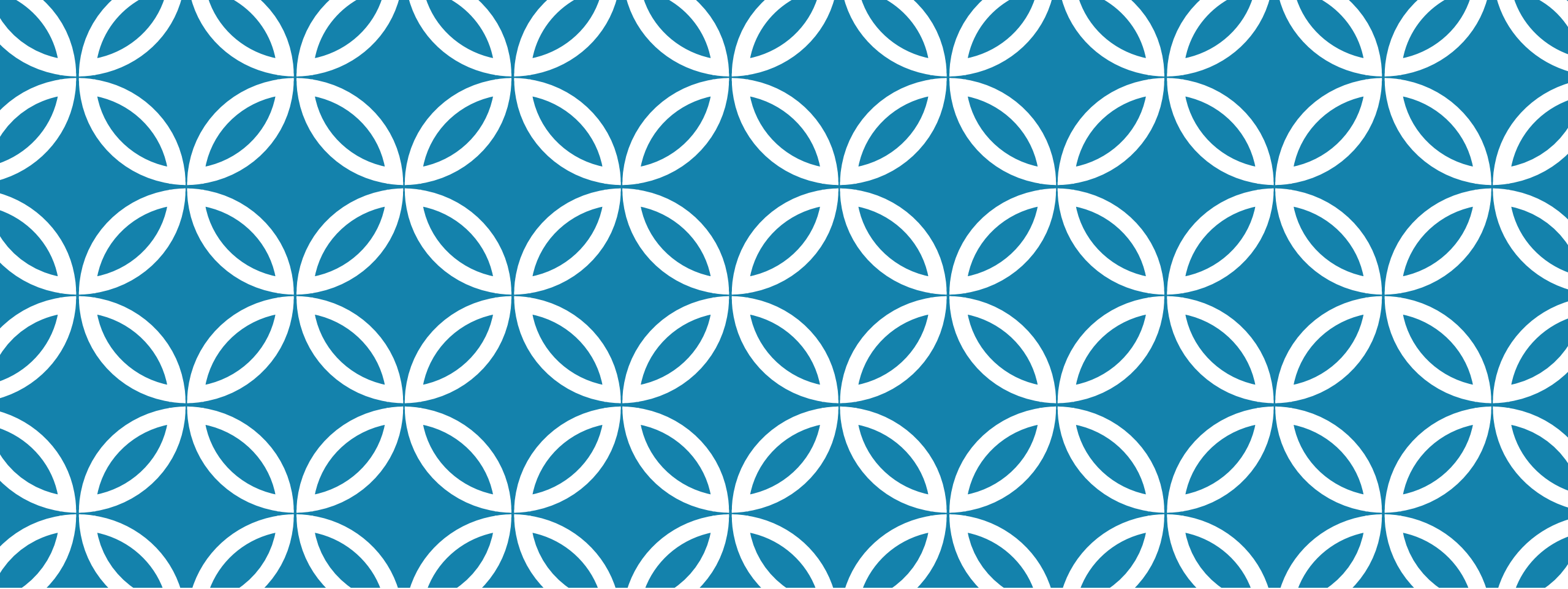
**30** min

flight range

**75** km

above ground

**Up to 1000** m



 **NextPakk**

Multimodal



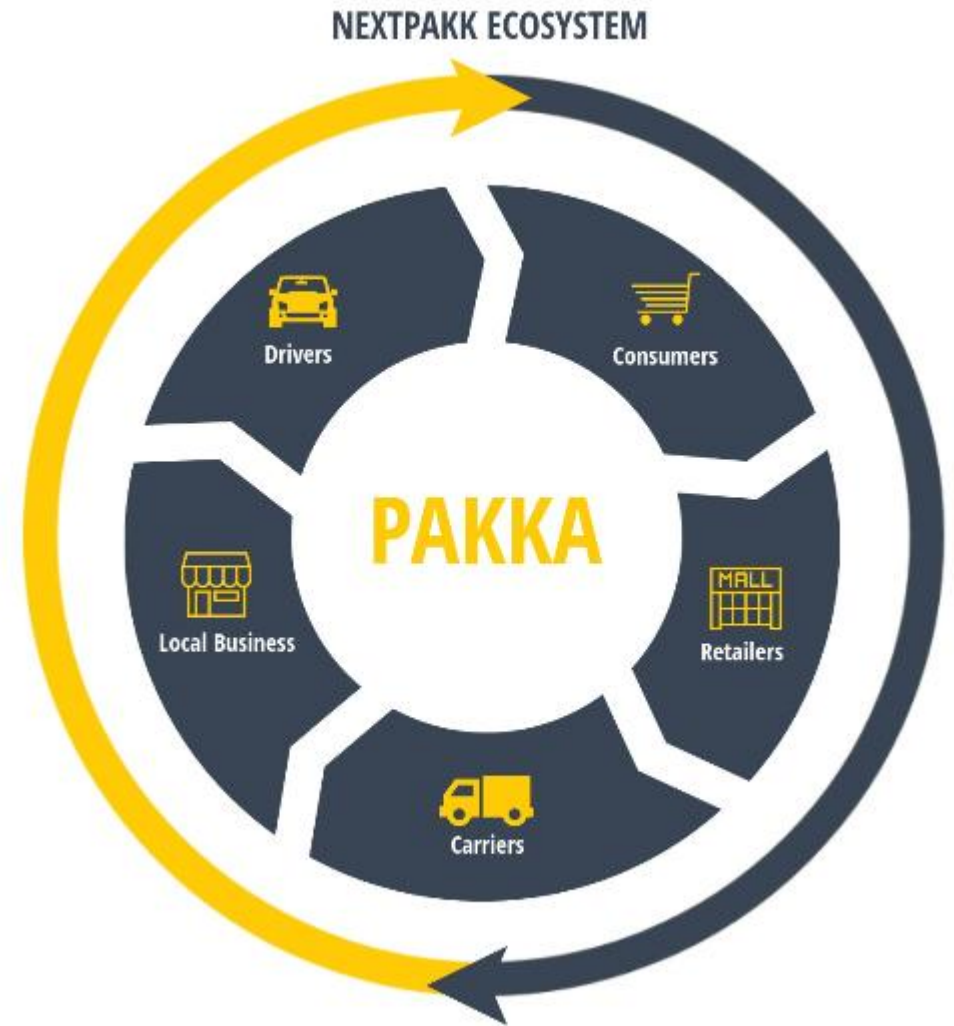
NextPakk is a delivery service that allows the customer to schedule delivery within a one hour window ensuring the customer is home when the package arrives. NextPakk utilizes blockchain technology to track packages, while protecting customers identity and ensuring timely delivery.

For delivery of packages, NextPakk utilizes the shared economy similar to Lyft, Uber, and AirBnB. Individuals can earn additional income on their free time by delivering packages for NextPakk.



# TECHNICAL FEATURES

- Built on Stellar
- Frictionless Real-time settlement (2-5 seconds)
- Transparent, efficient & scalable
- Cryptographically secure transactions
- Applications without boundaries
- Built in Escrow functionality
- Hostable, decentralized and trustless logistics business platform
- Framework for conducting logistics business anywhere on the planet
- No need for long standing contractual agreements and trusted parties





# CONCLUSION

The transport industry requires the use of formal disciplines like ILS, project management, in order to integrate blockchain and the physical assets required to deploy the tangible network.