

The logo for Tryvium is centered in the upper half of the page. It features the word "Tryvium" in a bold, sans-serif font. The "Try" is yellow, and "vium" is white. A yellow paperclip icon is positioned behind the "v", and a white airplane icon is positioned to the right of the "m". The entire logo is enclosed within a white circular arc that is open at the top and bottom.

# Tryvium

## WHITE PAPER

“Real progress happens only when advantages of a new technology become available to everybody”

*.Henry Ford*

# Abstract

Tryvium is a modern platform for booking hotels, apartments, B&B, and other accommodations. The technology incorporates the use of blockchain along with smart contracts systems to deliver real-world solutions to the industry challenges. Using Tryvium infrastructure, users can purchase tokens to make transactions and make reservations at the platform. The assets management can be done through a multi-currency systems entertaining different economic models; both crypto and fiat currencies.

The market penetration will begin from Europe where the users of the platform will make most contribution and product feedbacks. The service will encourage users to use and support other users of the platform. The platform enables better user-experience, well-developed travel plans, lower intermediary charges, and enhanced reliability. The platform eliminated redundant mediators hence giving low transactions and service costs. The service charges are merely 8% whereas the industry giants usually charge up to 30% of the total sales. This means Tryvium will be able to deliver better services to the users for reasonable prices.

The platform is soon set to launch the Trivium Gift Experience along with the several different services. The Gift Experience will enable you to gift your loved ones the pleasure to choose their favorite destination. It will be offering them hand-picked experiences all across Europe. The Gift box will be made available by the end of 2019.

Trivium infrastructure will deliver a decentralized network to create a cost-effective booking platform where both small-scale hotel owners and corporate giants can come ahead and create new business and tourism opportunities.

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# 1 What is Tryvium

Tryvium is delivering practical solutions to the housing and hospitality market by implementing blockchain infrastructure in the system. This will be achieved with the help of a peer-to-peer networking system to rule out the intermediaries of the system. The decentralized infrastructure allows a direct host to client connection to facilitate the short-term property leasing market. A significant proportion of Online Travel Agencies are taken over by the industry giants Expedia and The Priceline Group. They also have their influence on the metasearch sites such as Trivago or Kayak. The organizations have acquired a significant portion of the client base and came ahead as the industry giants ruling the Wall Street.

The market is however concerned with increasing saturation in the OTA market. Booking.com had a market share of 39 percent in 2013, which has since grown further still and now there are reasons to believe 60 and 70 percent. Expedia and Hotels.com (an Expedia group) holding the remaining share of the online market. The market is in a desperate deficiency of a cost-effective, reliable alternative to the existing business model. The commissions charged by these OTAs can range from 15–25 percent of the value of total stay fare. Moreover, In the European Union nations VAT charges are added to these commissions rising them up to 18–33 percent. Booking.com further supplements these commissions by asking hotels to pay for preferential placing – typically a further 3 percent.

# Background

The Tryvium platform is an online booking platform based on the blockchain aims to operate in a more “fair and ethical” manner. Tryvium platform is a big game changer offering an alternative to the current OTA systems which often see hotel crippled by very high commissions. The problem is solved by the Tryvium structure availing these hotels to lower their room rates without bearing any loss. Tryvium enables you, as a client to book through our platform and you get the best available rate. Every time you book an accommodation online, you get the best possible price since we apply 0 fees.

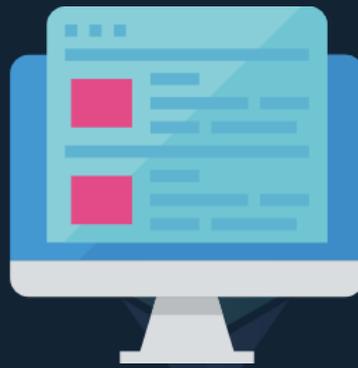


The minimalist charges will help hotels to give out better offers and invest in quality service to the guests as well. Tryvium Platform is an all in one dynamic booking integrated platform based on the blockchain which allows travelers and hotel owners to come together in a complete ecosystem. This codependency is intended to reduce commissions and earn tokens (rewards, loyalty points, and bounty tokens) by using the platform while you are traveling. Using a smart contract system, we will change way for users to book their ideal accommodation.



# Goal and Mission

The Tryvium solutions will provide an integrated one-stop system to make hassle-free bookings that can be verified and secured through the smart contract's distributed ledger. If associated with Tryvium platform, the hotel owner will receive a so-called all in one solution to their business requirements. Tryvium all-in-one is an innovative software which includes: the most flexible reservation system you'll ever find. Hotel owners have a fully integrated system software so that you don't have to buy a single software for managing the daily activities of your hotel.



“Over the longer term, the growth of the Travel & Tourism sector will continue to be strong so long as the subscription and development take place in an open and sustainable manner.”

(source: [wttc.org](http://wttc.org)).



# The conventional blockchain booking system face the following challenges:

- ◆ Ripple effect schedule disruptions.
- ◆ Floating exchange rates systems.
- ◆ Multiple loyalty point systems that are not synchronized with one another.
- ◆ Economies in perpetual flux are likely to change considerably due to the experience of a growing consumer base.

Tryvium Platform is dedicated to deliver up to people's expectations and meet their demands and requirements. The platform will enhance the travel industry through specific funding and commercial development. The decentralized network chain will create a dedicated community of people to support, transact, and contribute to the business. Using the upgraded technology people from all around the world will come together to change the industry across the globe.

## 2

# Defining the Problem

The travel industry has consecutively outperformed the global GDP for the past six years. In 2016, the Global industry saw a cumulative growth of 3.1 percent. This is mainly due to the increasing globalization that is encouraging people to experience new places or expand their businesses across new domains.

Another significant issue tourists always face the price like due to the congregation of visitors at a single “hotspot.” This results in higher prices along with a deficiency of “authenticity” of the location. This duly arises due to lack of proper research, language barriers, or possible fraudulent intermediaries.

When a situation like this arises, independent travelers go with either of the choices: either they go ahead with the trip with inadequate preparations, or they end up choosing an expensive organized trip package that covers most of the travel activities. Lack of information often frustrate solo-travelers who end up dissatisfied by the whole experience.

B&B market has also seen a setback due to consistently high commissions of the rental costs. The hassles are added on by debit and credit card payments adding up a variable 3% of transaction or exchange costs. To sum it up, third party bookings can add up to 25% commissions of the total booking costs.

# Introduction To The Issues

*Most common issues faced by tourists around the world are:*

## Exchanging Currencies



Foreign destinations often lack the proper infrastructure to exchange between currencies. Tourists are expected to bring a stack of the local currencies which if exhausted, the tourist shall get into hassles of contacting an exchange service and pay hefty charges. Exchanging currencies are among the most significant challenges the tourism industry faces since they inherently constraint the tourists from making hearty expenses.



## Managing multiple loyalty points programmes

There are a plethora of travel sites offering traveling points, cash-backs, and loyalty points. This gives users little or no choice to make a decision and choose from available options. The users do not get a central place to use these points. The system requires a single platform to manage and handle their loyalty points. Tryvium platform creates a single hub for users to manage their offers, cash backs, and travel points.

## Communication barriers



Different locations suffer from communication barriers where users suffer from conveying their needs and expectations from the tour. Communication barriers are the principal challenge to the global tourism costing the international commerce significantly.



## Security Issues

We at Tryvium consider security as a first level priority, and we also protect the sensitive data of our users. Our semi-decentralized technical architecture model is able to both respect users rights regarding data protection (we will be GDPR compliant) and secure against attacks ( we will protect user data with latest up-to-date security measures, like two factor authentication and TOTP, we will optionally support decentralized identities authentication, like Civic and Uport technologies)

The transactions platform are short of optimum security and reliable networks to protect the identity and hence end up exposing them to malicious attackers trying to make malicious financial transactions. The conventional systems are open to threats like the man in the middle attack of packet spoofing. The Blockchain network, therefore, has the upper hand over the existing payment systems. The technology incorporates encrypted data transmission over a decentralized network. This means the data can neither be altered at a single node nor can be intercepted by an attacker.

- This way nobody except you will have the control of your data -

# Why Tryvium

When associated with our platform, the hotel owner will receive an all in one solution that is conveniently and innovative software that will include:



**Flexible reservation system** you'll ever find. Hotel owners have a fully integrated system software. You don't have to buy a single software for managing the daily activities of your hotel.



**Property manager software** with a full integrated reservation system. This will function as the heart of your business where directly with one click you can keep everything under your control and in the real time. You get to choose your price lists, rooms availability, reservations, invoicing, and get immediate sale reports.



**All reception** and administration activities are integrated to guarantee the best synergy.



**Channel manager** This will enhance integration with the industry giants like booking.com, Tripadvisor, Holiday Lettings, Expedia, eDreams, Agoda, and Airbnb.



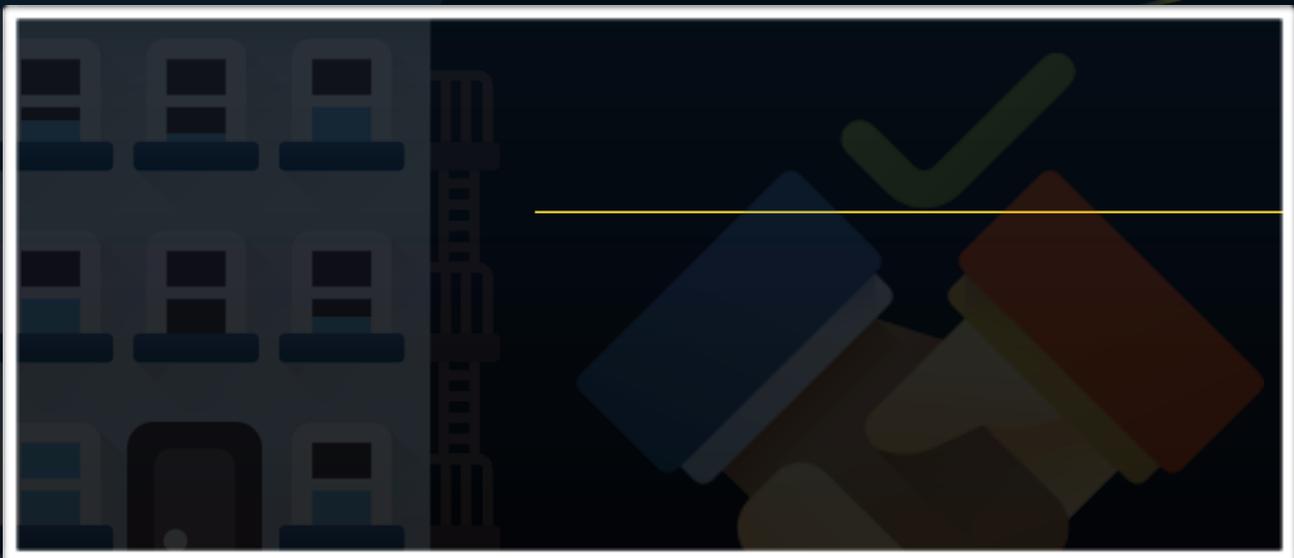
**Booking Engine** our smart booking engine is well integrated into our all in one solution, our online system will integrate with more than ten website builders and with several gateway payment channels by automating all reservation tasks you will receive in real time date availability and quotations cancellations, modifications, automatic confirmations.



Our clients can reserve using more than 20 languages, an integrated translator system will allow you also to translate to any language you prefer your messages and your personal e-mails.

The service above “all in one” is offered at the flat price of 19.90 Euro monthly.

The average price of competitors starting from 30 euro for only one of the above mentioned service.



## The industry giants

Often end up exploiting the local vendors by forcing them into high discounted sales just to compete in the online market. The heavy taxes and commissions further burden them. These service providers are hence limited to providing limited travel services. They may include boats and vehicles, guesthouses, local guides, and trekking guides.

The following are the most severe challenges to the local service providers:

**Competing with the giants:** The tourists have flocked towards more popular, user-tested, aggressively marketing competitors. The budget to compete with these giants has to cover conventional marketing like banner ads, online marketing SEO, etc. This means local service providers have to deal with high-end investments in marketing strategies that will end up reducing their profit margins. Tryvium solves this problem through the networking alternatives where users can conveniently choose cost-effective options for peer-to-peer marketing and product promotions.

**High Fees and Commissions:** Hotels are expected to pay 15-20% commissions to these intermediaries responsible for hooking them up with them with bookings. Additional taxes on these transactions can rise the cost up to 30 percent for the hotels.

**Difficulty in accepting payments:** The providers often lack the proper infrastructure to receive payments. The different platforms the tourists might use are complicated to manage hence restricting the users from making their desired purchases.

**Low Advertising Budget:** To create the required buzz in the market, the providers must invest heavily in inbound and outbound marketing. Due to less budgets on their hands, they fail to create optimum marketing and hence lose most of their client base to these giants.

# The Tryvium Framework

Blockchain Infrastructure has penetrated all commercial sectors including hospitality marketing. The Global Tourism industry has been on the rise since the boom of Globalization. More and more people are investing in businesses and personal tours either to make commercial advances or enjoy some recreational time. The online infrastructure and hassle-free booking systems have also enhanced the possibilities of international tourism.

The market has also seen a significant drift from conventional vacation resorts towards B&Bs and cost-effective dorms. Tryvium is taking a giant leap towards this \$7.4 trillion-dollar industry by creating real-world solutions for the burning problem of secure online transactions and bookings. Tryvium will create a user-friendly platform to book for your hotel, apartments, vacation homes, and family-run B&Bs to 5-star luxury resorts using cryptocurrencies and blockchain technology. The platform will be an amalgamation of modern technology and real-time payment models to create an authentic, reliable, and multi-purpose platform to manage your hotel requirements.

# 4

## Advantages of Blockchain

### Peer-to-peer networking

The fate of service and business correspondence is changing quickly while in the meantime there is an expanded interest for more substantial amounts of security-bolted correspondence channels. The blockchain gives the ideal answer for the most concerning issue in correspondence, that of setting trust in an outsider intermediary for information security with a single legitimate element for faith. Utilizing a similar validation conventions presently used to exchange computerized cash from person to person wallet, Tryvium wants to dispatch a comprehensive decentralized framework which will include numerous applications inside the tourism business.



### Blockchain Democracy



Blockchain delivers a voting framework that utilizes brilliant contract for DAO and various activities by Tryvium holders. The platform is a network based not-revenue driven organization where we enable our Subscribers to choose Directors through a Smart Contract voting framework to run this Foundation. This is an indication of a natural majority rules system utilizing the Blockchain innovation.

### Smart Escrow

Exchanges happen all the time at every edge of the world. When one gathering will trade a charge or administration for a thing or administration they want, and there is a responding party in ascension, some type of agreement is gone into. To guarantee that both client and service provider meet their commitments under the understanding, Tryvium will create a Smart Escrow. Execution in the principal stage will incorporate travel-related assentions, for example, installments and insurances.



# Tryvium Technical Document

## Brief Technical Overview of the Tryvium Platform.

- **Introduction**

From the dawn of time, travel has played an important role in everybody's life. The Tryvium Platforms aims to be the de facto leader in Hotels and Receptive Structures management, while offering an innovative UX to travelers. we think that easy access, gamification and cheap prices will help us in achieve our objective, also thanks to blockchain technology.

- **The problem of trust**

With standard platforms we see on the interwebs, Trust has been a problem for two or more people interacting together to achieve personal benefits. Up to now, we gave our trust to centralized endpoints, giving them both power and responsibility to act smoothly and correctly in our place.

With Tryvium, this will not be necessary anymore, thanks to Blockchain technology: our systems will communicate with a globally distributed ledger where everybody is able to act without third parties, while offering user centered design interfaces and cutting-edge fees, offering part of differences in price to charity organizations.

- This way everybody will benefit from the success of our platform -



# Tryvium

We have two operating modes, required for handling different kinds of data:

- User sensitive Information
- Business Logic Information

While business logic will be handled by smart contracts, the sensitive data will be stored in a centralized storage (centralization will avoid us to be non GDPR compliant for that type of data)

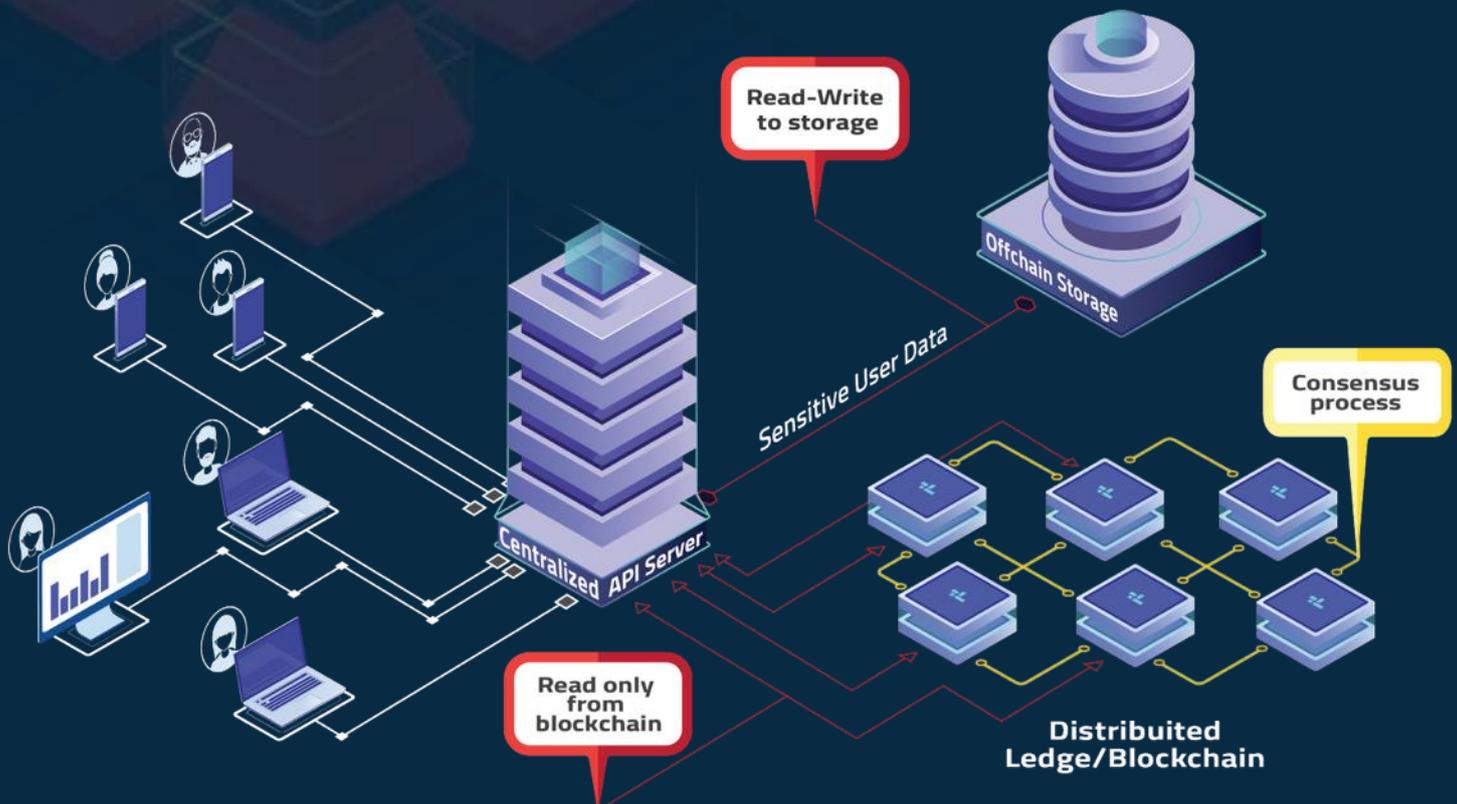
Blockchain will act both as index of the centralized data (and integration verifier) and business logic (smart contracts)

Centralized storage will handle all sensitive data of users.

Users will be able to access the data via, respectively, a Dapp module and an API.

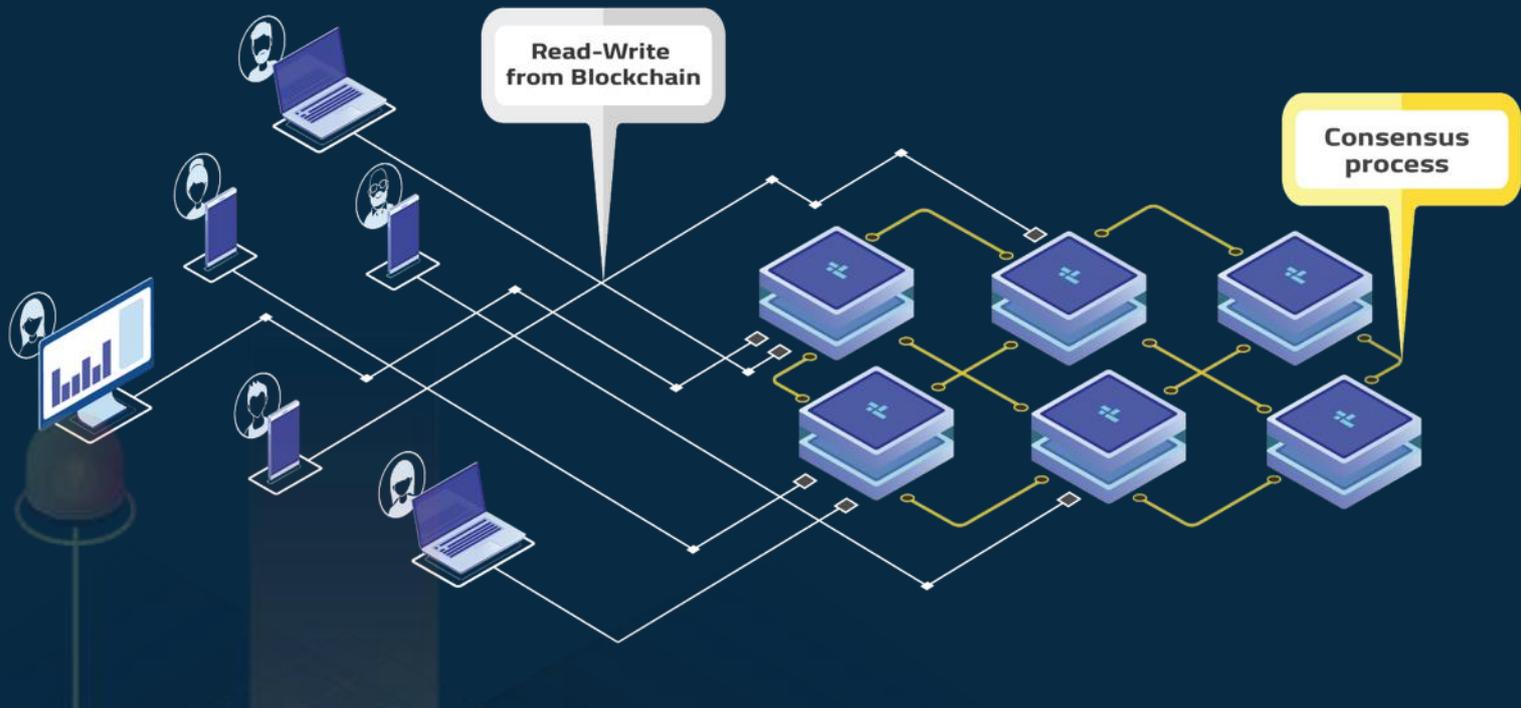
## API Interaction

(user sensitive data is offchain)



[Figure 1 : Centralized handling of user sensitive data]

## - Dapp Module -



[Figure 2 : Decentralized interaction to the business logic]

The dApp will be able to query multiple blockchains, depending on when we will support it. The first blockchain we are going to support is the Binance Smart Chain (BSC), but we will support Ethereum (ETH), Polygon Network (MATIC), Syscoin (SYS) and Tron Network (TRX). The only requirement is to support the Ethereum Virtual Machine paradigm (EVM).

The smart contract layer will be queried by our dApp, but also allowing the freedom of the community to implement its own dApp, not depending from us. This is the true power of decentralization.

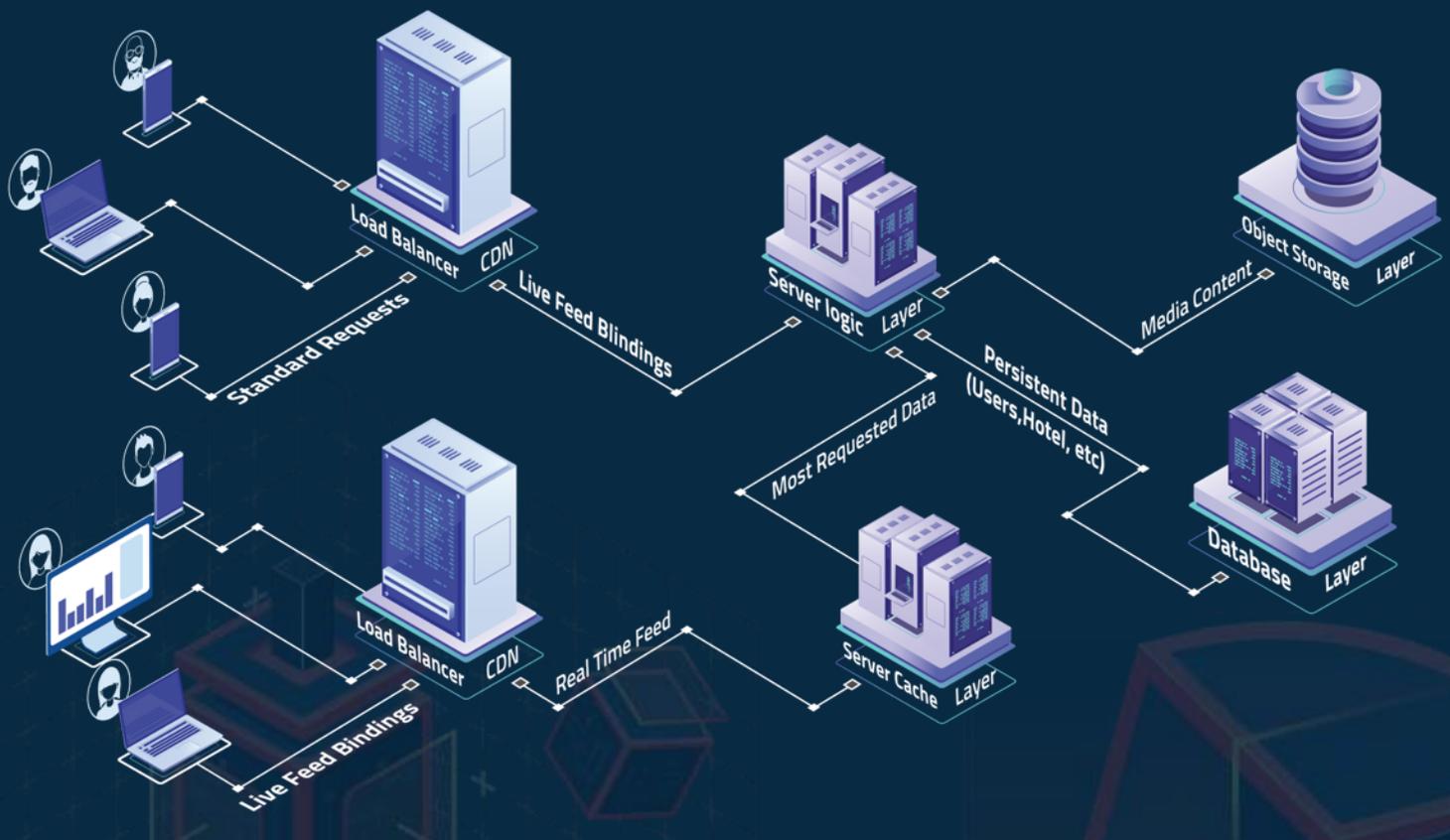
The Dapp module is also the sole responsible of the integrity checks of the whole platform, by saving into the blockchain all references to centralized content, to make the people check at every moment if the Tryvium Company is acting in the correct way: the people can claim incorrect behaviors by the Tryvium company in easy way, which has never been so easy before, by checking keys on blockchain with references on our centralized servers.

- Blockchain indexes our data and makes sure we never change it -

# -API Module -

The Centralized layer will be primarily composed by a cloud architecture executing different types of clusters:

- API Endpoint: Providing the entypoint for all offchain features
- Sensitive Business Logic
- Storage
- Cache service on multiple layers (app cache, backend cache, shared cache, CDN, and so on) : for lower response time and consequently better User Experience



[Figure 3: A little bit of detail on our centralized architecture scheme]

## Cache Layer

**Server Cache:** this operate on our server and cache the most used request. It also offers real time data from price hotel, for example:

**CDN:** (Content Delivery Network, an external service wich speeds up the general loading time of static resurces (HTML, CSS, JS files an media content, like images and video) and adds a security layer (request filter and firewall for example).

**App Cache:** this Cache operate on th client-side app (website or mobile application) and provides a chache for content downloaded from external sources, mostly media content and often reused data, like app settings.

## Storage Layer

The Storage layer is optimized for the serving of all media content, to speedup the performance of big file downloading (images, videos, etc...).

## Database Layer

The Database layer contains all structured data, to allow to efficiently store persistently entities, like users and hotels sensitive data and much more. This layer allows to analyze and group a lot of data in a simple way and add a set to train a future possible Machine Learning Environment (enables profilation content, we will treat data accordingly to GDPR for EU users).



## Booking and Advertisement Management

Tryvium platform provides two booking alternatives:

### • Real Time

These bookings will not require a centralized authority. Hence, reservations will be made without Host confirmation. The bookings will only be made in real time hence promptly giving authentic user experiences.



### • Checked by Host

Reservations can be dropped or canceled at the sole discretion of the client. The host can alternatively ask for a deposit for surprising events, for instance, harm to the property. The sum would be consequently returned back to the visitor toward the finish of the rental if nothing unexpected happened.



Owners can promote their own particular property with extra administration charges to take advantage of the conceivable outcomes of the network, which would all be able to be paid for utilizing the Tryvium token:

- Top positions in indexed lists
- Maintenance Service
- 360° immersive recordings
- Laundry Service
- Upload more photographs and recordings
- Electronic Key
- Wi-Fi
- Home Sharing
- Additional measurements

## **Client Service Management**

Tryvium expects to advance a nearby joint effort between all clients of the network. In this fashion, clients are effectively urged to partake in client administration and question determination. Cooperation is compensated through the Tryvium token. If there should be an occurrence of client benefit, the Tryvium are taken from the candidate for help. If there should be an occurrence of a question, a jury made of stage clients will evaluate the debate and give a determination accepting Tryvium from the debating parties.

If there should arise an occurrence of absence of satisfactory help or determination of a question, the Tryvium Team mediates to explain the case.

**Tryvium reservations are secured by protection to shield the proprietor from any harm as well as booking issues and the visitor if there should arise an occurrence of any burden.**

Using the intuitive and user friendly feature of the Tryvium booking platform, travelers can book everywhere in the world with 0 fees. The travelers get to choose from a wide variety of hotels and various accommodations with the lowest fare on the market. For every 50euro spent on the platform, the user will receive 50 Tryvium tokens as a reward and this amount can be used for your next travel or can be accumulated.

The platform encourages the clients to use the platform consistently. This will be managed by awarding frequent users of Tryvium platform their platinum card. The platinum card will include the following two services:

- Double tokens earned during your trip
- The platform users enjoy premium features like early check in, late check out (wherever available).

The information will be conveyed by mail every week including the secret offers which allow the traveler to book at a discounted rate.

The traveler will have the chance to win a ticket around the world and sleep in our selected hotels for free at a given condition; the travelers are expected to write a blog and update every 2 days at least with his personal experience, feedback of hotel where they slept along with pictures, blog, and content.

The Tryvium team is also planning to increase the role of ethics in the hospitality industry. This will be achieved through our plan to donate 5% of the net commission paid by hotel owners to project-oriented charities selected by guests in the country where the hotel is situated. This initiative will be Tryvium's initiative to give back to its community.



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## Benefits for Hotel Owners

Tryvium is set to deliver an all in one solution to meet all your requirements as a business owner.

The platform gives software assistance for hotel management.

- Smart manager property software.
- Booking engine and channel manager at the lowest market fare **19.90 Euro for a month.**
- Hotel owner will pay from **8% fees** on a room sold instead of 20% or more applied by competitors such as Expedia.com, Booking.com.
- 24/7 hotel support specialist direct line.

The Tryvium standard plan is starting from **19.90 euro/Month** for hotels up to 25 rooms or 10 apartments

The plan will include:

- **Property manager software** with a full integrated reservation system. This will function as the heart of your business where directly with one click you can keep everything under your control and in the real time. You get to choose your price lists, rooms availability, reservations, invoicing, and get immediate sale reports.
- **All reception and administration activities** are integrated to guarantee the best synergy.
- **Channel manager** This will enhance integration with the industry giants like booking.com, Tripadvisor, Holiday Lettings, Expedia, eDreams, Agoda, and Airbnb.
- **Booking Engine** our smart booking engine is well integrated into our all in one solution, our online system will integrate with more than ten website builders and with several gateway payment channels by automating all reservation tasks you will receive in real time date availability and quotations cancellations, modifications, automatic confirmations.

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## The Tryvium Gift Experience



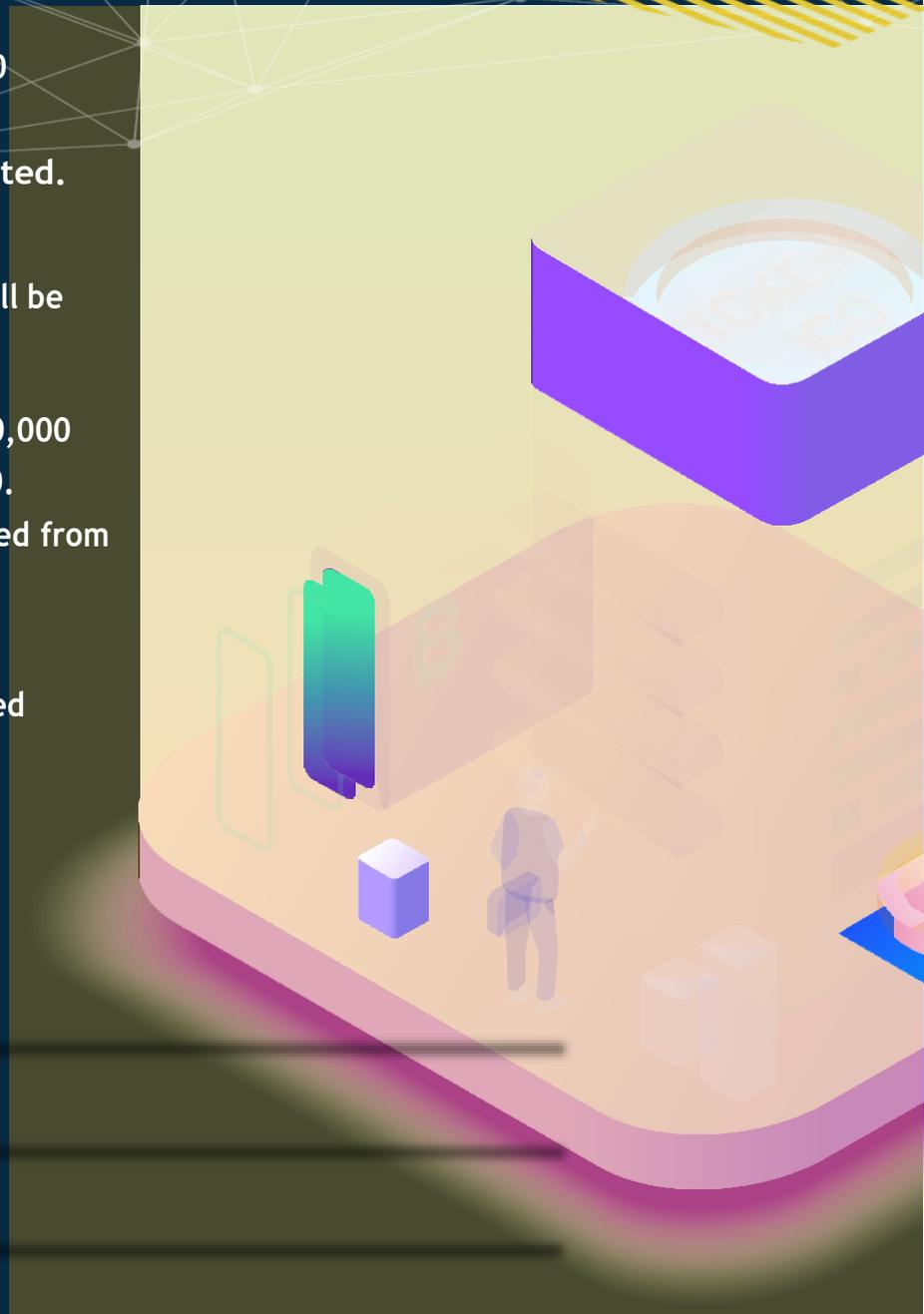
The Tryvium gift Experience provides the pleasure of gifting to your hands. The experience will combine the freedom of gift experiences without the hassles of comparing and making a choice. You can go ahead and gift your loved ones the box of happiness and thrilling adventures. The boxes are aesthetically designed to please the recipients and open up to an online brochure full of experiences. The receiver gets to choose from the available options and choose their favorite travel package. The Tryvium gift experience is ideal for travelers looking for exciting adventures.

The brochure lets you choose from our hotels, B&B, apartments to enjoy your dream vacation! Each Tryvium gift experience will have its own customized theme offering hand-picked experiences spanning across all Europe.



Tryvium gift experience will be available starting from Q4- 2022. You can purchase directly Tryvium experience box by using the Tryvium token.

- There will be a total of 1,800,000,000 TRYV tokens.  
No additional tokens will ever be created.
- The tokens available for crowdsale will be 1,080,000,000.
- The Soft Cap of the ICO will be \$1,300,000 and the Hard Cap will be \$21,600,000.  
No additional emissions will be charged from investors.
- 60% of the total tokens will be released for the ICO/crowdsale.
- The initial Price for Tryvium Token is kept \$0.02



# Token availability and Distribution

Token distribution will be made in two phases.

60% will be initially released for the sale through crowdsale ICO. In addition, 10% of the total tokens will be distributed as bounty and early supporters to ensure buyer loyalty and excellent platform support. 10% of the tokens will be reserved for team and advisors and the remaining 20% of the tokens will be reserved funds, locked up to 24 months.



# Fund Allocation

## Fund allocation and distribution is described below:

40%

**40% Marketing and platform implementation:** This will be important to carry out required marketing campaigns and technical developments for the platform. This will bring about significant upgrades in the available commercial and technical model. This will include SEO and Content Optimization for better user acquisition.

20%

**20% Product development:** The software upgradations and user interface development will be important in creating the required usability and reliable software architecture.

The funds will be firstly used to create a beta implementation of an MVP to showcase the features of the platform and subsequent release of full product, which includes:

- Booking Engine (20%)
- Channel Manager for hotels (30%)
- Property Management System (30%)
- Booking Platform for travelers (20%)

10%

**10% Legal and Financial:** This will be used to cover all important legal expenses. The cost will be used to avail legal permissions and corresponding registrations.

**20% Security:** One-tenth of the collected funds will go into security management to ensure optimum user privacy and data security.

20%

- Periodic Security Audit of all the systems (30%)
- GDPR Security standards implementation (50%)
- Acquisition of Security Staff to handle day to day activities (20%)

10%

**10% future development:** The remaining one-tenth will be stored for future developments and innovations to match up to the mark and remain on top of competition for the tourism business.

- The Tryvium Gift experience
- Tryvium pay, the aggregator of booking services to allow to pay with tryvium from a lot travel websites

# About Team

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Roberto Lista  
CEO



Alessandro Sanino  
CTO Blockchain  
Architect



Luca Pagliaro  
Coo



Lidia Velichkyna  
Russian Market  
specialist



Roberto Battenti  
UX-UI  
Developer



Pawel Sas  
Hotel Support  
specialist



Antonio Pinto  
Marketing  
Manager



# Roadmap



**Q1-Q2**

**The alpha version of the Tryvium Booking Platform has been released**

**2020**

**Q3-Q4**

**The alpha version of the Tryvium Platform ran it's first tests and has been improved**

**Q1-Q2**

**The beta version of the platform has been released, adding 600.000 + hotels around the world  
Paypal, Crypto, Payments**

**2021**

**Q3-Q4**

**The beta version of the platform will be available in 6 languages  
The mobile app alpha version will be released.  
Tokenomics, Whtepaper 2.0  
&  
Token Sale**

# Roadmap



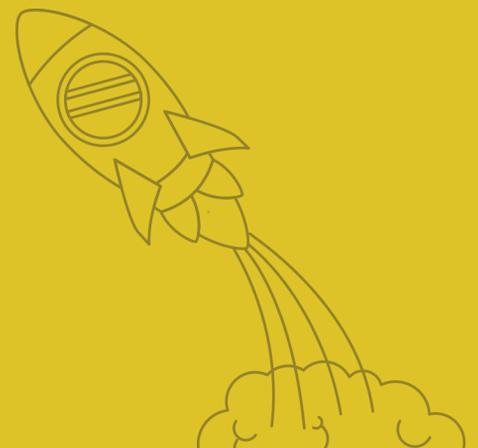
**Q1-Q2**

**The Tryvium Gift Experience alpha version will be released, along with the Platform mobile apps (AppStore, Google Play)**

**2022**

**Q3-Q4**

**Tryvium Platform full release  
Tryvium Gift Experience beta test will start  
Open tests will be conducted among real users**





*Your next  
Travel Partner*