



2022

## WHITE PAPER



# IVIRSE: Blockchain-based Digihealth Ecosystem

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## INTRODUCTION

### Target values

Healthcare ecosystem operates on **IVIRSE – DigiHealth Platform**. Our platform includes a wide range of solutions that have already been deployed by hundreds of hospitals, health care institutions and clinics to serve millions of patients daily. Furthermore, to give patients better services and experiences, we empower world-class third-party healthcare solutions to be built by providing access to data, services (including our built-in AI engine) and APIs to interact with our existing ecosystem.

Throughout the evolution of our ecosystem, patients are always put at the center of everything we built. We started by utilizing blockchain technology to give patients better protection of their data and a complete control of what they want to do with it including storing, sharing and monetizing. As the ecosystem grows, we will make sure that patients are empowered not only to the best solutions but also to a complete control of every demand.

Patient's data is highly valuable to doctors, researchers and medical groups for both general good and business purposes, yet accessing it has always been a challenge. Too tight control, no value can be generated from it. To lose control, patient's privacy will be compromised. To solve this problem, we introduce **IVIRSE - DigiHealth NFT**, an innovative solution for packaging, sharing, and monetizing data with patients in full control of every action.

**IVIRSE - DigiHealth NFT** works like a marketplace, in which patients can pick some of their data such as their Electronic Medical Record or Personal Healthcare Record, package them into NFT assets. These assets will be securely stored and accessed by the patients only but if they want, they can share the assets or even sell them to others via IVIRSE - DigiHealth NFT. All activities will be powered and protected by blockchain technology.

To promote fluid and fair exchange of services, data and assets in our ecosystem, we introduce **IVIE Coin and IHEALTH Coin** as our universal payment mechanism. IVIE Coin and IHEALTH Coin will be supported among our core solutions at first and eventually across all solutions in our ecosystem. These coins are powered by blockchain technology from the first day to give patients safety, control and transparency.

### Vision

To create a universe in which your healthcare data is treated like a real asset which you can fully own, access, share and sell.

You have **IVIE** and **IHEALTH Coins** on **IVIRSE – DigiHealth platform** for payment healthcare services and own healthcare utilities with **IVIRSE – DigiHealth NFT**

### **IVIRSE's message: We bring to you Health and Prosperity from**

- 1. IVIRSE – DigiHealth Platform**
- 2. IVIRSE – DigiHealth NFT**
- 3. IVIE and IHEALTH Coins**

## **HEALTHCARE MARKET: OPPORTUNITIES AND CHALLENGES**

### **A Growth Point from Asia's healthcare market**

International Data Corporation forecast that Asia Pacific's spending on healthcare information technology (IT) sector will increase from USD 12.2 billion in 2019 to USD 14.9 billion by 2022, at an average compound annual growth rate of 7%. China spends the most followed by Singapore and Australia. Today, digital health impacts more than a billion Asian lives, and estimates show that digital health in Asia could collectively create up to \$100 billion in value by 2025, up from \$37 billion in 2020. According to McKinsey research, over 75% of value in 2025 is driven by the digitalization of care delivery given in the table below:

Category	Value pool	Example technologies	Market size in Asia, estimated		
			Market size 2020, \$ billion	Market size 2025, \$ billion	CAGR 2020–25, %
<b>Wellness and disease prevention</b>		Improve wellness and prevent disease	Wearables, activity trackers, fitness	2.3	6.6
<b>Screening and diagnosis</b>		Intercept diseases through screening	Genomics, other omics	3.5	11.7
		Identify the right patient	Digital diagnostics, AI imaging	1.6	3.6
<b>Care delivery</b>		Provide more effective therapies	CDM, digital therapies (CDS, cognitive games) <sup>1</sup>	6.1	7.6
		Provide remote patient support	Telemedicine, remote monitoring	16.8	37.1
		Supply therapies to patients	Digital pharmacies	7.1	33.8
<b>Total</b>			<b>37.4</b>	<b>100.4</b>	<b>21 (average)</b>

<sup>1</sup> CDM, chronic disease management; CDS, clinical decision support.  
Source: Arizton Advisory and Intelligence; BCC Research; MarketsandMarkets; Mind Commerce; TechNavio

Expectations of Consumers are spending more on health and wellness and increasingly demand access to convenient, affordable care. Furthermore, the consumer research has indicated that consumers are trading up in health and safety, with consumers in China, for example, willing to spend more on health-branded products during the pandemic.

Asia is home to half of the world's internet users and is already leading innovation in various sectors worldwide. For example, venture capital and private equity investments in digital healthcare in Asia have grown at 38 percent CAGR from 2015 to 2020. As a result, as of 2020, Asia comprises 44 percent of global venture capital/private equity investments in digital healthcare —\$6 billion of \$14 billion.

Vietnam is among the countries with the most internet users in the Asia Pacific. As of January 2021, out of 96 millions population, 69 millions has access to the internet. Internet usage in Vietnam is predominantly mobile-based, thanks to the high smartphone penetration rate. Surfing the internet has become a daily habit among most Vietnamese people, with multiple purposes including work, study, entertainment, and more. Those are strong internal enablers for the future adoption of digital healthcare solutions.

### Market opportunity in Vietnam

1. Healthcare market in Vietnam: Telemedicine, Pharmacy, Insurance, Medical services and so on.
2. Analysing the cost of healthcare services out of total income 2021 :  
<https://www.statista.com/topics/6181/health-in-vietnam/#dossierKeyfigures>



3. Connecting with DeFi , prediction Total value Unlocked for healthcare services
4. DeFi will pave the way for a new era of medical services

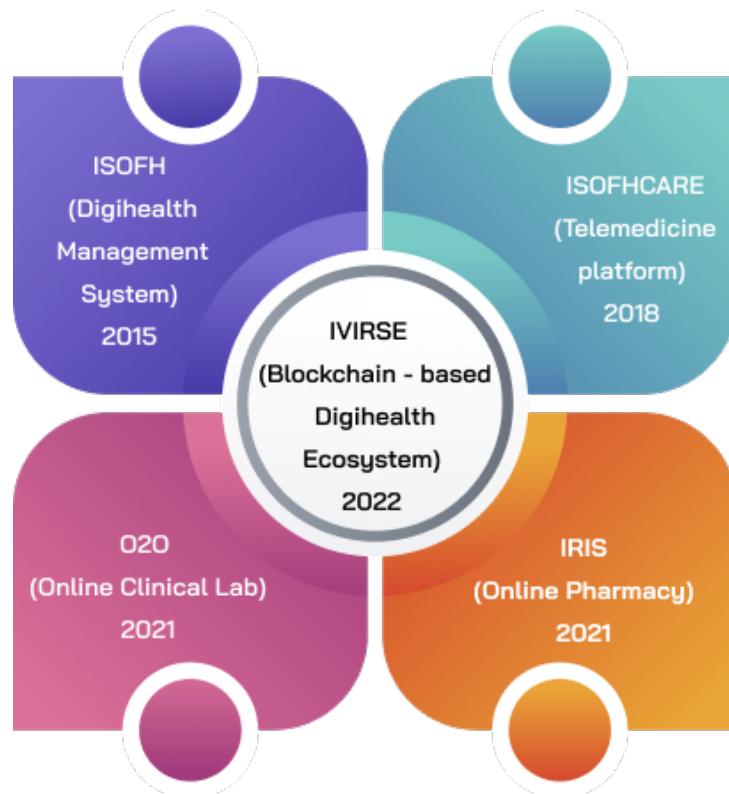


## THE BIG PICTURE OF OUR DIGIHEALTH ECOSYSTEM

Our teams in Vietnam have more than five years developing Digital healthcare solutions and Medical Information Systems based on International Standards. We are working alongside 6,000 health professionals, bringing smart, accurate and delightful hospital experiences to over 3 million patients. The ISOFH company prides itself on being a trustful, reliable partner to many healthcare organizations and hospitals. It is in the process of expanding to the ASEAN region with coming partnerships. These are the premises for us to develop a complete ecosystem on a digihealth platform.

**IVIRSE** will usher into the Digihealth Universe, our upcoming product is IVIRSE – Digihealth Universe. WE AIM TO THE AGE OF PRECISION HEALTHCARE.

In our current Digihealth Ecosystem, we have



### **B2B: Smart hospitals from ISOFH**

ISOFH - Innovative Solutions For Healthcare is a leading technology company in Vietnam providing information management solutions for healthcare industry. ISOFH has actively promoted international standards and best practices to support digital transformation efforts in Vietnam healthcare sector.

ISOFH aims at developing and leading platforms of medical information technology to manage and organize health-related data with the objectives

- 50 major hospitals apply ISOFH technology platform to become digital technology hospitals.
- 30% of Vietnamese people benefit from ISOFH's solutions.

ISOFH's strength lies in 3 core solutions:

- Comprehensive management solutions
- Completed connection solutions
- Secure storage solutions

ISOFH offers a wide range product portfolio, including:

- Hospital Information System
- Electronic Medical Records
- Smart Hospital Assistant Robot and Information KIOSK
- Medical Equipment Management System
- Hospital Command Center
- ISOFH Pay - Electronic Payment Portal
- Queue Management System

### **B2B2C: Intelligent Telemedicine/Telehealth Services from ISOHCARE**

ISOHCARE is one of the biggest Health Marketplace platforms in Vietnam. It allows users to easily access high-quality medical services from individual healthcare providers and facilities. It offers various services to help users keep track of their health, monitor it and when needed, proactively provides alert, consulting, and medical assists to users. Applying our 4S standards: SMART, SWIFT, SECURE and SAVING. ISOHCARE aim to make user's journey easier.

### **B2C: O2O and IRIS**

IRIS is a Pharmacy SAAS: Manage Smart Pharmacy/Medical Store. A Modern Approach to Streamline Operations to Grow & Boost Their Business.

O2O is an online to offline clinic: Provider of tele-consultation platform for patients. Help customer skip the waiting room! Instantly connect with licensed doctors for medical care from their phone, tablet, or computer any time, 24/7 or by appointment.

### **User Tracking Record - Our Digihealth Ecosystem**



Items	Quantity
Transactions in 2021	258,009,200
Total users in 2021 (Total patients in hospital)	1,856,100
Monthly active Users	319,061
Weekly active Users	102,513
Daily active Users	24,302

## IVIRSE: Blockchain – based Digihealth Ecosystem

### 1. IVIRSE – Healthcare Finance : COINS, WALLET

IVIRSE wallet is our first product for Healthcare Finance

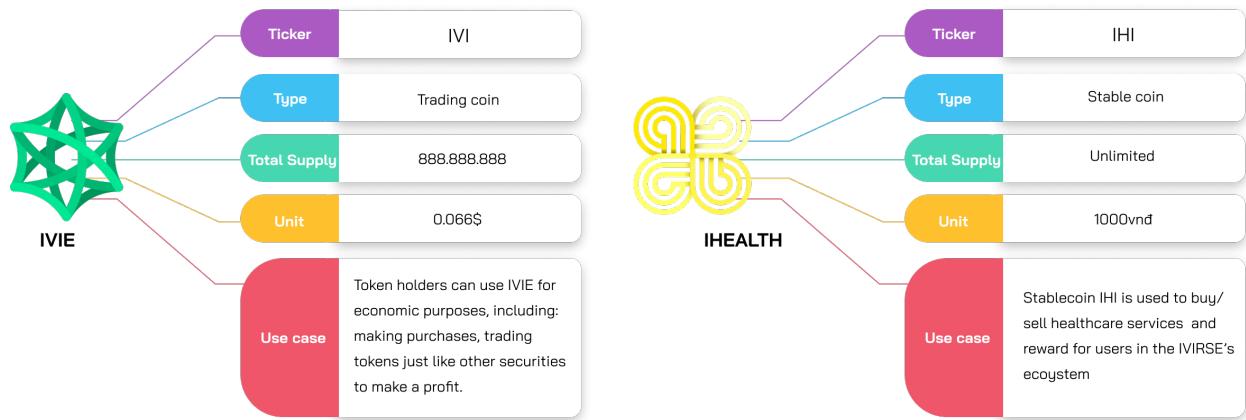
- Based on Multi-chain/cross-chain protocols, IVIRSE is a multi-chain wallet which adapt to different protocols/Dapps to provide better user's experiences and easier control of spending.
- Supported many Blockchains such as Ethereum, Bitcoin, Binance coin, Dogecoin, Tether, Solana and USDcoin.

IVIE Coin and IHEALTH Coin are two native IVIRSE tokens. At the beginning, they are based on ERC-20 to issue on both BSC and Solana networks. IVIE coin and IHEALTH coin are spent for healthcare services in IVIRSE Digihealth ecosystem. Moreover, users can spend on other blockchain ecosystems by converting these coins using IVIRSE SWAP.

### Implementation plan



## Use case of IVIE and IHEALTH

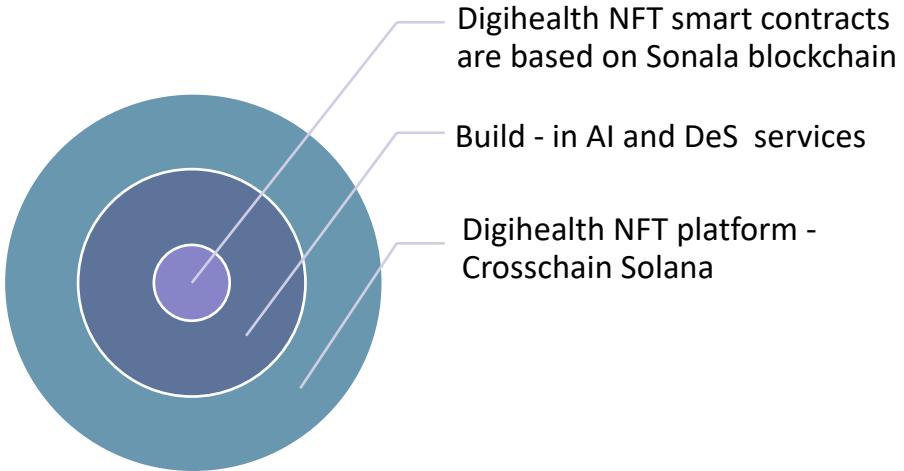


## 2. IVIRSE – DigiHealth NFT and Gamefi

### Problem

Healthcare record (EMR/EHR) is structured and standardized by HL7 FHIR to simply implement and easily exchange data between healthcare applications. However, the more flexible the information exchange mechanism is, the greater the data security risk is. Personal Health Records are commonly scattered in multiple places and are not integrated a unified view because of collecting from different health providers. Therefore, It is essential to identify the right people and unify the medical information. IVIRSE – DigiHealth NFT platform provides core functions to help users creating/owning/unifying their medical records like digital assets.

The core function of IVIRSE - **DigiHealth NFTs** is to record the hash value of health information and to prove the integrity and ownership of the data. **DigiHealth NFT** can be utilized with its cryptocurrency, IVIE/IHEALTH coins. Data source based on Crosschain bridge – NFT



### Key functions

**DigiHealth NFT platform:** IVIRSE – DigiHealth NFT allow owners to create NFTs store of medical information record with multi-versions.

**DigiHealth NFT standard:** The ultimate cross-chain NFT standard based on **Substrate (Polkadot)/Tendermint (Cosmos)/RUST (solana) SDK**. Designed to optimize usage, trading and Defi Derivatives features.

**DigiHealth NFT services:** Build-in AI services to protect copyright and identify duplicated or similar tokens. Build-in storage service to standardize the medical information record.

### Use case:

Digihealth NFT platform: Users are able to create a NFT of their own medical information

Interchain NFT Marketplace: Users are able to share /sell/buy Digihealth NFT without coding and zero cost up-front

Digihealth NFT lake : User are able to collect and lend NFTs

## Gamefi

Emotion series is collected daily by touching the emoticons we provide to you, it becomes a record of your personal emotion data and can be converted into assets of your own and you can be rewarded for participating in this game.

### ***Incentive mechanism based on Evolutionary Game Theory (EGI) for users to share data:***

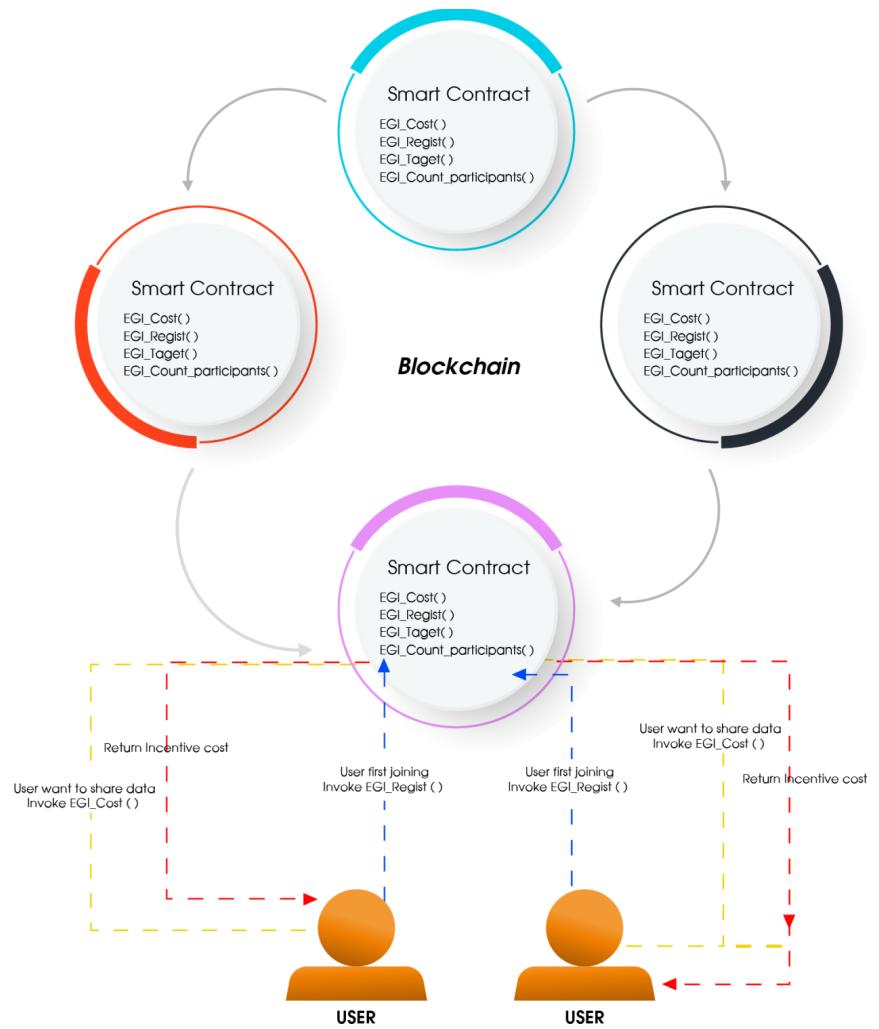
With IVIRSE blockchain, medical data from users will become precious assets. The more data users share, the more money users earn. Thanks to EGI, reward money will be released in a fair manner. Furthermore, deploying EGI in a smart contract with evaluating machine learning algorithms provides a higher payment rate for valuable data shared.

### ***Incentive mechanism for others:***

Participants can use coins to trade EMR/EHR in NFT marketplace without revealing their information.

Services in IVIRSE create incentive coins for miners performing transactions by their computation power.

Data mining / AI companies are able to use coins as a payment method to access reliable resources of digitalhealth data.



Developers creating Dapps can earn coins from users by deploying their applications on IVIRSE blockchain.

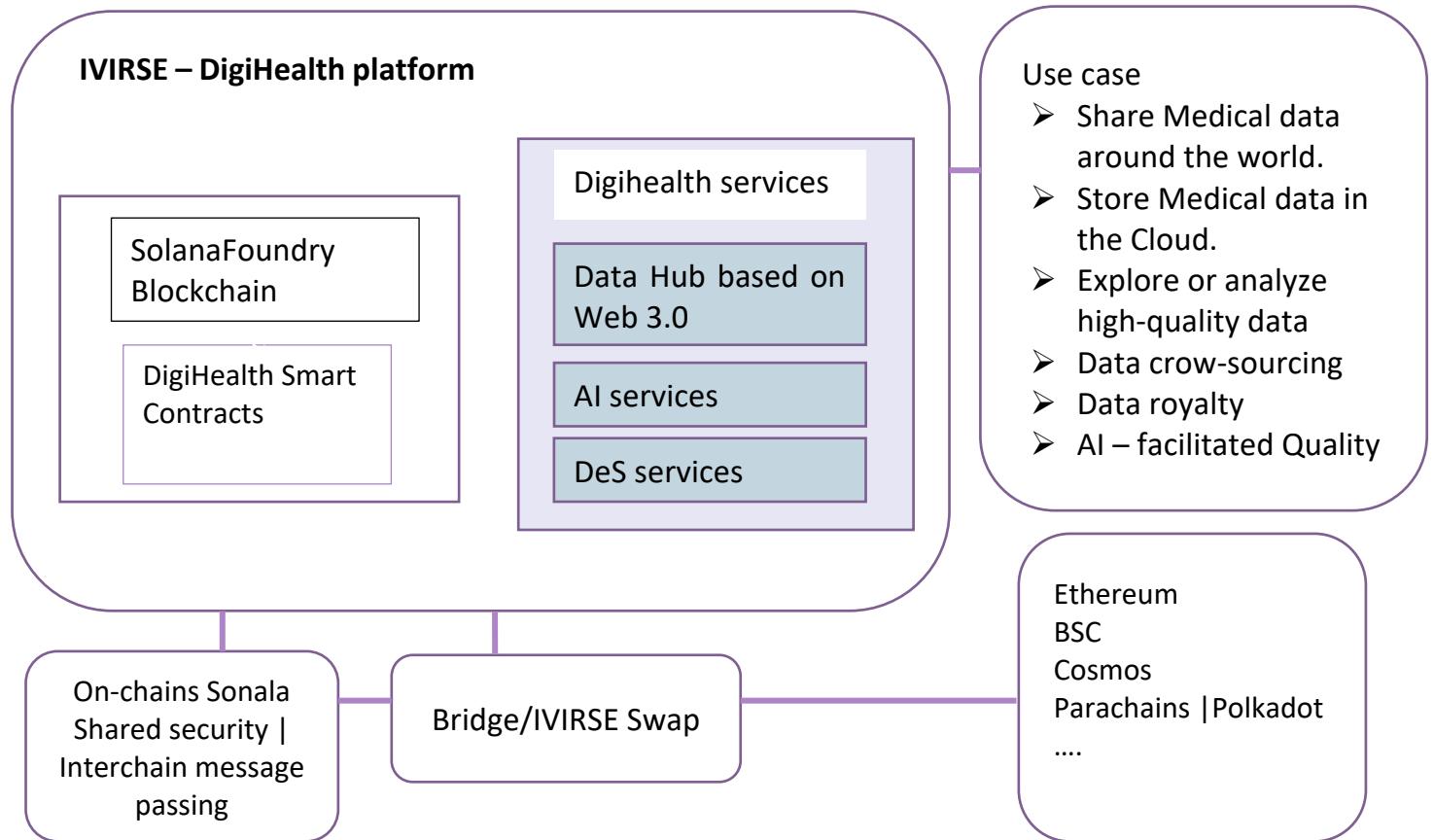
Experts and statisticians can be rewarded for their knowledge in labelling and preprocessing data.

**IVIRSE NFT Market place:** Relied on digital medical data, IVIRSE creates a digital health marketplace where NFT products can be exchanged between parties in transparent ways. This will connect customers and service providers in terms of exerting users' data.

### 3. IVIRSE – DigiHealth platform

We have proposed a protection model in personal medical data sharing schemes based on Blockchain technology ensures security and authenticity. Experimental results satisfied requirements of high performance and low computational system.

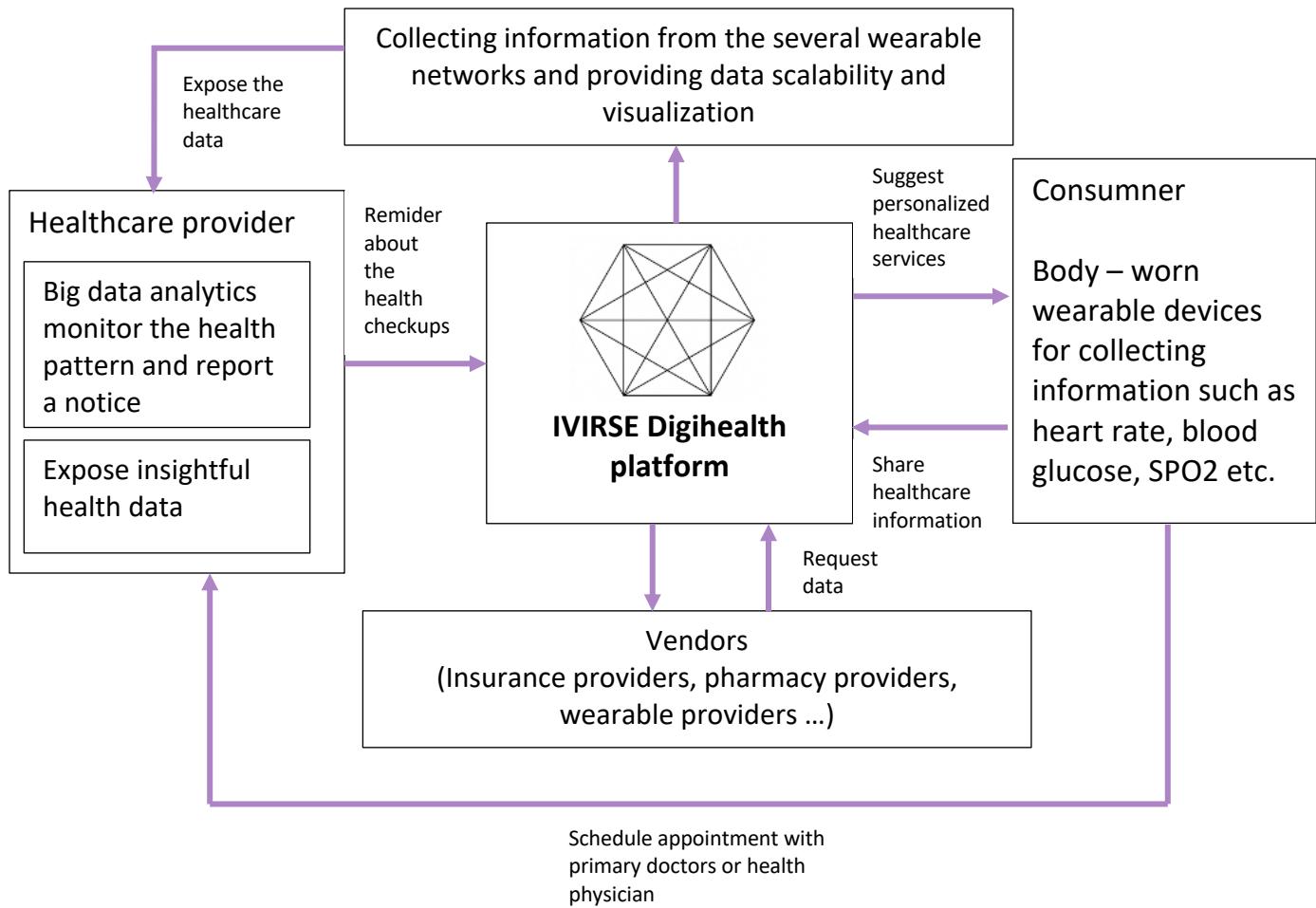
## System Architecture



### Use case

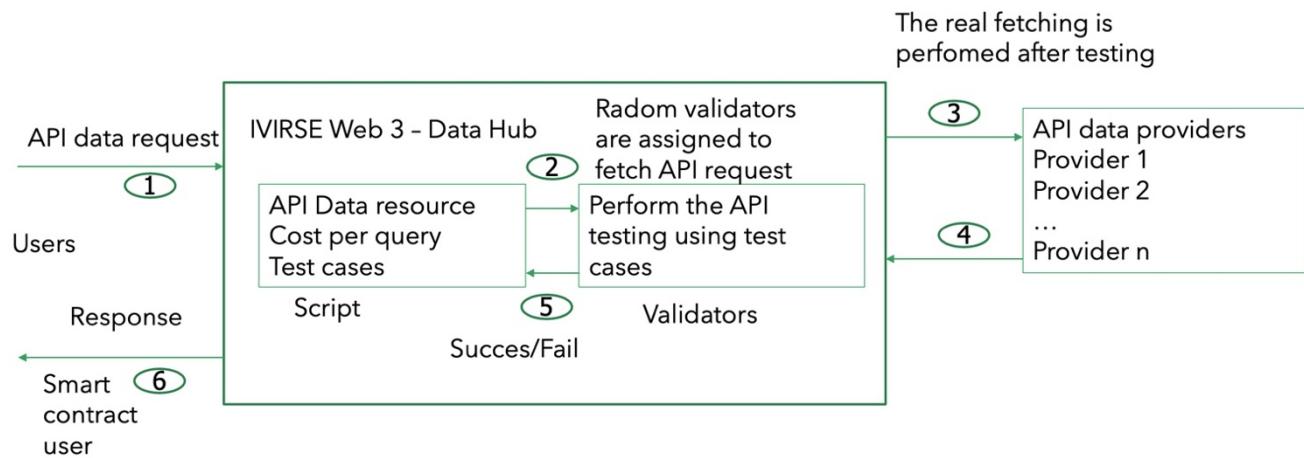
Establishing a supply chain of healthcare services and owning digihealth assets on the IVIRSE DigiHealth platform

- Supply chain transparency
- Smart contracts for insurance and supply chain settlements
- Medical staff credential verification



### Data Hub based on Web 3.0

- Share Medical data around the world.
- Store Medical data in the Cloud.
- Explore or analyze, store or share, create or request high-quality data to start training AI models



## AI services for supply chain

AI will be the next big thing and upgrade of smart contracts in DApps. How to make smart contracts smarter with AI. We would like to introduce several use cases where smart contracts can leverage AI.

IVIRSE platform also supports regular centralized applications in using AI APIs on the decentralized IVIRSE marketplace. Users can find better AI providers with better price in this marketplace.

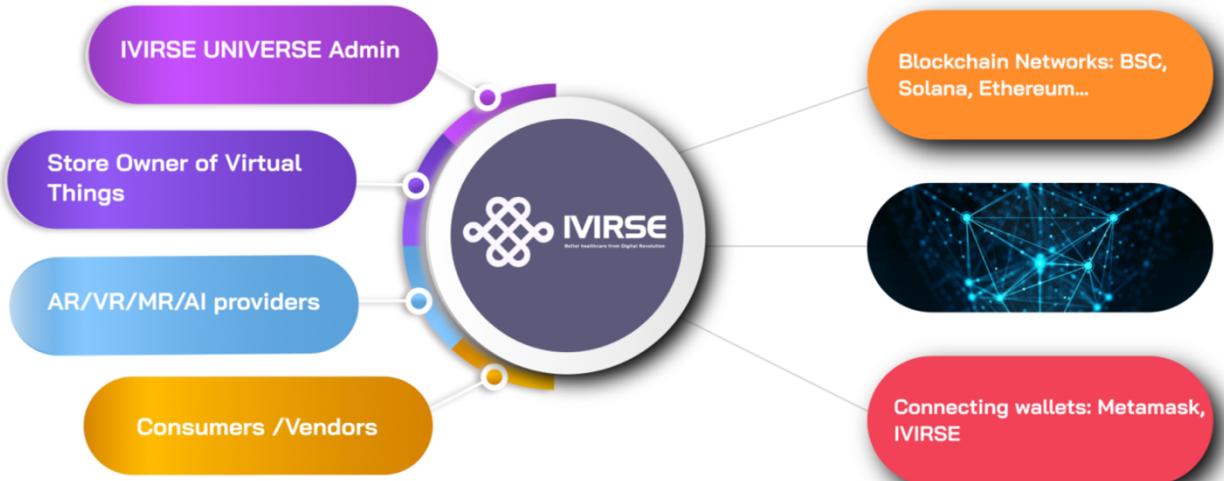
- Data crow-sourcing
- Data royalty
- AI – facilitated Quality



## **4. Blockchain – based Metaverse (IVIRSE Universe)**

Blockchain – based Metaverse is going to open the age of Precision Wellness and ushering in the Metaverse of Health. The blockchain technology will be the foundation for the innovation cycle of the digital hospital, especially the horizontal hospital in near future

- Digitally personal version in IVIRSE Universe
- AR/VR for the personalized healthcare services
- Precision healthcare
- Horizontal Hospital Platform



## ROADMAP



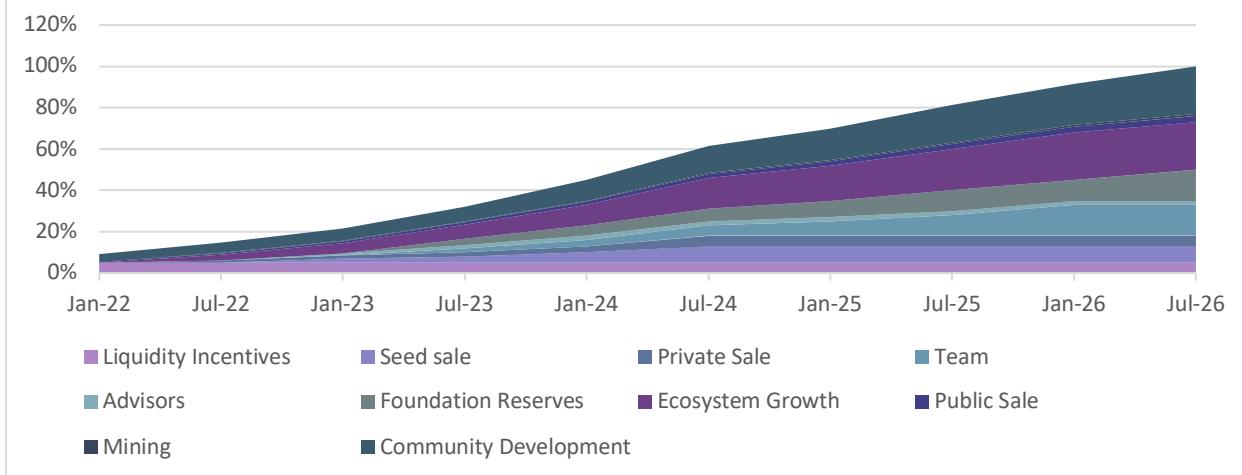
## Token Economics and Token Metrics

<b>Total supply</b>	<b>888.888.888</b>
<b>IVIE Unit</b>	<b>\$0,066</b>
<b>Total MarketCap</b>	<b>\$58.666.667</b>

## Token Metrics

Time	IVIE	Vesting Schedule
Liquidity Incentives	5%	100% Release at TGE
Seed sale	8%	2.5 years vesting, 1 year fully locked, linear unlock starting from the 13th month
Private Sale	5%	2.5 years vesting, 6 months fully locked, linear unlock starting from the 7th month.
Team	15%	4 years vesting, 1 year fully locked, linear unlock starting from the 13th month
Advisors	2%	2 years vesting, 1.5 years fully locked, linear unlock starting from the 19th month
Foundation Reserves	15%	4.5 years vesting, 1.5 years fully locked, linear unlock starting from the 19th month
Ecosystem Growth	23%	4 years vesting, 6 months fully locked, linear unlock starting from the 7th month
Public Sale	3%	10% release at the 1st TGE, linear unlock starting from the 2nd TGE
Mining	1%	10% release at the 1st TGE, linear unlock starting from the 2nd TGE
Community Development	23%	4.5 years vesting, 15% release at 1st TGE, linear unlock starting from the 2nd TGE

## Token Release Schedule

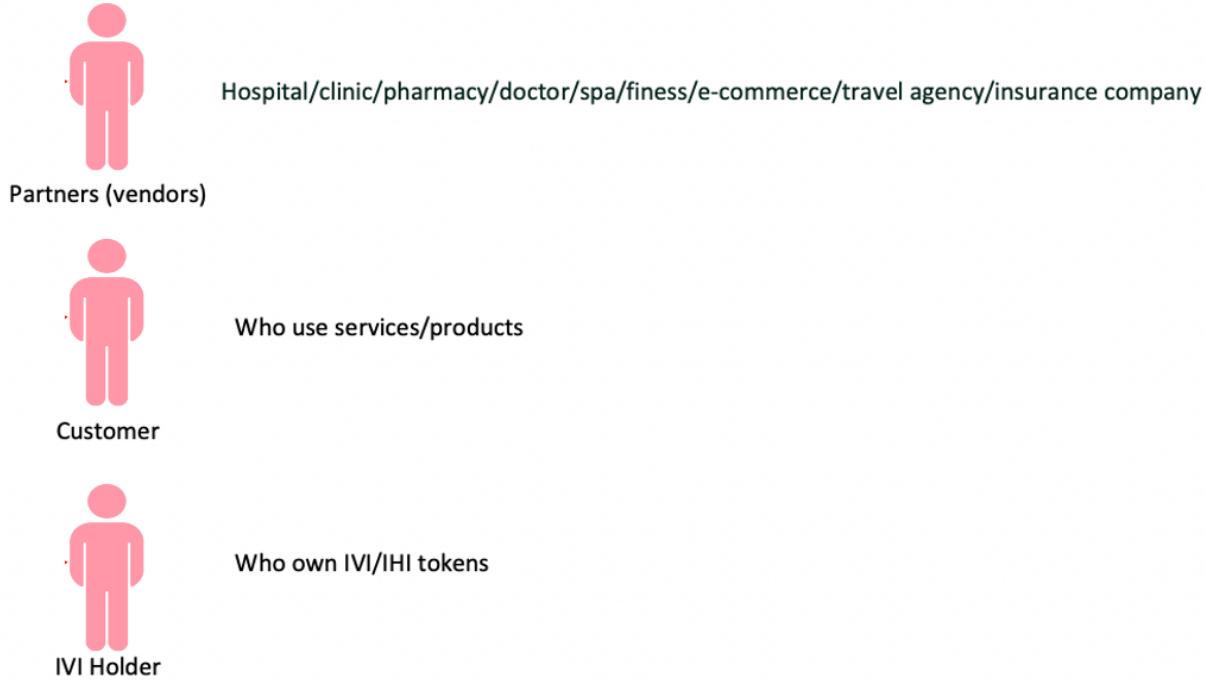


## Tokenomics

The tokenomics are proposed in ways that cryptocurrencies work within the IVISER ecosystem. This includes things such as token distribution as well as how they can be used to incentivize positive behaviors in the network. The native digital tokens (IVIE and IHEALTH) of IVIRSE are interoperable utility tokens on the platform.

Participants in our ecosystem are given follows:

### Legend



### Service fees:

IVIRSE digihealth platform will charge users a small fee payable in IVIRSE for each trade

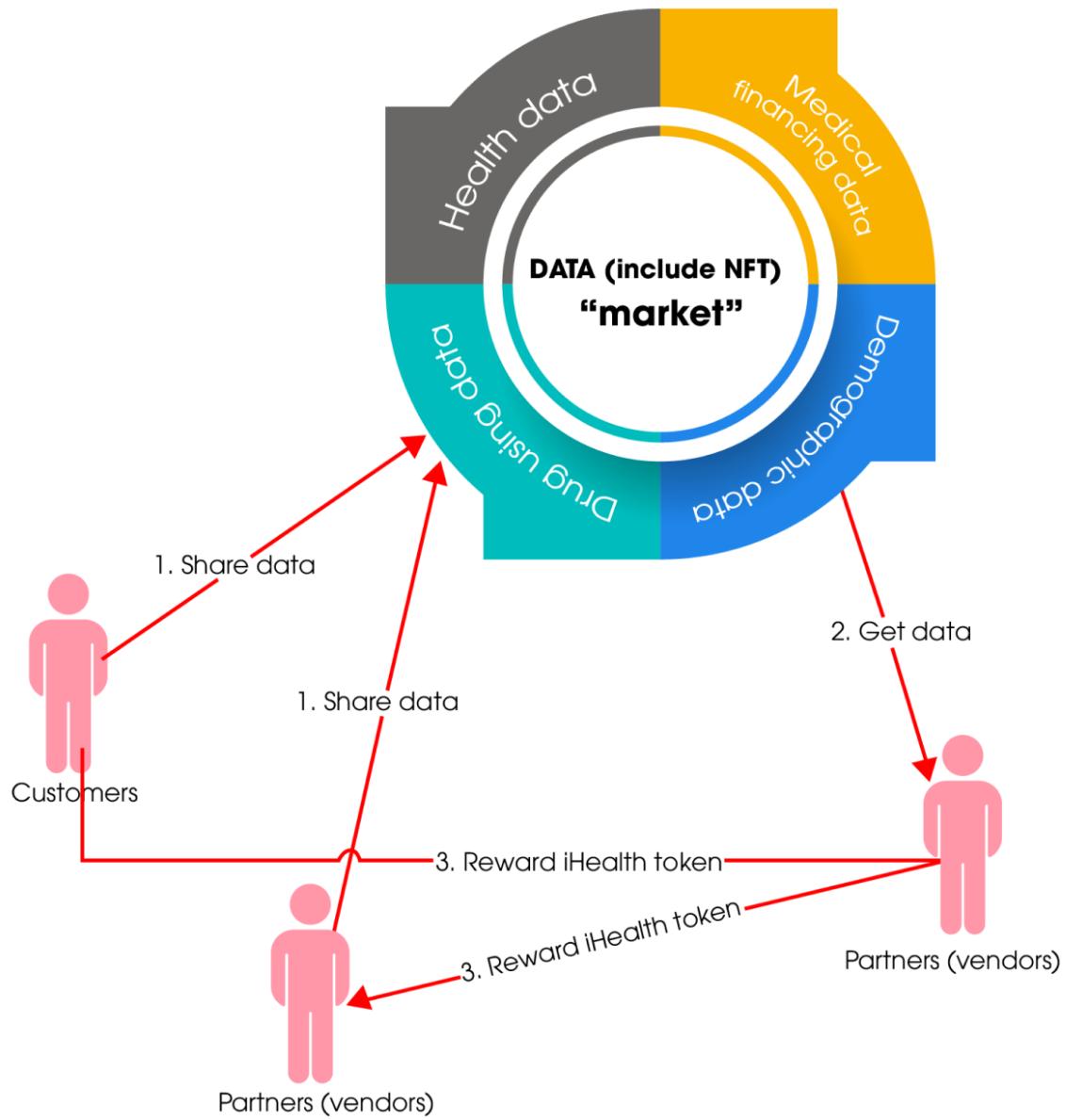
### Product development and growth

To develop a self-sustainable and closed-loop economy, all platform transaction fees collected by the network, whether in IVIRSE or otherwise, would be re-distributed as incentives for active contributors within the ecosystem, or set aside for future product development and ecosystem growth.

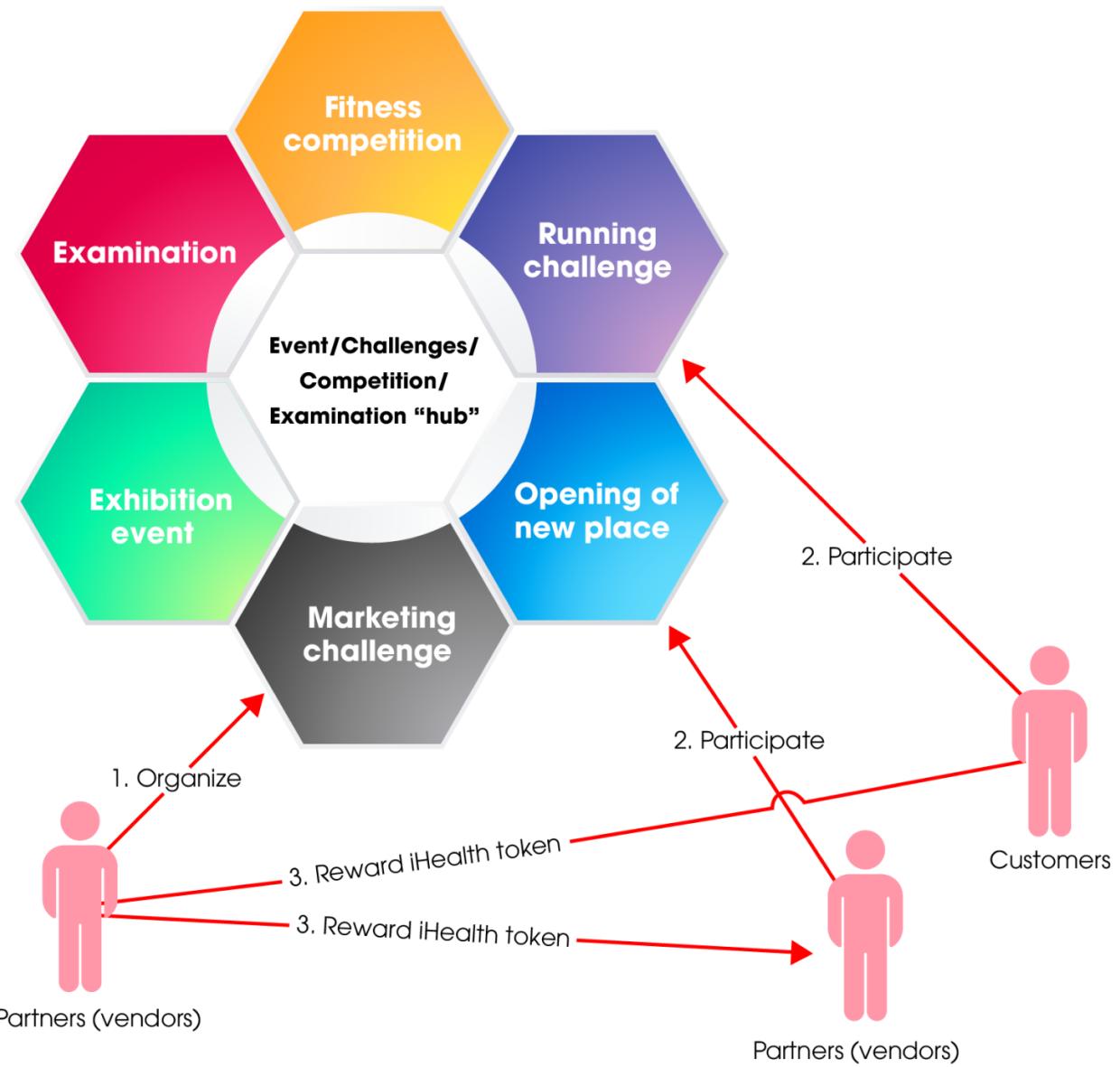
### Staking incentive

In order to improve the IVIRSE's function, it is critical to encourage users to play the role of liquidity providers and stake their digital assets into the decentralized market making pools. We have events below:

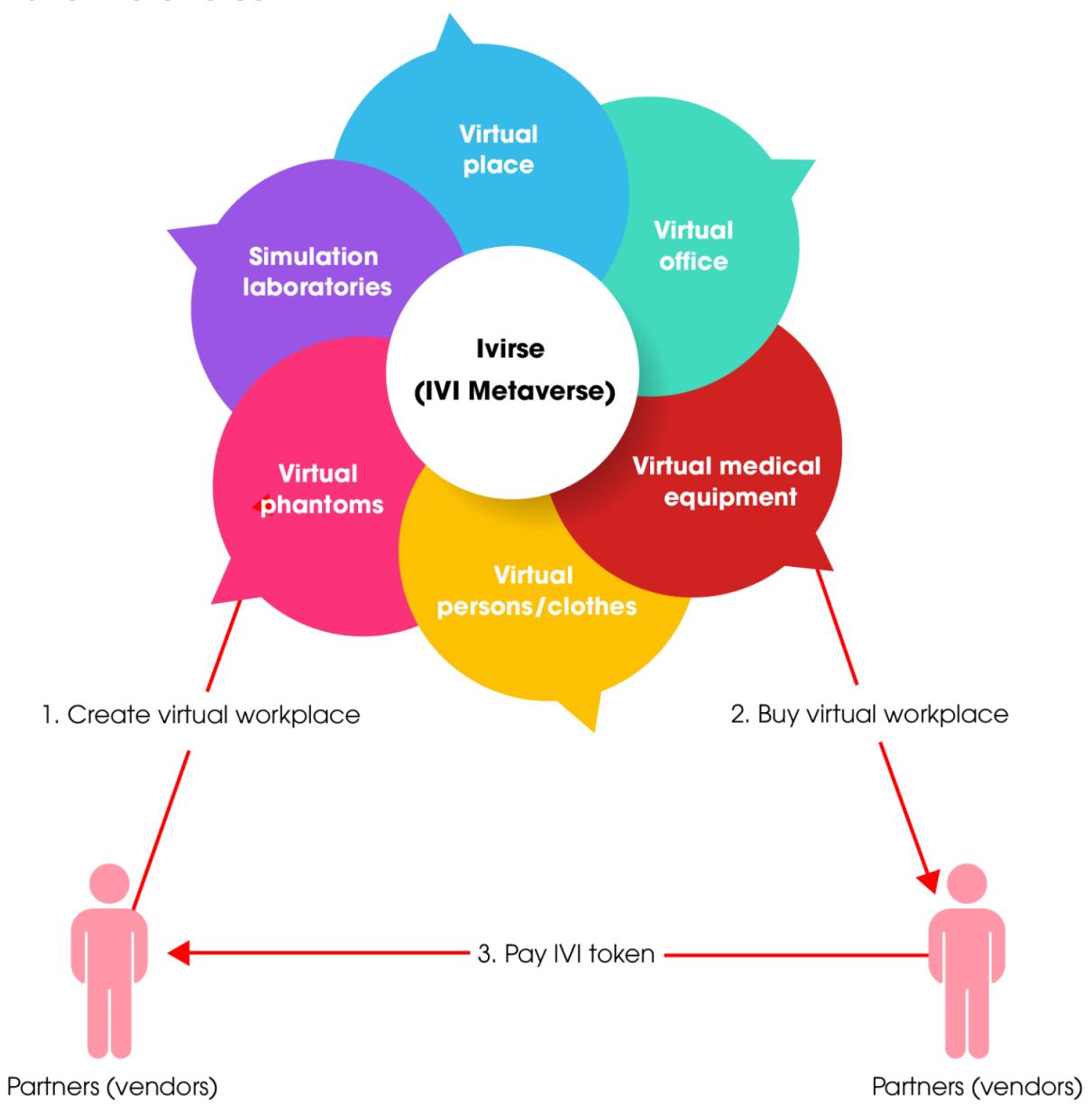
## 1) “Share” & “Get” data



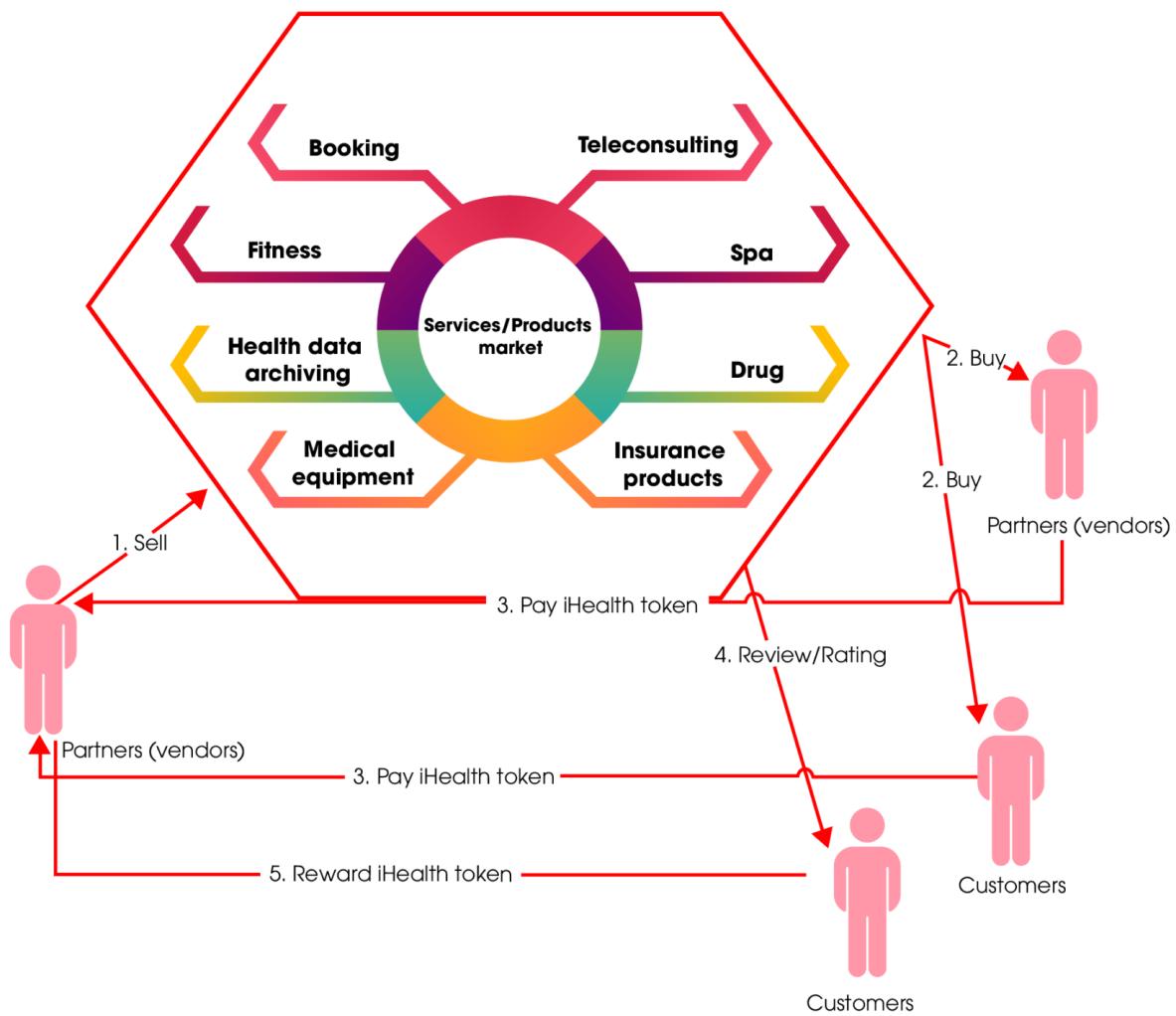
## 2) Community activities

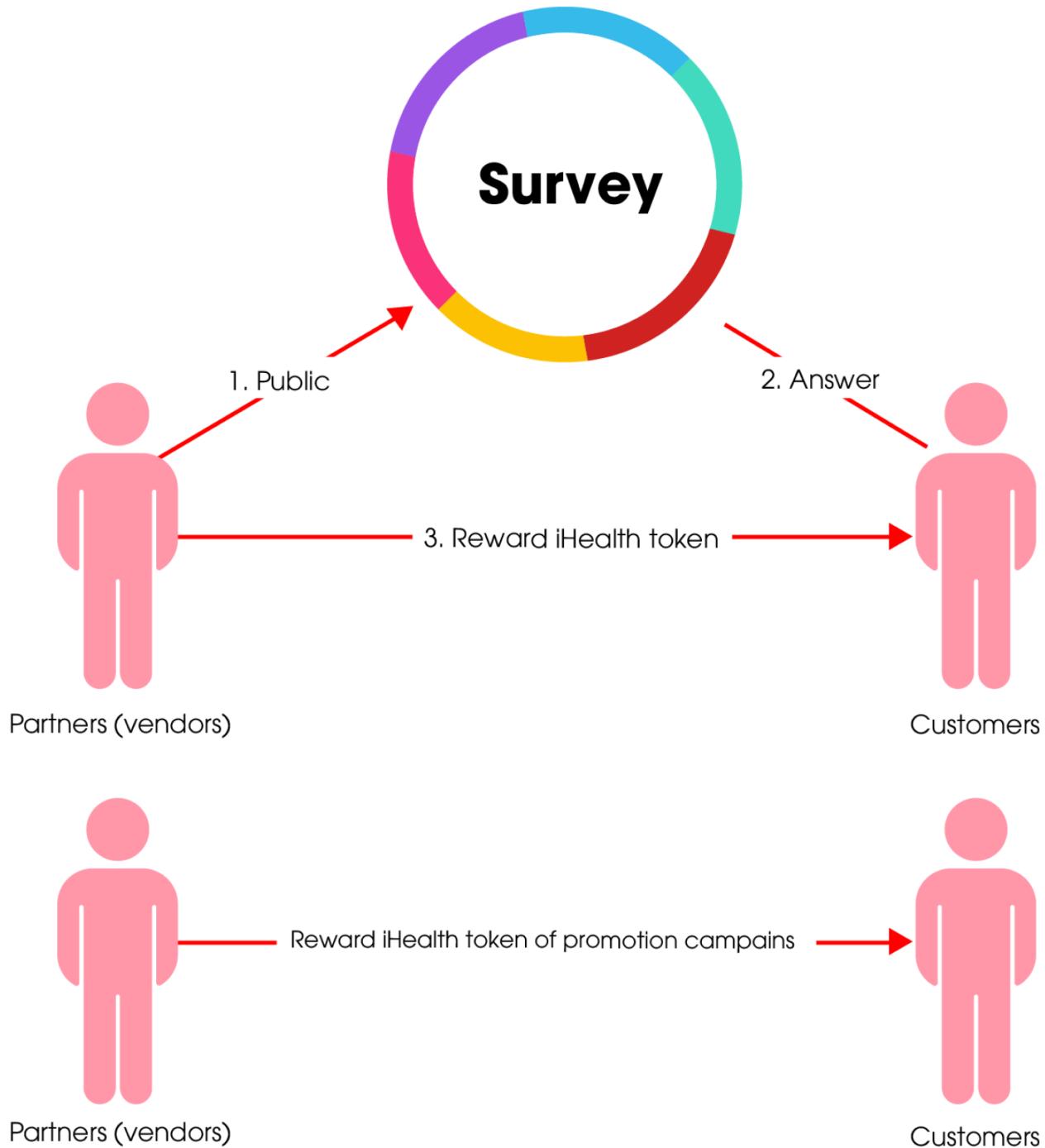


### 3) Build metaverse



#### 4) "Buy" & "sell" services/products

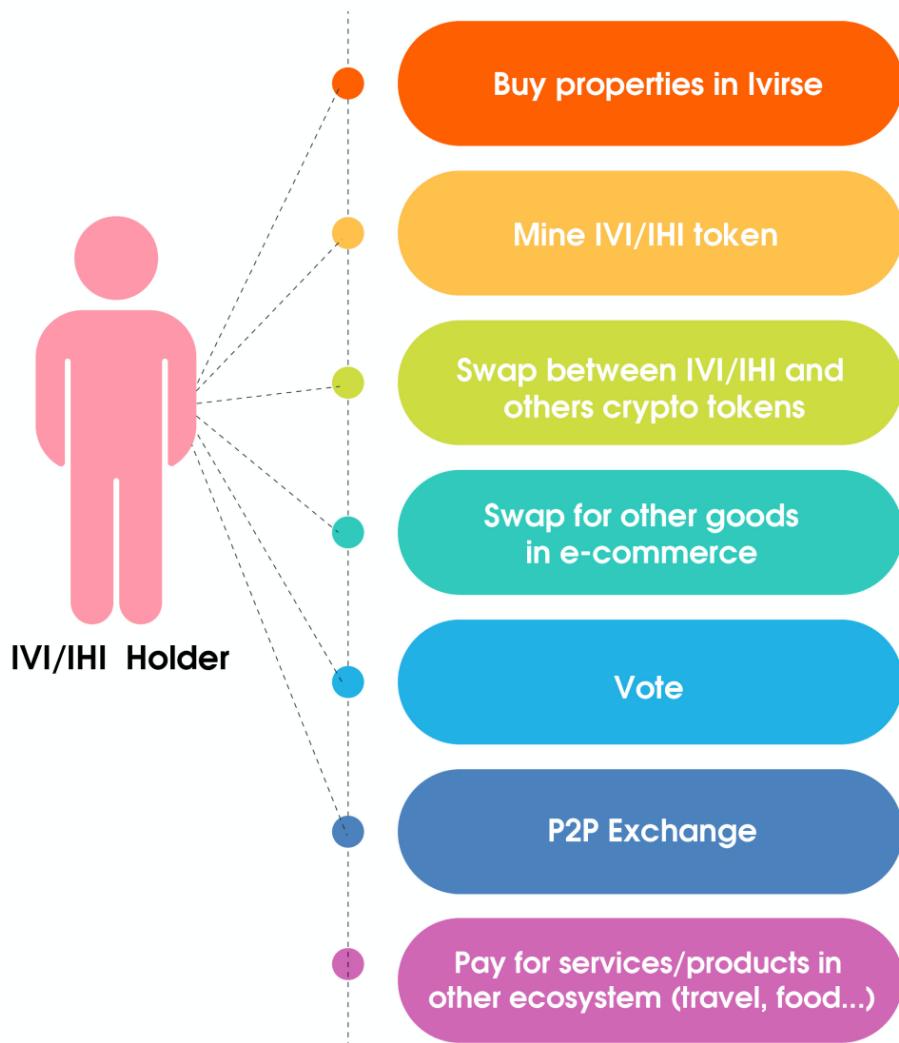




### Governance

To promote decentralized community governance for the network, IVIRSE would allow holders to propose and vote on governance proposals to determine features and/or parameters of the IVIRSE digihealth ecosystem and products. The right to vote is restricted solely for voting on features and does not vote on the operation and

management of the IVIRSE company. The arrangement is not intended to be any form of a joint venture or partnership



IVI holders would be sorted into different tiers. Users with more IVI held will be sorted into a higher ranked tier, and users in higher tiers will gain exclusive access to premium events and privileges, such as priority for launchpad participation, marketing events with strategic partners

## CONTACT

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## Our Team



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**Mr. Pham Van Minh**  
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**Mr. Nguyen Tung Anh**  
Technical Lead



**Ms. Phi Thi Kim Anh (MBA)**  
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