

### INTERNET OF THINGS

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**SUMMER 2021** 

### A Bird's-eye View: The Opportunity Across Sectors

# \$12.4bn 11.3%

# \$2tn

# 43bn

Predicted global spending on industrial IoT Platforms by 2024 Projected CAGR of IoT industry 2020-2024

The projected contribution of smart factories to global GDP by 2023 The projected number of IoT devices globally in 2023

### IoT: The Heart of Industry 4.0

IoT is a rapidly growing, multi-billion-dollar industry that will affect every major economic sector. Connected devices will change how we organize our societies, economies and industrial processes.

Top 10 IoT Application areas of 2020

Global share of Enterprise IoT projects

1 Manufacturing/Industrial	22%
2 Transportation/Mobility	15%
3 Energy	14%
4 Retail	12%
5 Cities	12%
6 Healthcare	9%
7 Supply Chain	7%
8 Agriculture	4%
9 Buildings	3%
10 Other	3%

### More Data, More Attack Surfaces

All these new IoT devices will produce countless new data streams and potential attack surfaces. As a result, **edge security** — the security of data that resides outside of the network core — becomes paramount.



## Compliance

As more IoT devices are deployed and processes are increasingly automated, keeping track of the influx of data will be challenging. Provably tamper-free records of **IoT telemetry** can provide cost-effective ways to document conditions and produce evidence of compliance.



Geeq is a decentralized networking solution that has been purpose-built for IoT. It combines unrivaled security with ultra-low transaction fees to enable the creation of robust, scalable and flexible networks of connected devices.

GEEQ: REAL BLOCKCHAIN FOR THE REAL WORLD.

### Geeq: Blockchain Born For IoT

In a nutshell: Why Geeq is ideally suited to IoT applications

- Geeq understands that IoT devices tend to be of limited computational power, placed remotely, and used in a variety of networks. Sending IoT data to Geeq nodes is a lightweight process that is device-agnostic, able to provide secure blockchain at the edge, and does not introduce new attack vectors.
- Geeq is a multichain blockchain platform that enables devices or servers to communicate with a Geeq API, scaling as desired.
- Geeq transaction fees are as low as \$0.0001, low enough for consumers to make micropayments, stream micropayments for pay-as-you-go services, and enable a future of automatic machine-to-machine payments.

## The Geeq Difference

### **Built For IoT.**

Geeq was specifically designed for IoT use cases and builds on the IoT expertise of our management team.

#### Inexpensive.

Transactions on Geeq cost a fraction of a cent, making it ideal for regularly or continuously logging telemetry from sensors, or exchanges of information and payments between connected machines.

#### Fast.

Each instance of Geeq can process up to 500 transactions per second.

#### Light.

Geeq consumes far less energy and computational power than mining-based blockchain networks.

#### Secure.

Our Proof of Honesty consensus mechanism delivers a high degree of edge security and unrivaled 99% Byzantine fault tolerance.

#### Flexible.

Businesses can create customized decentralized networks that are device-agnostic and easy to implement.

#### Scalable.

Geeq's multi-chain architecture enables virtually limitless scalability.

#### Quantum-ready.

As Geeq is based on a completely new framework, we are making choices that will add years to the efficacy of traditional cryptography, providing a 20year window for migration to a post-quantum solution.

### Inexpensive

### Transactions for fractions of a cent, not dollars

- Geeq's low transaction fees make it an ideal record-keeping and payments solution for large numbers of IoT sensors and connected machines.
- Transaction costs on Geeq are between 6/100th and 1/1000th of a cent.
- The Geeq chain for your application shares no overhead with any other application, allowing you to tailor it to your needs, whether that is writing data from 500 devices every second or staggering readings every minute from thousands of devices. The only constraint is your own available bandwidth.

### **Fast And Light**

Realizing the benefits of IoT will require efficiency that scales

- Unlike traditional blockchain networks that add scaling as an afterthought to already expensive processes, we used information and communications technology to fundamentally reinvent a protocol that provides efficiency, security, and scale natively.
- The basic data elements, message structure, and communications are written to perform one universal function, validation of payment transactions on blockchain, and do it more efficiently and securely than any other protocol.
- The same protocol may be used simultaneously to validate IoT data in its raw state as quickly, efficiently and securely, without interfering in devices' ability to send data to real-time applications.

### Secure

Unrivaled, strategically provable security

- Our Proof of Honesty protocol (PoH) is the only consensus mechanism that delivers strategically provable security, 99% Byzantine Fault Tolerance, and is nation-state proof.
- Geeq's unrivaled security makes it the leading choice to store critical IoT telemetry data for compliance and auditing purposes.
- Geeq chains are able to achieve this security in areas with low connectivity, with modest numbers of validating nodes.

## **Highly Scalable And Flexible**

Unique payment technologies

- The Geeq chains validation layer is simple and reliable, managing token transactions between accounts and token fee payments to nodes for honest work.
- Micropayments of all types in the native token: machine-to-machine, streaming payments, in real time and via pre-paid accounts will be enabled in the basic validation layer and digital wallet.
- All transactions are validated as they are received; there are no perverse incentives to delay or accord privileges to some transactions over others.

### **Use Case: Smart Manufacturing**

Smart manufacturing promises to combine networked sensors and machines with computer algorithms. The goal is to optimize and digitize the complex choreography of workers, machines and inventory that takes place in manufacturing facilities.



### Smart Manufacturing: How Geeq Fits In

#### Simplify

IoT devices and networks, and the data they produce, are supposed to make your life easier. But the utility of real-time data can get lost in the noise, or become too costly or vulnerable to keep in a centralized database.

Geeq features easy-to-adopt data templates, providing searchable metadata in a decentralized database, saving you time and preventing cybersecurity headaches.

#### Compliance

To verify regulatory compliance and for internal auditing purposes (i.e., for quality management), companies need to be able to readily access and process large amounts of granular and historic data from various devices.

Geeq can be used to create a highly secure, readily available, and provably honest record of IoT telemetry data.

#### Security

IoT may be involved in automating critical processes. Recent statesponsored hacking attacks on major businesses like Microsoft prove that industrial espionage or merely sabotage are very real threats in the current climate.

Geeq is secure enough to repel well coordinated nation-state attacks.



### **Use Case: Smart Mobility**

#### Novel Technologies

Smart mobility includes various new ways of transportation beyond traditional gas-fuelled vehicles, leveraging novel technologies like vehicle-to-vehicle (V2V) connectivity, electric vehicles (EVs), artificial intelligence (AI), etc.

#### **Car Sharing Systems**

Such technologies permit the design of interconnected mobility solutions, like easy-to-use car sharing systems. For example, a group of friends may share a rented EV for a ride, while rental payments, insurance coverage, and highway tolls would be automatically covered from their wallets.

#### Vehicle-to-vehicle (V2V) Transactions

Vehicle-to-vehicle (V2V) transactions enable automatic, direct monetary and data exchange between vehicles and other devices, without human intervention or centralized intermediaries.

#### Mobility As A Service (MaaS)

Seamless Mobility as a Service (MaaS) may enable doorto-door transportation at the push of a button, offering a single ticket for bundled services of different mobility providers, like car sharing apps, public transportation, and even air travel.

### Smart Mobility: How Geeq Fits In

#### Low Transaction Costs

Transaction costs need to be low enough to make frequent daily purchases (like the recharging of an EV or paying for using a short section of the highway).

Micropayments: As the amounts exchanged are often incremental and small, fixed fees on transactions need to be as low as possible.

Geeq's transaction fees are a fraction of a cent.

#### **Speed & Scalability**

To ensure a seamless travel experience, decentralised connectivity solutions need to be able to process transactions on a volume and speed comparable to that of large, centralized networks.

Performance should not deteriorate with expansion of the network.

Each Geeq chain can support hundreds of transactions per second and since many interoperable chains can be established, scalability is virtually boundless.

#### **Flexible Implementation**

Interconnected mobility solutions need swift synchronization of data and near instantaneous transfers of value across multiple, systems, such as EVs, smart parking meters and smart toll stations.

All Geeq chains can be customized to support specific IoT devices and data types.

## How Geeq Compares To Other Leading Solutions

	Proof of Work	Proof of Stake	Private Proof of Authority	Proof of Honesty (Geeq)
Decentralization	Yes	Yes	No	Yes
Anonymous	Yes	Yes	No	Yes
Transaction costs	\$.25- \$50	Depends***	Depends	\$0.0001
<b>Speed</b> (measured in Transactions Per Second, TPS)	Low	Medium	High	High: Up to 500 TPS.
Scalability	Low, due to scalability trilemma	Medium	Scalability comes at the expense of decentralization	High
<b>Security</b> (measured in Byzantine Fault Tolerance, BFT**)	50%	30%	33%	99%

### The Team: We Are Geeqs



RIC ASSELSTINE Chief Executive Officer Technology R&D to Market IoT



**STEPHANIE SO** Chief Development Officer Technology Analysis Product Development and Research



JOHN CONLEY Chief Economist Mechanism Design Information Theory



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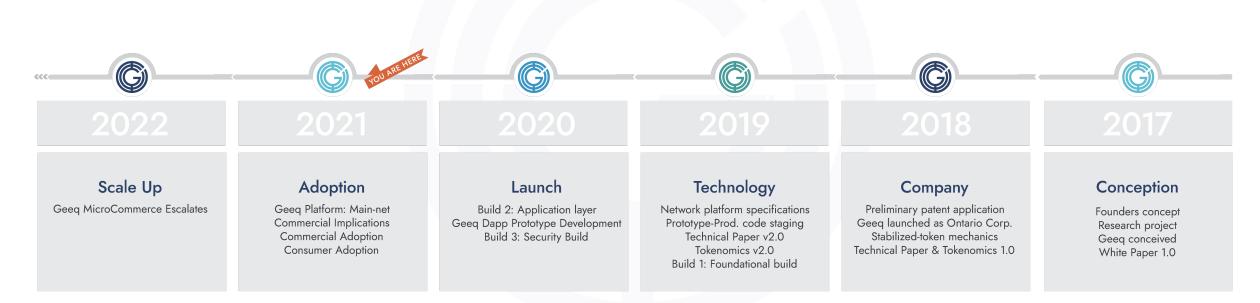


**ERIC BALL** Treasurer Venture Capitalist FinTech



HANS SUNDBY Head of Crypto Market and Business Development Strategist

# The Roadmap: Getting There, One Step At A Time...



### ... and here we are!



### THANK YOU NOW LET'S TALK ABOUT **YOUR** USE CASE

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