

(7) IOTA Internet of Things & Tangle



IOTA kommt bei Infrastrukturprojekt in Japan zum Einsatz

🕒 Oktober 28, 2020 👤 Guido Lange 📁 IOTA 💬 0



In Japan sollen Wartung und Risikomanagement von Kraftwerken durch den Gebrauch von Künstlicher Intelligenz und automatischer Datenerfassung effizienter werden. Die staatliche Entwicklungsbehörde NEDO hat dafür IOTA als technologische Basis ausgewählt und finanziert das Großprojekt.

3 Protect Data

- Protecting the Security & Integrity of Data

Content:

- 1. Motivation**
- 2. Data Integrity**
- 3. Bitcoin Crypto Currency**
- 4. Blockchain Technology**
- 5. Bitcoin Miner**
- 6. Smart Contracts**
- 7. IOTA**
- 8. Crypto Currency Opinions**
- 9. Summary**

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7. **IOTA**
8. **Crypto Currency Discussions**
9. **Summary**

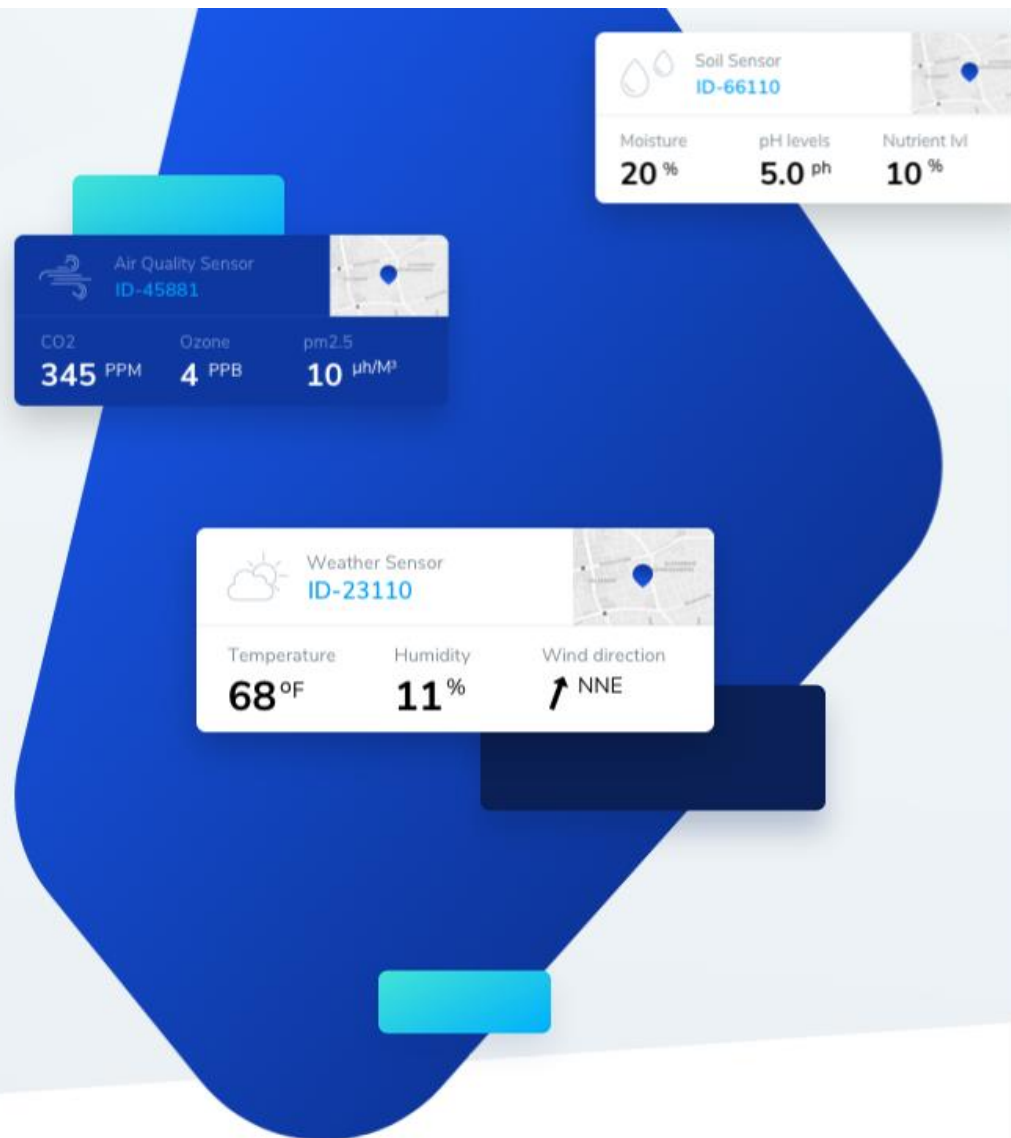
- **Data is the new Gold.**
- **Encryption is key to Data Integrity.**
- **Blockchain helps in applications with no trust in networks.**
- **Crypto Currencies are on the rise.**



IOTA makes it possible
to securely store, sell,
and access data streams.

Never has getting access to diverse,
fine-granular data been this easy!

TRY IT YOURSELF



Michael Amberg

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4. **Blockchain** Technology
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Discussions
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IOTA im ZDF MORGENMAGAZIN ...

IOTA


(Acronym of Internet of Things & Tangle)

IOTA is an open-source **distributed ledger (cryptocurrency)** focused on providing **secure communications** and **payments between machines (Internet of Things)**.

IOTA uses **Directed Acyclic Graph (DAG / Tangle)** technology instead of the traditional **blockchain**.

IOTA's **transactions** are **free**, **confirmation times** are **fast**, the **number of transactions** the system can handle simultaneously is **unlimited**, and the **system** can **easily scale**.

[en.wikipedia.org/wiki/IOTA_\(technology\)](https://en.wikipedia.org/wiki/IOTA_(technology))

IOTA	
	
IOTA logo	
Denominations	
Superunit	
10^3	Kilolota (Ki)
10^6	Megalota (Mi)
10^9	Gigalota (Gi)
10^{12}	Teralota (Ti)
10^{15}	Petalota (Pi)
Symbol	IOTA, MIOTA ^[1]
Demographics	
Date of introduction	11 June 2016
Source	Initial Coin Offering
User(s)	Worldwide
Valuation	
Supply growth	Fixed supply of 2,779,530,283,277,761 Iota

IOTA was **founded in 2015** by David Sønstedt, Sergey Ivancheglo, Dominik Schiener, and Dr. Serguei Popov in **Germany**.

IOTA is overseen by the **IOTA Foundation**, a **non-profit** dedicated to **developing the technology** and maintaining it **license-free** for all developers to work with.

Partners are **Bosch, Volkswagen, Deutsche Telekom, Microsoft,** and **Fujitsu ...**

IOTA

2015: IOTA was founded. The fixed supply of **2,779,530,283,277,761 Iota** were **created** and **distributed**. As there is **no mining**, **no more Iota will be created**.

A few months later, IOTA began **open beta testing**.

2016: While beta testing continued, **trading** began **over-the-counter** between users for the next 11 months.

2017: IOTA announced a **\$10 million ecosystem** fund to **promote larger corporate collaborations, community projects, and developer acquisition initiatives**. IOTA was listed by its first **exchange: Bitfinex**.

As of **autumn 2020**, the **market capitalization** of IOTA is **\$750 million**, making it the **27th largest cryptocurrency** in circulation.

The Tangle

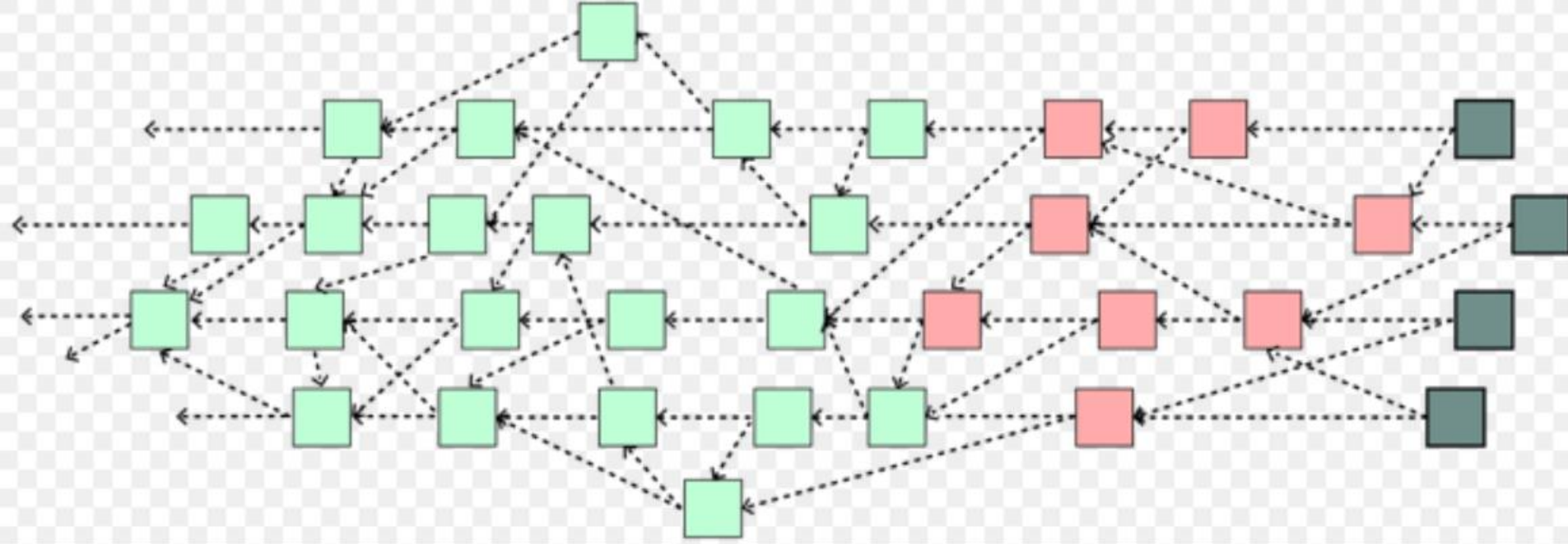
Serguei Popov*

October 1, 2017. Version 1.3

Abstract

In this paper we analyze the mathematical foundations of IOTA, a cryptocurrency for the Internet-of-Things (IoT) industry. The main feature of this novel cryptocurrency is the *tangle*, a directed acyclic graph (DAG) for storing transactions. The tangle naturally succeeds the blockchain as its next evolutionary step, and offers features that are required to establish a machine-to-machine micropayment system.

An essential contribution of this paper is a family of Markov Chain Monte Carlo (MCMC) algorithms. These algorithms select attachment sites on the tangle for a transaction that has just arrived.



IOTA tangle: Each **square box** represents a **transaction**. For each **new transaction**, **two random, unconfirmed transactions** are **validated**. Each **validation (n)** of a transaction increases the **likelihood of a transaction** being **genuine**, up to a **threshold of (c)**.

Grey boxes represent **transactions** where **$n = 0$ (unconfirmed)**.

Red boxes indicate **transactions** where **$n > 0$** , but below **confirmation**, **$n < c$** .

Green boxes represent **transactions** where **$n \geq c$**
(**validated a sufficient number** of times, and are **accepted as confirmed**).