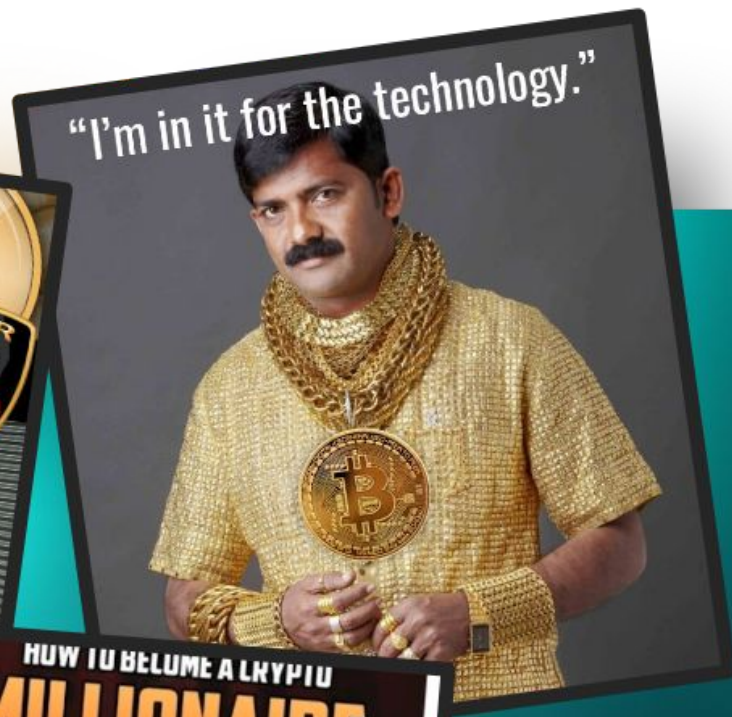




IOTA

Connecting our world to{day,morrow}



Crossing the Chasm



Important Puzzle Pieces



Technology



Governance



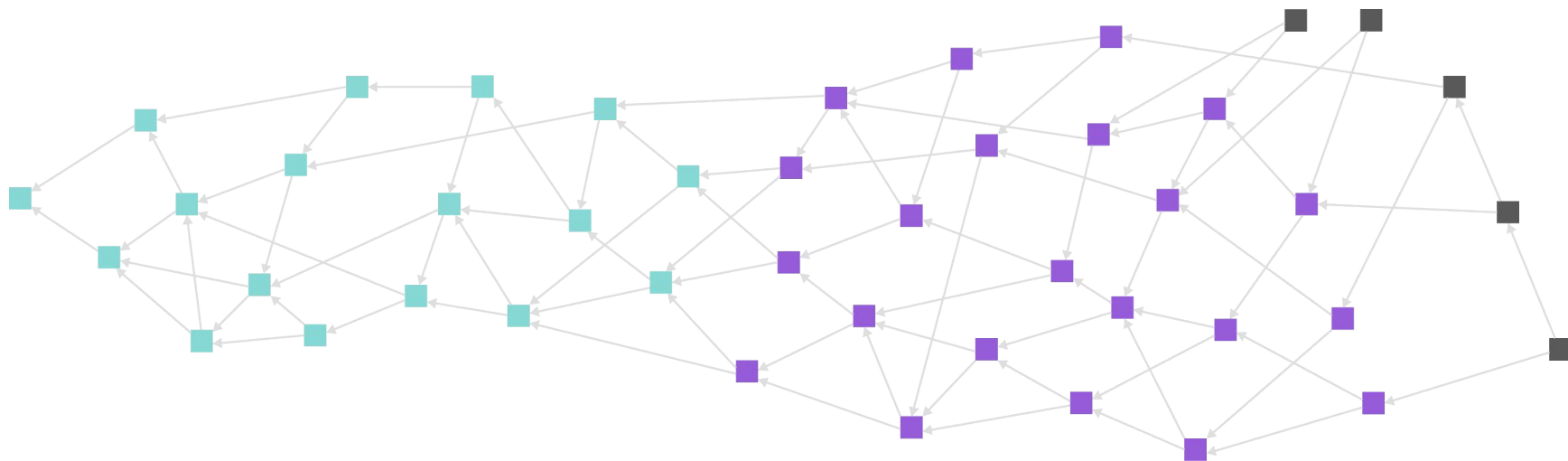
Ecosystem



Technology

The Tangle

Feeless, Scalable, Quantum-immune



The Tangle is a permissionless peer-to-peer network based on the open source distributed ledger protocol IOTA

The Tangle

Feeless, Scalable, Quantum-immune

Machine-to-Machine Payments

Today there is no protocol for machines to pay each other. With distributed ledgers, every machine will be able to have a wallet and they can freely transact with each other.

The Tangle

Feeless, Scalable, Quantum-immune

Data Immutability

Feeding data into a distributed ledgers makes it immutable and tamper-proof. Thanks to this data integrity, it is easy to share data with external parties in a verifiable manner.

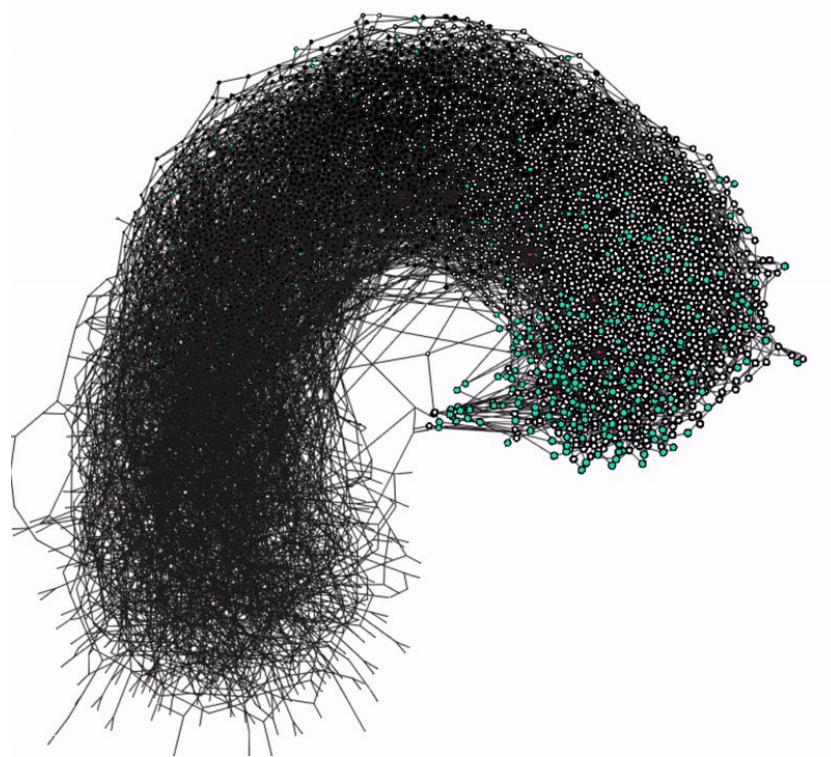
The Tangle

Feeless, Scalable, Quantum-immune

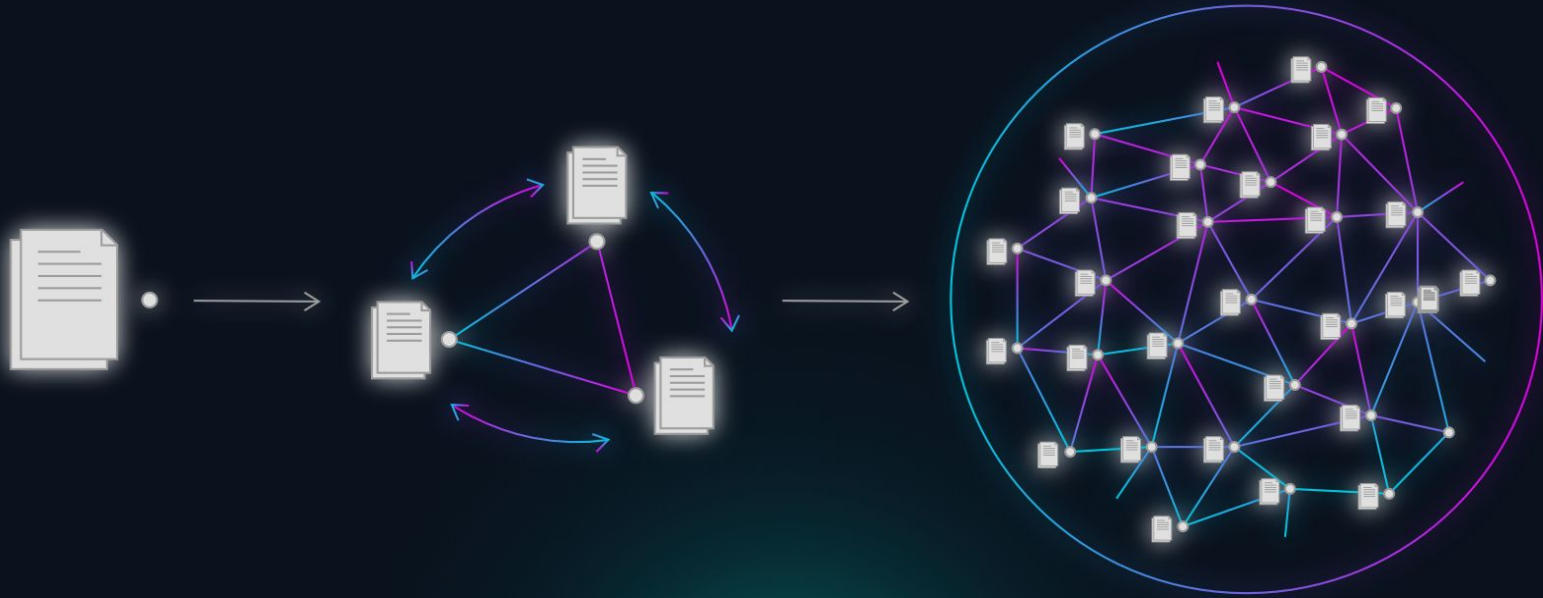
Permissionless Ecosystems are the Future

Everyone can participate in this Ecosystem from well established companies like Bosch, DNB, Airbus to Startups or single people.

A Healthy Tangle



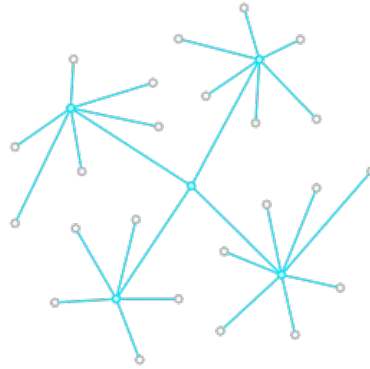
What are Distributed Ledgers?



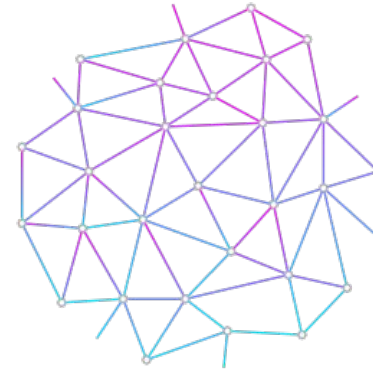
Networks



Centralized

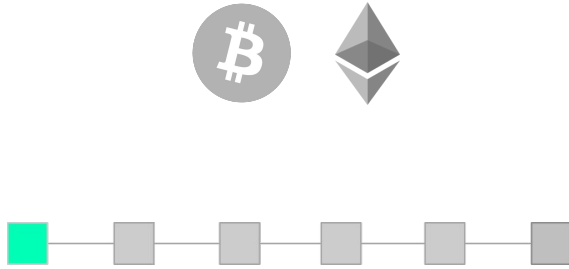


Decentralized
With Intermediaries

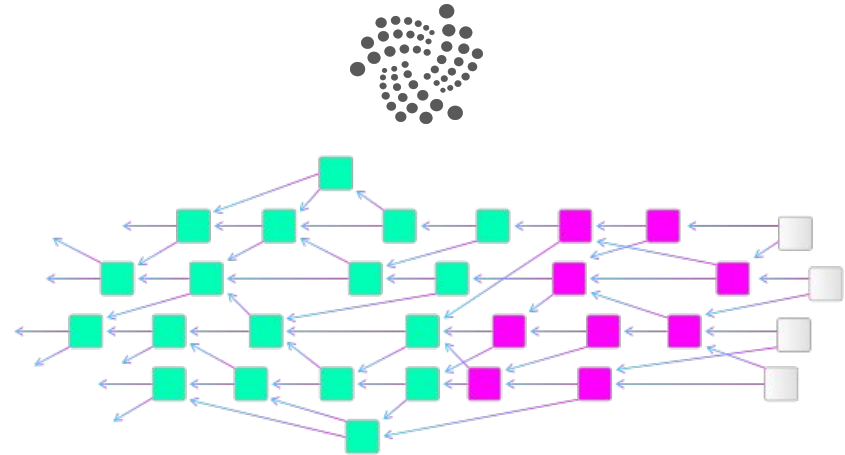


Distributed
No Intermediaries

Blockchain vs. Tangle

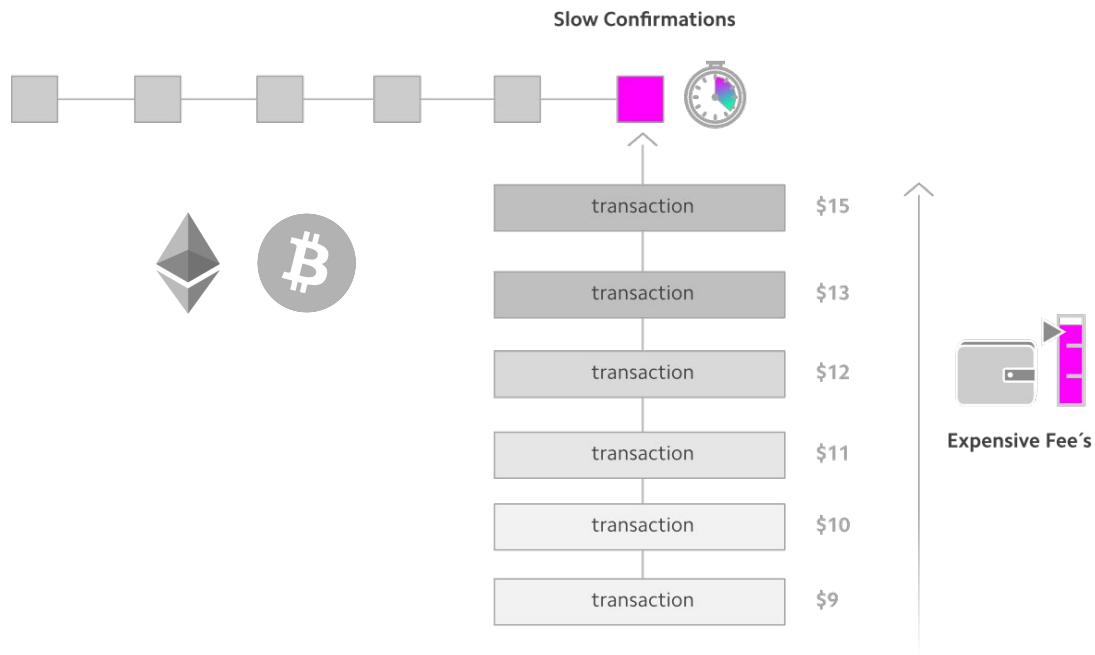


Blockchain

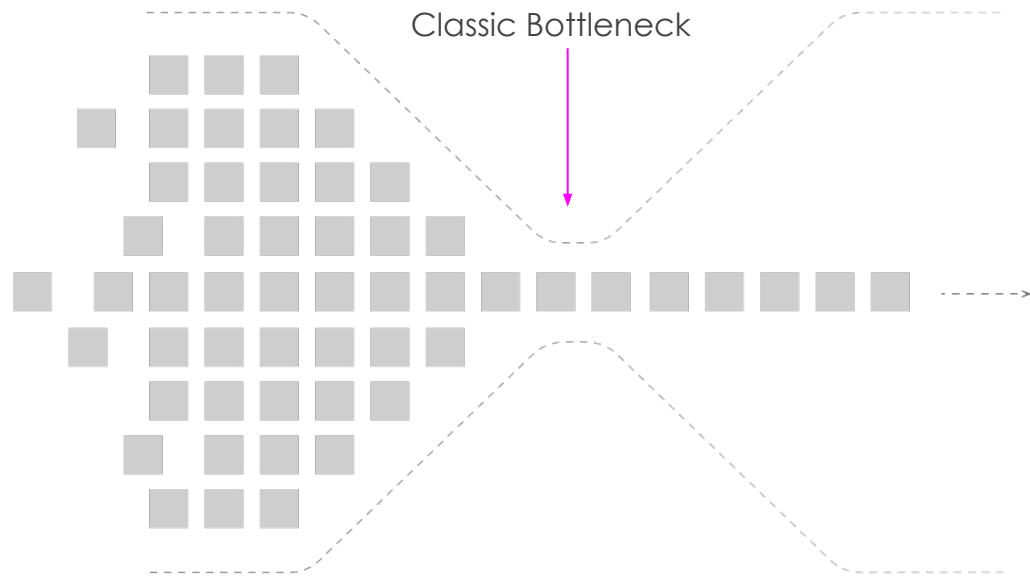


Tangle
(DAG / Directed Acyclic Graph)

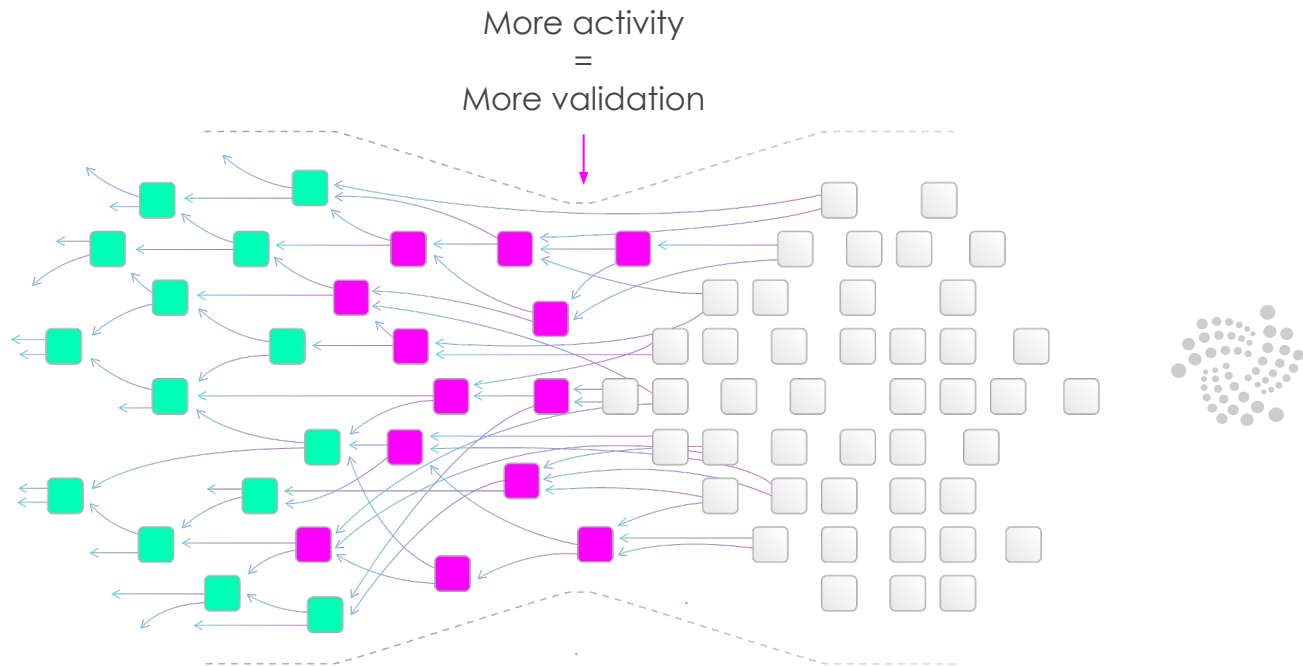
The Blockchain Bottleneck



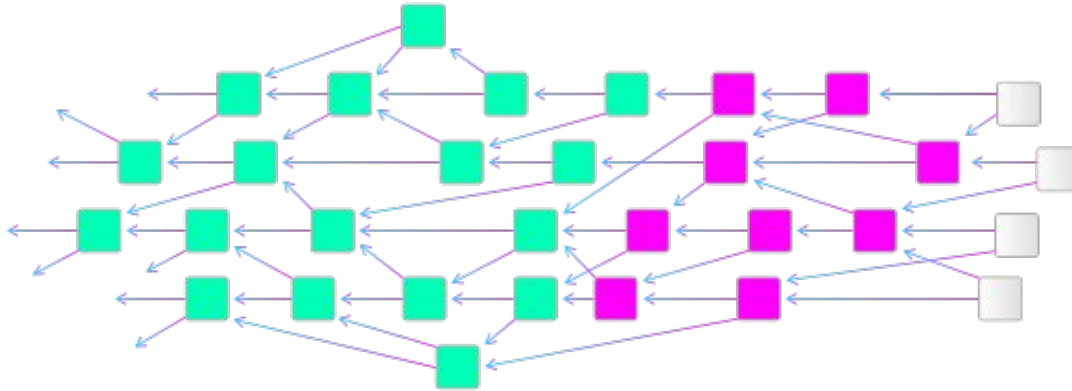
The Blockchain Bottleneck



Tangle scales!



Consensus in IOTA



Each transaction validates 2 previous unconfirmed transactions

- Chosen by Markov Chain Monte Carlo Random Walk algorithm

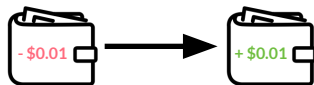
Signed with private key

Small amount of Proof of Work

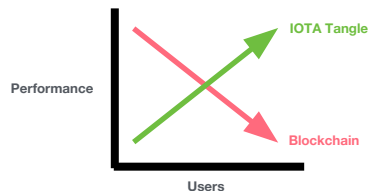
- Similar to Hashcash, not Bitcoin
- Spam and Sybil-resistance

Blockchain vs. Tangle

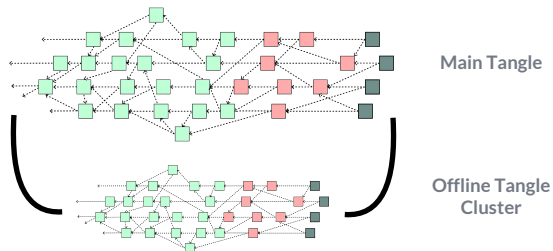
No Transaction Fees



Scalability



Offline Transactions (Partitioning)



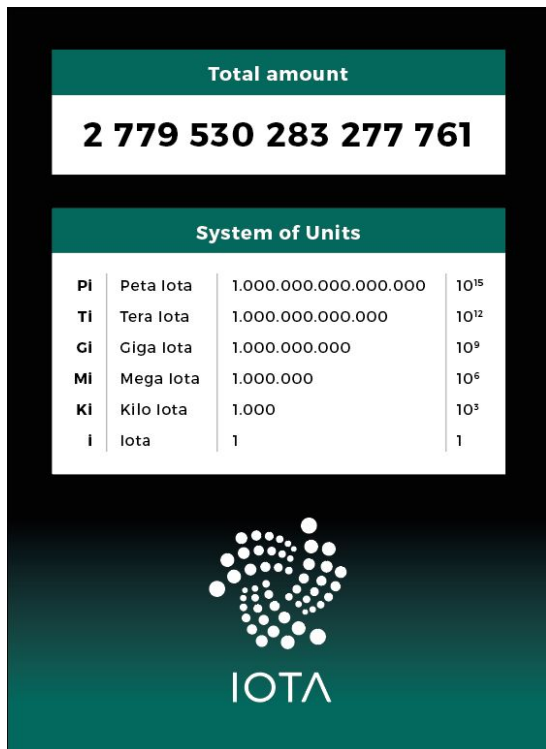
Other Benefits:

- No Miners
- Quantum immune

Disadvantages:

- Need a large enough network to be self-sustainable

Bitcoin vs. IOTA



Other Comparison:

BTC has:

2,100,000,000,000,000 Satoshi

The IOTA Tangle today has

2,779,530,283,277,761 IOTA

So almost 3 Quadrillion IOTAs and only a difference of roughly 680 trillion units

A word of caution:

Exchanges work with MIOTAs don't let people scam you!

IOTA Use Case and Industries



Identity
& MyData



Social
Causes



Supply
Chain



Mobility



e-Health



Fintech



Smart Cities &
Infrastructure



R&D



Interoper-
ability



Energy



Industry 4.0

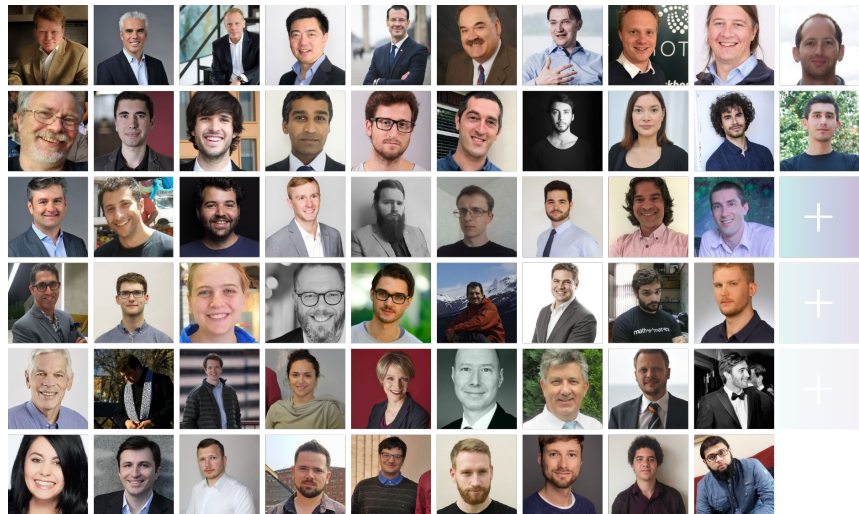


others



Governance

The IOTA Foundation



- Non-profit Foundation based and regulated in Berlin, Germany
- Growth from 6 to 70+ full time employees distributed across 17 countries
- \$140m+ in funding
- Focused on Technical and Regulatory Challenges of Crypto-Currencies & DLT

IOTA Foundation Latest Member(s)



Mark Nixons

joins IOTA to head up the Smart City Program. He brings a wealth of experience gained across the TMT sector having held senior commercial and operational roles for [3Com](#), [Verizon](#), [Nokia](#), [O2](#) and most recently [Huawei](#) where he led the Business Consulting Practice in MENA.



Florian Doeblner

Media Producer



Daniela Faustino

HR



Michele Nati

PhD - La Sapienza di Roma
15 years experience IoT
Visiting researcher at the [Northeastern University](#)
Senior Researcher at the [5G Innovation Centre](#)



Thibault Martinez

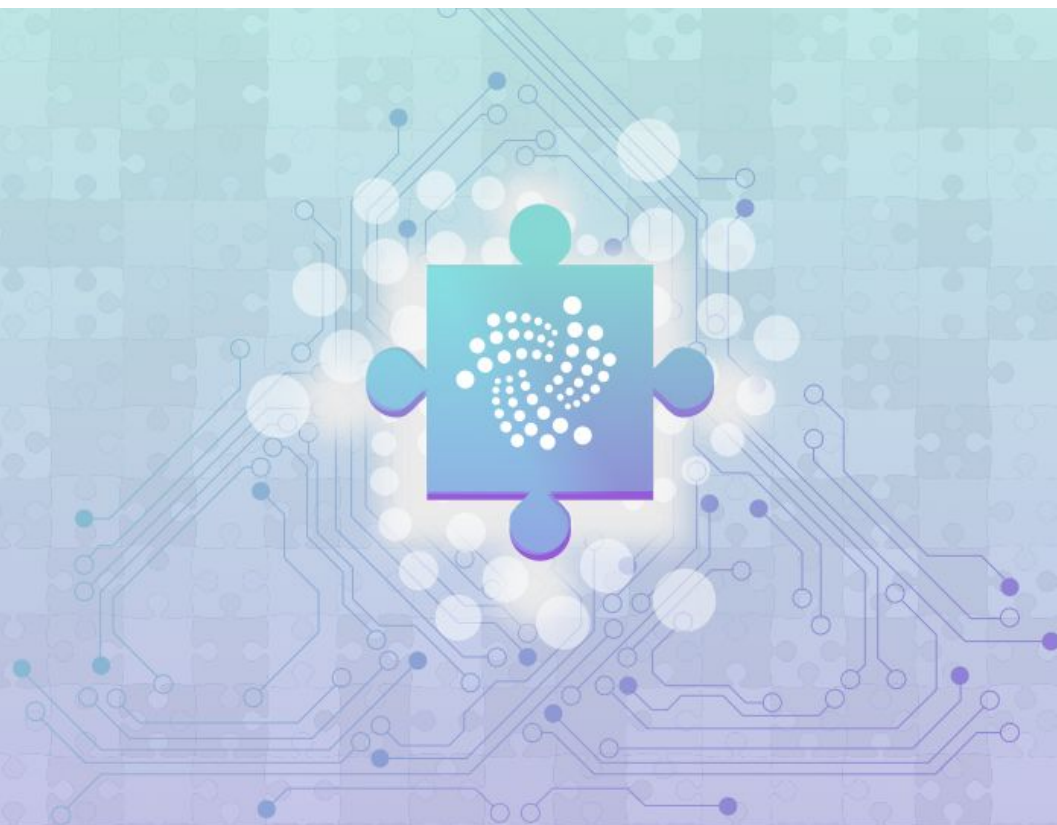
C++ Library



Janine Härtel

Mobility Adoption

Production Readiness & Standardization



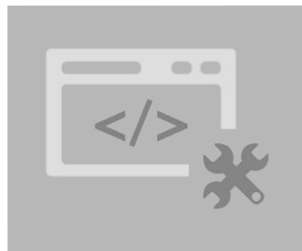
Production Readiness & Standardization



Research

Exploring the unknown

Going beyond IOTA and developing solutions for the Machine Economy requires the brightest minds to work together and research new solutions.



Development

Cutting edge technology

Development of production-ready software will make it possible for the Foundation's members to easily adopt and integrate the developed solutions.



Education & Promotion

Show your Competence

Educating members and non-members through seminars, educational materials and even larger events will ensure the Foundation's success in achieving its goals.



Standardization

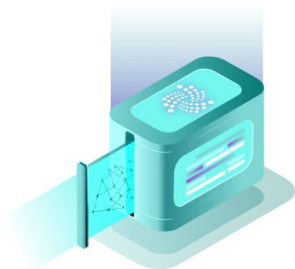
Of Core Protocols

Interoperability requires standardization. A major effort of the IOTA Foundation will be to standardize the core protocols that we're developing.

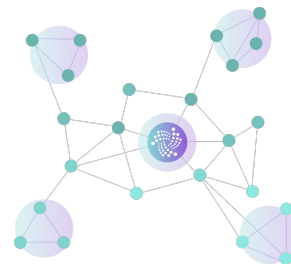
Milestones Ahead



Local Database
Snapshots



Permanent Data Record
PermaNodes

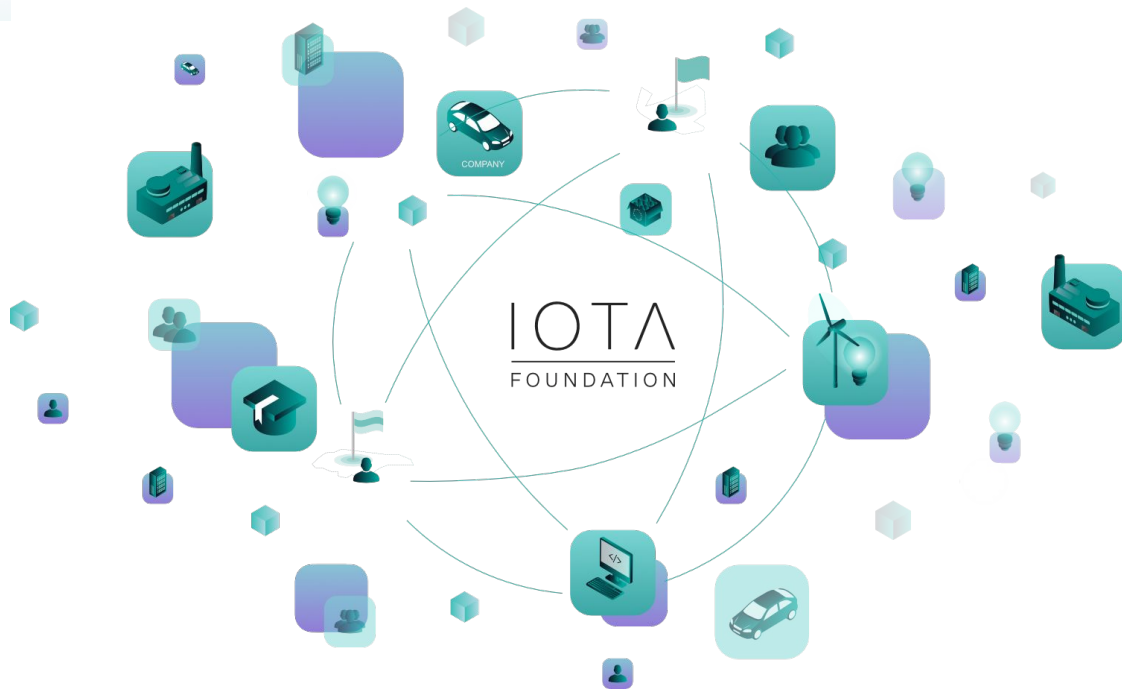


Scaling & Sharding
Economic Clustering

TURN OFF THE
COORDINATOR

Removing the
Coordinator

IOTA Foundation Ecosystem

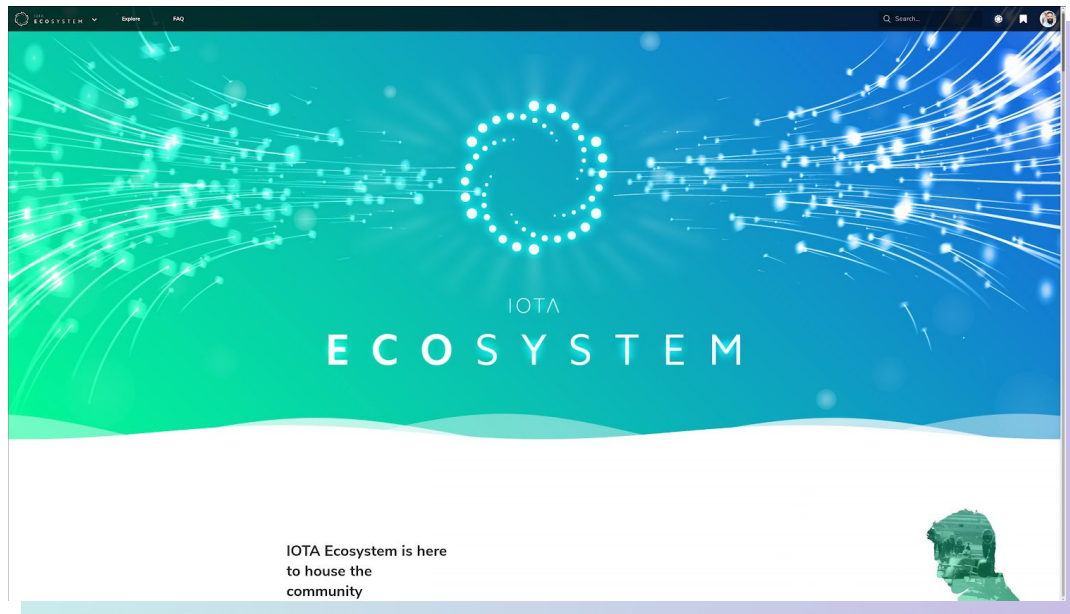


Our universe relies on a network of many collaborators
– corporates, academics, governments, NGOs



The Ecosystem and Cooperations

IOTA Ecosystem gGmbH



Tutorials

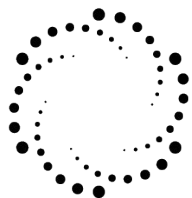
Projects

Events

Developers

Official IOTA Ecosystem

Ecosystem Development Fund



IOTA Ecosystem
Development **Fund**

Support projects in the IOTA
Ecosystem

e.g.

Proof-of-concepts, open-source utilities
and libraries, educational resources,
media, philanthropic endeavors, to
hack-a-thons, ideation workshops,
meetups.

Ecosystem Development Fund Statistics

TRANSPARENCY

Grant Funds Available

21.39 TI

\$ 12,687,419

Grant Funds Awarded

304.96 GI

\$ 151,700

Grant Proposals Pending

84

Grant Proposals Awarded

...

*IOTA PRICE: 1 MI = 0.59 USD.

IOTA Ecosystem Regional Community Leader



Antonio Nardella

Regional Community Leader
Altoadige/Südtirol

Meetups

Proof-of-Concepts

Regional contact for companies

DLT like any other technology is a tool and it fits the purpose and
never underestimate what a hacker can do with technology!

Ecosystem Funds Granted

Transform healthcare through
engaging conversations

We create a simple, personal and delightful experience, in
which people become more engaged in their own health.

[Learn more](#)

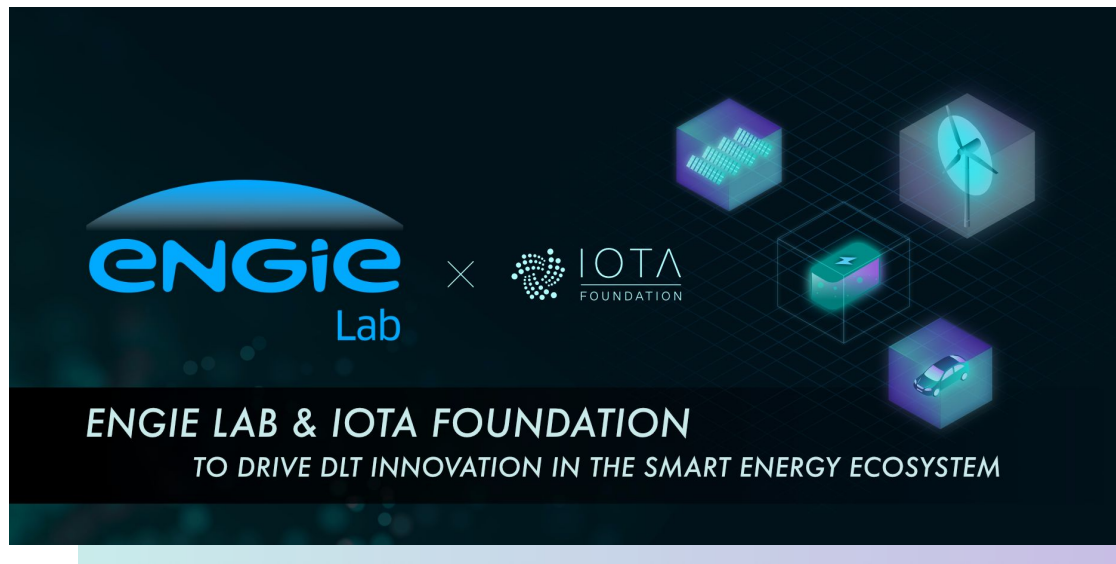


Untangle Care (USD \$234,000)

Goal of the Untangle Care project is to develop open source IOTA and HL7 FHIR based tools that help sharing health information in a simpler, more secure and faster way.

Ultimately, we envision a future where individuals have access and control over all health information needed to improve their own health.

Latest Cooperation



The ENGIE Lab CRIGEN research teams (CSAI Lab, Nanotech, Sensor & Wireless Lab, ...) and IOTA will explore and test the possible use of IOTA in improving ENGIE's business processes / products- and services applicable to Energy and adjacent areas such as smart cities, smart buildings and mobility.

Many works and Proofs of Concept have already been realized in the Lab and ENGIE Lab would like to participate in larger projects in France and abroad, in order to concretize and extend the use of innovative DLT technologies like that offered by IOTA in different business activities.



What is going on

The logo for iampass, with 'iamp' in green and 'pass' in dark blue, set against a light purple background with a thin white border.The e-shelter logo in red text and the Fujitsu Technology Solutions logo, featuring the red Fujitsu infinity symbol and the text 'Fujitsu Technology Solutions'.The iampass logo, with 'iamp' in white and 'pass' in dark blue, on a green background.

Become your own password



Reliable biometric authentication based on palm vein
pattern recognition combined with decentralized trust on
IOTA

Facility Access

With *iampass* there is no need for (several) access cards or pins, that can be forgotten, lost or stolen.

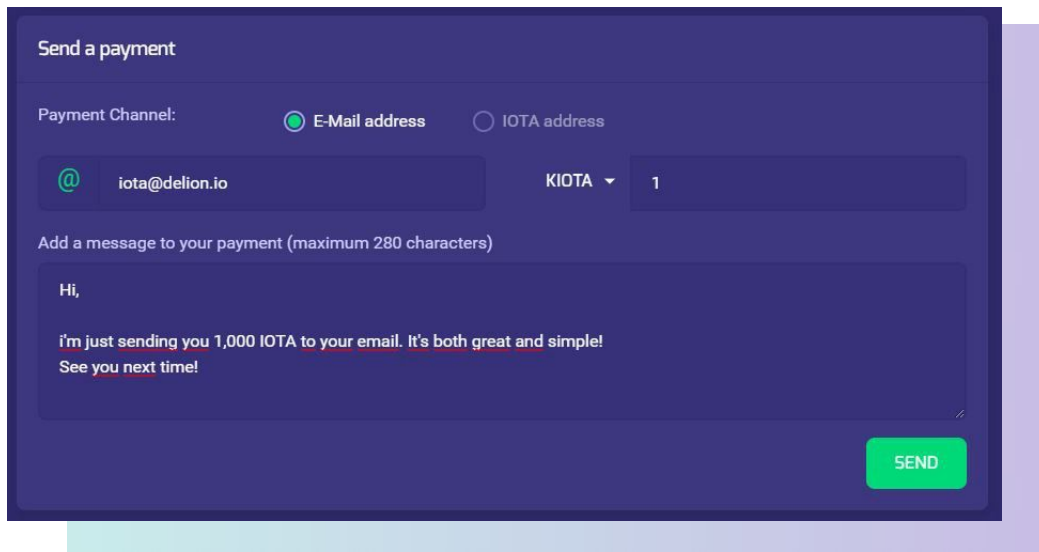
E-Car Charging

With *iampass* there is no more need for a car key, parking ticket or mobile phone app, everything can be managed with integrated value transactions.

Data Center Maintenance

With *iampass* server racks can only be opened by palmvein secured locks and keep an immutable, digital audit trail.

Delion: Send and receive IOTA by email



Send a payment

Payment Channel: ☒ E-Mail address ☐ IOTA address

@iota@delion.io KIOTA 1

Add a message to your payment (maximum 280 characters)

Hi,
i'm just sending you 1,000 IOTA to your email. It's both great and simple!
See you next time!

SEND

IOTA by email

Delion management console

Send any amount to an e-mail address

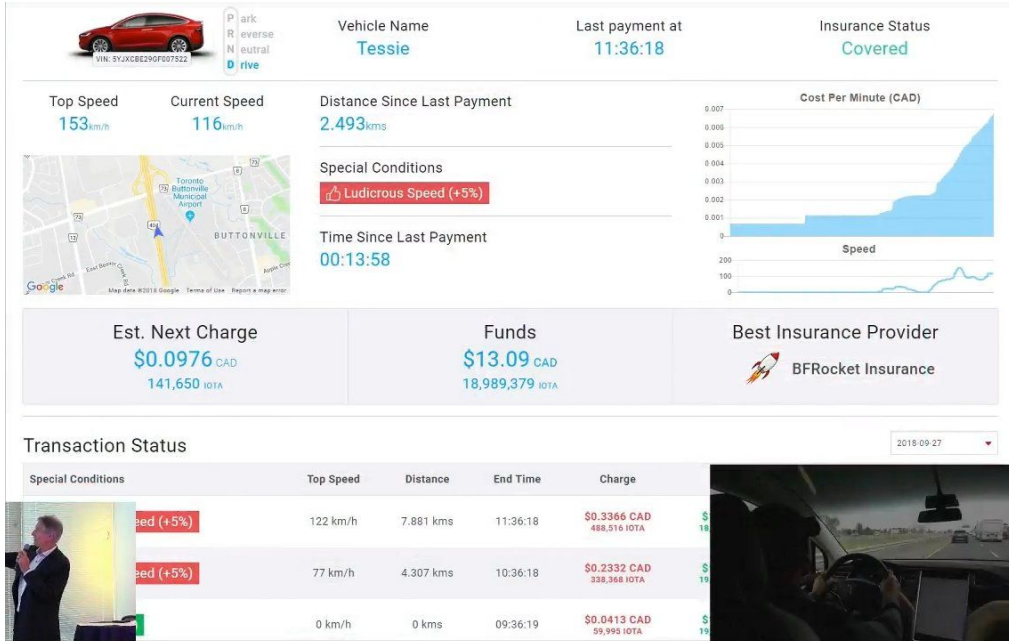
PayPal like



blOTAsphere Insuremycar PoC



TESLA



Insuremycar PoC

Dynamic insurance provider

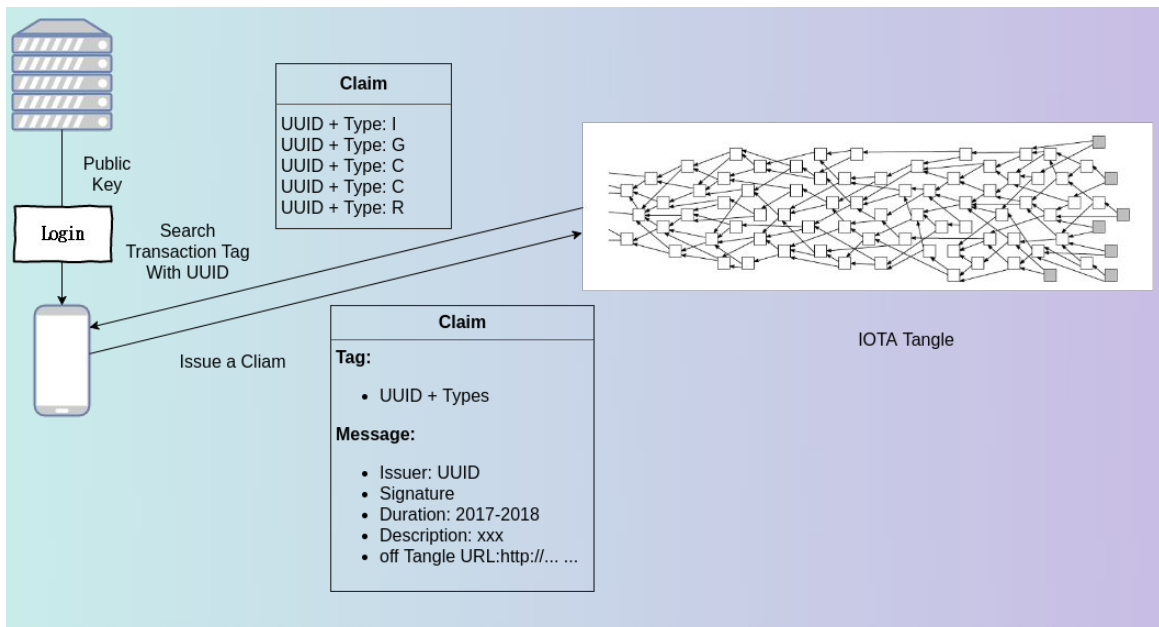
Direct payments

Vehicle monitoring

CAUTION

Proof-of-Concept
NOT endorsed by Tesla

TangleID



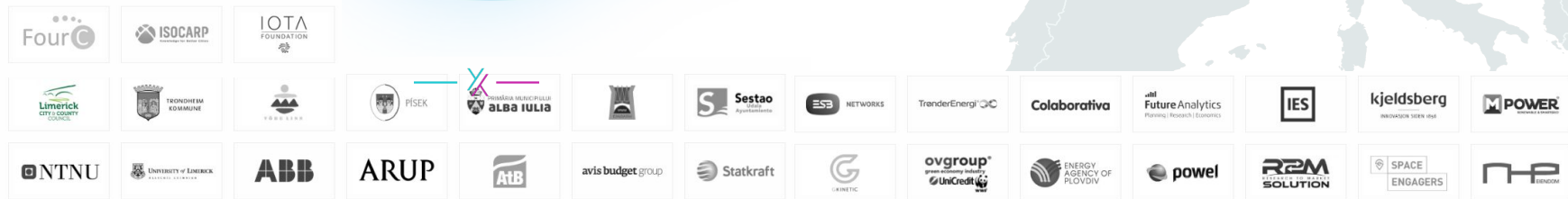
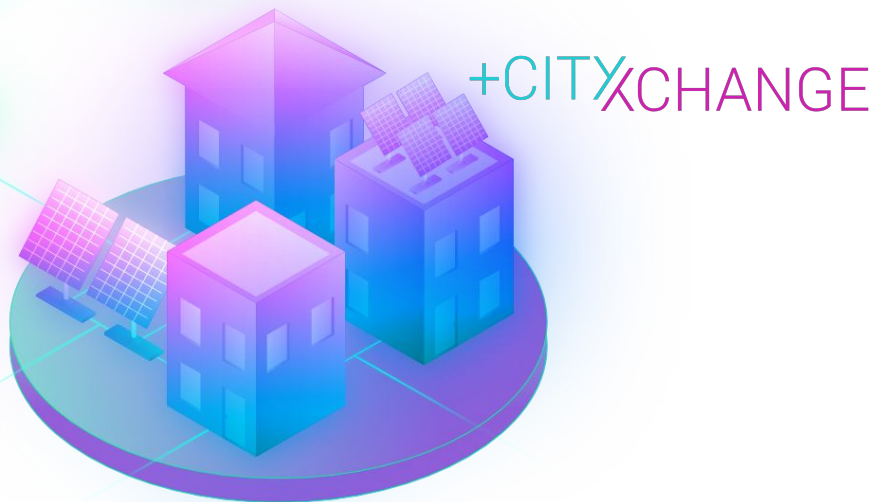
BiiLabs TangleID

GDPR compliant identification
over Tangle

Framework for Mobile App
Developers

TangleID is a secure, easy-to-use system for self-sovereign
identity, built on IOTA/Tangle

IOTA and the European smart city consortium +CityxChange



Industrial IOTA Lab Aachen

INDUSTRIAL IOTA LAB AACHEN

Werkzeugmaschinenlabor WZL
RWTH AACHEN UNIVERSITY



RWTH Aachen won the Cluster of excellence of the DFG (Science founding in Germany) with the internet of production with IOTA.

RWTH Aachen won the cluster of excellence which is a Federal German excellence initiative. The RWTH Aachen won it for the project of the internet of production which is powered by IOTA. This means a grand for 7 years of funding with the option of additional 7 years afterwards.

DevIOTA Romeo



Ultra-Light Ledger
CarriOTA Romeo v0.2.0-ledger

Page #1
Last synced ~17s ago

Address 1076

M1.9+

@

Page 1

IOTA Testnet
You are currently on the testnet. Do not transfer any mainnet funds to the provided addresses; use testnet tokens only!

Transaction	View	Value
✗ 6/15/2018, 8:21:05 AM	Transaction Bundle	M-1.9+
✗ 6/15/2018, 8:21:05 AM	Transaction Bundle	M1.0+
✓ 6/13/2018, 2:47:07 PM	Transaction Bundle	M-2
✓ 6/13/2018, 2:47:07 PM	Transaction Bundle	M1.9+
✓ 6/13/2018, 1:09:20 PM	Transaction Bundle	M2

* Add new address

Address #5
RFYDAGUPFPVZLBFAD...

Address #4
UQZDXQFBCJOYUFRB...

Address #3
PZMRUARSWMVVBXNH...

Address #2
AVJLSKFZQYCCYIDWE...

Address #1
GQXNDPKZZDBFMAJWV...

Crafted with ❤️ at SemkoDev | Donate to SemkoDev | Donate to IOTA Ledger Team

online (ping: 79ms)
<https://nodes.testnet.iota.org-443>

Browser Wallet

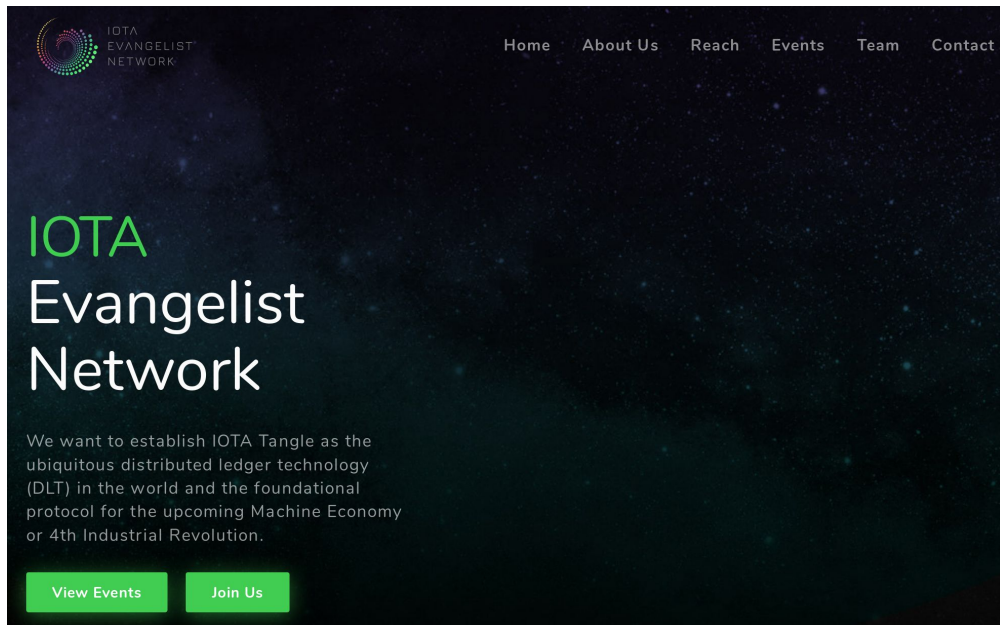
A wallet in a browser

Lightweight

First to support Ledger Nano S
Hardware wallet thanks to the
IOTA Ledger Team



IOTA Evangelist Network - IEN.io



Content Creating

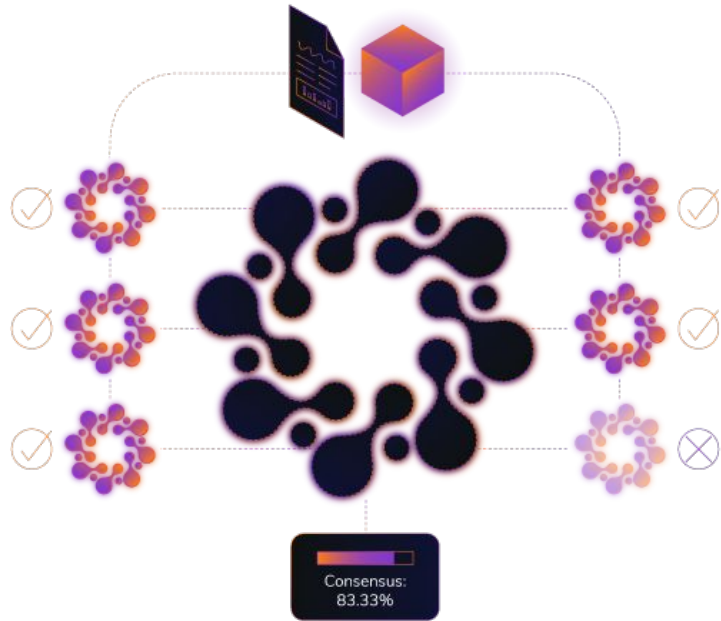
IOTA Demo

IOTA PoCs

140+ members so far

A world-wide strong community of IOTA enthusiasts.

Qubic and Abra



Quorum Based Computing

Oracles

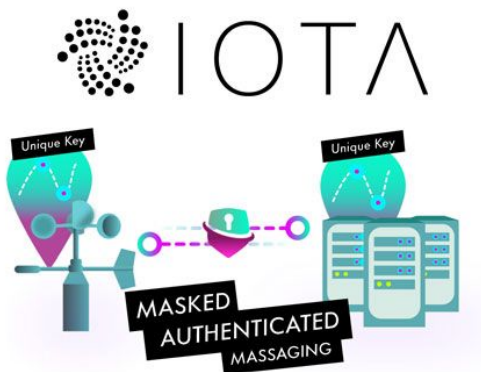
Smart Contracts

Distributed Computing



Meetup Relevant Projects

Development



IOTA MAM can run on Bosch XDK (32-bit cortex)

Secure sensor data transmission to the Cloud via IOTA

Micropayments to the Cloud

Bosch XDK110 and
Masked Authentication Messaging

Transfer sensor data to DLT IOTA/Tangle via MAM - DIY - Ecosystem Project

Bosch XDK



Bosch XDK collects data:

- ID
- Temperature
- Humidity
- Pressure



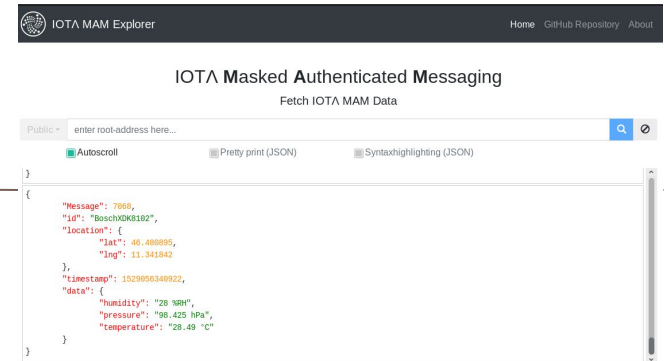
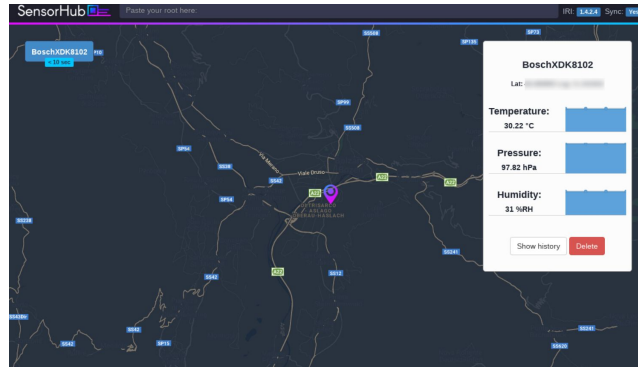
IOTA/Tangle

Data is sent as JSON over mqtt to the broker

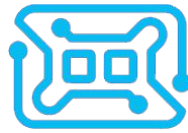
NodeJS App on server sends data to IOTA/Tangle via MAM

Data is sent encrypted to the nodes via MAM (Masked Authenticated Messaging)

Only with the **RootKey** it is possible to see/collect the data



XDK2MAM.io



XDK2MAM main goal is to provide open source software to allow interaction between this powerful hardware and the promising IOTA Tangle.

- HTTP
- MQTT
- USB
- BLE

We deliver open source software to take advantage of Bosch Cross Development Kit over IOTA's Protocol Masked Authenticated Messaging.

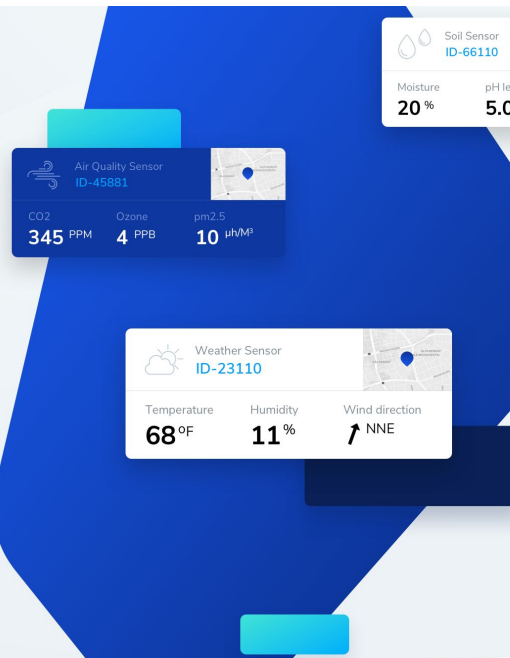
Data Marketplace



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



Let's innovate with



A Final Remark

In open source,
we feel strongly that
to really do
something well,
you have to get a lot
of people involved.

Linus Torvalds



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[linkedin.com/in/antonio-nardella-bolzano/](https://www.linkedin.com/in/antonio-nardella-bolzano/)

Sponsors:

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STRATEGY
CONSULTANCY

seekyou.cc



MERGEPORT
EMPOWERING POS-SYSTEMS

mergeport.com



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Art Director
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