



IOTA

Connecting our world to{day,morrow}

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whoami

Antonio Nardella

IOTA Ecosystem - Regional Community Leader - **ecosystem.iota.org**

IOTA Evangelist Network - Member - **ien.io**

Seekyou - Digital Business Architect - **seekyou.cc**

Blockchain technology since 2011

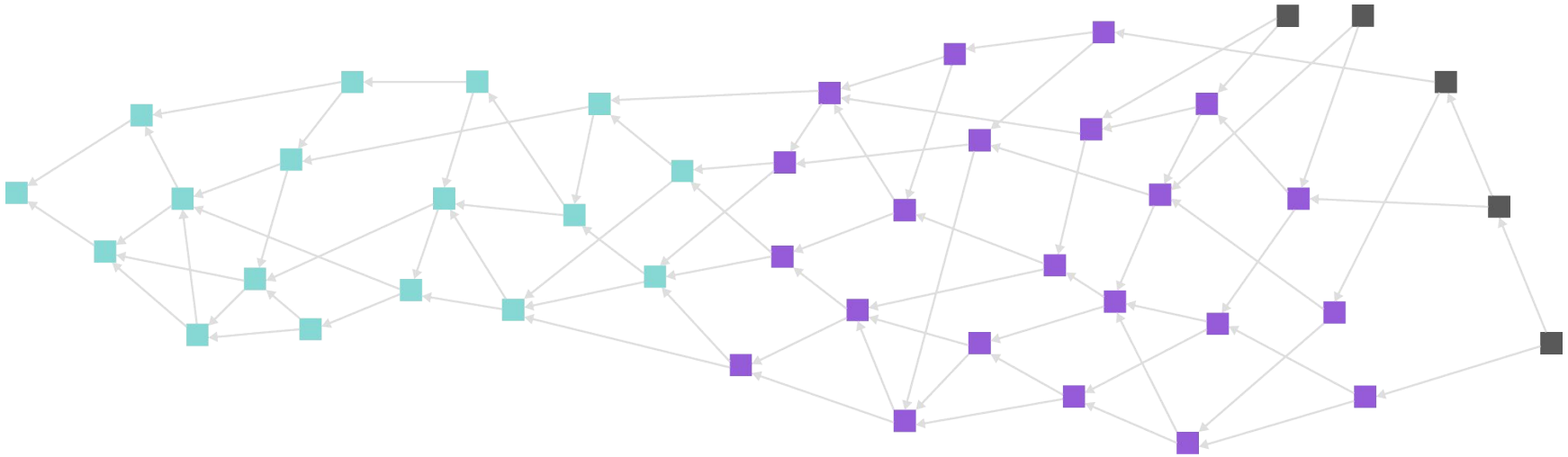
IOTA Ecosystem projects:

- Docker - IOTA node
- PoC based on FOSS with Bosch XDK and IOTA
- **#TwoToTangle** IOTA Meetups in Bolzano/Bozen



The Tangle

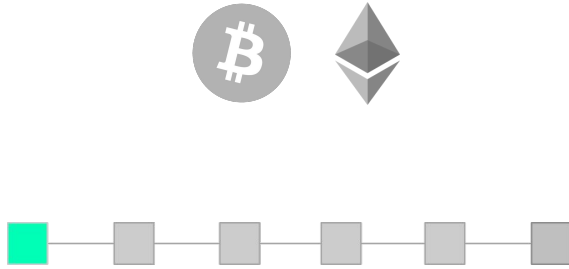
Feeless, Scalable, Quantum-immune



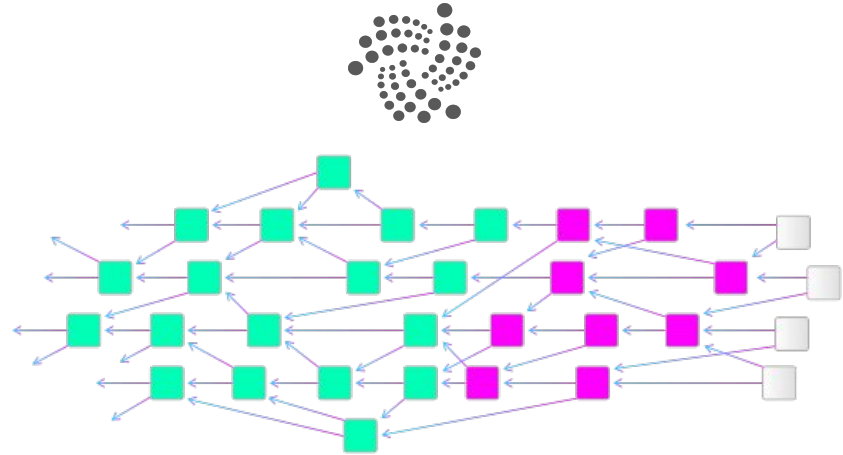
The Tangle is a permissionless peer-to-peer network based on the open source distributed ledger protocol IOTA

Blockchain vs Tangle

Feeless, Scalable, Quantum-immune

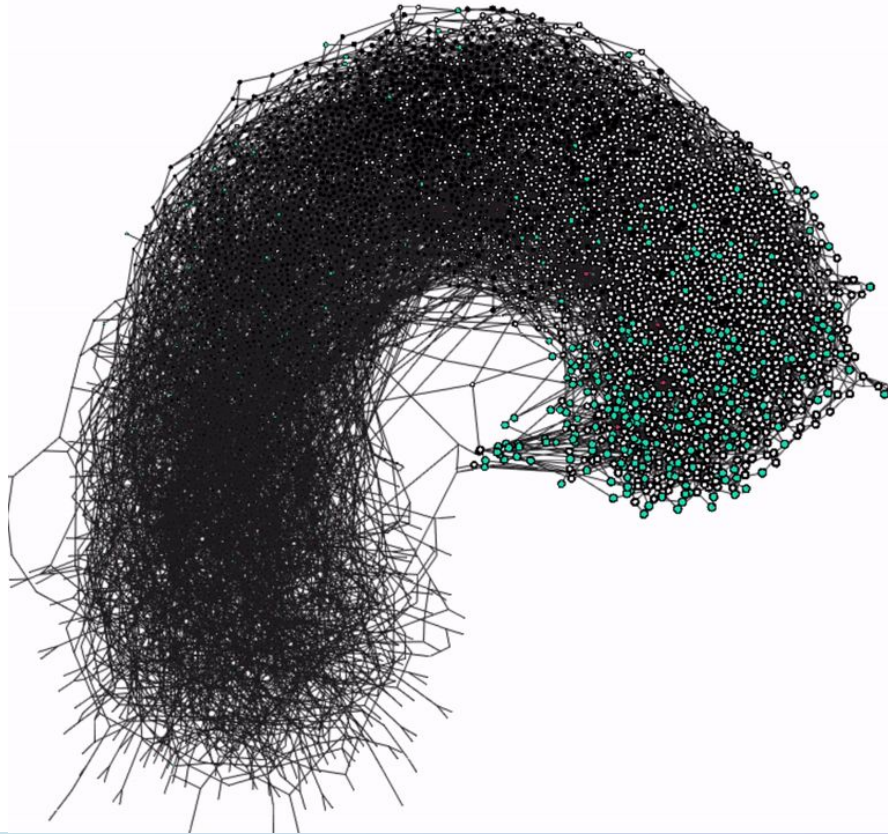


Blockchain



Tangle
(DAG / Directed Acyclic Graph)

A Healthy Tangle



IOTA Use case and Industries



Identity
& MyData

iampass

 BiiLabs



Mobility



Audi



Smart Cities &
Infrastructure

+CITYXCHANGE



Social
Causes



UNOPS



e-Health

ALPHA VENTURI



Norwegian Centre for
E-health Research



OSLO
MED
TECH



Energy

 ENGIE
Lab
CRIGEN



Supply
Chain

FUJITSU



Fintech

DNB



Industry 4.0

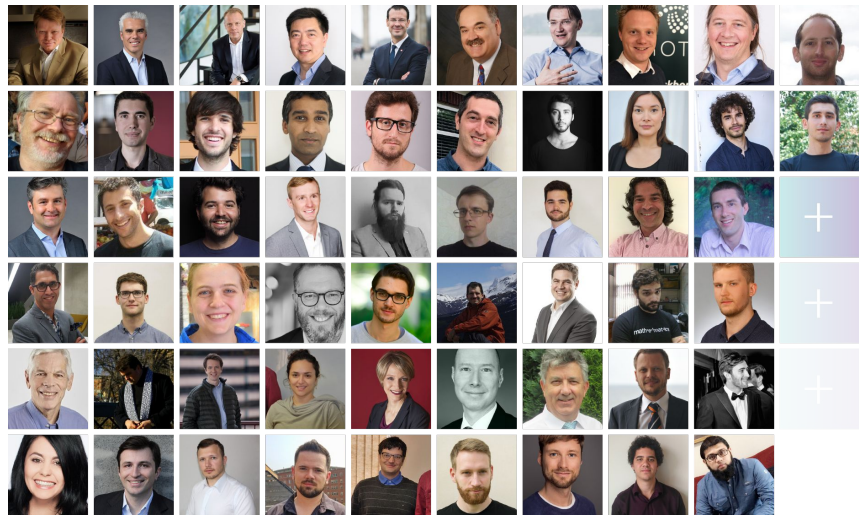


SPACEBIT



 kontakt.io

The IOTA Foundation



- Non-profit Foundation based and regulated in Berlin, Germany
- Growth from 6 to 90+ full time employees distributed across 17 countries
- \$140m+ in funding
- Focused on Technical and Regulatory Challenges of Crypto-Currencies & DLT

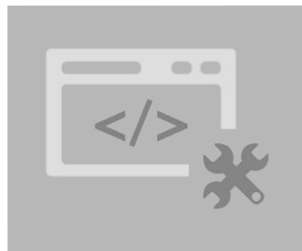
Production Readiness & Standardization



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

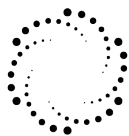
Of Core Protocols

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

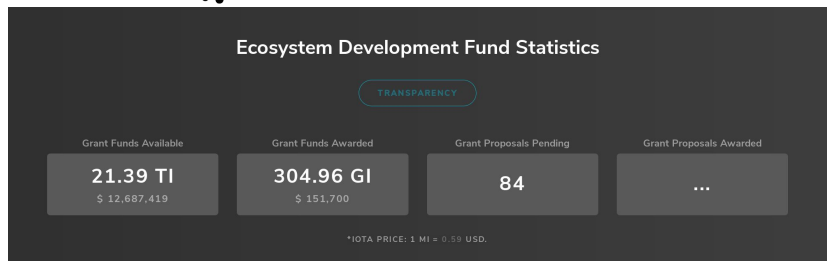
IOTA Ecosystem & Development Fund



- Tutorials
- Projects
- Events
- Developers



IOTA Ecosystem
Development **Fund**



Support projects in the IOTA
Ecosystem:

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

Mobility & Automotive - PoC by VW



Johann Jungwirth
@JohannJungwirth

Following

Volkswagen, together with @iotatoken will show at #cebit18 a proof of concept how the trusted transfer of software over-the-air to vehicles can be securely documented using the #tangle. Great example how distributed ledger technology can be used in the future

VOLKSWAGEN - PROOF OF CONCEPT
FIRMWARE / SOFTWARE UPDATE OVER THE AIR IOTA

By 2020 industry experts expect more than 250 million connected vehicles on the road. The need to perform frequent remote software updates of car components increases with the level of automation – especially with autonomous cars. IOTA envisions becoming the underlying protocol for car makers and suppliers to ensure secure updates and transparent access to audit trails.

THE CHALLENGES TODAY
Centralized ownership of data makes it difficult to ensure that the data are not tampered with. This lack of transparency leads to limited trust between parties and extensive documentation processes. Multiparty ecosystems create an in-transparent audit trail and proof of untampered data can't be ensured easily.

THE PROJECT GOALS
1. Documentation of over the air update (OTA) process steps on an immutable data storage medium and audit trail, where data integrity can be ensured.
2. Integration of IOTA technology into the existing legacy system to prove interoperability and production readiness.

CORE BENEFITS FOR VOLKSWAGEN

- Establish transparency and digital trust with customers, authorities and third parties.
- Ability to provide an evidence to external parties.
- Handle product recalls efficiently.
- Ability to record high volume of (incremental) updates and different software versions.
- Tamper proof & transparent statistical recording.

MORE OPPORTUNITIES

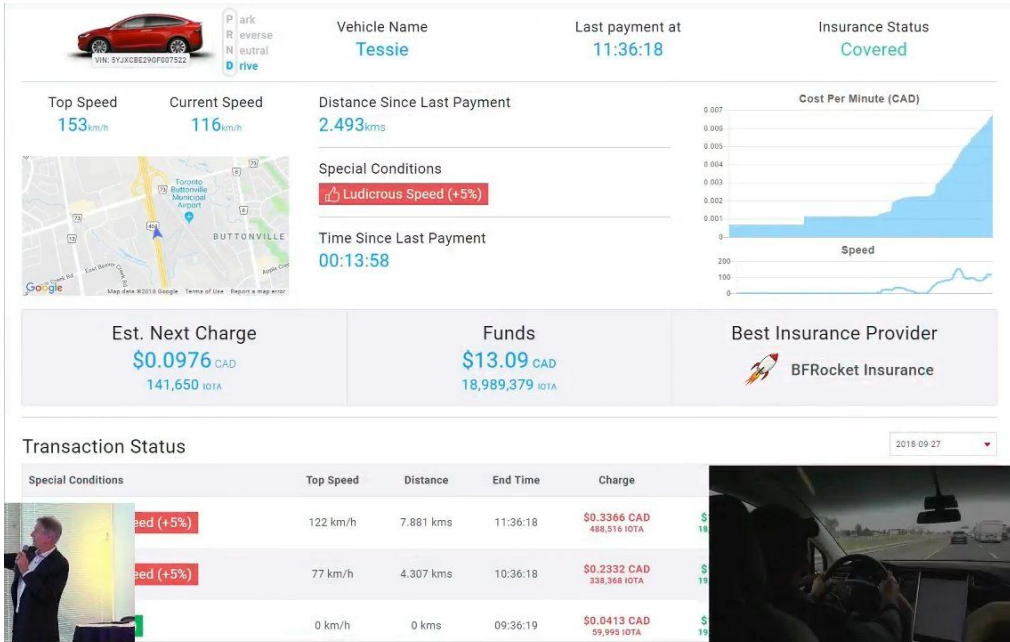
- On Demand Features:
Request and configure car related features
- V2V and V2I Communications:
Exchange information, data and resources
- Ecosystems:
Use secure and immutable data to customize services like usage based insurance

Johann Jungwirth, Chief Digital Officer of Volkswagen and member of the Supervisory Board of the IOTA Foundation.
"Distributed Ledger Technologies (DLT) are crucial for the future of trusted transactions."

4:01 AM - 9 Jun 2018

- Documentation of OTA Firmware updates
- Integration of IOTA into legacy system
- Transparency and trust with authorities and 3rd parties

Mobility & Automotive - PoC by blOTAsphere



Insuremycar PoC

- Dynamic insurance provider
- Direct payments
- Vehicle monitoring



Mobility & Automotive - DIY - CarIOTA



From CAN bus to the Tangle

Get your car data on the Tangle

- Raspberry Pi with integrated PiCAN GPS board
- CAN Bus capability with MCP2515 GPS functionality based on MTK3339

Collected data:

- Engine/Vehicle speeds
- Air/Coolant temperatures
- Real GPS data which can bring numerous geo-location use-cases

Industrial IoT - PoC by Fujitsu



Fujitsu CE ✓
@Fujitsu_DE

Follow

Produktqualität ist ein kritischer Faktor für den Erfolg der **#Fertigungsindustrie**. Fujitsu zeigt, wie Produktqualität mit **#IOTA** dokumentiert wird. [@iotatoken okt.to/kjW0em](https://t.me/iotatoken)



5:48 AM - 24 Aug 2018

194 Retweets 517 Likes



Goal of the project with IOTA:

- Proof of an audit trail for a production process as a fixed volume / storage.

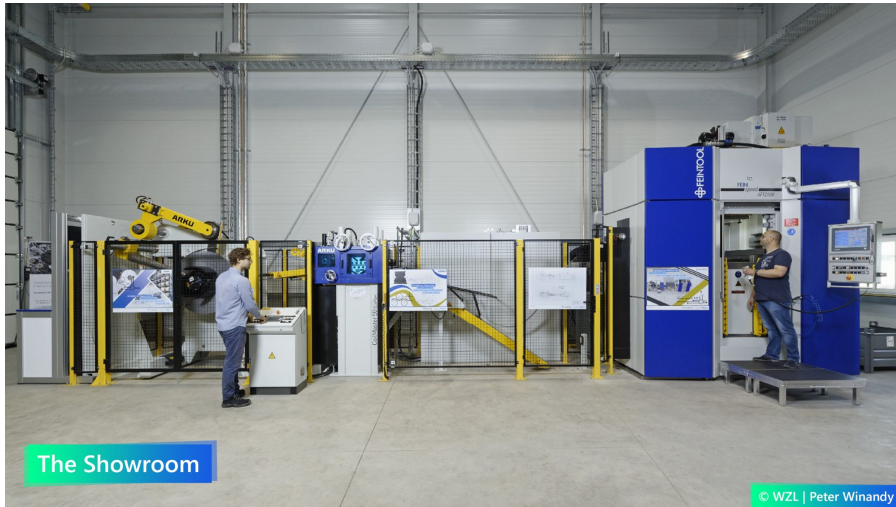
Advantages of the technology for customers:

- Transparency: Promotion of quality management after sales processes and customer care management
- Trust in Data: A cryptographically secure source for testing and compliance with standards
- Data security: Prevention of security vulnerabilities, data corruption and fraud

Industrial IOTA Lab Aachen

INDUSTRIAL IOTA LAB AACHEN

Werkzeugmaschinenlabor WZL
RWTH AACHEN UNIVERSITY



The Industrial IOTA Lab Aachen (IILA)

- Established in April 2018
- Joint project of the Laboratory for Machine Tools and Production Engineering WZL of RWTH Aachen University and senseering GmbH
- Won the cluster of excellence which is a Federal German excellence initiative
- the project of the internet of production which is powered by IOTA

Industrial IoT - Prototype by SQC Systems



Beer line cleaning device with IoT

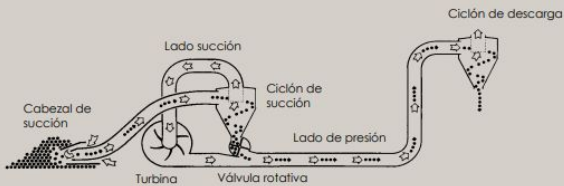
- Patented beer line cleaning system
- Collects diagnostic data and beer consumption
- NFC controlled beer keg activation

Agriculture - PoC by IOTA Perù

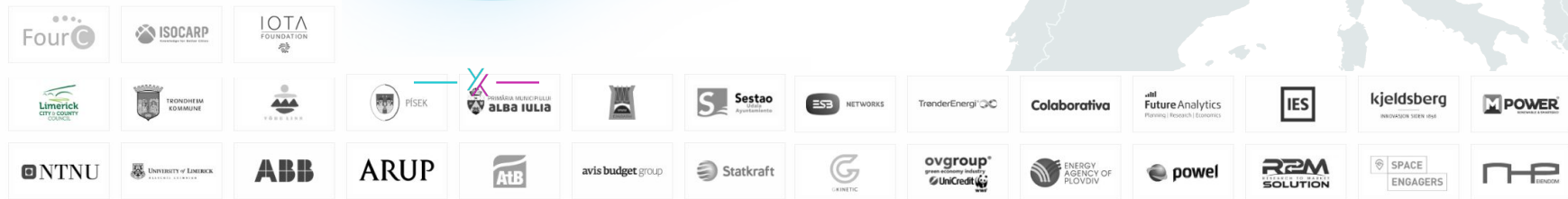
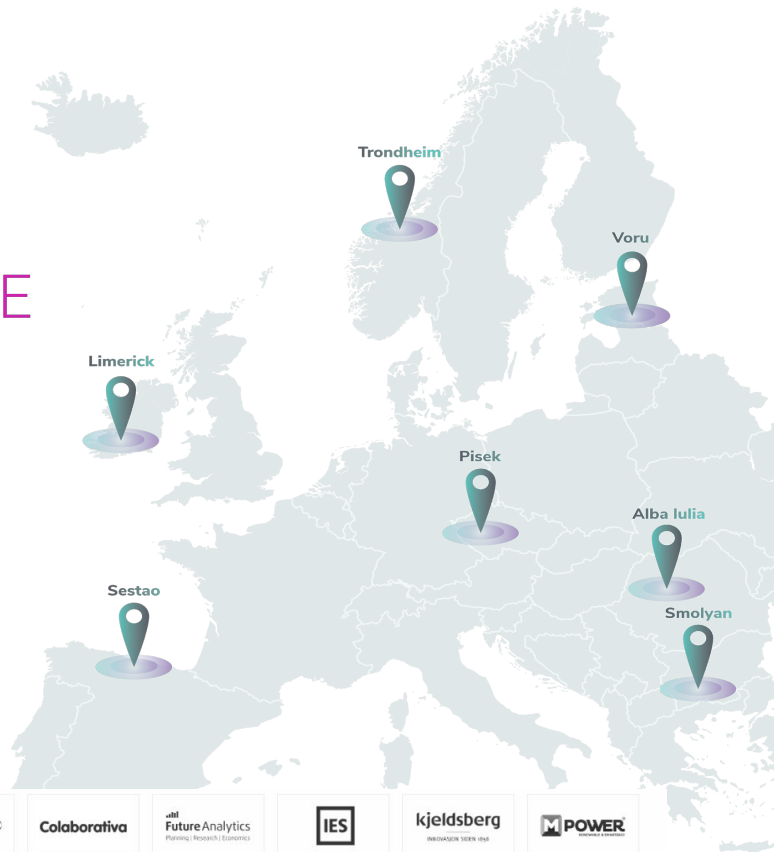


Autonomous food trading activity

- Simulation of transactions between customer's truck and the dispensing machine
- Transaction with no human interaction



Smart Cities - European smart city consortium +CityxChange



IIoT/IoT - DIY - Sensors and the Tangle



Bosch XDK110 and
Masked Authentication Messaging

- IOTA MAM can run on Bosch XDK (32-bit cortex)
- Secure sensor data transmission to the Cloud via IOTA
- Micropayments to the Cloud on the Data Market Place

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CONSULTANCY

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