



**OPEN SOURCE**  
LEADERSHIP SUMMIT

# **An Update on Hyperledger & Open Source Blockchain**

**David Treat, Accenture**

**Daniela Barbosa & Brian Behlendorf, Hyperledger**



# A Network of Ledgers



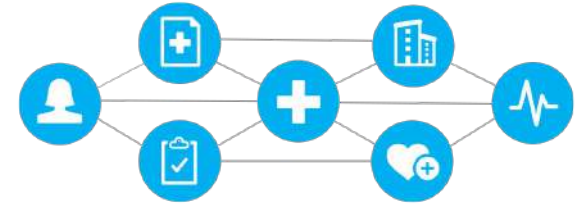
## Financial Services

Bank wires. Equity trading.  
Mortgage underwriting.  
KYC/AML. P2P Lending.  
Collateral trades. Insurance and  
reinsurance.



## Supply Chain

Provenance tracking. Trade  
Finance. Cutting bureaucracy at  
ports and customs. IoT to detect  
poor shipping conditions. Title  
tracking for high value goods.



## Healthcare

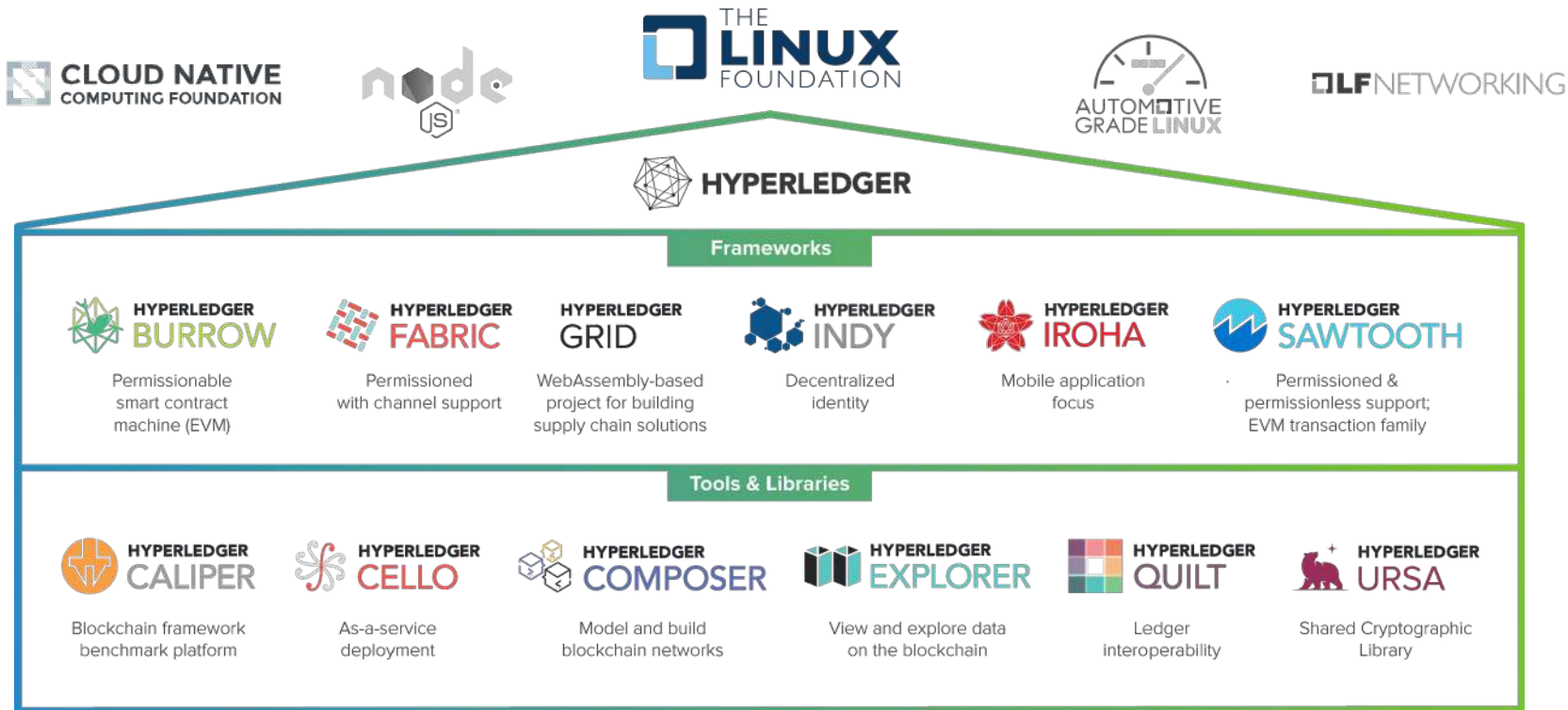
Provider directories and  
certification. Patient-driven  
health record sharing. Insurance  
claims processes. Pharma  
supply chain.



**Similar to The Linux Foundation, Hyperledger also has a modular approach to hosting projects.** Think of Hyperledger as a **greenhouse** growing and sustaining business blockchain projects from seed to fruition. The Linux Foundation and Hyperledger provide the infrastructure for open development to occur among a diverse and thriving community.



# The Hyperledger Greenhouse Architecture



**HYPERLEDGER**  
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

# Hyperledger Momentum



3

Years since launch



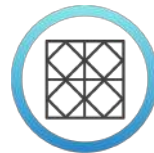
126K+

Commits



6

Tools



6

Frameworks



2

1.0+ Production Releases



260+

Members  
(50+ in AsiaPac)



11

Active Community  
Working Groups &  
Special Interest Groups



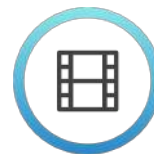
160+

Meetups  
Worldwide  
(66 countries)



44K+

Meetup  
Participants



2,000+

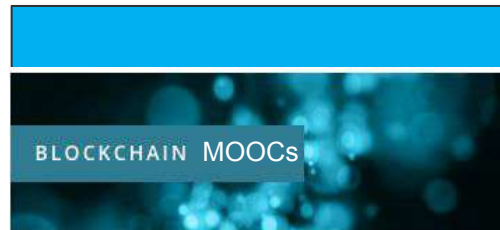
Media Clips Per Month



**HYPERLEDGER**  
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

# Training and Certifications

Technical training courses and professional certifications to get your whole company up-to-speed on Hyperledger with the highest quality training from The Linux Foundation and Hyperledger Training Partners.

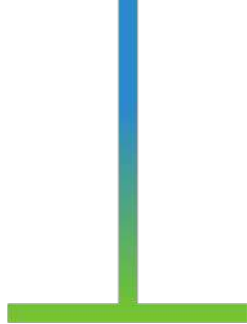


**BLOCKCHAIN MOOCs**

- Blockchain: Understanding Its Uses and Implications
- Introduction to Hyperledger Technologies
- Hyperledger Fabric Fundamentals
- Hyperledger Sawtooth Administration
- Hyperledger Fabric Administration



**HYPERLEDGER**  
TRAINING PARTNER



## Now Across All Major Clouds



Google Cloud

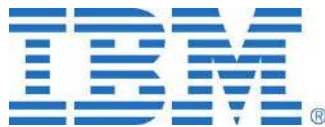


Microsoft  
Azure

Tencent  
腾讯



Alibaba Cloud



ORACLE



# Growing Global Meetup Community



**56K+** Members



## 160+Groups



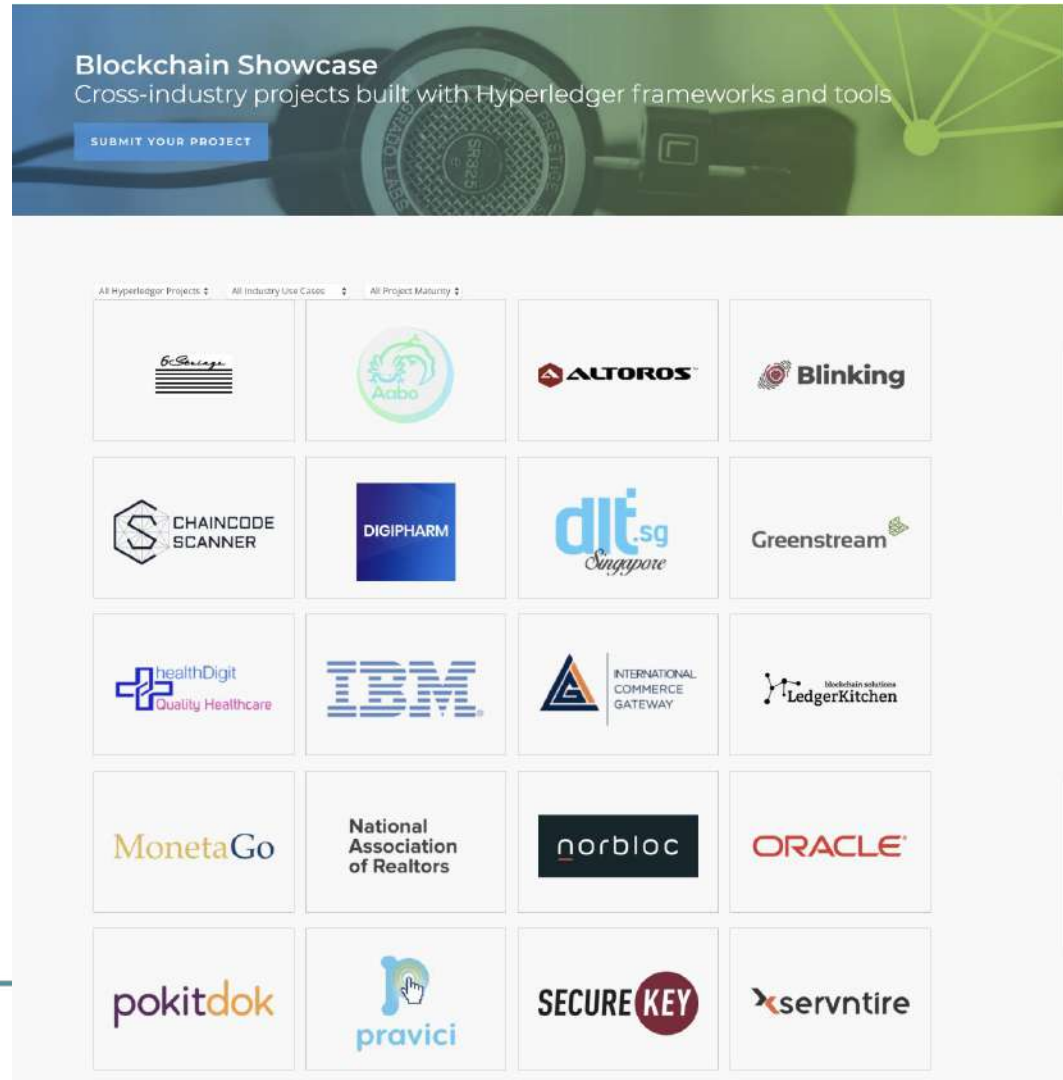
## 65+ Countries





# Blockchain Showcase

Cross-industry projects  
built with Hyperledger  
frameworks and tools



# Real World Case Studies

Cross-industry projects  
built with Hyperledger  
frameworks and tools



**How Walmart brought unprecedented transparency to the food supply chain with Hyperledger Fabric**

**Industry:** Supply Chain, Food, Agriculture, Retailers

**Topics:** Traceability, Open Source Blockchain, Consortia, Trust, Speed, Immutability, Verified Networks, Decentralization, Food-borne illnesses and outbreaks, Food waste

**Project(s):** Hyperledger Fabric



**Circular Achieves First Ever Mine to Manufacturer Traceability of a Conflict Mineral Using Hyperledger Fabric**

**Industry:** Mining

**Topics:** Hyperledger Fabric, IoT, facial recognition technology combined for doing first-ever mine to manufacturer traceability of a conflict-mineral for supply chains

**Project(s):** Hyperledger Fabric



**How ScanTrust Brought Transparency to the Supply Chain with Hyperledger Sawtooth**

**Industry:** Supply Chain, Commercial Goods

**Topics:** Traceability, Trust, Information and communications technology (ICT Environment), Industry Use Cases, QR Code

**Project(s):** Hyperledger Sawtooth



**How the National Association of REALTORS® Improved Member Services with Hyperledger Fabric**

**Industry:** Real Estate and Digital Identity

**Topics:** Information and communications technology (ICT Environment), Digital Identity, Industry Use Cases

**Project(s):** Hyperledger Fabric



**Deutsche Börse Group Hyperledger Case Study**

**Industry:** Financial Services

**Topics:** Information and communications technology (ICT) environment, Industry Use Cases, Financial Services

**Project(s):** Hyperledger Fabric



Sony Global Education

**Sony Global Education Chooses Hyperledger Fabric for a Next-Generation Credentials Platform**

**Industry:** Education, Government

**Topics:** Information and communications technology (ICT) environment, Industry Use Cases

**Project(s):** Hyperledger Fabric

# Ethical mining of tantalum and other conflict minerals

- Tantalum sold out of Rwanda has a history of being smuggled into the supply chain from the nearby Congo, where it was mined by children or forced labor enslaved by warlords. This led to tantalum being classed as a "conflict material" by the OECD, China, and the U.S. through the Dodd-Frank regulations
- Circular has created a blockchain-based supply chain tracing system to ensure that all tantalum is mined, transported, and processed under OECD-approved conditions
- Powered by a private blockchain built on Hyperledger Fabric, the Circular system uses QR codes attached to bags of ore to provide a world first: complete mine-to-manufacturer traceability of this valuable resource



# dltledgers global trade platform in production



- dltledgers platform is a production grade global trade platform running 100+ traders in production.
- Network all parties in a digital trade - real time, paperless and enable seamless payments.
- DBS bank enhance LC issuance, Trade financing, Digital BL, Payments are integrated to major banks.
- API integration to most major trade document transaction tools.
- You can start blockchain your trade at <https://dlt.sg/dlt-for-traders/>

dltledgers platform features



124 Traders and growing

2,457 Global trades

3,200,658 transactions

\$750M trade completed

4,500 + Farmers

# China Minsheng Bank, China CITIC Bank, Bank of China and Suning Bank

## - Letter of Credit System

- Jointly developed an open, standard and regulatory compliant domestic L/C transmission blockchain-based Letter of Credit System using Hyperledger Fabric.
- On the first day of production, over RMB100 million of L/Cs was processed and now this production system is supporting business worth billions of RMB daily.



# Digital Trade Chain



## The Challenge

Today, banks live in a competitive world. Small and mid-sized businesses generated 85% of employment growth in Europe in recent years, but only ~50% of them have access to formal credit. The Digital Trade Chain exemplifies how blockchain can bring the required trust and transparency to a new business network and associated business model.



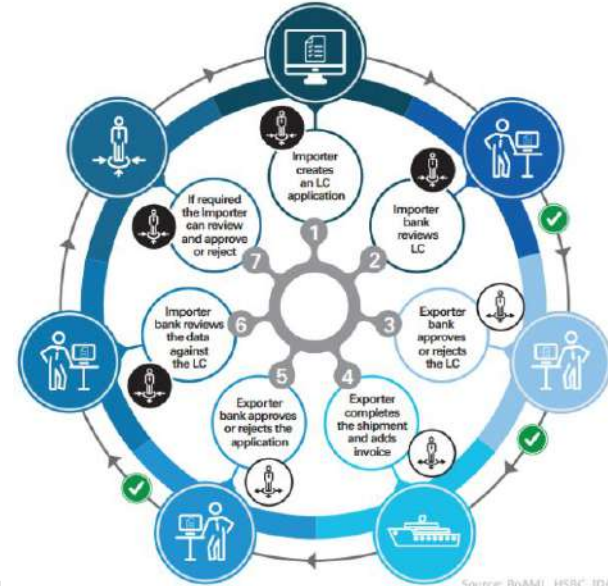
## The Collaboration

A consortium of major world banks including: Deutsche Bank, HSBC, KBC, Natixis, Rabobank, Société Générale, Santander, UniCredit and Nordea



## The Technology

we.trade is a blockchain-based international trading system that enables accurate trading posture information, order to settlement control, risk coverage, track and trace options



Source: BoAMI, HSBC, IDA



**HYPERLEDGER**  
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS



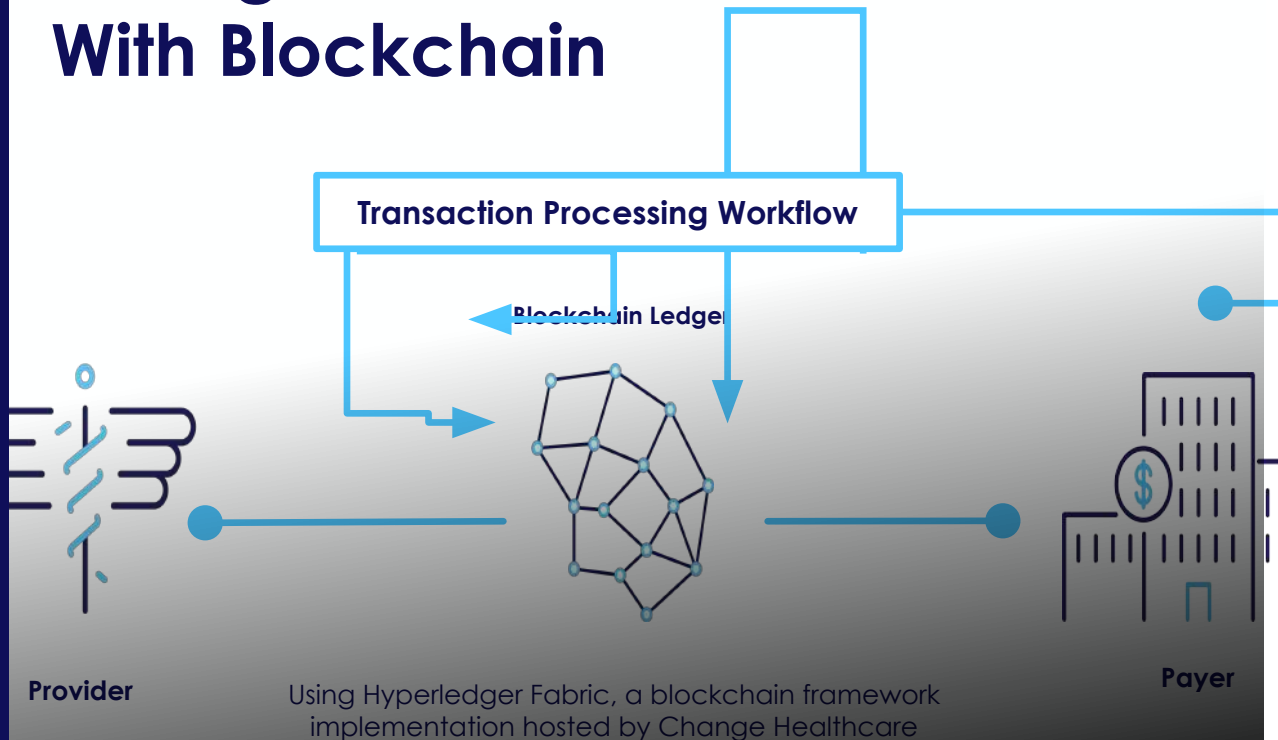
VOLUME  
**50 Million**

Transactions/Day

PERFORMANCE  
**550**

Transactions per second

# Change Healthcare Intelligent Healthcare Network™ With Blockchain



# Other Notable Production Deployments

THALES



# Building a Commercial Ecosystem



85+

Global  
Vendors across  
multiple service  
types, products  
and industries

**Vendor Directory**  
Search for business blockchain products and services built by Hyperledger members

All Hyperledger Projects ☒ All Vendor Offering Types  
Blockchain/Distributed ledger platform  
Cloud environment  
Complementary software development  
Data attestation/integrity  
Hardware-based Implementations  
Identity management  
Interbank payments toolset  
Security solutions  
Smart contract templates  
Supply chain solutions  
Technical consulting/support services  
Training

Vendor Geographies ☐ All Vendor Industries ☐

Logos of vendors in the directory: accenture, B9 lab, BLOCKDAEMON, bloq, ChainDigit, 智链CHAINNOVA, CHAINYARD, circular, CISCO, cloudsoft.

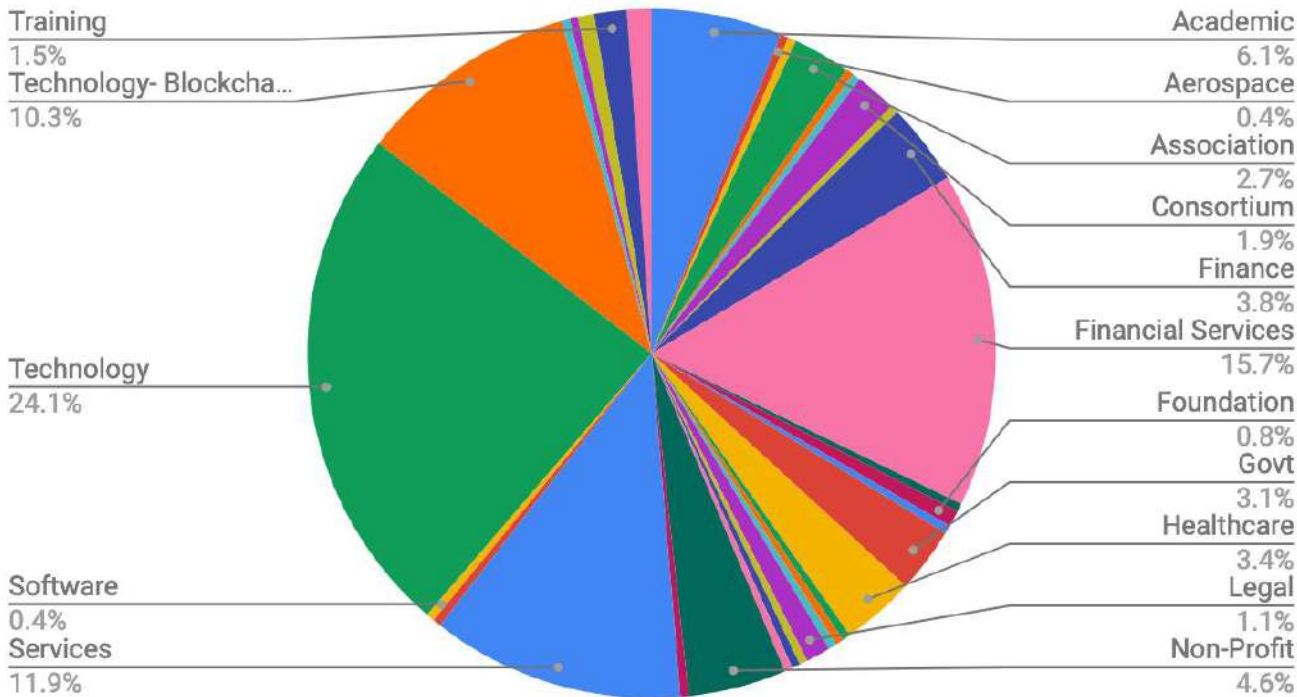
# Our Member Community

# Cross-Industry Member Participation

## Members by Industry



260+



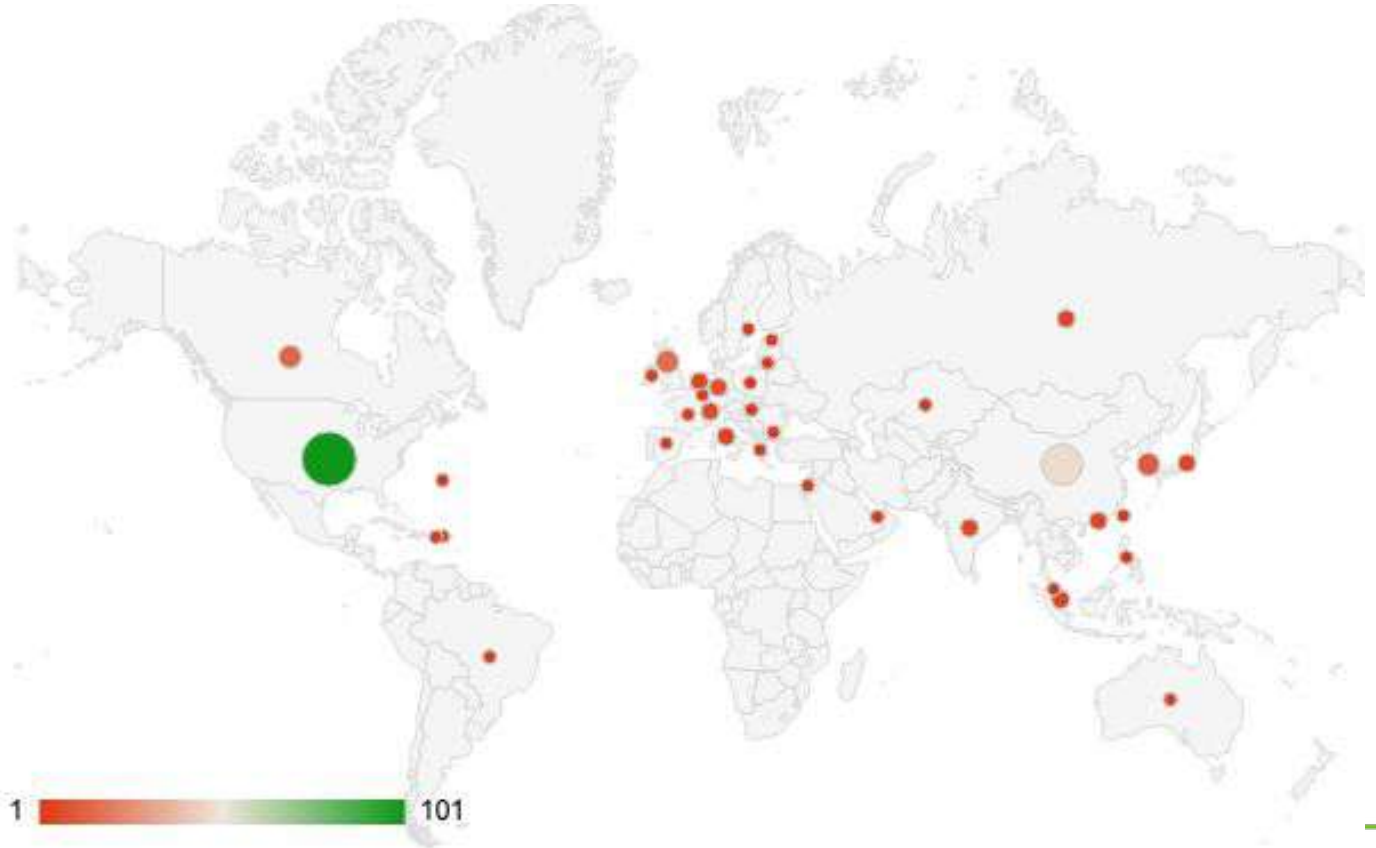
# Global member community



37+

countries

US: 101  
China : 48  
UK: 16  
Canada: 14  
South Korea 11  
Germany 8  
Switzerland 6





## Some of our newest Members



Telekom  
Innovation  
Laboratories



湖南大学  
工商管理学院



Posteitaliane



# In Practice **accenture**

A decorative graphic on the left side of the slide, featuring a complex network of purple dots connected by thin lines, resembling a blockchain or data network structure.

# ACCENTURE BLOCKCHAIN

**March 2019**

# Wholesale Bank Payments Infrastructure

## Sopnendu Mohanty, Chief FinTech Officer, MAS

“A key outcome of the consortium’s effort is the ability to perform netting while protecting the privacy of transactions. This helps to open up opportunity for a wider adoption of DLT-based settlement systems. We are sharing our learnings and knowledge from Project Ubin to encourage greater experimentation amongst central banks and financial institutions. We look forward to working with other central banks on the use of DLT for cross-border applications.”



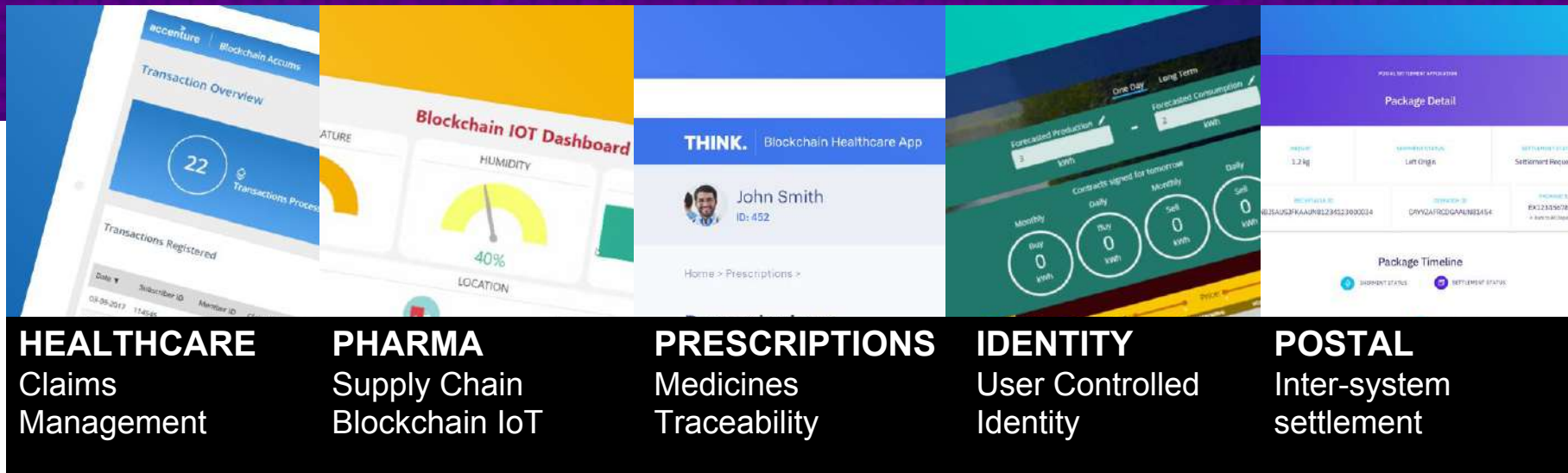
## Securities Lending

**Ittai Ben-Zeev, TASE's CEO:** "The Tel Aviv Stock exchange is pleased to present this first of a kind project. A safe, cutting-edge, state of the art platform, that was created thanks to a great collaboration among The Floor, Intel and Accenture. The Blockchain technology will present a new level of safety for securities lending and will support growth for transactions based on this new platform. Without a doubt, TASE is now, more than ever before, a global financial innovation leader."





## ACCENTURE HYPERLEDGER MARKET ACTIVITY EXAMPLES







**A coffee farmer**



**and a coffee drinker.**



**Directly tipping farmers who  
use sustainable practices.**



Lorem ipsum dolor sit amet, consectetur  
adipiscing elit. Vivamus efficitur, nisi in gravida  
sedhuc. Vivamus efficitur, nisi in gravida

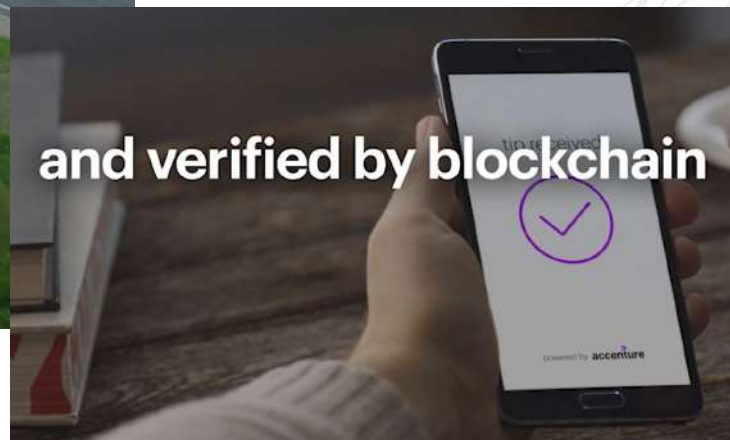
[READ MORE](#)

**Show you have a heart and  
support Ricardo with a tip.**



**TIP RICARDO**

**Ricardo has 2 certifications.  
Choose a certificate to know more  
about it.**



**NEW BUSINESS MODELS**  
**CROSS ECOSYSTEM TRANSFORMATION**



**Sales / Trade  
Promotions**



**Trade Finance**



**Supply Chain**



**Payments**



**Insurance**



**Service /  
Maintenance**



# OPEN SOURCE LEADERSHIP SUMMIT





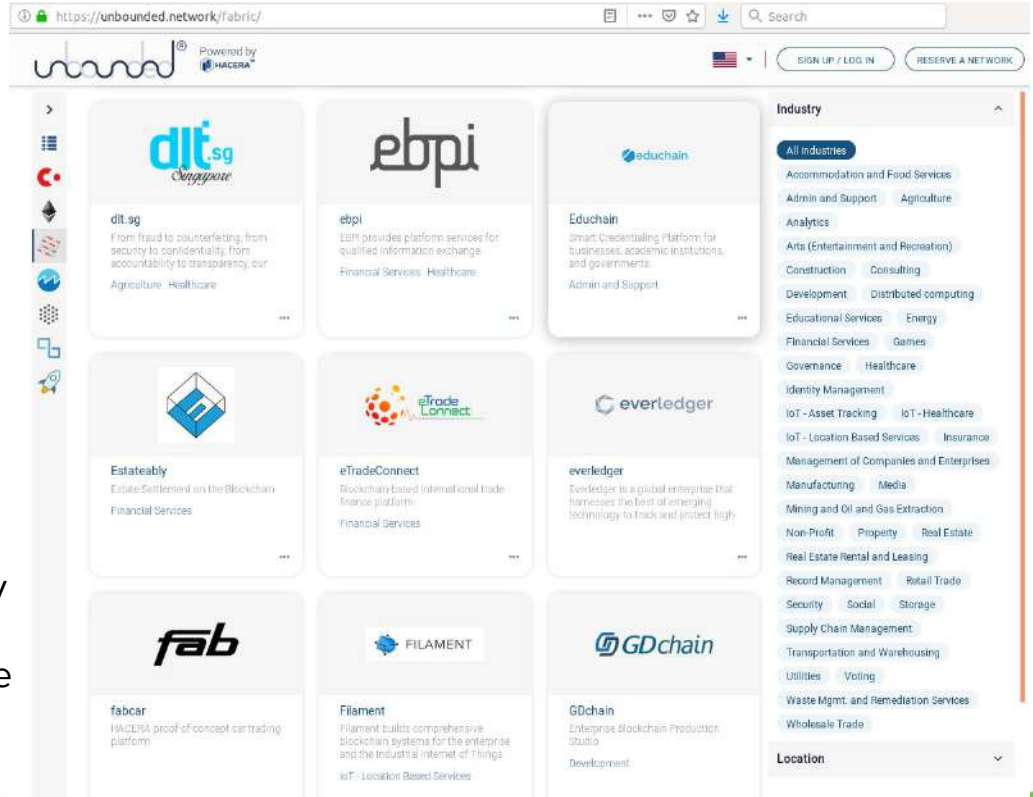
# “CoinMarketCap” for Permissioned Ledgers?

[Unbounded.network](https://unbounded.network) is tracking:

- 135 Fabric networks
- 169 Ethereum dapps/networks (including Cryptokitties)
- 62 Corda networks
- 14 Sawtooth networks
- 7 Stellar corp users
- 10 Quorum networks

In our own community:

- 85 Companies in the Vendor Directory
- 5 Training Partners
- 60 Entries in our Blockchain Showcase
- We need more!



# 2019: The Weird Go Pro

Self-Sovereign Identity systems (like HL Indy) will see finally be in production.

Certified cloud providers - to ensure interop on enterprise networks.

Certified developers and solutions providers.

More production networks, with real metrics for comparison.

More componentization and sharing across projects (e.g. HL Ursa).

More collaboration between permissioned and public chain communities.

More settlement tokens: JPM Coin, but also central bank digital currencies.