

Technology challenges toward maturing Blockchain

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About me



- Director's Liaison for Financial Cryptography at MIT Media Lab
- Project Professor at Keio University and Research Fellow at the University of Tokyo
- Co-Founder of Bsafe.network
- Program committee and editor: Scaling Bitcoin, IEEE, ACM conferences, Ledger Journal
- Ph.D. from Tokyo Institute of Technology

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Source of technology related immaturity

Unproven technology

Security

Scalability

Trust model

Community Risk and Quality assurance

Need healthy community and ecosystem

Lack of evaluation criteria toward technological due-diligence

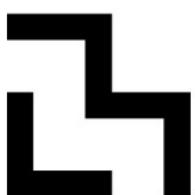
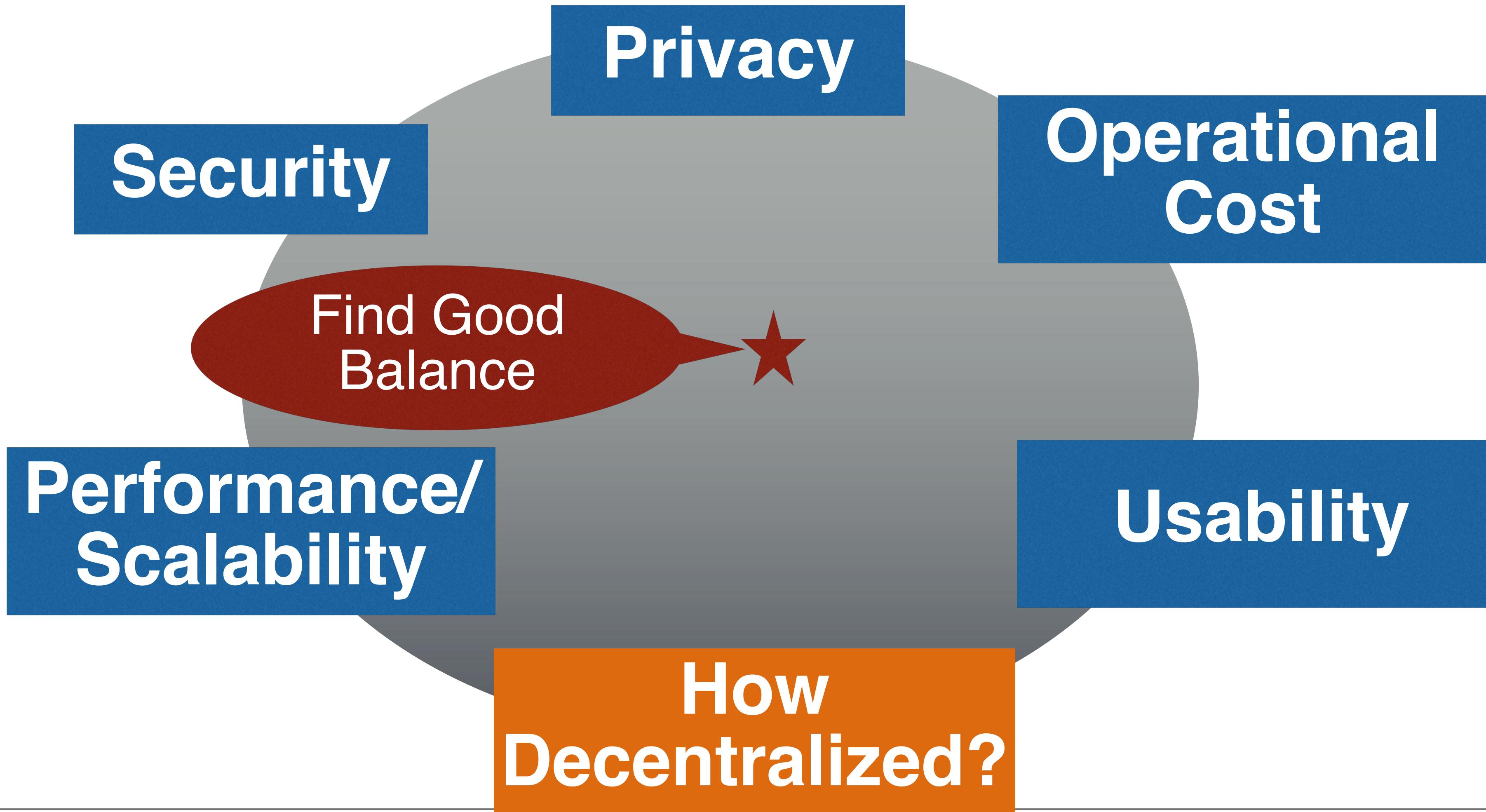
Standardization

Gap between

- What original Satoshi paper proposes and
- Expectation to Blockchain technology and its application



Technology Trade-offs in Blockchain technology



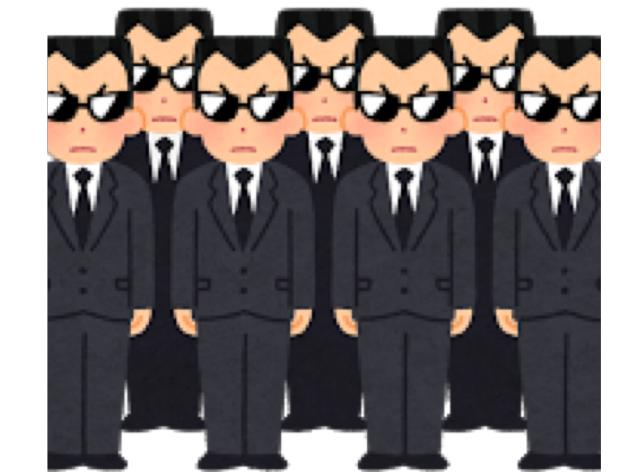
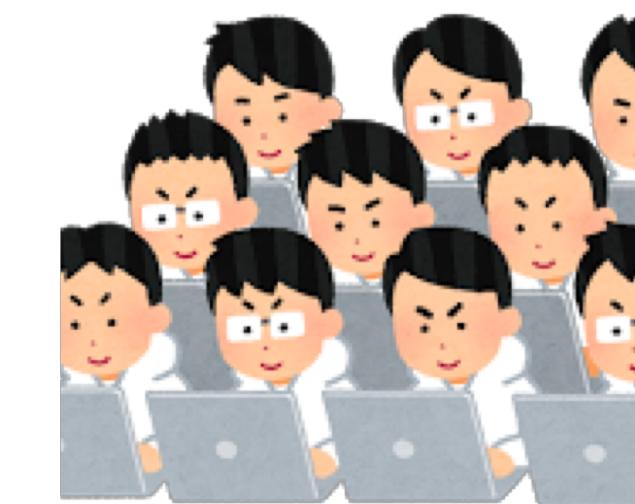
Needs for multi-disciplinary research

The Security of Bitcoin/Cryptocurrency/Public Blockchain relies not only on technology but also on incentive design.

Some flaws in the current design of Bitcoin ecosystem are the cause of debates and chaos.



Games in blockchain ecosystem

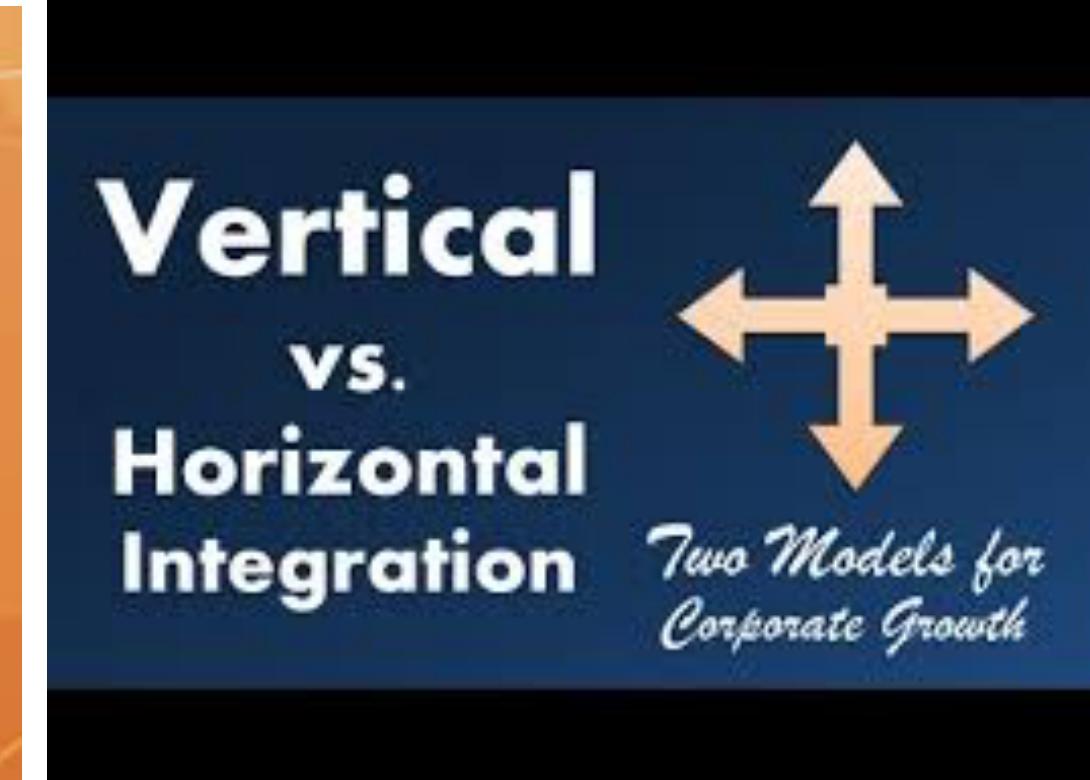


Competition among Blockchain technologies/services

Common to Internet-like innovation

Fail Fast

Horizontal and Vertical



Difference against Internet-like innovation

Experiment using consumers money/asset

Lack of Due-diligence: Need to have good way to realize it

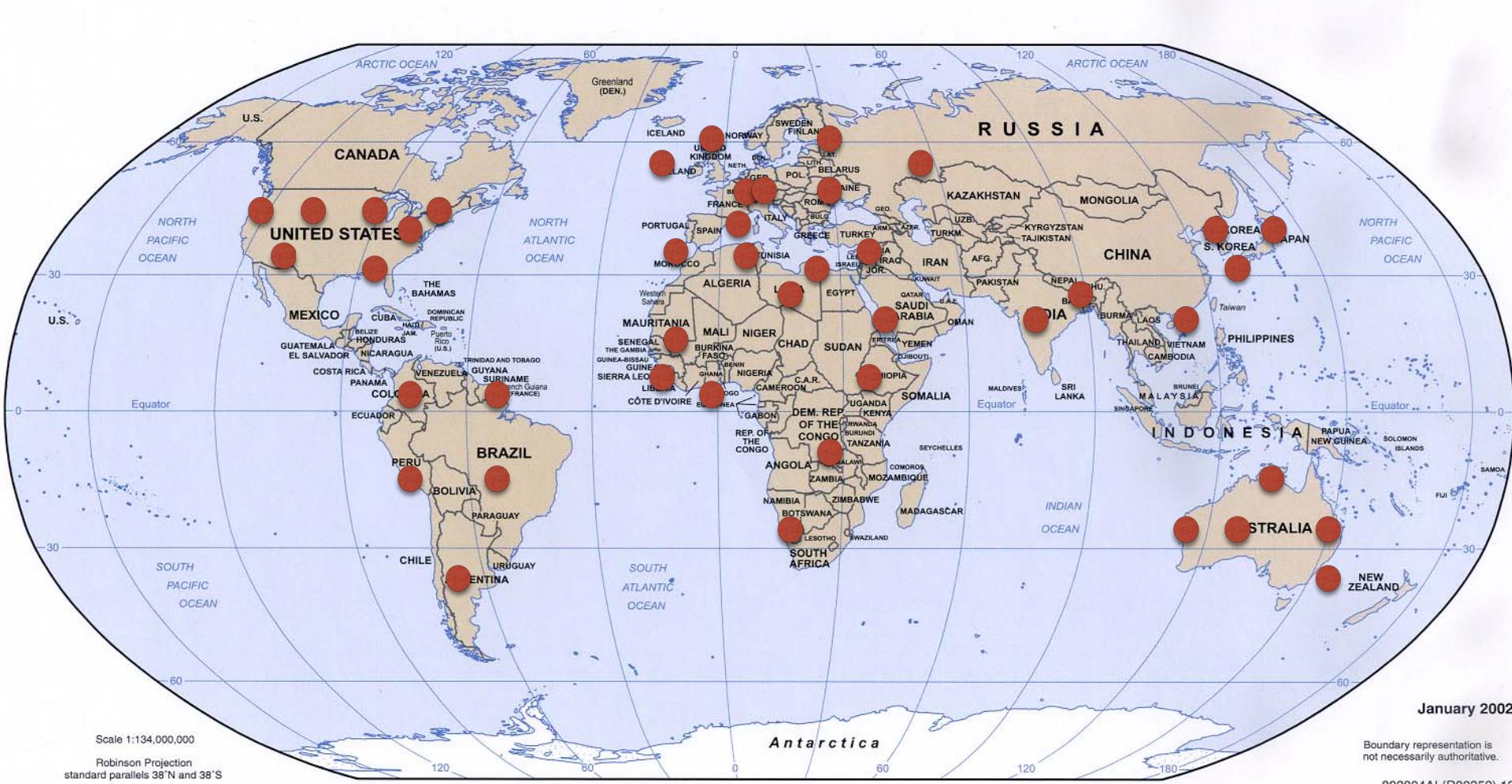
Ecosystem for innovation: migration among blockchain projects



BSafe.network: Plays the Same Role as NSFNet and BSD

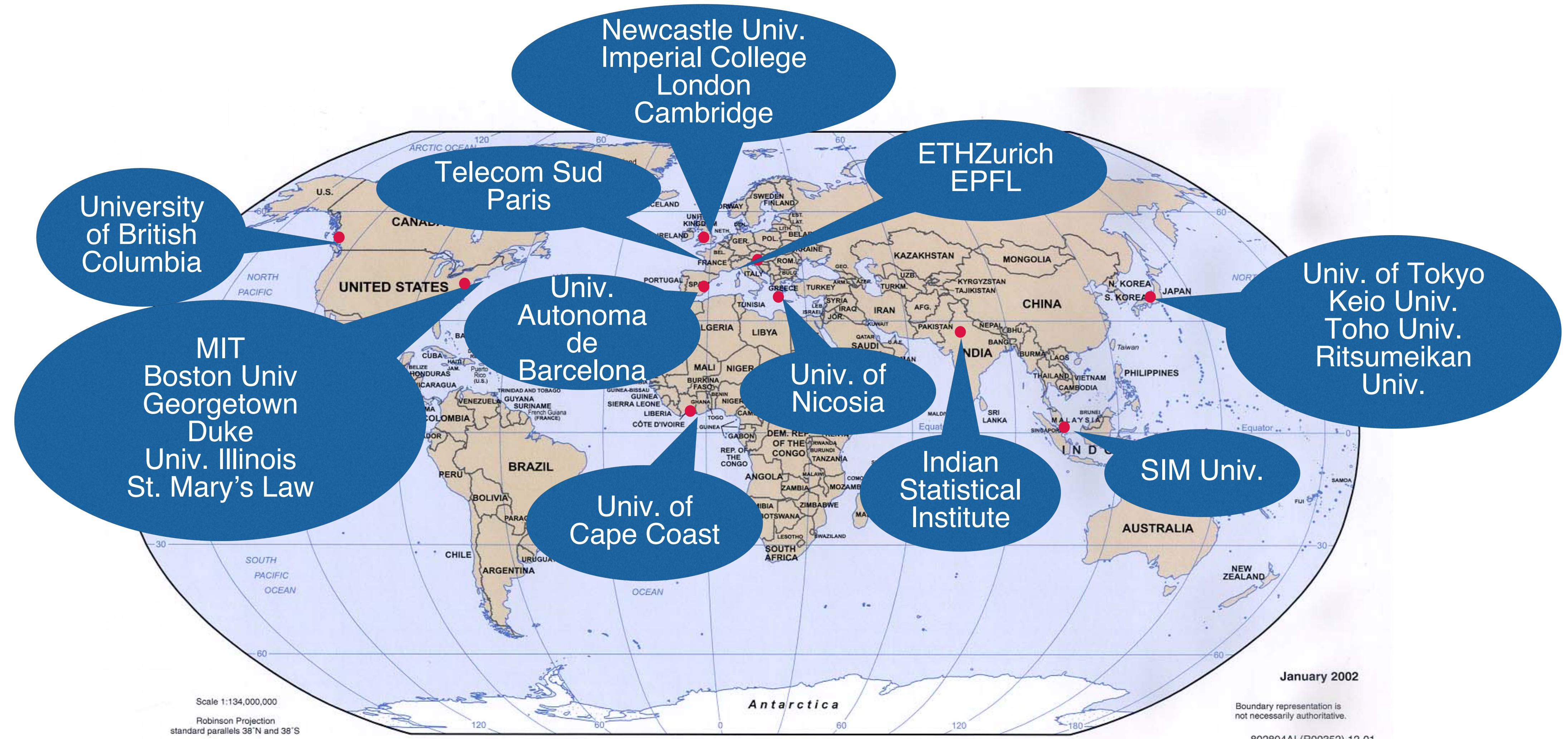


- A **neutral, stable** and **sustainable** research test network for Blockchain technology by international universities.
- Founded by me and Pindar Wong in March 2016. Each university becomes a blockchain node.
- Research on Blockchain and its applications
 - Not limited to Security. All aspects will be researched.



- Neutral platform
- de-anchored trust of Blockchain network
- More nodes (with Neutrality)
- Testbed for academic research

23 International Universities Already Join and We Add More...



BASE (Blockchain Academic Synergized Environment) Alliance

**Open and neutral alliance of
Industry-University cooperation**

**Joint research, development,
experiment**

**Initiated by the University of
Tokyo and Keio University**

Launch: July 24, 2017

