

A black and white photograph of the MIT dome at night, illuminated against a dark sky. The dome is the central focus, with its classical architecture and columns visible. The text is overlaid on the lower half of the image.

# **BLOCKCHAIN**

The Next Generation of the Internet

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# **FINANCIAL INDUSTRY**

# FINANCE

- 100 Trillion Industry
- worlds most powerful industry



# IN NEED OF AN UPGRADE

- Paper checks and mainframes
- A simple McDonalds' credit card payment:
  - 5+ intermediaries
  - Transaction takes seconds to approve but days to settle
- International bank-to-bank transfers
  - Takes days/weeks
  - Money is inactive during transfer
- Buying a stock
  - done in nanoseconds
  - takes 3+ days to settle

**In New York, money transmission laws date back to the 1860s. When students wore suits to class.**





# WHAT DOES THE FINANCIAL INDUSTRY DO?

- Authenticate / Authorize
- Confirms value
- Transfer value
- Store value
- Lend value
- Exchange value
- fund & invest
- Insure value and Manage risk
- Account for & audit value

# CONTRACTS

# Contracts

- meeting of the minds
- a set of promises
- building block of the market economy
- means of enabling collaboration





# Contracts - we live in a world of paper

- Legally we live in a world of paper
- We formalize our relationships on paper
- We express our agreements in paper
- Contracts are passive, costly to enforce
- History/track record missing from contract



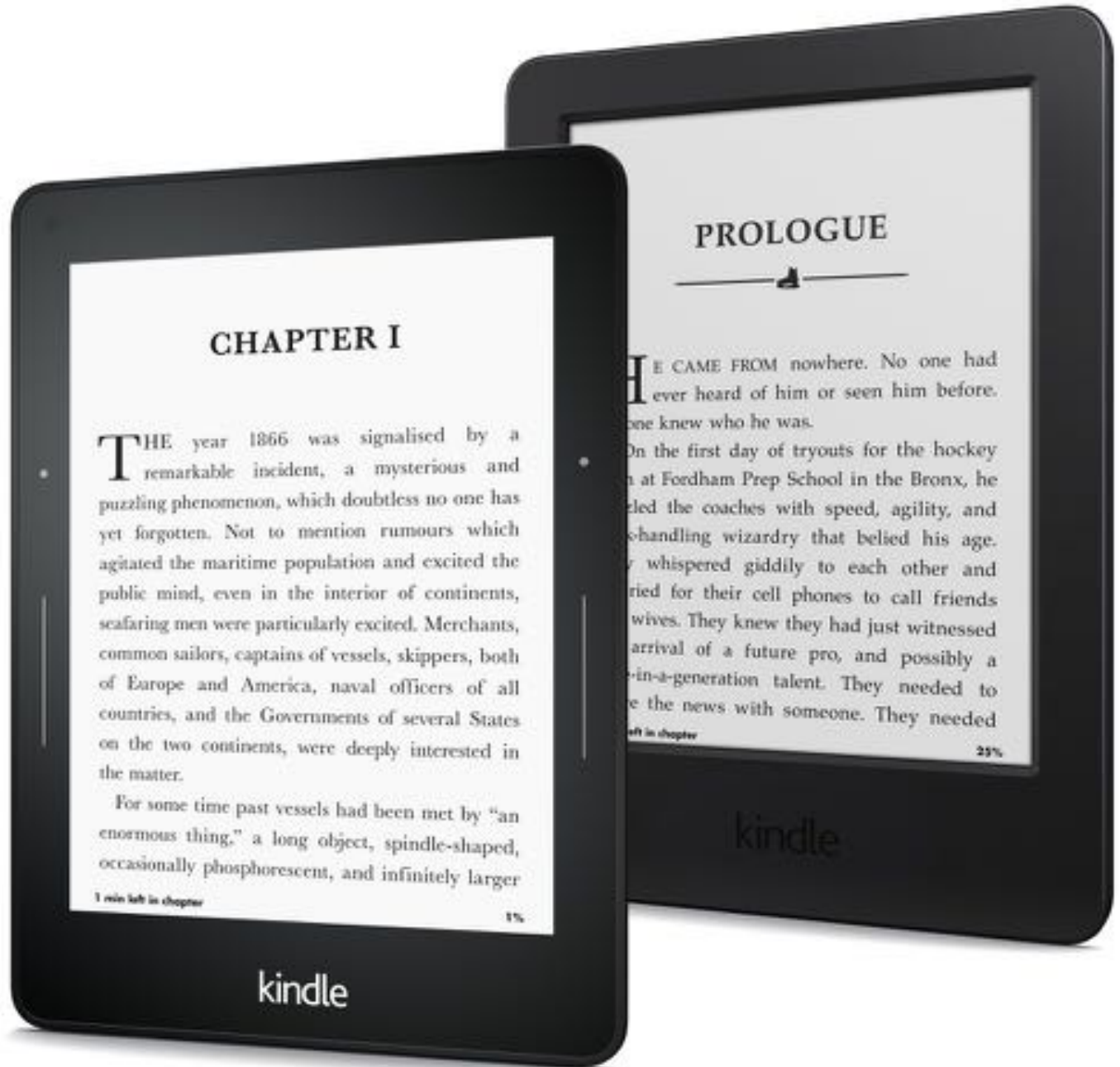
# EXAMPLE: VENDING MACHINE

- logic of contract built into machine
- users can execute contract by paying for food (escrow payment)



# Kindle

Pay to read





# Smart Contracts

(contract described with computer instructions)

- self-enforceable
- trust-less
- faster
- cheaper




# YOUTUBE CONTRACT





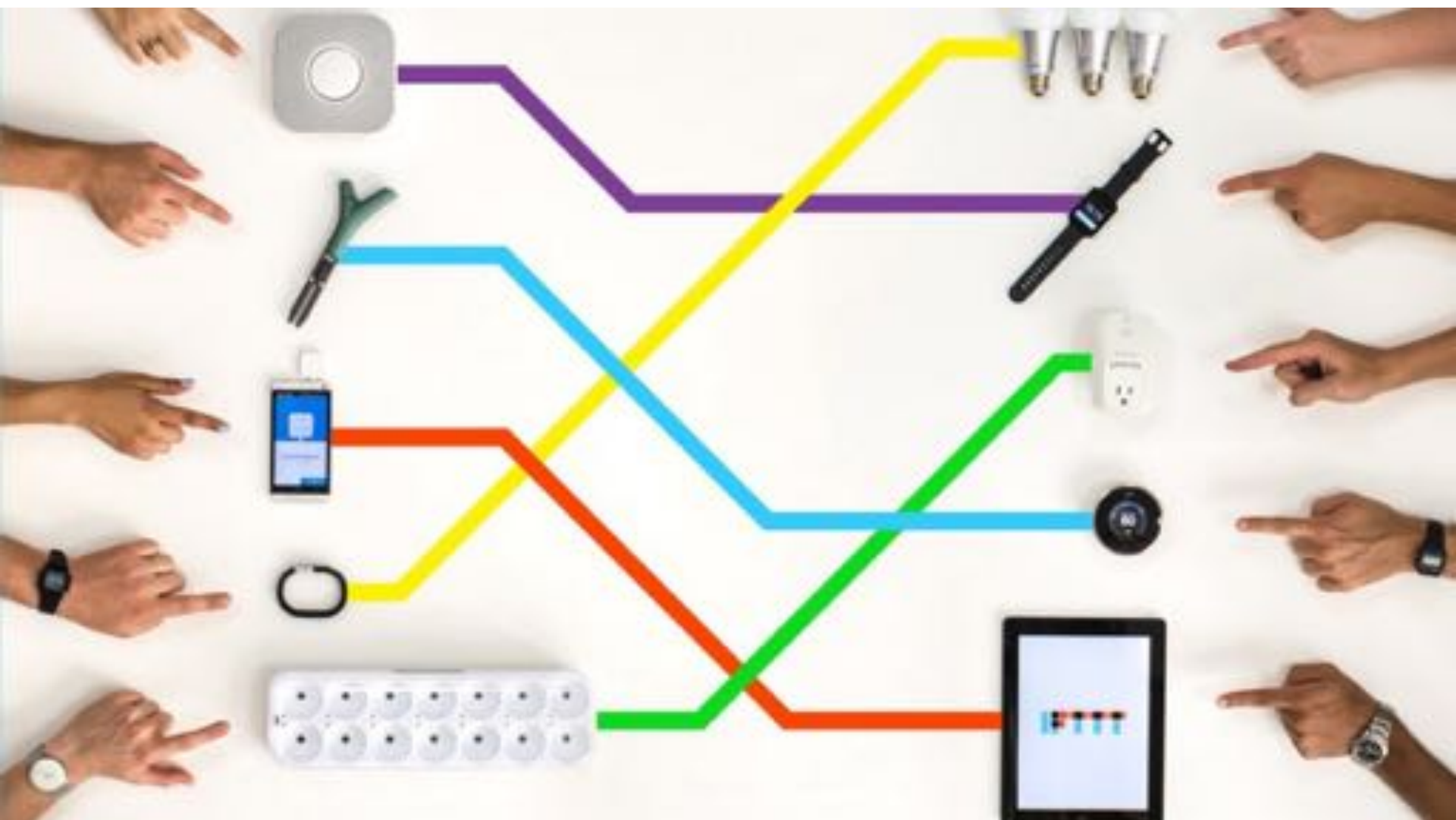
# INTERNET OF THINGS (IOT) CONTRACT

**IF**  **< 0.05** **→**

Kilowatt  
Hour



# IF THIS THEN THAT (IFTTT)





# GOVERNMENTS

# **PERMANENT PUBLIC RECORDS REPOSITORY**

- Universal
- Permanent
- Searchable
- Irrevocable
- Accessible

# **GOVERNMENT BLOCKCHAIN SERVICES**

- Wedding registry
- Land registry
- Provenance – recall/track and trace
- Asset registrations (e.g. vehicle)
- Taxes
- Audits
- Voting
- Deed transfer
- Blockchain-based passports.



# **WORLD'S FIRST BLOCKCHAIN-RECORDED MARRIAGE**



**“till death do us part, because the blockchain is forever”**

# **PUBLIC DOCUMENTS REGISTRIES AND TITLING IN THE DEVELOPING WORLD**

- Hernando de Soto
- Institute for Liberty and Democracy, ILD
- Scale Documentation
- Scale Evaluation
- Scale Diagnosing
- Bring the extralegal sector into the legal system

# OPPORTUNITY TO LEAP FROG

- Just like countries leapfrogged directly to cellular telephone networks
- Emerging-market countries could leapfrog directly to the implementation of blockchain property registries



# VOTING ON A POLITICIANS BASED ON PROMISES (CONTRACTS)

- Imagine if a politician was contractually bound to deliver on the promises made
- Imagine if budgets were only approved dependent on meeting milestones
- Imagine if any changes needed to be approved directly by the population through a blockchain contract amendment



# PERSONALIZED GOVERNMENT SERVICES

## Personalized Taxes:

- Based on use
- Based on age
- Based on need

## Personalized services

- School services
- Athletic Facilities (lights at night)
- Waste removal & composting
- Waste removal & commons contribution





# PERSONALIZED GOVERNMENT SERVICES

Roadways use:

- Pay for speed
- Get paid to wait
- Get paid for construction congestion
- Pay for blocking traffic



A black and white photograph of a row of classical columns in a hall. The columns are fluted and have papyrus capitals. They recede into the distance, creating a strong sense of perspective. The lighting is soft, highlighting the textures of the stone.

# DAO

# **DISTRIBUTED AUTONOMOUS ENTITIES**

- Decentralized Applications
- Decentralized Autonomous Organizations – DAOs
- Decentralized Autonomous Corporations – DACs
- Decentralized Autonomous Societies – DAS

# DECENTRALIZED APPLICATIONS

- OpenBazaar (decentralized Craigslist)
- LaZooz (decentralized Uber)
- Twister (decentralized Twitter)
- Bitmessage (decentralized SMS)
- Storj (decentralized file storage)

# HOW IS IT DIFFERENT?

OpenBazaar is a network of individuals running the software on their local computers in order to engage in trade with others directly. The network is peer to peer, with one computer connecting directly to another. It isn't controlled by any individual or organization, including the OpenBazaar core developers. As such, no one *allows* trade to occur, and no one can *prevent* trade from occurring except for law enforcement.





# LA'ZOOZ IS A DECENTRALIZED ORGANIZATION

Anyone can contribute towards the establishment of its goals in whatever way he or she believes would be best. Tasks are carried out within autonomous, self-defined circles or teams. Each circle can consist of any number of individuals (including a single person) collaborating together towards well-defined goals, and holding their own (perhaps multisig) wallet to promote the circle's tasks. Once a circle delivers their contribution, the La'Zooz community as a whole evaluates this contribution and as an expression of appreciation reimburses the circle's wallet with zooz tokens accordingly.



# STORJ

Storj aims to become a cloud storage platform that can't be censored or monitored, or have downtime. It is the first decentralized, end-to-end encrypted cloud storage that uses blockchain technology and cryptography to secure your files. Raised \$461,802 in crowdfunding.



# **DAO 1.0**

**Launch 30 April 2016**

**US\$34 million by May 10 2016**

**US\$50 million by May 12 2016**

**US\$100 million by May 15 2016**

**US\$150 million by May 21 2016**



# **CAN YOU MAKE MONEY MINING?**





# SAMPLE EARNINGS - 6000 MH/S ETHEREUM FARM



Calculated for  
1 ETH = \$ 264.48

Hashing Power

MH/s

Power consumption (w)

Cost per KW/h (\$)

PROFIT RATIO PER DAY

202,546%

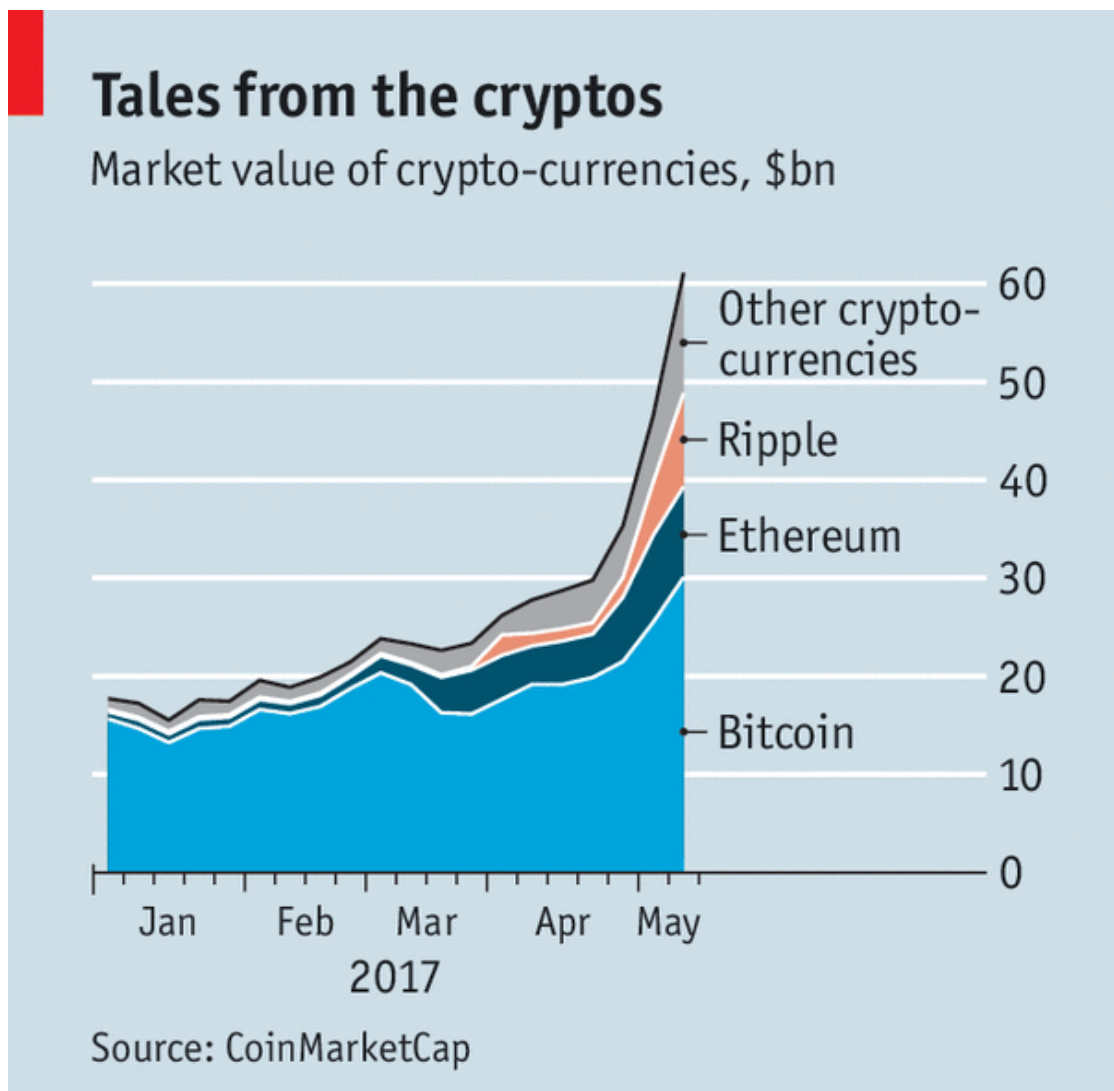
PROFIT PER MONTH

\$ 24.50 K

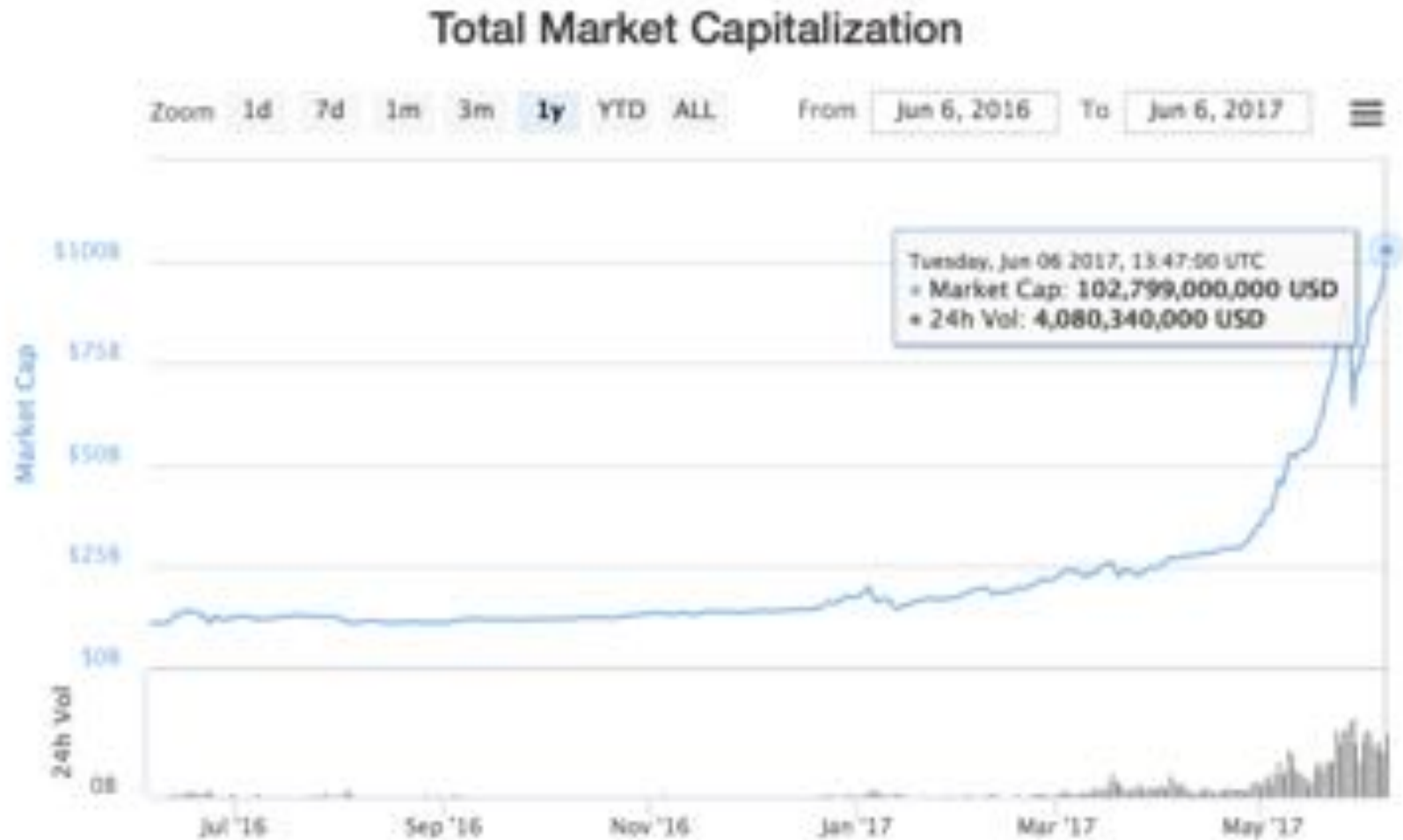
Profit per day \$ 816.67	Mined/day ≡ 3.09	Power cost/Day \$ 0.4032
Day		
Profit per week \$ 5,716.68	Mined/week ≡ 21.63	Power cost/Week \$ 2.82
Week		
Profit per month \$ 24.50 K	Mined/month ≡ 92.68	Power cost/Month \$ 12.10
Month		
Profit per year \$ 298.08 K	Mined/year ≡ 1,127.61	Power cost/Year \$ 147.17
Year		



# CRYPTOCURRENCY VALUE INCREASE



# CRYPTOCURRENCY MARKET







**IN CLOSING**

# **BLOCKCHAIN GENERATIONS**

## **1st Generation - Currencies**

- **Bitcoin**
- **Bitcoin like**

## **2nd Generation - Contracts**

- **Financial Services**
- **Crowdfunding**
- **Prediction Markets**
- **Smart Property**
- **Development platforms**
- **DApps**

## **3rd Generation - Digital Services**

- **DNS**
- **Digital Identity**

## **4th Generation - Digital Infrastructure**

- **Government**
- **Education**
- **Health**
- **Publishing**

# WEB 4.0

Just like HTTP provided the platform for new generation of services – Amazon, Google, and Netflix – Blockchain adds a new layer that enables value exchanges without third parties or trust.



# Global Impact

- Financial platform for those without banks (2 billion people)
- Property keeper of record
- Property of hundreds of millions into the legal system
- Access to the global market
- Engine for next generation of the sharing economy
- Eliminate remittances transactions costs
- Citizens privacy
- A new model for organizations
- Government



# Challenges

- Technology Fragmentation
- Standardization
- Government regulation
- Privacy
- Misuse by criminals



# Q & A