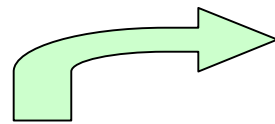

Blockchain Infrastructure Primer

**Presented At Oregon Connections
October 2018**

What Is a Block ?

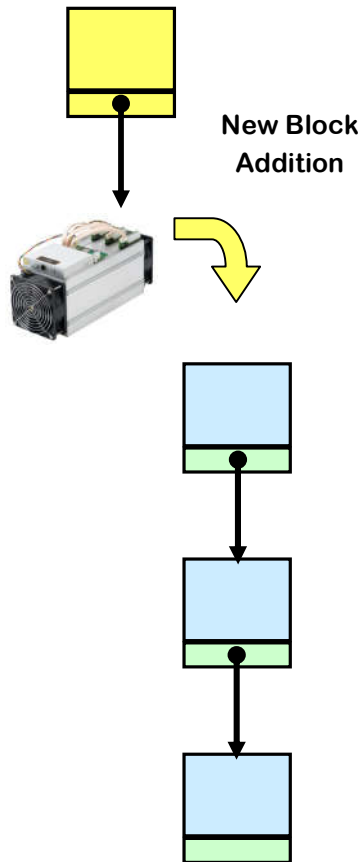


BLOCK HASH: 7680adec8eab00cabac676be9e83854ad2fe14e0bd22cdb997e

```
-----<begin record>-----  
Property: 01N13 E11BC01100 00 (SECTION 11 TOWNSHIP 1N RANGE 13E QUARTER BC  
PRCL 1100 WASCO COUNTY OR USA)  
Timestamp: 2007-11-09 T 11:20 UTC  
Action: Warranty Deed  
Grantor: ABC PARTNERS, a Partnership.  
Grantee: MARTIN LUTHOR, a natural person.  
Consideration: USD 387,900.00  
Terms: Grantor hereby convey, grant, and deed to Grantee above real property  
incorporated herein by reference. Grantor does hereby bind itself, its heirs  
and assigns to warrant and forever defend all and singular the said property  
unto Grantee, successors and assigns.  
Grantor Certificate: 3E53XjqK4Cxt71BGeP2VhpcotM8LZ853C8  
Grantee Certificate: 3G5tS1XFzSmEhRLAEkW6C1or4fNJgNQEPx  
Notary Certificate: 1CfaunqrVpcXmpLheUVWeSP1KPsKDha1Nb  
-----<end record>-----  
  
...more records...
```

A **block** is just a collection of records. Its contents can be “compressed” in a unique number called “Cryptographic HASH”.

Blockchains and Mining



Blockchain = Database of data blocks linked by their cryptographic hashes.

Miners = The computers adding new blocks to a blockchain (hard to do).

Miner computing power secures each blockchain. Miners are rewarded with a fee (new “coins” in the case of cryptocurrency blockchains).

The Machine That “Prints Money”

14 Trillion Calculations
Per Second



1400 Watts
24 / 7 / 365

=

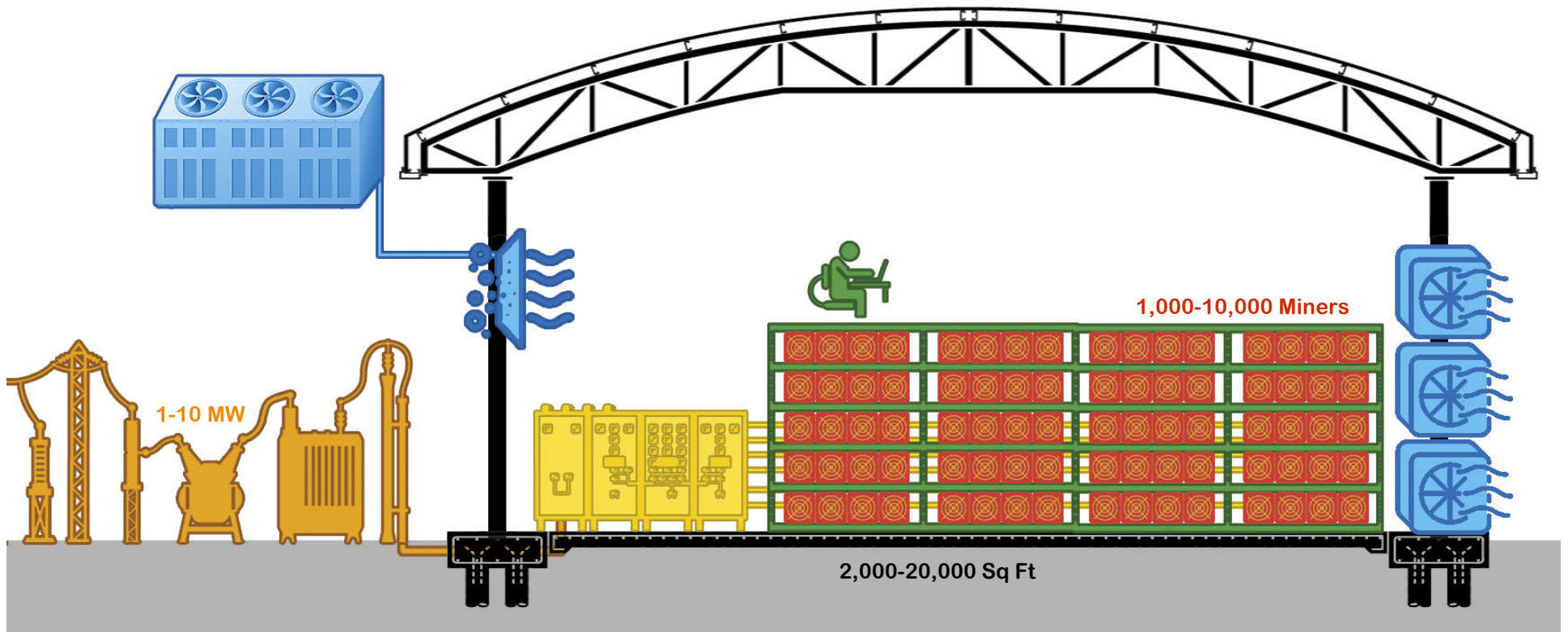


Made in China

Typical Blockchain Data Center

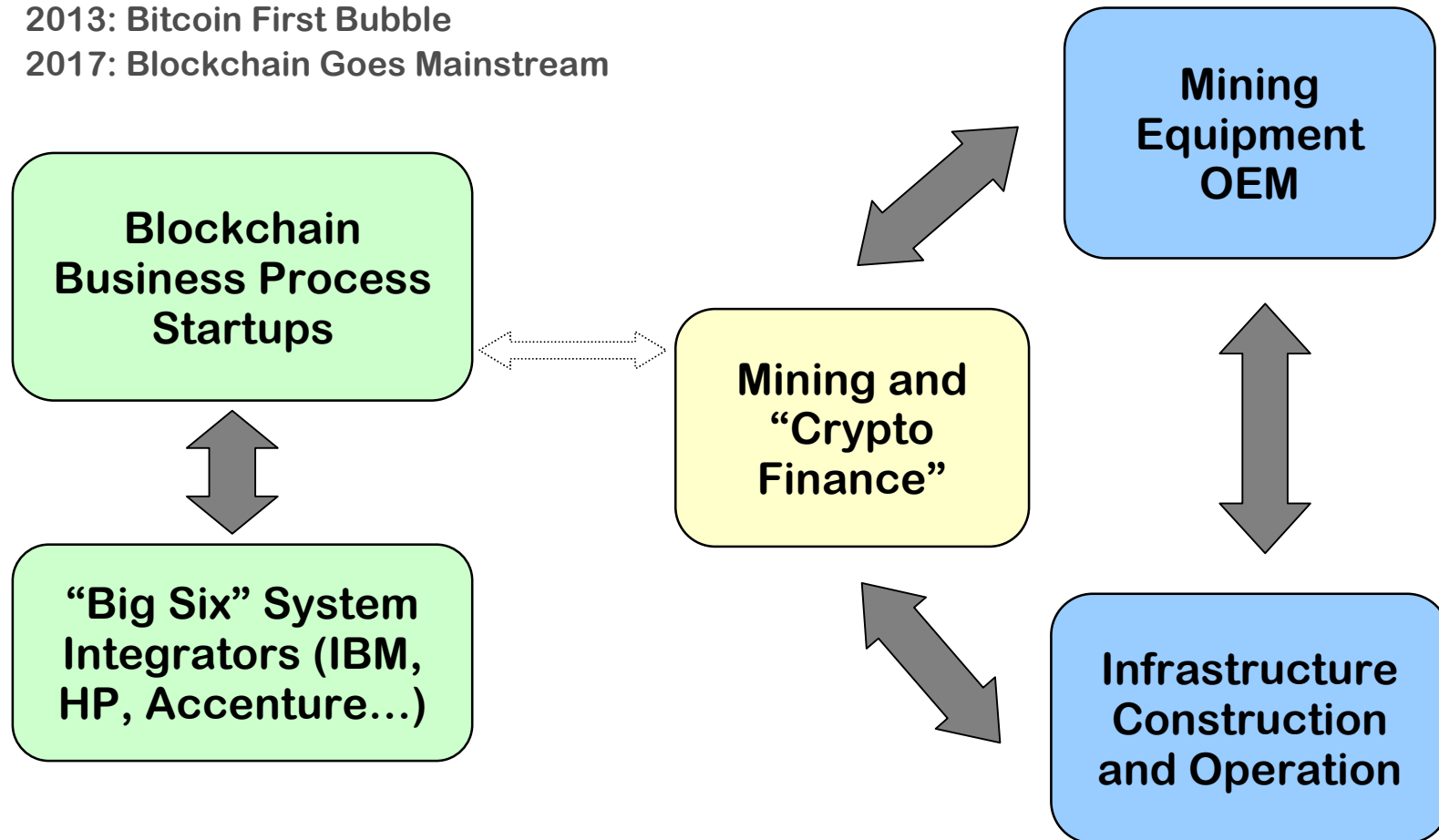
Building
Service
Distribution

Miners
Racks/Systems
Ventilation



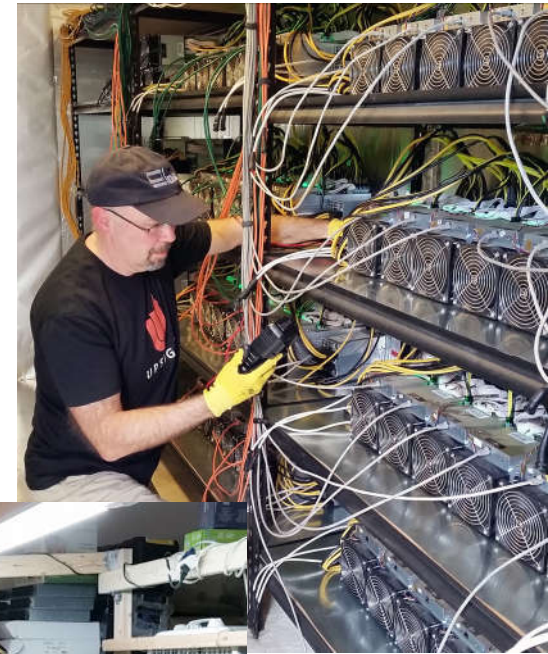
What is The “Blockchain Economy” ?

198x: Blockchain Academic Papers
2008: Bitcoin White Paper & Code
2013: Bitcoin First Bubble
2017: Blockchain Goes Mainstream



Amity Labs

- Provides blockchain computing power
- Manufactures power supplies for miners
- R&D, design and “best practice” services.

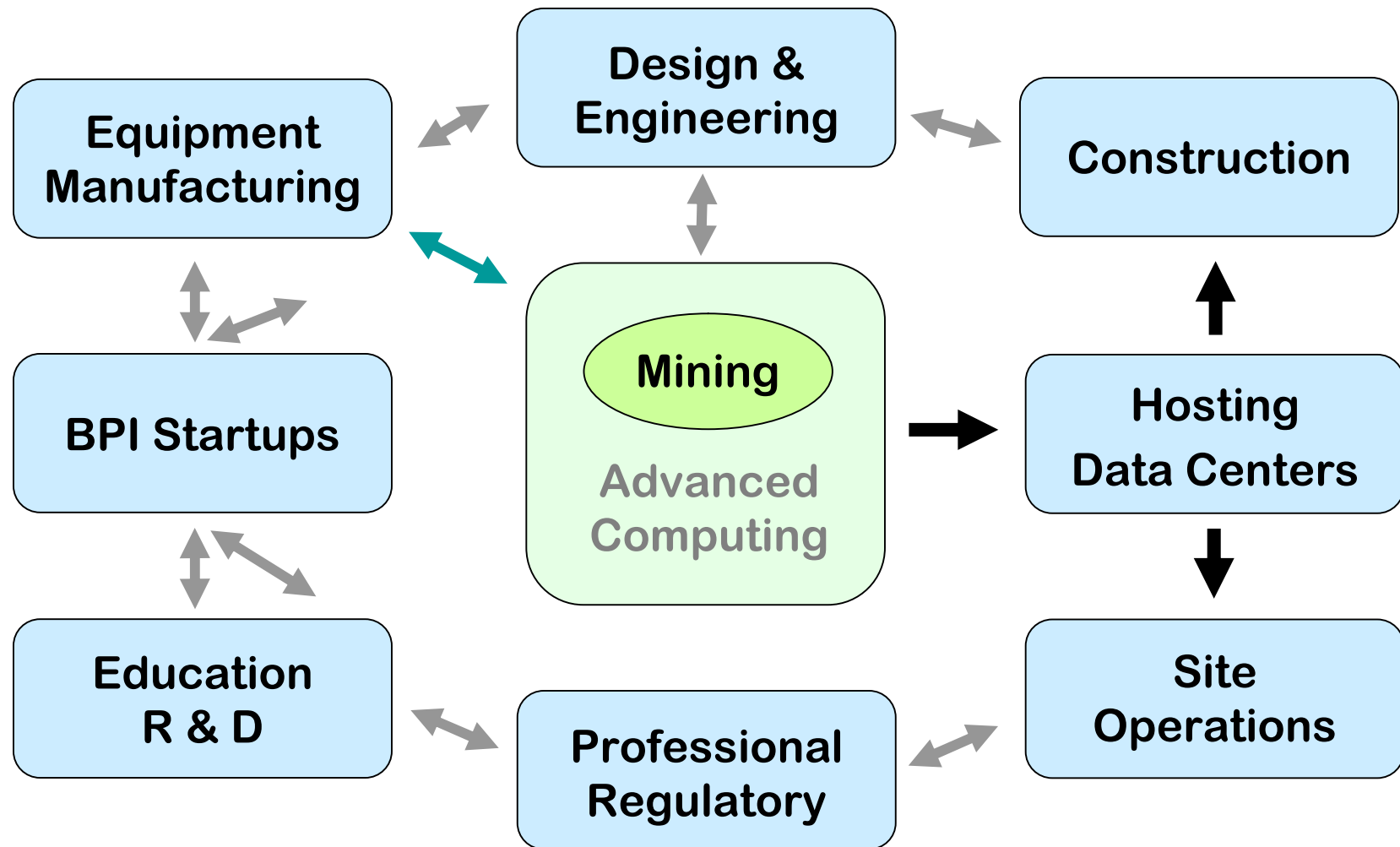


Opportunity For OR/WA



- **Today: Mining is the blockchain infrastructure**
- **Tomorrow: Mining only part of blockchain systems**
- **Beyond: Blockchain, AI, data centers converge**
- **Few other industries need large electric capacity**

Resources, Infrastructure and Jobs



Many places have resources. Few have a strategy.

Do Not Underestimate Ideas

TCP/IP

“Shred the message
and scatter it to the
winds”



Internet

Email

www.com

Google

Blockchain

“Every piece of data
vouches for its
neighbor”



Cryptocurrency

???



First ever major IT innovation
NOT led by the US