

THE BLOCKCHAIN AND ITS PEOPLE

THE TALENT REQUIRED TO BUILD AND SUSTAIN A
SUCCESSFUL BLOCKCHAIN-DISRUPTED ECONOMY



GUARDED BY GENIUS

HOW WILL THE BLOCKCHAIN IMPACT PEOPLE?

The blockchain will provide many opportunities, and launch many disruptions, that will impact professionals working in clean energy. These may include:



Trading: blockchain enables prosumers (households that both consume and produce energy) to buy and sell energy directly with high degree of autonomy, leading to decentralized energy supply system



Finance: blockchain can facilitate payments via cryptocurrencies



Data Storage: blockchain can keep a distributed secure record of all energy flows and business activities, with all parties identifying themselves through their digital identities



Legal Systems: blockchain enables smart contracts, which can create a fully automated contract between an energy producer and a consumer that autonomously and securely regulates both supply and payment of energy-related services.



Asset Management: blockchain can regulate ownership and current state of assets, e.g., smart meters, networks and generation facilities, offering a tamper-proof and transparent way of managing certificates for renewable power and emission allowances

HOW ARE PEOPLE IMPORTANT TO BLOCKCHAIN?

The success of the blockchain rests in the hands of the people, specifically:



USERS

Users generally aim to achieve 3 objectives:

- **Decentralization**
- **Efficiency**
- **Trust**



EXPERTS

Experts drive the economy-enabled Blockchain in 2 key ways:

- **Individually**, expertise required to design, build, maintain and evaluate the blockchain.
- **Organizationally**: public and private organizations need to embed blockchain technologies as a strategic differentiator

HOW DO WE MATCH TALENT SUPPLY AND DEMAND?

To match the supply of talent with the high demand in technology skills, we need to look at both sides of the formula: the supply and the demand

SUPPLY SIDE PRIORITIES

- **Gen-Z or post-millennials:** which majors? Which are the best universities?
- **Working professionals:** how to advance professional capabilities and certifications?
- **Management & leadership:** how to lead a blockchain-enabled transformation in your organization?

DEMAND SIDE PRIORITIES

- What is the role for **governments**?
- What is the role for **corporations**?
- What is the role for **universities and academia**?
- How can these elements all **work together**?

CREATING STRONGER TALENT SUPPLY

SUPPLY

Young people (Gen-Z, post-millennials) should carefully select their majors and universities to gain the best blockchain-related education:



Recommended Fields of Study:

- Computer Science Engineering
- Telecommunications Engineering
- Industrial Engineering
- Electrical / Nuclear engineering
- Mathematics
- Physics



US Universities with Blockchain-relevant Courses:

- Stanford University
- MIT
- University of California Berkeley
- Princeton University
- Cornell University



Most Relevant International Programs:

- National University of Singapore
- University of Queensland (cyber security degree)
- Oxford University (17 of Oxford's 31 colleges teach computer science)
- Katholieke Universiteit Leuven
- Technische Universität Darmstadt

CREATING STRONGER TALENT SUPPLY

SUPPLY

At the more senior levels, training and awareness of latest trends are key to success



Working Professionals:

- Enroll in post-graduate trainings provided by universities
- Keep up-to-date by attending to conferences such as the North American Bitcoin Conference, the London Blockchain Week, or Crypto Valley conferences
- Especially relevant for professionals in finance, legal, human resources and governance aspects of clean energy



Management & Leadership:

- Hire people who are experts
- Read up, attend conferences, be informed, at a high level, on how technology is shaping your industry
- Multiple online courses exist, e.g., Princeton University's "Bitcoin and Cryptocurrency Technologies" on Coursera
- Attend f2f executive education programs, e.g., B9 Lab Academy in UK

CREATING EFFECTIVE DEMAND FOR TALENT

DEMAND

From the demand side, corporations and government-related entities have a key role to play:



Develop collaborations with top universities to recruit graduates



Look for the right talent: Cryptographers, Cryptography Engineers (Software / Hardware), Computer scientists with an information security background, maths and physics professors in academia interested to migrate to the industry, penetration testers, security analysts, IT security engineers and forensic computer analysts



Promote and incentivize innovative projects that integrate cutting edge technologies into the business and reward cross-functional collaboration between departments, business units or teams



Acquire a startup or partner with a company with a successful track record in Blockchain



Networking: meetups, conferences, and online social networks and communities

TRANSITIONING TO A BLOCKCHAIN-DRIVEN SOCIETY



We must consider our new challenges and affordances through the lenses of both science and society.

This joined up approach and knowledge will help us answer questions such as how will the Blockchain affect democracy, the workforce, and business ethics among other things.

THANK YOU

THE TECHNOLOGY BEHIND BLOCKCHAIN

AND ITS CURRENT AND FUTURE IMPACT ON THE ENERGY INDUSTRY

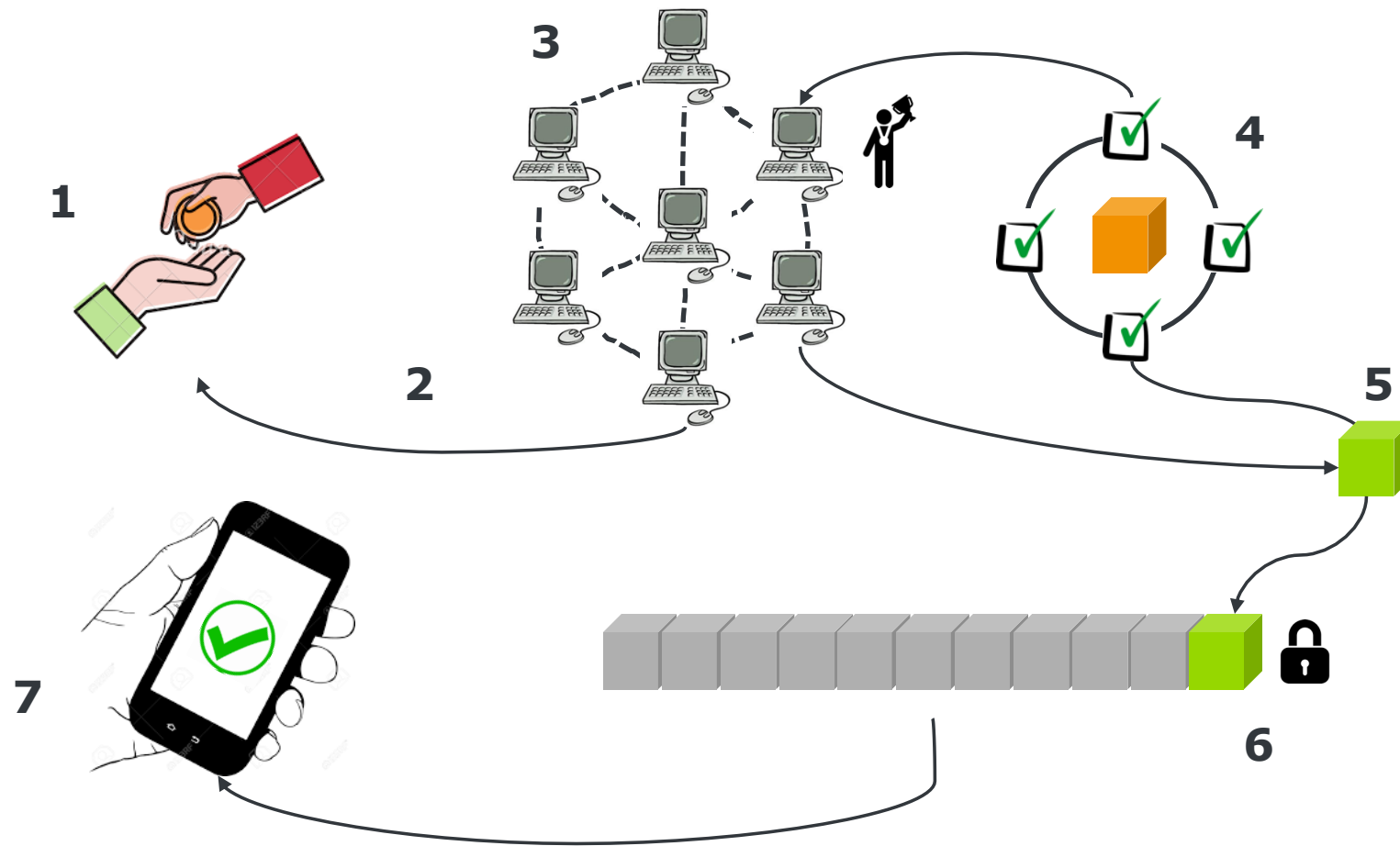


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WHAT IS BLOCKCHAIN?



WHAT IS BLOCKCHAIN?



BLOCKCHAIN AND SMART CITIES

Traditional systems

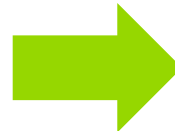
- Error-prone
- Slow
- Mediation via intermediaries is needed to resolve conflicts



Costs

- Stress
- Time
- Money

Blockchain-based systems



- Cheaper
- More transparent
- More effective

BLOCKCHAIN AND SMART CITIES

Financial services

Asset management
Insurance
Payments

Smart contracts

Healthcare
Ownership rights

Government

Public value / community
Vested responsibility

Smart property

Money lending
Property contracts

IoT

Smart appliances
Supply chain sensors

Identity

Passports / IDs
Birth certificates

BITCOIN ENERGY CONSUMPTION



- Bitcoin is the most popular cryptocurrency



- It's price has increased massively over the past decade.



- Bitcoin miners compete to get the next solution and get rewarded.



- It's skyrocketing price and the consequent miners attraction is leading to soaring energy consumption.

BITCOIN ENERGY CONSUMPTION

415KWh

energy that
consumes a
single bitcoin
transaction

44TWh

Bitcoin's total
annual
energy
consumption

0.20%

of the entire
world's
energy
consumption

54

if bitcoin was
a country, it
would rank
54 in energy
consumption

200K

VISA transactions can
be done with the
energy consumed by 1
Bitcoin transaction

4.1M

US households
that could be
powered by
Bitcoin

THANK YOU