Blockchain and the Future of Transportation

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The Internet

Major Milestones



Internet of Data Vint Cerf and Robert Kahn TCP/IP protocol allowing data to be sent

from one computer to another



 \bigtriangledown

Internet of Content Tim Berners Lee

The World Wide Web allowed for content to be

shared between computers on a network

Internet of Value Satoshi Nakamoto

Blockchain allows value to be shared in a

Trustless environment



The Great Convergence

Technologies that span the physical and virtual worlds



A Digital Record

At its heart, a blockchain is a record of transactions, like a traditional ledger. These transactions can be any movement of money, goods or secure data—a purchase at a supermarket, for example, or the assignment of a government ID number. TRANSACTION_01

Address LJFJ5721SFXX2312G2Q

Size 136 BYTES

Lock Time **BLOCK: 2982385**

Received 2016-09-28 14:35:01

Source: Goldman Sachs

Recent Applications of Blockchain

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Supply chains (beyond Bitcoin)

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Examples

- IBM-Maersk: tracking containers
- 🚓 Rotterdam Port: Logistics
- ङ्रि Insurance: IBM, AIG, Standard Chartered
- Trade Finance: Deutsche Bank, HSBC, KBC, Natixis, Rabobank, Société Générale and UniCredit
- Walmart: tracking pork in China
- Dubai all government transactions by 2020

Future of Mobility

In an era of rising urbanization and ageing populations





Rent better cars

Choose from thousands of unique cars for rent by local hosts



Sharing Economy

Blockchain/Distributed Ledger Technology



Ownership and exchange of smart assets using Blockchain

- Smart assets represent entities of value (smart property)
- Ownership and exchange can be managed via distributed ledger technology
- Smart assets in conjunction with smart contracts are relevant to urban transportation
- Smart contracts: formalized rules of ownership and exchange implemented by a distributed ledger platform



Car eWallet UBS + Innogy SE (Innovation Hub) + ZF



Electric Cars

The Future

India aiming for all cars to be electric by 2030: Piyush Goyal, Power Minister (addressing the CII Annual Session 2017).



Community Microgrids

Brooklyn Microgrid uses Blockchain



Policy Initiatives

Problem Solving Approach



- Mobility as a service
 Multi-stakeholder initiative
 Proof of concept
 State of Illinois' month long hackathon on Blockchain
- 🕗 Digital Identity
- Privacy of citizen data

Blockchain Platforms

Some credible players



Late Entrants Might Win

Example of Search Engines



Search Engines: Major Players in 1995 Altavista Yahoo Excite Magellan Lycos Terra **Eventual winner: Google**

Social networks in 2003: Friendster, Bebo, hi5, Myspace, Orkut vs Facebook

Mobile operating systems in 2006: Blackberry, Windows Mobile, Nokia and Symbian vs iOS and Android

Blockchain Evolution

Opportunity for new players.





