Australian Government
Department of Industry, Innovation and Science

Business

Manufacturing
and Emerging Technologies

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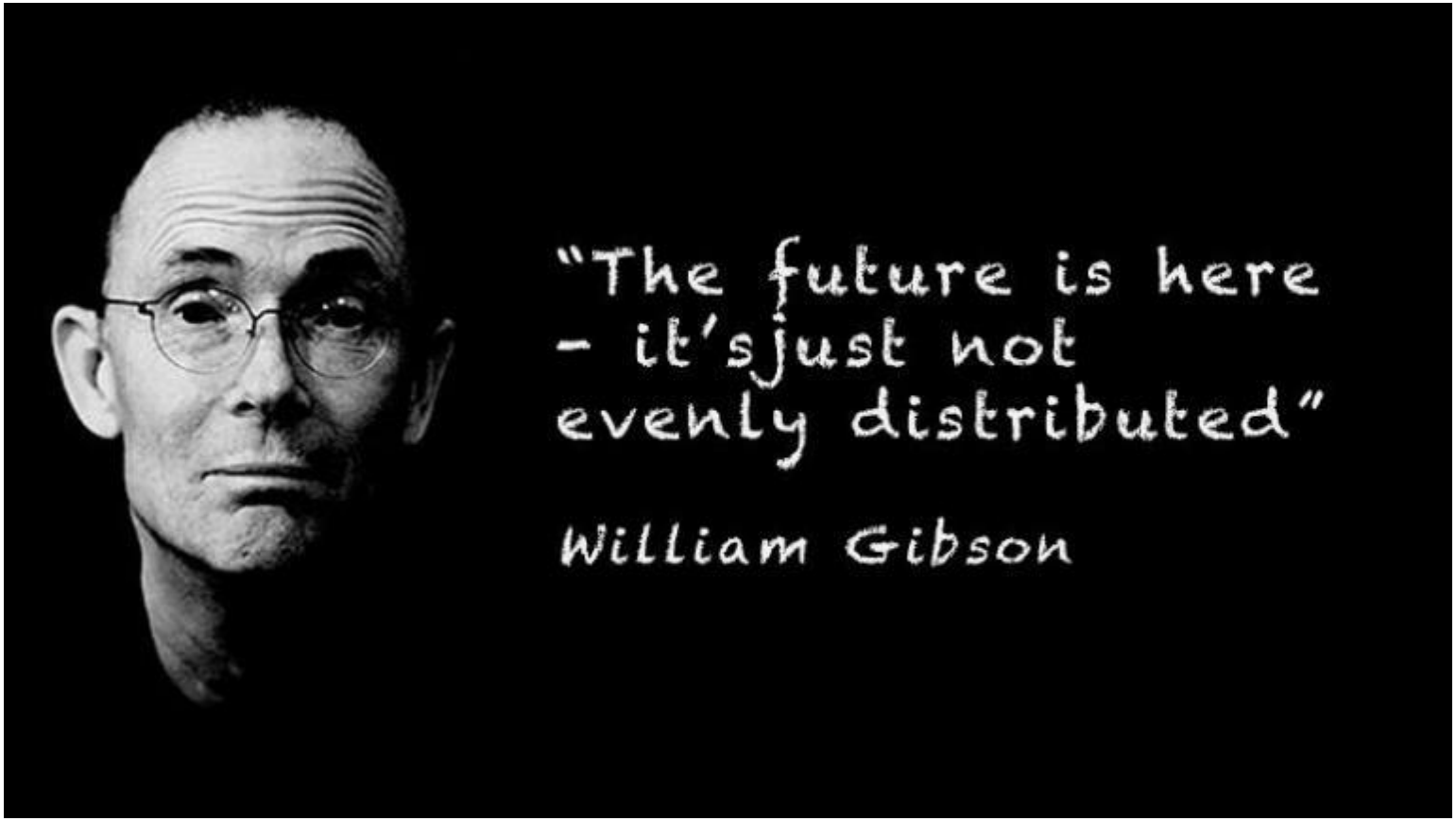
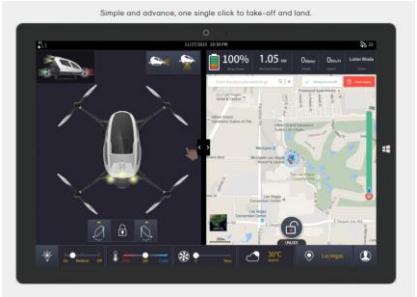
What is all the fuzz about?

The quote is from American speculative fiction author William Gibson . In its original context, it alludes primarily to the fact that the things that will constitute the normal or everyday within the lives of those living in the future already exist for some today.



The future is here – eHang 184

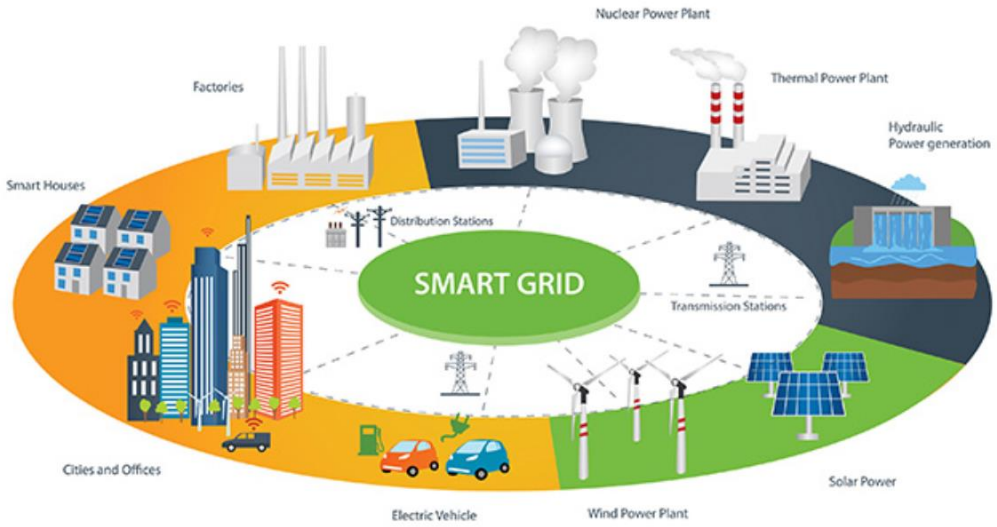


A passenger drone is a type of unmanned aerial vehicle (UAV) that carries passengers. The first passenger drone was introduced at the Consumer Electronics Show (CES) 2016 by Chinese entrepreneurs and is called the **Ehang 184**.

The future is here – Smart Grid

At its core, the smart grid is the use of emerging technology to promote energy and cost efficiency.

A smart energy network, automatically reading and reacting to supply and demand changes offers the potential for greater security of supply through efficiency.



Let's talk about enablers.

Blockchain … or who is Satoshi Nakamoto

What is it?

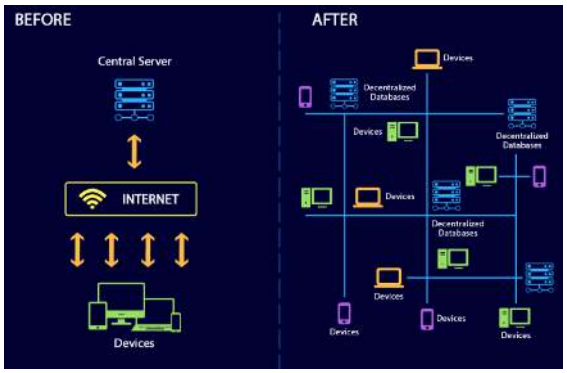
"The blockchain is an incorruptible, decentralised ledger of economic transactions."

Why is it called Blockchain?

At its most basic level, blockchain is literally just a chain of blocks, but not in the traditional sense of those words.

When we say the words "block" and "chain" in this context, we are actually talking about digital information (the "block") stored in a public database (the "chain").

Centralised vs. decentaslised.



Blockchain

Real Life Blockchain Implementations Outside of Cryptocurrency

Arcade City (US) - *Peer-to-peer blockchain-based ridesharing*

Arcade City is a new peer-to-peer rideshare start-up whose goal is to disrupt the disruptor. They're taking on Uber and Lyft to cut out the middleman and protect driver rights, and they're basing their platform on the Ethereum blockchain.

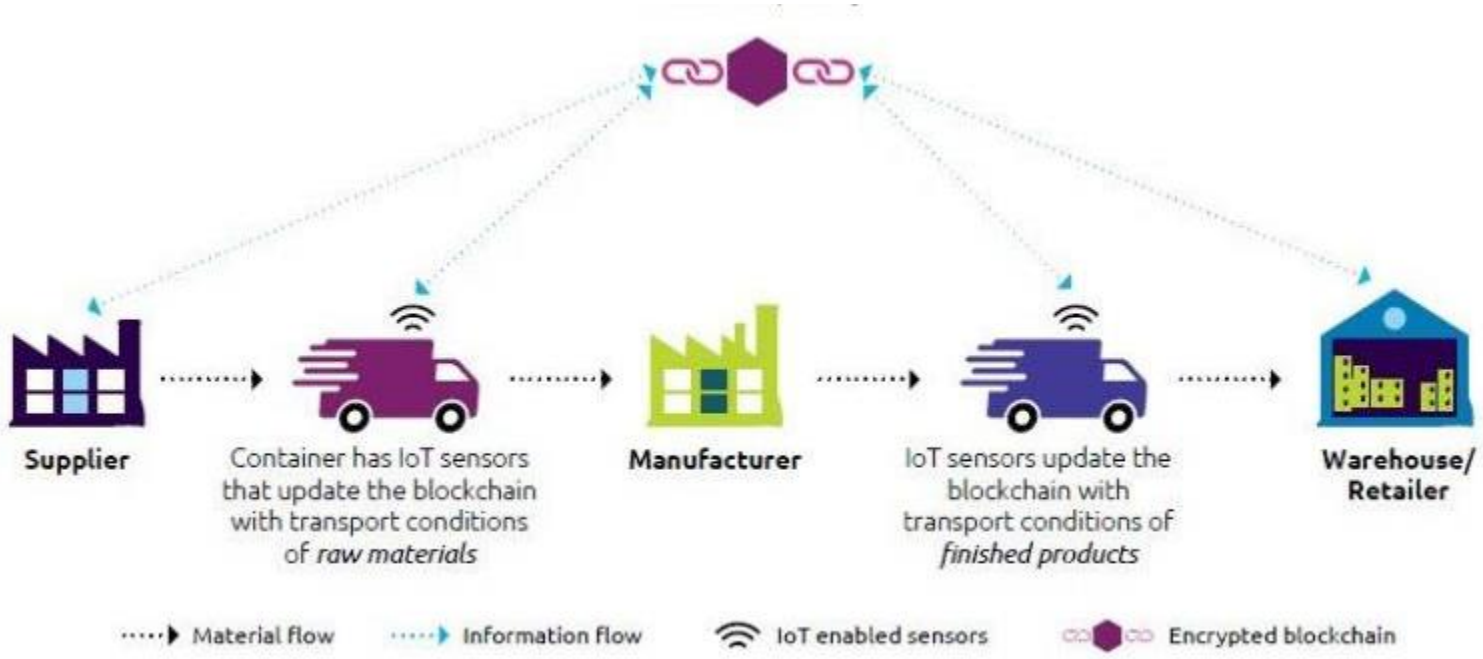
Helperbit (IT) - *Humanitarian fundraising vetted with blockchain*

Helperbit is a fundraising site that emphasizes philanthropic global initiatives that increase well-being in foreign countries. Tying each donation to the blockchain helps increase economic transparency. As corruption in charity and insurance is an unfortunate reality, Helperbit aims to bring fundraising power straight to the people through decentralization.

Medicalchain (UK) - *Digitize health records and share access on the blockchain*

Medicalchain aims to use blockchain technology to securely store medical records. Using a distributed ledger for healthcare is a godsend as it allows doctors, hospitals, laboratories, pharmacists, and health insurers to have more immediate access to health records, which could help save lives. Medicalchain is in an early stage; it's still taking on pilot patients and practitioners and must build credibility on both fronts. That being said, it's a great case study on the power of blockchain to disrupt an inefficient industry.

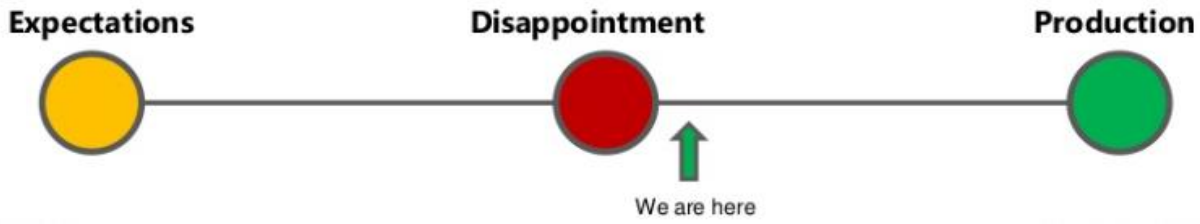
Blockchain - How does it relate to manufacturing?



Is the Blockchain overhyped?

"The truth in no online database will replace your daily newspaper, no CD-ROM can take the place of a competent teacher and ***no computer network*** *will change the way government works."*

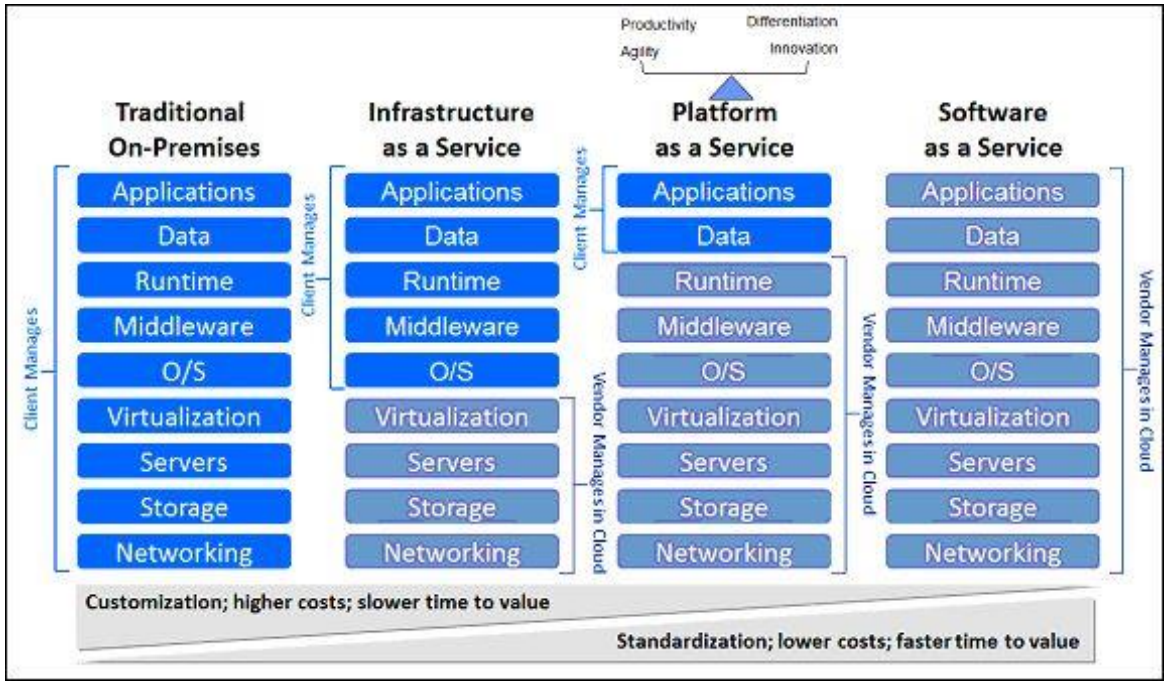
Clifford Stoll 2/26/95



Cloud Computing

Simply put, cloud computing is the delivery of computing services—servers, storage, databases, networking, software, analytics, intelligence and more—over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale.

You typically pay only for cloud services you use, helping lower your operating costs, run your infrastructure more efficiently, and scale as your business needs change.



IoT / IIoT

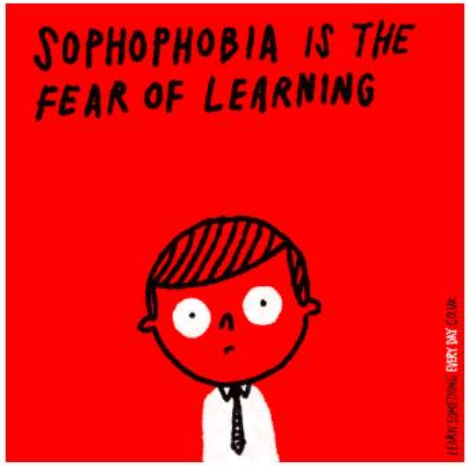
The **internet of things, or IoT**, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

The industrial internet of things (IIoT) is the use of smart sensors and actuators to enhance manufacturing and industrial processes. Also known as the industrial internet or Industry 4.0, IIoT leverages the power of smart machines and real-time analytics to take advantage of the data that dumb machines have produced in industrial settings for years. The driving philosophy behind IIoT is that smart machines are not only better than humans at capturing and analyzing data in real time, they are better at communicating important information that can be used to drive business decisions faster and more accurately.

Call for action!

Microlearning

Unless you suffer from sophophobia make it a daily habit to spend a few minutes learning something:



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