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## Innovative and Disruptive Technologies for Agri-food Supply Chains

# Blockchain: Is it going to be good for us?

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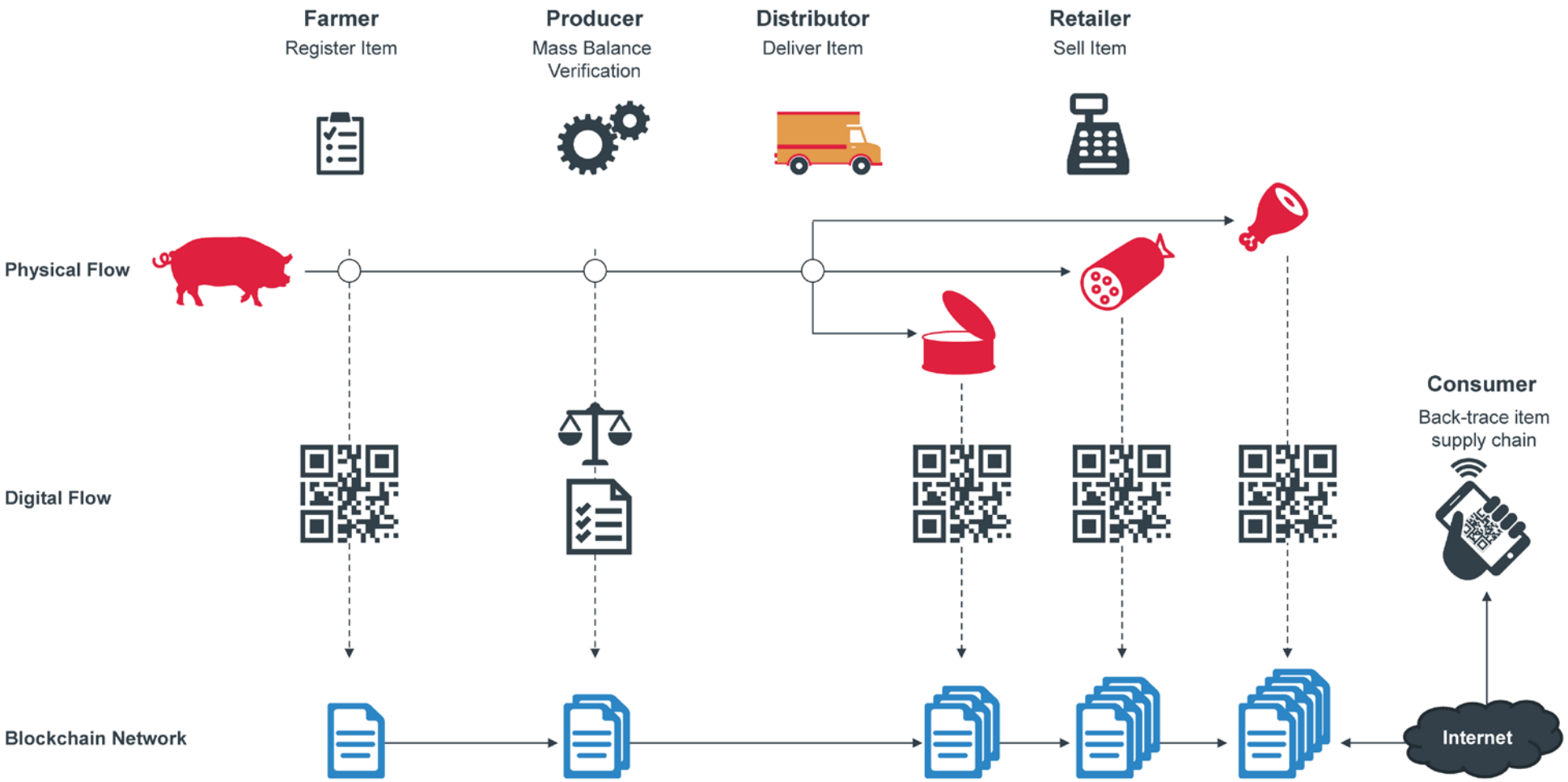
# How Blockchain Works…



# Blockchain: A Promissory Technology?

## Disruption

- Has the potential to disrupt every business sector and every profession

Reskilling will be a requirement for many

## What it does…

- Makes transactions highly secure and immutable thanks to its underlying cryptography
- Offers 100% transparency (if that's what you want)
- Can be used in conjunction with AI, 5G and I o T

This is why it's timely

## Dampeners

- The power problem (it uses vast amounts of energy)
- Scale-down (of equipment size and running costs)
- Scale-up in ways that make it practical for businesses and consumers

Reality check: the above represents a significant scientific chasm

# Blockchain/ Permissioned Ledger Usecases

- Finance (e.g. remittances)
- Law (e.g. The Land Registry)
- Manufacturing (e.g. automotive)
- Extraction industries (e.g. diamonds)
- Health (e.g. data analytics/wearables)
- Energy (e.g. renewables)
- Food (e.g. Provenance)
- Conservation (e.g. wildlife tracking)
- Artisan / craft industries (e.g. preserving Malaysian weaving traditions)
- Misc (e.g. weddings!)

- “Blockchain for 2018 and Beyond” by Kevin Doubleday of Fluree DB:

- https://medium.com/fluree/blockchain-for-2018-and-beyond-a-growing-list-of-blockchain-use-cases-37db7c19fb99

# Blockchain: Hype or Hope?

**While blockchain technology has been in use since 2009, this chart shows that its has only entered into the mainstream since 2016:**

https://trends.google.com/trends/explore?date=all&q=blockchain

**"Our Top 5 Bitcoin "Good News" Stories of 2017"**

**"2017 has been a banner year for bitcoin and blockchain technology"**

https://bitcoinmagazine.com/articles/our-top-5-bitcoin-good-news-stories-2017/

**"2017: The Year Blockchain Got Weird"**

https://www.coindesk.com/2017-year-blockchain-got-weird/

**"26,000 blockchain projects launched in 2016, 92 percent are now dead"**

https://thenextweb.com/hardfork/2017/11/09/deloitte-blockchain-26000-projects

**"Hacks, Scams and Attacks: Blockchain's 2017 Disasters"**
https://www.coindesk.com/hacks-scams-attacks-blockchains-biggest-2017-disasters/

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# Blankety Blank…??

Example: Distributed (or permissioned) ledger technology could finally solve ___ and ___. It can reimagine ___. Having an unchangeable record can enable ___ ___ that will ___ ___. The emerging use cases span the gamut from ___, ___, ___ and ___ to ___ and ___.

Adapted from: Sullivan, T. (2018) "'Mad Libs' for Blockchain: Fill in the Blanks Now to Avoid Mistakes Before it's Too Late." Healthcare IT News http://www.healthcareitnews.com/news/mad-libs-blockchain-fill-blanks-now-avoid-mistakes-its-too-late

# What would you change if you had a permissioned ledger at your disposal?

Key affordances:

- **Immutability** meaning that information is **tamper proof** and can never be altered nor erased.

- **Traceability** based on being able to **see everything** that's moving through the blockchain / across the ledger at a glance.

- **Sensor** technology linked to the blockchain.

- **Wearable devices** linked to the blockchain.

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# Is blockchain right for you?

Maull, R., Godsiff, P., Mulligan, C., Brown, A., and Kewell, B. (2017) Distributed ledger technology: Applications and implications. Strategic Change, September 2017, Wiley. DOI: 10.1002/jsc.2148

# Blockchain 4 Good?

## Kranzberg's Laws

- Technology isn't moral…but it can be used to advance social and environmental wellbeing

## B4G examples

Identity provision (UN refugee programme)
Aid financing
Remittances
Micro-entrepreneurship (egs. farming and solar energy)

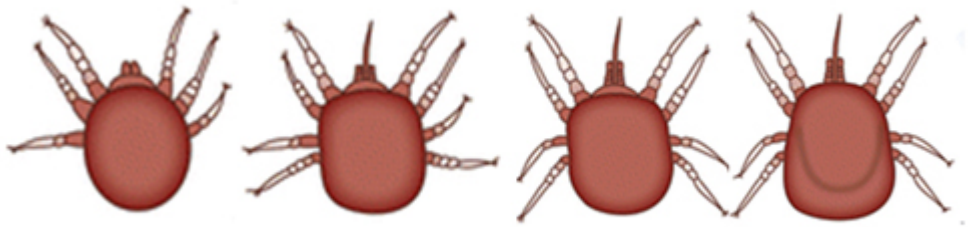
## Moral impetus

- A force for good that could tame 'wicked problems' which defy resolution by conventional means

Kewell, B., Adams, R., and Parry, G. (2017) Blockchain for Good? Strategic Change, September 2017, Wiley. DOI: 10.1002/jsc.2143.

# Batchblock – https://batchblock.com

- **Mite resistance to Acaricide is on the rise in Uganda due to either improper use and dilution of the concentrate (i.e. spraying mites with a dilution that is not strong enough to eradicate the pest), which is an issue from an educational standpoint, or product tampering (i.e.. the product intended for use is a forgery). In some cases, both cases may play a role in the rise of mite resistance.**



- **Batch Block will develop a single use case around the latter scenario; tracking a package of Acaricide to remove the uncertainty of its provenance. Batch Block will track the package from its production facility, to import/export vessels, and finally to the end-point destination(s). These end-point destinations may include small pharmacies, and/or livestock chemical distributors.**

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# Thank you for your time!

Any questions?