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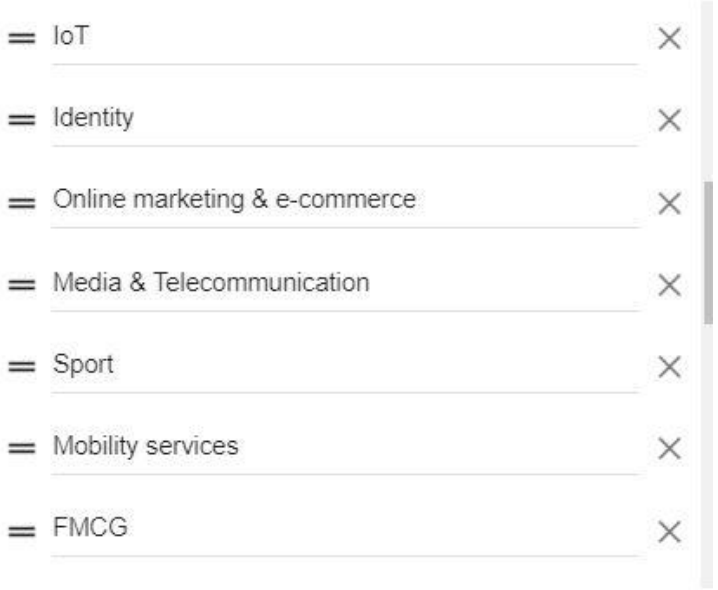
Why you don't see blockchain in your everyday life....yet

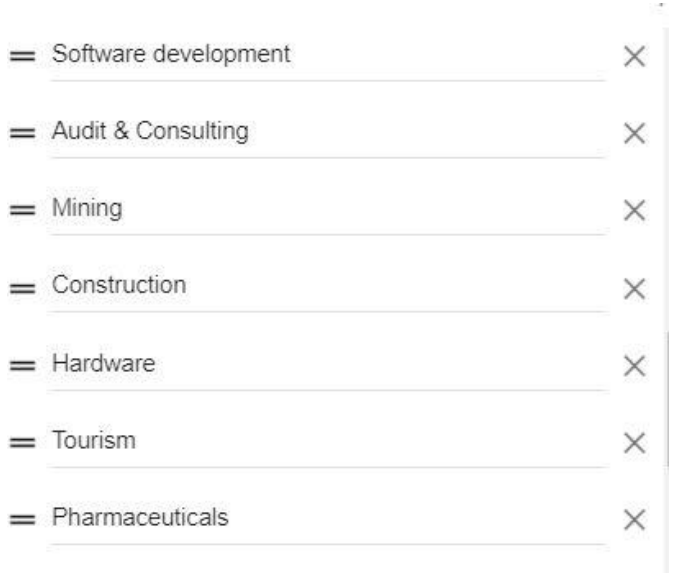
Ricardo Garcia

2nd November 2018

Gotober

BigchainDB: A general purpose technology

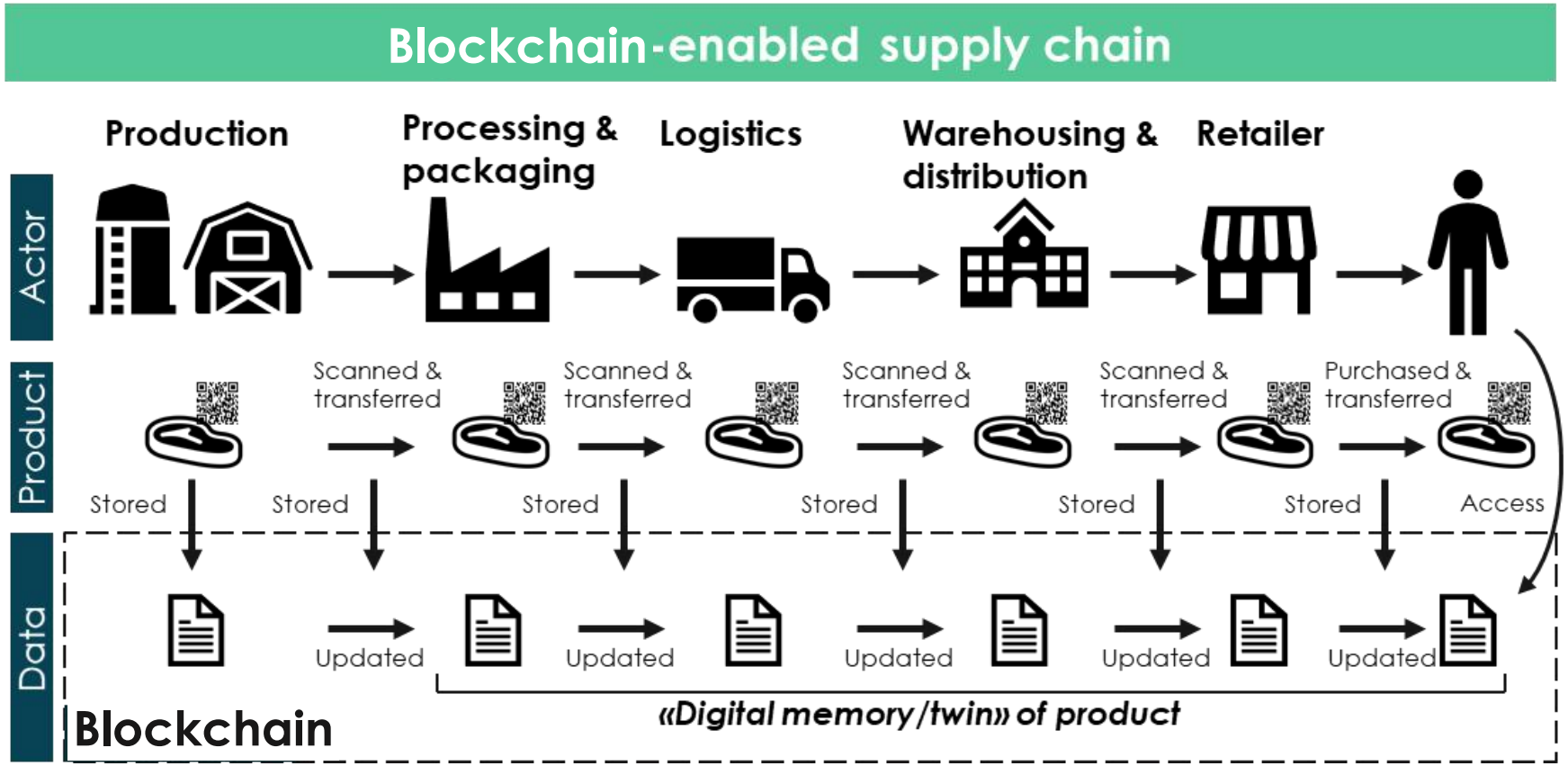




What are reasons blocking adoption?

Reason 1: Consortium set-up and governance

Blockchain: collaboration of multiple companies needed



Blockchain governance: not always easy

Image sources: https://www.shutterstock.com/search/group+of+people+arguing
https://www.shutterstock.com/search/group+of+people+arguing

Consortium set-up: data points

MOBI

Set-up time: **~12 months**
Members at launch: **37**

Set-up time: **~9-10 months**
Members at launch: **23**

Even IBM is struggling

Homepage

Features | Business News | Distributed Ledger Technology | Supply Chain | Europe

IBM and Maersk Struggle to Sign Partners to Shipping Blockchain

By **Ian Allison** - 5 days ago

It's hard enough to get enterprises that compete with each other to work together as a team, but it's especially tricky when one of those rivals *owns* the team.

Reason 2: Every blockchain project is also a digitization project

Processes today: still lots of paper!

中国银行

Bank of China TANGGU BRANCH
XINGANG 2 LU TANGGU CHINA

ORIGINAL

Date MAY 6, 1988

To Beneficiary:
VULCAN IRON WORKS INC.
2909 RIVERSIDE DRIVE, CHATTANOOGA
TN 37406 U.S.A.

IRREVOCABLE DOCUMENTARY CREDIT NO. 21088047
valid for negotiation in U.S.A. until JULY 15, 1988

Amount USD167,303.37(USD ONE HUNDRED SIXTY SEVEN THOUSAND THREE HUNDRED AND THREE POINT THIRTY SEVEN ONLY) CIF

Transmitting Bank:
BANK OF CHINA
NEW YORK
U.S.A.

Applicant:
BOHAI OIL CORPORATION OF CHINA
NATIONAL OFFSHORE OIL CORPORATION
TANGGU
CHINA

Dear Sirs:
We hereby issue in your favour this documentary credit which is available by your draft(s) at sight for 100% invoice value on us marked as drawn under this credit and accompanied by the following documents marked with x:

1) Signed commercial invoice in 4 copies indicating contract No. and L/C No.
2) Full set of clean on board ocean bills of lading made out to order and blank endorsed marked "Freight Prepaid" notifying China National Foreign Trade Transportation Corp. at destination.
3) Packing list/weight memo in 4 copies showing quantity/gross and net weight for each package.
4) Certificate of quality in 4 copies issued by the manufacturer
(5) Insurance policy
endorsing shipment of 88SLDOCOE-040

Spare parts for the vulcan 560 USD167,303.37

BANK OF CHINA - NEW YORK
REFERENCE NUMBER:
688NY1765

Price term: CIF XINGANG PORT USD167,303.37
Packing: TO BE PACKED IN STRONG WOODEN CASE(S)

Documents to be presented within 15 days after date of shipment.
This credit is subject to U.C.P.D.C. (1983 revision) Pub. No.400.

Shipment from New orleans to Xingang port not later than June 30, 1988
Partial shipments not allowed
Transhipment not allowed

Special Instructions:

We hereby undertake that all drafts drawn under and in compliance with the terms of this credit will be duly honored on presentation at this office.

for BANK OF CHINA
TANGGU BRANCH

Authorized Signature

Your Company Logo

Your Company Name
123 Company Lane - New York, NY 12345
Tel: (123) 456-7890 - Fax: (123) 456-7890

STRAIGHT BILL OF LADING - ORIGINAL - Not Negotiable

Carrier's Pro No. _____
Shipper's Bill of Lading No. _____
Consignee's Reference/PO No. _____

Name of Carrier _____ Carrier's Code (SCAC) _____ Date _____

RECEIVED subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; from YOUR COMPANY NAME HERE at YOUR COMPANY ADDRESS HERE the property described below, in good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as shown below, which the carrier agrees to carry to destination, if on its route, or otherwise to deliver to another carrier on the route to destination. Every service to be performed under this bill of lading shall be subject to all the conditions not prohibited by law, whether printed or written, as set forth on this document, including the conditions on the back, which are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to _____
For all Collect on Delivery Shipments, the letters "COD" must appear before consignee's name

Destination Street _____

City _____ County _____ State _____ Zip _____

Additional Shipment Information _____

Collect on Delivery: $ _____ and remit to: RUDCO PRODUCTS, INC., at the address specified above.

C.O.D. charge to be paid by ☐ Shipper ☐ Consignee

Handling Units No. Type	Packages No. Type	* HM	Kind of Package, Description of Articles, Special Marks and Exceptions (Subject to Correction)	Weight (Subject to Correction)	Class or Rate/Ref. (For Info. Only)	Cube (Optional)

*Mark "X" to designate Hazardous Materials as defined in Department of Transportation Regulations.

Note (1): Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property as follows: "The agreed or declared value of the property is specifically stated by the shipper to be not exceeding _____ per _____."

Freight charges are PREPAID unless marked collect.
CHECK BOX IF COLLECT ☐

Notify if problem enroute or at delivery _____ (for informational purposes only)
Name Tel No. Ext. No.

Send freight bill to: _____
Company Name Street City State Zip

Shipper _____ Carrier _____
Per _____ Per _____ Date _____

FOR FREIGHT COLLECT SHIPMENTS
If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier may decline to make delivery of this shipment without payment of freight and all other lawful charges.
Signature of consignor

SHIPPER CERTIFICATION

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per: _____ Dated _____

CARRIER CERTIFICATION

Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and/or carrier has the Department of Transportation emergency response guidebook or equivalent documentation in the vehicle.

Per: _____ Dated _____
Package Nos. _____

RECEIPT OF GOODS ACKNOWLEDGED

Purchaser/Consignee: _____ By: _____ Title: _____
Date: _____

NO FREIGHT BILLS WILL BE PAID WITHOUT ORIGINAL, SIGNED BILL OF LADING – CONTAINERS MUST BE UNSTACKED WITHIN 2 WEEKS

Case study: the Swiss healthcare system

~300 mn. A4 sheets of paper per year
~820'000 A4 sheets per day
~220 tons of paper per small hospital
~7 trucks of weight per hospital

Source: https://www.swisscom.ch/de/business/enterprise/downloads/health/schweizer-gesundheitsdaten.html

Reason 3: Legacy systems are complex and hard to integrate with

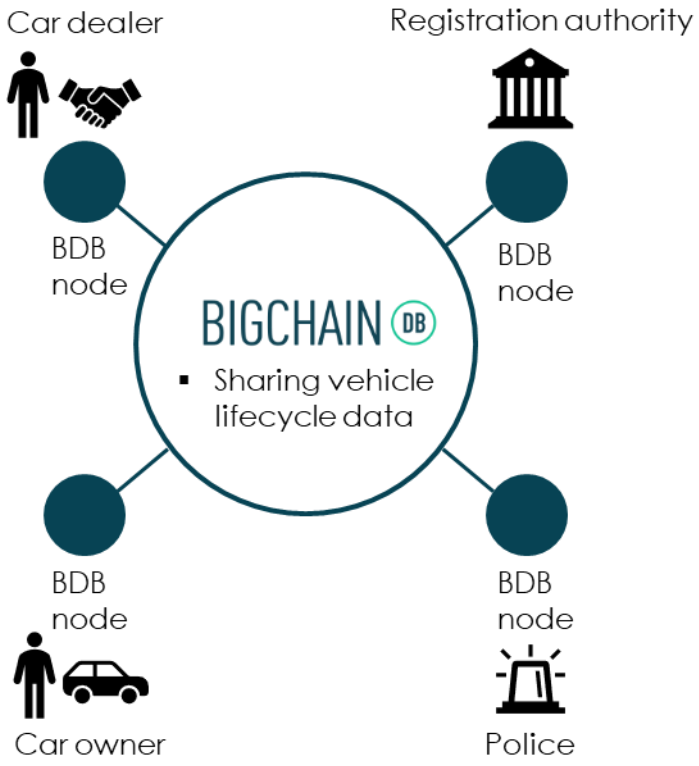
ERP and CRM systems: they're everywhere

Source: https://d2v9y0dukr6mq2.cloudfront.net/video/thumbnail/kuvGEm2/plane-flying-above-the-clouds-airplane-in-flight-front-view_b9o98l-ke_thumbnail-full09.png

Reason 4: Regulation, Regulation, Regulation

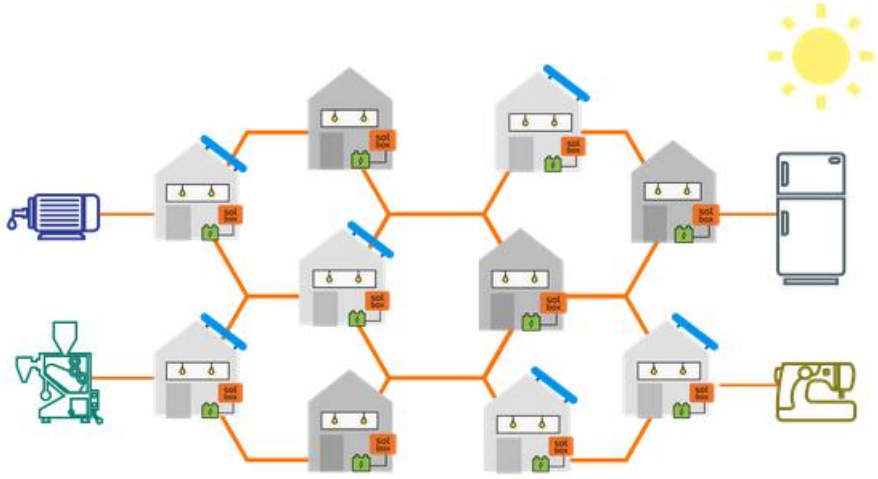
Regulation: the devil lies in the details

Vehicle lifecycle management



Nice digital process, but: physical car documentation required by law!

P2P energy trading



P2P trading challenging with German regulation

Source: https://medium.com/le-lab/solshare-the-startup-for-sharing-solar-energy-in-bangladesh-en-377002b21716

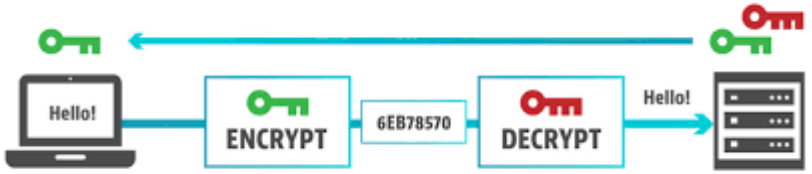
Reason 5: Immaturity of blockchain technology

Blockchain technology: evolution needed

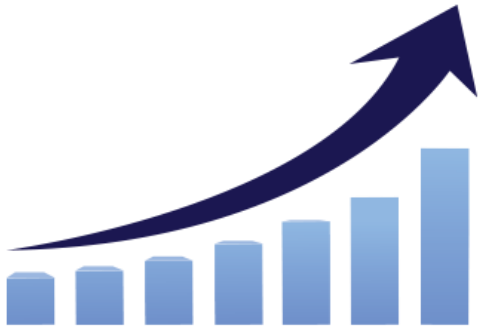
Key & identity management

Public Key: **Au2mCkcgZKJQQ9qs27LK2uCXibvQvsNE6oPayDhsJcj4**
Private Key: **F5PnCmsSgvz1tCWU2b9QZwHA1trriSU3Qpb6a6UjQkEA**
User Id: **dd53a80a86f88f4d96a34411793bf85396d79edbbbc335148e0c5361260e2859**
Pass Phrase: **sniff auction radio shadow capable truth chicken knee attend mix year screen**

Encryption & privacy



Scalability



Interoperability

Image sources:
https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRaR85E6w_UP2uWeIogU0L_B1CPt8MqUV3wWo2tEXlVAEENTBK-
https://www.masseycloud.com/wp-content/uploads/2015/01/Intacct-Scalability.png
https://hitinfrastructure.com/news/lack-of-ehr-interoperability-standards-challenges-health-it

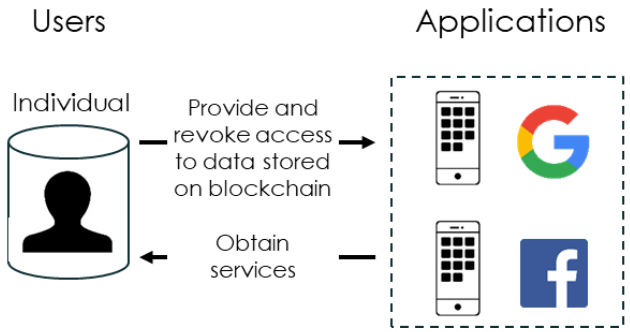
But: many smart engineers working on it

Image source: https://www.google.de/imgres?imgurl=http%3A%2F%2Fwww.business-review.eu%2Fwp-content%2Fuploads%2F2017%2F01%2Fmillenials.jpg&imgrefurl=https%3A%2F%2Fgineersnow.com%2Fleadership%2Fsmart-engineers-handle-people-dislike&docid=wYWyanAYRfJHBM&tbnid=fyGV-aWkKctntM%3A&vet=10ahUKEwi854H7l6jcAhVGzaQKHRWmALIQMwhzKDAwMA..i&w=1200&h=776&bih=566&biw=1280&q=smart%20engineers%20working&ved=0ahUKEwi854H7l6jcAhVGzaQKHRWmALIQMwhzKDAwMA&iact=mrc&uact=8

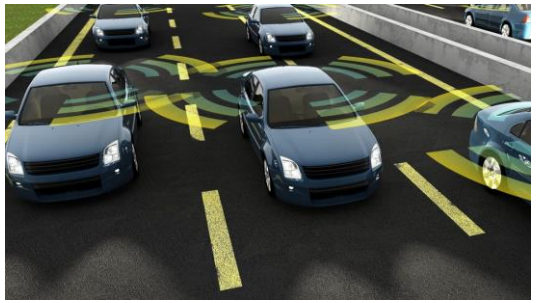
Reason 6: Blockchain makes sense in a world we «might» move into, which takes time

The future we might move towards

Users caring about their data



Autonomous devices that transact with each other



Adoption takes one generation

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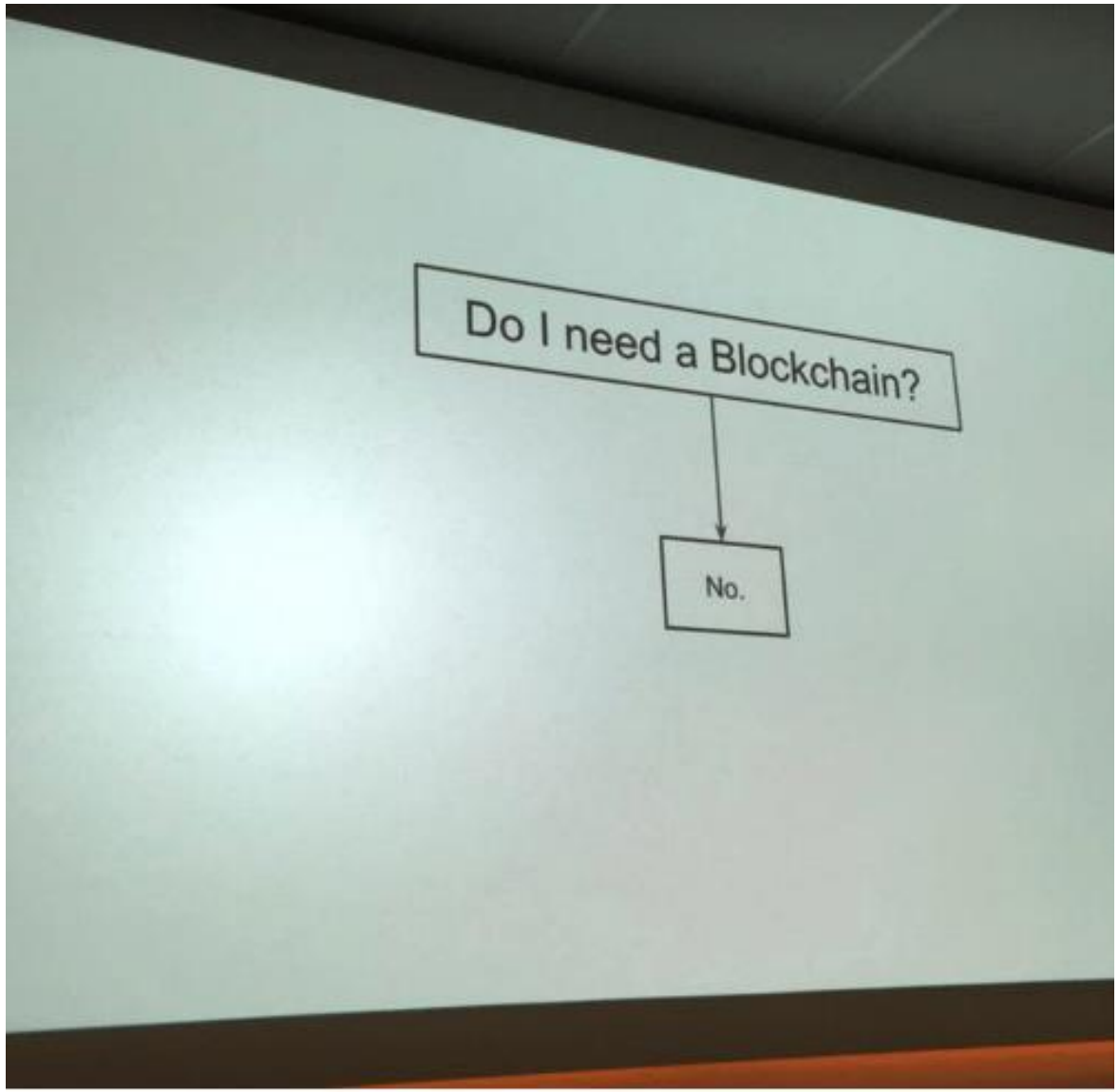
Image sources: https://www.macobserver.com/wp-content/uploads/2016/12/autonomous-cars-1200x675.jpg?x17760
http://pctechmag.com/2015/11/5-rules-for-buying-smart-home-devices-with-no-regrets/
https://www.gobankingrates.com/banking/banks/best-banks-credit-unions-young-adults/

To sum it up: where we stand today?

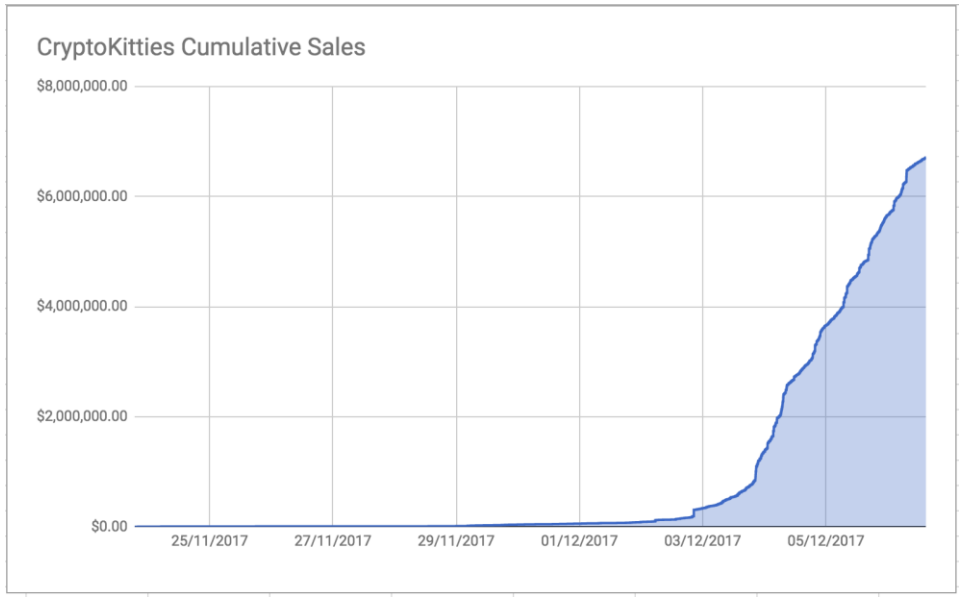
2009	2012	2014	2018
What is bitcoin?	Bitcoin is bad	Bitcoin is bad, blockchain is good	Blockchain is complex and we need to study the high-value use cases


Do I need a Blockchain?
No.

So, how can we increase adoption?

Trick 1: work with start-ups

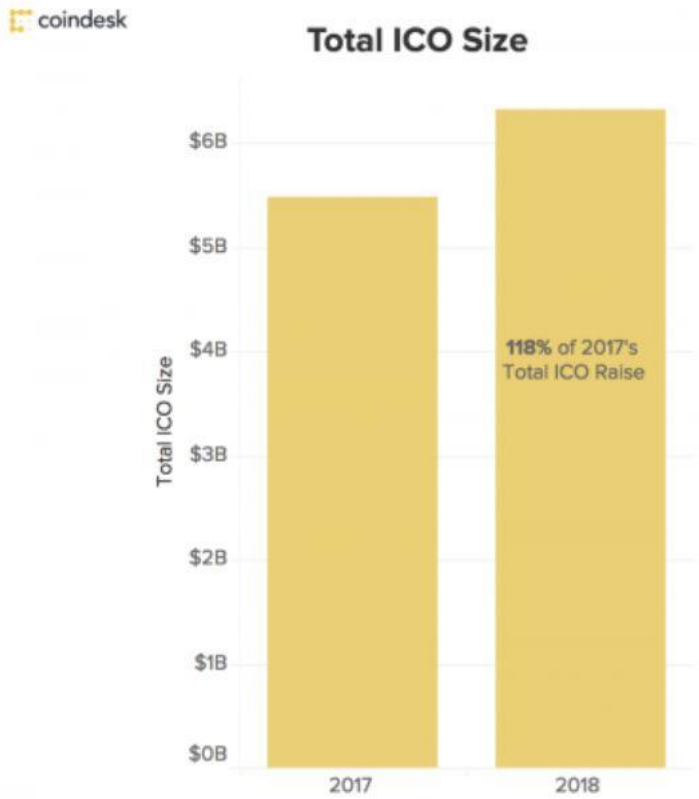
Viral blockchain use cases



Source: Niel de la Rouviere

Image source: https://hackernoon.com/how-we-made-100k-trading-cryptokitties-2d69aebe715b
https://fm.cnbc.com/applications/cnbc.com/resources/editorialfiles/charts/2017/12/1512580834_cryptokittiessaleschart.png

Blockchain start-ups: Lots of funding



Source: Coindesk

~11-12 bn USD raised in ICOs

Blockchain start-ups: building on BigchainDB

Finance
- Decentralized exchanges
- Data monetization
- Centralized exchanges

E-commerce
- Decentralized shopping profile
- Transparent online marketing
- Data access control for online marketing information

Healthcare
- Health data monetization
- Fitness data monetization

Gaming
- Scalable decentralized gaming platform

Identity
- Decentralized KYC
- Self-sovereign identity

IoT
- Smart home IoT data storage
- Digital twins

Supplychain
- QR code integration for transparency
- Decentralized manufacturing

Media
- Decentralized linkedin
- Decentralized movie platform
- Data monetization

others
- Decentralized software licensing

Trick 2: work with pioneers

Blockchain in enterprise and government: some pioneers

Enterprises

TOYOTA RESEARCH INSTITUTE

Multinatinal bank

ENEXIS NETBEHEER

Two multinatinal FMCG providers

innogy

Deutsche Telekom

BOSCH

Governments

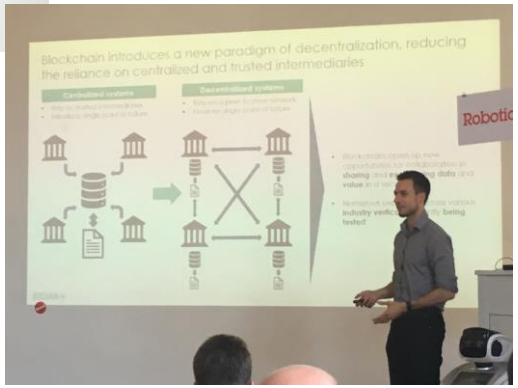
Government of the Netherlands

Republic of Estonia Government

GOVERNMENT OF DUBAI

Trick 3: Educate the world

Explaining blockchain to the world

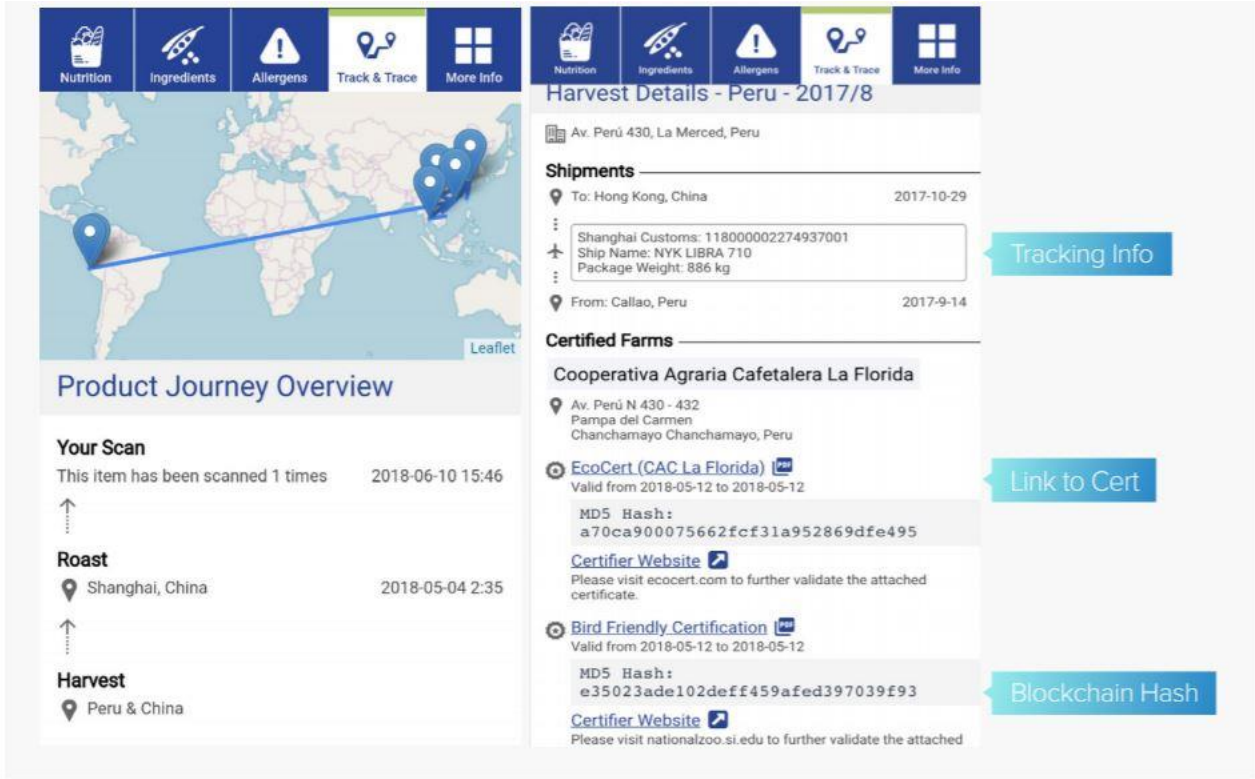


Closing the loop: who is building the future, today?

Decentralized identity for refugees

Product provenance and sustainability

SCANTRUST



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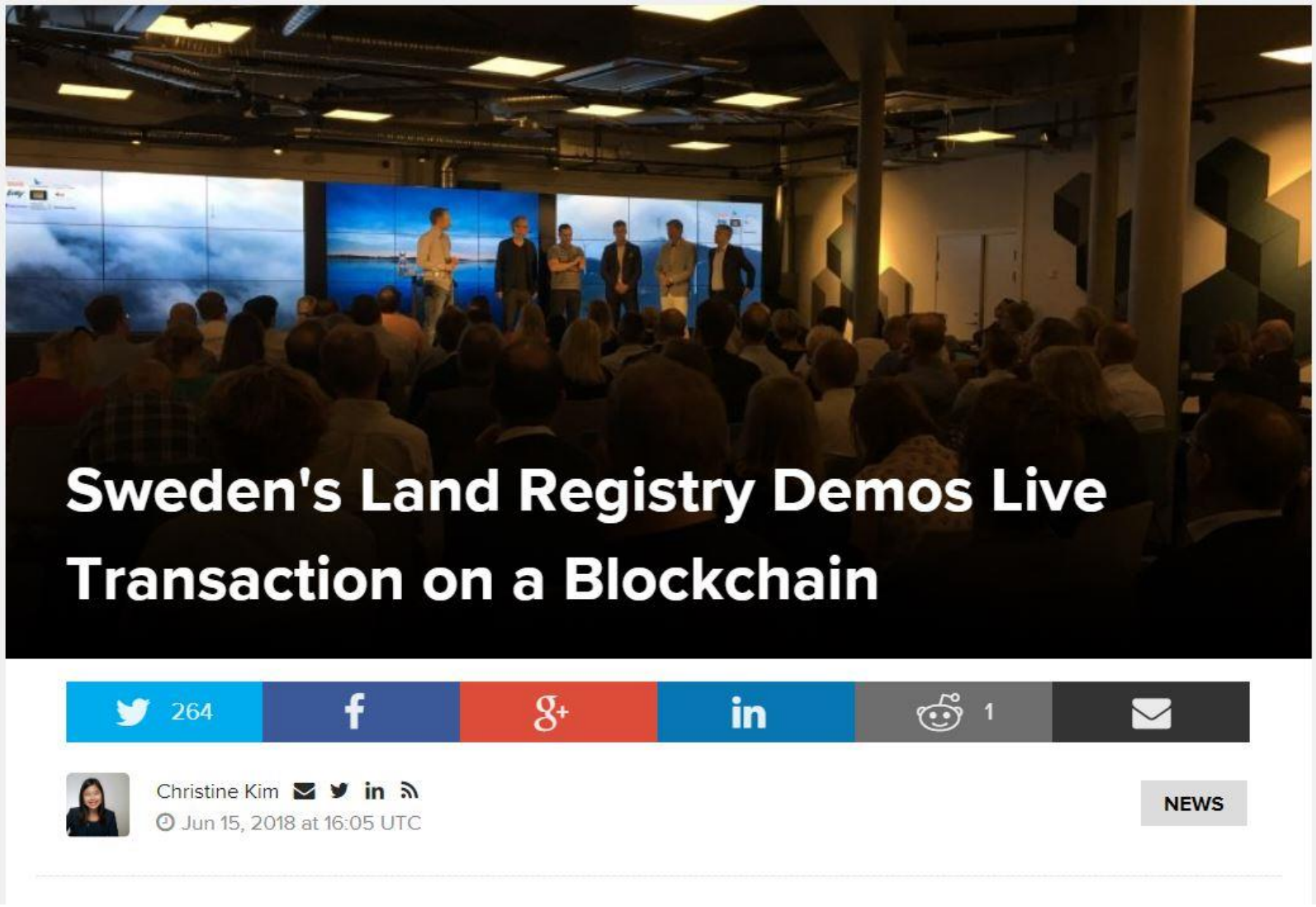
Digital government registries



Get back control over your data

Stay tuned for updates…

Art. 20 GDPR

Right to data portability

1. The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided, where:

Art. 17 GDPR

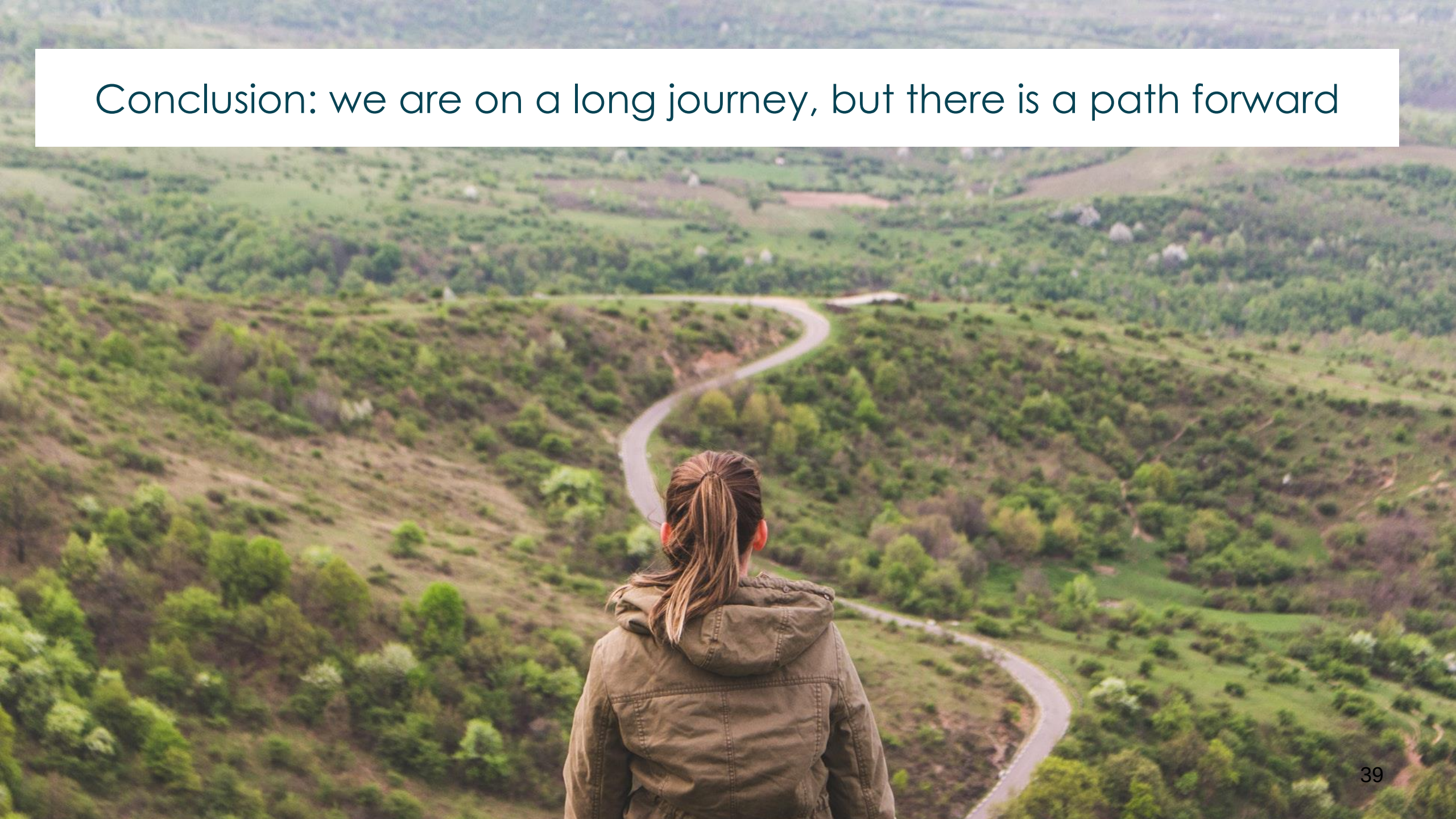
Right to erasure ('right to be forgotten')

. The data subject shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay where one of the following grounds applies:

BIGCHAIN DB

38

Conclusion: we are on a long journey, but there is a path forward



Thank you!

Please

Remember to rate this session

Thank you!

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