

BUILDING WITH BLOCKCHAIN.

What's in it for me?



Simon Tranter

Head of Sustainability
Willmott Dixon Interiors

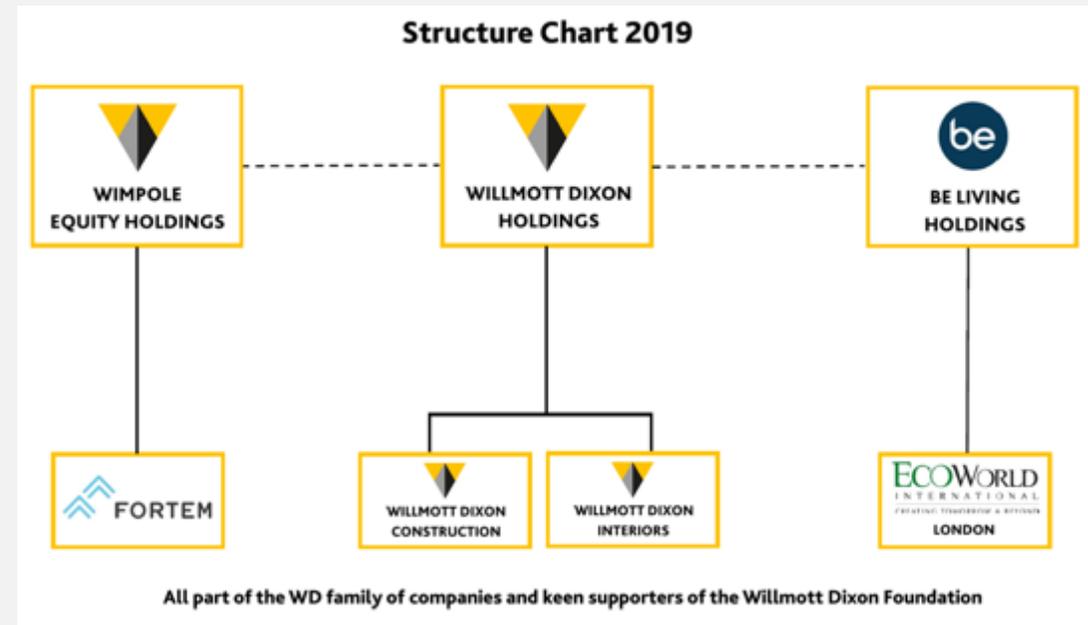


Automated
Markets.





- + UK's Largest privately owned contracting and interior fit-out group
- + **~£1.2b** turnover group wide
- + Winner of **3 Queen's Awards for Enterprise:**
 - + Sustainable development – 2014 and 2019
 - + Promoting opportunity through social mobility – 2018
- + Voted **4th best company** to work for in 2019 by the Sunday Times



Farmer Review (2016)

The Hackitt Review (2018)

**Government's
Construction Strategy
2025**

...and plenty more





Thank You

Simon Tranter

M: +447875 284527

Willmott Dixon Interiors
32 Farringdon St
London
EC4A 4HJ

T: +44(0)20 7634 9600

willmottdixoninteriors.co.uk



Rob Aitchison



*Chief Operating Officer
at Automated Markets*

rob.aitchison@automatedmarkets.com

**Automated
Markets.**



**Automated
Markets.**



Welcome to Event 1

What is Blockchain, what is our project and why should it be of interest to me?

How does the UK government view this technology?

Why did the CITB commission this project and where does it fit in the digital construction environment?



Discovery

Please enter your questions in the chat box

We will hold a roundtable at the end and polls throughout – we appreciate your participation!

We will take a quick 5 min break about halfway through.



Agenda:

The Government Viewpoint

Blockchain – an introduction on how it creates value

A perspective on Supply Chain and Blockchain

Building the solution – the discovery process

Blockchain – a perspective within digital construction

The CITB commission

Panel



Lord (Chris) Holmes of Richmond MBE



Co-chair of Parliamentary Groups on Assistive Technology, Fintech, Blockchain and the 4th Industrial Revolution

Lord (Chris) Holmes of Richmond MBE

Report Link

http://chrisholmes.co.uk/wp-content/uploads/2017/11/Distributed-Ledger-Technologies-for-Public-Good_leadership-collaboration-and-innovation.pdf

<https://www.linkedin.com/in/lord-chris-holmes/>

holmesc@parliament.uk



Sam Gamble



*Chief Executive Officer
at Automated Markets*

sam.gamble@automatedmarkets.com

**Automated
Markets.**



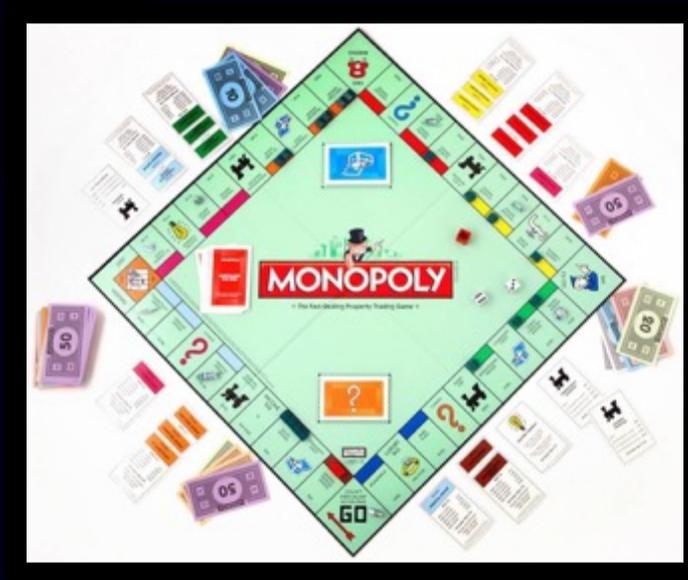
BLOCKCHAIN AND DATA



What blockchain is and how it
increases the value of your data

BLOCKCHAIN: AN ANALOGY

BLOCKCHAIN: AN ANALOGY



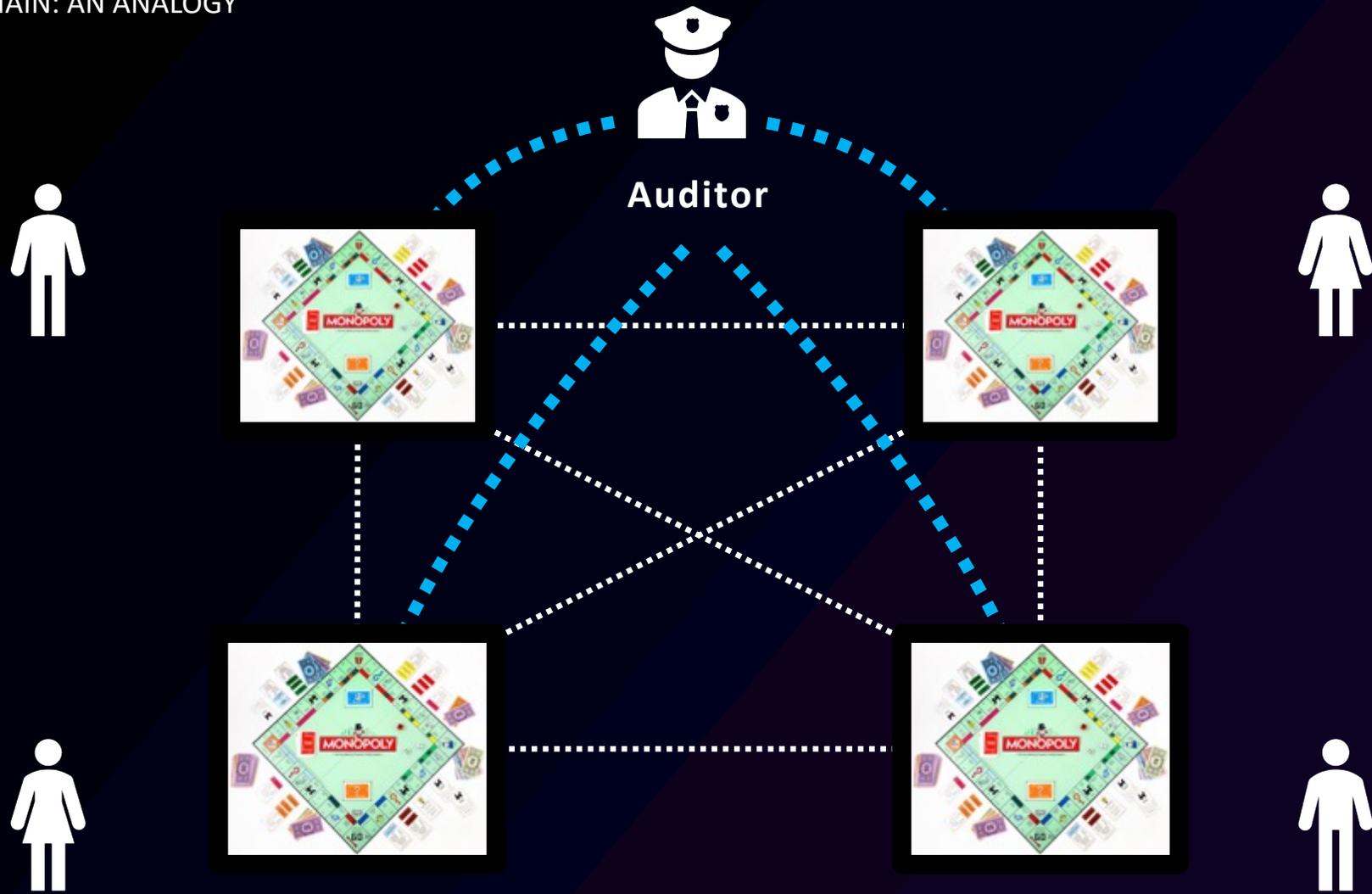
Automated
Markets.

BLOCKCHAIN: AN ANALOGY



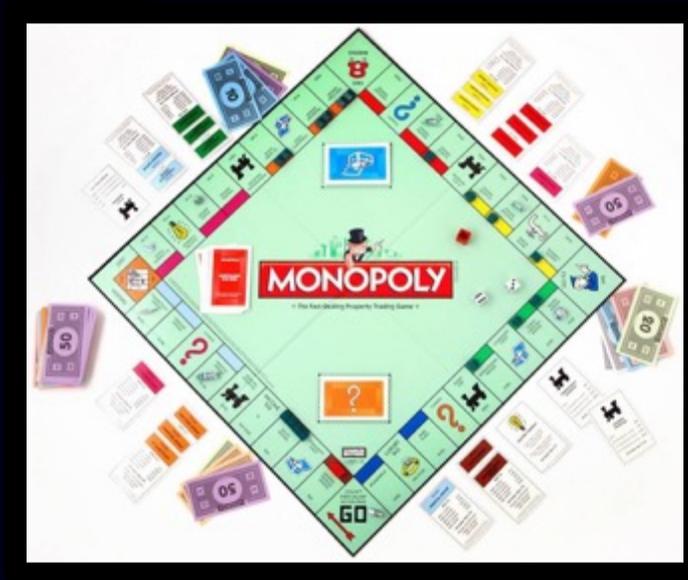
Automated
Markets.

BLOCKCHAIN: AN ANALOGY



Automated
Markets.

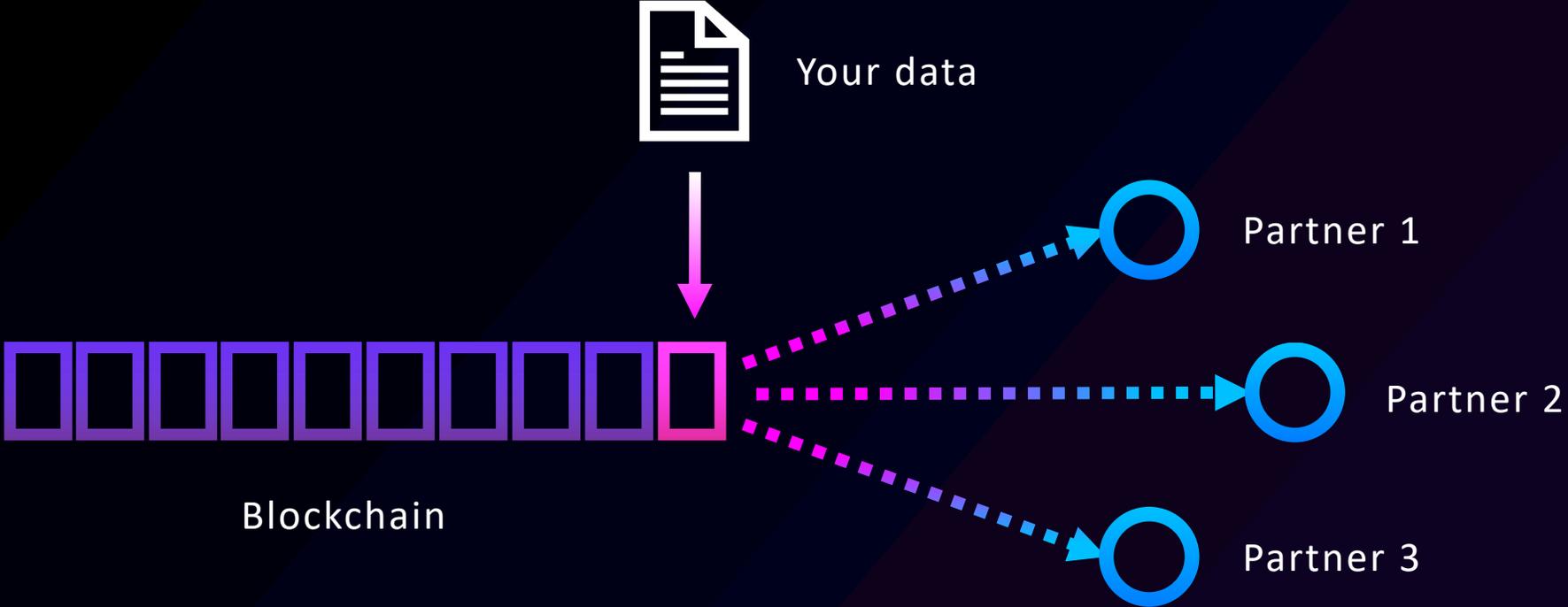
BLOCKCHAIN: AN ANALOGY



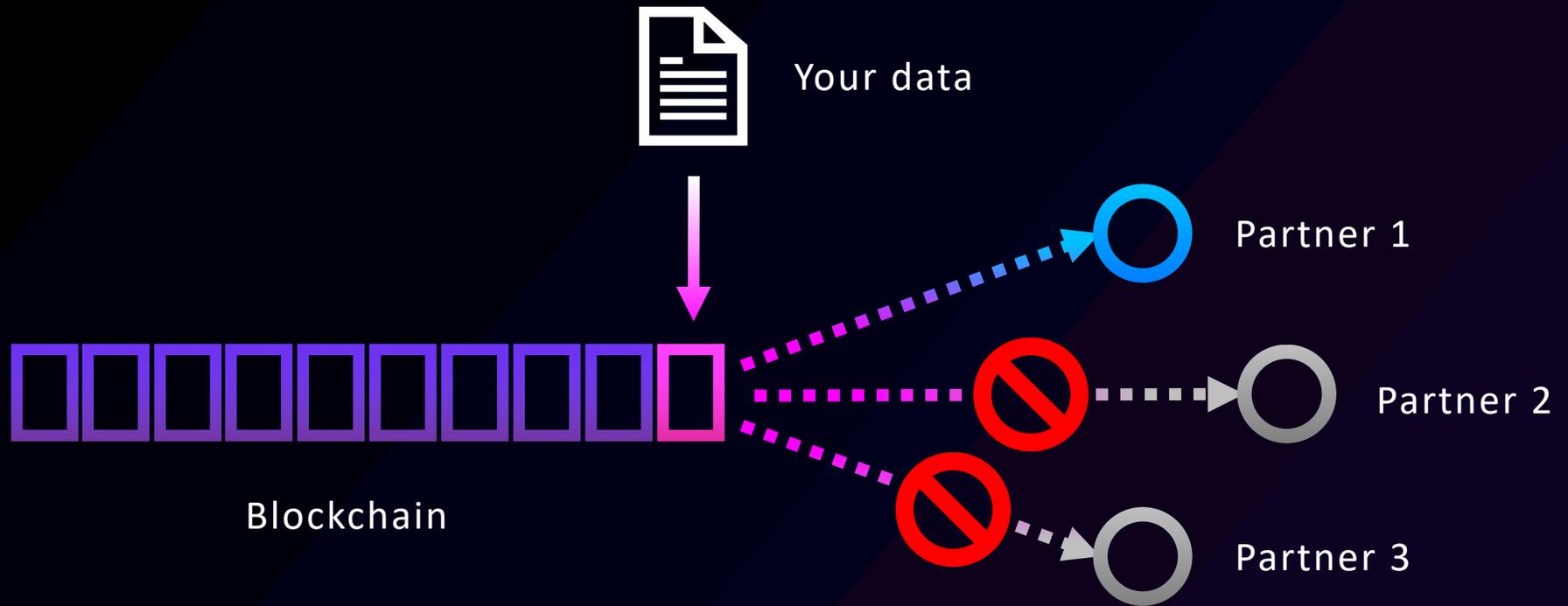
Automated
Markets.

DATA SHARING

BLOCKCHAIN: DATA SHARING

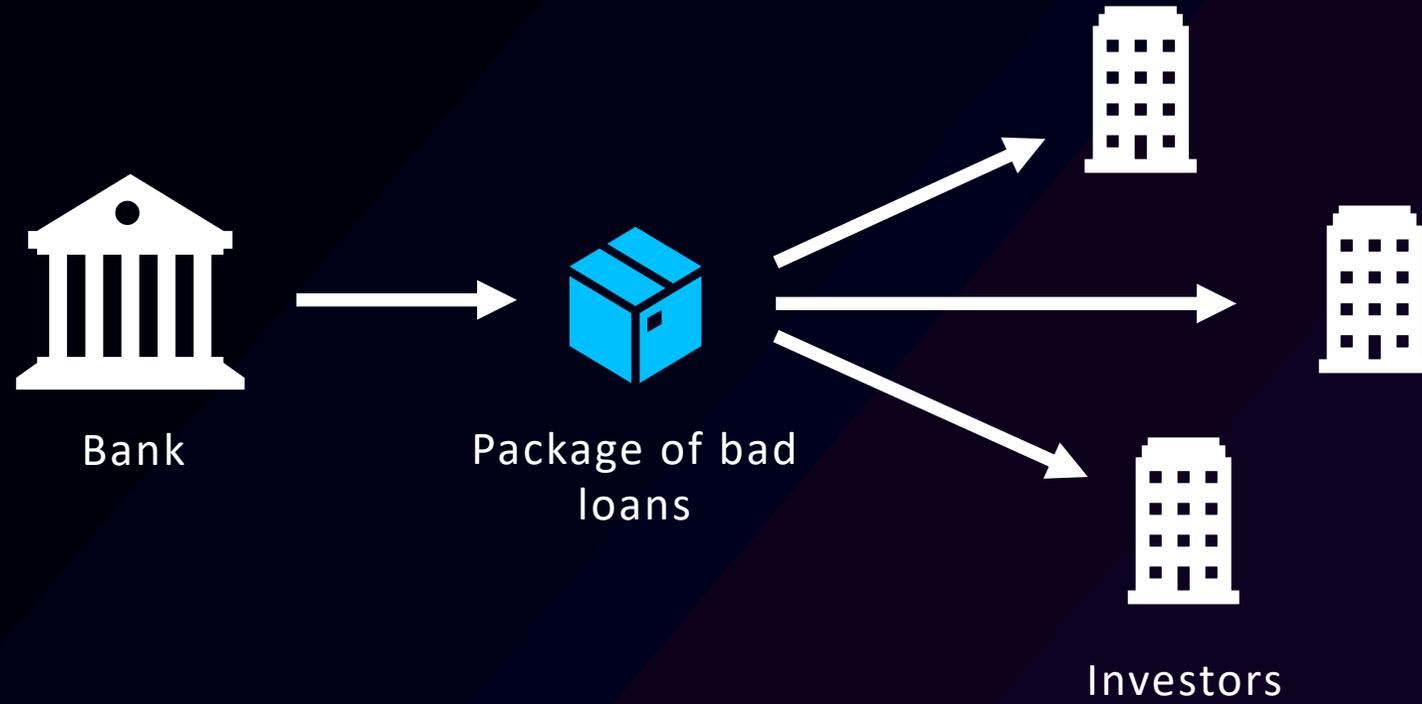


BLOCKCHAIN: DATA SHARING

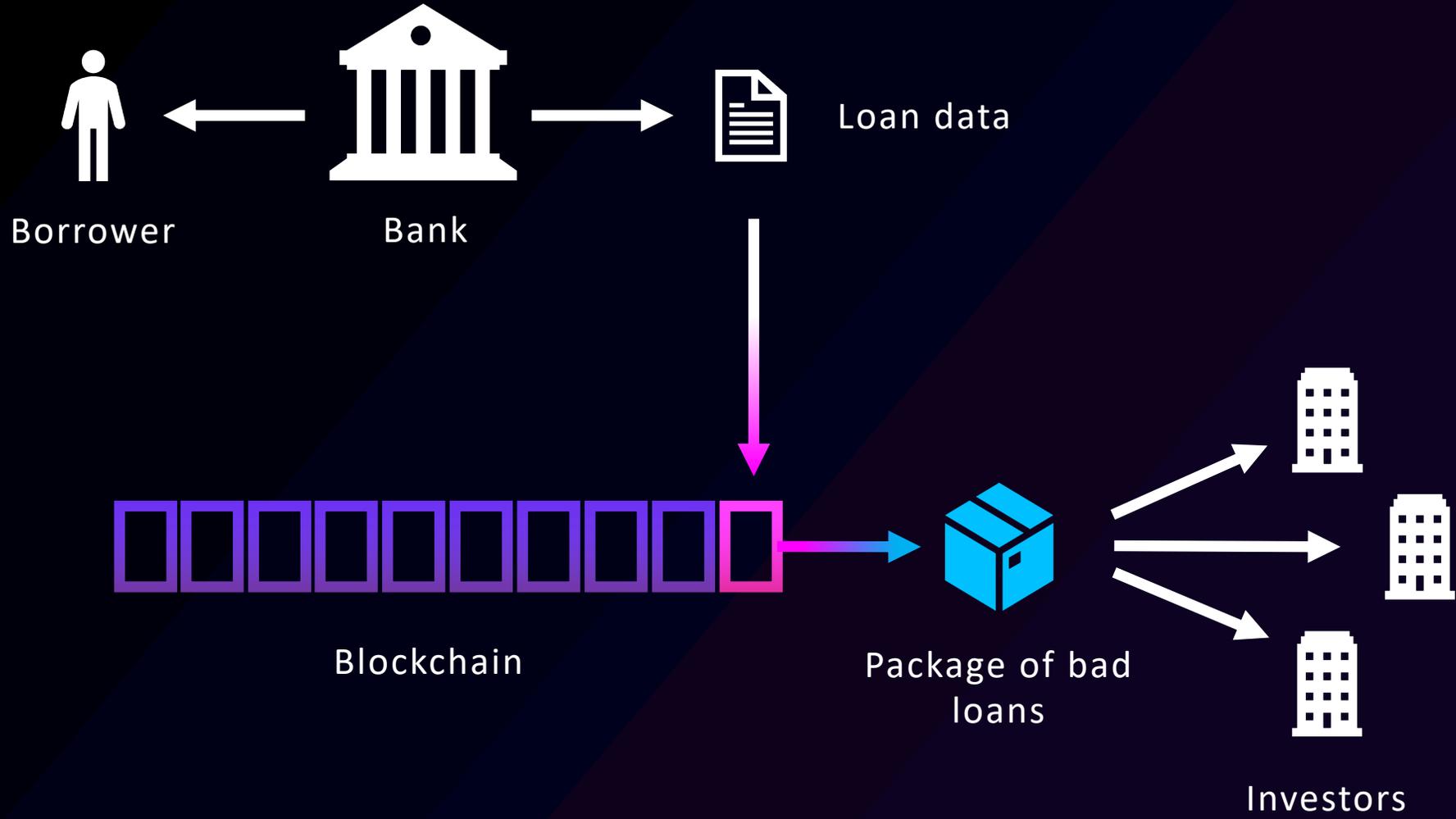


INCREASING THE VALUE OF DATA

Automated
Markets.



BLOCKCHAIN: DATA VALUE



**Automated
Markets.**

Fernando Santiago-Cajaraville



*Blockchain Researcher & Project
Manager at Big Innovation Centre*

f.santiago@biginnovationcentre.com



Automated
Markets.





BIG
INNOVATION
CENTRE

Blockchain & The Supply Chain Management

A perspective on the Construction Industry

London, 21st April 2020

Fernando Santiago-Cajaraville
Blockchain Researcher & Project Manager

www.biginnovationcentre.com

Steve Cook



*National Product Manager
at Willmott Dixon Construction*

steve.cook@willmottdixon.co.uk



Automated
Markets.





Distributed Ledger Technology

Proof of Concept

Steve Cook
21 April 2020



PURPOSE OF THIS PROJECT

To increase skills and knowledge to enable business leaders at all levels to **evaluate the benefits of Digital Ledger Technology**



WILLMOTT DIXON

SINCE 1852



DIGITAILISATION

- Increasing digitalisation
- Limited investment in R&D
- Few understand the “how”
- Fewer still have made a start...
- Next to none have heard of **Distributed Ledger Technology.**



WILLMOTT DIXON

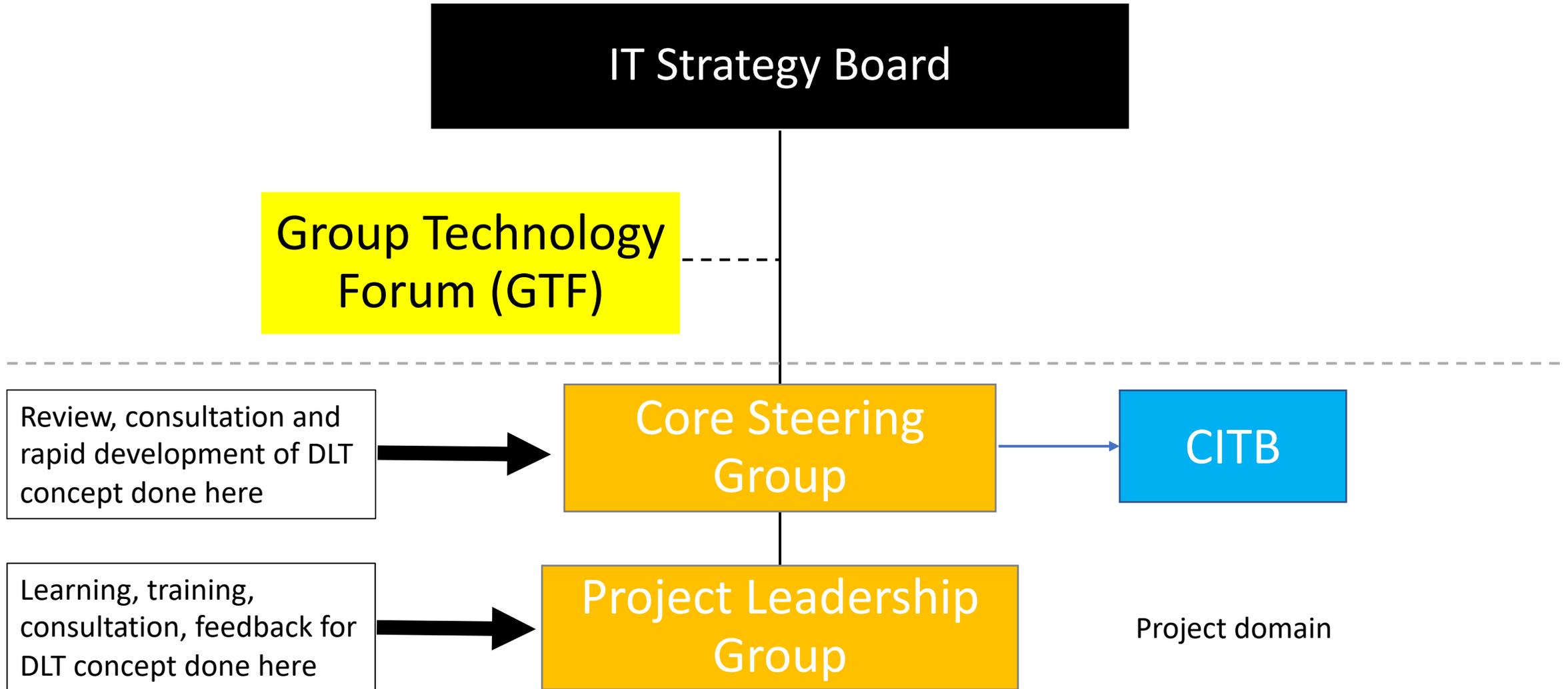
SINCE 1852

PROJECT OUTCOMES

- Develop a 'proof of concept'
- What needs to change to allow for the adoption of DLT
- Cultural changes that are needed
- Communicate to industry
- Produce a report.



GOVERNANCE STRUCTURE



PROJECT MEMBERSHIP

Core Steering Group

- Simon Tranter (Project Manager)
- Rob Aitchison, Automated Markets
- Sam Gamble, Automated Markets
- Steve Cook, Willmott Dixon
- Darren Sample, Willmott Dixon
- Graham Thornton, Willmott Dixon
- James Ibbotson, Willmott Dixon

Project Leadership Group



CHECKMATE
FIRE



Automated Markets (Delivery partner):

Automated Markets are technical experts and provide consultancy on project co-ordination and delivery. They are responsible for the technical delivery of the DLT prototype and to guide the technical learning / upskilling of participants for project outcomes.



WILLMOTT DIXON

SINCE 1852

Principal Contractors allow 'trusted' purchasing of components, which are often installed in difficult to inspect areas, where the quality and 'proof of workmanship' is guaranteed by subcontractors.



PROBLEM STATEMENT

Record Keeping

- In efficient process to validate installation
- Poor record keeping, often hard to retrieve.

Payments

- The current valuation process lacks trust.

Quality

- Potentially building non-compliance leading to poor customer/industry confidence.

The Hackitt Review (2018) cites poor record keeping and change control as precursors for building safety non-compliance.

*It has called for **obligating the creation of digital records** throughout the design and construction of projects, and for records to be part of the regulatory oversight process throughout a buildings occupied lifecycle*

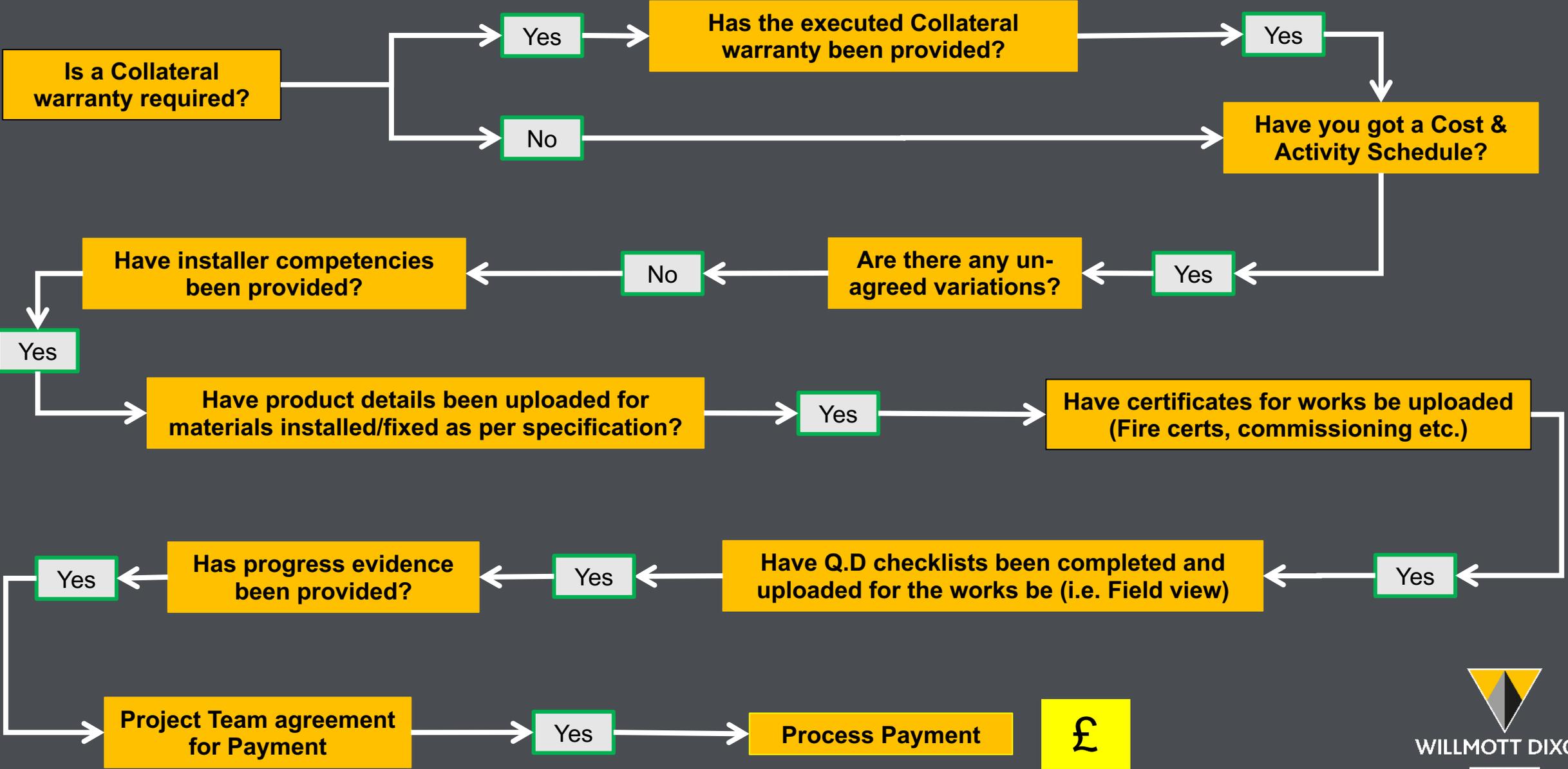
THE CONCEPT

- Develop a proof of concept in collaboration with the partners involved.
- Make the platform accessible for all relevant passive fire protection subcontractors at the point of procurement.
- Have an agreed payment schedule be set up with every order with the information required clearly identified to be uploaded along with each payment application, such as:

Operatives and their competencies
Materials used
Delivery Tickets
Manuals and technical data

Updated progress position
Installation photographs
Installation checklists
Commissioning certificates

EXAMPLE DLT PROCESS



ASSUMPTIONS

- Industry is willing to trust a more automated process in a digitally enabled world.
- Tier 1's want to collaborate.
- There is a benefit of collating immutable records in an un-hackable and traceable throughout the life of a project.
- Payments linked to uncontested records of works carried out, increases productivity and reduces disputes.
- The approach will reduce risks.



FUTURE SCALABILITY



WILLMOTT DIXON

SINCE 1852

There are many other possible areas of functionality where a blockchain/DLT could add benefits:

- *Sustainability*
- *Health & Safety*
- *Product manufacturers*
- *Delivery Tracking and chain of custody*
- *Building in use (asset management)*
- *Customers valuations of main contractors work*



WILLMOTT DIXON

SINCE 1852

Thank You



Andrew Gamblen



*Digital Manager
at Willmott Dixon Construction
London and East*

andrew.gamblen@willmott Dixon.co.uk



Automated
Markets.





WILLMOTT DIXON

SINCE 1852

A Digital Future

Where the industry is headed and
how technology will be the key to
unlocking the future





WILLMOTT DIXON

SINCE 1852

**“Blockchain by itself isn’t transformational, however it is foundational.
As a foundational innovation, Blockchain’s value can only be fully realized when the business process is transformed to take advantage of its capabilities, leading to ROI for existing business models and the ability to create value through new ones.”**

Tom Golway

Chief Technologist, Hewlett Packard



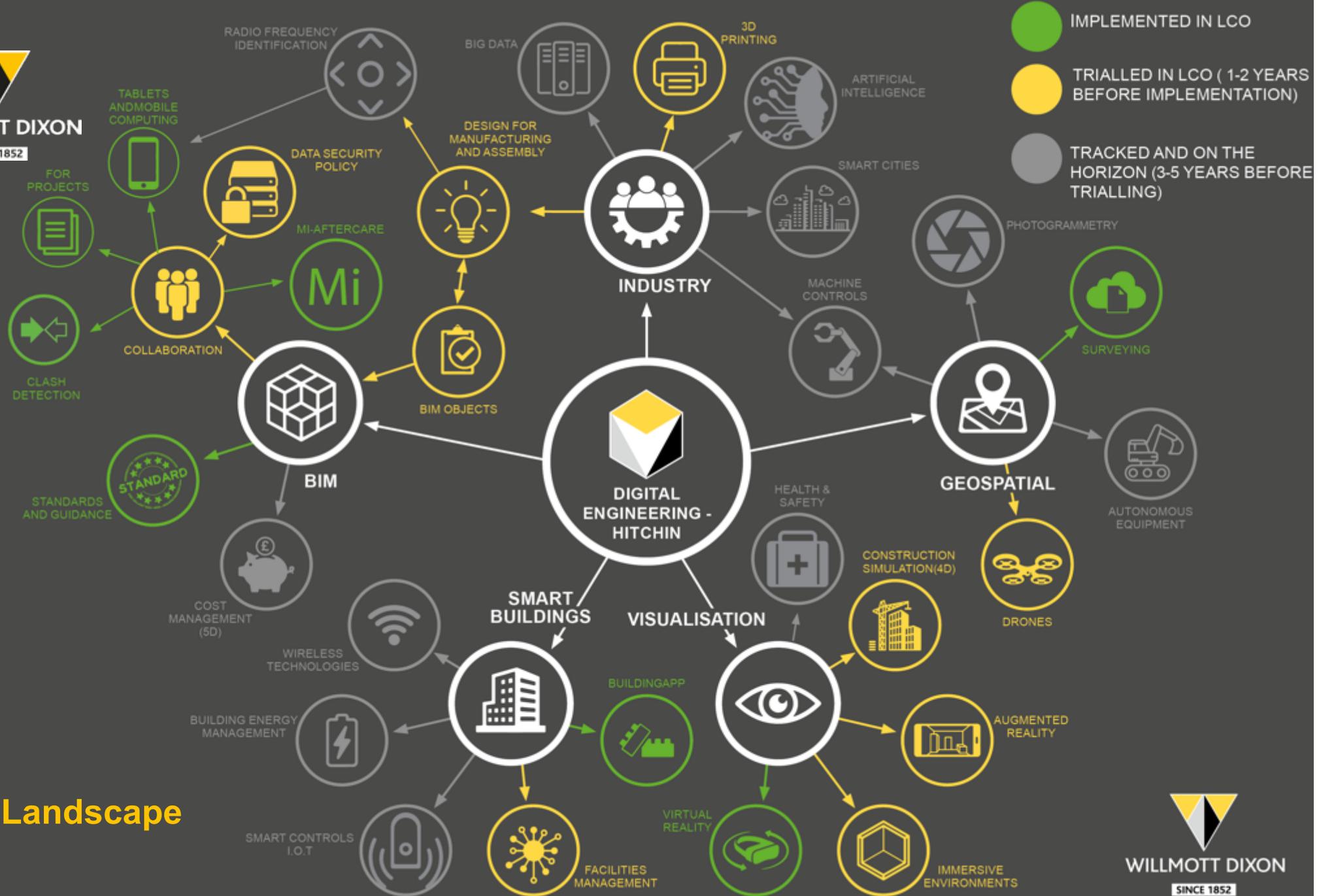


WILLMOTT DIXON

SINCE 1852

Where are we now?



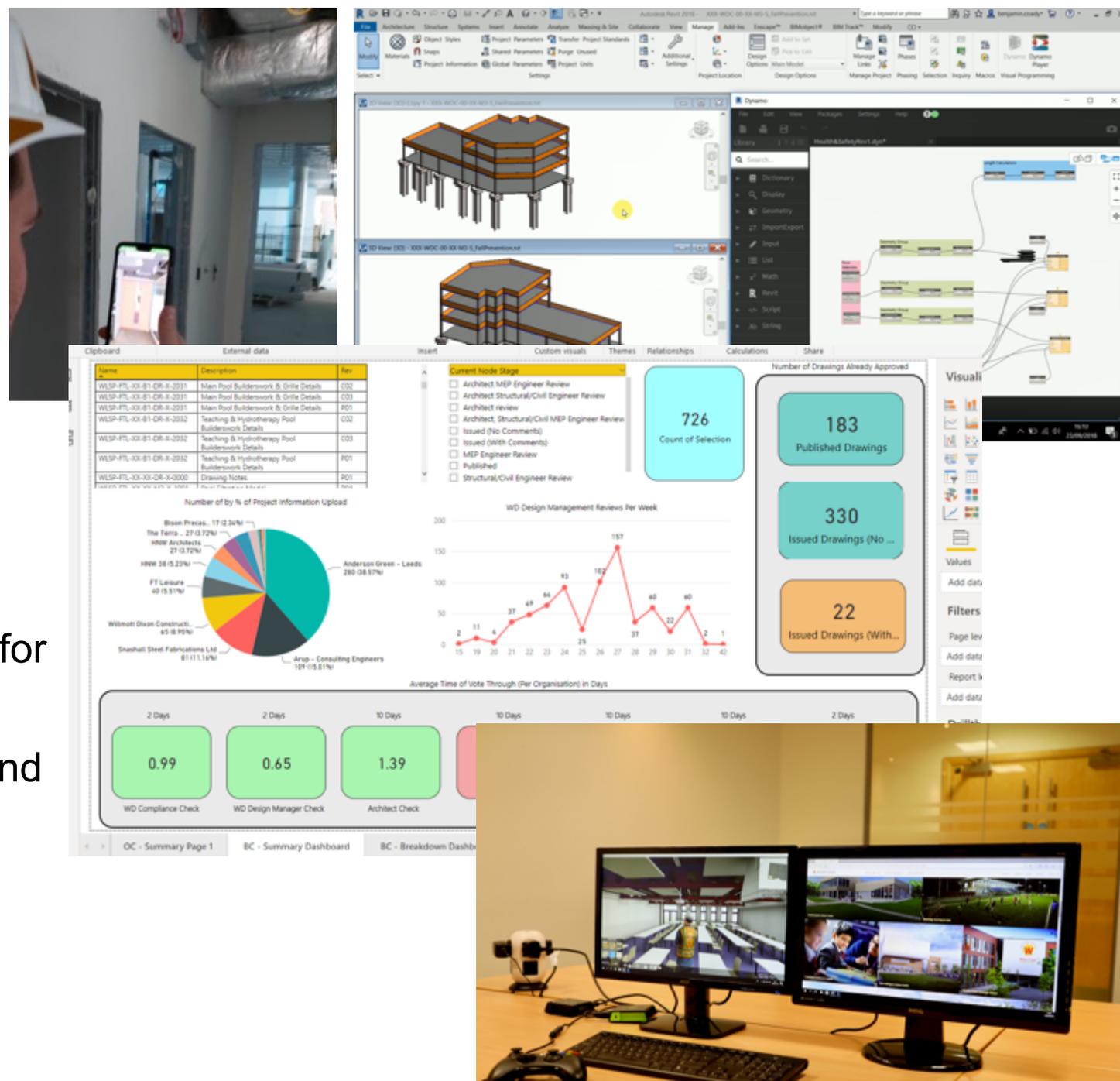


The Digital Landscape



Examples

- + On-site Augmented Reality
- + Automated edge protection design for cost purposes
- + CDE visualisation to show trends and metrics
- + Virtual machines and digital infrastructure to make best use of resources





WILLMOTT DIXON

SINCE 1852

What are the current trends?



Standardisation and Data

- + Value in standardizing the creation, storage, and use of data is being noticed
- + Software beginning to link data to classification schema allowing holistic analysis
- + Standardizing the way information is created
- + Creation and capture of quality data
- + Historic data being used to inform current decisions
- + Software shifting to become interoperable rather than closed systems

Generative Design and Visuals

- + Software is becoming more powerful and easier to use day by day.
- + Design software is starting to include built-in generative design tools to aid design
- + Visualization software is producing quick, high-quality renders
- + Using algorithms to generate base designs
- + Historic data used to inform new designs
- + Speed and quality of high-end visuals is becoming easier
- + VR and AR easily accessible



WILLMOTT DIXON

SINCE 1852

Where does Blockchain fit?



Automating Red-Work

- + Red-Work: Repetitive tasks about execution and avoiding errors
- + Many processes within construction are Red-Work that add little value to the whole chain; checking work created by others.
- + Up to 50% of construction processes add no significant value
- + Blockchain can automate many of these processes
- + Removes the human factor from repetitive tasks
- + Can speed up the checking process(es) significantly

Facilitating the Golden Thread

If set correctly, the criteria for acceptance can ensure that the right information is collected and signed-off automatically. This will ensure that the data is trusted and fully traceable.

- + Ensuring the right information is collected at the right time
- + Provides a fully traceable history of the data that can be checked at any time



WILLMOTT DIXON

SINCE 1852

What could the future look like?



A Short-Term View

- + In the next 3-5 years there will be a significant shift in construction away from the traditional methods and processes
- + Industry will move to those that are more transparent, interoperable, and those that leverage technology to aid the process.
- + Traditional businesses will have to adapt to survive
- + Current methods will be questioned and “new” methods will be explored with more intent
- + The focus on data will grow

A Construction Utopia

1

Blockchain

A single blockchain that covers the whole lifecycle of an asset from design, to construction, to operations, to demolition

Interoperable

Software

Software that creates, stores, and exports data in an industry standardized way that everyone can use. This data is leveraged to inform generative designs

Efficient

Process

Roles and organizations that provide value to the chain remain providing transparency, efficiency, and productivity to the entire process



Thank You

Andrew Gamblen

M: +447779 453315

**Willmott Dixon Construction
London and East**

T: +44(0)1462 442200

80 Wilbury Way,
Hitchin, Hertfordshire SG4 0TP

willmottdixon.co.uk



Marcus Bennett



*Future Skills and Innovation Lead at
CITB*

marcus.bennett@citb.co.uk



Automated
Markets.



Standards & qualifications

Training

Careers

Future skills – faster, smarter, more efficient

Marcus Bennett



Risks challenges opportunities? The burning platform

Construction is facing an unprecedented number of challenges & opportunities

Too often industry is aware of the risks of change, without understanding the risk of not changing



CITB future skills

New & emerging skills priorities

Technology transformation

New ways of learning

Support the ambitions of a modernised industry

Research

Policy

Funding

Standards
Qualifications

Advocate

Immersive learning

MMC & Offsite

Digitalisation

Future skills – digital



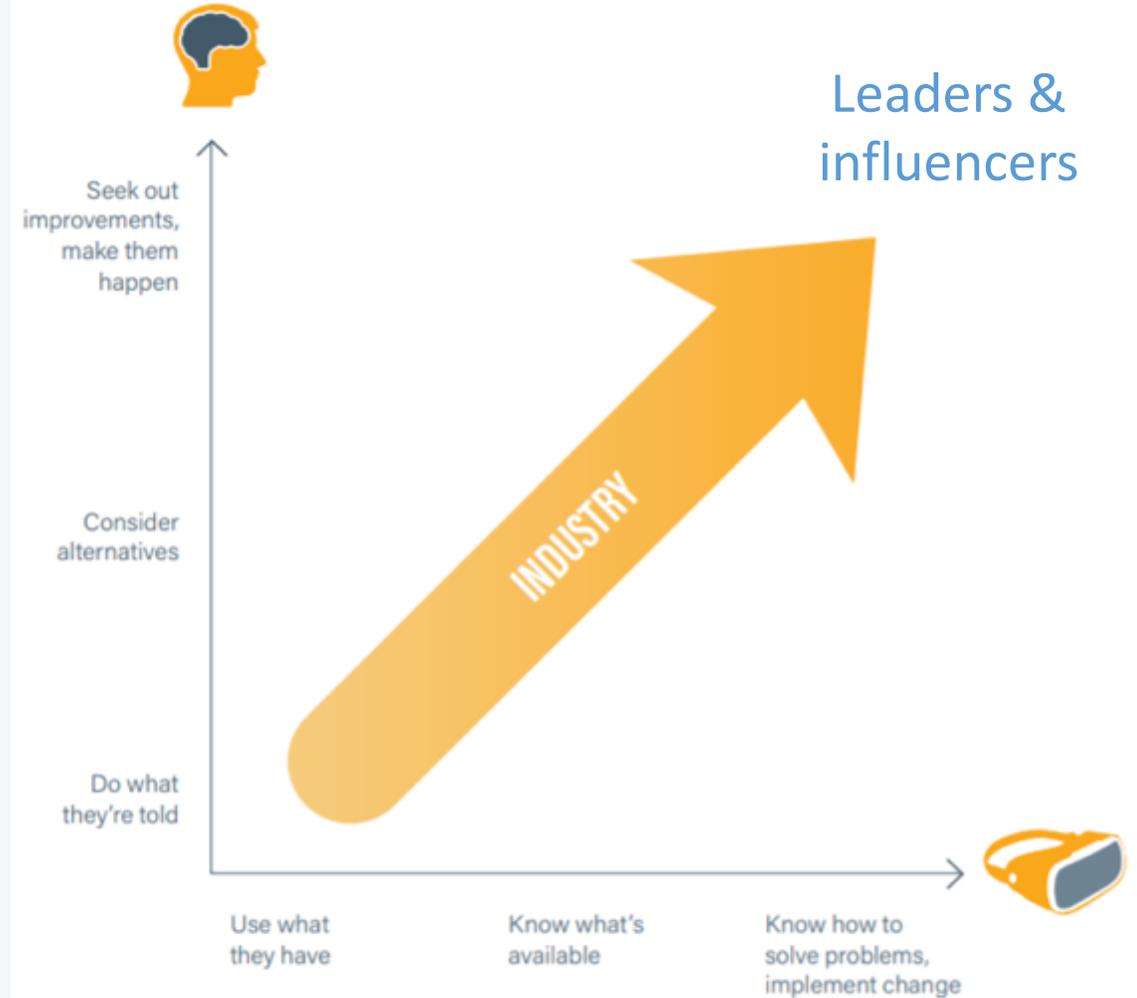
Flexible mindset

- Curiosity
- Problem-solving
- Creativity
- Emotional intelligence
- Communication



Understanding tools and data

- Knowledge of how specific tech works
- Range of tech available/ being developed
- How data can support tech development
- Collecting, storing, sharing, using data



CITB digital investment strategy



2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2
---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------

CITB digital investment strategy



OUTCOME

£666k

Common understanding of competencies needed

=

Increase in the level of digital competence

1. Clear terminology for skills and training
2. Consistent standardised training and education
3. Speed and scale adoption by aligning understanding between training providers and employers.
4. Individuals assess their competence and identify required training or education offerings

Organisations: **job descriptions; recruitment; career planning; training provision; development**

Digital competency Bodies of knowledge

BODIES OF KNOWLEDGE

		BEHAVIOURAL & ATTITUDINAL JOB SPECIFIC COMPETENCIES CORE COMPETENCIES									
		Operatives	Occupational Supervisors	On Site Technicians	Site Supervisors	Site Managers	Off Site Technicians	Construction Managers	Engineers	Professionals	Company leaders
DIGITAL LITERACY	Use of devices such as smartphones, tablets and laptops, and their core capabilities										
SECURITY	Appropriate handling and protection of data and internet-connected devices										
DESIGN & DEVELOPMENT	Means of producing innovative solutions efficiently										
DATA CAPTURE, ANALYSIS & INSIGHT	Production and analysis of large amounts of raw data to produce conclusions										
MODELLING & SIMULATION	Production of representations of aspects of the real world at a point in time or showing changes over time										
SMART CONSTRUCTION & BUILT ASSETS	Technologies involved in an internet-enabled world, with sensors collecting data and prompting a response, including automation										

JOB ROLES

Future skills – faster, smarter, more efficient

marcus.bennett@citb.co.uk



New &
emerging
skills
priorities

Technology
transformation

New ways
of learning

Dr. Robert M. Learney



*Lead Technologist - Blockchain & DLT,
Digital Catapult*

robert.learney@digicatapult.org.uk



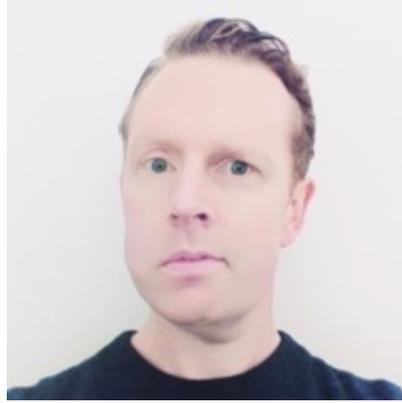
Automated
Markets.



Our Panel



Lord Chris Holmes



Sam Gamble



Fernando Santiago



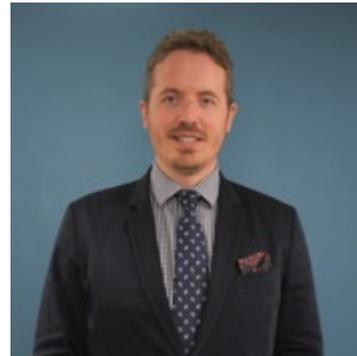
Andrew Gamblen



Steve Cook



Marcus Bennett



Simon Tranter



Dr. Rob Learney



Thank You!

*Please complete our Quick Survey
that will load after the webinar ends*

*And please join us on May 21st for the
next session!*

