Digital ID and Shared Ledger Technologies

new models and new ways to work together

Blockchain: How insurers are building trust by breaking down barriers

SwissRe Centre for Global Dialogue
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David G.W. Birch

An internationally-recognised thought leader in digital identity and digital money;

Named one of the global top 15 favourite sources of business information (Wired magazine);

In the London FinTech top ten (City A.M.); most influential commentators

Ranked one of the top five Leaders in IDentity (Rise);

One of the top ten Twitter accounts followed by innovators, along with Bill Gates and Richard Branson (PR Daily);

One of the top ten most influential voices in banking (Financial Brand);

Ranked Europe’s most influential commentator on emerging payments (Total Payments magazine).
Identity Impact

McKinsey has identified 7 genuine use cases and associated pain points; all of those sized could generate ~$80B to 110B in impact

**Value generated by blockchain (US$)**
- Trade finance
  - 14 – 17
- Cross-border B2B payments (low
  - 50 – 60
- Cross-border B2B payments (mezza)
  - 5 – 6
- Reinsurance agreement transactions (various)
  - 2 – 5
- KYC / AML management
  - 4 – 7
- Identity fraud
  - 7 – 9

**Blockchain benefits**
- Lower cost and operational risk, faster turnaround, increase revenues
- Lower cost and fees. Faster clearance, increased security and transparency
- More efficient handling. Lower systematic risk. Reduced operational costs
- Reduced counterparty and operational costs due to streamlined processing and settling
- Reduced duplication costs due to shared data and verification processes
- Manual and duplication costs due to shared data and verification processes
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**Drivers of impact**
- Poor fraud and underwriting
- Excessive processes
- Counterparty risk
- Manual and duplication costs
- Manual and duplication costs
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- Manual and duplication costs

**Impact hours**
- Cost
- Revenue
- Capital

**$11 billion up to $17 billion impact**

Identity is important to the insurance sector (and that’s just for people)

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Digital Identity Model

Digital Identity

A simple model to aid discussion
Understanding Digital Identity

Digital identity is the link between the physical world and the virtual world
A Three Domain Model

Authorisation Domain | Authentication Domain | Identification Domain

Virtual Identity

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Digital Identity
dgwbirch!

FIDO

Mundane Identity

davebirch!

from your friends at Consult Hyperion

you want to access this bank account? show me your credentials!

that's the correct credential, how do I know it is yours?

how do I know who you are so I can give you credentials?
Identification Domain

Binding a digital identity to a mundane identity is expensive
Authentication Domain

For the foreseeable future, mobile the mass market
Authorisation Domain

Allow me to... get on a plane
Using a Shared Ledger

Where is the Connection?

How do we connect identity to the blockchain or any other kind of shared ledger?
Identification Domain

We could put “real” identity to the blockchain

you want to access this bank account? show me your credentials!
that's the correct credential, how do I know it is yours?
how do I know who you are so I can give you credentials?
Authentication Domain

We can put the digital identity (ie, a key pair) on the blockchain (ie, a wallet)
Authorisation Domain

The ledger as an immutable history of (pseudonymous) virtual identities
An Implementation Model

Identity on a Shared Ledger
Customer Presents

The customer wants to do something, like log in to a bank or something similar

The customer points to a financial services passport – a shared ledger app

The bank looks through the ledger to see that passport is not deleted

The bank shared ledger app sends a transaction to the customer shared ledger app asking for an identity
Customer Authenticates

Customer app needs to digitally-sign response

To do this it needs access to the private key (stored in customer phone)

Customer authenticates to the phone to demonstrate control of the private key

Bank creates a new Read entry in the ledger
What’s Happening?

Blockstack
“decentralised internet”

Sovrin
“self-sovereign identity”

Uport
Shocard
Onename
BanQu

“economic identity”

BitID

“identity token”
Contact

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Consult Hyperion UK
Tweed House, 12 The Mount
Guildford, Surrey GU24HN, UK.
+44 1483 301793

Consult Hyperion USA
535 Madison Avenue, 19th Floor
New York, NY 10022, USA.
+1 888 835 6124
Who Are Consult Hyperion?

Consult Hyperion specialises in working out the opportunities and threats which result from the harmony and collision of security, networks and transactions. We are constantly assessing these factors, as they change continuously, and delivering ideas, solutions and products to our clients.
What Do They Do?

We have a structured and practical approach to secure electronic transaction systems from the local to the global

- **Define**
  - Strategy
  - Roadmapping
  - Market Analysis
  - Business Modelling

- **Design**
  - Prototyping
  - Requirements Analysis
  - Risk Analysis
  - System Architecture

- **Develop**
  - Technical Specification
  - Procurement Support
  - Software Development
  - Vendor Management

- **Deploy**
  - Project Management
  - Certification Management
  - Acceptance Testing
  - Evaluation

We can help clients in all phases of the product and service lifecycle, from the whiteboard scribble to the person in the street’s everyday use
Who do we do it for?
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