Banking: operation transformation

15 June 2016

Blockchain – the transaction makeover

15 June 2016

Luis Pastor
Head of IT Consulting and Global Blockchain leader
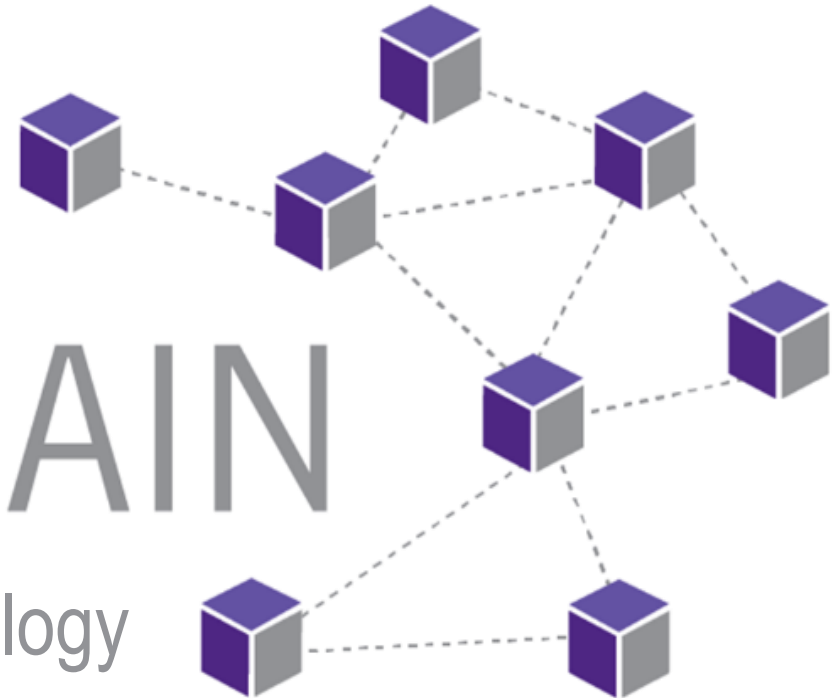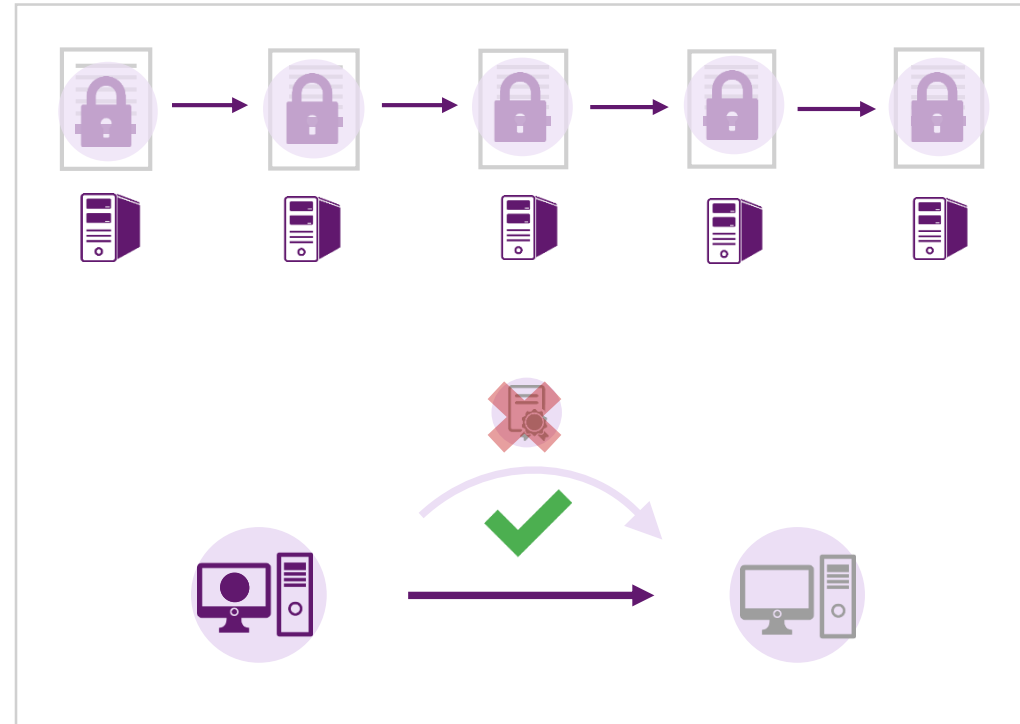Grant Thornton Spain

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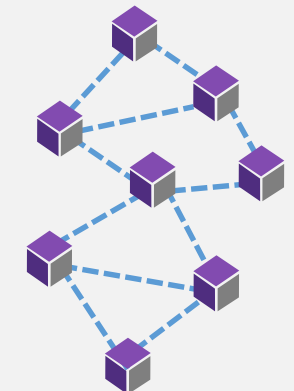
- **It's a ledger**

- **Distributed** through multiple servers (nodes)

- **Which lets its participants to transact any assets** between themselves

- **Without needing a third party to** verify those transactions

- **Transactions are validated** by the whole network

- **Transactions are grouped into blocks.** Once a transaction is added to a block becomes immutable.

Blockchain features

Validation by consensus | Chain grouping | Immutabity | Information distributed and replicated | Unforgeable | Traceability | Types (Private, Public, Permissioned)
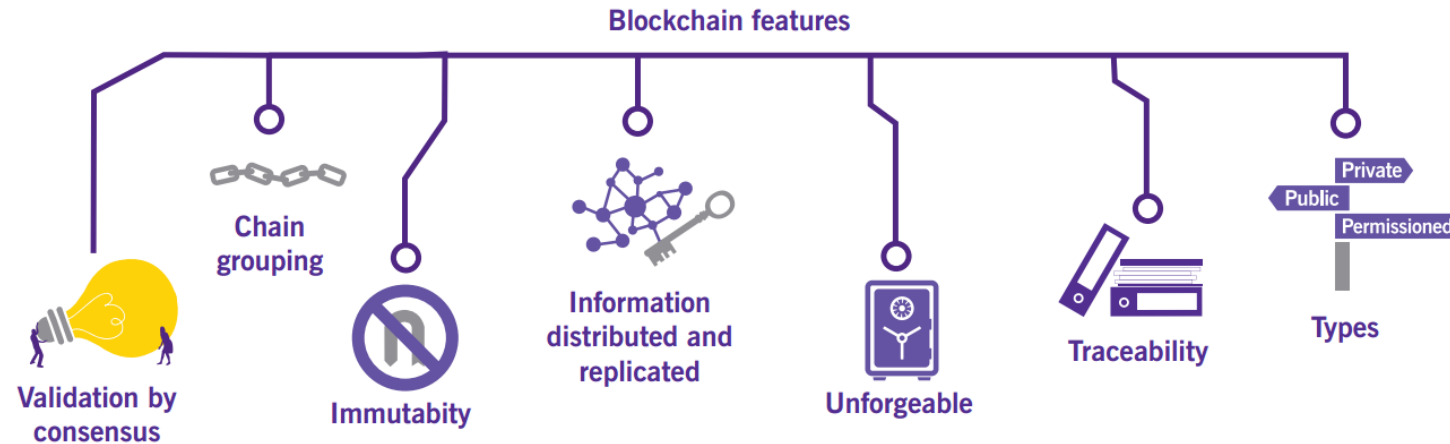
- **Blockchain** is a distributed ledger that records financial (or non financial) transactions between two participants (peer-to-peer), without needing an intermediary verifying those transactions. Verifying the identity of the parties is made by cryptography

- **Foundations:**
  - The blockchain's **ledger** is distributed and replicated along the whole network.

  - The information recorded is grouped through blocks and it is **immutable** once it is recorded.

  - Once the information is registered through a transaction will be **unforgettable**.

  - The blockchain database contains every single transaction since the creation of the blockchain.

  - A blockchain can be: **public** (fully decentralized), **permissioned** (partially decentralized) or **private** (centralized).

Blockchain foundations

Starting Point:

- Trust
- Information management
- Security
- Scalability

Permissionless Ledgers

Bitcoin, Ethereum, Augur, Tendermint, Namecoin, Litecoin, Darkcoin (Dash), NXT

Permissioned Ledgers

OpenChain, Ripple Labs, Corda, Tembusu, Clearmatics, Hyperledger, Eris, CryptoCorp, Tezos, MultiChain

Private
Public
Permissioned
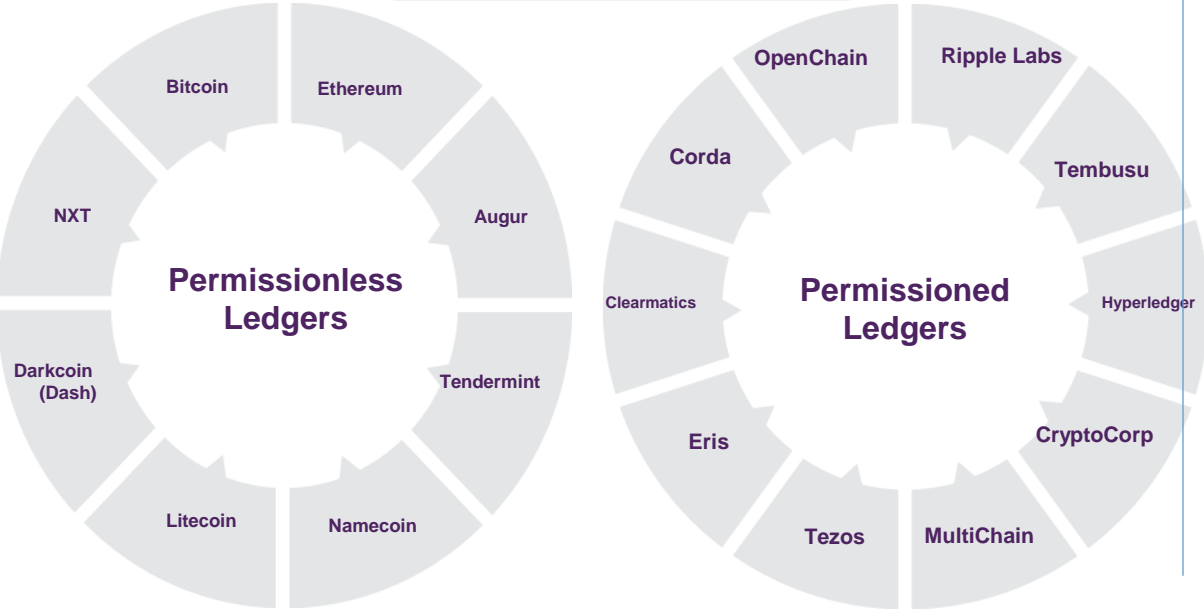
	Public Blockchain	Private/Permissioned Blockchain
1. Who manages the DataBase?	Every user who wants to take part in the network	An entity or group of entities by agreement between them
2. Incentives for maintaining the network	Cryptographic Economy incentives for validators (i.e Proof-of-Work)	Reputation, punishment terms, etc.
3. Who is able to register information in the DataBase? Who is able to make transactions?	Any participant of the network	Entity of group of entities with permission
Who has access to the DataBase?	Any participant of the network	Entity of group of entities with permission
Where is the information located?	Fully distributed through nodes	Entities servers

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Definition: Automatic execution of contracts under the terms and conditions previously agreed by the parties, eliminating risks related to the breach of the contract.

Benefits:

- Large cost reductions
- Efficiency improvements
- Risk reduction

Old model:

- Extremely complex system
- Every company maintains its own separate ledgers (databases)
- Huge duplication of effort and cost

Automatic pre-fixed rules (Ex ante)	No intermediaries	Unique Registry	Reduction of process cost	Custody of Assets	Principle of neutrality

Smart Contract

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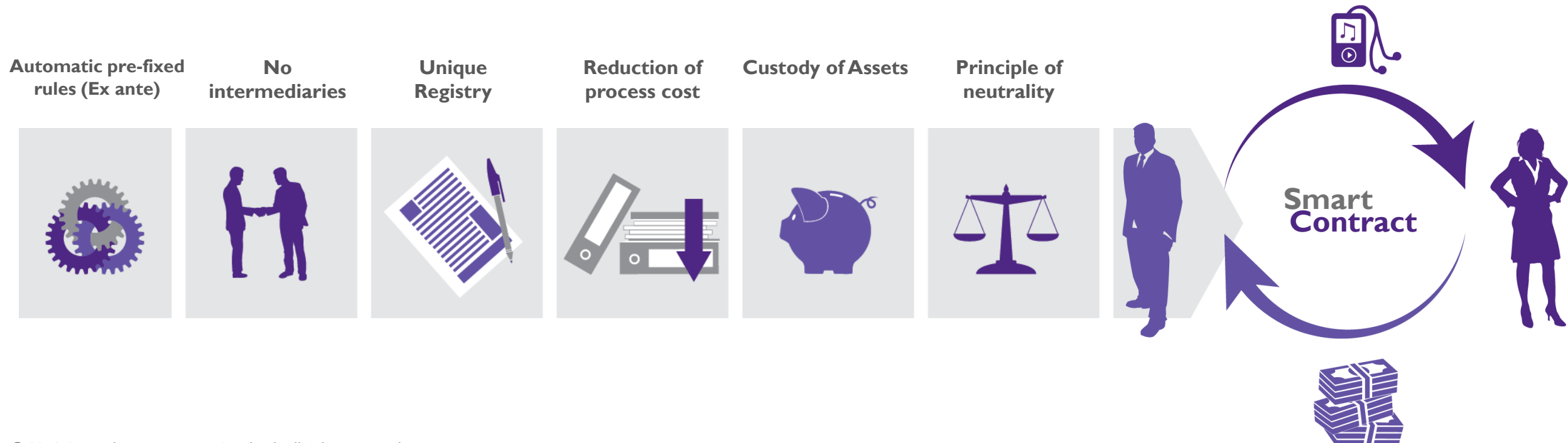
INDUSTRY CHALLENGES:
- Extremely **complex** system
- Every company maintains its **own separate ledgers** (databases)
- Huge **duplication** of effort and cost

BLOCKCHAIN DISRUPTION IN BANKING:
- Connect legal text to business logic
- **Simplification** of burdensome procedures
- **Standard** adoption
- **Costs saving**

BENEFITS
- **Reduction of fraud** and increased **security**
- More **transparency** and efficiency
- Building **trust** between counterparties
- **Reduction of transaction costs** (i.e. underwriting title insurance
- Streamlining clearing and settlement of cash securities
- **Improvement of efficiency** in Anti-Money Laundering and Know Your Customer (i.e. Grant Thornton Spain's Project-KYC-Start)

BLOCKCHAIN CHALLENGES
- **Standards**: There is a need of technical standards in the implementation across companies and industries.
- **Privacy**: It is very important to build the use cases under the regulation, specially regarding to Data Privacy.
- **Speed**: In some case, the decentralization of the network makes the sharing of information more secure than common databases but slower than old procedures.

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B2C

B2B

Securitizations 2.0

Financial assets trading

Private banking blockchain wallet

Entity

Swaps 2.0

Sucursal A

Sucursal B

Consolidation of cash-flows between entities

Clearing House

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Standard Agreement

IDI

@UserI

John Doe

ENTITY I

Info. Sent

Payment

Request

Authorization

ENTITY II

John Doe
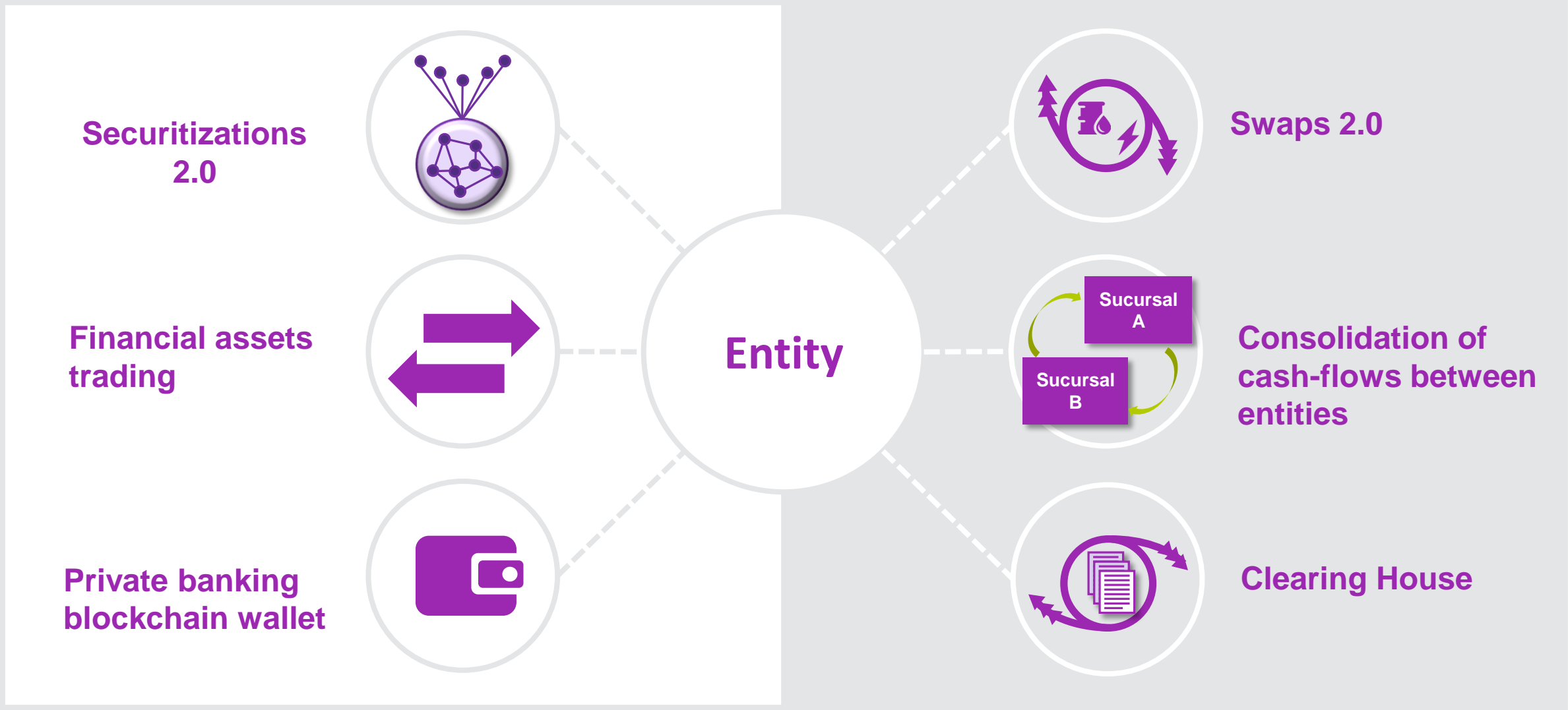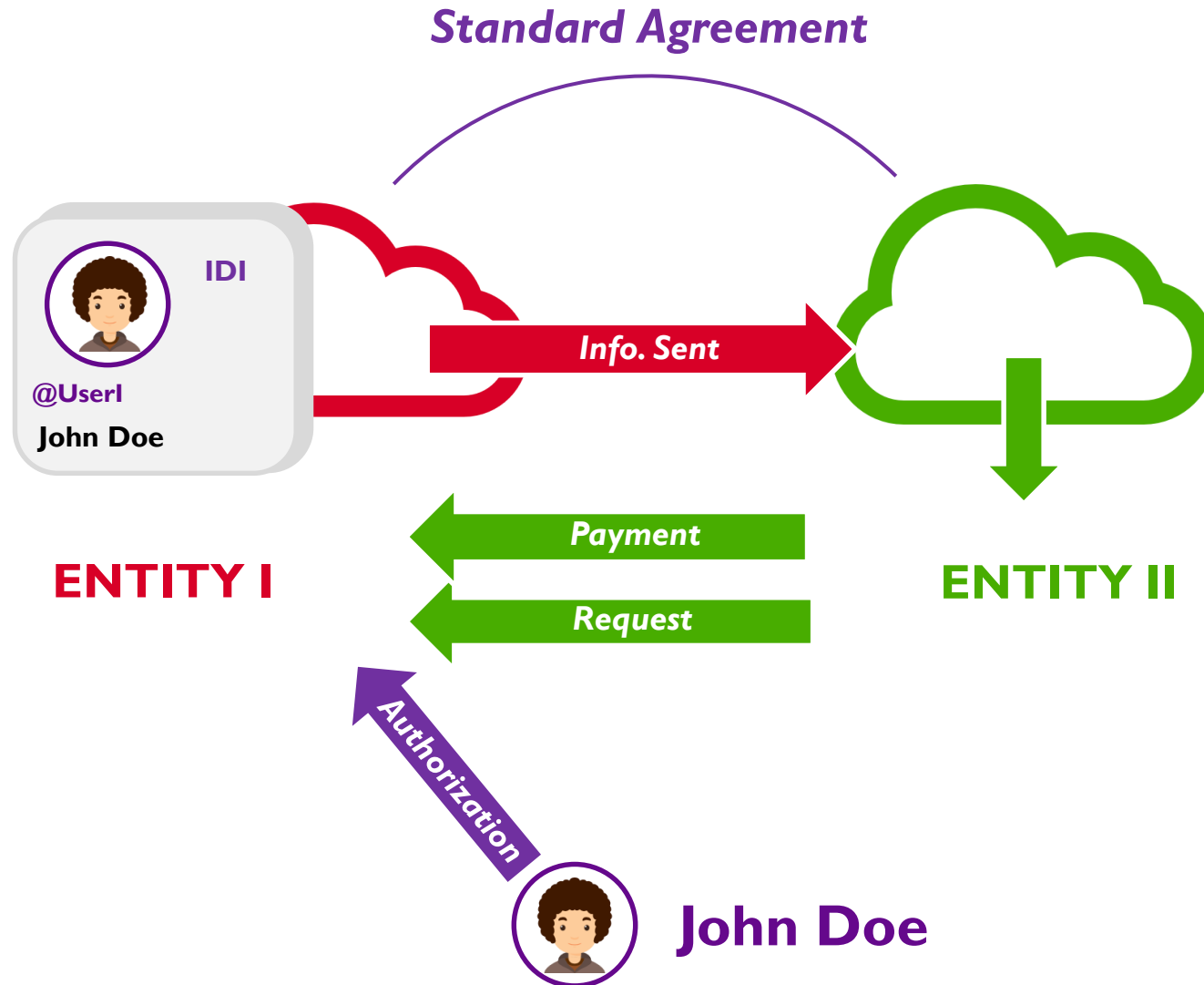
- **KYC-Start** is a Grant Thornton's initiative to reduce huge costs related to Know Your Customer's processes and Anti-Money Laundering regulation.

- **KYC-Start** project will allow these processes to be shared by all the participants of the blockchain network so that common tasks (such as identity verification) should only be performed once.

- Santander Innoventures has built an app for **cross-border payments** using **Ripple Labs' blockchain technology**

- App connected to **Apple Pay**: Payments confirmations using Touch ID.

- It allows user to transfer between **£10 and £10,000.**

- The app currently allows transfers between Santander locations in 21 European countries as well as the US.

- **Benefits: Reduction of time and costs of settlement** and enables new types of **high volume, low-value global transactions**.

- **Goal**: Providing **more digital services** to its customers base.

Areas of research

Smart Contracts
A smart contract is a protocol specially created to program agreements between two or more parties without relaying on intermediaries but granting its correct execution

Insurtech
- Settlement between insurance companies
- IoT and Digital Identity to reduce insurance costs
- Smart Contracts applied to this field

Digital Identity
- ID could be used for compliance matters
- Digital Identity as the key of Internet of things
- Blockchain enables secure voting systems

Healthcare
Sharing of patients' encrypted information through blockchain complying Data Privacy regulation

Areas of Research at Grant Thornton's Blockchain Lab

Registry
Blockchain enables timestamp and proof-of-existence and notarization of every transaction.

Financial Services
- Securitization
- Tokenization of assets
- Cheaper settlements
- Traceability of transactions
- Transparency

Internet of Things
- Fractional Ownership
- Property Registration
- Inclusion of objects into the payment channels
- Blockchain enables contracts peer-to-object

Compliance
- Blockchain could save billions improving compliance procedures, and removing duplicities between entities
- Digital Identity could be linked to AML/KYC, Data Privacy or FATCA policies

Quotes

Donald J. Duet
Goldman Sachs
Co-head of technology and managing director

"Blockchain has ability to provide a "single truth" to the many institutions that need to share information on asset transfers".

Sylvain Theveniaud
Allianz Accelerator
Managing Director

"The idea is to work with Everledger and make [proofs-of-concept] and use cases that we can experiment with inside Allianz."

Blythe Masters
JP Morgan
- Former head of global commodities
- CEO Digital Assets Holding

"Digital Assets has a revolutionary technology platform that eliminates the counterparty risk and lack of transparency that has hindered mainstream adoption of cryptographic technology. The possibilities for reducing cost and risk in settlement are enormous."

David Walker
Bank of England
Former executive director

"Blockchain is an important advance in settlement technology and Setl has a compelling proposition for its deployment."

Mark Walport
Government of UK
Government Chief Scientific Adviser

"Distributed ledger technologies have the potential to help governments to collect taxes, deliver benefits, issue passports, record land registries, assure the supply chain of goods and generally ensure the integrity of government records and services."

Mark Buitenhek
ING
Global Head of Transaction Services

"All our business lines are involved here. The transaction services organization which I am heading for ING globally, our financial markets, our lending services department is involved. There are people from IT involved, people from operations, client coverage staff."
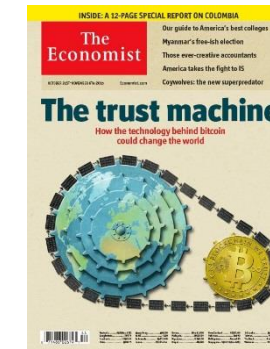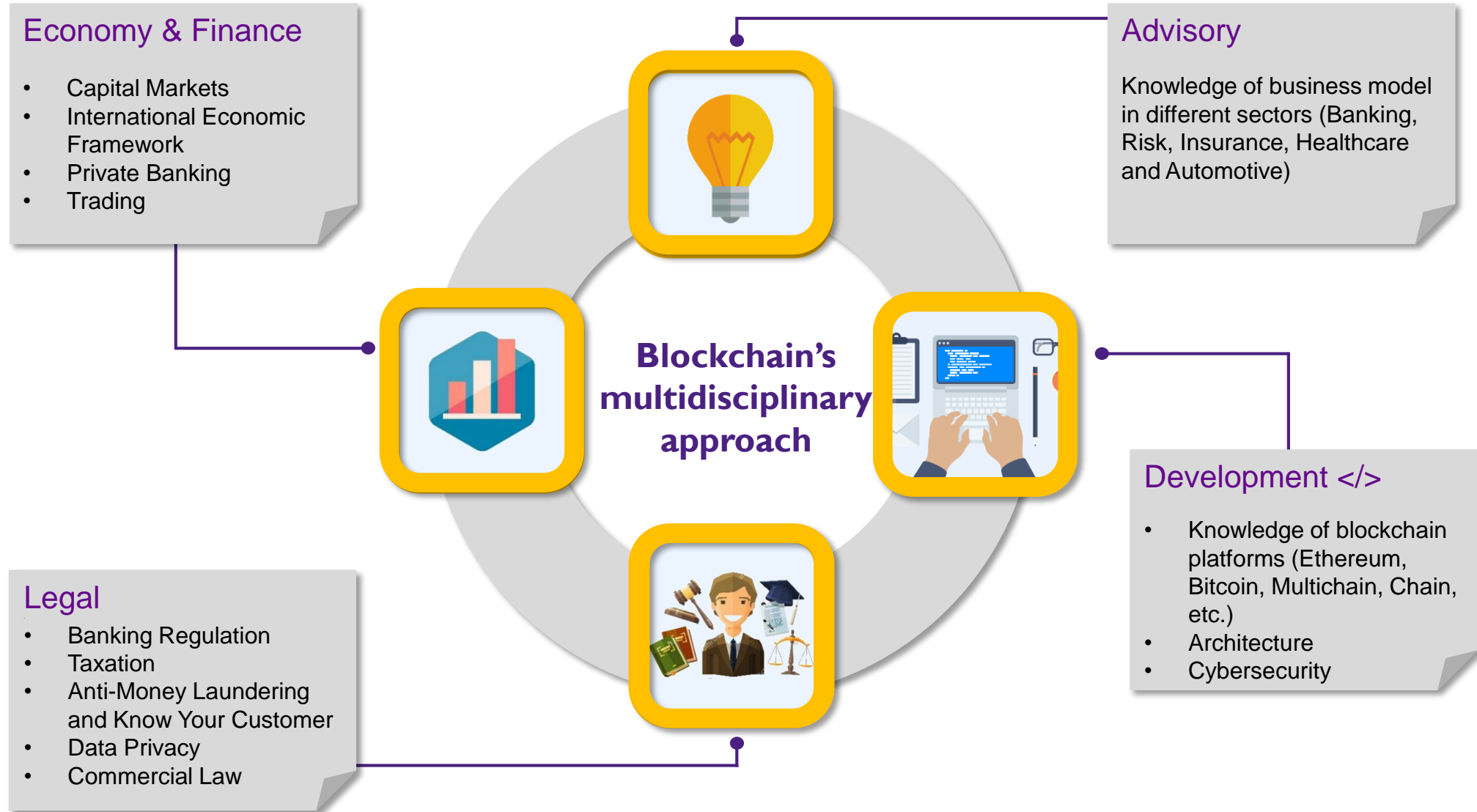
Oliver Bussmann
UBS Group
Chief Information Officer

"UBS is proud to contribute to the HEAL Bond on Blockchain and agreed to share the learnings of its 'Smart Bond' experiment with the HEAL Alliance."

Our multidisciplinary blockchain team

Economy & Finance

- Capital Markets
- International Economic Framework
- Private Banking
- Trading

Advisory

Knowledge of business model in different sectors (Banking, Risk, Insurance, Healthcare and Automotive)

Blockchain's multidisciplinary approach

Development </>

- Knowledge of blockchain platforms (Ethereum, Bitcoin, Multichain, Chain, etc.)
- Architecture
- Cybersecurity

Legal

- Banking Regulation
- Taxation
- Anti-Money Laundering and Know Your Customer
- Data Privacy
- Commercial Law

Value proposition

coinsilium

BLOCK
CHAIN
SPACE

DXmarkets

Training
- Technology understanding
- Counselling of the changing process
- IT Coaching
- Business workshops

PoC
- Development labs
- Sandbox with startups
- Adapting PoCs to business models
- Integration Between concept and product

Diagnostic
- Opportunities analysis
- Impact evaluation
- Strategic plans
- Business models integration

Prototypes
- Consolidation of PoCs with real customers
- Information Gathering
- Results evaluation
- Feedback from current PoCs and opportunities analysis
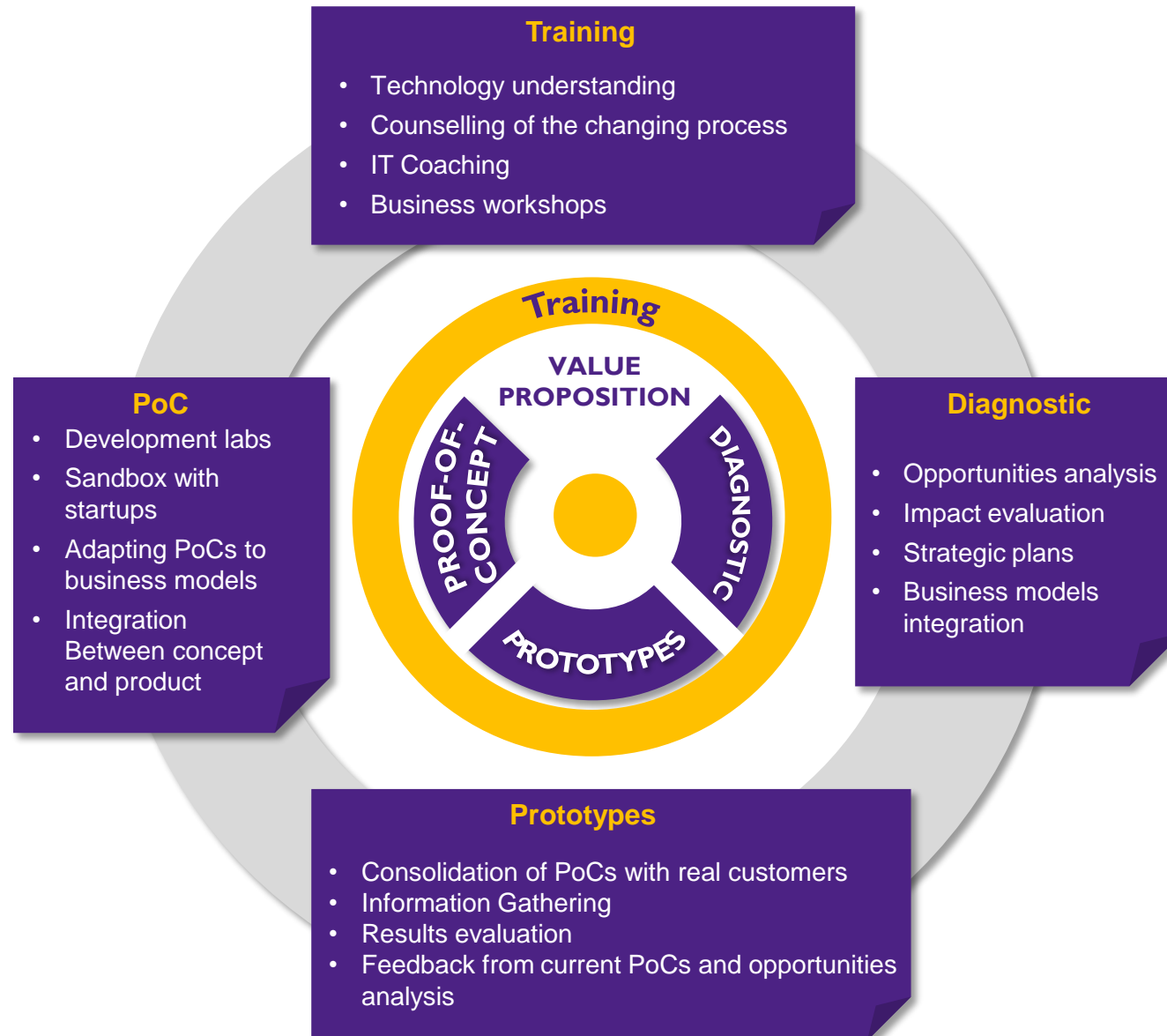
Training

VALUE PROPOSITION

PROOF-OF-CONCEPT

DIAGNOSTIC

PROTOTYPES

Contact

Luis Pastor

Grant Thornton Spain

Head of IT Consulting and Blockchain leader

E luis.pastor@es.gt.com

T +34 638 184 482

Ian Cahill

Grant Thornton Ireland

Director, IT Business Consulting

E ian.cahill@ie.gt.com

T +353 1 680 5950

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