

# IBM Watson is the AI Platform for Business

The image displays a grid of 18 dashed boxes, each representing a different industry or application area. Each box contains a category name and several logos of companies that have implemented IBM Watson solutions. The categories and their associated logos are as follows:

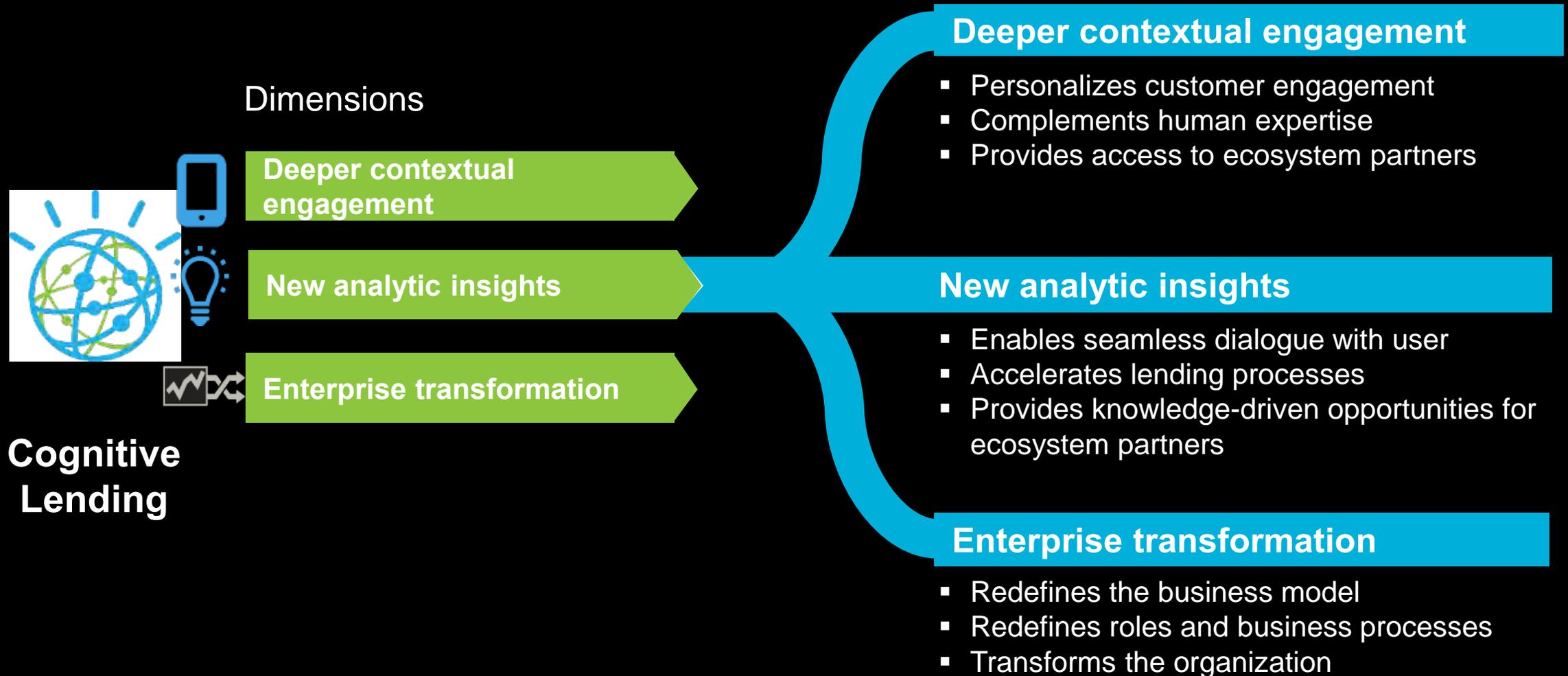
- Call Centers:** yactraq, econiq, ChatLingual, speechIQ, Macaw Speech
- Salesforce Optimization:** CEREBRI AI, VOLUME, Interloop
- HR/Workforce Optimization:** Upwork enterprise, CarneyLabs, intervyo, Tapestry Data, unitesus
- Consumer Social:** CONNECTIDBY
- Agent Assist:** GO MOMENT, Citibank
- Entertainment:** EDGE UP SPORTS
- Digital Marketing:** STRATEGICAL, Influential, ampsy, audiense, vortx
- Virtual Assistant:** idavators, CodeBaby
- Healthcare:** Welltok, Point of Care, idavators
- Legal:** ROSS, Interactive Legal
- Data Insights:** inno, STRATEGY, i-rendi, EQUALS 3 MEDIA, Cognitive Scale (The Cognitive Cloud Company)
- Recommendation:** FLUIDXPS, VineSleuth, sellpoints, red ANT, waydazoo
- Personal Fitness:** DRRECO
- Fraud Detection:** sparkcognition
- Financial Services:** 50 WISE
- Risk Analytics:** DSS

<https://www.ibm.com/blogs/watson/2016/05/popular-trends-cognitive-computing/>

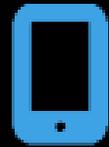
Sample of 500+ Applications in 30+ Industries



# Cognitive computing transforms the entire lending industry across three key dimensions



# Cognitive computing is helping financial services institutions in improving engagement, generating new analytical insights and transforming enterprise



## Deeper contextual Improved engagement



A bank in Japan pioneers the building of a cognitive based customer service robotic platform that understands customer words and even expressions \*



## New analytic insights



A bank in Spain exploits cognitive to trawl more data more quickly than ever imagined \*



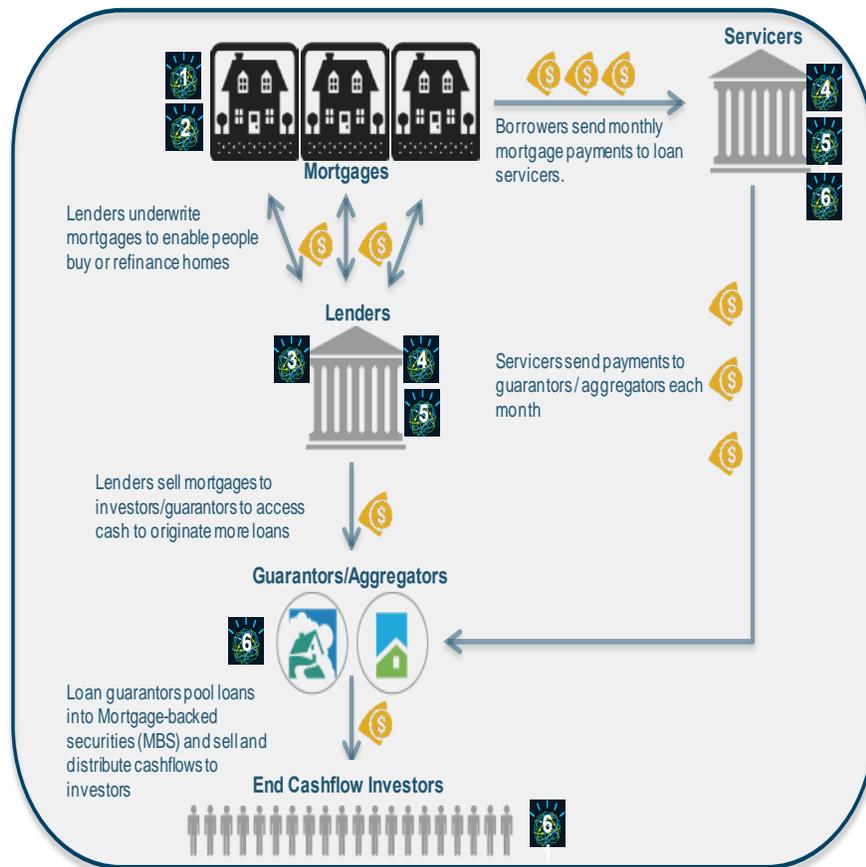
## Enterprise transformation



A global financial services organization uses cognitive computing to manage business proactively \*

# End to End Cognitive View for the Mortgage Industry

- **Customer Experience Transformation**
  - Enhance the quality, consistency and handling of customer interactions across mortgage processes
- **Manage risk and cost proactively and holistically**
  - Optimize mortgage operations based on regulatory complexity and compliance costs
- **Enhanced risk monitoring and loan asset management**
  - Customized servicing strategies



<p><b>1 Engagement Advisor</b></p> <p>Trainable cognitive front end to support deeper customer engagement from property search, to loan application, product selection and process, and closing.</p>	<p><b>2 Credit Advisor and Coach</b></p> <p>Transform highly manual and inconsistent credit and budget counseling processes involved in loan pre-qualification and distressed servicing.</p>	<p><b>3 Preferred Relationship Manager</b></p> <p>Match prequalified customers to real estate listings from preferred agents/brokers. Strengthens referral network while decreasing cycle times .</p>
<p><b>Buyer: Lender</b> Drives revenue due to higher pull through, customer satisfaction</p>	<p><b>Buyer: Lender, Servicer, Guarantor</b> Better data, lower cost, improved quality control</p>	<p><b>Buyer: Lender, Agent/Broker</b> More financing referrals, reduced cycle time</p>
<p><b>4 Compliance and Brand Manager</b></p> <p>Intelligently distill regulatory changes, consent orders, lending guidelines, audit results, and customer escalations to reduce process defects.</p>	<p><b>5 Cross-Sell Optimizer</b></p> <p>Manage and optimize the value of customers over the lifetime of the relationship via identification of cross-sale of banking, financial and insurance products.</p>	<p><b>6 Portfolio Surveillance</b></p> <p>Combine Big Data and market intelligence to dynamically predict credit or prepayment behaviors for valuations and customized servicing strategies.</p>
<p><b>Buyer: Lender, Servicer</b> Cost savings, reduced financial, regulatory and reputational risk</p>	<p><b>Buyer: Depositories</b> Increased/diversified revenue, deeper customer relationship</p>	<p><b>Buyer: Guarantors, Investors, Servicers</b> Enhanced risk monitoring and asset management</p>

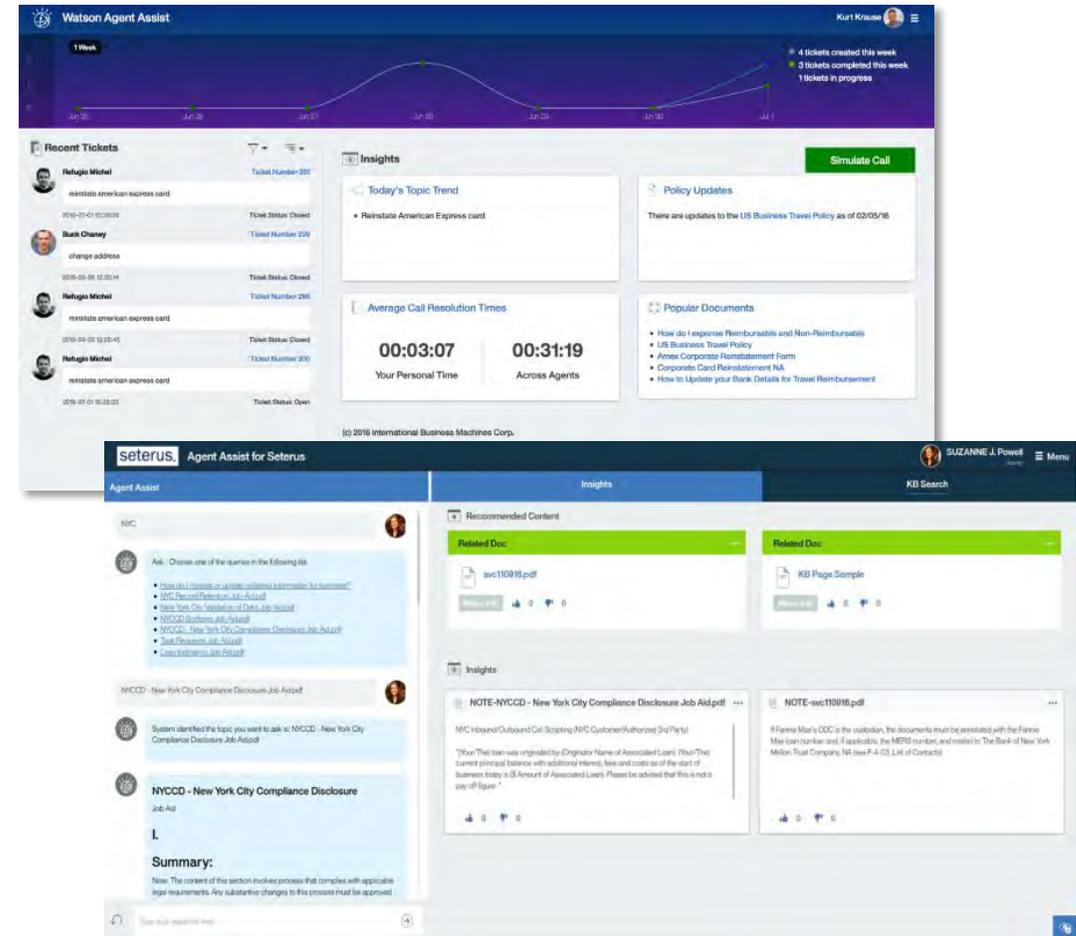


# Cognitive Agent Assist for Mortgage

Optimize call center performance with cognitive guidance and information retrieval that improves accuracy and efficiency

## Features:

- **Real-time Dashboard:** Trending topics, policy updates and performance trends are displayed for the call center representative – *surfacing important information so that it is readily available*
- **Assisted Dialog:** Watson guides the conversation with responses that are tailored to the employee seeking help – *driving improved accuracy and higher success rates*
- **Content Retrieval:** Relevant forms and documents are identified and can be quickly emailed as conversation progresses – *resulting in faster resolution and better employee experience*



# Mortgage Agent Assist

The screenshot displays the Mortgage Agent Assist interface. At the top, there is a header with the 'seterus.' logo, 'Agent Assist', 'Insights', and 'KB Search' tabs. A user profile for 'SUZANNE J. Powell' is visible in the top right. The main content area is divided into three sections: a chat window on the left, a 'Recommended Content' section in the middle, and an 'Insights' section at the bottom. The chat window shows a query search for 'NYCCD - New York City Compliance Disclosure Job Aid.pdf' and a system response with a list of related documents. The 'Recommended Content' section shows two 'Related Doc' cards, one for 'svc110916.pdf' and another for 'KB Page Sample'. The 'Insights' section shows two 'NOTE' cards, one for 'NOTE-NYCCD - New York City Compliance Disclosure Job Aid.pdf' and another for 'NOTE-svc110916.pdf'. Three blue callout boxes highlight specific features: 'Query search of topic or key word brings back all job aid options' points to the chat window; 'Learns with feedback' points to the 'Related Doc' cards; and 'Proactive Insights' points to the 'Insights' section. A fourth callout box, 'Job aid displays in Agent view reducing time to locate information', points to the 'Summary' section of the chat window.

Query search of topic or key word brings back all job aid options

Learn with feedback

Proactive Insights

Job aid displays in Agent view reducing time to locate information



# Mortgage Agent Assist Query Dashboard

The dashboard features a top navigation bar with the Seterus logo, the text "Agent Assist for Seterus", a user profile for "SUZANNE J. Powell Admin", and a "Menu" icon. Below the navigation bar are three main sections: "Agent Assist", "Insights", and "KB Search".

**Agent Assist Section:** This section contains a chat interface. The first message asks, "what address info do you want to change to the loan?". The system responds with three options: "Property Address Change", "Mailing Address Change", and "Borrower saving info in system doesn't match". The second message asks, "Could you please go to MAS1/ADD2 to update mailing address DL08 to update/remove contact #'s IF ONLY 1 contact# DLQ3/FINA to obtain POE (place of employment). Also does borrower still occupy the property?". The system responds with "Yes" and "No" options. The third message says, "Proceed to MAS1/PRP1 to verify. Proceed to MAS1/USR2 to update".

**Insights Section:** This section displays "Recommended Content" and "Related Doc" cards. One card shows a document titled "svc110916.pdf" with a "Macro Info" button and a thumbs-up icon with the number "2". Another card shows "KB Page Sample" with a "Macro Info" button and thumbs-up/down icons with "0".

**KB Search Section:** This section shows a "Related Doc" card for "Occupancy Verification Job Aid.pdf" with a "Macro Info" button and thumbs-up/down icons with "0" and "1".

**Proactive Insights Section:** This section displays "Collateral Information Change Preconditions" with the text: "Borrower is authenticated & their account is verified. Borrower data is available from MSP".

Three blue callout boxes highlight key features: "Query search of Corpus brings back trained options" points to the first chat message; "Ability to capture answers to specific questions allowing Robotics to take next action" points to the "Yes" and "No" options; "Proactive Insights" points to the "Collateral Information Change Preconditions" section.

# Cognitive Credit Risk

*Underwriting today  
looks at a picture,  
not a movie.*

*Credit models are  
backward looking  
and designed for  
baby boom  
demographics*

*The main defense  
financial institutions  
are using today is  
linear risk rules.*

*This shuts off credit  
for many, regardless  
of their TRUE ability  
to repay...*

**There exists a massive opportunity to reinvent credit risk management using cognitive and big data capabilities to provide a continuous, future-looking, 360 degree view of risk.**

# Moving past static credit scoring: Some examples

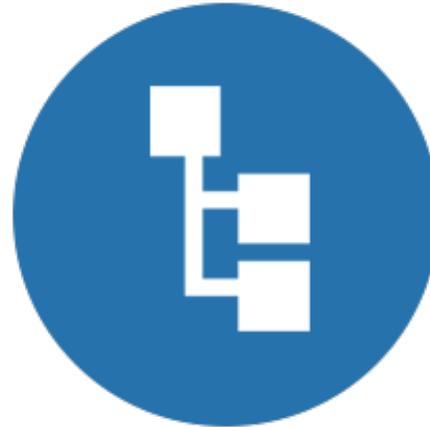
	<ul style="list-style-type: none"> <li>▪ Janalakshmi is a financial institution that provides microfinance services to the low-income population in India using soft financial data and psychometrics</li> <li>▪ Branchless operation with advanced technology support for risk assessment</li> </ul>
	<ul style="list-style-type: none"> <li>▪ M-Shwari is a banking product for Kenya's M-Pesa customers that allows to save and borrow money through simple mobile phones</li> <li>▪ Credit limit management is based on machine learning approach using phone usage data</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Alibaba's escrow service Alipay processes 50% of all electronic payment services in China</li> <li>▪ Alifinance provides loans to online vendors based on online activity (\$17.2B, 2013)</li> <li>▪ More data and higher liquidity than that of Bank Credit Consulting System.</li> </ul>
<p>DemystData</p>	<ul style="list-style-type: none"> <li>▪ Demyst Data provides comprehensive profiles and refined customer predictions</li> <li>▪ Helps financial institutions optimize customer interactions based on social and corporate data</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Cignifi uses a big data approach to analyze cell phone use of loan applicants</li> <li>▪ Non-traditional data is used as a predictor of creditworthiness</li> </ul>

# Challenges Managing Regulatory Compliance – a journey

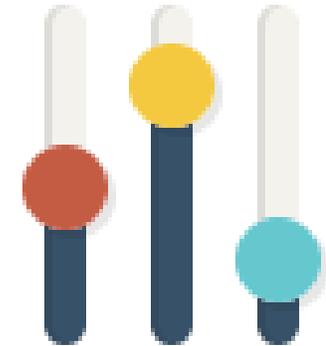
Managing high volume of regulatory change



Determining scope & materiality



Identifying impacted policies, procedures, and controls



Creating a holistic view of compliance requirements

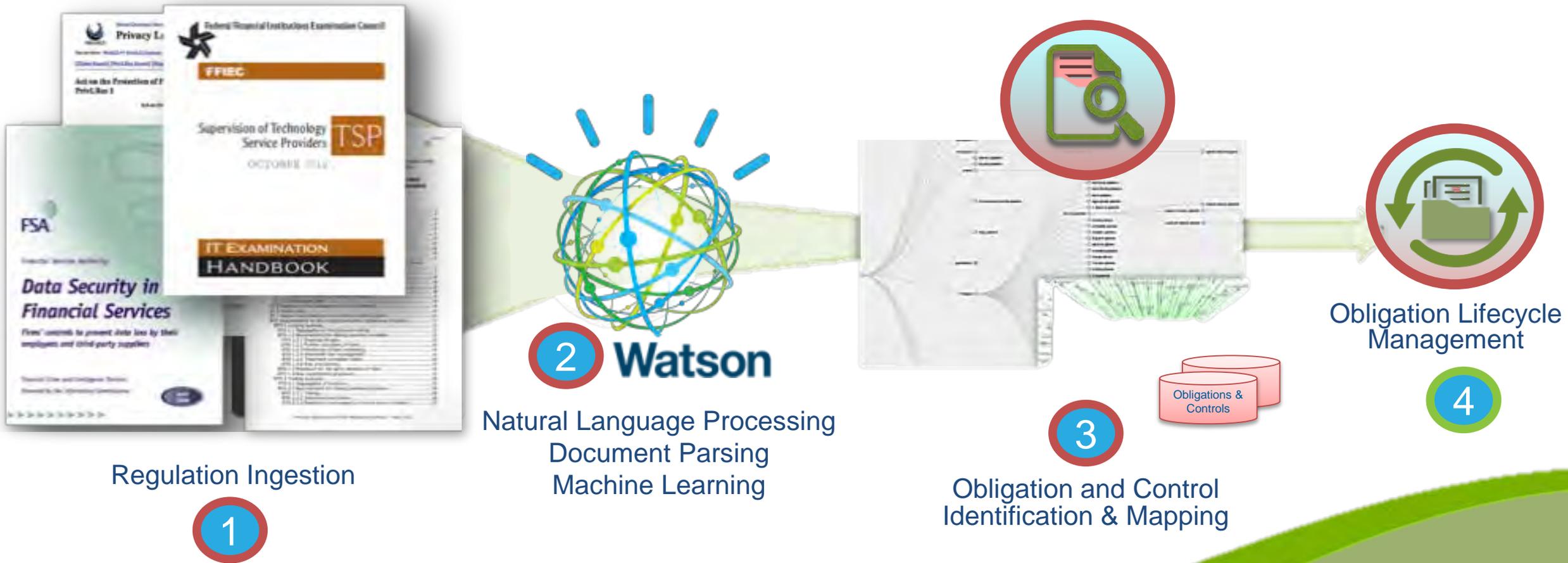
Limited resources engaged in “highly complex” routine tasks

Ineffective quality assurance process with poor traceability

Limited audit trail

Siloed views of compliance obligations

Helps compliance specialists streamline the identification of potential obligations and controls required to address constantly changing regulations and manage the lifecycle of implementing those controls





A global financial services organization uses cognitive computing to manage business proactively

# Cognitive compliance service



First-of-a-kind cognitive compliance service

Identifies and predicts regulatory obligations

Understands the cascading impact of regulatory changes

Maps changes across business units, IT systems and processes

## Improved Productivity

Elimination of manual regulatory evaluations

## 72% accuracy

Demonstrated during proof of concept\*

## Lower churn

Due to associated loss of institutional knowledge

\*Source: IBM Institute for Business Value Report

## Regulatory Change Management

Address constantly changing regulations and manage control requirements more effectively

*Training Watson on obligation identification & tagging*

## Know Your Customer

Streamline customer due diligence and remediation activities

*Assisting with solution design, providing IP accelerators based on customer engagements & PRR BPO, applying processing expertise*

## Anti-Money Laundering

Enable more effective identification and investigation of suspicious transactions

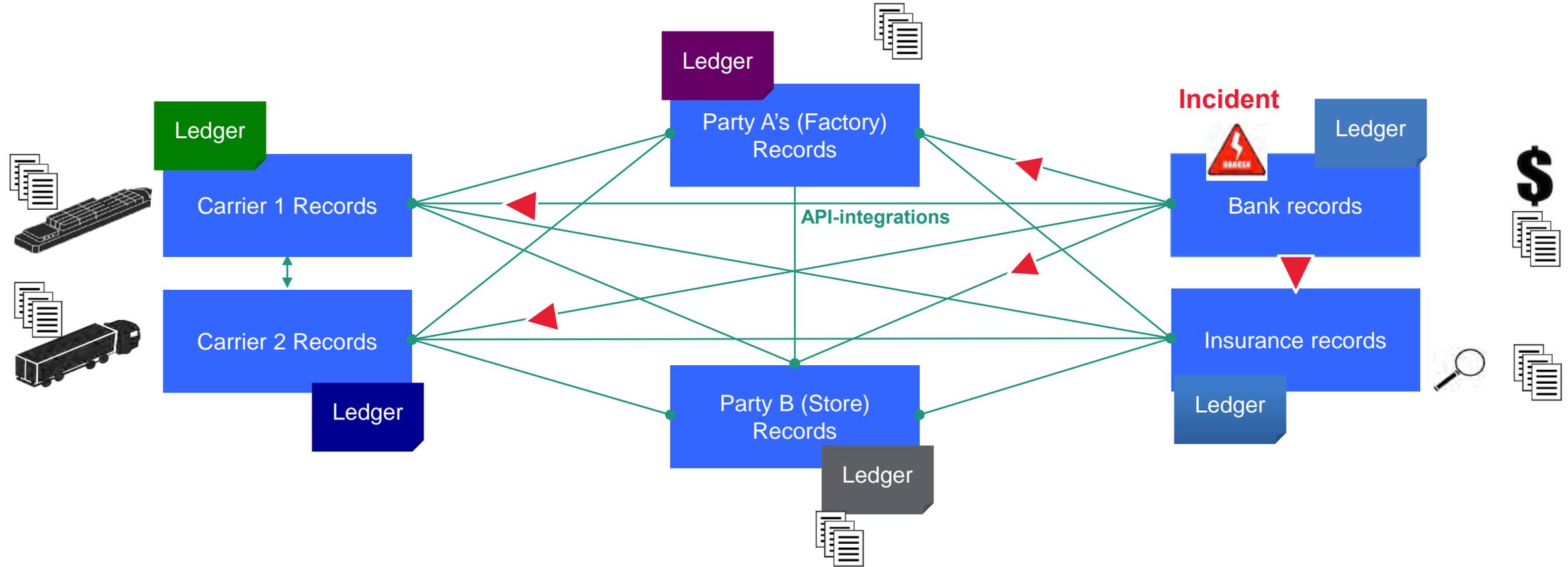
## Conduct Surveillance

Identify potential misconduct more effectively

*Guiding expansion beyond trade to broader conduct issues*

# Blockchain for Mortgage

# Problem: Difficult to monitor asset ownership & transfers in a trusted business network



**Inefficient, expensive, vulnerable**

# Business Value of Blockchain



**A blockchain is a transaction processing system that:**

- Enables transparency of shared business transactions across multiple parties through the use of a secure, **shared ledger**.
- Improves business efficiency by enabling multiple parties to participate in secure, **smart contracts**.
- Ensures the truth and security of all transactions without the need for a trusted 3<sup>rd</sup> party by using **Distributed Consensus**. All parties have immediate access to a shared view of the “Truth”.



# Blockchain in a nutshell

## Diamonds in a blockchain Demo

- Records all transactions
- Each participants build his own copy
- **Append only**
- **Immutable** and cannot be changed
- THE shared system of record



**Shared Ledger**



**Smart Contract**

- **Business rules** specified by the contract
- **Embedded** in the blockchain
- **Executed** with the transaction
- **Verifiable, signed**
- Encoded in programming language

- Ledger is **shared**
- **Transactions** can be **authenticated**.
- **Transactions** can be associated with an **Identity**.
- In the future – transactions can be encrypted to **control read access**.
- **Cryptography** central to these processes



**Privacy and Confidentiality**



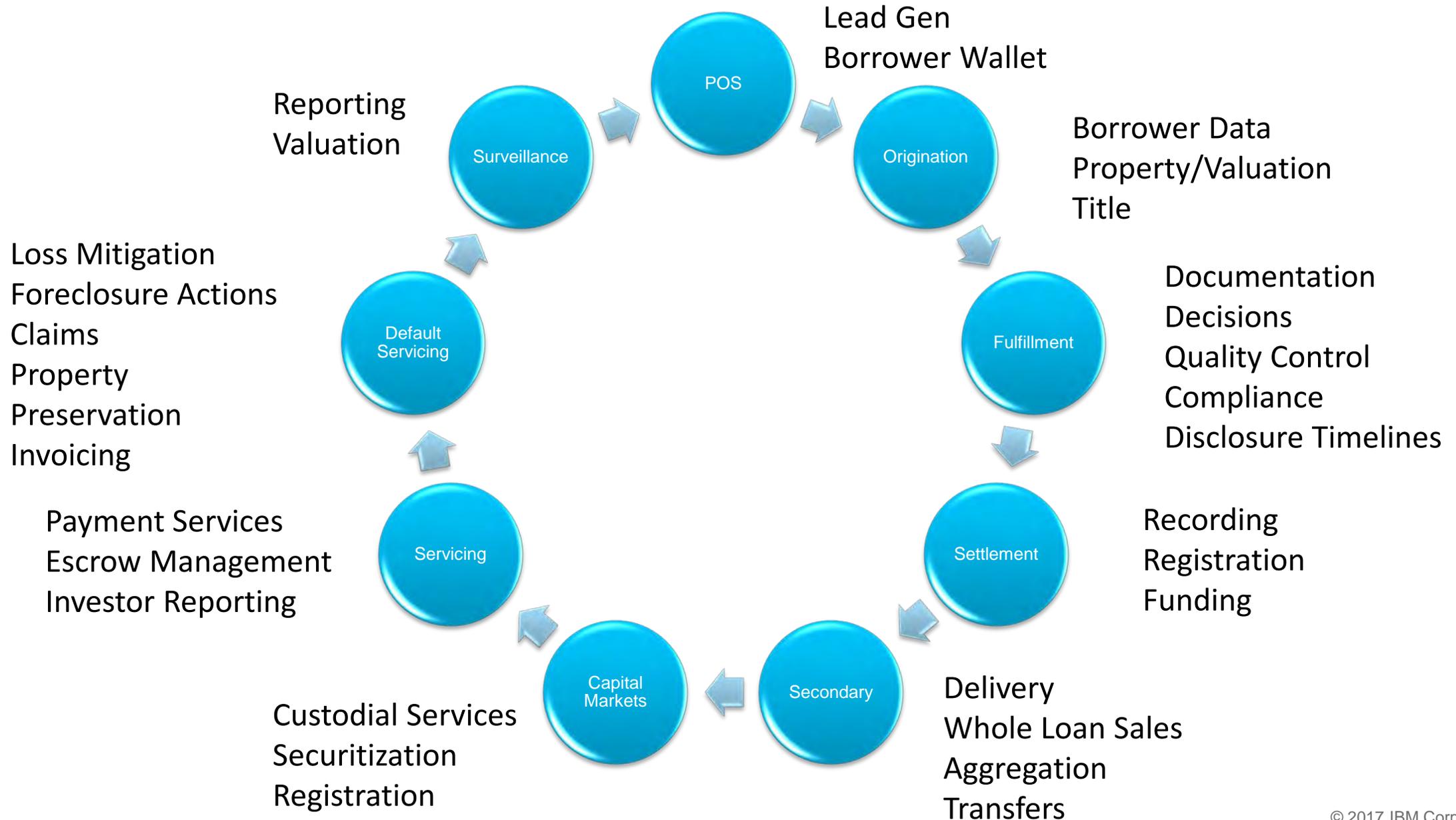
**Consensus**

- Transaction validation & commitment
- Different than Bitcoin
- **Byzantine fault tolerance**
- Scalable
- **“Pluggable” consensus** for different use cases

**Broader participation, lower cost, increased efficiency**



# Mortgage BlockChain EcoSystem – Potential Use Cases in the Loan Life Cycle



# Example: Continuous QC

## Loan Data QC Powered by Blockchain

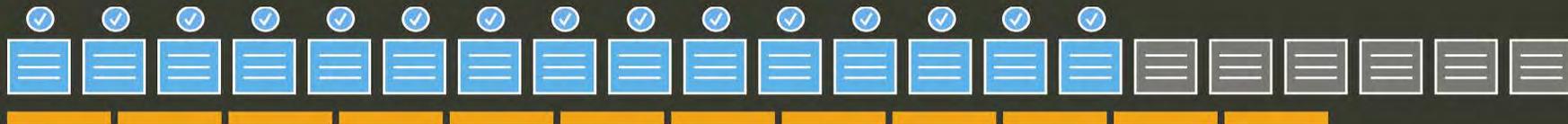
Blockchain can be used throughout the mortgage ecosystem to improve quality and transparency and cut costs.



E-VAULT

E-VAULT

POWERED BY BLOCKCHAIN



# Disruptive technologies are leading to an increased focus on digital operating models

- Emergence of the 'Chief Analytics Officer'
- Digital Reinvention
- Digitization / Robotics / Automation
- Advanced Analytics / Predictive / Prescriptive
- Cognitive Computing
- Blockchain
- Cloud / Business Process as a Service... Rise of 'as a service'

Which all call for a strong focus on:

## Talent & skills



# Thank you!

**Dr. Chitra Dorai**  
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## Acknowledgements

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