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Transforming Insurance: Digital, Cognitive, Cloud and Beyond

Andrea Eichhorn
Cognitive and Cloud Transformations
email: andrea.eichhorn@us.ibm.com
| Mobile: 415-505-0783
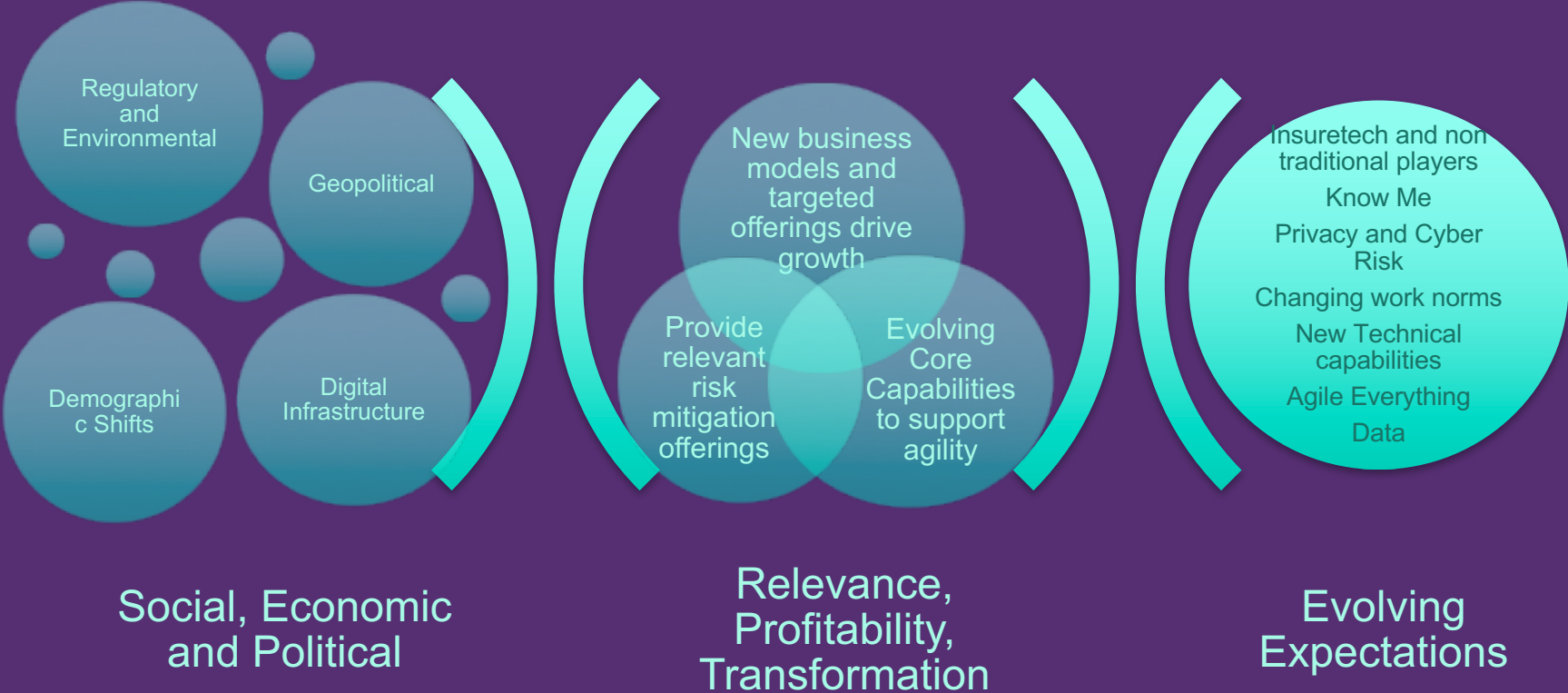
Today's Discussion

Key themes facing insurance
Outside In and Inside Out

Emerging technologies
Driving and enabling change

Successes and Adoption

Evolving YOUR Success Story

As an industry we are balancing many external and internal pressures; With limited clarity on the rate and direction these forces may take

Regulatory and Environmental

Geopolitical

Demographic Shifts

Digital Infrastructure

New business models and targeted offerings drive growth

Provide relevant risk mitigation offerings

Evolving Core Capabilities to support agility

Insuretech and non traditional players

Know Me

Privacy and Cyber Risk

Changing work norms

New Technical capabilities

Agile Everything

Data

Social, Economic and Political

Relevance, Profitability, Transformation

Evolving Expectations

The volume of data and information we're producing has outpaced our ability to make use of it

4.4 ZB of
digital data in 2013

44 ZB in
2020

102,000,000

wearables shipped in 2016, growing to 237,000,000 by 2021

80,000,000

MRIs taken every year, up from 3,000,000 in 1980

2,581,586

Emails every second

600,000,000

forms of malware - with close to 400k variations introduced daily

100,000

new cancer articles published every year

2,200,000,000

locations generating hyperlocal weather forecasts across the globe every 15 minutes

10,000

new software vulnerabilities recorded in 2016, up 30% since 2011

500

hours of video uploaded to YouTube every minute
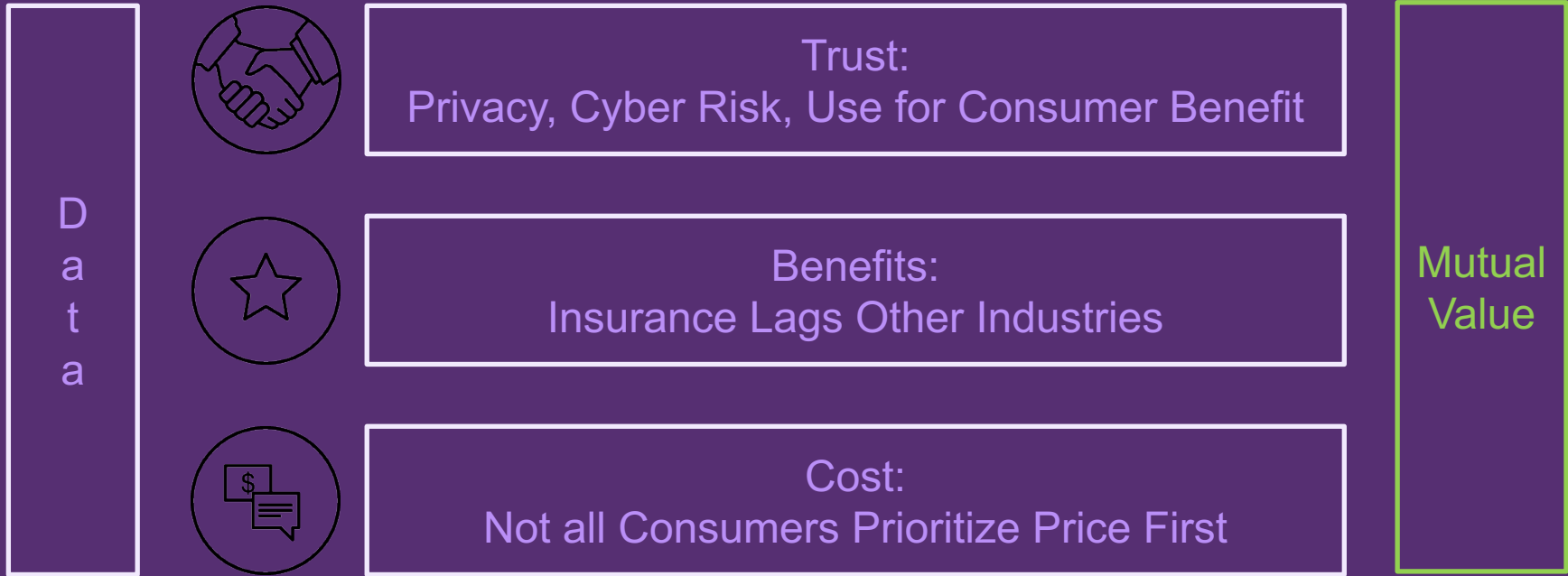
Trust

Insurance industry: **43%**

Own insurance company: **37%**

Switched insurance provider in the past two years: **31.3 %**

We surveyed 22,000 consumers in 24 countries on their insurance relationships, value preferences and switching behavior

Source: IBM Institute for Business Value , "Capturing hearts, minds and market share"

To convince our customers to share data, insurers need to consider three dimensions of sharing

D
a
t
a

Trust:
Privacy, Cyber Risk, Use for Consumer Benefit

Benefits:
Insurance Lags Other Industries

Cost:
Not all Consumers Prioritize Price First

Mutual Value

Source: Data, Gold or Kryptonite, IBM IBV 2017

Understanding and using data is at the heart of new products, services and business models for many InsureTechs

Metromile

California-based insurance start-up Metromile uses telematics technology to offer usage-based, personalized insurance on a pay-per-mile basis.

The technology uses real-time data to reduce cost and make underwriting more efficient[1]

ISH Insurance Service Hub

The ISH is a communication platform connecting insurance companies with multiple data providers like clinics, physicians, mobile devices, etc.

It replaces bilateral paper-based data exchange with digital information, providing a reliable base of complete and accurate data to be used in business processes[2]
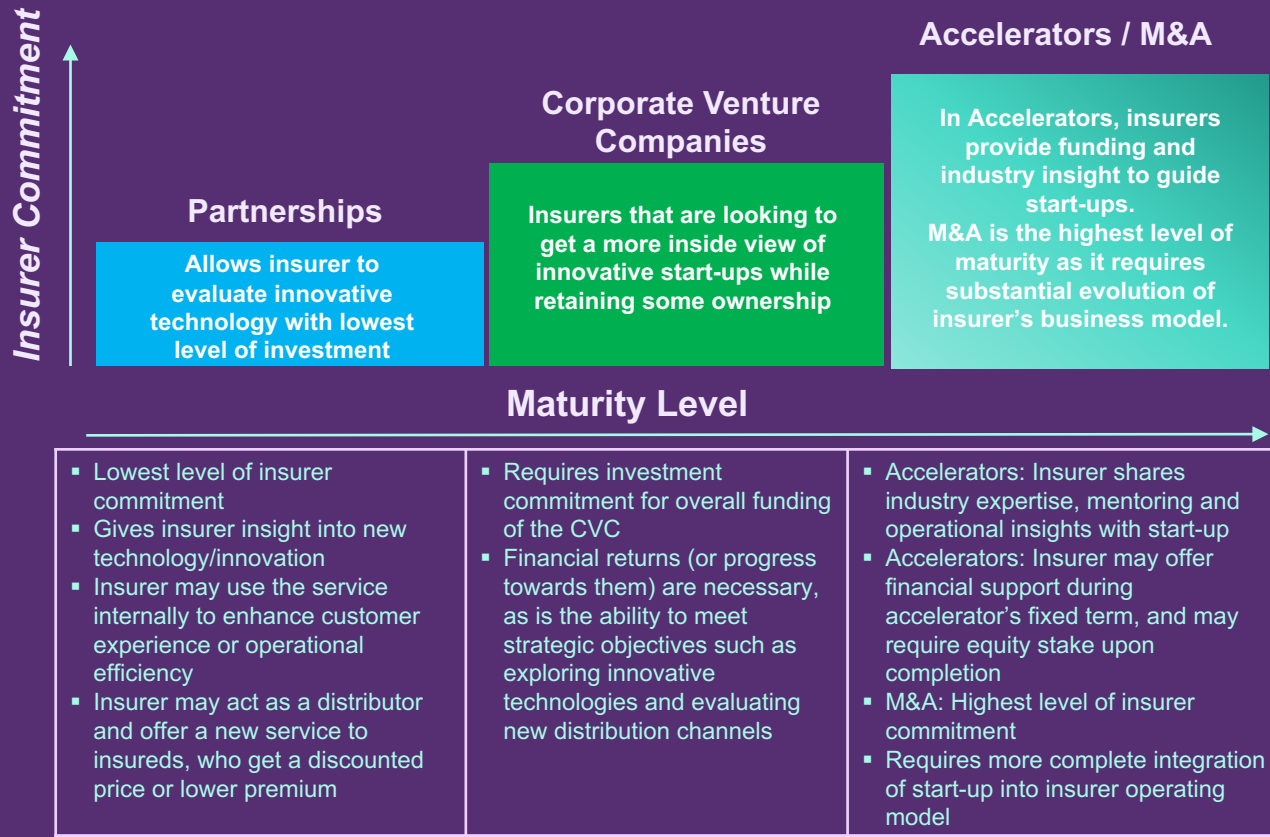
BOUGHT BY MANY

Bought by Many is a London-based P2P insurtech.

Their business model uses search results and social media to form hubs of people with niche interests or needs (e.g. extreme sports), negotiating with existing insurers for discounts or personalized benefits[3]

Source: see notes

Maturity Level Of Insurers: Learning and Working with InsurTechs

Insurer Commitment (vertical axis)

Accelerators / M&A

Corporate Venture Companies

Partnerships

Allows insurer to evaluate innovative technology with lowest level of investment

Insurers that are looking to get a more inside view of innovative start-ups while retaining some ownership

In Accelerators, insurers provide funding and industry insight to guide start-ups.
M&A is the highest level of maturity as it requires substantial evolution of insurer's business model.

Maturity Level (horizontal axis)

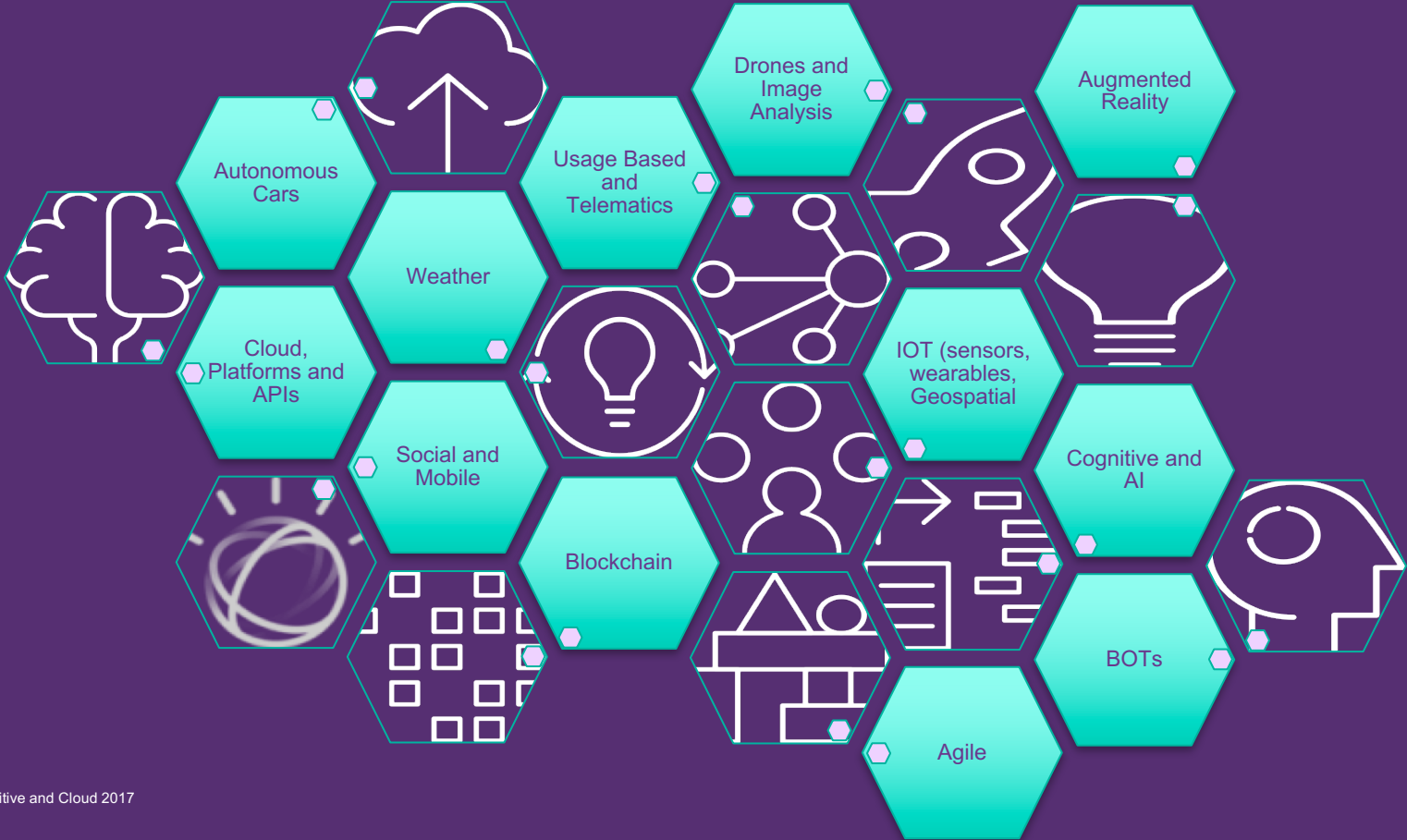|		
- Lowest level of insurer commitment - Gives insurer insight into new technology/innovation - Insurer may use the service internally to enhance customer experience or operational efficiency - Insurer may act as a distributor and offer a new service to insureds, who get a discounted price or lower premium	- Requires investment commitment for overall funding of the CVC - Financial returns (or progress towards them) are necessary, as is the ability to meet strategic objectives such as exploring innovative technologies and evaluating new distribution channels	- Accelerators: Insurer shares industry expertise, mentoring and operational insights with start-up - Accelerators: Insurer may offer financial support during accelerator's fixed term, and may require equity stake upon completion - M&A: Highest level of insurer commitment - Requires more complete integration of start-up into insurer operating model

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Technology and Concepts Enabling and Driving Change

Autonomous Cars

Weather

Usage Based and Telematics

Drones and Image Analysis

Augmented Reality

Cloud, Platforms and APIs

IOT (sensors, wearables, Geospatial

Social and Mobile

Blockchain

Cognitive and AI

BOTs

Agile

Watson: Cognitive Capabilities, IBM's Augmented Intelligence (AI)

Cognitive systems are evolving to drive agility while focusing on amplifying human cognition
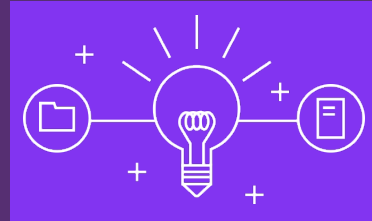
UNDERSTAND

Cognitive systems understand imagery, language and other unstructured data **like humans do.**

REASON
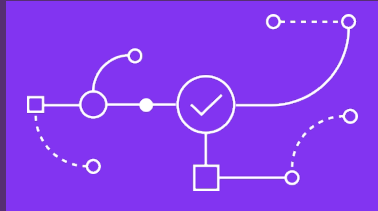
They can reason, grasp underlying concepts, form hypotheses, and **infer and extract ideas.**

LEARN

With each data point, interaction and outcome, they develop and sharpen their expertise, so **they never stop learning.**

INTERACT

With abilities to see, talk and hear, cognitive systems **interact with humans in a natural way.**

Executives in charge of cyber security see three gaps to address

Intelligence gap

#1 most challenging area due to insufficient resources is threat research (65% selecting)

#3 highest cybersecurity challenge today is keeping current on new threats and vulnerabilities (40% selecting)

Speed gap

The top cybersecurity challenge today and tomorrow is **reducing average incident response and resolution time**

This is despite the fact that **80%** said their incident response speed is much faster than two years ago

Accuracy gap

#2 most challenging area today is optimizing accuracy alerts (too many false positives)

#3 most challenging area due to insufficient resources is threat identification, monitoring and escalating potential incidents (61% selecting)

Source: "Cybersecurity in the cognitive area: Priming your digital immune system. " IBM Institute for Business Value. November 2016. ibm.biz/cyberimmunity

Platforms are driving and shaping innovation today, tomorrow and beyond.

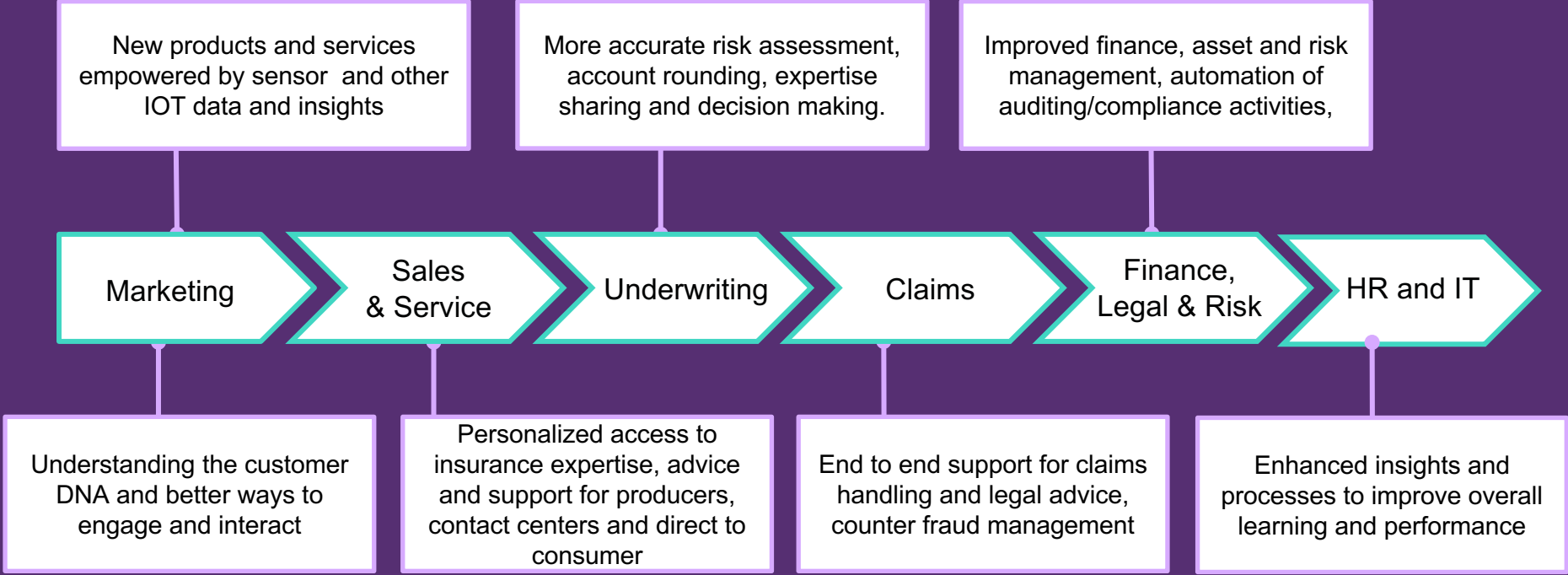|	
Applications, solutions and services	Deploy new, industry-specific, differentiating capabilities fast
AI/Cognitive	Allow your accumulated expertise to shine through in everything you do
Data	The ability to derive insights and knowledge from your data while governing regardless of location, respecting compliance and sovereignty
Cloud Infrastructure	Integrate mission critical applications alongside new, cognitive and data loads and accelerate AI data ingestion and training on a secure cloud, with visibility across clouds.

Today's Discussion

Key themes facing insurance
Outside In and Inside Out

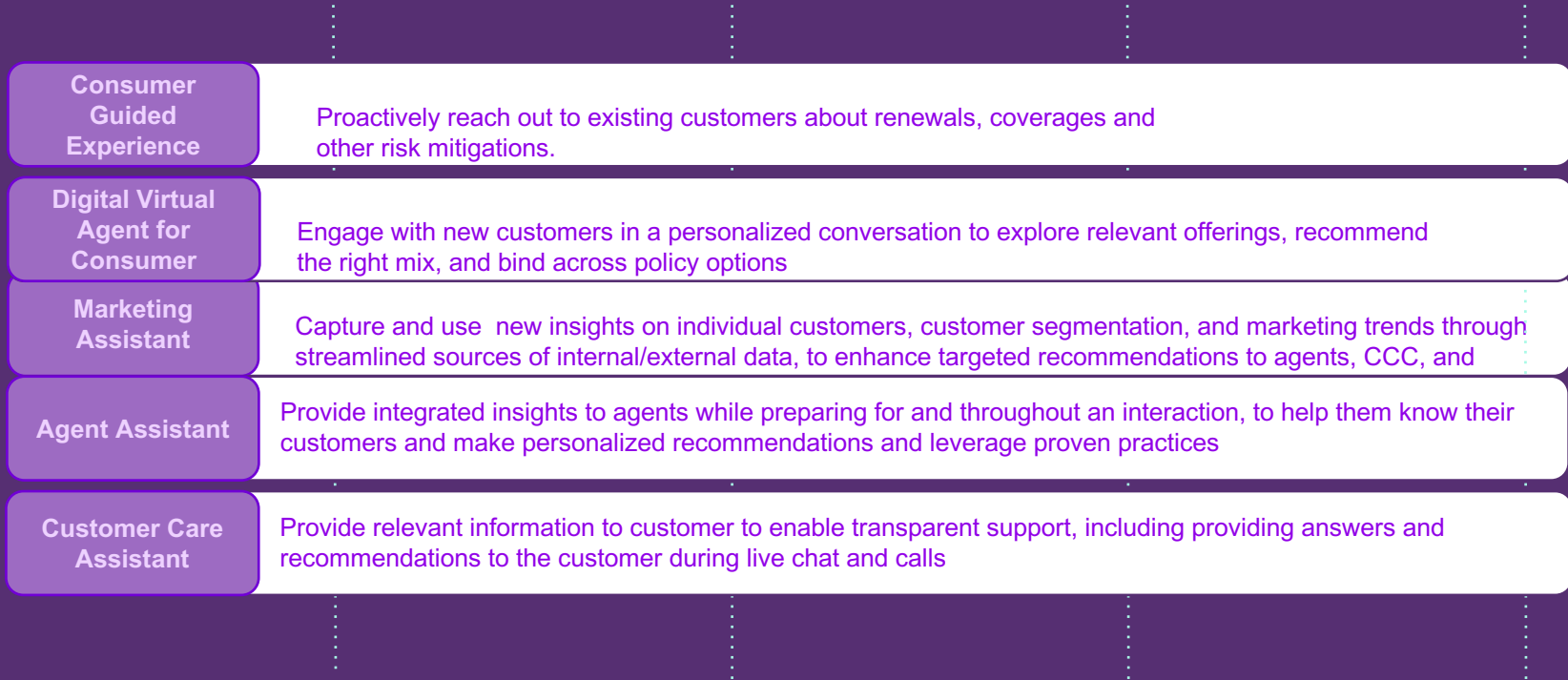Emerging technologies
Driving and enabling change

Successes and Adoption

Evolving YOUR Success Story

Processes Across the Insurance Value Chain are being transformed with evolving capabilities to drive both big T and little t transformation

New products and services empowered by sensor and other IOT data and insights

More accurate risk assessment, account rounding, expertise sharing and decision making.

Improved finance, asset and risk management, automation of auditing/compliance activities,

Marketing → Sales & Service → Underwriting → Claims → Finance, Legal & Risk → HR and IT

Understanding the customer DNA and better ways to engage and interact

Personalized access to insurance expertise, advice and support for producers, contact centers and direct to consumer

End to end support for claims handling and legal advice, counter fraud management

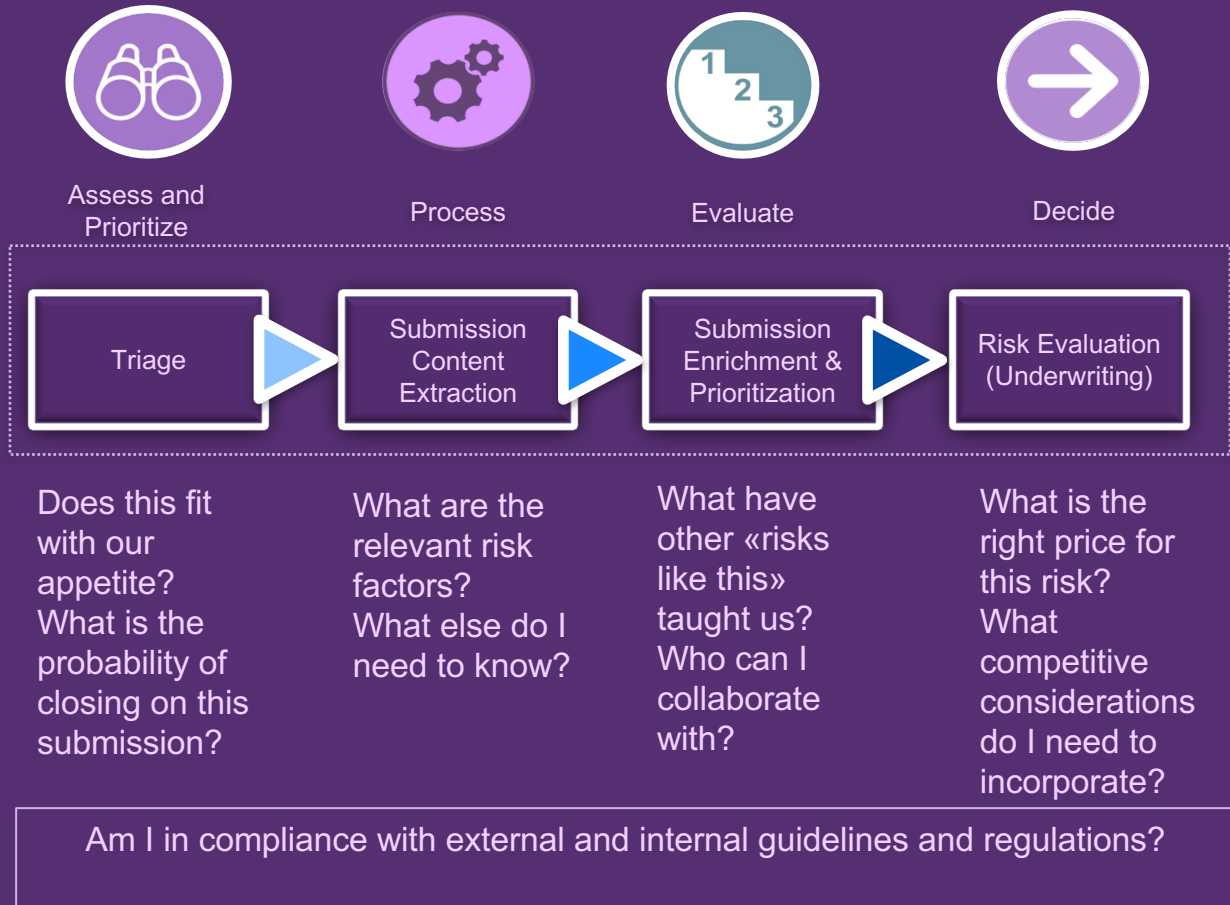Enhanced insights and processes to improve overall learning and performance

A true customer centric set of capabilities uses information across all points of interaction, to support informed and relevant interactions
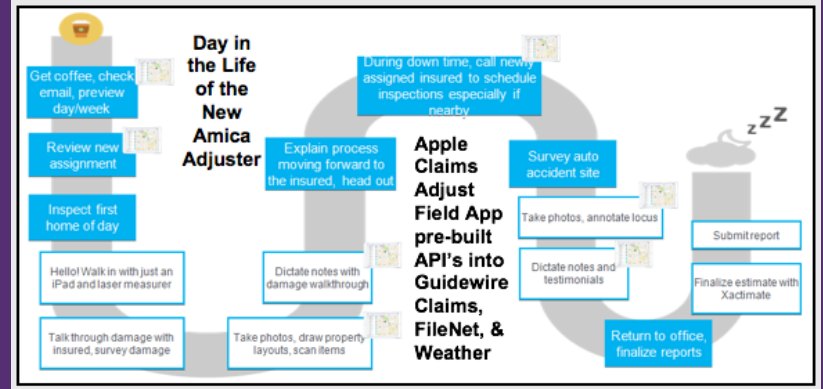
Consumer Guided Experience

Proactively reach out to existing customers about renewals, coverages and other risk mitigations.

Digital Virtual Agent for Consumer

Engage with new customers in a personalized conversation to explore relevant offerings, recommend the right mix, and bind across policy options

Marketing Assistant

Capture and use new insights on individual customers, customer segmentation, and marketing trends through streamlined sources of internal/external data, to enhance targeted recommendations to agents, CCC, and

Agent Assistant

Provide integrated insights to agents while preparing for and throughout an interaction, to help them know their customers and make personalized recommendations and leverage proven practices

Customer Care Assistant

Provide relevant information to customer to enable transparent support, including providing answers and recommendations to the customer during live chat and calls

Art of the Possible:
We add capabilities to augment, improve and drive consistency across the Underwriting process

Majesco
SAP
Other

Assess and Prioritize

Process

Evaluate

Decide

| Triage | Submission Content Extraction | Submission Enrichment & Prioritization | Risk Evaluation (Underwriting) |

Does this fit with our appetite? What is the probability of closing on this submission?

What are the relevant risk factors? What else do I need to know?

What have other «risks like this» taught us? Who can I collaborate with?

What is the right price for this risk? What competitive considerations do I need to incorporate?

Am I in compliance with external and internal guidelines and regulations?

Transformations Across Claims Have Been Successfully Implemented

Meiji Yasuda Life pays customers with greater speed and accuracy by using WEX(Watson Explore) to standardize medical terms

22% fewer
mistakenly unpaid claims—from 435 cases to 339 in the first year

90% accuracy
in coding medical terms and treatments during claim assessment

20% reduction
in assessment workforce, saving several hundred million yen each year

IoT (Internet of Things) is providing new sources of information and insights to transform the way we anticipate and manage risk

Protected Lifestyle
Consumer and Life Insurance

Protected Car

Protected Personal Assets

Protected Home

Protected Banking & Wealth Management

Protected Wellness, Patient & Elder Care

The Weather Company
An IBM Business

IBM Watson IoT Platform

IBM Moving Objects Mapping Analytics

Partners & Enrich Data Sources

Customer Data

Protected Business
Commercial Insurance

Protected Workers

Protected Assets & Cargo

Protected Equipment

Protected Buildings

Protected Fleet

Protected Energy

Protected Agriculture

AIG Multinational Blockchain Initiative with Standard Chartered Bank

Objective:

- **AIG** was looking to issue & record a multinational umbrella policy on Blockchain to improve transparency, efficiency, and servicing
- AIG recruited a client, **Standard Chartered**, to create an initial Blockchain business network, selecting Directors & Officers (D&O) insurance

Benefits:

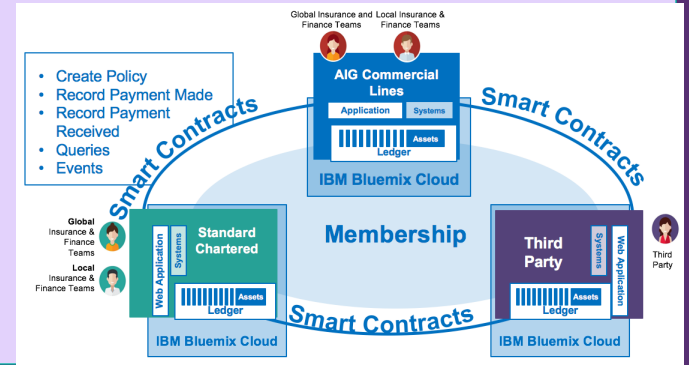- Removes friction and administrative burden, and increases transparency

Scope of Transformation:

- Minimum Viable Business Network between AIG, Standard Chartered Bank, and Regulators across multiple countries to provide full transparency around "Master" & "Local" Policies, associated premiums & payments, and Policy Issuance
- The project converted a controlled D&O master policy (UK), and three local underliers (Kenya, US, Singapore)
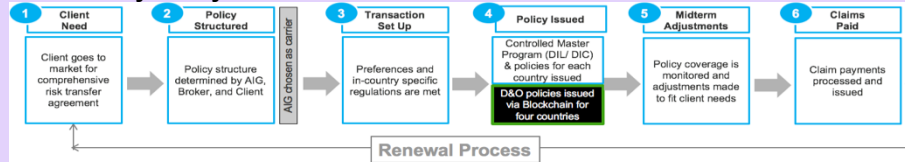
Business Components

- Multinational Policy Overview
- Multinational Payment Overview
- Multinational Policy Management
- Payment Management
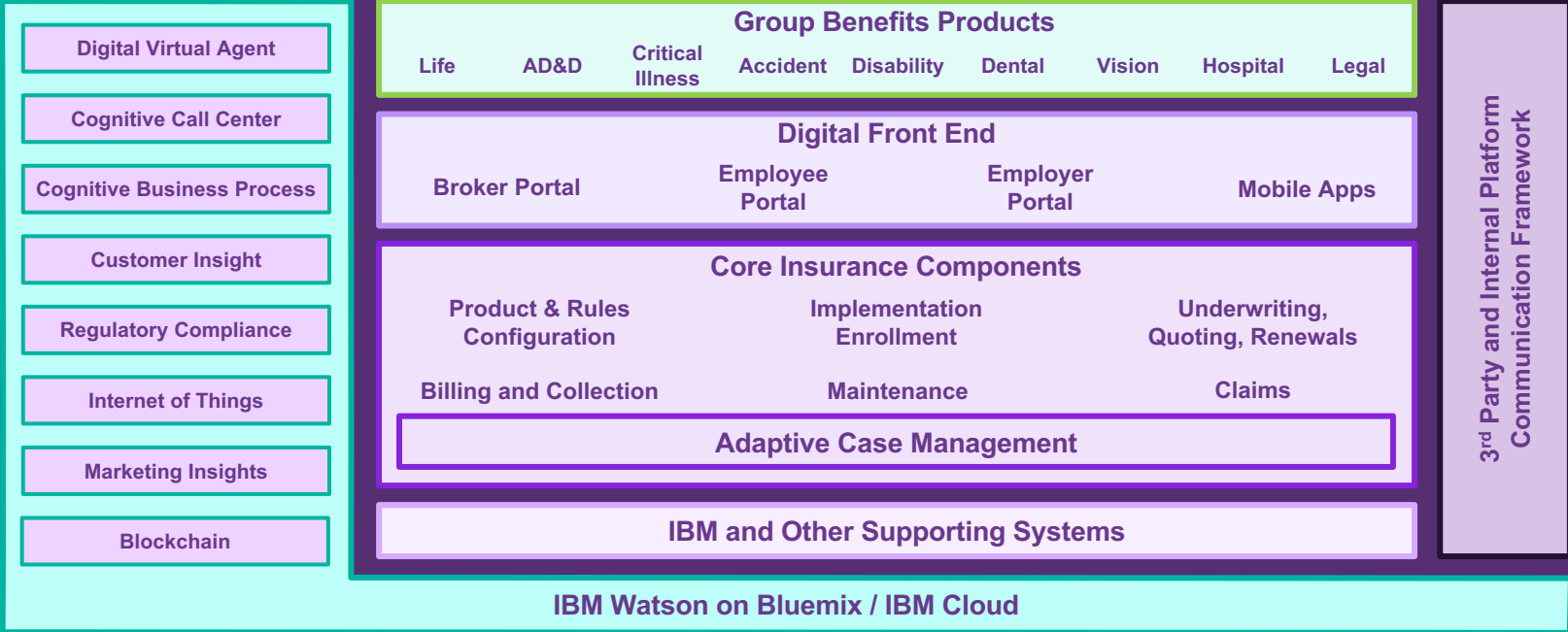- Notifications Management

Blockchain Technical Components

- Store policy documents, with signatures on Blockchain
- Events feature for notifications
- Security using Hyperledger v1.0 alpha

Global Insurance and Finance Teams

Local Insurance & Finance Teams

- Create Policy
- Record Payment Made
- Record Payment Received
- Queries
- Events

AIG Commercial Lines

Application | Systems

Ledger | Assets

IBM Bluemix Cloud

Smart Contracts

Membership

Global Insurance & Finance Teams

Local Insurance & Finance Teams

Standard Chartered

Web Application | Systems

Ledger | Assets

IBM Bluemix Cloud

Third Party

Systems | Web Application

Ledger | Assets

IBM Bluemix Cloud

Third Party

Smart Contracts

Multinational Policy Lifecycle:

1 Client Need	2 Policy Structured		3 Transaction Set Up	4 Policy Issued	5 Midterm Adjustments	6 Claims Paid
Client goes to market for comprehensive risk transfer agreement	Policy structure determined by AIG, Broker, and Client	AIG chosen as carrier	Preferences and in-country specific regulations are met	Controlled Master Program (DIL/ DIC) & policies for each country issued — D&O policies issued via Blockchain for four countries	Policy coverage is monitored and adjustments made to fit client needs	Claim payments processed and issued

Renewal Process

Metlife, Majesco and IBM are defining and delivering a transformative digital experience across Group Benefits as the first product line on the IBM Insurance Platform.
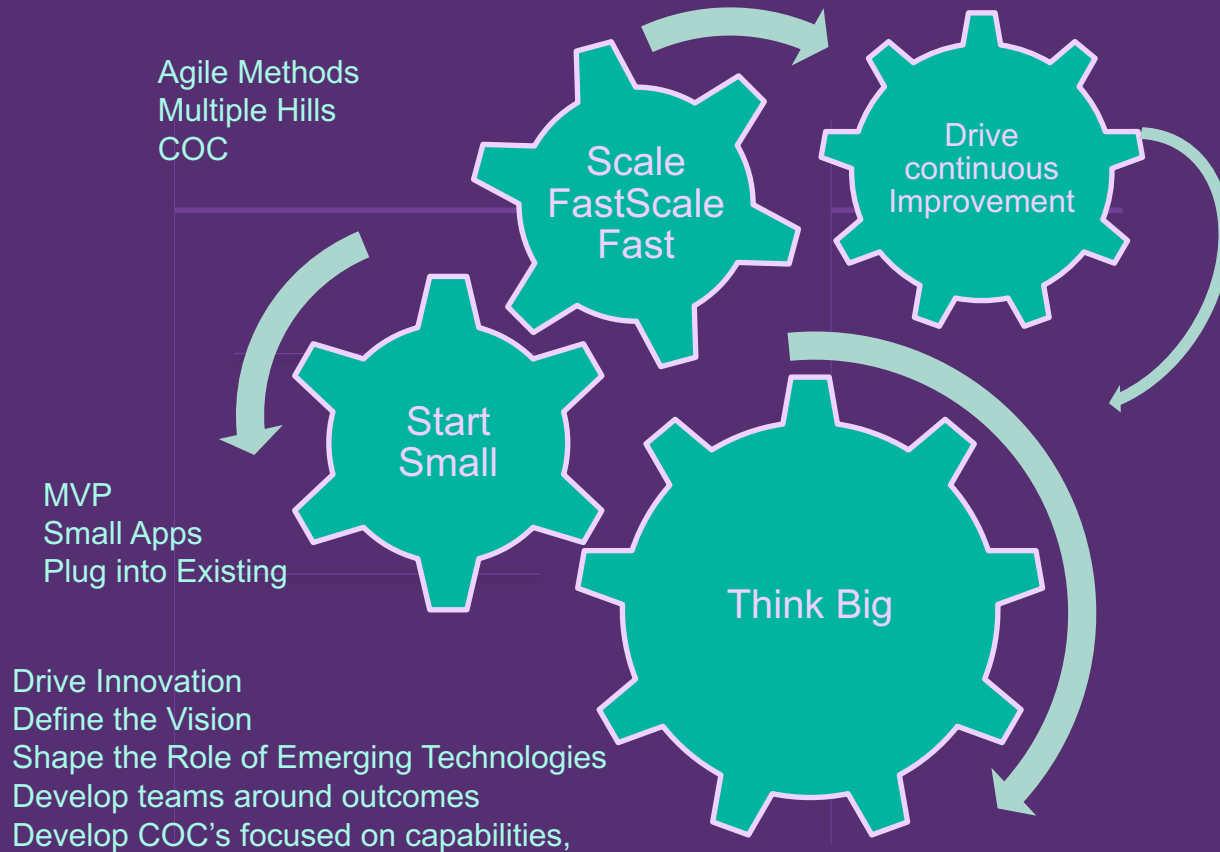

| Digital Virtual Agent |
| Cognitive Call Center |
| Cognitive Business Process |
| Customer Insight |
| Regulatory Compliance |
| Internet of Things |
| Marketing Insights |
| Blockchain |

Group Benefits Products

| Life | AD&D | Critical Illness | Accident | Disability | Dental | Vision | Hospital | Legal |

Digital Front End

Broker Portal | Employee Portal | Employer Portal | Mobile Apps

Core Insurance Components

Product & Rules Configuration | Implementation Enrollment | Underwriting, Quoting, Renewals

Billing and Collection | Maintenance | Claims

Adaptive Case Management

IBM and Other Supporting Systems

3rd Party and Internal Platform Communication Framework

IBM Watson on Bluemix / IBM Cloud

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Think Big, Start Small, Expand Quickly

Agile Methods
Multiple Hills
COC

Scale
FastScale
Fast

Drive
continuous
Improvement

Start
Small

MVP
Small Apps
Plug into Existing

Think Big

Drive Innovation
Define the Vision
Shape the Role of Emerging Technologies
Develop teams around outcomes
Develop COC's focused on capabilities,

Successful Transformation is supported by Strategy Leadership Communications Skills Active Change Management

# Align across the Business and IT to drive an integrated approach

Business
- Define the business architecture and priorities for cloud, with a clear line of sight to value

Together
- Integrate the enterprise's innovation & cloud strategies, including leadership and organization, to optimize returns.
- Define and agree to an enterprise cloud strategy
- Ensure regulatory, security models and frameworks are imbedded as part of your Cloud initiatives.
- Review Cloud security in the context of business and regulatory priorities

Technology
- Define architectural standards and characteristics for cloud prioritization

Learn from Others

Watson Ads™

59° & ☀ Watson Ads.
Warm up with a totally new recipe created by you & Watson
🎤 Name any dish, ingredient, or occasion

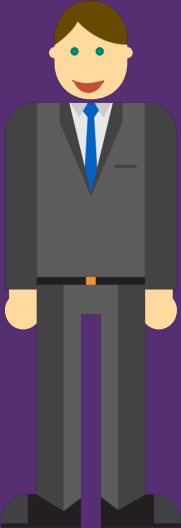Woodside Energy is turning what it knows into what it can accomplish with Watson.
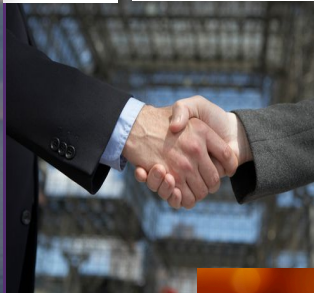
With Watson™
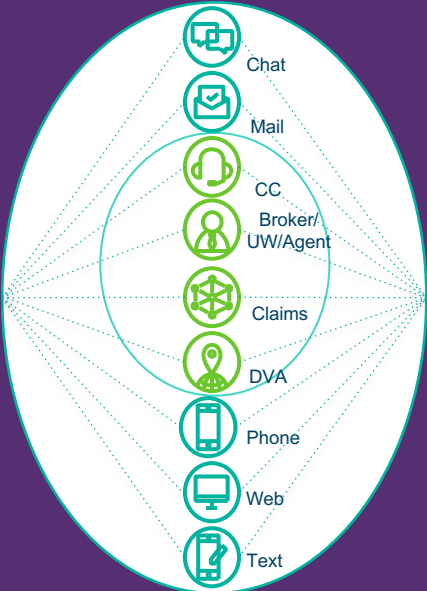
H&R BLOCK®

Cross Industry Leaders and Evolving Insuretechs

A cognitive strategy incorporates and augments existing capabilities to deliver differentiated experiences
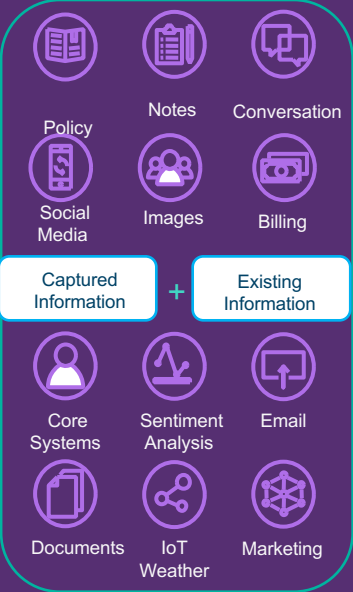
Partners & Employees

Interaction Points

- Chat
- Mail
- CC
- Broker/ UW/Agent
- Claims
- DVA
- Phone
- Web
- Text

Internal & External Information

- Policy
- Notes
- Conversation
- Social Media
- Images
- Billing

Captured Information **+** Existing Information

- Core Systems
- Sentiment Analysis
- Email
- Documents
- IoT Weather
- Marketing

Derived Insights

KNOW ME…
Interactions, preferences, emerging needs,, changing realities…

+

Recommendations

- Integration with existing core capabilities from policy, claims and UW, CRM, MDM, etc. systems.

- Supported by advanced analytics, rules, case managers, and recommendation engines.

- Augmented by insights derived from internal and external sources

Use Technical Building Blocks to Define a Roadmap that Delivers the Vision: Cognitive Claims > Art of the Possible
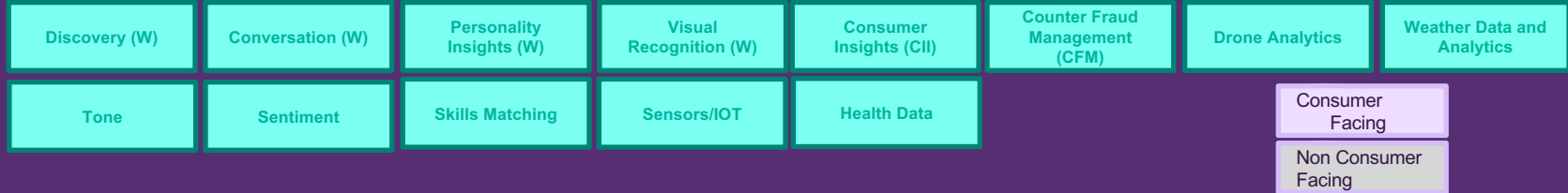
FNOL/Claims Capture	Claims Triage	Claims Assessment	Settlement

1. Authentication – Watson confirms claimant existing policy is in-force by extracting key "pre-defined" features from claim form

2. FNOL BOT – real time natural language AI Bot to gather information from the claimant (e.g. PH, Claimant, Agent)

3. Good Order Checking –Extract key features from unstructured and semi-structured content (e.g., images, claimant description, inspector notes)

4. Claims classification – Identify attributes of claims to determine most appropriate next steps

5. Assignment – Assign claim to the appropriate expert/workflow queue (e.g, expertise finder, claims like this)

6. Augmentation – Discover and generate greater insights by extracting information from unstructured data (e.g., voice, weather, drones, sensors)

7. Robotic Process Automation – End-to-end execution of "pay out" for cases that meet all requirements

8. Post Settlement Analysis – Extract key insights to generate learnings for future processing of claims

9. Analyze and monitor legal/collections invoices to supports improved overall management of cost and services

10. Fraud/Legal Risk – Real Time Claims Score based on the information collected at each step to determine potential fraud or risk indicators, case management and investigative capabilities (e.g., CFM)
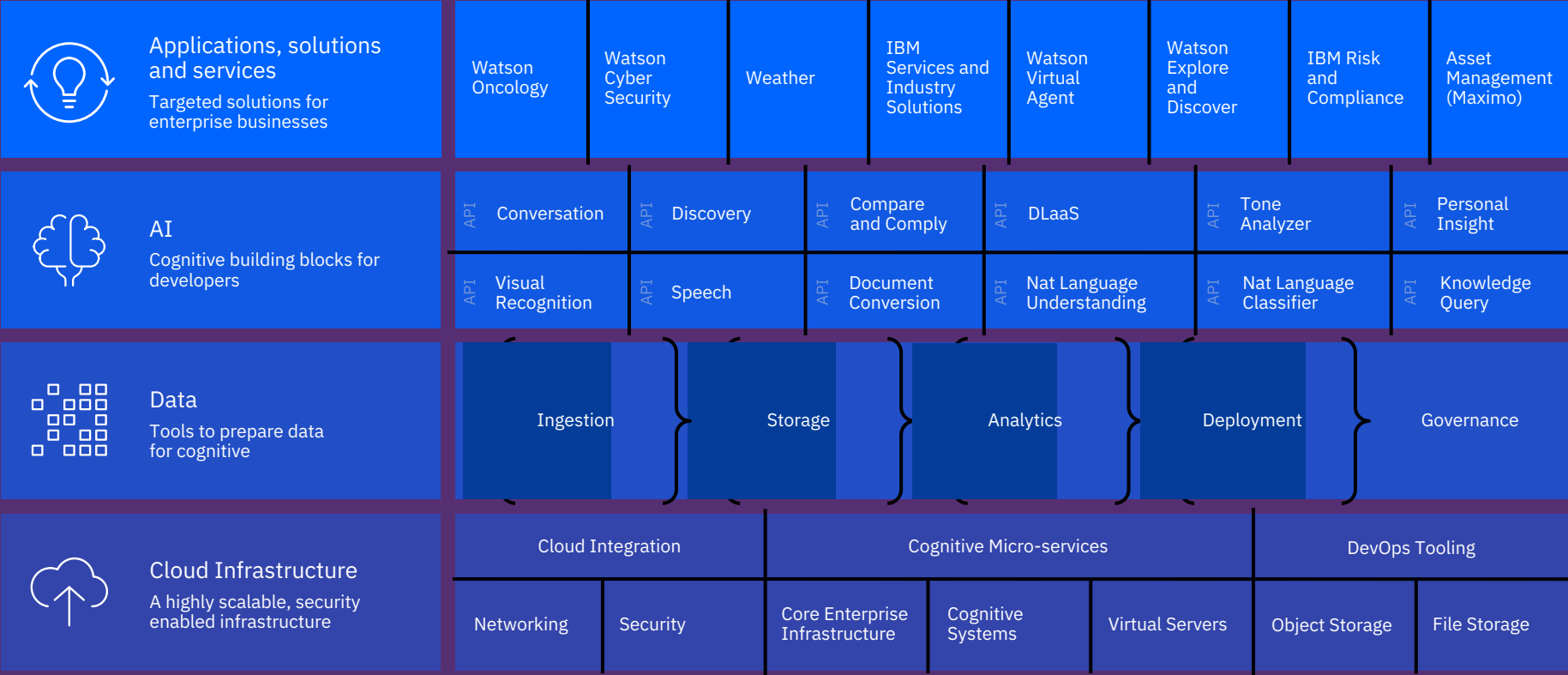
11. Multi-Channel Claims Servicing Bot - – Real Time status update and query handling for the claimant, support internal CSRs

12. Cat Response – leverage weather, drone and other unstructured information to more effective deploy and manage cat responses

IBM Capabilities

Discovery (W)	Conversation (W)	Personality Insights (W)	Visual Recognition (W)	Consumer Insights (CII)	Counter Fraud Management (CFM)	Drone Analytics	Weather Data and Analytics
Tone	Sentiment	Skills Matching	Sensors/IOT	Health Data			

Consumer Facing

Non Consumer Facing

Define the architecture, the platform and the ecosystem you will leverage

Applications, solutions and services
Targeted solutions for enterprise businesses

| Watson Oncology | Watson Cyber Security | Weather | IBM Services and Industry Solutions | Watson Virtual Agent | Watson Explore and Discover | IBM Risk and Compliance | Asset Management (Maximo) |

AI
Cognitive building blocks for developers

| API Conversation | API Discovery | API Compare and Comply | API DLaaS | API Tone Analyzer | API Personal Insight |
| API Visual Recognition | API Speech | API Document Conversion | API Nat Language Understanding | API Nat Language Classifier | API Knowledge Query |

Data
Tools to prepare data for cognitive

| Ingestion | Storage | Analytics | Deployment | Governance |

Cloud Infrastructure
A highly scalable, security enabled infrastructure

| Cloud Integration | Cognitive Micro-services | DevOps Tooling |
| Networking | Security | Core Enterprise Infrastructure | Cognitive Systems | Virtual Servers | Object Storage | File Storage |

Consider aligning with proven principles
IBM's Principles for the Cognitive Era

Purpose

- Augment human intelligence

- Based not only on principle, but also on science

- Embedded in the processes, systems, products and services by which business and society function – all of which will and should remain within human control

Transparency

- When and for what purpose AI is applied in cognitive solutions

- The major sources of data that inform solutions and the methods to train

- Work with our clients to protect their data and insights, and encourage others to do the same

Skills

- Work to help people acquire skills and knowledge to engage with cognitive systems

- For new work and jobs that will emerge in the cognitive economy

How will you get started?

Thank you!

Additional Resources

Short Illustrative Clips (for you to watch later)

IBM Watson: Proactive program integrity

<iframe width="560" height="315" src="https://www.youtube.com/embed/3Jw71o15rTU" frameborder="0" allowfullscreen></iframe>

70 Miles From Shore with Watson: Woodside Energy and IBM

<iframe width="560" height="315" src="https://www.youtube.com/embed/GFZ2IaTVkY8" frameborder="0" allowfullscreen></iframe>

Explore YouTube on the IBM Watson Channel

IBM Watson's cognitive capabilities organized into 6 categories and available as API's on www.bluemix.com> Sign up for a free subscription and explore what you can do

Language

Natural Language Classifier

Language Translator

Speech

Speech to Text

Text to Speech

Empathy

Personality Insights

Tone Analyzer

Vision

Visual Recognition

Watson sees, hears, speaks, feels, converses, translates, finds

Discovery

Natural Language Understanding

Discovery

Discovery News

Retrieve and Rank

Watson Knowledge Studio

Conversation

Conversation

Watson Virtual Agent

Explore the IBV

IBV Home Page and App:

– https://www-935.ibm.com/services/us/gbs/thoughtleadership/

Insurance Focused

– The FSS Platform: https://www-03.ibm.com/press/us/en/pressrelease/53284.wss

– The Insurance Page: http://ibv.dst.ibm.com/industry/insurance.htm

Capability and Cross Industry

– Blockchain:

- https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=KU912398USEN&
- https://www-935.ibm.com/services/studies/csuite/blockchain/

Outside of IBM

Digital Adoption: Tufts and MasterCard.

https://hbr.org/webinar/2016/04/how-platform-businesses-are-transforming-strategy#comment-section

Center for Global Enterprise

Https://thecge.net/archived-papers/the-rise-of-the-platform-enterprise-a-global-survey/

World Economic Forum

http://reports.weforum.org/digital-transformation/an-introduction-to-the-digital-transformation-initiative/