DELOREAN AI

THE FUTURE OF TRADING . . . LITERALLY

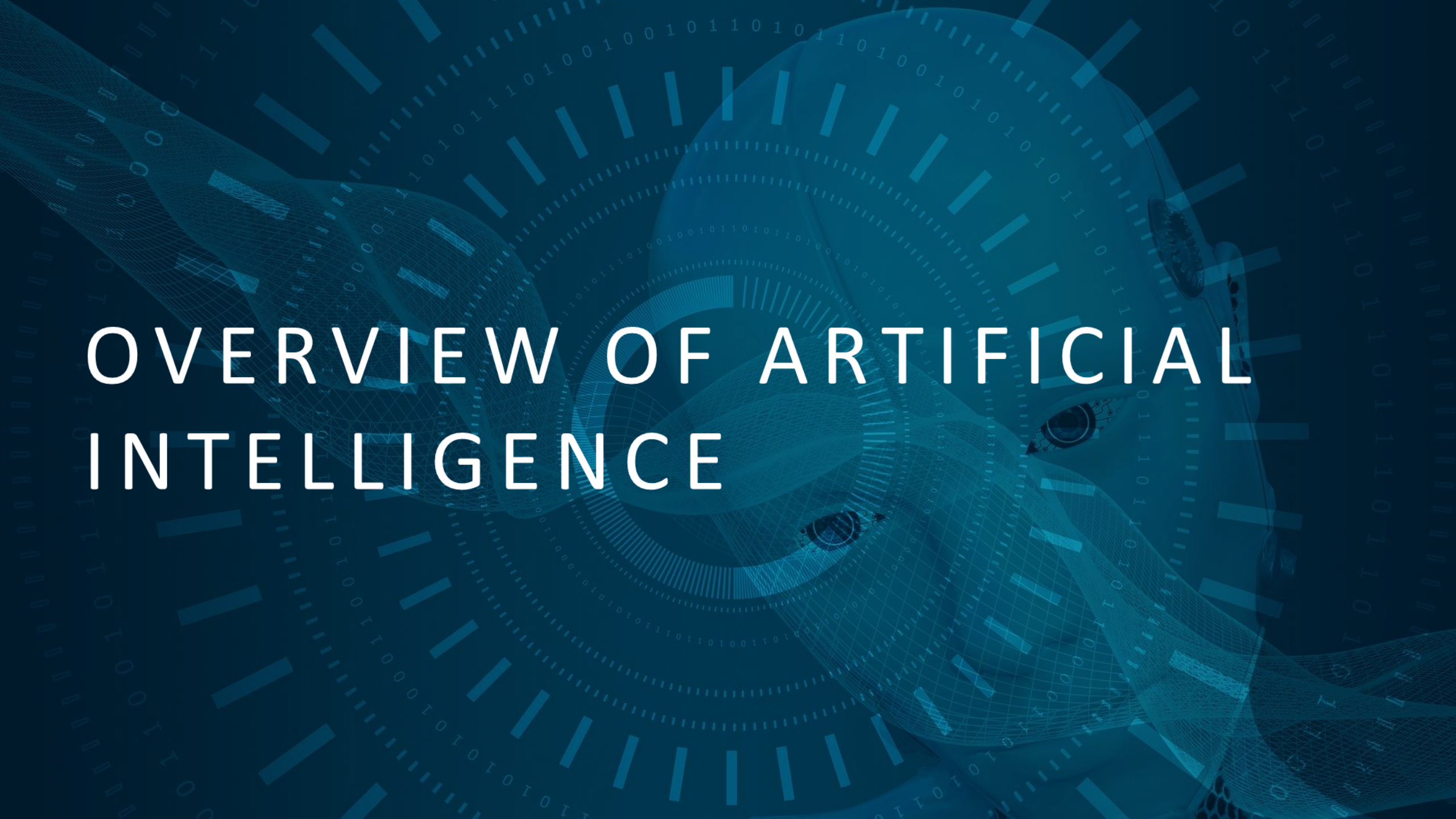
AVOIDING AN EXTINCTION EVENT

EVOLVING TO ARTIFICIAL INTELLIGENCE IN THE PROPERTY & CASUALTY INSURANCE INDUSTRY

March 2021

AGENDA

1. Overview of Artificial Intelligence
2. Covid-19 Driving Global Digital & AI
3. How AI Develops Powerful Insights
4. Art of the Possible
5. Hyperpersonalization
6. Predicting Accidents
7. Machine Hearing
8. Machine Vision
9. Building an AI Team
10. Data AI & Ethics


OVERVIEW OF ARTIFICIAL INTELLIGENCE

Everyday Millions of Data Points are Being Generated as Technology Advances

Data is Evolving

1990-2000

2000-2015

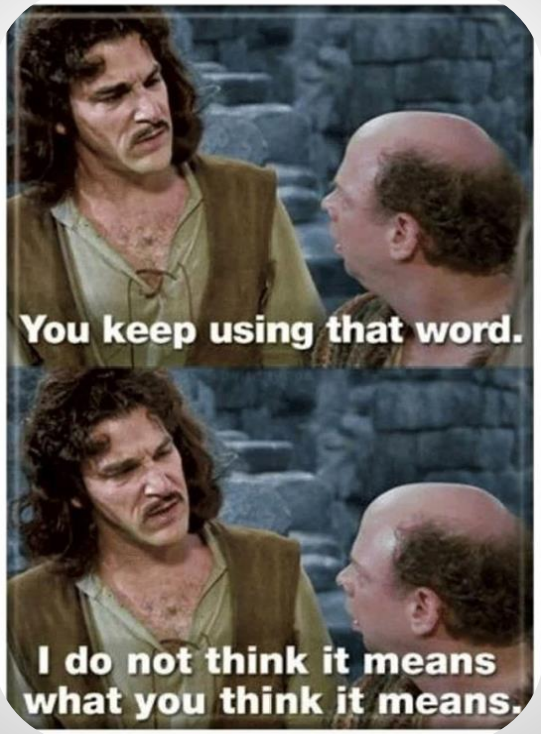
2016- 2018

2018- 2021

Distant Past	Past	Recent	Present	Future
Advent of Data Collection	Big Data	Data Science	AI	Sentience

Unfortunately, Buzzwords and Technical Jargon Create Confusion, Making it Difficult to Develop & Adopt Successful AI Strategies

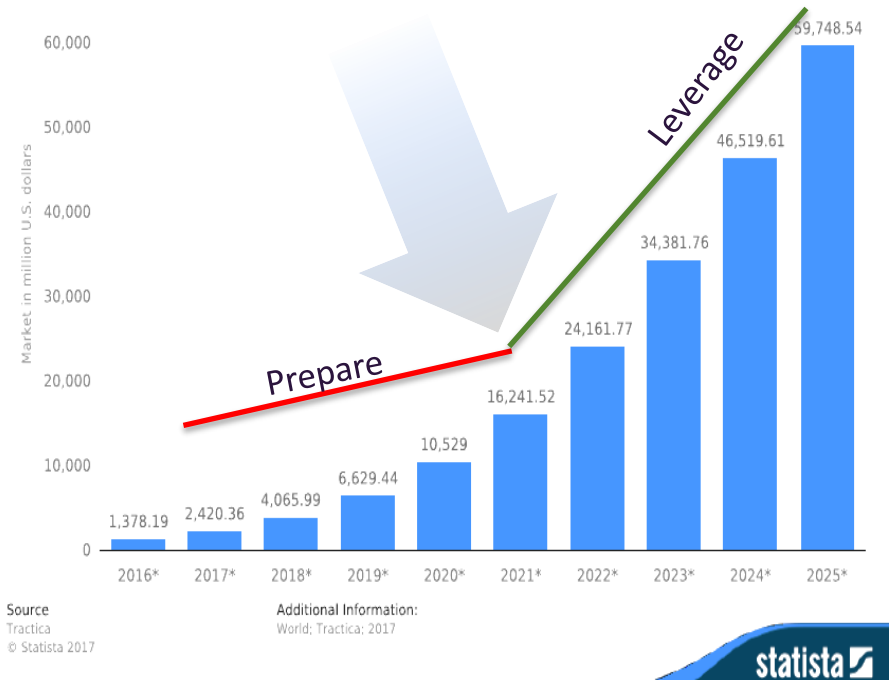
When someone uses ‘Machine Learning’, ‘AI’, and ‘Deep Learning’ interchangeably in a discussion…



That’s too many words in a sentence

Past: Companies Only Have a Couple Years to Prepare & Capitalize on the Opportunity – IT HAS HAPPENED

Inflection point: we have until 2020 to establish market share in order to take advantage of the five-year growth that will follow



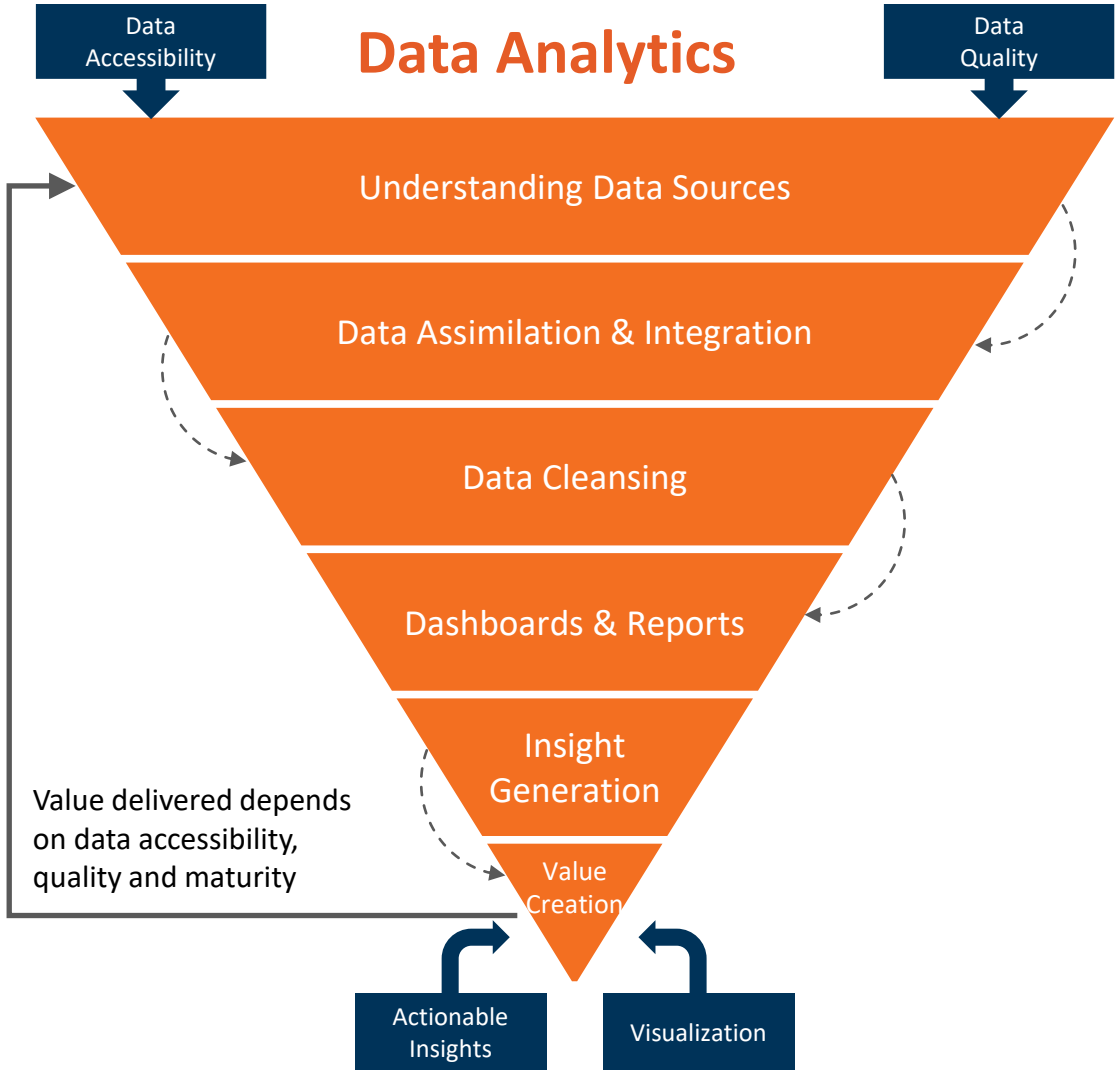
$60B Topline augmentation for business by 2025

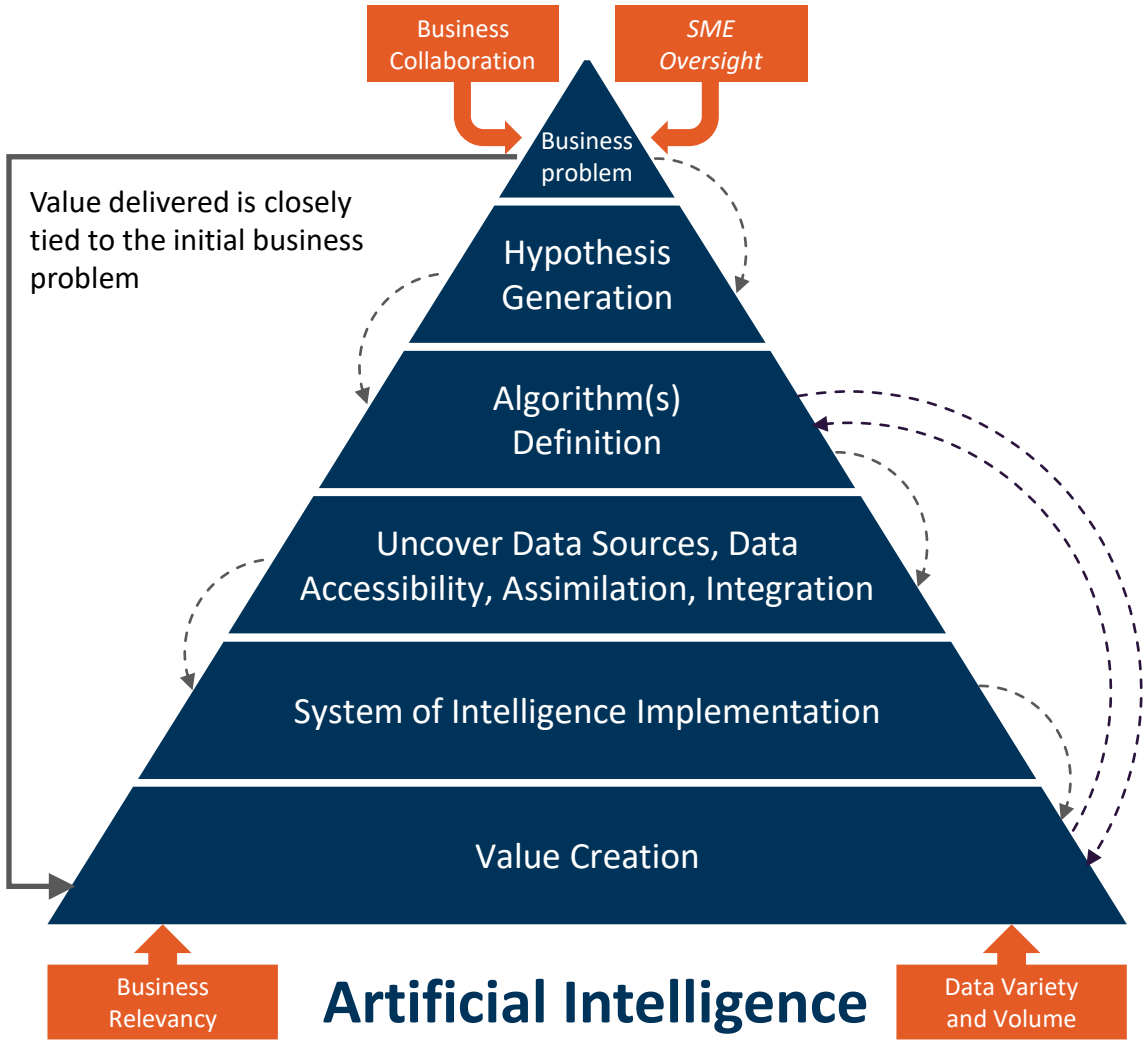
$15T Economic impact and upside by 2030

Incremental Global GDP in 2030 as a result of AI 14%

Total impact of 14.5% of GDP alone in NA $3.7T

There are Fundamental Differences Between AI & Analytics





Artificial Intelligence is Ultimately About One Central Idea

Artificial Intelligence (AI) is a collective term used to **describe machines** that can **mimic cognitive functions** associated with the human mind, such as learning and problem-solving.

It is all about **machines being able to learn from experience** and **adjust to new inputs** from their environment.

FORMS OF AI

Automated Intelligence

Automation of manual/cognitive and routine/non-routine tasks

Assisted Intelligence

Helping people perform tasks more **efficiently** by increasing speed and quality.

Augmented Intelligence

Helping people make better decisions for increased **effectiveness**

Autonomous Intelligence

This new normal of automating decision-making without human intervention is **disrupting** industries.

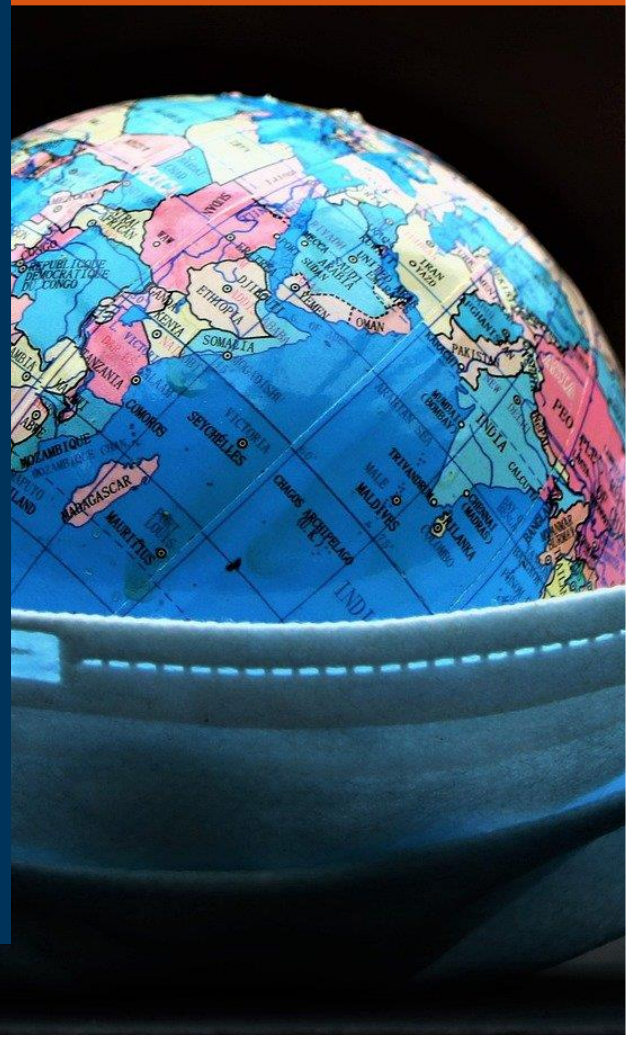
COVID-19 DRIVING GLOBAL
DIGITAL & AI

Covid-19 Driving Global Digital & AI

The pandemic caused an acceleration of the digital transformation by 40% or by about 3 years

Why?

- Because they had to!
- Already had the capability
- Customer acceptance
- CEOs were surprised by the ability and flexibility for the digital transformation



Acknowledgement of the importance for AI in business increased 81% from 2018

This was due to COVID-19 and the follow-up investment from the C-Suite

AI is most likely to increase worker efficiency/productivity rather than replacing a workforce

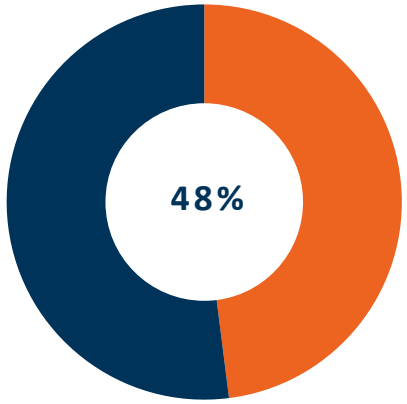
US competitiveness in AI on the world stage is a major concern

HOW AI DEVELOPS POWERFUL INSIGHTS

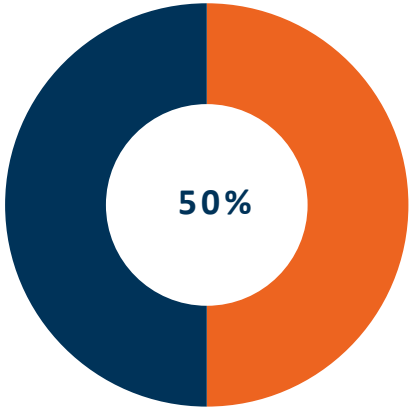
The C-Suite of Insurance/Financial Services Recognizes the Extinction Potential of AI

$250B *ROI AI Investments are expected to generate to the investment community*

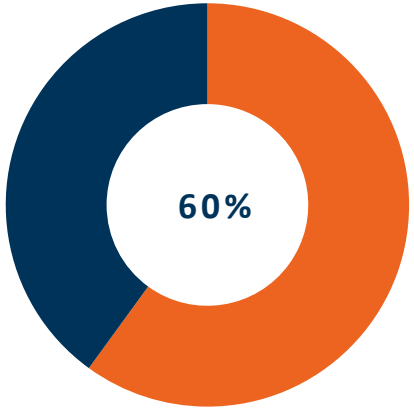
$5.6B *AI investments in 2019 for Financial Services Industries*



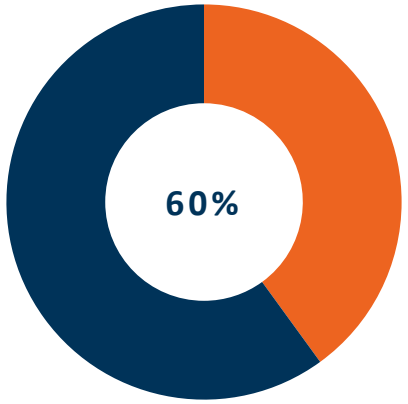
Of C-Execs will implement some sort of AI in their organization



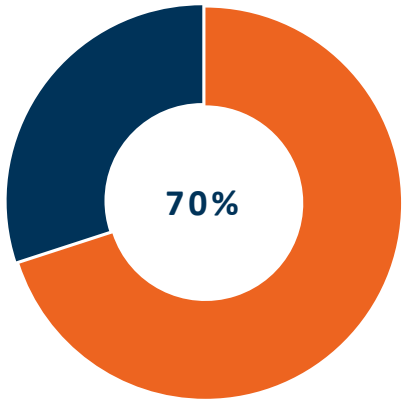
Of C-Execs believe that AI will drive increased profitability



Of C-Execs see AI as Top Priority



Of C-Execs are budgeting increased education of their direct reports around AI



Of C-Execs will implement some sort of AI in their organization

How do Executives in the P&C Insurance Industry see the Importance of AI Adoption?

86% of leadership either are investing or expect to invest in AI

15% of current CXO's say their organizations uses AI extensively

30% of CXO's in the P&C insurance industry say that in 5 years, 75% of all processed and workload will be supported by AI

34% Say AI will lower costs

33% Say AI will bolster customer engagement

But if they ***say*** it is important, ***why*** are they not doing it?

40% Say there is a regulatory risk using AI

39% Say they do not have the needed infrastructure (crawl before you walk)

28% Note there is poor quality of data

Why AI is Important for Property & Casualty Rate Making Industry

Rate changes occur infrequently, occurring only once, possibly twice a year

The process used to generate rates in the casualty industry is based on historical information and is well developed, tested, and methodical. Due to this, the industry is very good at predicting premiums and losses.

However, there is more data to be harvested, such as increasing the volume of telemetric data.

Additionally, machine learning specifically is more often being used in underwriting rather that AI and software is being adopted that uses only generalize linear models of Big Data and CPU.

When can the shift happen to using true AI?

Regulatory Submissions & Yellow Book

Sampling is for DUMMIES

1. Pricing 2. Underwriting 3. Marketing 4. Claims

The Opportunity

Historically, different silos in insurance companies have had little interest in sharing or collaborating, especially with respect to data.

One True Source of Data

A single environment to host and serve data needs

Pricing, Claims, & Underwriting

Collaboration in near real time to create superior service

Streamlined & Optimized Processes

Automated underwriting & claims to reduce costs

This should be happening now!

Data Enrichment

Many sources of data exist beyond the typical structured data within a company

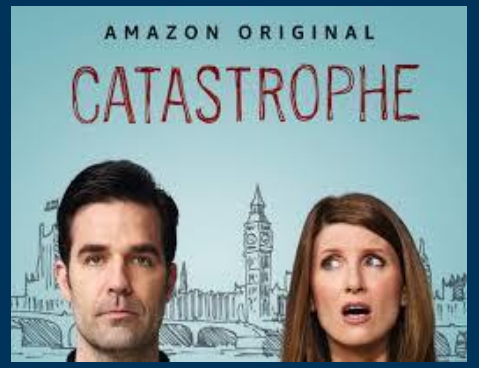
Open-Source Unstructured Data
Highly informative and valuable for insights

3rd Party Data Sources
Readily available and less expensive

Enriched data sources has many benefits

Cost Management
Reduce underwriting costs; Increase quality of portfolio; Decrease losses; Increased profits

Hyperpersonalization
Driving improved customer engagement



Better Risk Management

The Artificial Intelligence Paradox

- The market suffers from “claims of AI” and is plagued with underperforming systems.
- The implementation of slideware and analytics is touted as artificial intelligence.
- True AI projects are relegated to small scale ‘science projects’ incapable of deriving ROI because they are isolated from the greater company context.
- Companies continue to look to the past for answers when they should use their data to predict future events.

Platform Companies offer internal tools to perform analytics and remedial ‘AI’ functions, but these are tools often left idle as there is no one to use them

Consulting Firms deliver vision and strategy, but don’t have the technical capability to execute solutions into practice

Systems Integration (SI) companies have the technical capability (data science, AI, etc.), but fail to shape the technology to address a business problem

Startups have technology to produce a point solution, but are not scalable and usually acquired

Artificial Intelligence Landscape

	Platform Companies	Consulting Firms	System Integrators (SI)	AI Startups
Who	Microsoft, AWS, Google, SalesForce, Teradata	McK, BCG, Bain, EY, KPMG & PWC	Cognizant, Capgemini, WiPro, Infosys, UST, TATA	Fellow Start-ups
Competitor Models	Provide a cloud platform with data science tools & standard analytics	Good at providing strategy for where AI might be beneficial Generic digital transformation	Perform technical implementation at enterprise level Have groups of technically capable people	One to two solutions Industry specific solutions
Gap in Competitor Models	Do not have industry specific solutions Rely on partners to sell their tools & platforms	Lack ability to incorporate strategy with technical capabilities into business solutions Do not develop AI products	Lack ability to connect the technical solution to the business need Sell slideware and develop technology at excessive costs without guaranteeing the solution will work.	Limited solutions Lack ability to scale solutions across industries
DAI Advantage	• Vendor agnostic • SOI's can operate on any of these platforms • Because they do not have industry solutions, they rely on SI's and partners to deploy tools	• Have the technical capabilities of translating strategy into business solutions • Must partner with companies, such as DeLorean, because they do not develop AI products	• Have strategic capabilities to create end-to-end solutions • SI's partner with smaller companies with point AI solutions to include in their enterprise solutions	• DAI developed diverse products to maximize the market • Products are tested and we have established strategic partnerships for distribution

But how effective is AI when generating a

ROI for this kind of

Investments…

About…

~65%

of the investment in AI may never

comes back

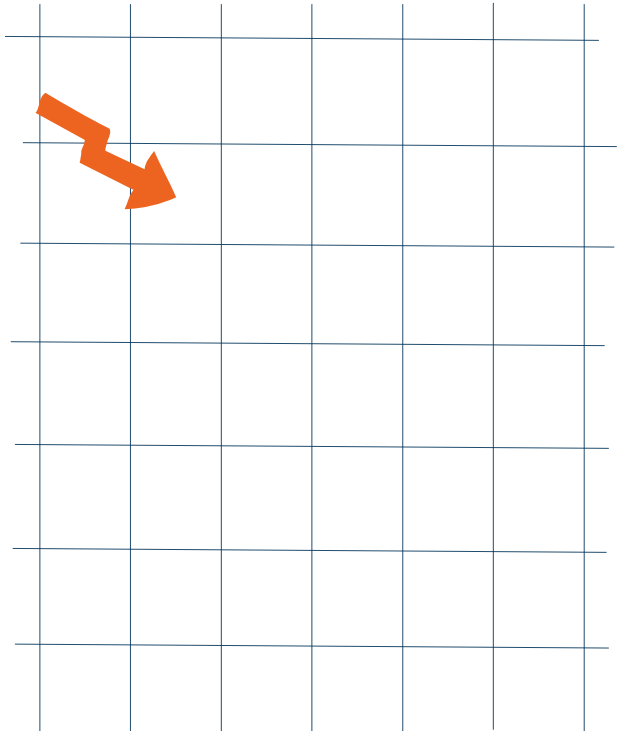
“If you are interested in data, the ultimate goal is threefold: Prediction, Intervention, and Sentience. Anything else is just an expensive science project.”

4 Most Common Mistakes leading to AI Failure

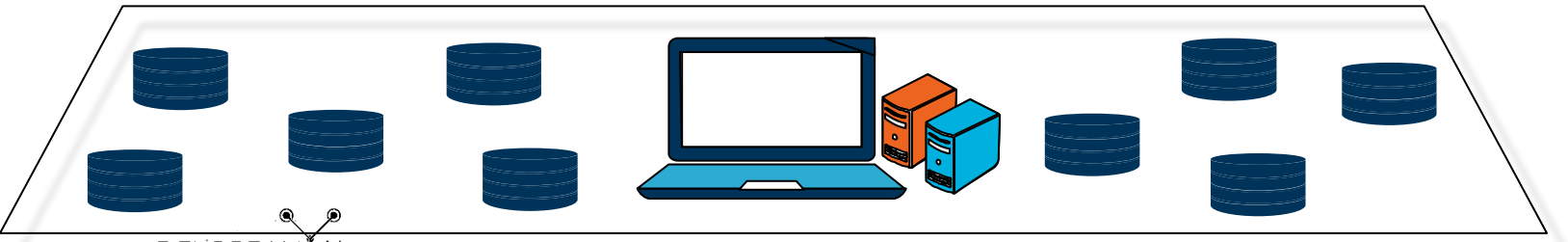
AI science projects are a waste of money…

Step 1 | Data Gold Rush

Your data can be coal or diamonds. It all depends on the business objective.

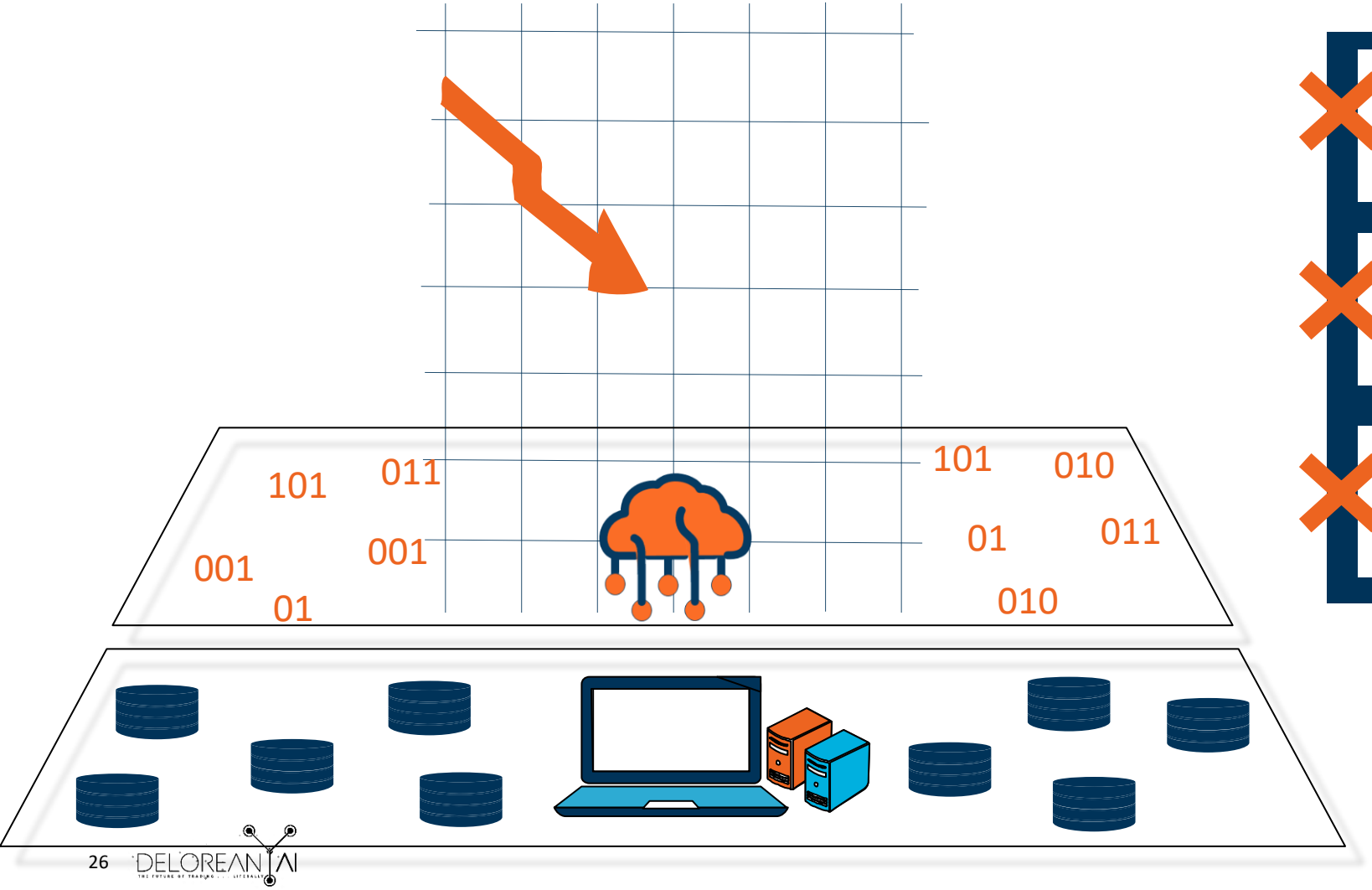


- A company starts to generate an important amount of data
- Without any clear business objectives related to that data
- The company decides to look for a technological implementation



Step 2 | Tool Acquisition

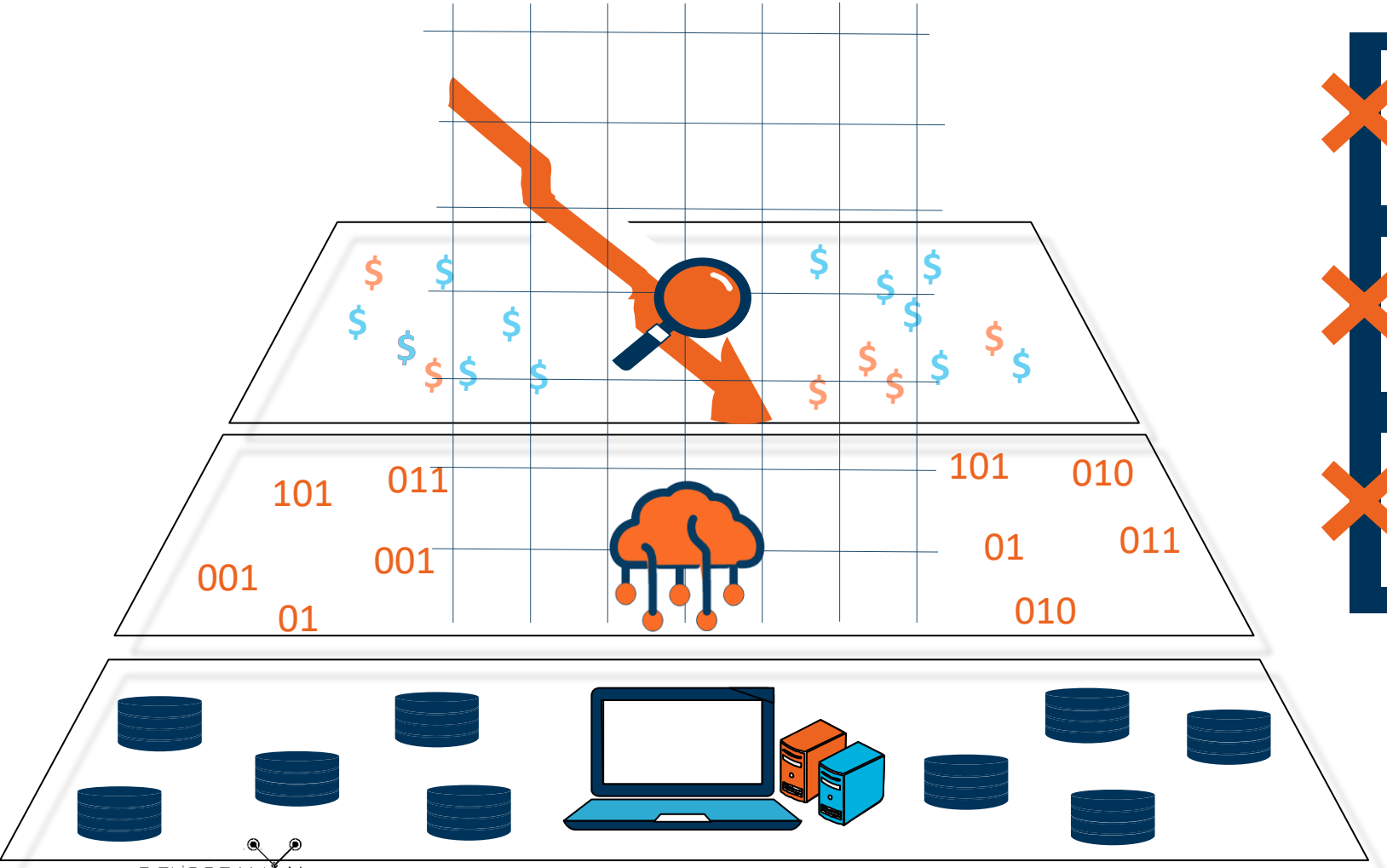
The outcome of a tool is codependent on the state of the data it consumes



- The company acquires an AI tool
- Without any internal assessment they decide to enable IT features
- They plug in the tool and it starts consuming data

Step 3 | Proof of Concept (POC)

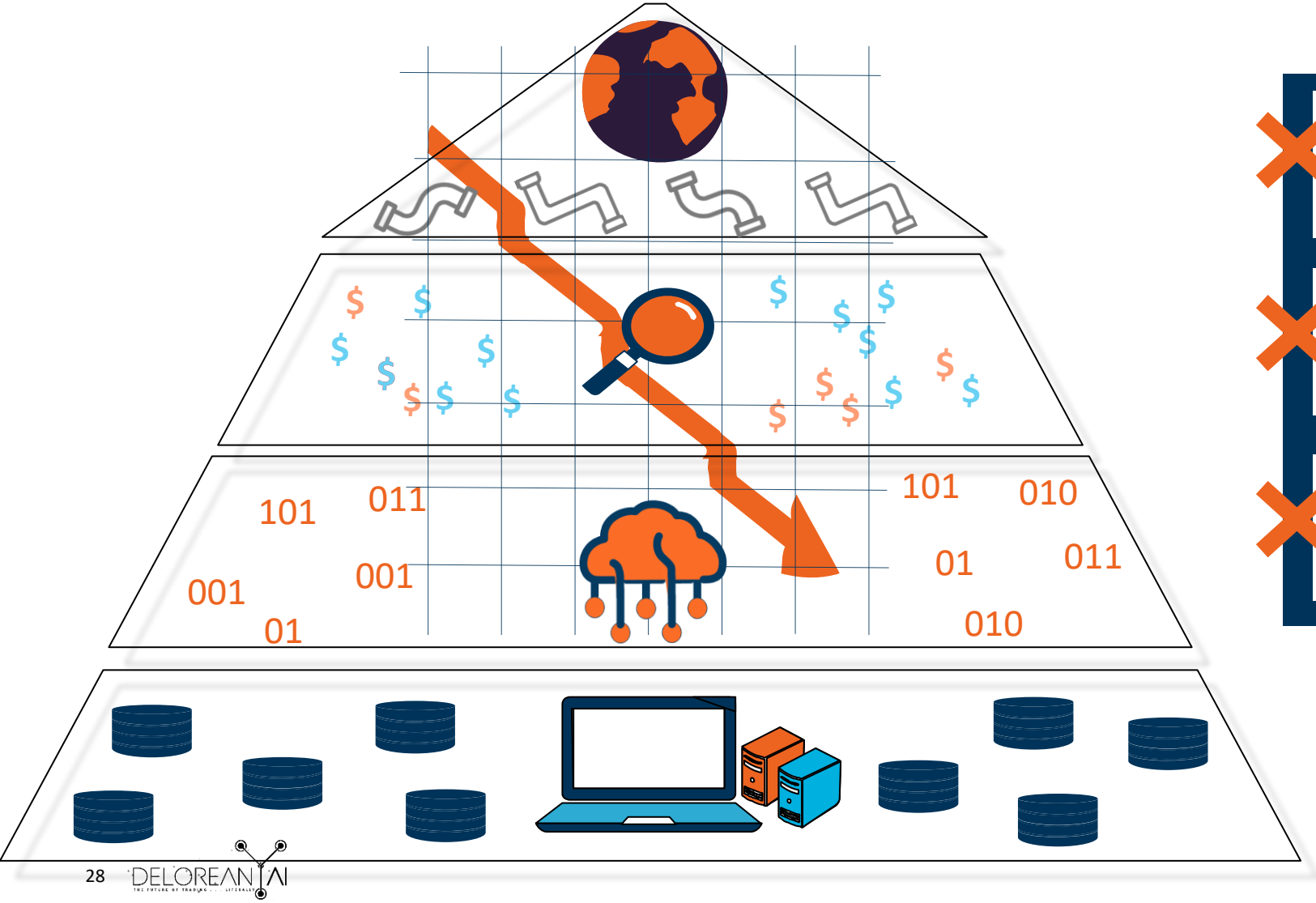
The tool should be learning from a live environment and building basis for its scenarios



- The company decides to run the tool in a non-live environment
- The proof starts giving out predictive scenarios
- The accuracy of those scenarios is measured

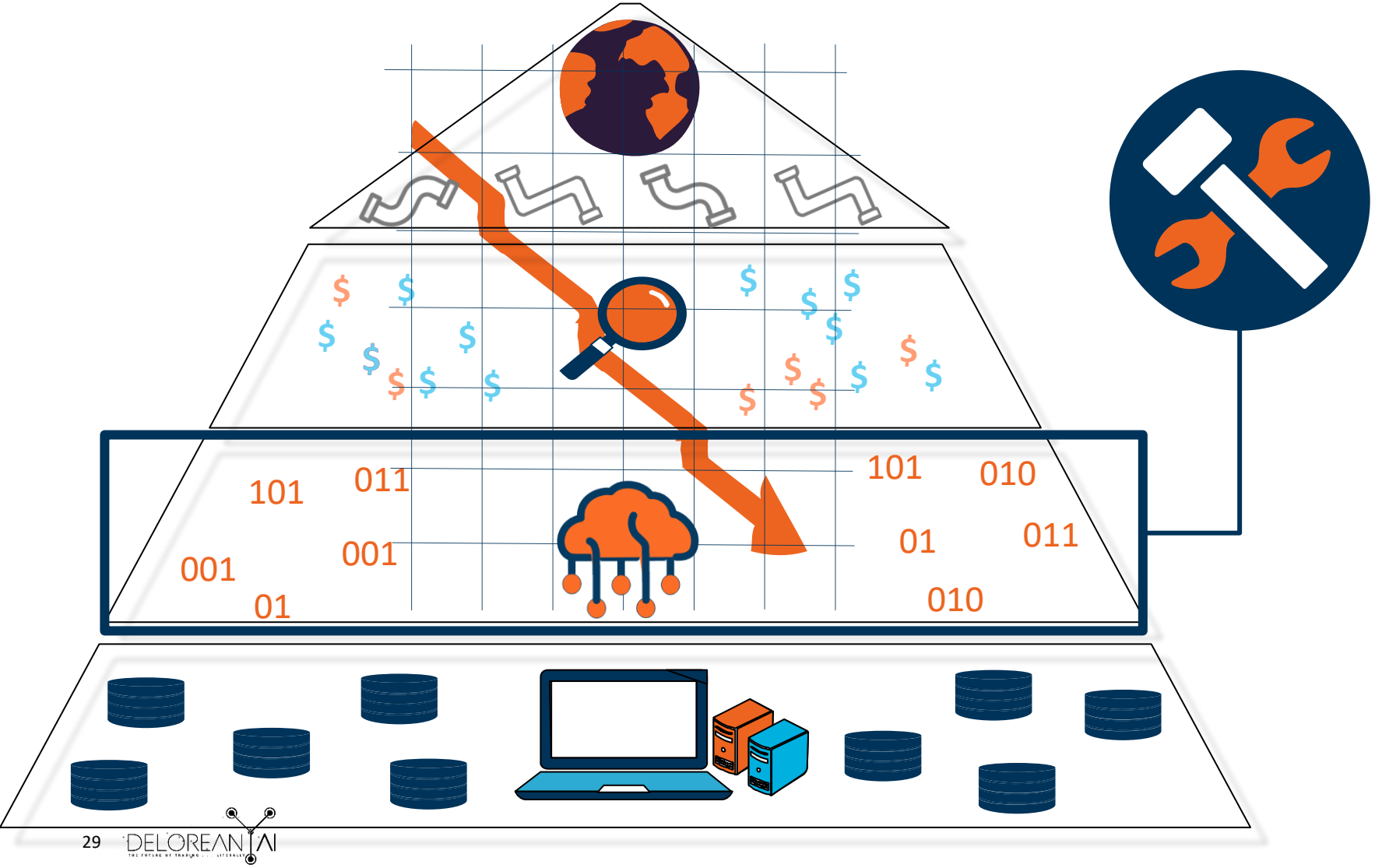
Step 4 | Rollout

The AI solution needs to gradually mature across the different operations



- After evaluating the POC results…
- … The company decides to rollout the solution into their technological landscape
- They deploy the tool across all their operations

WHAT DO YOU END UP WITH?



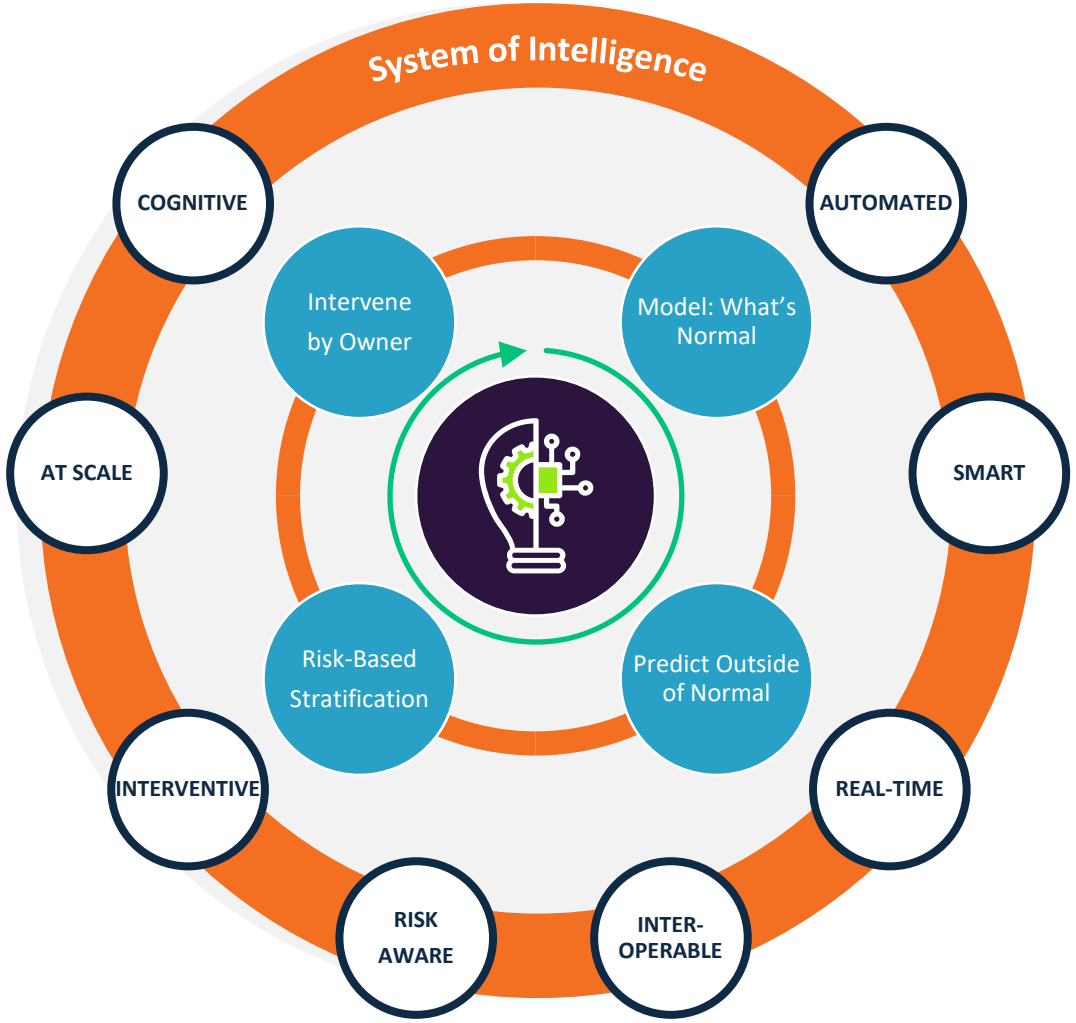
At the end of this kind of AI implementation, the company will get a tool that sustains a mathematical model for predictive analysis.

- **Its accuracy will be fully dependent of the quality of the data being ingested**
- **The tool won't support any other model regarding other use cases**
- **Accuracy will differ accordingly to operations**

Building an AI-Driven System of Intelligence which learns from past experiences and generates powerful insights

SYSTEM COMPONENTS

- Supervised learning
- Unsupervised learning
- Semi-supervised learning
- Machine learning
- Text mining and natural language processing
- Natural language understanding
- Deep learning
- Artificial neural nets
- Geospatial analytics
- Evolutionary programming



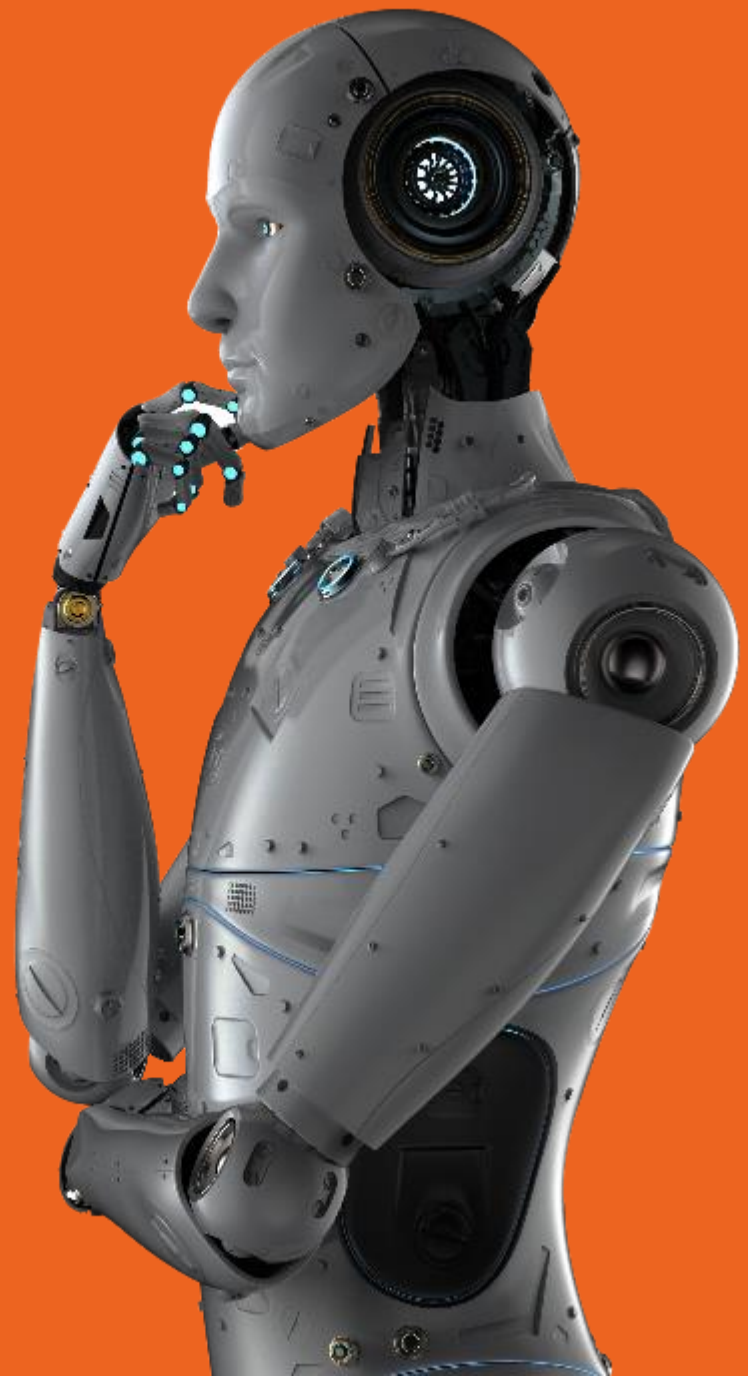
BUSINESS VALUE

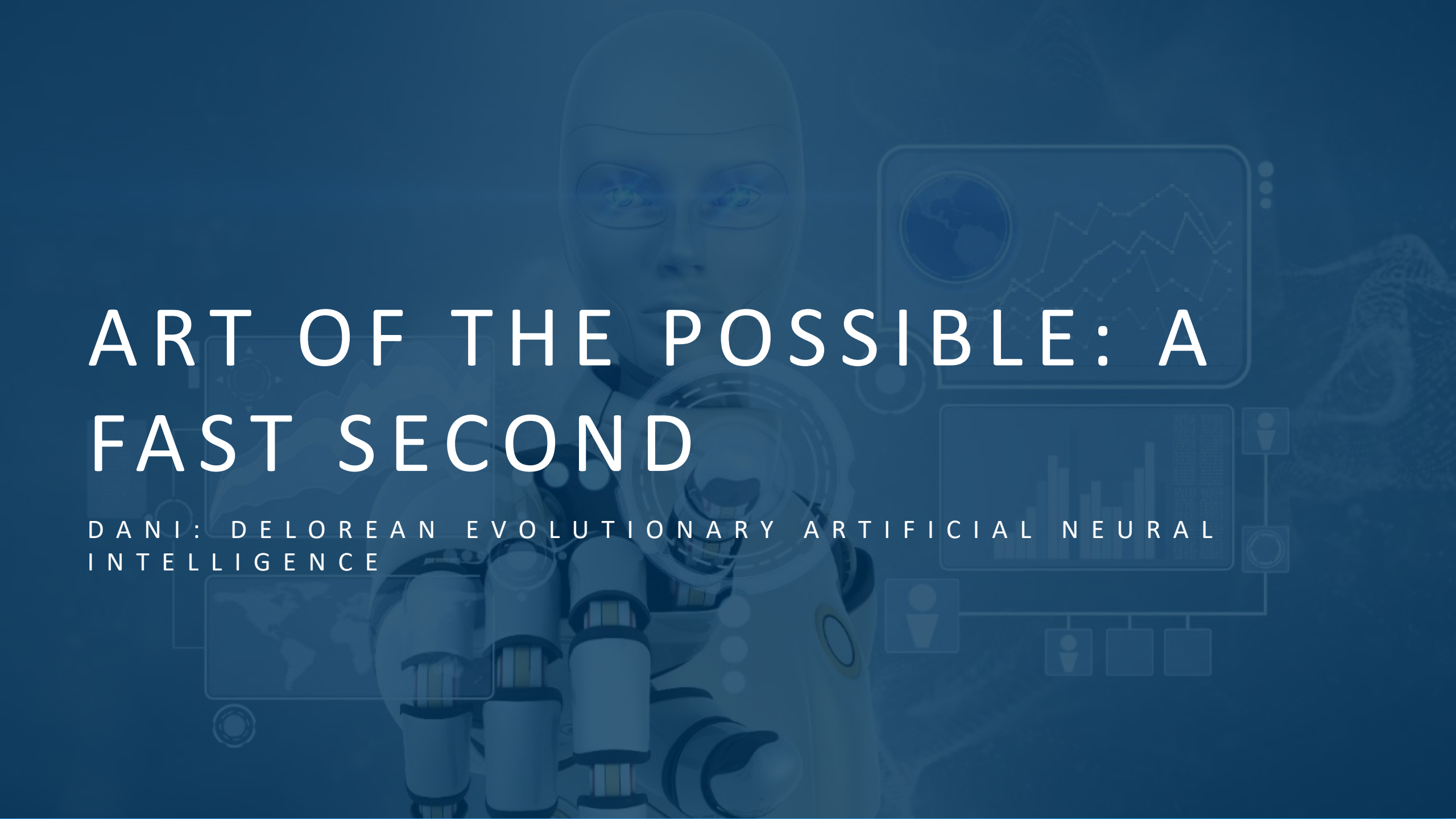
- Generate predictive exception/error alerts
- Respond to emerging threats
- Diagnose root cause
- Uncover unknown patterns/behaviors
- Risk-based scoring and adjudication
- Fix problems—Robotic Process Automation
- Reroute unknowns for human intervention
- Devise new intervention solutions and outreach strategies

So, what does the future look like?

Can insurance companies that have not invested in AI be successful at delivering better service outcomes at a lower cost and in a compliant manner?

Research says, companies that invest in AI see a 17% increase in margin and those who invest little see a 5% decrease.



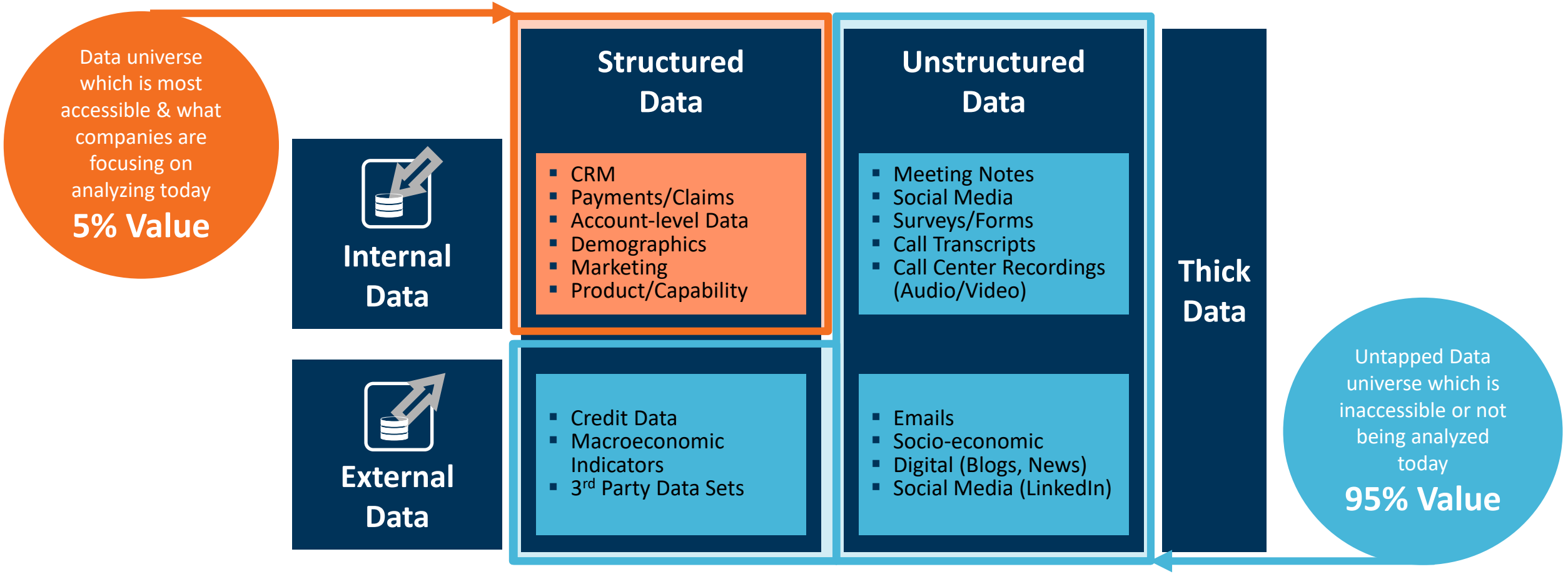


ART OF THE POSSIBLE: A FAST SECOND

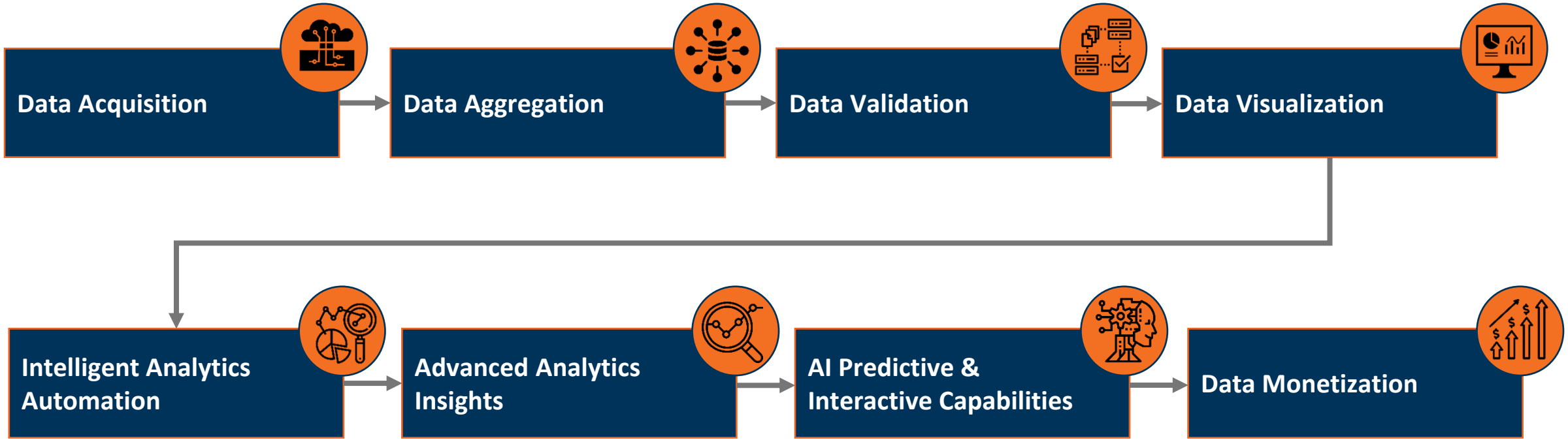
DANI: DELOREAN EVOLUTIONARY ARTIFICIAL NEURAL INTELLIGENCE

Data Ingestion, Integration, Harmonization & Analysis – The New Data Governance Ecosystem

DANI will utilize available data to drive new insights from existing data sources (internal and external)



Understanding the end-to-end Data Value Chain is critical to success in today's data-driven economy



The Data Value Chain – Key Business Questions

Data Acquisition

- How does your company acquire data?
- Is the data structured or unstructured
- Where is the data stored?
- How is it stored?
- What ecosystem does it live in? Data mart, Data Lake etc.
- Who owns the data?
- Do you source data via 3rd party syndicated sources or is it just internal?
- Do you utilize thick & dark data?

Data Aggregation

- Do you aggregate its data across disparate sources?
- Are data from multiple sources and types brought together in one harmonized data set?
- If they do aggregate who aggregates? Is it outsourced?
- Where is the data aggregated from?
- What is the methodology? What is the reason for aggregation?
- Is data quality a big concern post aggregation?
- Is the data aggregated & harmonized in a secure environment? Data security?

Data Validation

- Is there a validation process associated with data acquisition?
- If so, what is the process?
- If there is not a process, why?
- Are there any regulatory compliance needs for validation?
- Is any of the data used in a way that a regulatory agency will use or may use the data?
- How sophisticated is the data validation process?
- How automated is the overall process? Are missing out the non-obvious which may be critical?

Data Visualization

- What Reports/ Dashboards do you generate today?
- Who are the audience for these reports/dashboard?
- What KPI's are you measuring?
- Are these real time? Dynamic?
- What business decisions do these reports drive?
- How do these KPI's change across stakeholder/function?
- Do you believe you have holistic data to do reporting today?

Intelligent Analytics Automation

- Do you have RPA implementation today?
- What processes are automated today?
- Is there a possibility to automate more? What are the critical roadblocks impeding automation across the board?
- Have you implemented chatbots for consumer-facing interfaces websites, mobile apps?)
- How sophisticated are these RPA implementations? Where do these gaps exists?

Advanced Analytics Insights

- Do you have advanced analytics implementations?
- Is it insourced/outsourced?
- What is the level of maturity?
- Is the level of maturity same across the business units?
- Are there data & knowledge silos which are impeding value creation & realization?
- Are there best practices?
- What sort of Advanced analytics implementations been successful?

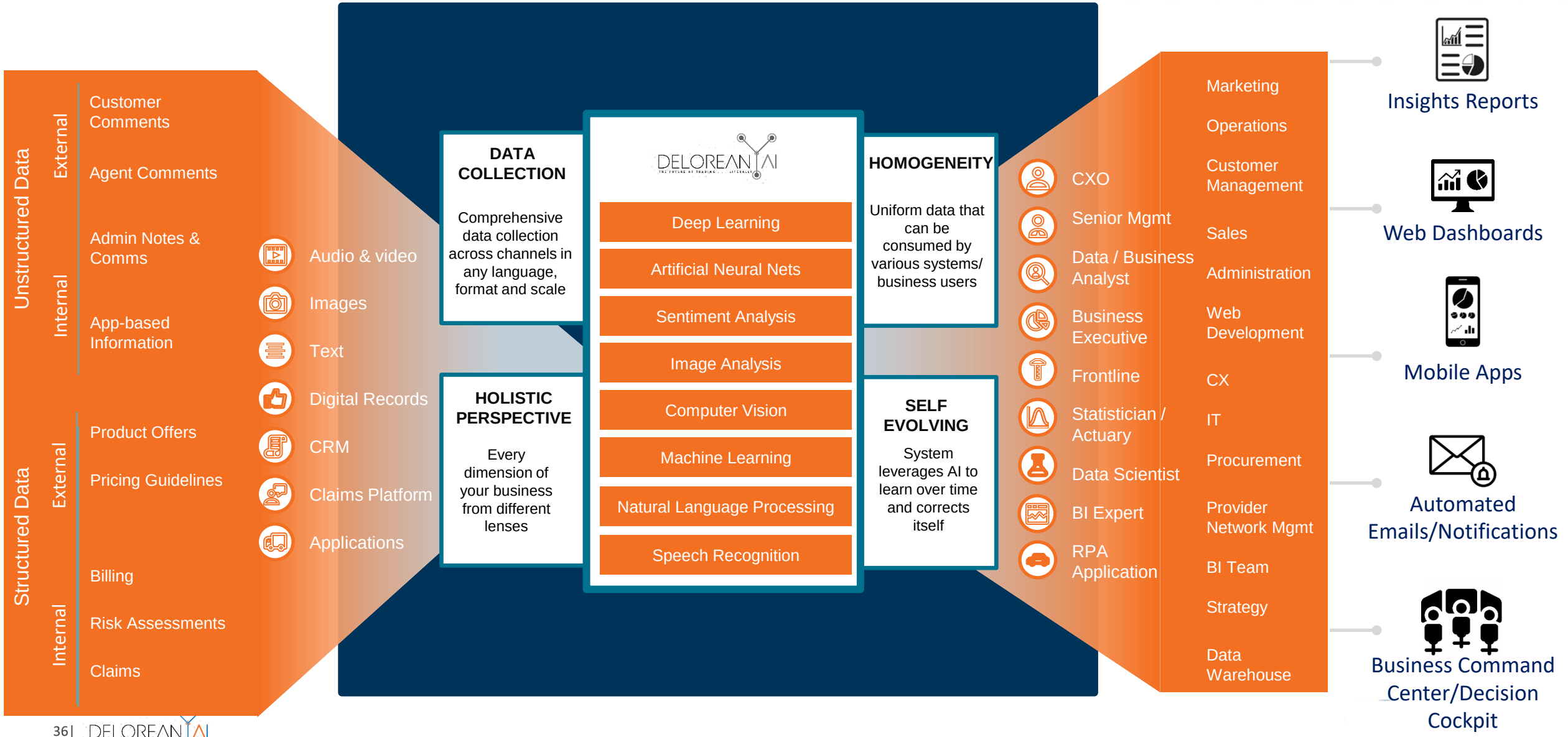
AI Predictive & Interactive Capabilities

- Do you have an end-to-end sentient system of intelligence implementations?
- What predictive/prescriptive are more prevalent in your company?
- Are you at-par/better than competition?
- What sort of business use cases are addressed via AI capabilities?
- Do you have the right skillsets to implement these AI technologies?
- Are you investing enough in AI to maximize potential?

Data Monetization

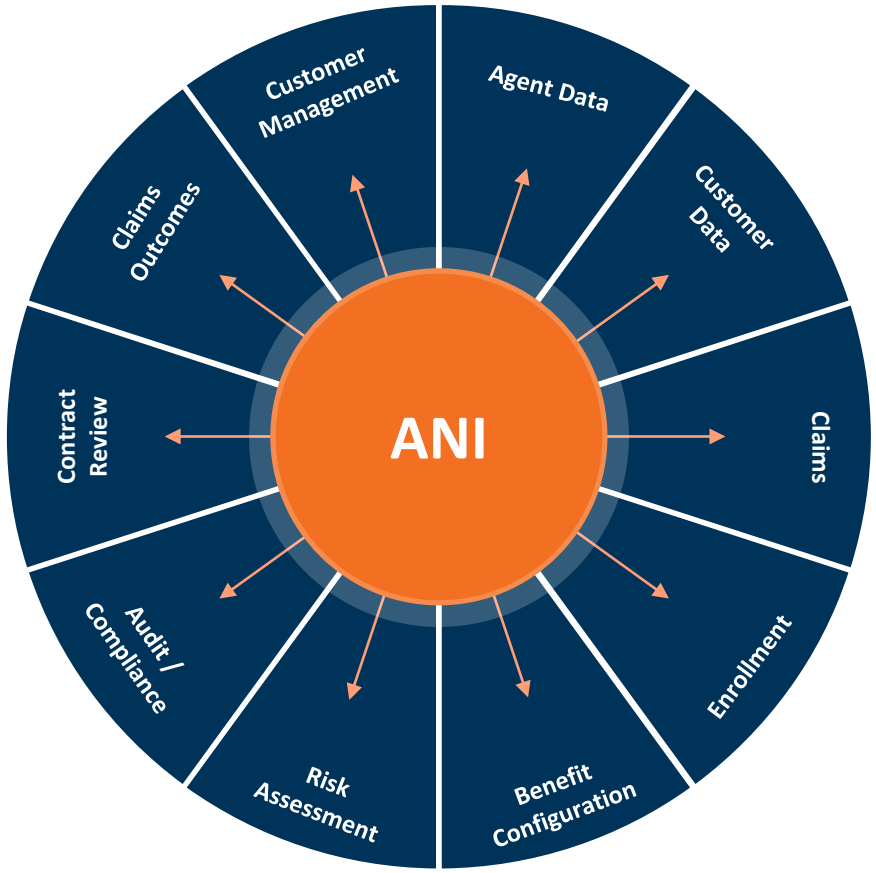
- Do you have a plan to monetize any of its data in the near future?
- Are you maximizing your data monetization potential? If so, how?
- Could we sell anonymized data from to other adjacent companies?
- Is there a potential partner who can help accelerate the data monetization proposition? Joint GTM?
- Have you considered data ownership & security during this process?
- Are there any other valuable insights which could be drawn from this data? Can the insights be monetized?

Introducing DeLorean Evolutionary Artificial Neural Intelligence – ANI



Streamlining Decision - Making Process by Delivering New Insights

DANI will complement existing client efforts and outputs to create new information to drive outcomes targeting members, providers, claims, and operations.



OUTCOMES

Streamlined underwriting with more accurate pricing

Right-fit communication strategies for claims and product sales

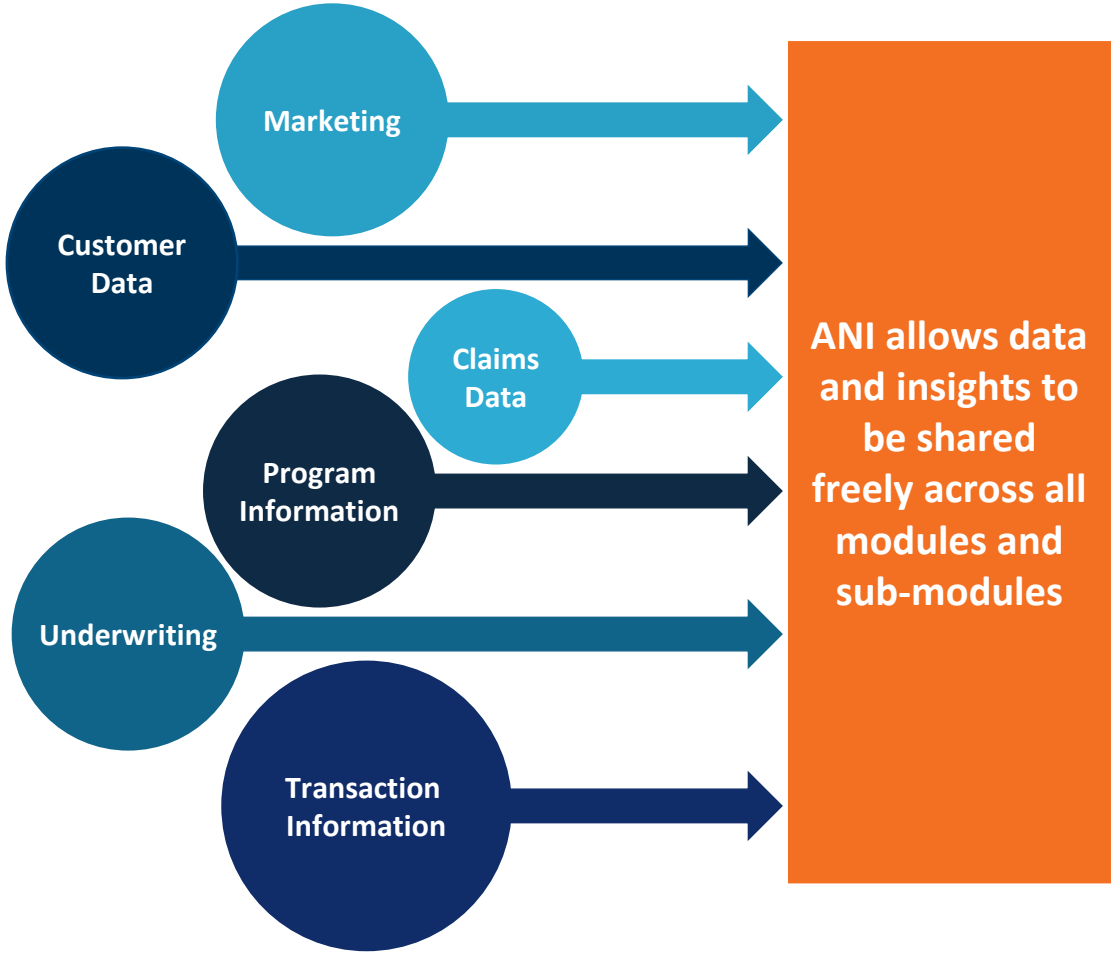
Reduced fraud claims

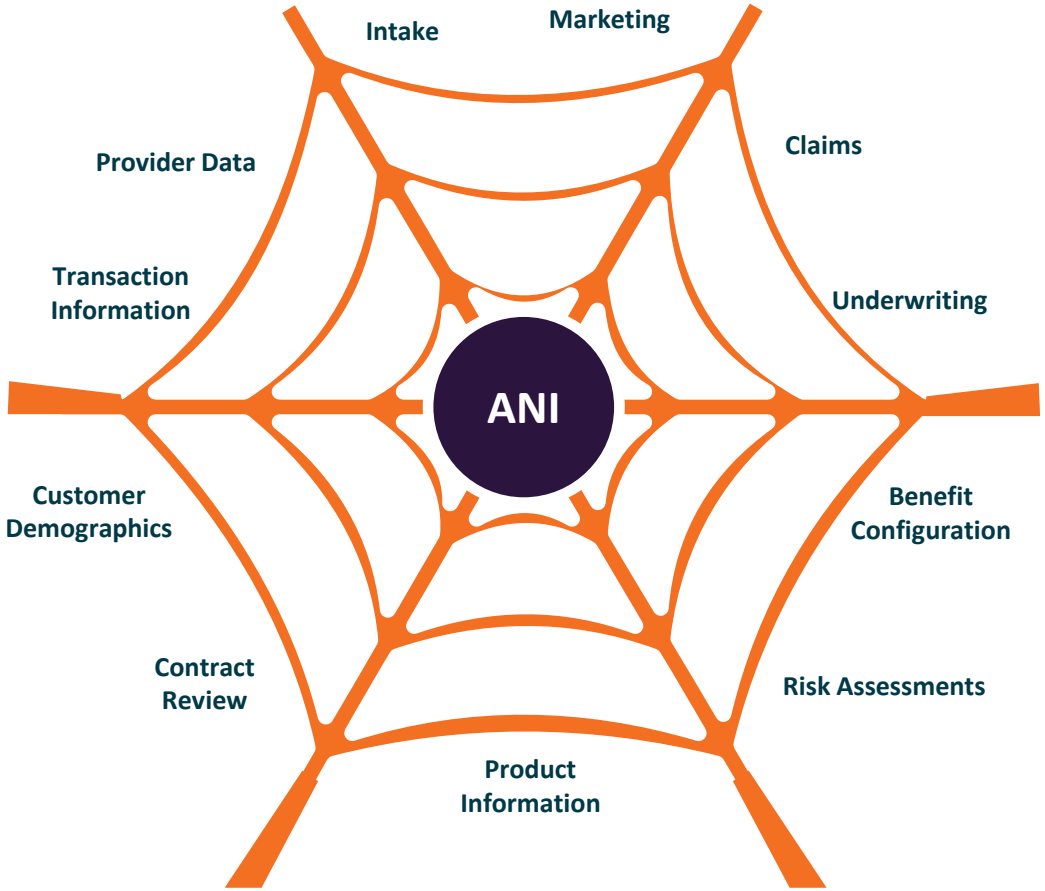
Optimized data quality

Increased speed, efficiency, & accuracy of claims process

Target population advertising/marketing

ANI is Developed by Building Out Sub-Modules Focused on Specific Areas





Hyperpersonalization

Frequently Changing Customer Expectations and Preferences Pose Significant Challenges

Within current operations there are many gaps in services, offerings, operations, and marketing/advertising to not only keep pace with a customer's ever-changing demands but anticipate it to create a superior customer experience and journey

Customer Service

- Long cycles for processing claims
- Confusing, duplicative modes of communication
- Lag-times in responsiveness to questions, concerns, and issues
- Lack of personalized, engaging experience that is relevant and exclusive to the customer

Cost Efficiencies

- Manual and redundant processes are time-intensive and create the potential for greater mistakes
- Lack of real-time estimates to inform claims and quotes
- Decrease in competitiveness in pricing and offers

Marketing & Advertising

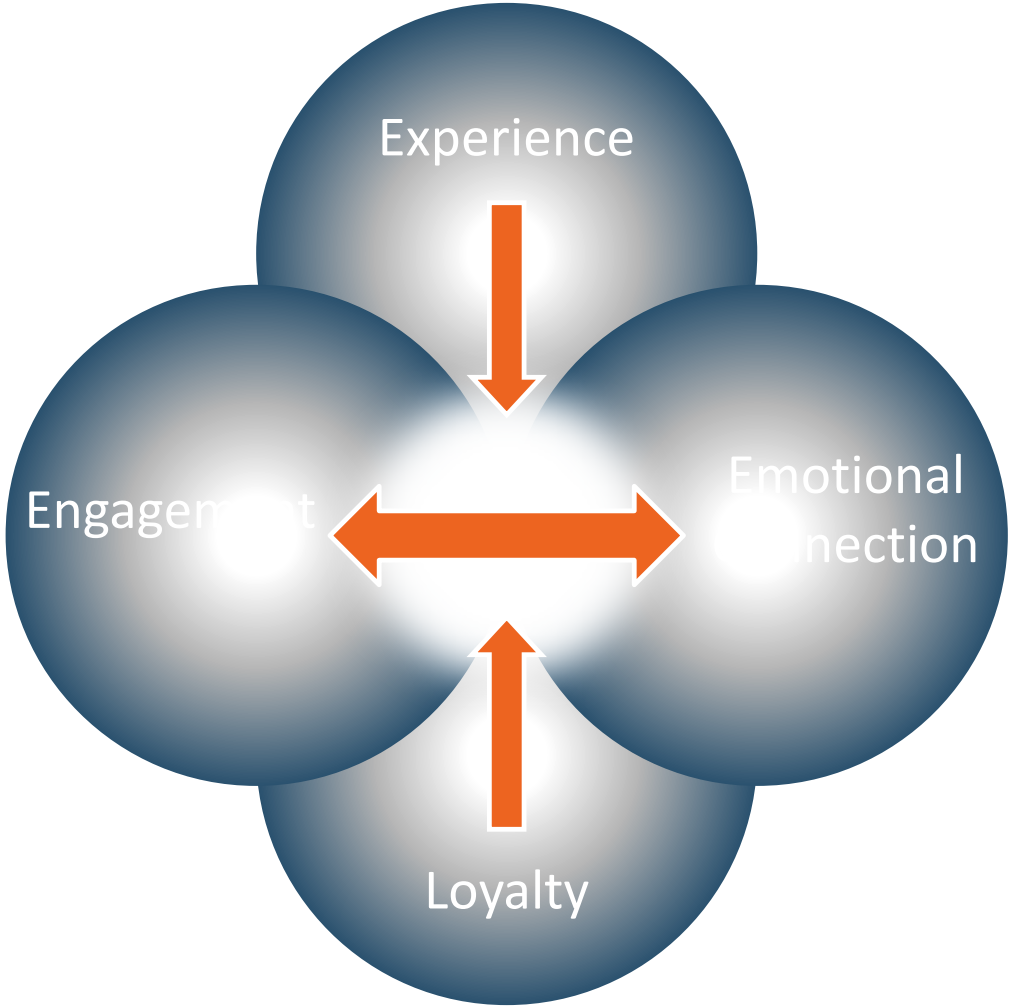
- Lack of timely promotions or offers
- Single channel or non-preferred channels being used instead of incorporating omnichannel modes of contact
- Lack of personalized offers and promotions based on needs and preferences

Elevated Customer Experience

Hyper-Personalization

By analyzing data on consumers, products, and trends, companies can:

- Gain greater insights into consumers' needs and wants
- Improve retention and marketing efficiencies
- Improve wallet share and mind share
- Match needs and tastes in a timely fashion based on events



Optimal Marketing & Co-Marketing

Create highly effective marketing and advertising campaigns that allow consumers to receive offers based on preferences and can:

- Support cross-selling and up-selling
- Maximize loyalty rewards' impact through co-marketing
- Devise communication sequences to minimize fatigue

Efficient & Responsive Customer Service

Faster and more effective services that can address a consumer's unique needs and preferences that will help companies drastically in retaining existing consumers

Engagement, Retention, & Acquisition

Strong consumer engagement not only improves retention, but also helps acquisition through positive referrals, word of mouth, and social media comments

Predicting Accidents

An Accident Story

AI's transformative powers for P&C are more that just cost reduction measures through streamlined processes, it is also capable of astute predictions

Incorporating new industry-related data sources as well as external, peripheral data such as weather and traffic create a well-informed and robust AI

- Predicting where adjustors should be
- Predicting when and where accidents will occur with a probability

This should be happening now!

DELOREAN AI

MACHINE HEARING

AUDIO & SIGNAL PROCESSING

Transforming Noiseless Sound into Value

Acoustic sound analysis can be used to improve productivity & profitability

1

Predictive asset maintenance for windmills by analyzing wind turbine noise emissions

2

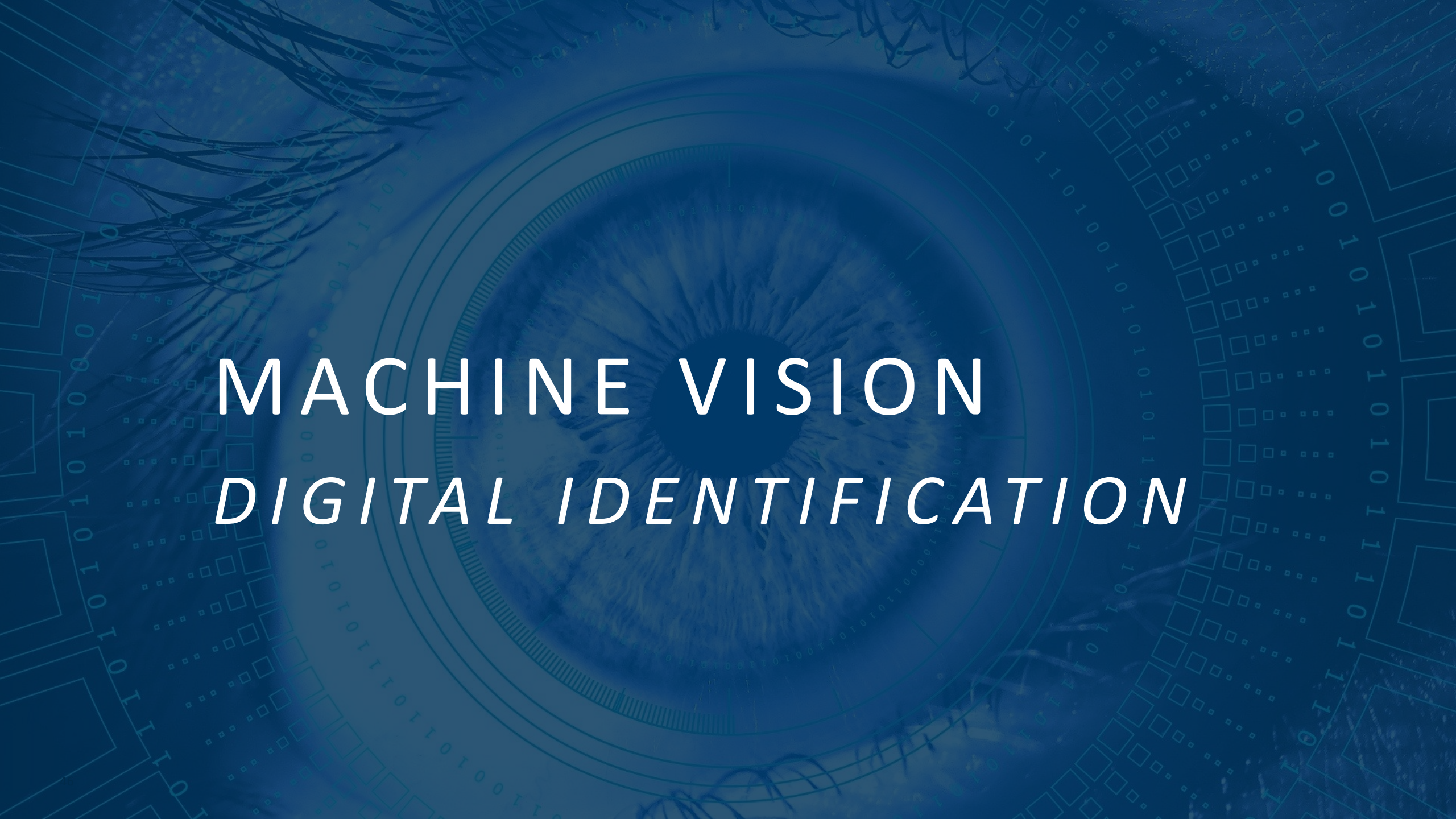
Re-thinking telemetry for auto insurance and uncovering early signs of mechanical failures by listening to sound of the engine

3

AI can no 'listen' to heavy equipment and machinery to tell if they are breaking down or need proactive maintenance

4

Audio fingerprinting and automatic music tagging to recommend users the best music based on audio features


MACHINE VISION
DIGITAL IDENTIFICATION

Digital Assessment of Damage to Process a Claim

HISTORICAL DATA

Pictures of accident and associated damage

Pictures of undamaged asset or property

Picture repository of assets or property with varying degrees of normality and damage

Costs associated with level of damage

Analyze possible pathways and level of damage

Control Group

System of Intelligence

Linguistics engine	Data integrator
Artificial Intelligence	Machine learning
Sentiment analysis	Natural language processing
Analyze interface	Advanced visualization

AI Learning

Damaged assessed and severity determined with associated costs

No damage detected

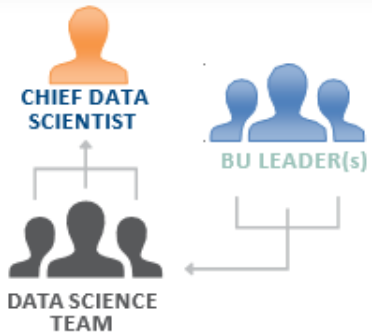
More information needed for determination

System of Intelligence leverages Deep-learning based imaging analytics to distinguish between positive & negative samples, learns based on outcomes of models, investigations, and from false positives/negatives

BUILDING AN AI TEAM

How Should You Build the AI Team

Stand-alone Model

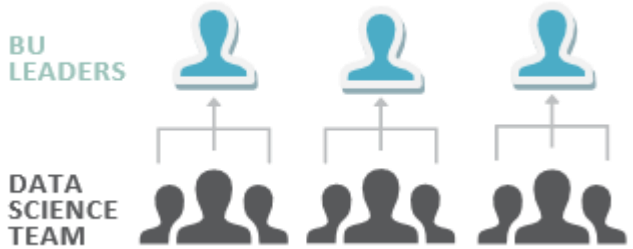


BU's bring their specific business problems to a centralized DS team, overseen by a chief data scientist

- ✓ Greater autonomy
- ✓ Greater efficiency & flexibility w/ limited resources
- ✓ Organization-wide access to DS
- ✓ Centralized management

- × Risk of marginalization
- × Competing for DS resources & projects
- × Lack intimate domain knowledge

Embedded Model

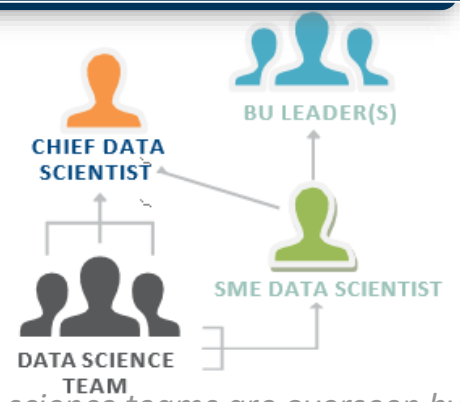


DS teams are fully embedded in BU's and report to individual BU leaders

- ✓ Deeper understanding, better outcomes
- ✓ Better at reacting to high-priority BU needs
- ✓ Sense of ownership for BU's, more invested in driving positive outcomes

- × DS silos, prevents cross-pollination of learnings
- × Sub-optimal results, myopic view
- × Lack of central management
- × Lack intimate domain knowledge

Hybrid Hub & Spoke Model



Data science teams are overseen by a Vertical SME DS and forward deployed to BU's

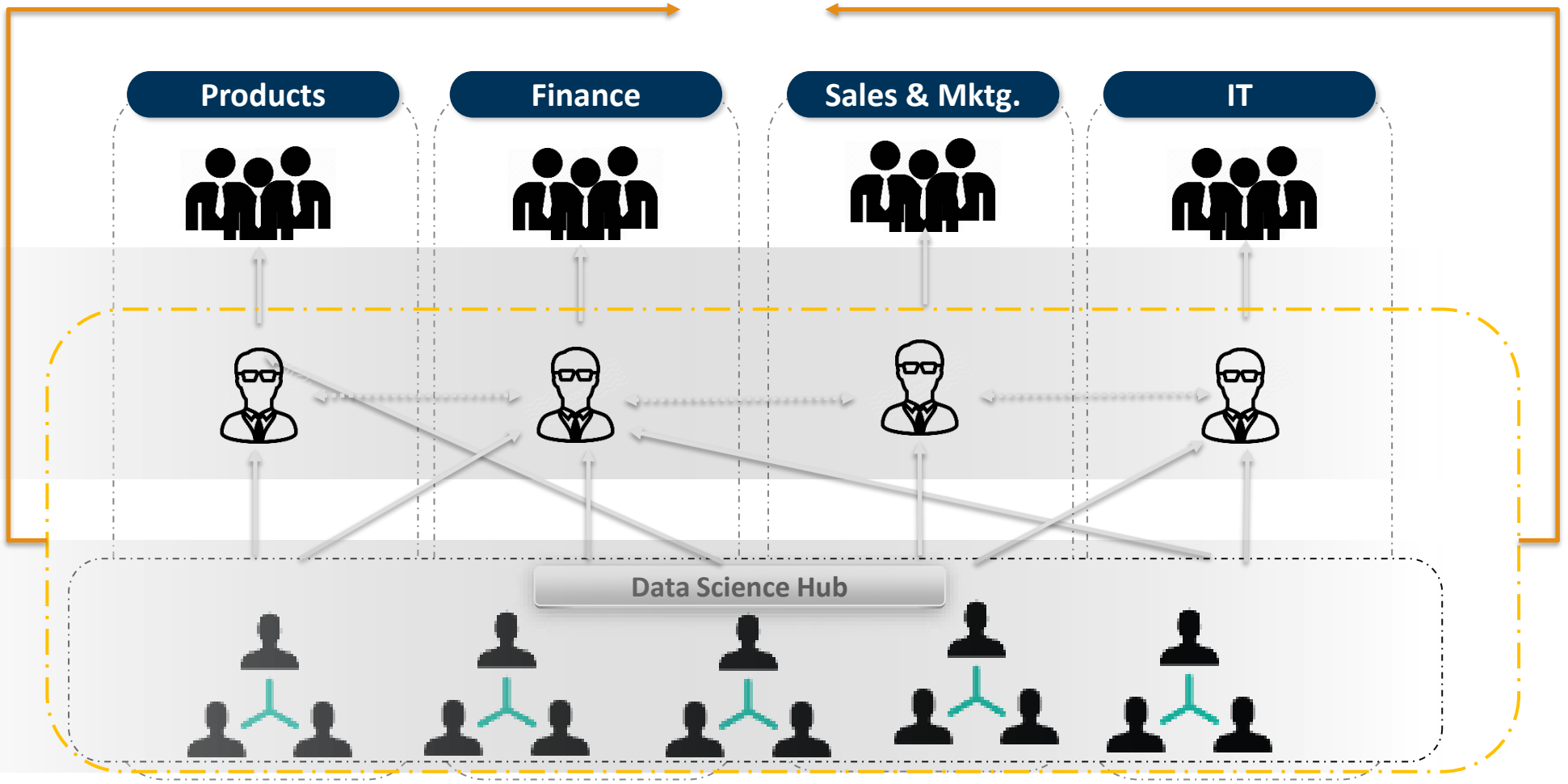
- ✓ Best of both worlds
- ✓ Share best practice & learning, organization-wide
- ✓ Stronger relationship with business & better aligned to BU priorities
- ✓ Better project diversity for DS teams

- × Two bosses
- × Access to best DS talent may still be a challenge
- × DS team acceptance into BU

The Hybrid Hub & Spoke Model

Vertical SME DS
Level 3 Data Scientist
- Program Management
- Domain Expertise or SME
- Governance & Oversight
- Value Delivery

Cross-Functional DS
Level 1/2 Data Scientist
- Data Management
- Data Analysis
- Data Visualization
- Model Design & Validation
- Insights Delivery

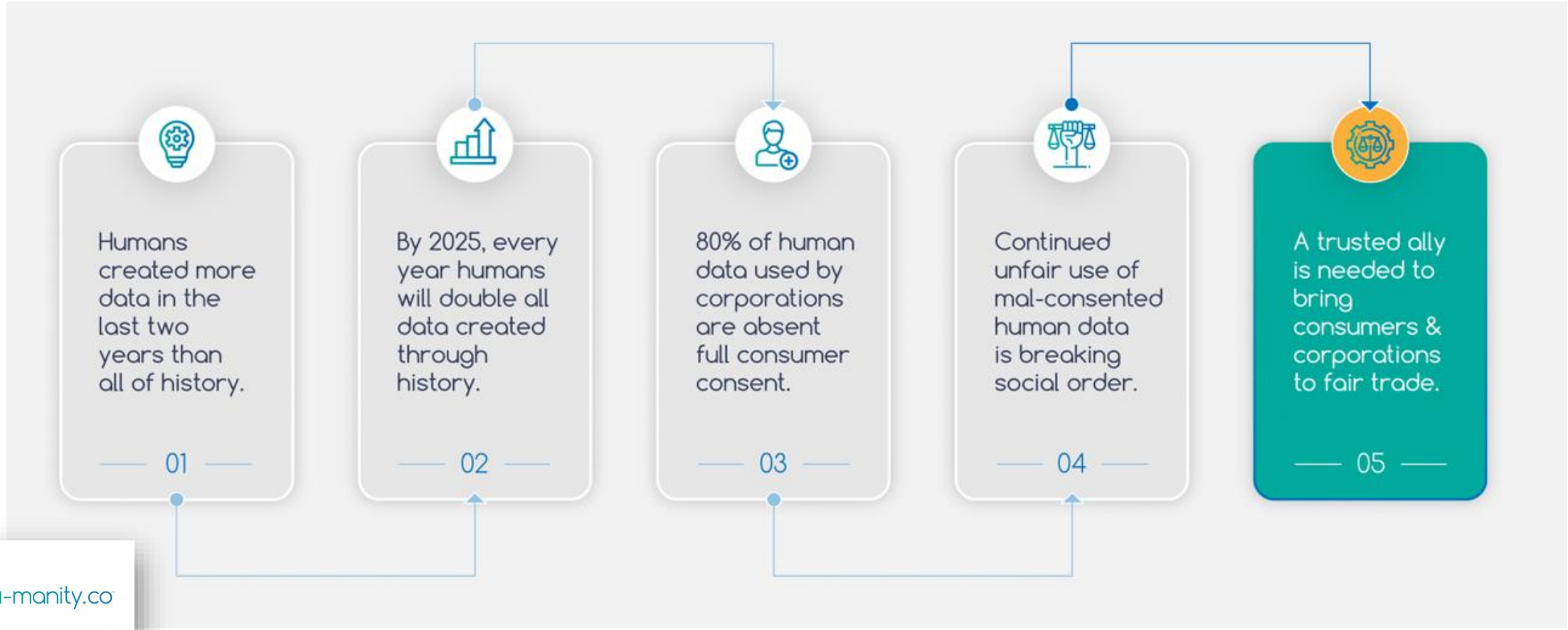


A cross-functional team sits in a centralized position and works closely with the vertical SME data scientists to execute projects & deliver value to varied business units

DATA & AI ETHICS

Market Insight

Corporations that increase the use of human data, and data science will need a consent broker in the face of approaching ethical and regulatory boundaries.



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