



# The Role of Artificial Intelligence in the Insurance Business.



# Andrea Maria Cosentino

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[www.linktr.ee/the.amc](http://www.linktr.ee/the.amc)



**Bloomberg**



WAIT, WHAT IS AI ?



# The Beginning of the End ?



<https://www.youtube.com/watch?v=51jM9ce51aw>

<https://www.youtube.com/watch?v=CdH4xQD5LG8>

FINANCIAL TIMES

INVESTING

## **A ChatGPT 'portfolio' outperformed some of the UK's leading funds**

In the eight weeks since its creation, the portfolio of 38 stocks has risen 4.9%, compared with an average loss of 0.8% for the 10 most popular funds on UK platform Interactive Investor

# Country Ban

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# Artificial Intelligence

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**Artificial intelligence (AI)** is a popular branch of computer science that concerns with building “intelligent” smart machines capable of performing intelligent tasks.

With rapid advancements in deep learning and machine learning, the tech industry is transforming radically.

## BIG DATA

Capable of processing massive amounts of **structured and unstructured data** which can change constantly

Ability to **learn** based on historical patterns, expert input and feedback loop

## LEARNING

## REASONING

Ability to reason (deductive or inductive) and to draw inferences based on situation. **Context driven awareness** of system.

Capable of analyzing and **solving complex problems** in special-purpose and general-purpose domain

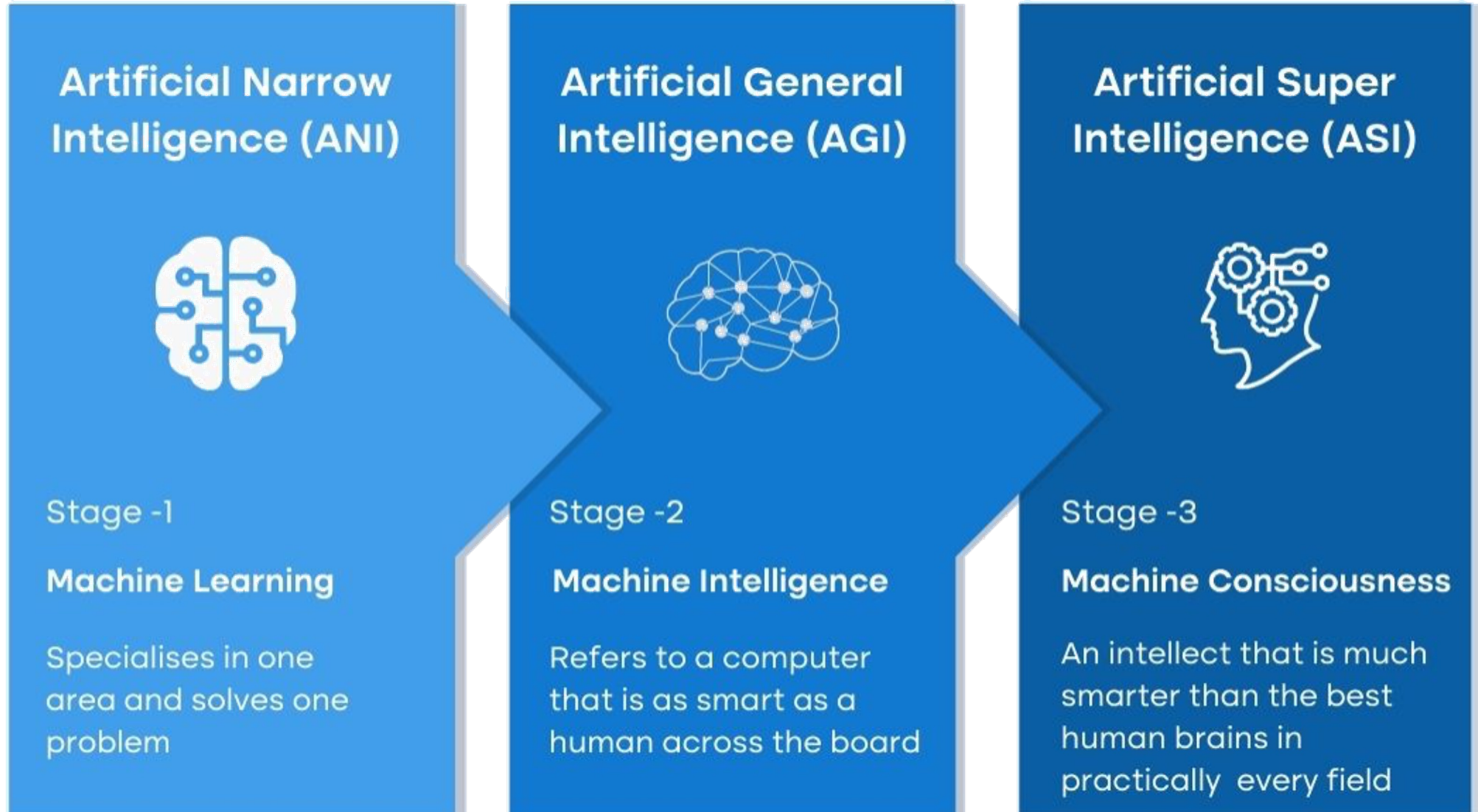
## PROBLEM SOLVING





# AI Types

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# Machine Learning



Machine learning is a type of AI that enables machines to learn from data and deliver predictive models.



The machine learning is not dependent on any explicit programming but the data fed into it. It is a complicated process.



Based on the data you feed into machine learning algorithm and the training given to it, an output is delivered.



A predictive algorithm will create a predictive model.



**Deep Learning** is a subfield of machine learning that is concerned with algorithms inspired by the brain's structure & functions known as **artificial neural networks**



A computer model can be taught using Deep Learning to run classification actions using pictures, texts or sounds as input



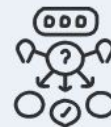
## Supervised Learning

Input & Output Data

Classification

Regression

Predictions & Predictive Models



Task Driven  
(Predict next value)



## Unsupervised Learning

Input Data

Clustering

Association

Predictions & Predictive Models



Data Driven  
(Identify Clusters)



## Reinforcement Learning

Reward Based Learning

Decision process

To maximize rewards

Learns how to act in a certain environment



Learn  
From Mistakes



# AI Trends

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In 2022,

**35%**

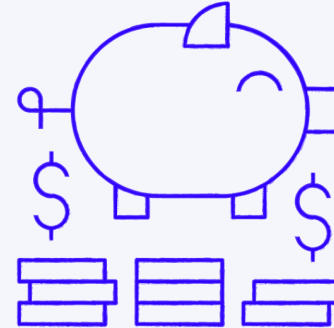
of businesses worldwide used AI—a four percentage point increase from 2021.

(IBM, 2022)

**54%**

of organizations have reported cost savings and efficiencies as a result of AI implementation.

(IBM, 2022)



**62%**

of consumers are willing to submit data to AI to have better experiences with businesses.

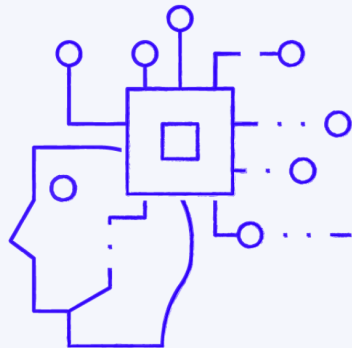
(Salesforce, 2019)

The global artificial intelligence market is expected to reach

**\$1.59 TRILLION**

by 2030.

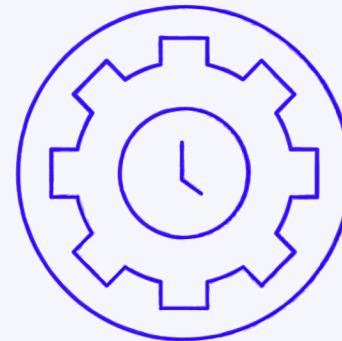
(Precedence Research, 2023)



**61%**

of employees say AI helps to improve their work productivity.

(SnapLogic, 2021)



More than

**9 IN 10**

leading businesses have ongoing investments in artificial intelligence.

(NewVantage, 2022)

# INSURTECH



# Data is Not New to the Game

*“Actuaries are essentially data scientists with extensive insurance knowledge. Both professions use data to make informed decisions about the future. Actuaries in practice use a variety of tables, models, and theory. All made more efficient with growing technology.”*

# The Challenges

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**Intense Competition:** The insurance industry is highly competitive, with numerous companies competing for market share. Challenging for insurers to differentiate themselves and stand out in the market.



**Increasing Regulatory Requirements:** Insurance companies are subject to a wide range of regulations that govern their operations. Compliance with these regulations can be time-consuming and expensive.



**Evolving Customer Expectations:** As consumers are tech-savvy, digital and connected, their expectations are changing to offer online and mobile access to policies, claims processing, and other services.



**Rising Costs:** The cost of insurance claims is rising due to several factors, including increasing healthcare costs, higher car repair costs, and more severe weather events.



**Cybersecurity Threats:** store a significant amount of sensitive data, making them attractive targets for cybercriminals: data breaches, which can damage an insurer's reputation and lead to costly lawsuits.

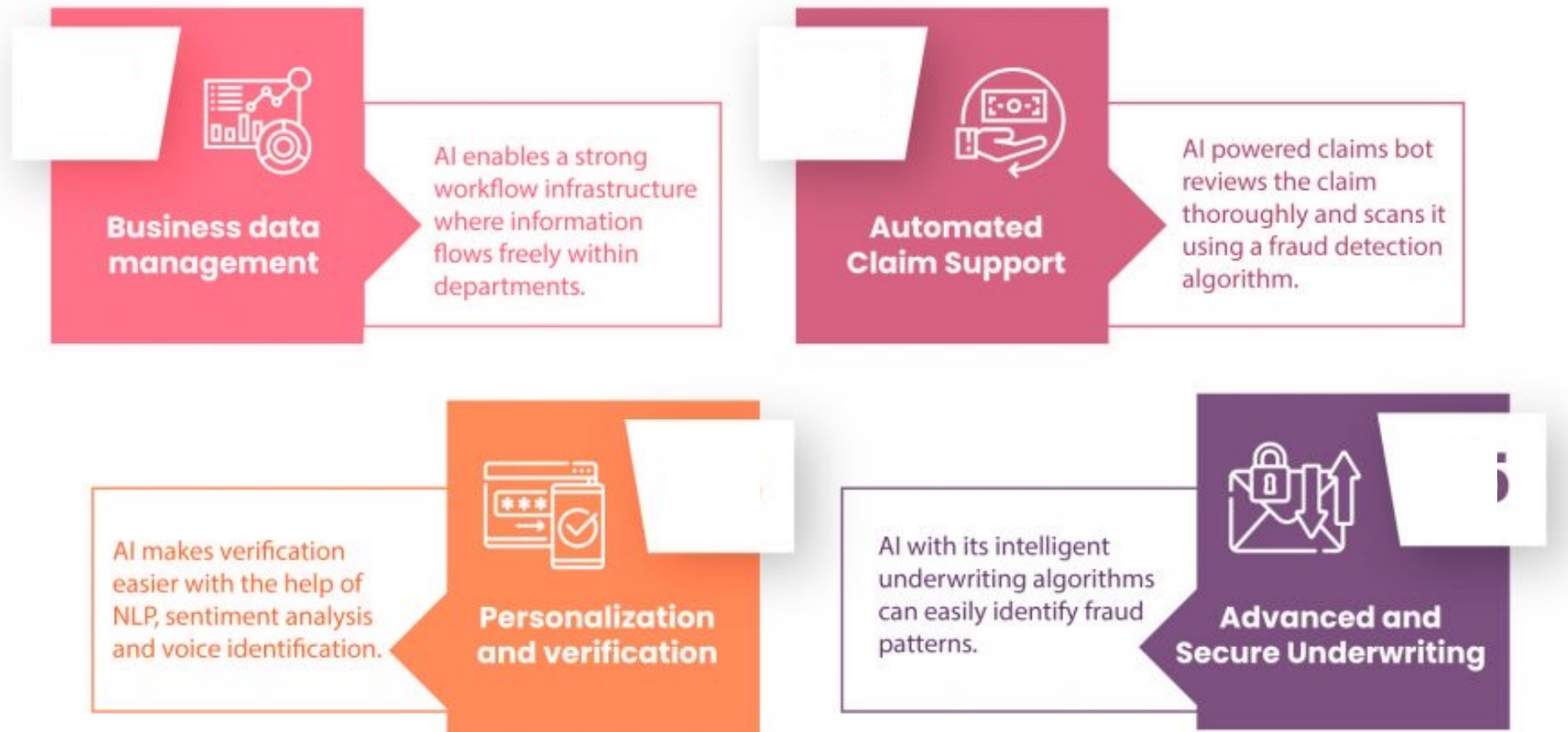


**Climate Change:** Climate change is leading to more frequent and severe natural disasters, which are driving up insurance claims and premiums.

# A word on Fraud Detection

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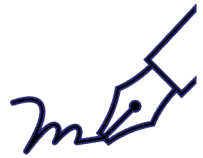
AI can be used to identify patterns of fraudulent behavior and flag suspicious claims. This can help insurers reduce losses due to fraud, resulting in lower costs.



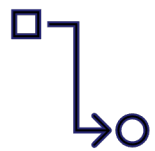


# Core Challenges

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**Underwriting** is an essential part of the insurance through which insurers assess risk and determine premiums to accept it. Evaluating and pricing risk requires extensive research on the risk profile of the customer. Consequently, manual underwriting is time-consuming, prone to errors, and can lead to inefficient pricing.



**Streamlined Claim Process:** Processing claims is a complicated process. Agents are required to assess various policies and comprehend them with every detail to determine how much the customer will receive for the claim. There are many steps that are repetitive and standard tasks to be performed. Machine learning in insurance can take up such automated tasks to reduce errors and the time taken to process the claim.

# The Solutions

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**Embrace Technology:** invest in technology solutions to improve their customer experience, streamline processes, and reduce costs. For example, use data analytics and AI.



**Focus on Differentiation:** by offering unique products and services that meet the evolving needs of their customers. For example, they can offer flexible policies that allow customers to customize coverage to their needs.



**Emphasize Compliance:** to avoid costly fines and penalties. They can accomplish this by investing in compliance management systems, training employees on regulatory requirements.



**Address Rising Costs:** The cost of insurance claims is rising due to several factors, including increasing healthcare costs, higher car repair costs, and more severe weather events.

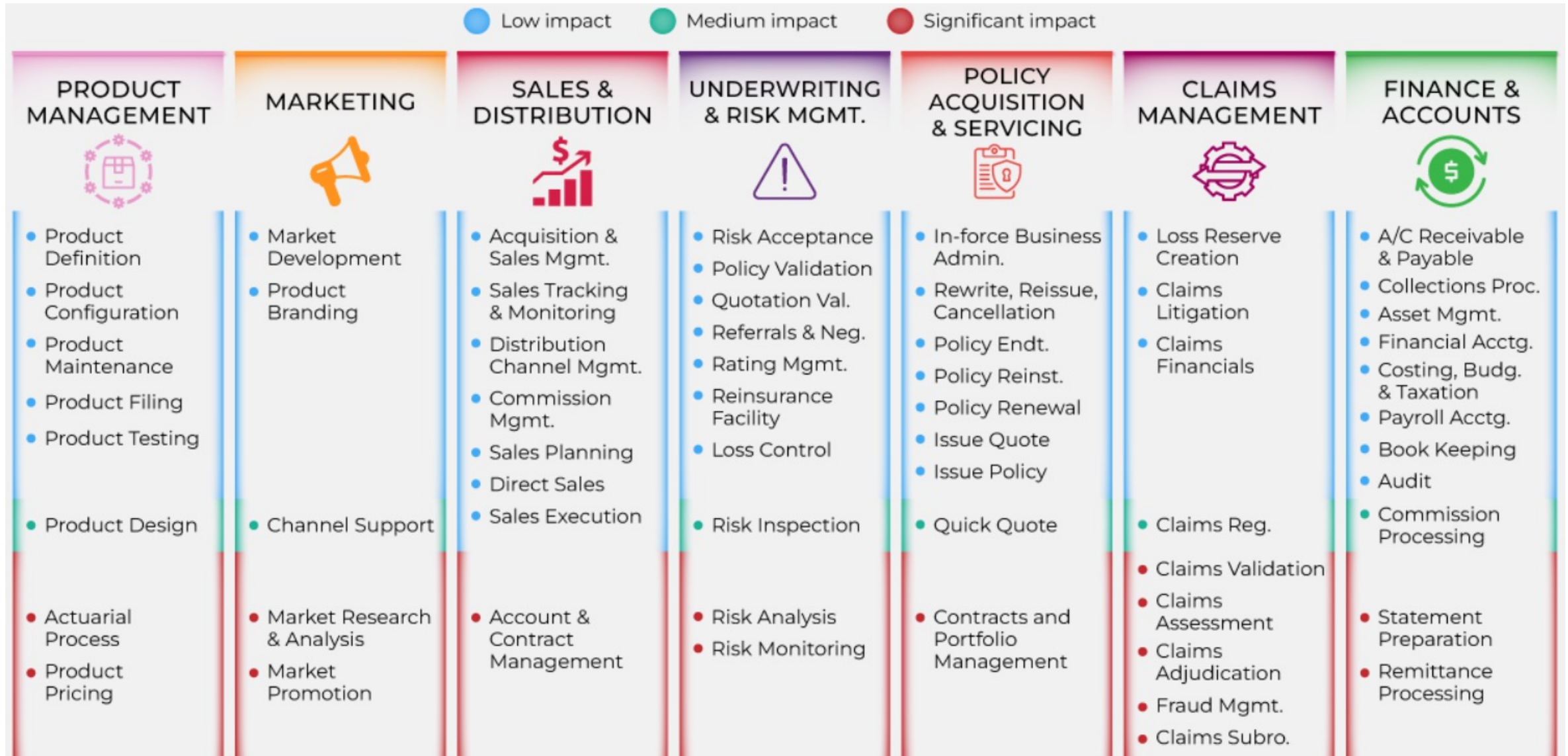


**Strengthen Cybersecurity:** implementing robust security measures, such as firewalls, encryption, and multi-factor authentication.



**Address Climate Change:** by investing in risk mitigation strategies and developing new products that address emerging risks. They can also work with regulators, policymakers, and stakeholders to address the underlying causes.

# Impact of AI on Future of Insurance



# The Impact of AI

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## Insurance

**±75%** of insurance customers trust chatbots to provide a new or renewal quote, make a claim, add a member to coverage and update billing information

- Liveperson

Insurance companies can expect conversational AI to account for cost savings of up to **\$1.3 billion** by 2023

- Juniper Research

**25%**

of insurers have expanded their automated underwriting practices.

**50%**

of claims activities have already been replaced by automation.

**65%**

of insurance leaders expect to spend more on robotic process automation in 2022.

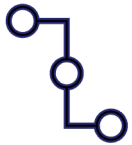
# The Applications

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**Fraud Detection:** Artificial intelligence (AI) plays a key role in insurance scam detection by detecting false claims or false pricing quotations . As a result, insurers can achieve an efficient and effective claims management system. Insurance AI and ML algorithms can analyse huge amounts of data rapidly to find patterns and spot anomalies that don't fit the patterns.

*For example , in MENA JoClaims has proved around 25% claims costs savings in 6 insurance companies in Jordan by implementing their technology and machine learning, and save between 25% and 35% of motor claims costs.*



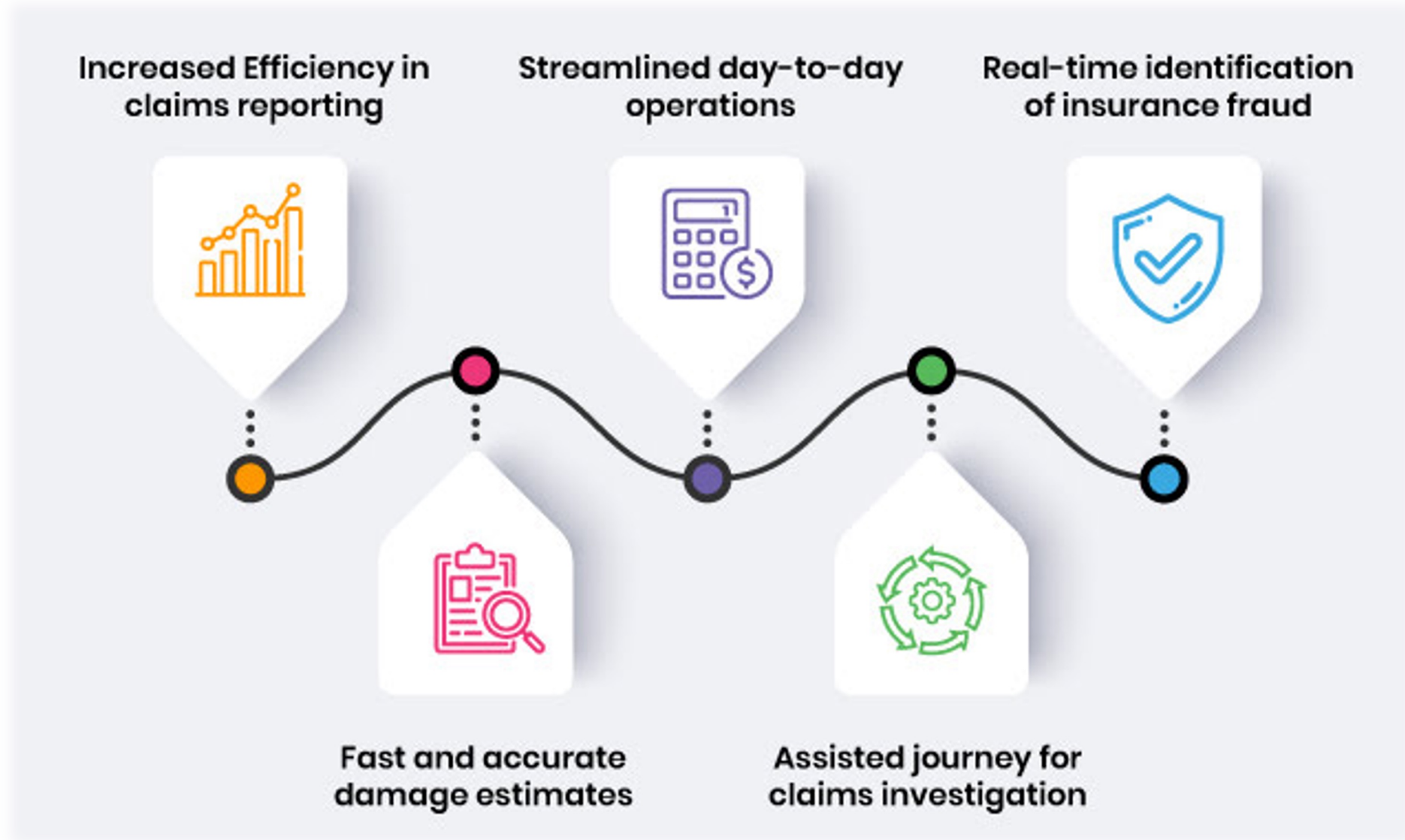
**Streamlining Process:** Health insurance, Property instance and Automobile industry has benefited a lot from implementing AI. Insurance companies use an AI-based system to assess damage from motor vehicle accidents and speed up customers' insurance claims. The support team can predict whether a car is a total loss following an accident, and by mitigating the need to tow the vehicle to a garage for assessment, can reduce claims processing times from weeks to days.



**Precision:** AI is the right fit for underwriting and risk pricing processes as it helps to estimate the correct premium price based on AI algorithms .



# Benefits of AI in Insurance Industry

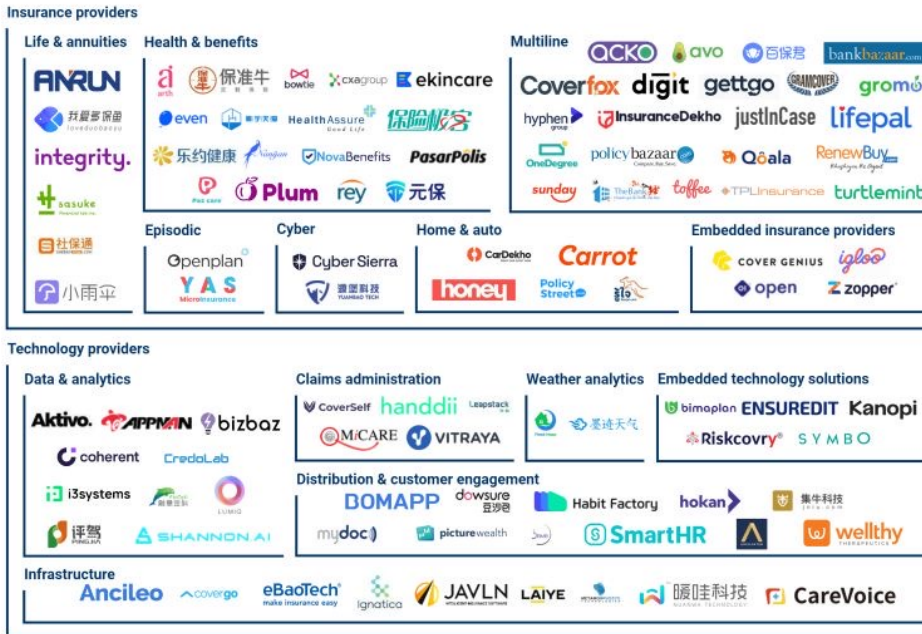


# LANDSCAPE

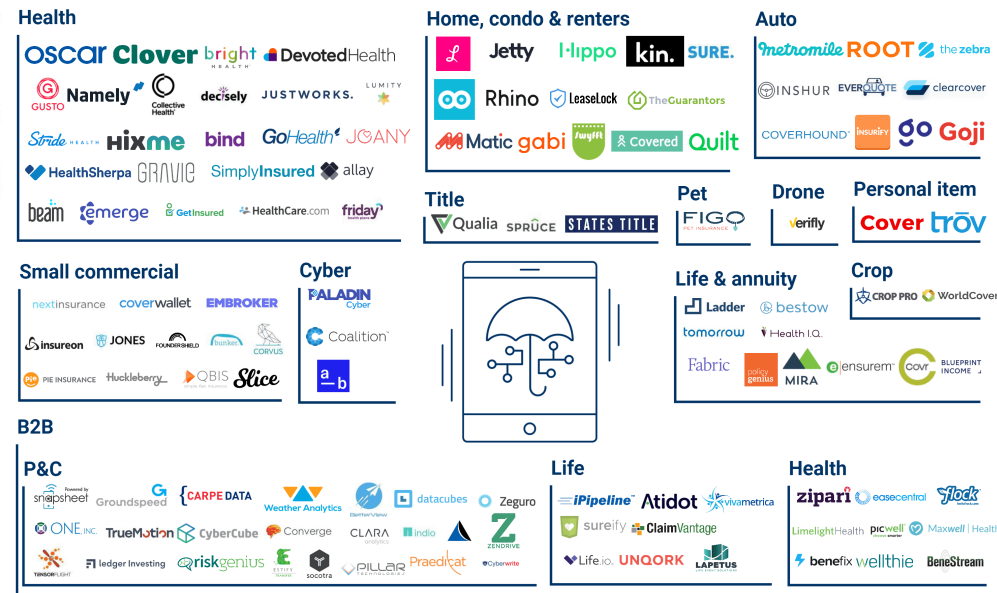


# Insurtech Market Map(s)

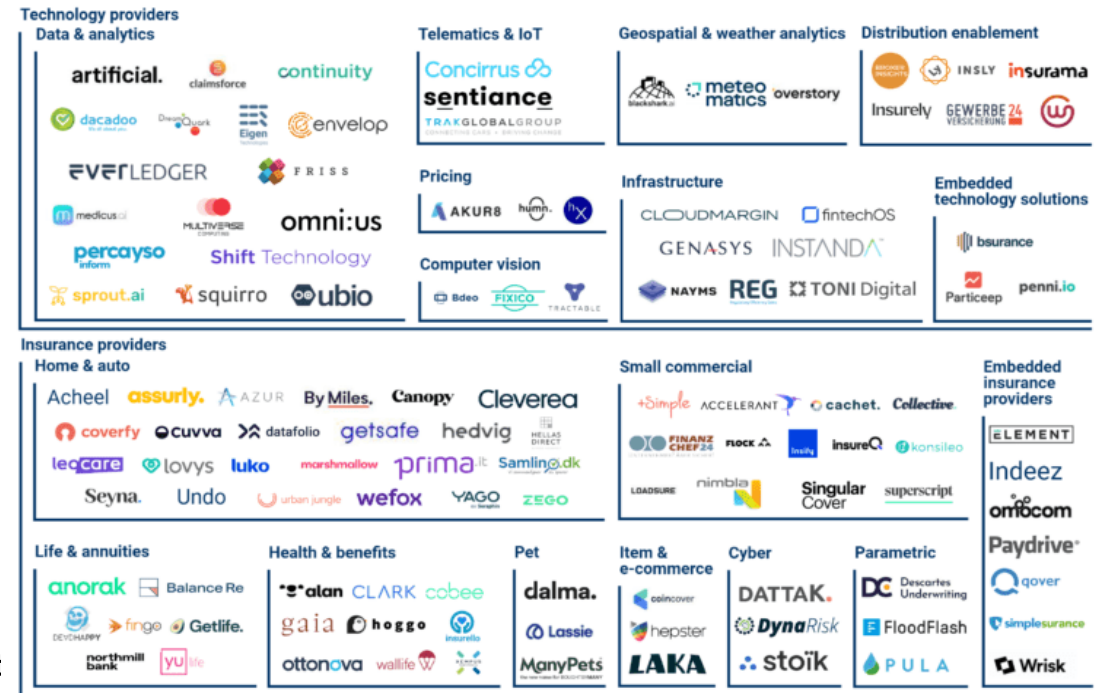
## 100 Asia-Pacific-based startups transforming insurtech



## US Insurance Tech Market



## 115+ Europe-based startups transforming insurtech



# MENA Insurtech Market Map

## Insurance providers

### Home & Auto



### Multiline



### Travel & e-commerce



### Cyber



### Life & health

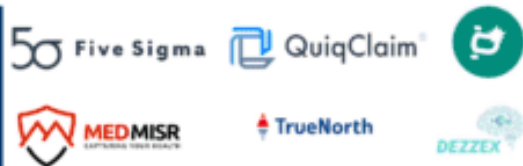


### Commercial



## Technology providers

### Claims management



### Distribution & customer support



### Underwriting & pricing



### Geospatial analytics



### Data & analytics



### Reinsurance & portfolio management



### Infrastructure



### IoT & telematics



# Business Case: Tractable vs JoClaims

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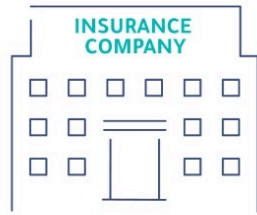
- ❑ Prices for a limited number of spare parts, and only new spare parts.
- ❑ Can detect the damage but does not streamline and automate the claim process.
- ❑ Still needs human to interact with the insurance company.
- ❑ Limited number of suppliers and parts in their database.



- ❑ Provide pricing for new, used and aftermarket spare parts.
- ❑ The largest interconnected network of suppliers across in Jordan, expanding to other GCC countries.
- ❑ The AI model can detect damages and price in real-time based on the most recent price, built on a unique database.
- ❑ Streamlined process for full claim cycle, taking the insurance and most of the human input out of the process.
- ❑ Optimize customer experience by enabling the customer to head to the bodyshop without visiting the insurance company.



# JoClaims Achievements



**+10**  
INSURANCE  
COMPANIES

Amman, Zarqa, Salt, Irbid, ...

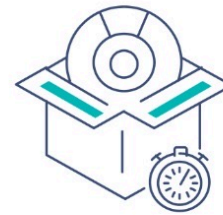
**+42 Million \$**  
PURCHASED PARTS  
& REPAIR ORDERS

2021 - 2022



**+650**  
SUPPLIERS  
& WORKSHOPS

Amman, Zarqa, Salt, Irbid, ...



**+550,000**  
PURCHASED PARTS

2021 - 2022



Saving of  
**25%-35%**  
IN MOTOR CLAIM SAVING

2021 - 2022

**+2,800,000**  
PRICED PARTS

2021 - 2022



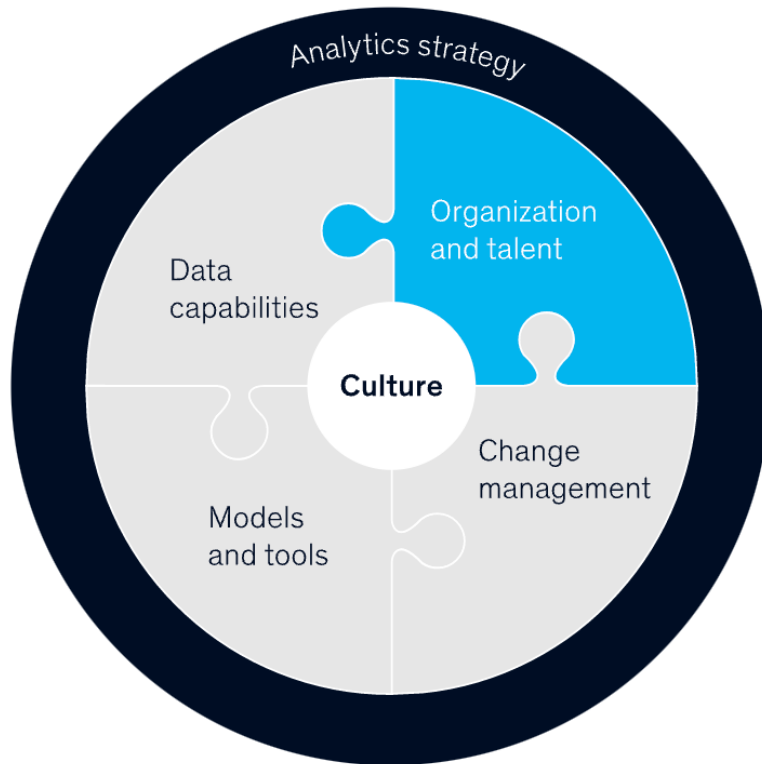
SO WHAT ?



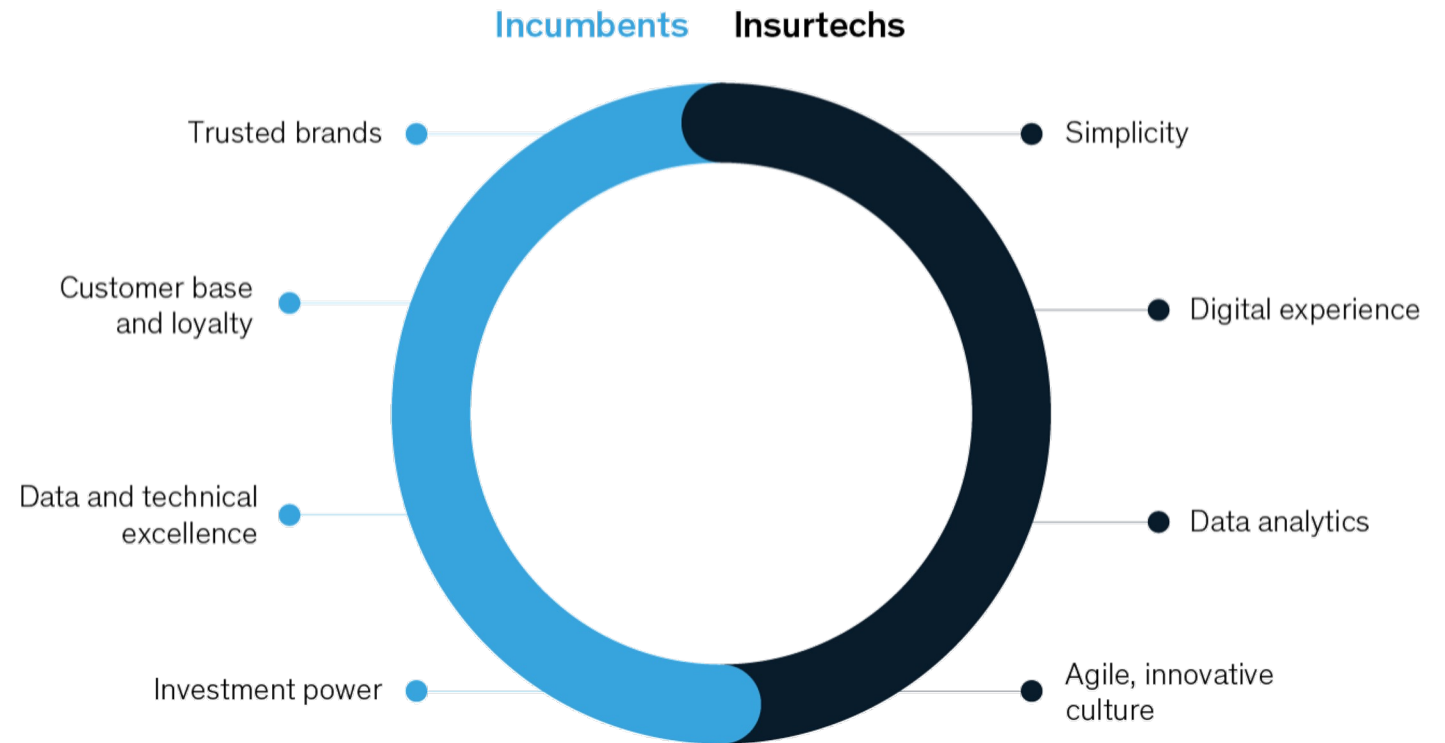
# Strategy

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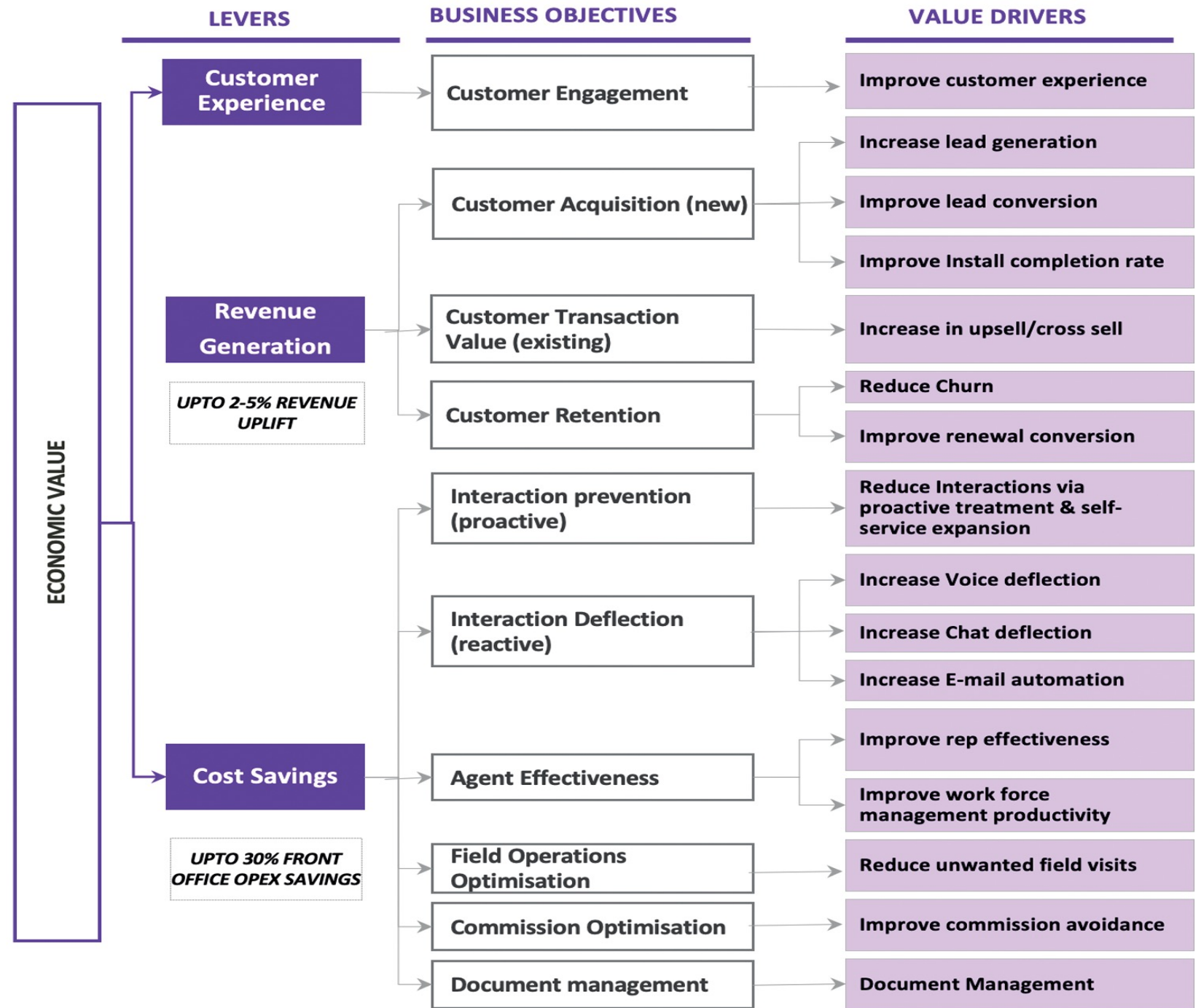
There are four core elements in defining a successful AI strategy.



A new industry model requires traditional strengths combined with new skills



# Economic Value



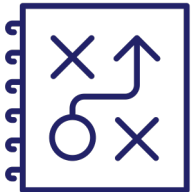
# Get Future Ready

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## Get smart on AI

- ❑ The shifts in the industry will be tech-focused but it's on the board members and customer-experience teams to address this and invest the time and resources to build a deep understanding of these AI-related technologies.
- ❑ Exploring hypothesis-driven scenarios in order to understand and highlight where and when disruption might occur—and what it means for certain business lines.
- ❑ Pilots and proof-of-concept (POC) projects should be designed to test not just how a technology works but also how successful the carrier might be operating in a particular role within a data- or IoT-based ecosystem.



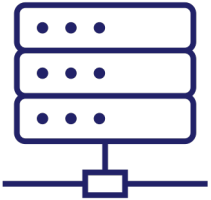
## Have a Plan

- ❑ Decide how to use technology to support their business strategy, a long-term strategic plan will require a multiyear transformation that touches operations, talent, and technology.
- ❑ Starting their own venture-capital arms, acquiring promising insurtech companies, and forging partnerships with leading academic institutions.
- ❑ Develop strategic responses to coming macrolevel changes: shift toward a “predict and prevent” methodology, asks to rethink their customer engagement and branding, product design, and core earnings.



# Get Future Ready

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## Have a Data Strategy

- ❑ Identify, quantify, place, and manage risk is all predicated on the volume and quality of data: develop a well-structured and actionable strategy with regard to both internal and external data.
- ❑ The real challenge will be gaining access in a cost-efficient way, data strategy will need to include a variety of ways to obtain and secure access to external data, and combine this data with internal sources.
- ❑ Have a multifaceted procurement strategy that could include the direct acquisition of data assets and providers, licensing of data sources, use of data APIs, and partnerships with data brokers.



## Know How + Technology = Win

- ❑ The insurance organization of the future will require talent with the right mindsets and skills, workers will be in increasingly high demand and must possess a unique mix of being technologically adept, creative, and willing to work at something that will not be a static process but rather a mix of semiautomated and machine-supported tasks that continually evolve.
- ❑ Developing an aggressive strategy to attract, cultivate, and retain a variety of workers with critical skill sets: data engineers, data scientists, technologists, cloud computing specialists, and experience designers.
- ❑ The IT architecture of the future will also be radically different from today's, with a migration to a more future-forward technology stack that can support a two-speed IT architecture.

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or Data Strategy ?

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