



**TECHNOLOGY
HOLDINGS**

Investment Banking in Tech Services,
Consulting, Software & Healthcare

Mastering the Data-Driven Frontier: AI & Analytics Market Insights, M&A and Private Equity Deal Activity in 2023

October 2023

Introduction

This report from Technology Holdings aims to provide a comprehensive overview of the ever-evolving Artificial Intelligence (AI) and Analytics market, by highlighting pivotal trends and growth strategies of key industry players. Furthermore, the report delves into M&A transactions in 2023, including the types of buyers and unravelling the motives propelling these acquisitions. The report points out five main trends that are expected to shape the future of Artificial Intelligence models and applications:

- 1. The Rise of Predictive Analytics
- 2. Adoption of Generative AI in Enterprise Applications
- 3. AI's Transformative Role in Elevating Customer Experiences
- 4. The Revolution of Quantum Computing
- 5. AI enabling Sustainability

M&A Trends

1

Market Growth Potential
Businesses recognized AI's transformative potential in post-pandemic landscapes, targeting software and platform firms

2

Integrator Focus
Attention shifted towards integrators bridging the gap between advanced tech and business implementation

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About Technology Holdings

Technology Holdings (TH) is a **global boutique investment bank** dedicated to delivering M&A and capital raising to **technology services, software, consulting, and business process management companies** globally with enterprise values ranging from **US \$20 million to US \$250 million**.

TH has a global team of over 70 people with a strong track record of closing AI , Analytics and Data Science transactions across Europe, the Americas, and Asia-Pacific.

TH has closed Eleven Analytics, AI and Data Science transactions with a cumulative enterprise value of over US \$500 million

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**Digital
Transformation &
Innovation**



**IT Services Cloud
& Cybersecurity**



**Analytics,
Data Sciences & AI**



**Fintech, Insurtech
and SaaS**



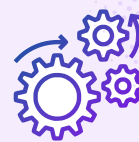
Consultancies



**Healthcare &
Lifesciences**



**Business Process
Management**



**Engineering
Services**

LONDON

NEW YORK

SAN JOSE

HOUSTON

TORONTO

MUMBAI

NEW DELHI

BENGALURU

HYDERABAD

SYDNEY

MELBOURNE

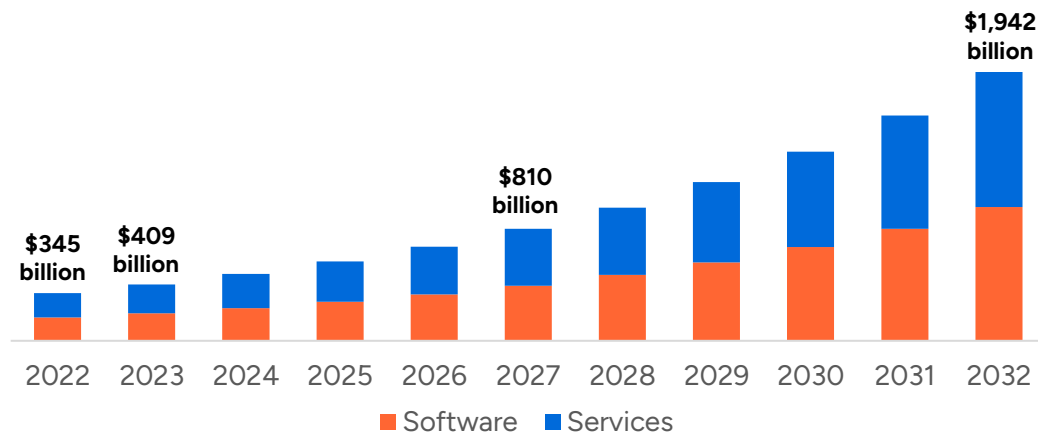
PARIS

MUNICH

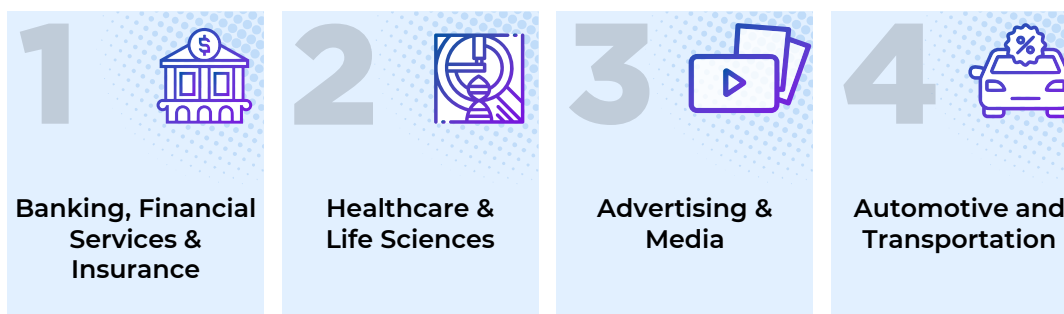
Artificial Intelligence Software and Services: Global Market Overview

- Global AI market size: **US \$345 billion** in 2022, projected to reach **US \$1,942 billion** by 2032, with a **CAGR of 19%** from 2023 to 2032
- North America AI market: Valued at **\$127.30 billion** in 2022
- Rapid penetration of digital technologies** and the internet, leading to increased demand for AI across various industries
- Heavy investments by tech giants** in research and development, driving technological advancements in AI applications
- Favorable government initiatives** and increased adoption of AI in end-use industries, encouraging market growth and innovation
- Deep learning** segment dominated the market in 2022 due to complex applications driven by data and rising advancements, especially in the medical field
- Machine learning's significant share in AI investments** is promoting cognitive solutions with various applications, while on-premises hardware and cloud computing platforms are contributing to the growth of data analytics platforms

FIGURE 1:
Global Artificial Intelligence Market Size (2022-2032)¹



Key Industry Adaptation



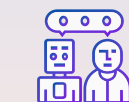
KEY TECHNOLOGY ENABLERS



Deep Learning



Machine Learning



Natural Language Programming



Machine Vision

Lucrative AI market, powered by key enablers and diverse industry adoption, offers abundant opportunities for technology services and software companies

Impact of Government Regulations in AI: Ensuring Ethical AI Development

The EU's ambition to regulate AI fosters innovation and ethical, safe use. Proposed rules categorize AI based on risk, marking a pioneering global AI regulation. These legislative principles guide the effort -

1

Foundation Models: AI Foundation Models (FMs) represent a transformative force with the potential to yield numerous benefits, including enhanced products, improved services, easier access to information, and the facilitation of scientific breakthroughs, all while reducing costs

2

Competition Necessity: A robust competitive landscape is essential to protect consumers and businesses, alongside principles encompassing safety, data protection, and IP rights for positive market outcomes

3

Collaborative Engagement: Continuous collaboration with various stakeholders, including consumer groups, developers, deployers, innovators, and regulators, seeks to foster ethical AI practices

4

Transparent Process: Ongoing engagement and updates on principles aim to harness AI's full potential while ensuring ethical standards



Key Objectives of Parliament:

Parliament's key objective is to ensure that AI systems used in the EU adhere to safety, transparency, traceability, non-discrimination, and eco-friendliness, with human oversight to prevent adverse consequences. They also aim to establish a technology-agnostic, standardized definition for future AI systems

AI Act: Risk Based Obligations for Providers and Users.



Unacceptable Risk

- Threatening people's well being
- Banned AI systems
 - Cognitive behavioural manipulation
 - Social scoring
 - Real-time remote biometric identification



High Risk

- AI systems that are used in products falling under the EU's product safety legislation. Example : toys, aviation, cars and medical devices
- AI systems falling into eight specific areas that will have to be registered in an EU database
 - Education and vocational training
 - Law enforcement and Assistance in legal interpretation
 - Management and operation of critical infrastructure

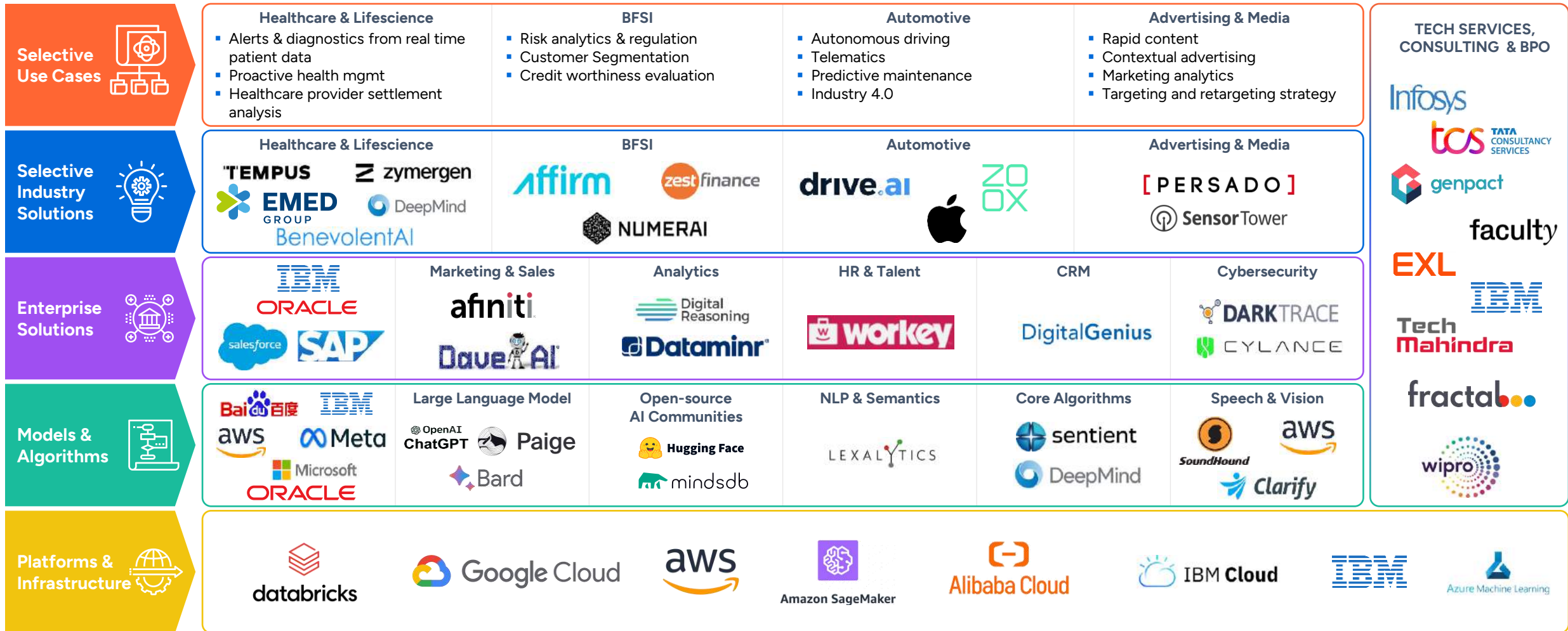


Limited Risk

- AI systems with limited risk must meet basic transparency standards for user awareness and choice. Users should be informed when interacting with AI systems
- Examples :
 - AI systems that generate or manipulate image, audio or video content such as deepfakes

Fostering competition and ethical AI practices using collaborative approach for AI foundation models

AI and Analytics Value chain



AI could contribute up to \$15.7 trillion to the global economy in 2030. Of this \$6.6 trillion is likely to come from increased productivity and \$9.1 trillion is likely to come from consumption-side effects

*These companies are provided for representative purposes only and do not constitute an exhaustive list

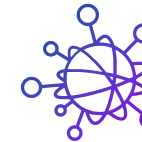
Key Trends in Artificial Intelligence and Data Analytics



The Rise of Predictive Analytics



Adoption of Generative AI in Enterprise Applications



AI's Transformative Role in Elevating Customer Experiences



The Revolution of Quantum Computing : Unlocking New Horizons Through AI Synergy



AI-Enabled Sustainability: Economic and Environmental Impact



The latest trends in AI and data analytics include the revolution of quantum computing, widespread adoption of generative AI in enterprises, the rise of predictive analytics for informed decisions, increased use of Automated Machine Learning for efficient AI model development, and the extension of analytics to the edge for real-time insights

Empowering Business Through Predictive Analytics: Unveiling Insights and Transformative Strategies

- Predictive analytics enhances **user engagement** by leveraging **past behavior patterns**
- It drives personalized services and identifies emerging trends
- **Machine learning** and **AI** are key tools, **spotting patterns** and **predicting outcomes**
- Industries widely adopt predictive analytics, seen in retail, **finance, healthcare, and manufacturing**
- Global predictive analytics market estimated to reach **US \$10.95 billion** by 2023, transforming business strategies through data-driven insights

86% of companies that conducted predictive marketing exercises for at least 2 years witnessed “increased return on investment as a result of their predictive marketing”²

Transforming user engagement, business strategy, and AI adoption with data-driven insights for better decisions and strategic initiatives

Source : ¹ Accenture Research; ² Gartner

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FIGURE 4:

Advantages of Adopting Predictive Analytics by Enterprises¹



Case Studies :



Rolls-Royce optimizes maintenance schedules and reduces carbon footprint

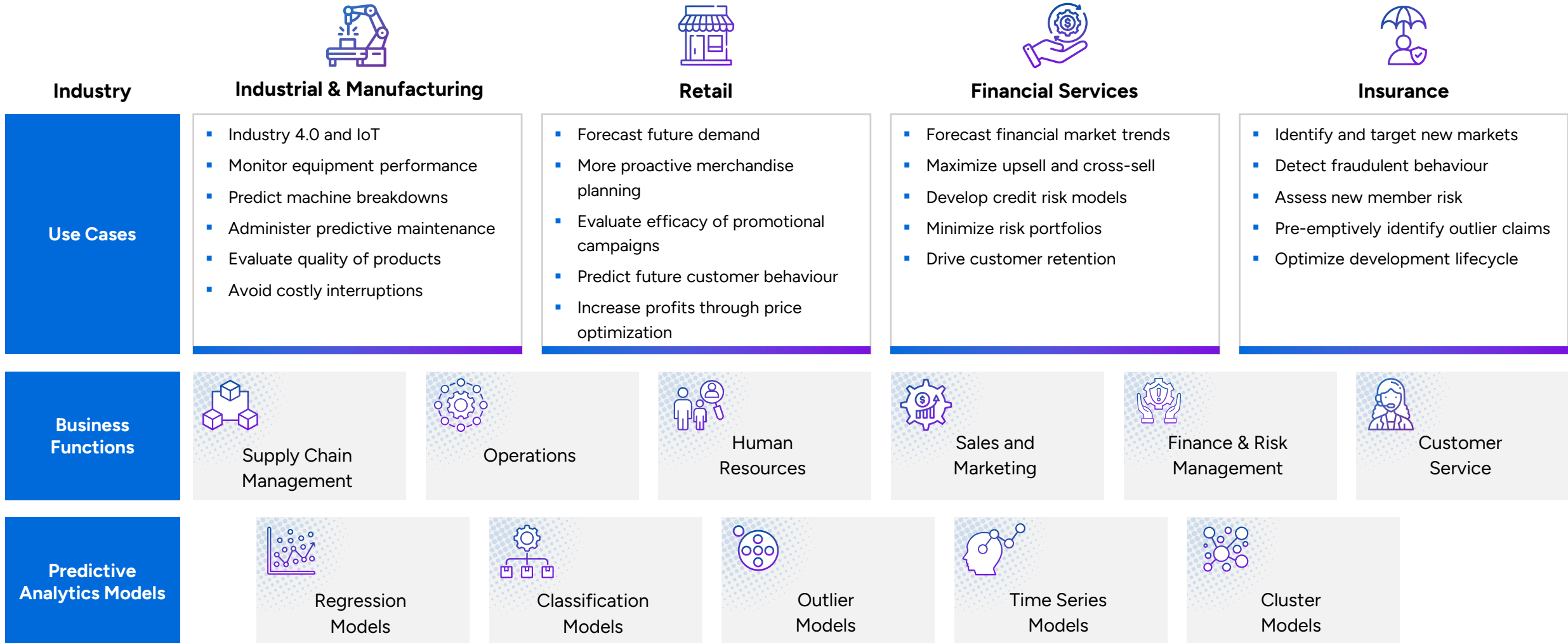
- Rolls-Royce utilizes **predictive analytics** to cut **engine carbon emissions**
- **Optimizes maintenance** for extended aircraft operational time



PepsiCo tackles supply chain with predictive analytics

- PepsiCo uses **predictive analytics** for **ecommerce** and **field sales** teams
- **Sales Intelligence Platform** combines retailer and supply chain data
- Predicts **out-of-stock** situations and alerts users for timely reorders

Evolving Business Insights: Predictive Analytics Versatility Across Industries and Functions



Empowering data driven decisions: Harnessing predictive analytics for strategic growth

Source : NTT DATA Insurtech Global Outlook 2023 | ¹ Accenture Underwriting Employee Survey

Interactive AI Reshaping Customer Engagement: The Generative AI Revolution

- Evolving AI advancements drive sustained interest and investment in expanding interactive applications. **Growing data, improved algorithms, and enhanced computing power** lay the foundation for scalable, impactful use cases
- **Generative AI** reshapes human-technology interaction, emulating creative human thinking to produce tailored content. A transformative shift impacting both organizations and consumers
- Generative AI empowers organizations with personalization, **real-time insights**, intelligent customer service, **predictive analytics**, and optimized journeys. Resulting in elevated customer engagement, satisfaction, and loyalty
- **KT Telecom**, South Korea's leading mobile operator, leverages billion-parameter LLMs through **NVIDIA DGX SuperPOD** and **NeMo framework**. **GiGA Genie**, the AI voice assistant, performs diverse tasks, showcasing advanced conversational skills and understanding of Korean language

By 2025, 30% of outbound marketing messages from large organizations will be synthetically generated, up from less than 2% in 2022²

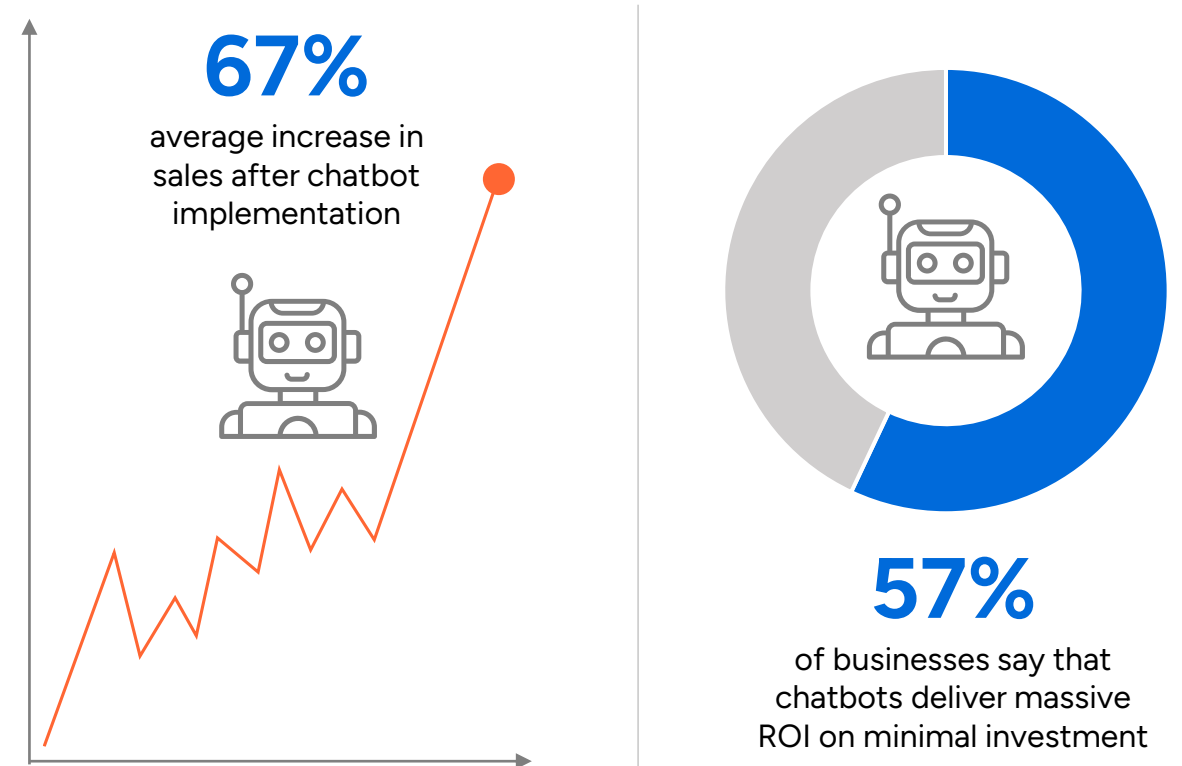
Empowering Enterprises: Revolutionizing customer relationships through advanced interactive AI and elevated experiences

Source : ¹ Report Linker Research; ² Thrive My Way

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FIGURE 2:

Chatbot Adoption Driving Remarkable RoI in Customer Engagement¹



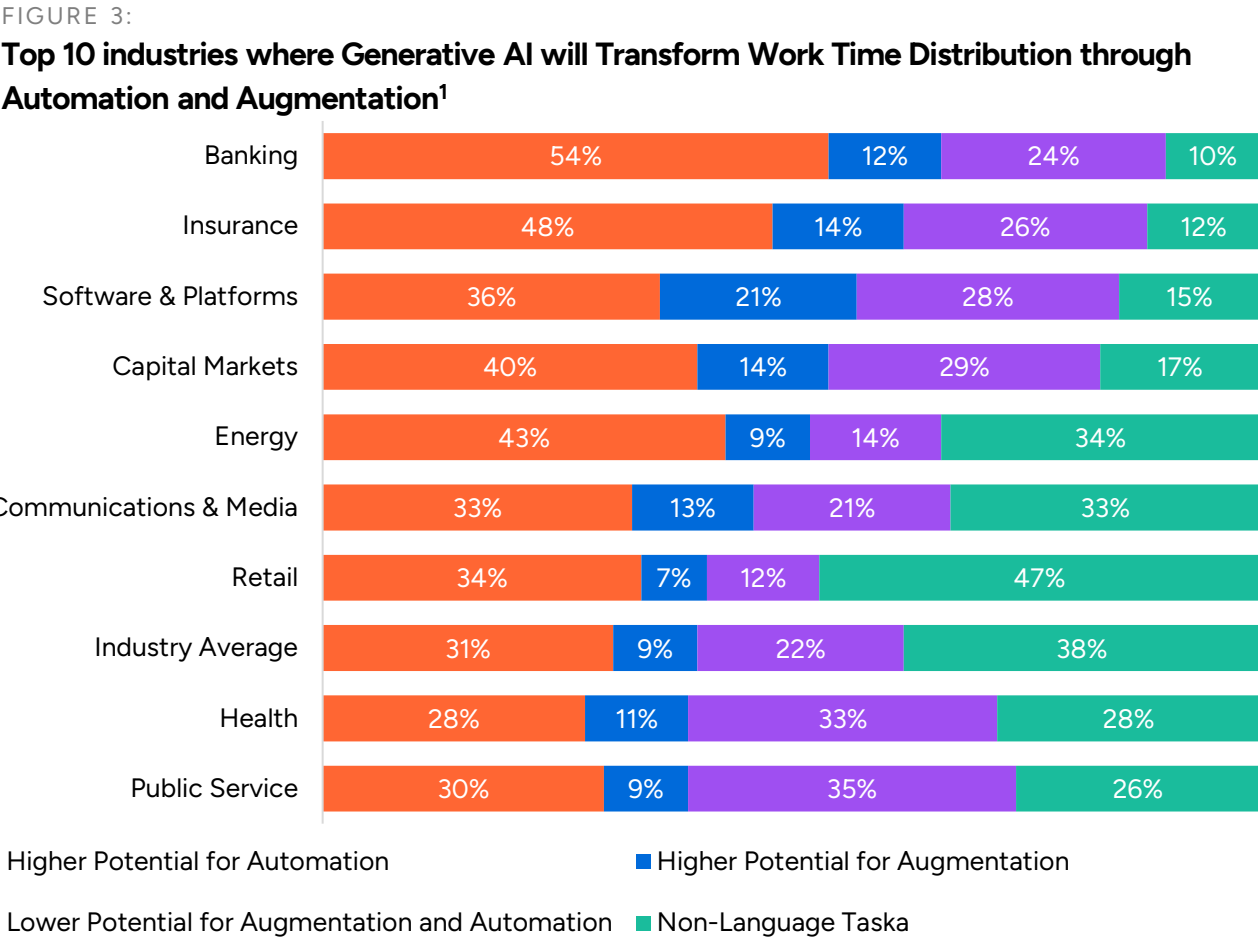
Industry Work Time Distribution and Automation Potential

- **Generative AI Unleashing Transformation:** The chart illustrates the potential of Generative AI to reshape work dynamics in various industries, driven by Automation and Augmentation
- **Banking and Insurance Leading Automation:** Banking and Insurance sectors show higher potential for Automation, streamlining routine tasks
- **Augmentation Boosts Innovation:** Augmentation is poised to empower Capital Markets and Communications & Media, enhancing decision-making and content creation
- **Retail's Dynamic Balance:** Retail showcases balanced potential for both Automation and Augmentation, supporting customer engagement and backend operations
- **Energy's Focus on Automation:** Energy sector leans towards Automation, optimizing processes in production and distribution.
- **Healthcare's Augmentation Potential:** Healthcare envisions significant scope for Augmentation, assisting medical professionals with advanced insights.

²By 2030, a major blockbuster film will be released with 90% of the film generated by AI (form text to video), from 0% of such in 2022.

This chart underscores the transformative potential of generative AI, with each industry harnessing automation and augmentation to redefine their work landscape

Source : ² Accenture Research; ² Gartner
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Role of AI in Customer Experience



Why AI in Customer Experience?

- Customer experiences span across various channels and extend beyond **individual touchpoints**, making **end-to-end journey optimization** crucial
- Siloed focus on touchpoints** can lead to individual successes but a **poor overall customer experience**. Brands are shifting their focus towards improving the **holistic customer experience** rather than **isolated touchpoints** (Refer **Fig 5**). The customer experience begins long before a purchase, highlighting the importance of a seamless journey from discovery to post-purchase support



What Fuels Customer Experience Journey?

Self Service Portals



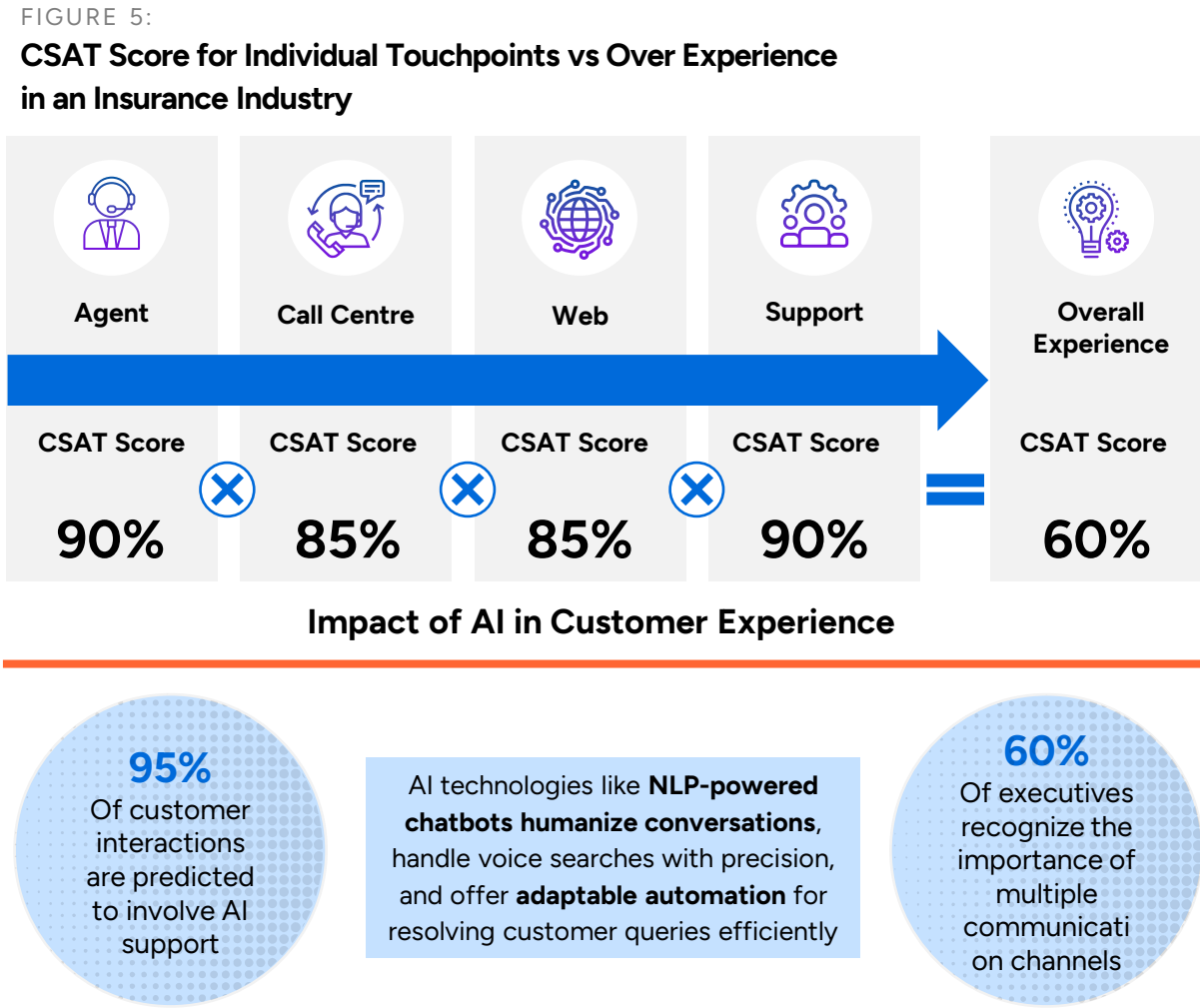
Personalization



Availability



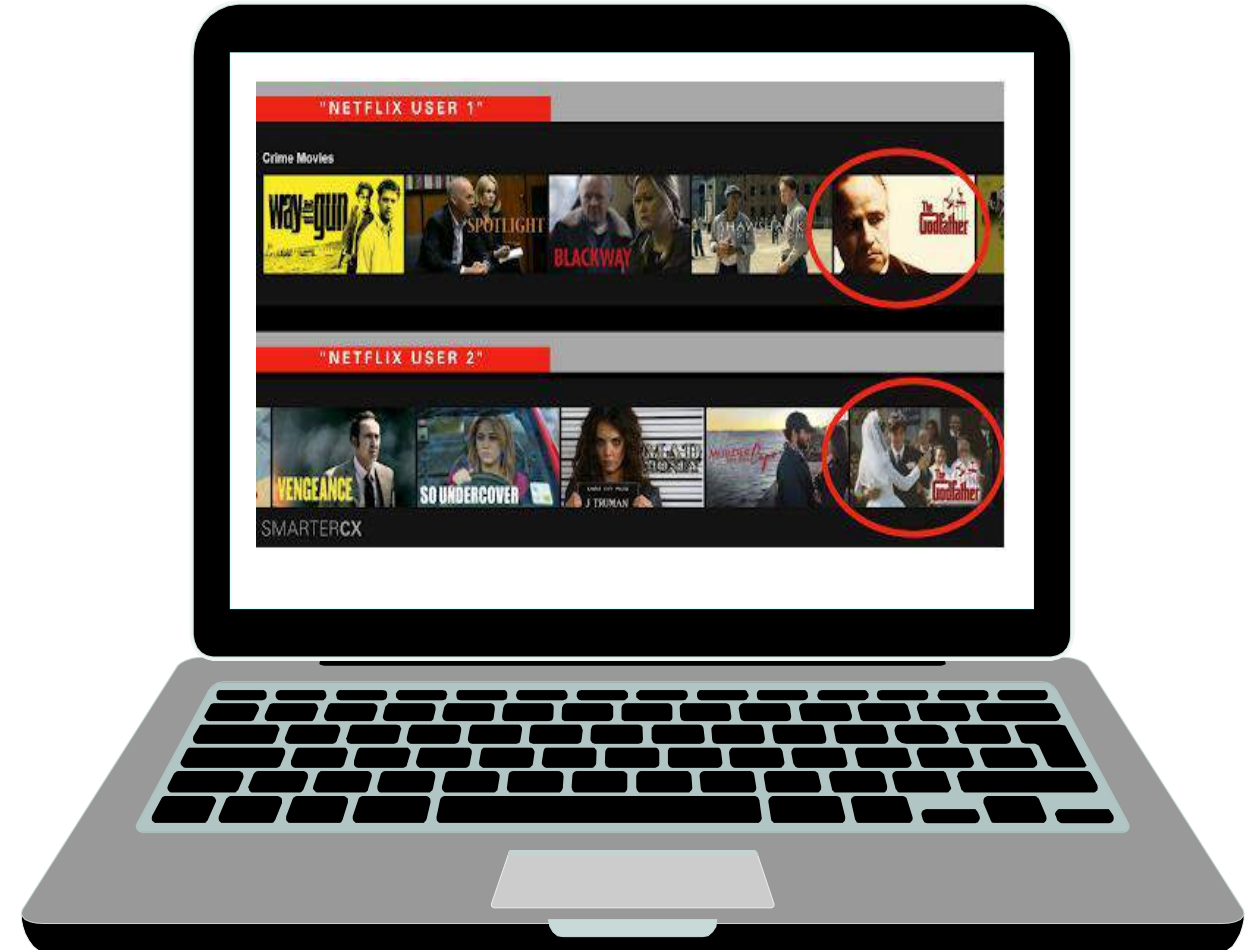
- Key strategies for brands to deliver smarter experiences include self-service portals, with **85% of customer relationships** predicted to be managed without human interactions, personalization for improved conversion rates, and ensuring availability round-the-clock for customer support
- Personalized recommendations from search engines underscore the importance of **tailored interactions** in the digital era



Elevating customer engagement and strategy with AI-driven insights and personalization for exceptional user experiences

Case Study : The Role of AI in Powering the Customer Experience Journey for Netflix

- Netflix relies on AI to monitor **and understand user interactions**, emotions, and **micro touchpoints** to combat **disinterest**, which can lead to user abandonment within seconds
- The customer experience journey on Netflix includes **acquisition**, **retention**, and **advocacy**, with AI being instrumental in retaining users by **enhancing viewership**, **login frequency**, **subscription loyalty**, and **reducing cancellations**
- Netflix employs a **multitude of microservices** to optimize **content delivery**, creating tailored copies of shows based on streaming quality, device resolution, and bandwidth, enhancing the user experience
- Netflix's personalization efforts extend to displaying different thumbnails for the same show, **leveraging machine learning algorithms to increase click-through rates** based on similar user interests and clicking behaviors
- Overall, Netflix's strategic use of AI across its platform enhances customer engagement, satisfaction, and retention



Elevating the viewer experience with AI-powered personalization, redefining entertainment engagement

Source : ¹ Global Cyber Insurance Market by Research and Markets

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Industry Use Cases for Generative AI

1

Life Sciences: Generative AI in Drug Discovery:



Life Sciences Advancement: Generative AI revolutionizes life sciences by rapidly designing drugs, significantly reducing costs and timelines in pharmaceutical discovery



Efficient Molecular Design: Generative AI transforms drug discovery by swiftly generating molecular structures for diverse disease treatments, expediting the development process



Rapid Database Exploration: AI accelerates treatment innovation by quickly searching substance databases, offering swift solutions for emerging ailments



Automated Precision: Automated generative AI supersedes manual methods in both speed and precision, streamlining drug design and development

Gartner envisions a future where 50% of drug development activities adopt generative AI by 2025, reshaping the pharmaceutical landscape

Fostering Innovation: Utilizing generative AI to transform drug discovery and elevate data synthesis in diverse industries

2

Healthcare: Generative AI in Creating Synthetic Data:



Data Generation through Generative AI: Generative AI creates synthetic data, useful for research, algorithm testing, and neural network improvement



Data Augmentation Enhancement: Artificial data augments original datasets, enhancing quality and performance, particularly in deep learning



Neural Network Tuning: Generative AI automates optimal neural network connections, refining performance



Privacy-Preserving Synthetic Data: Generative AI produces synthetic data for privacy-sensitive domains, like healthcare, safeguarding original data sources' privacy



Utilizing Synthetic Data for Research: Synthetic data aids research and analysis, maintaining patient privacy in healthcare while facilitating meaningful insights

Industry Use Cases for Generative AI

3 IT Industry: Software Development

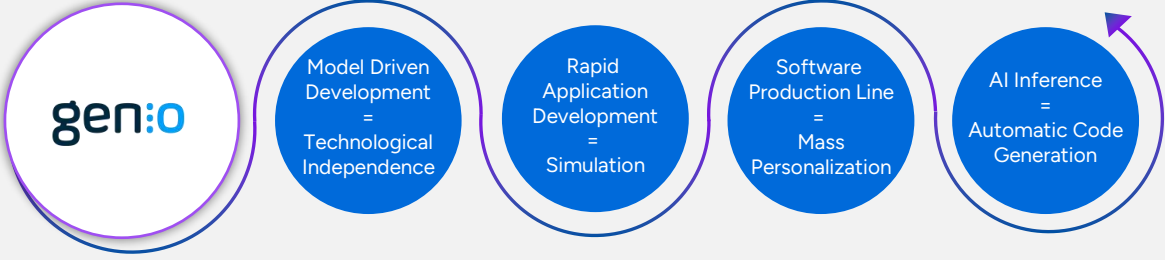


Software Development Revolution: Generative AI transforms software development by automating manual coding processes



Streamlined Solution Building: IT professionals now rapidly create solutions by instructing AI models, replacing complete manual coding

Case Study : GENIO's efficiency model-based tool significantly boosts developer productivity, enabling citizen developers to tailor applications, reducing IT dependency. It empowers non-coders to create custom applications, enhancing business processes and reducing IT workload



```
graph LR; A((gen:o)) --> B((Model Driven Development = Technological Independence)); B --> C((Rapid Application Development = Simulation)); C --> D((Software Production Line = Mass Personalization)); D --> E((AI Inference = Automatic Code Generation)); E --> A;
```

4 Automotive: Vehicle Design and Engineering



Foundational Models' Versatility: Foundational models like ChatGPT and Stable Diffusion empower AI for diverse tasks, offering endless possibilities



Parallels to App Development: Similar to early iPhone apps utilizing sensors, AI developers leverage foundation models for novel experiences and capabilities



Holistic Data Integration: Generative AI bridges various data streams, including text, image, video, and 3D, enabling new levels of integration



Case Study: Toyota employs generative AI for engineering-inclusive design
Amplifying Vehicle Design with AI: Toyota Research Institute introduced generative AI for vehicle design, enabling designers to incorporate engineering constraints and streamline the reconciliation of design and engineering considerations

Innovative Integration of AI and Engineering: Toyota's approach combines generative AI's creative capabilities with engineering strengths, allowing designers to optimize performance metrics while maintaining stylistic preferences through text prompts

Bracing for a paradigm shift: Generative AI to overhaul IT dynamics and revolutionize automotive design, driving industry-wide economic transformation

The Revolution of Quantum Computing : Unlocking New Horizons through AI

Quantum Computing Advantages

- Quantum bits enable **superposition** and **entanglement**
- Massive **parallel processing** for complex calculations
- Faster solving of **optimization** and **simulation** problems

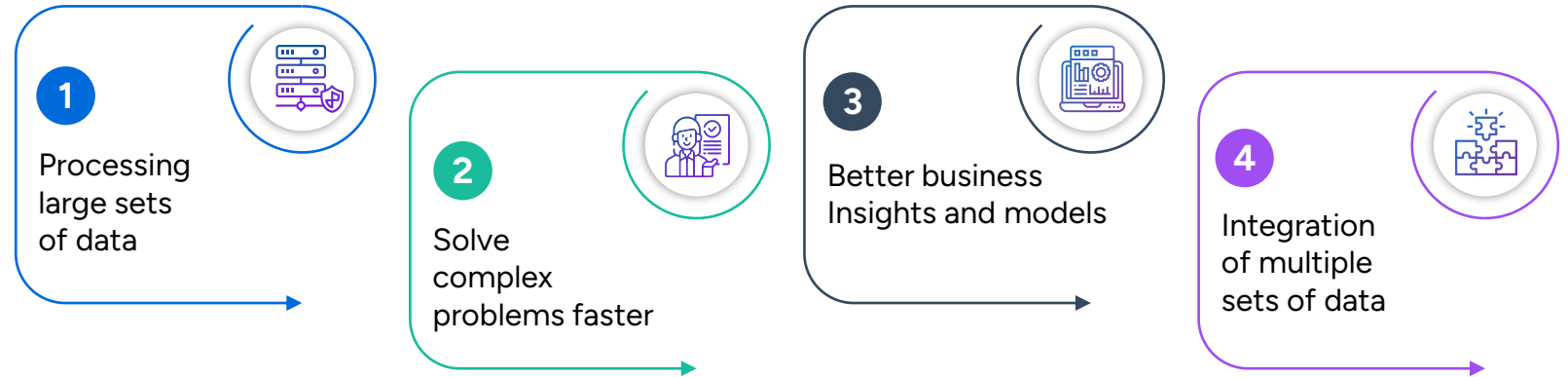
AI Advancements Amplify Quantum

- AI Algorithms optimize quantum processes
- Machine learning enhances **quantum error correction**
- Quantum AI assists **drug discovery** and **materials science**

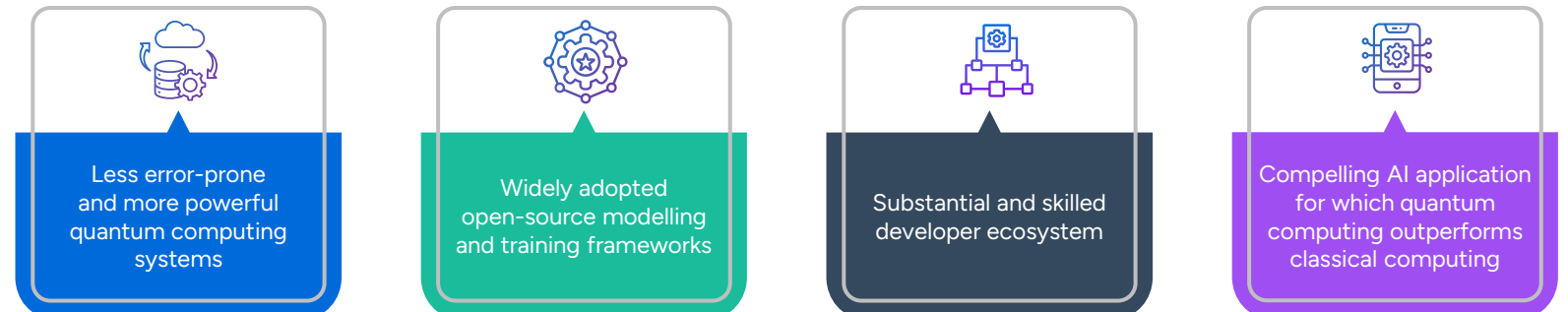
Unleashing Potential: Quantum AI Applications

- Accelerated optimization for logistics and supply chain
- Enhanced machine learning for **predictive analytics**
- Quantum AI's impact on **cryptography** and **cybersecurity**

Applications of Quantum Computing and AI



Critical Milestones for Quantum AI



Definition: Quantum computing is a multidisciplinary field comprising aspects of computer science, physics, and mathematics that utilizes quantum mechanics to solve complex problems faster than on classical computers

Synergizing quantum power with AI for enhanced insights and transformative capabilities

Source : ¹ Open Insurance Report By Accenture

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Case Study : Quantum AI Applications for Optimization of Logistics and Supply chain and Enhanced Machine Learning for Predictive Analytics



Accelerated Optimization for Logistics and Supply Chain

- DHL partnered with IBM to tap into quantum computing's power for **supply chain optimization**
- Quantum computer used to enhance complex combinatorial optimization in logistics
- Targeted efficient vehicle routing for **faster deliveries** and **cost reduction**
- Quantum computing's simultaneous consideration of variables accelerated **route optimization**, potentially transforming supply chain logistics



Enhanced Machine Learning for Predictive Analytics

- **Volkswagen** partnered with **Google Quantum AI Lab** for quantum computing's potential in boosting machine learning for predictive analytics
- Focus on addressing optimization challenges in training complex machine learning algorithms
- Quantum computing's parallel processing harnessed to **accelerate model training** and **enhance accuracy**
- Collaboration aims to **elevate predictive capabilities** in vehicle safety, manufacturing, and customer experience



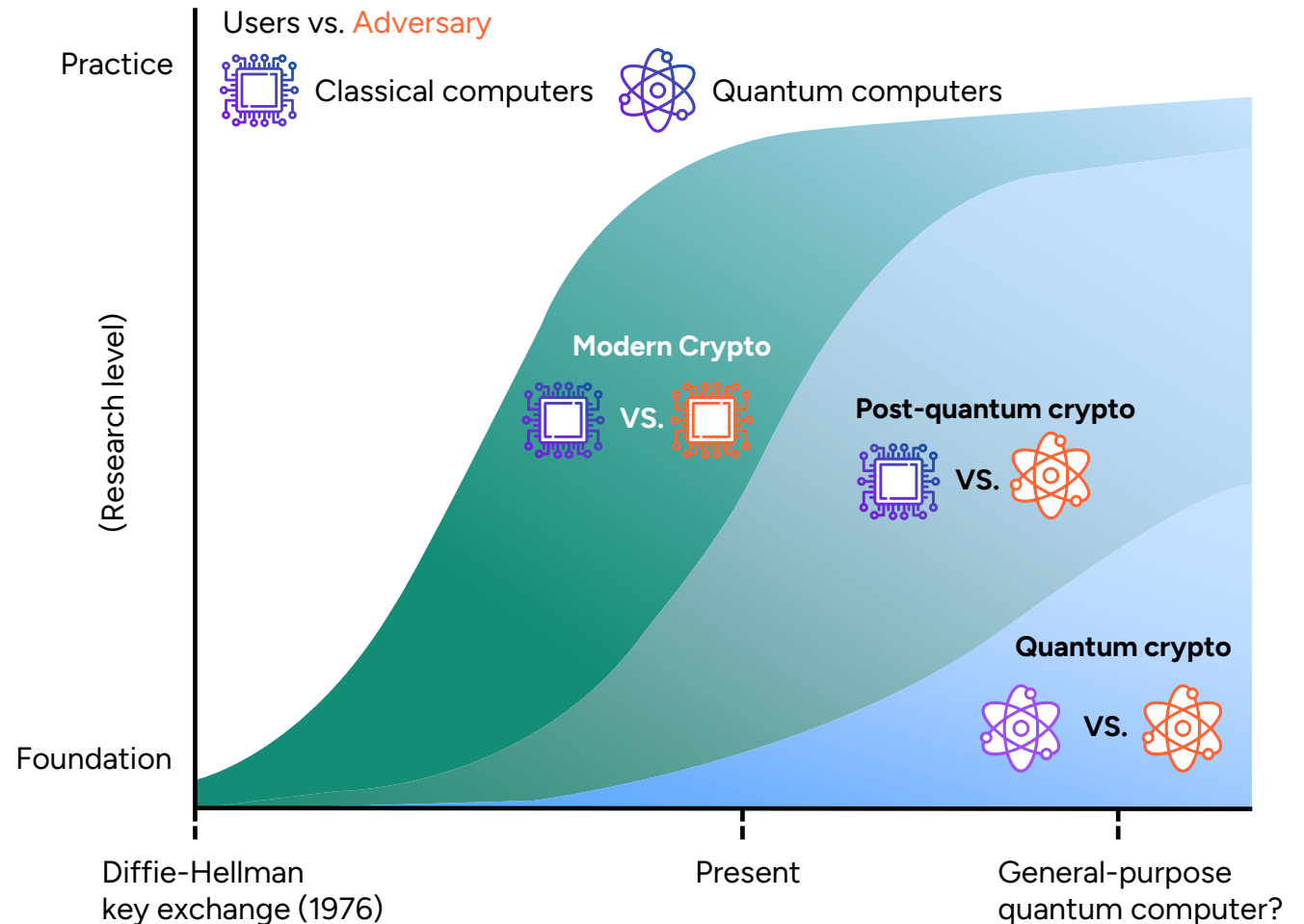
Improvements in disruption management could be transformational for transportation and logistics, as well as help reduce the \$184 million, on average, lost globally due to supply chain disruptions¹

Source : ¹ IBM .com and Statista

Case Study : Quantum AI Applications in Cryptography and Cybersecurity



- NTT Research collaborates with institutions to **advance cryptography** using quantum computing
- Aims to counter threats to digital security from quantum computers breaking **traditional encryption**
- Focus on developing quantum-safe encryption methods resistant to quantum attacks
- Examines the usage of classical and quantum computers by users and adversaries in modern, post-quantum, and quantum cryptography
- **Goal:** Enhance **cybersecurity** in the **post-quantum era**, safeguarding sensitive data from breaches



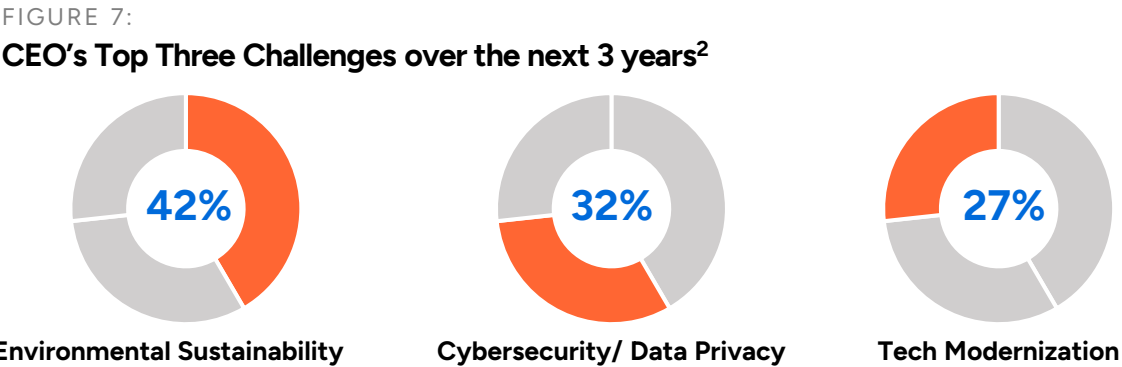
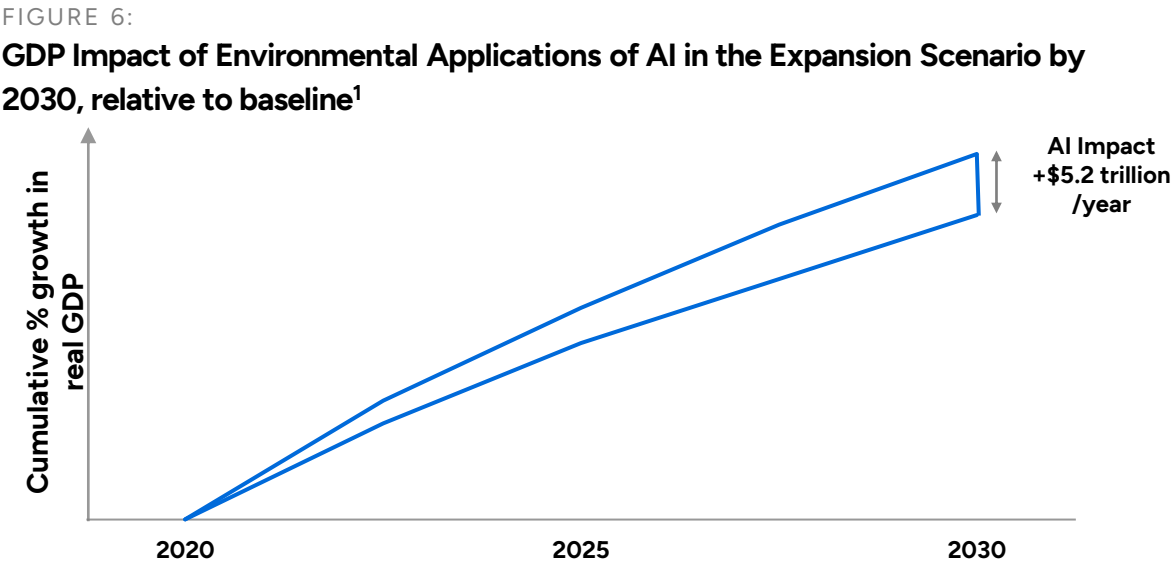
Pioneering Quantum AI in Cryptography: Defending digital frontiers against quantum threats, tech firms prepare for the post-quantum era with quantum-safe encryption and cybersecurity solutions

Source : ¹ NTT Social Informatics Laboratories

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AI-Enabled Sustainability: Economic and Environmental Impact

- **AI Adoption Benefits:** AI adoption in agriculture, water, energy, and transport sectors is projected to contribute up to **US \$5.2 trillion¹** to the global economy by **2030**, a **4.4%** increase relative to business as usual
- **Environmental Impact:** Deploying AI solutions globally can also reduce worldwide greenhouse gas (GHG) emissions by up to **4.0% in 2030**, equivalent to **2.4 Gt CO₂e**, which is equal to the **2030** annual emissions of Australia, Canada, and Japan combined
- **Job Creation:** AI-driven sustainability initiatives could create up to **38.2 million** net new jobs across the global economy
- **CEO Involvement:** Approximately **50% of CEOs²** and executive teams have compensation tied to sustainability goals, showing a significant increase from previous years
- **Aligning Sustainability and Digital Transformation:** Companies that align their sustainability and digital transformation efforts report higher revenue growth, up to 41% higher compared to those that don't
- **Implementation Challenges:** While **95%** of companies have operational environmental, social, and governance (ESG) goals, only **10%** have made significant progress toward meeting them, highlighting a disconnect between intentions and actions



AI for the environment has the potential to contribute to future global GDP by up to 4.4%, while also reducing global greenhouse gas emissions by up to 4.0%, by 2030 relative to the baseline

Source : ¹ How AI can enable a sustainable future report by PWC ² CEO decision making in the age of AI by IBM

AI-Driven Environmental Impact: Levers of Growth in Different Sectors

AI-driven environmental impact is realized through three main channels :

Optimizing Input Usage

AI tools enable precise monitoring and control in production, reducing resource wastage. For instance, in agriculture, AI can save resources like fertilizers and irrigation water



Enhanced Productivity

Innovative AI technologies lead to more efficient processes, increasing output with the same resources. Smart grids, managed by AI, can optimize energy distribution



Automation of Manual Tasks

AI tools enable precise monitoring and control in production, reducing resource wastage. For instance, in agriculture, AI can save resources like fertilizers and irrigation water



Secondary Indirect Impact

Business Growth



Growth in demand



Knowledge Spillovers



AI for Environment Levers across Agriculture, Energy, Water and Transport Sector¹

Energy

+US\$ 2.6*
Trillion

- **Smart Energy Management:** AI automates energy use and optimizes responsiveness to market signals
- **Energy Forecasting & Coordination:** AI predicts energy demand, manages decentralized grids, and optimizes renewable asset efficiency
- **Predictive Maintenance:** AI and IoT monitor infrastructure, predict faults, and prepare for external disruptions, ensuring reliable energy supply



Water

+US\$ 190*
Billion

- **Predictive Maintenance:** Real-time monitoring predicts faults for optimized water systems
- **Water Demand Forecasting:** AI tracks usage, allowing suppliers to pre-empt demand, reducing wastage
- **Wastewater Optimization:** AI optimizes treatment and enables greywater reuse



Transportation

+US\$ 2.1*
Trillion

- **Autonomous Transport & Deliveries:** AI enables autonomous vehicles for transport and deliveries, including eco-driving and last-mile services
- **Traffic Optimization:** AI optimizes traffic in real-time, reducing congestion and implementing smart pricing
- **Demand Forecasting:** AI predicts demand and optimizes logistics for efficient resource allocation



Agriculture

+US\$ 350*
Billion

- **Agricultural Robotics:** AI-driven robots perform tasks autonomously, like harvesting ripe fruit
- **Precision Environmental Monitoring:** Field sensors measure environmental impacts for optimized yields
- **Land-Use Planning and Health Monitoring:** AI maps activities, enhances farm management, and monitors crop, soil, and livestock health in real-time



Levers in energy and transport have the largest impact, primarily because they result in substantial efficiencies and consequently cost savings in terms of labor, capital and energy use.

^{*}Annual GDP Contribution Source : ¹ How AI can enable a sustainable future report by PWC

Transforming Sustainability with AI: Melbourne Water's Success Story



Melbourne Water, a government authority responsible for managing water resources for the City of Melbourne, Australia.



Challenges

- Energy expenses accounted for half of Victorian water sector emissions
- Lack of efficient energy tracking and renewable exploration system
- Legacy data management system was cumbersome and limited
- Manual data entry led to quality issues
- Users required specialized knowledge for data access and analysis

Solution

- Melbourne Water needed a unified energy consumption data source
- Chose cloud-based analytics for streamlined data management
- Enabled advanced analysis with this modern solution

Results

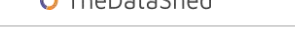
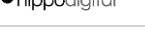
- Reduced sustainability reporting time from days to hours
- Enabled targeted replacement of non-renewable energy sources with renewables like solar panels and hydroelectric power
- Improved monitoring and performance tracking of renewable projects

Key Takeaways

- Embracing AI-driven analytics and cloud-based data solutions can revolutionize an organization's sustainability initiatives
- Efficient data management and analytics empower teams to make data-driven decisions that drive significant environmental and economic benefits
- Melbourne Water's success story serves as an inspiring example of leveraging modern technology to lead the way in climate change mitigation and sustainable resource management

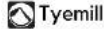
Melbourne Water's success story serves as an inspiring example of leveraging modern technology to lead the way in climate change mitigation and sustainable resource management

M&A and Private Equity Deal Activity in AI & Analytics : YTD 2023

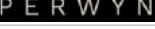
Date	Target	Buyers	Target HQ
Rationale: Technology Integration			
Jul 23	 data safeguard	 Fresno First	
Jul 23	 moogsoft	 DELL Technologies	
Jul 23	 Volkeys	 LLYC	
Jul 23	 WIDE EYES TECHNOLOGIES	 STYLITICS	
Jul 23	 iENSO	 DND	
Jul 23	 tvCIM	 DCH	
Jul 23	 ASC27	 LaCambre Sicav	
Jun 23	 MedOrion	 SALUS	
Jun 23	 BrightBid	 Speqta	
Jun 23	 TL THE NEWS LENS	 BLUE OCEAN	
Jun 23	 Data Addiction	 SEISMA GROUP	
May 23	 BigTapp	 AT	
May 23	 OIGA TECHNOLOGIES	 Pearls	
Mar 23	 TheDataShed	 hippodigital	
Mar 23	 AIOPSGROUP	 valantic	
Mar 23	 QWAM	 ChapsVision	
Mar 23	 Atonix	 PROMETHEUS GROUP	
Mar 23	 SMARTVISIONWORKS	 KPM	
Mar 23	 REMION	 normet	
Mar 23	 Qeevo	 TDK	
Mar 23	 ALGORITHMIA	 21 Invest	

Source : Technology Holdings, M&A Tracker 2023

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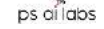
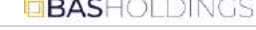
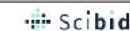
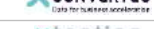
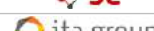
Date	Target	Buyers	Target HQ
Mar 23	 Tyemill	 Syntax	
Feb 23	 Knowledge Lens	 Rockwell Automation	
Feb 23	 algolux	 TORC ROBOTICS	
Feb 23	 Curia.ai	 Aledade	
Feb 23	 INDC	 Gen.Nx360	
Feb 23	 talentcloud.ai	 SYSTECH	
Feb 23	 Giotto	 RQM+	
Feb 23	 OKRA	 ENVISION PHARMA GROUP	
Jan 23	 d+com	 BCX	
Jan 23	 citi logik	 amey	
Jan 23	 connecterra	 CDPQ	
Rationale: Vertical Integration			
May 23	 Portal	 SIN GROUPE	
May 23	 RYA	 one magnify	
Mar 23	 LES FOLE	 prodware	
Mar 23	 EpiSci	 TOP ACES	
Mar 23	 tinyclues	 Splio	
Mar 23	 FLYWHEEL	 KDDI India	
Jun 23	 SEERVISION	 QSC	
Jul 23	 MaxKelsen	 BAIN & COMPANY	
Apr 23	 WEBILEAPPS	 KFINTTECH	

M&A and Private Equity Deal Activity in AI & Analytics : YTD 2023

Date	Target	Buyers	Target HQ
Rationale : Growth Funding			
Jun 23			
Jun 23			
Jun 23			
Jun 23			
May 23			
May 23			
May 23			
May 23			
May 23			
May 23			
May 23			
May 23			
Apr 23			
Apr 23			
Apr 23			
Apr 23			
Apr 23			
Mar 23			
Mar 23			
Mar 23			
Mar 23			
Mar 23			
Feb 23			
Feb 23			
Feb 23			
Feb 23			

Source : Technology Holdings, M&A Tracker 2023

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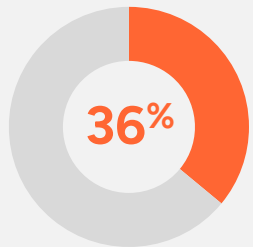
Date	Target	Buyers	Target HQ
Feb 23			
Feb 23			
Feb 23			
Jan 23			
Jan 23			
Jan 23			
Date	Target	Buyers	Target HQ
Rationale: Market Expansion & Geographic Reach			
Jul 23			
Jul 23			
Jun 23			
Jun 23			
Apr 23			
Apr 23			
Apr 23			
Apr 23			
Apr 23			
Mar 23			
Feb 23			
Feb 23			
Feb 23			
Feb 23			
Feb 23			
Feb 23			
Jan 23			
Jan 23			
Jan 23			
Jan 23			

Key Drivers for M&A and Private Equity Deal Activity in AI & Analytics

Technology Integration



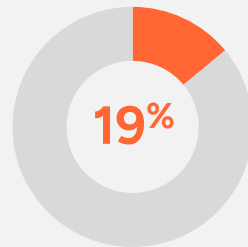
- Emphasis on acquiring advanced technology to enhance product offerings and stay competitive
- Drive for innovation and the need to integrate cutting-edge AI capabilities into existing operations
- Desire to achieve faster development cycles and leverage AI for efficiency and differentiation



Market Expansion



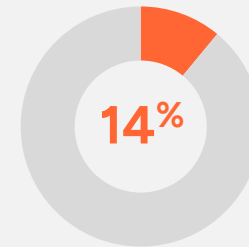
- Strategy to enter new markets and diversify revenue streams
- Capitalize on the increasing demand for AI and analytics solutions in different regions
- Targeting emerging markets with growth potential and untapped opportunities



Vertical Integration



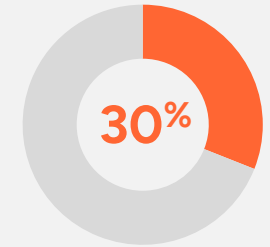
- Goal to strengthen the entire value chain by acquiring key components
- Control over critical elements of the AI and analytics ecosystem
- Drive for greater control, efficiency, and differentiation in specific industries



Value Creation by PE Firms



- Focus on realizing the untapped potential and value within AI and analytics companies
- Aim to drive growth, increase profitability, and optimize operations post-acquisition
- Leverage expertise in scaling businesses and unlocking new revenue streams



Well-capitalized companies and financial sponsors are actively making acquisitions in their core businesses, leveraging abundant capital for strategic growth

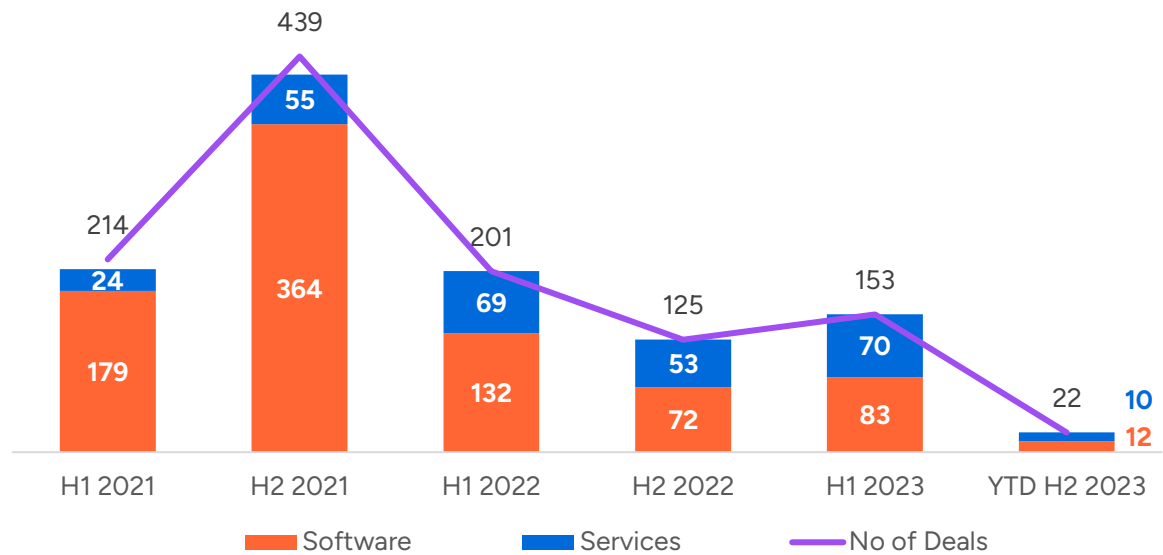
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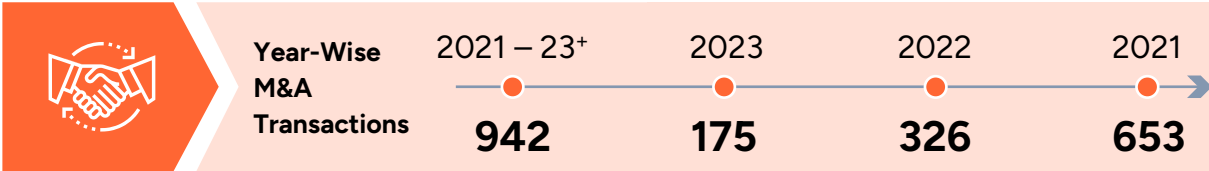
AI & Analytics M&A and Private Equity Deal Activity: Semi-Annual Trends

- **Post-Pandemic Recognition:** Increased M&A activity reflects businesses recognizing AI and Analytics' transformative potential in the post-pandemic landscape
- **Software and Platform Focus:** Initially, the focus was on acquiring software and platform companies within AI and Analytics
- **Emergence of Integrators:** Over time, attention shifted to integrators who bridge the gap between advanced technology and effective business implementation
- **Market Motive:** These transactions aim to harness AI and Analytics to enhance competitiveness in an evolving business landscape
- **Evolving Landscape:** The AI and Analytics market is evolving, with software providers and integrators shaping its trajectory
- **M&A Trends:** In 2021, **653** deals occurred, comprising **543** software companies and **79** services companies. In **2022**, deals declined to **326**, with **204 software** and **122 services** deals. So far in **2023**, there have been **175** deals, indicating a stabilized yet dynamic landscape, with **95 software** and **80 services** deals

FIGURE 9:
Number of M&A Transactions : H1 2021 to YTD H2 2023[†]



Note: H2 2023 transactions cover only Sep 2023



[†] 2021 to YTD 2023

Cultivate Competitive Edge: Global tech giants and industry specific buyers to embrace AI & Analytics M&A as a strategic lever for post-pandemic innovation and sustainable growth

Source : Technology Holdings, M&A Tracker 2023

M&A Activity by AI & Analytics Focus Areas and Industry Specialization

FIGURE 10:
M&A's (%) by AI & Analytics Focus Areas: CY 2023¹

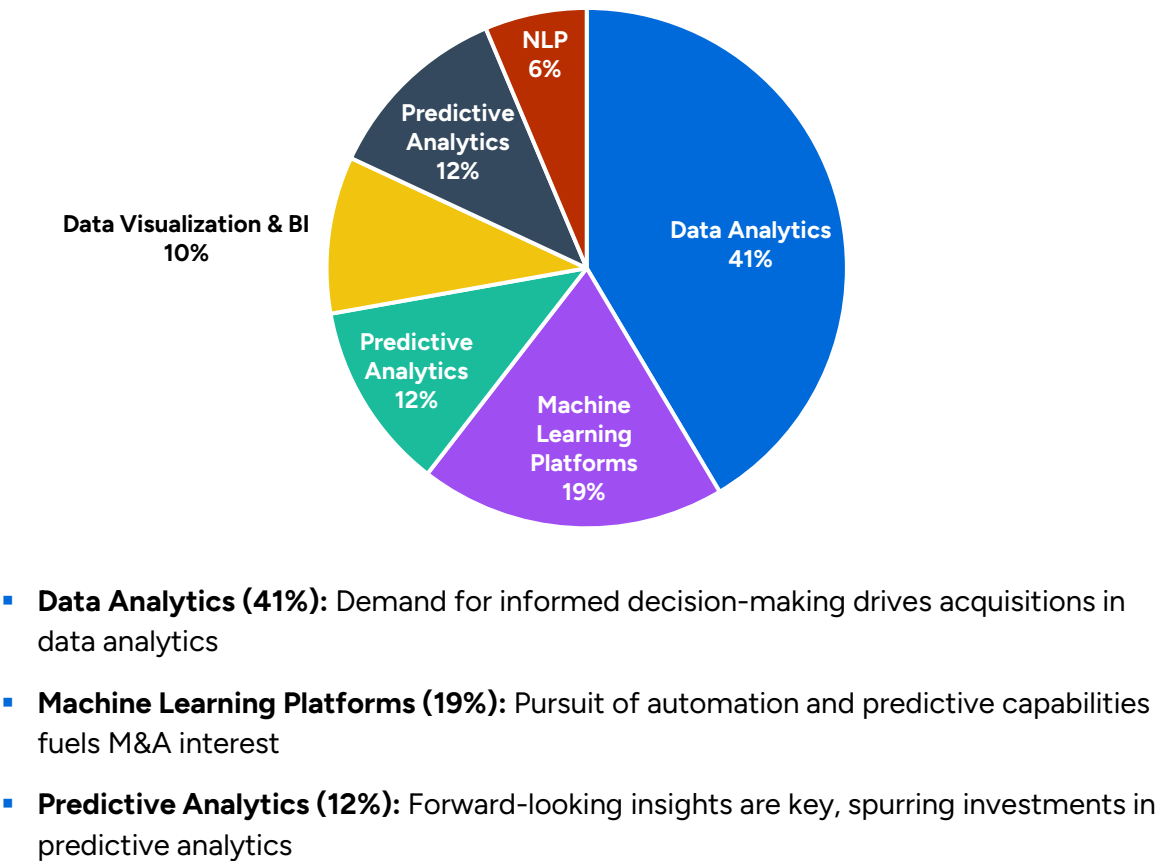
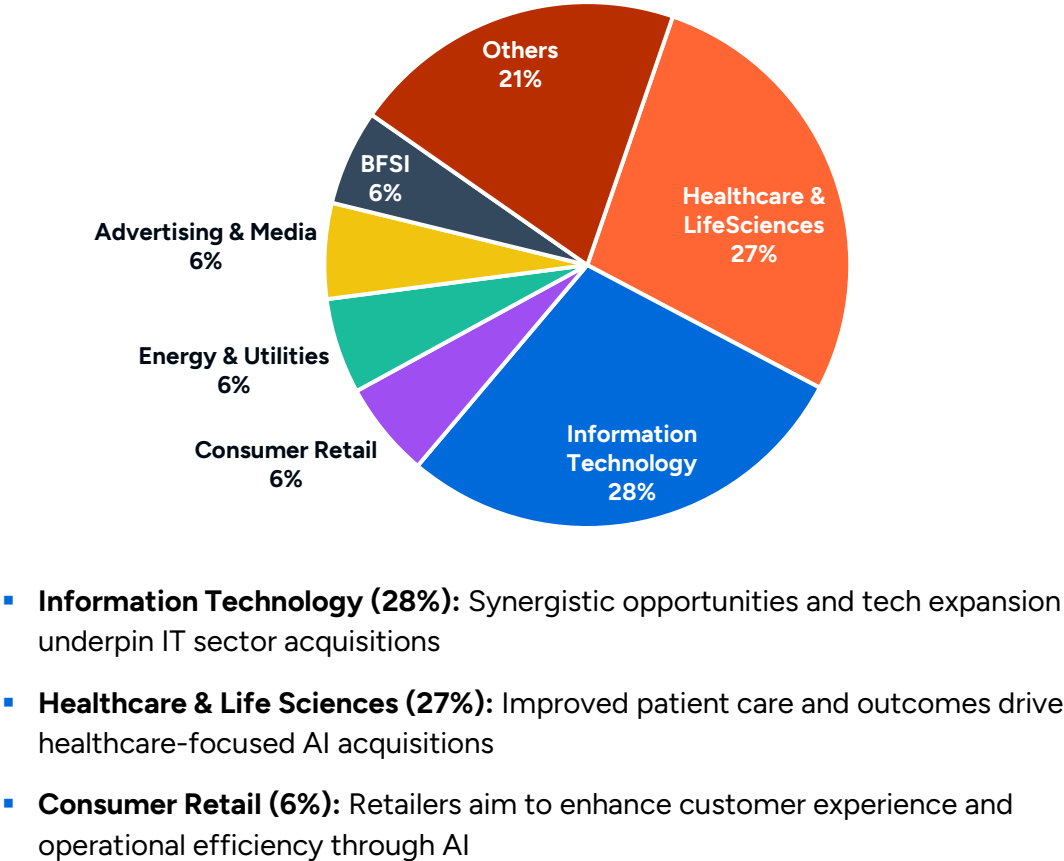


FIGURE 11:
M&A's (%) by Target Industry Specialization: CY 2023¹



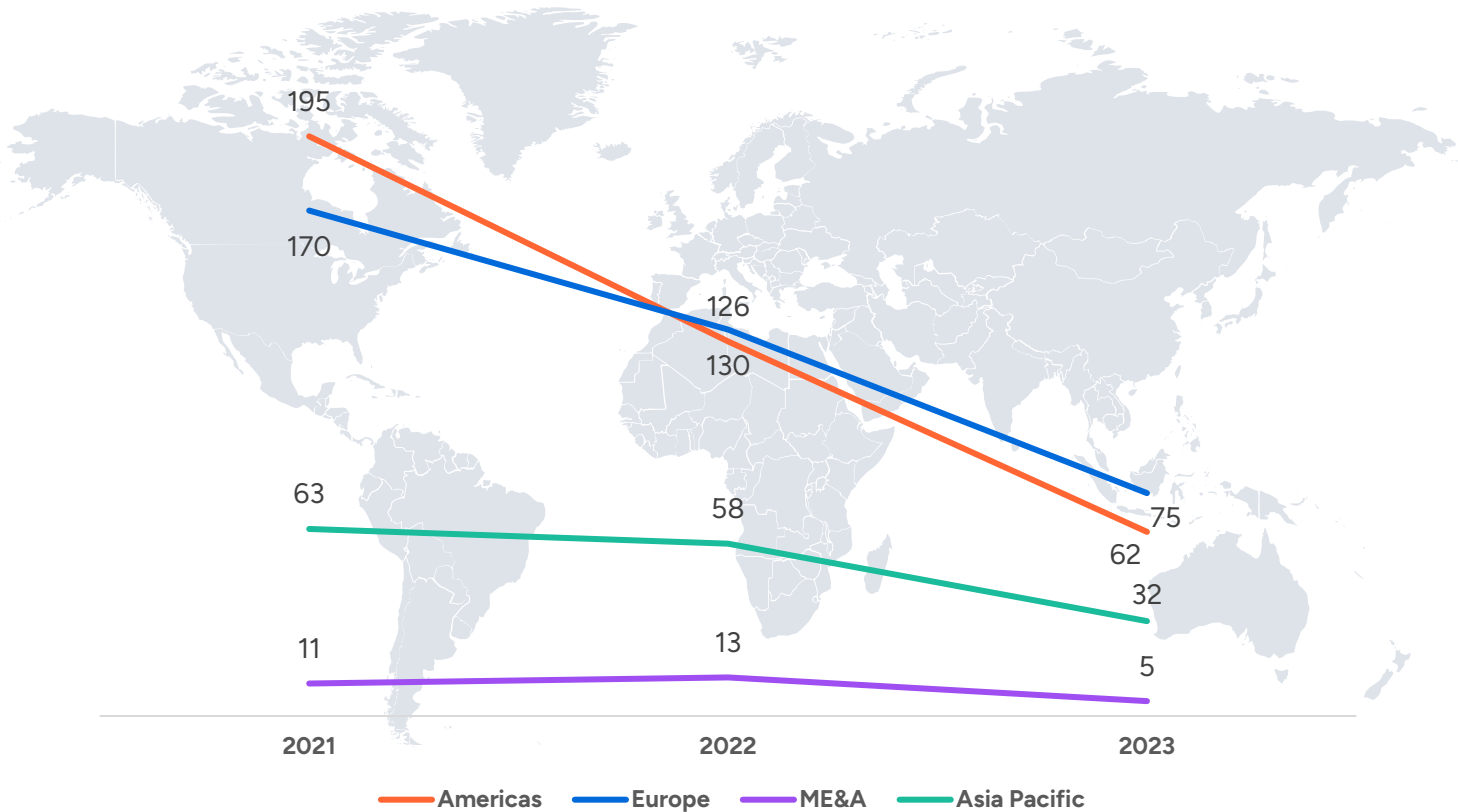
Strategic Acquisitions: Unlocking potential in data analytics, machine learning, and targeted industry growth for AI & Analytics enterprises

Source : ¹Technology Holdings, M&A Tracker 2023
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2022 Regional Breakdown

Regional M&A Trends in AI & Analytics: Opportunities amid Market Dynamics

FIGURE 12:
Regional Breakdown of M&A Activity in 2021 –YTD 2023



Americas

- Declining M&A trend since 2021
- Still leads in AI & Analytics acquisitions
- Potential for resurgence in future



Europe

- Consistent M&A activity over the years
- Robust AI market in Europe
- Stable and attractive for investors



Middle East & Africa:

- Low and relatively stable M&A activity
- Potential for growth and investment
- Region to watch for future developments



Asia Pacific

- Mixed performance with fluctuations
- Emerging market with growth potential
- Increasing interest from investors



M&A activity in AI & Analytics has been fluctuating across regions, with opportunities for technology firms to target stable or emerging markets strategically

Source : Technology Holdings, M&A Tracker 2023

AI & Analytics VC Deal Activity : H1 2021 – YTD 2023

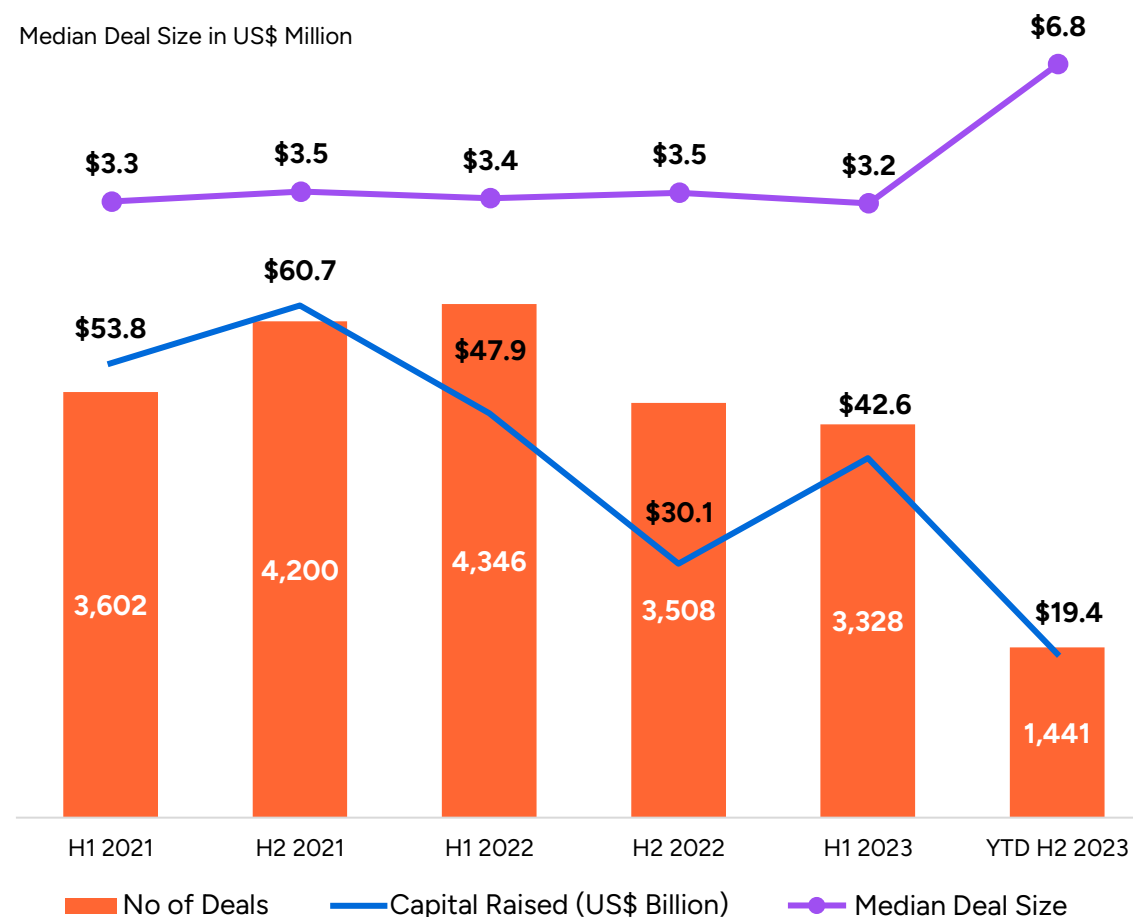
Venture Capital Investment

- VC deal activity in AI and analytics has remained robust, with an increase in median deal size in **H2 2023**
- Pitchbook and Collision's survey indicates that 74% of global venture capitalists have invested in AI, recognizing its high disruption potential
- The number of companies utilizing AI has **more than doubled** since **2017**, focusing on areas like service operations optimization and customer service analytics
- Economic uncertainties and rising interest rates have impacted funding activities, with VCs forming significantly fewer funds in **H1 2023** compared to the previous year
- Despite funding challenges, around **68%** of respondents-maintained a near-normal pace of investment in the AI and analytics sector over the last 18 months
- Hyperscalers, including Microsoft, Alphabet, Meta, Spotify, and Apple, are actively investing in startups to secure innovation in generative AI algorithms

FIGURE 8:

VC Investment and Deal Count (2021-YTD 2023)¹

Median Deal Size in US\$ Million



Strong deal activity with increasing median deal size reflects investors' recognition of AI's disruption potential, despite economic headwinds impacting funding

Source : ¹Artificial Intelligence (AI) Market Size, Growth, Report 2032 by Precedence Research

Top 12 Venture Capital Deals in AI & Analytics in 2023

Date	Companies	Description	Deal Size*	Investors	HQ
Jan 23	 OpenAI	The company develops an AI research and deployment platform to create safe AGI, excelling in language tasks and offering policy, education, and outreach services	\$10,000	Microsoft	
Sep 23	ANTHROPIC	This company specializes in AI safety and research, building dependable and controllable large-scale AI systems while advancing AI system safety and reliability through research	\$4,000	Amazon.com	
Jun 23	Inflection	They develop an AI platform to enhance human-computer interaction by bridging language gaps.	\$1,300	Bill Gates, Cascade Investment, Eric Schmidt, Microsoft , Mosaic Ventures, Nvidia	
May 23	ANTHROPIC	They work on AI safety and research for reliable, understandable large-scale AI systems	\$450	Alphabet, GoldenArc, Menlo Ventures, NLS Ventures	
Jun 23	 cohere	Creator of NLP software for accessible, comprehensive language understanding and personalized user experiences	\$270	Alumni Ventures, Deutsche Telekom, DTCP, Index Ventures, Inovia Capital, Mistral Venture Partners, Nvidia , Oracle , Salesforce Ventures, SAP	
May 23	Builder	Developer of a user-friendly software development platform for building and scaling projects without coding expertise	\$250	Epiq Capital, ICONIQ Capital, Insight Partners, Ion Pacific, Jungle Ventures, Microsoft, Qatar Investment Authority	
Aug 23	 Hugging Face	Developer of a chatbot application using natural language processing for emotionally engaging conversations	\$235	AMD, Alphabet, Amazon.com, IBM Global Finance, Intel, IBM, Nvidia, Qualcomm Ventures, Salesforce Ventures, Sound Ventures	
Jun 23	Typeface	Operator of an AI platform for personalized content creation, enhancing creativity and productivity for businesses	\$165	A&E Investments, GV, Lightspeed Venture Partners, M12, Madrona Venture Group, Menlo Ventures, Microsoft, Salesforce Ventures	
Aug 23	AI21 labs	Developer of AI language models and tools that simplify reading and writing for improved comprehension	\$155	b2venture, Google Israel, Heliad Equity Partners, Nvidia , Pitango Venture Capital, Samsung NEXT Ventures, SCB 10X, Walden Catalyst	
Mar 23	 c.ai	Developer of open-ended conversational applications with a wide range of uses including entertainment, education, and more	\$150	A.Capital Ventures, Andreessen Horowitz. Elad Gil, Greycroft, Nat Friedman, SV Angel	

Key Takeaways

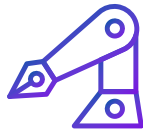
Drivers of Growth for AI & Analytics

The AI & Data Analytics market is experiencing significant growth due to increasing data volumes, substantial R&D investments, government support, and versatile AI applications. Deep learning and machine learning are key contributors, along with flexible deployment options. This dynamic landscape promises continued expansion and innovation/Some of the key trends discussed in the report are -



Quantum Computing Revolution

The emergence of **quantum computing** is poised to revolutionize AI capabilities, unlocking complex problem-solving and innovation



Generative AI in Enterprise

The adoption of **generative AI** is transforming enterprise applications, from content generation to creative design



Rise of Predictive Analytics

Predictive analytics is on the rise, empowering businesses to make data-driven decisions and forecast future trends with accuracy



AI Enabled Sustainability

AI is driving economic and environmental impact through applications in agriculture, energy management, water conservation, and transportation



M&A Activity

- M&A activity surged as businesses recognized AI's transformative potential in post-pandemic landscapes, targeting software and platform firms
- 942 M&A deals since 2023, reflecting industry's dynamic nature
- Attention shifted towards integrators bridging the gap between advanced tech and business implementation, diversifying industry-focused acquisitions

Technology Holdings’ AI, Analytics and Data Science Transaction Track Record

Technology Holdings (TH) is exclusively focused on investment banking in technology services, BPM and software and is the digital transformation advisor of choice globally. Over 23 years, TH has built deep expertise in digital platforms, with global reach and extensive strategic buyer and private equity relationships to help clients navigate through a sale and/or capital raise process, and to secure premium valuations.



Boutique Investment Bank of the Year Award



M&A Deal of the Year Award
(\$100M - \$250M)



Cross-Border Deal of the Year Award



Mid-Market M&A Advisory Firm of the Year Award

TH has closed 11 AI, Analytics and Data Science transactions with a cumulative enterprise value of over US \$500 million

APR 2023 


Has been acquired by

Digital Commerce, Salesforce & AIOPs

FEB 2023 


Has been acquired by

Hyperautomation, AI & Data Science

FEB 2022 


Has been acquired by

Hyperautomation

FEB 2021 


Has been acquired by

Life Sciences Marketing & Communication

APR 2020 


Has been acquired by

Analytics & Data Science

JAN 2016 


Has been acquired by

Healthcare Analytics Software

JAN 2015 


Has been acquired by

Predictive Operational Analytics Platform

JAN 2015 


Has been acquired by

Life Sciences Analytics

FEB 2011 


Has been acquired by

Health Claims Audit & Recovery

JUN 2008 


Has been acquired by

Healthcare analytics & consulting

MAY 2008 


Has been acquired by

Payor Subrogation

CLICK HERE
TO VIEW ALL
TRANSACTIONS



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