# How Enterprises Use AI

Introduction

S-PRO is a Swiss-based <u>software development company</u> that transforms businesses through smarter AI-driven decisions and bigger returns.
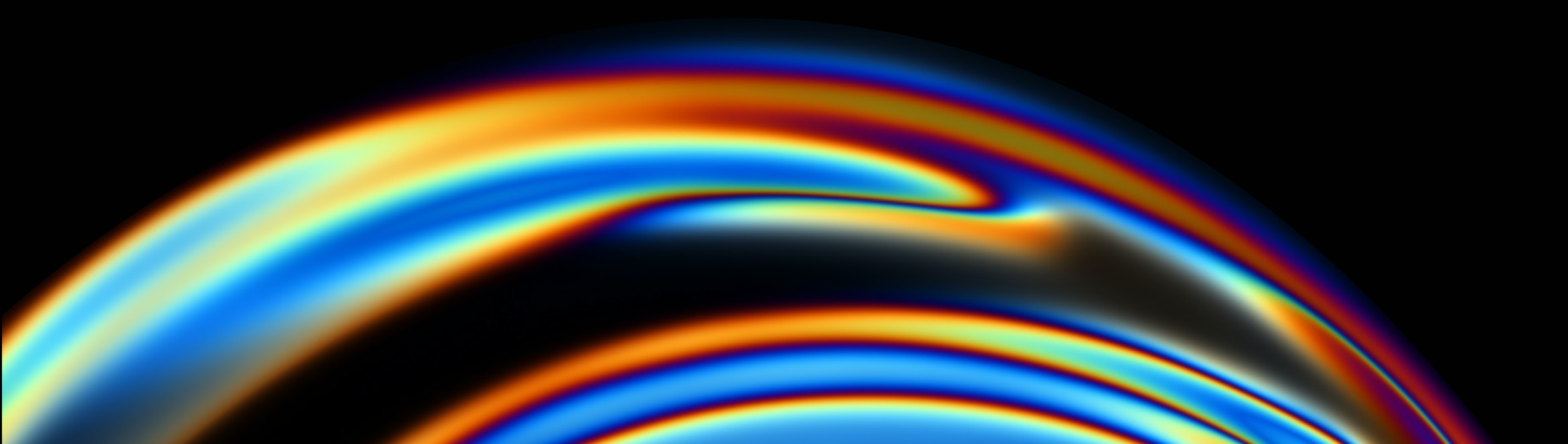
This artificial intelligence market report analyses key trends in AI technologies enterprise implementation, industry developments, market opportunities and challenges, and future outlook for AI adoption.
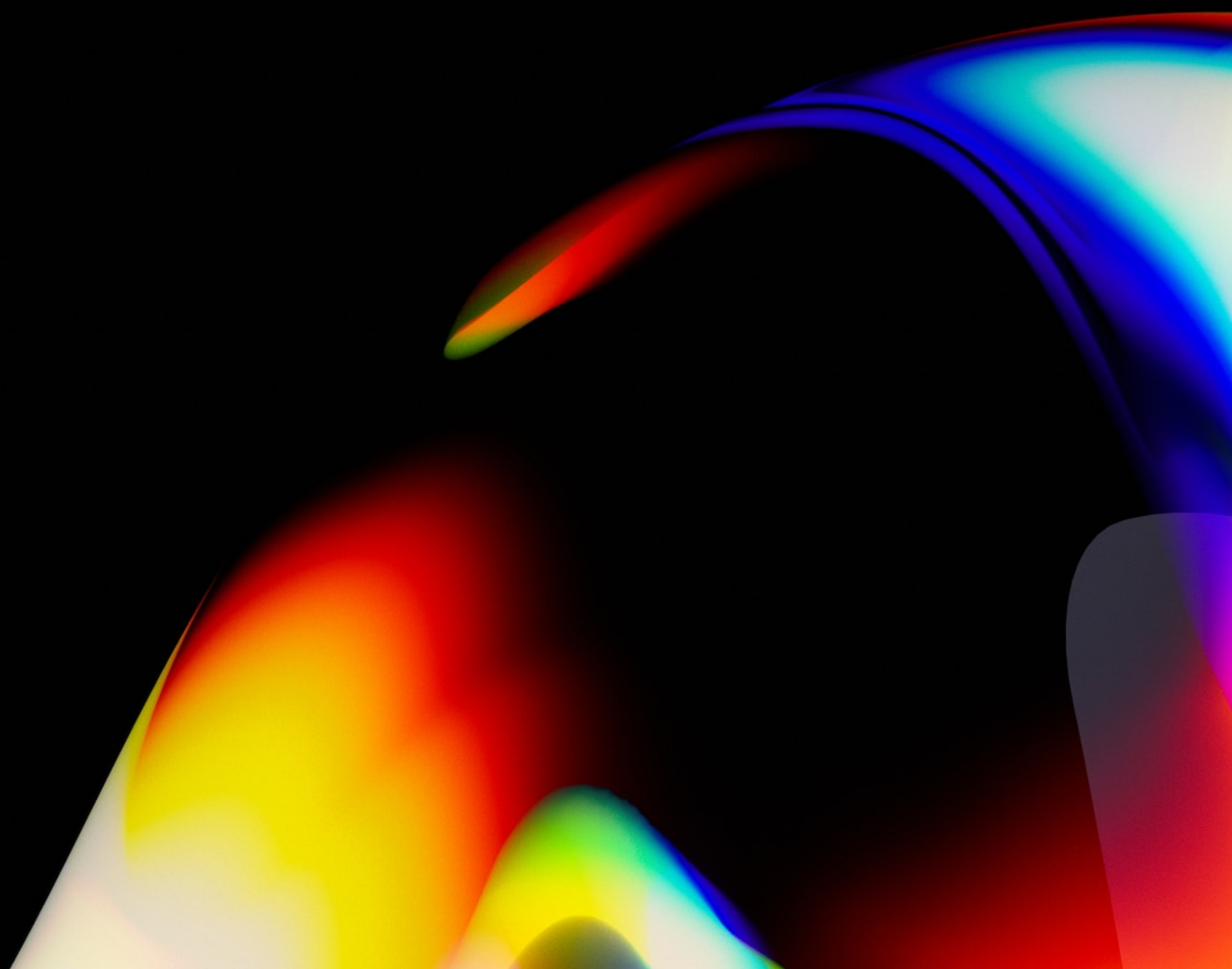
Overview of the Importance of AI in the Business World

AI technologies reshape industries and business models. The IBM Global AI Adoption Index indicates that 35% of global corporations use AI in their operations. Notably, 42% of businesses are exploring using these technologies. Enterprises use AI's potential to enhance operational efficiency, streamline processes, and unlock new revenue streams.

Artificial intelligence can complete many tasks more quickly and accurately than humans. With AI, enterprises save money and resources by avoiding human error while boosting productivity and profitability. Businesses can improve productivity by at least 40% and increase profitability by 38% with AI-driven data collection, automation, decision-making, and cybersecurity.

The Scope

The report covers the global artificial intelligence market size in 2022 and growth projections from 2023 to 2032. It accumulates data from reputable industry reports, surveys, scientific studies, and other reputable sources.

The report researches the competitive landscape of the enterprise AI market and highlights top AI service providers. It includes a regional analysis focused on AI adoption in Switzerland and the UK.

35%	of global corporations use AI in their operations
42%	of businesses are exploring using these technologies
38%	average profitability increase for companies using AI

Enterprises use AI's potential to enhance operational efficiency, streamline processes, and unlock new revenue streams.

Primary Objectives

Examine

The report's primary objective is to examine how businesses already use AI technologies and highlight future opportunities and implementation issues.

Cover

It covers essential AI market trends and developments, ethical concerns about AI adoption, and recent industry regulations in different countries.

Reveal

The report reveals business functions and industries where AI is most widely and effectively applied.

Key Trends and Developments in AI Adoption by Enterprises

Breakout of Generative AI

The latest annual McKinsey survey, The State of AI in 2023, marks 2023 as a year of generative AI breakthrough. The survey's results demonstrate that experimenting with the tools is already relatively common, and respondents anticipate that the new capabilities will alter their industry. Although reported use is relatively consistent across seniority levels, respondents working in the technology industry and those from North America indicate the highest use levels.

According to data from the Centre for the Promotion of Imports from Developing Countries (CBI), the emergence of generative AI tools like ChatGPT and Bard opened up opportunities for the European market. A few weeks after the launch of ChatGPT, this tool increased the general acceptance of AI/ML, and its usage by European businesses is estimated to be close to 50%. AI market size 2025 is set to boom to $90 billion as ChatGPT is expected to produce a frenzy of investment.

Large Firms Hold the Biggest Revenue Share in the Enterprise AI Market

The Precedence Research Market Report shows that large companies accounted for 64% of all revenue in 2022.

They are set to maintain this dominance for the projected period. The rising demand for productivity enhancements, infrastructure cost reductions, and an increase in flexibility and agility due to the abolition of redundant tasks are some aspects that may be responsible for this market's expansion.
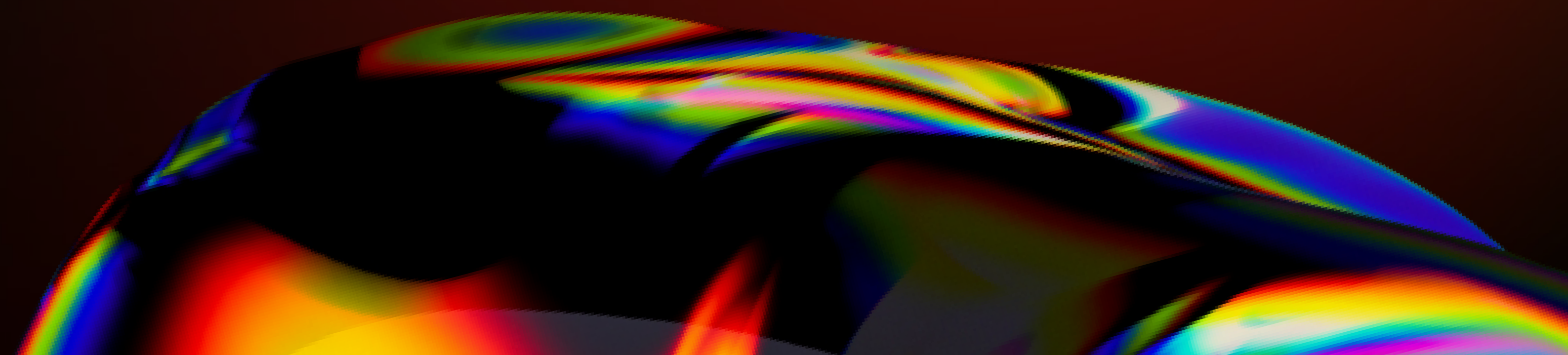
Small and medium-sized firms will exhibit the fastest CAGR of 38.6% during the projection period.

Enterprise AI market share, by organization size, 2022 (%)
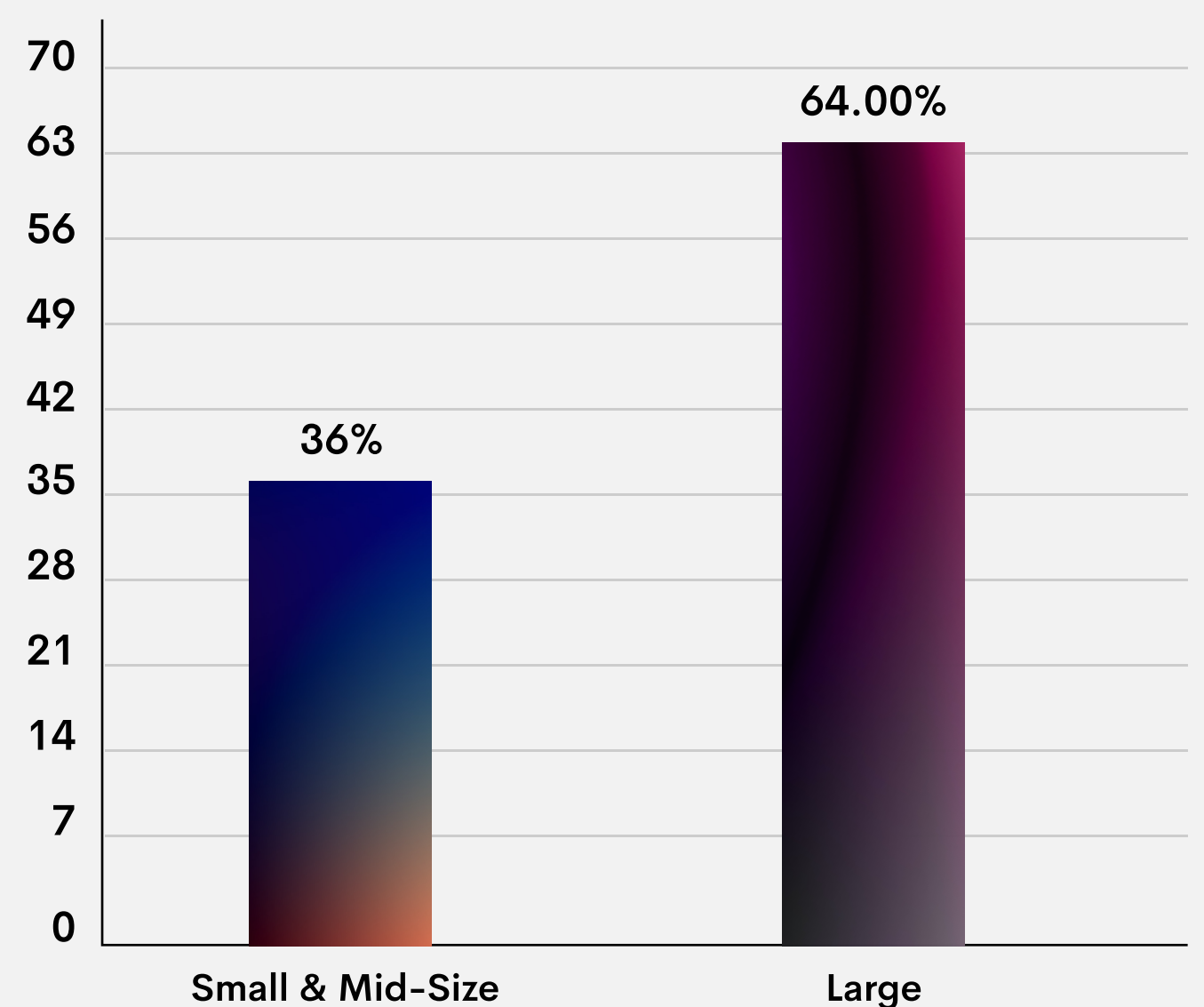
Small and medium-sized firms will exhibit the fastest CAGR of 38.6% during the projection period. The market's growth is attributed to the surge in small and medium-sized businesses adopting AI to accelerate time-consuming processes, improve decision-making, and raise scalability, productivity, and cost-efficiency.

Executive Summary

Key Findings and Insights from the Report

- AI technologies can boost productivity by at least 40% and increase enterprise profitability by 38% through data collection, automation, decision-making, and cybersecurity.
- The global enterprise AI market was valued at $7.02 billion in 2022 and is anticipated to increase to $270.06 billion by 2032, with a CAGR of 44.1% from 2023 to 2032.
- Demand for AI professionals significantly surpasses supply, making enterprises find a balance between hiring and reskilling the workforce.

- AI will disrupt over 300 million jobs worldwide during the next five years, automating routine and non-routine prediction and decision-making tasks, augmenting some fields, and creating new occupational titles.
- Ethical considerations for responsible AI implementation become paramount as the number of newly reported AI incidents and controversies is 26 times higher in 2021 than in 2012.

Most Significant Trends and Changes Observed in the Market

Most Significant Trends and Changes Observed in the Market

## Increasing Demand for AI-Related Professional Skills Across Various Industrial Sectors

According to the Stanford AI Index Report 2023, most industries in the US (except agriculture, forestry, fishing, and hunting) have witnessed a growing number of job postings, including AI, in 2022. Employers in the US are increasingly seeking candidates with expertise in artificial intelligence

The CBI report states that the wide acceptance and usage of ChatGPT and other generative AI tools increase the demand for AI/ML software developers. With the ability to automate customer support, content development, and other operations that traditionally require human knowledge, ChatGPT's technology can disrupt a wide range of businesses.

The United States Repeatedly Leads in Investment in AI

According to the Stanford AI Index Report 2023, the United States remains the world's leader in total private investment in AI. The U.S. received $47.4 billion in investments in 2022, around 3.5 times more than China, which received $13.4 billion. Additionally, the United States continues to lead in the number of newly funded AI startups.

The United States Repeatedly Leads in Investment in AI, 2022 ($)

USA

$47.4 billion

China

$13.4 billion
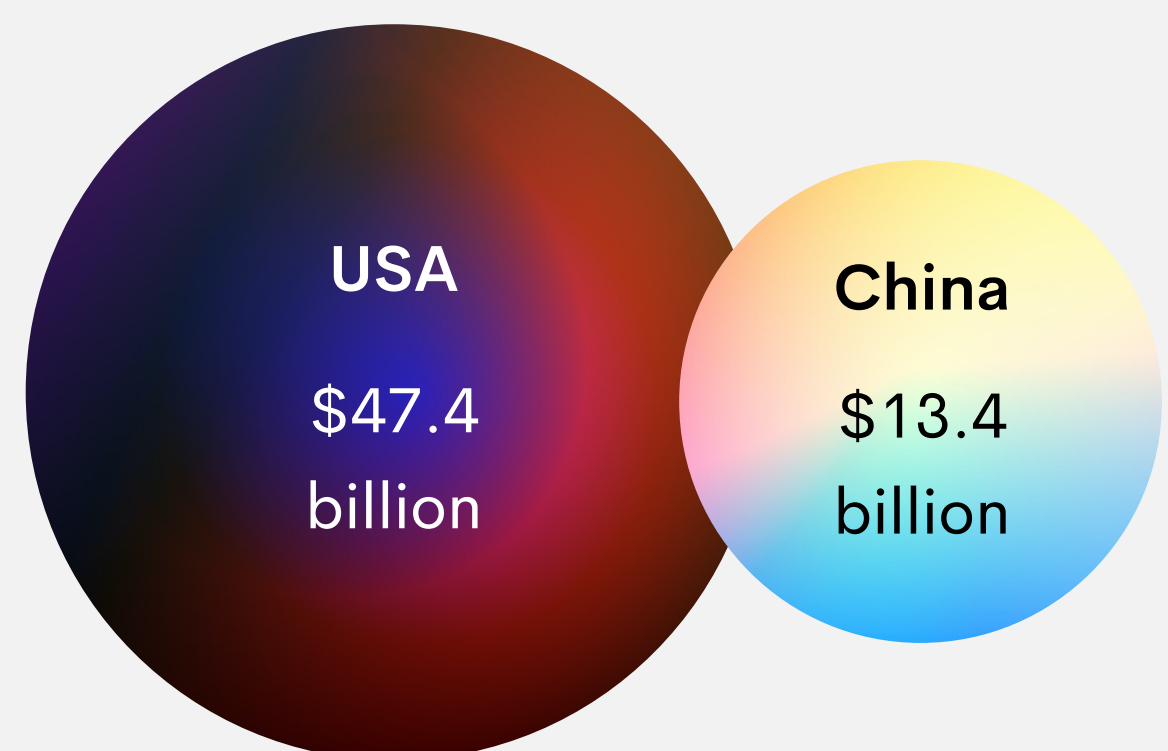
Ethics in AI is Becoming Increasingly Important

Complex ethical dilemmas arise with the development of artificial intelligence. According to the abovementioned CBI report, these are the top three issues: privacy and surveillance, discrimination and bias, manipulation and deception. With the rapidly developing AI industry, customers will expect businesses to provide them with ethical AI solutions.

AI Market is Getting Regulated

Thirty-seven AI-related laws were passed in 2022. The 'Recommendation on the Ethics of Artificial Intelligence' was proposed by UNESCO in 2021 and ratified by all 193 states.

The European Union is developing the AI Act to enhance rules controlling the development and use of AI and address ethical concerns and implementation issues in various industries. China currently has the most comprehensive suite of AI legislation in the world.

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A Brief Analysis of the Impact of AI on Enterprise's Productivity and Profitability
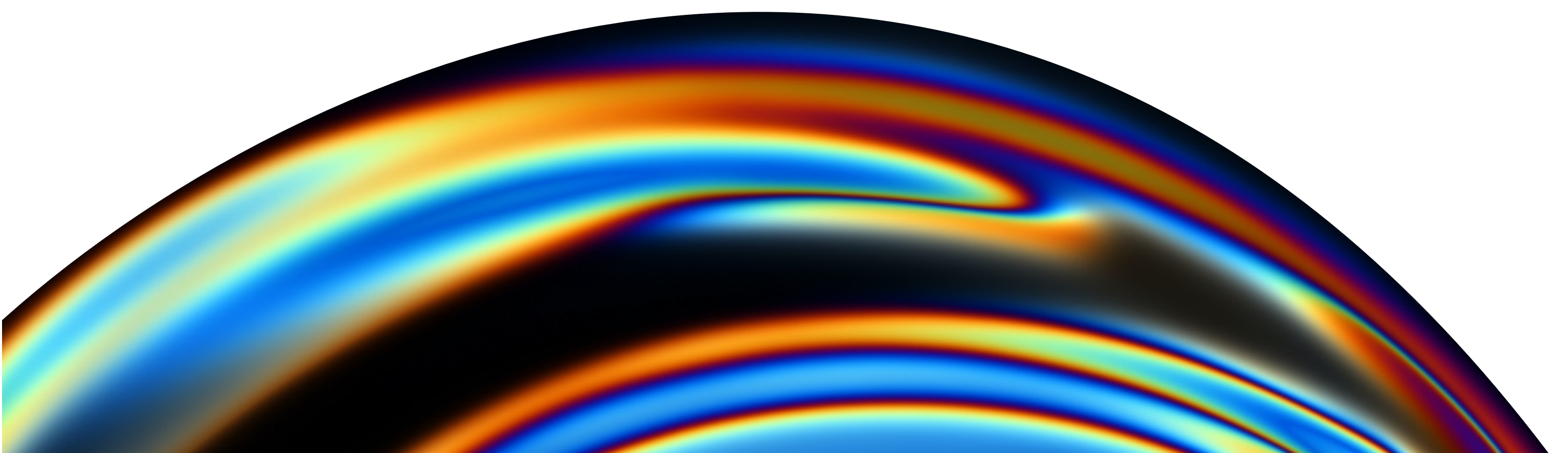
A Brief Analysis of the Impact of AI on Enterprise's Productivity and Profitability

Generative AI is rapidly transforming the world, and businesses need to understand how to adopt this technology

Enterprises adopting AI technologies experience increased efficiency, streamlined operations, and enhanced customer experiences. According to a recent Accenture study, artificial intelligence can increase productivity by at least 40%. Additionally, the same research suggests that AI-enabled data collection, automation, decision-making, and cybersecurity can boost profitability by 38%.

According to the most recent study from McKinsey, the productivity boosted by generative AI can add an extra $2.6 trillion to $4.4 trillion yearly to the global economy, resulting in a 15-40% rise in the overall influence of artificial intelligence. Based on the study, customer operations, marketing and sales, software engineering, and R&D comprise about 75% of the value that generative AI use cases could provide.

up to $4.4 trillion

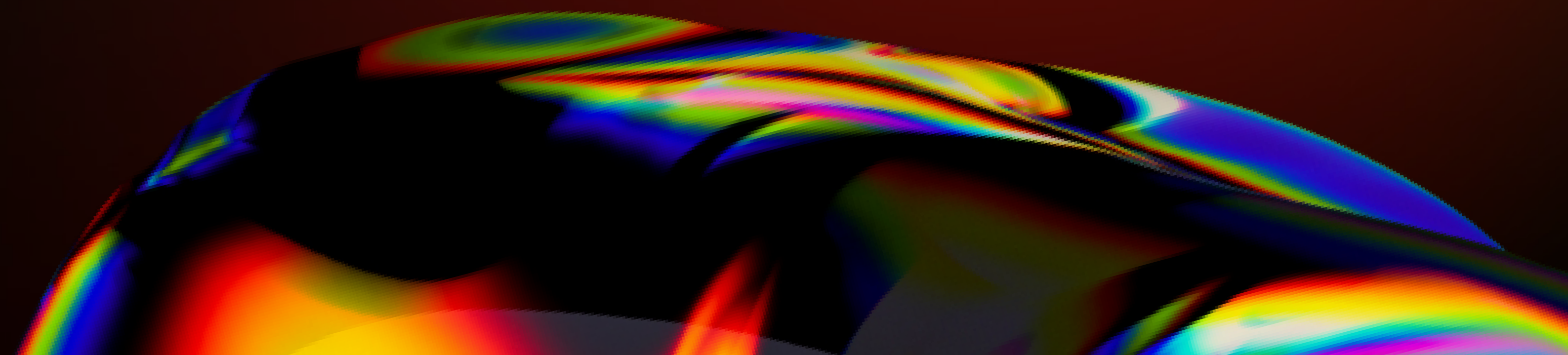This is how much generative AI can add to the global economy

PwC's 2022 AI Business Survey interviewed 1000 respondents and found that 364 of them stand out by producing a functional AI model and significant ROI. These "AI leaders" (about one-third of the respondents) are far more likely (36% versus 20%) to report widespread AI adoption than organisations that approach AI gradually. The likelihood that AI projects significantly benefit productivity, decision-making, customer experience, product and service innovation, and employee experience is around twice as high.

S·PRO

Where and How Substantial AI Value is Realized

Leaders   Others

Increase productivity through automation
44%
20%

Improve decision-making
41%
19%

Improve customer experience
40%
21%

Innovate products and services
40%
15%

Improve employee experience and skills acquisition
37%
17%

Develop new data-driven business models
36%
13%

Increase agility
33%
13%

Increase valuation of company
28%
14%

Improve retention and recruitment
24%
15%

Strengthen resilience
20%
11%

Enhance stakeholder trust
15%
9%

Methodology

Explanation of the Research Methods and Data Sources Used for the Report

This artificial intelligence industry report uses a methodology that combines quantitative and qualitative research approaches. It includes an extensive review of relevant literature and an in-depth analysis of external surveys, business studies, industry reports, academic journals, and other reputable sources. The selected research methods aim to ensure a comprehensive understanding of AI market trends and their impact on enterprises.

Data sources used for the report included external surveys (EY, Institute of Business Ethics, McKinsey, Statista, and PwC), industry reports (Coherent Market Insights, Global Data, Grand View Research, Fortune Business Insights, Stanford, Straights Research, TechUK, Verified Market Research), studies (Accenture, McKinsey), websites of national governments (the UK government, the White House), organisations (the European Parliament, UNESCO), and reputable media portals (CNBC, Forbes, Gartner, Reuters, and Washington Post), etc.

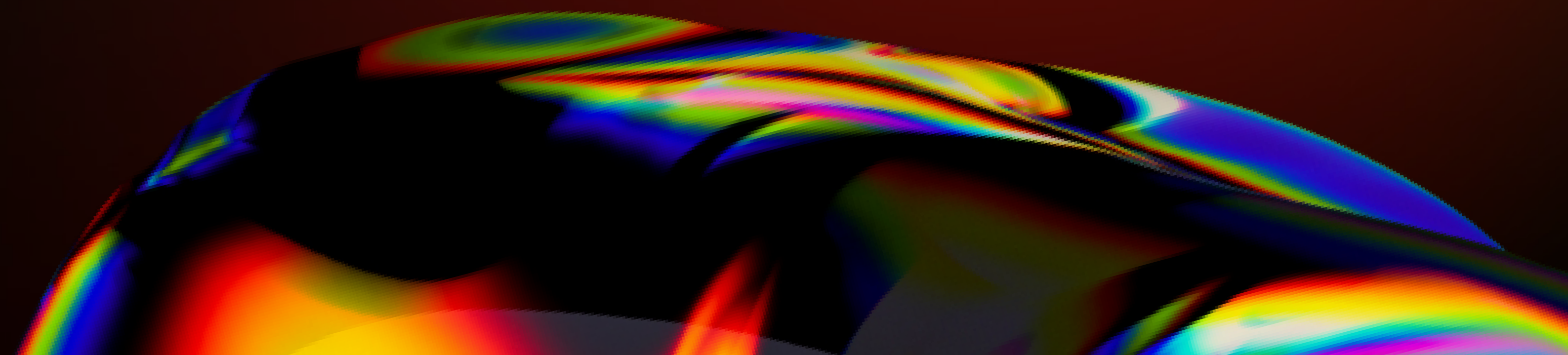# Sample Size and Demographics of the Enterprises Surveyed

The research involved diverse external surveys with at least 1,000 respondents each. Most surveys are global, representing enterprises in various industries, regions, and countries, including Australia, China, France, Germany, India, Italy, Netherlands, Spain, Sweden, the United Kingdom, the United States, etc. Regional analysis focuses on the adoption of AI in enterprises in Switzerland and the UK.

Any Limitations and Potential Biases of the Study

The report follows best practices and research methods to ensure the accuracy and reliability of the findings. However, the study might have limitations and potential biases due to the restricted accessibility of reliable data and the subjective selection of enterprise industries and geographical regions due to its inexpensive scope. These limitations and biases are mitigated by carefully selecting and analysing reliable data.
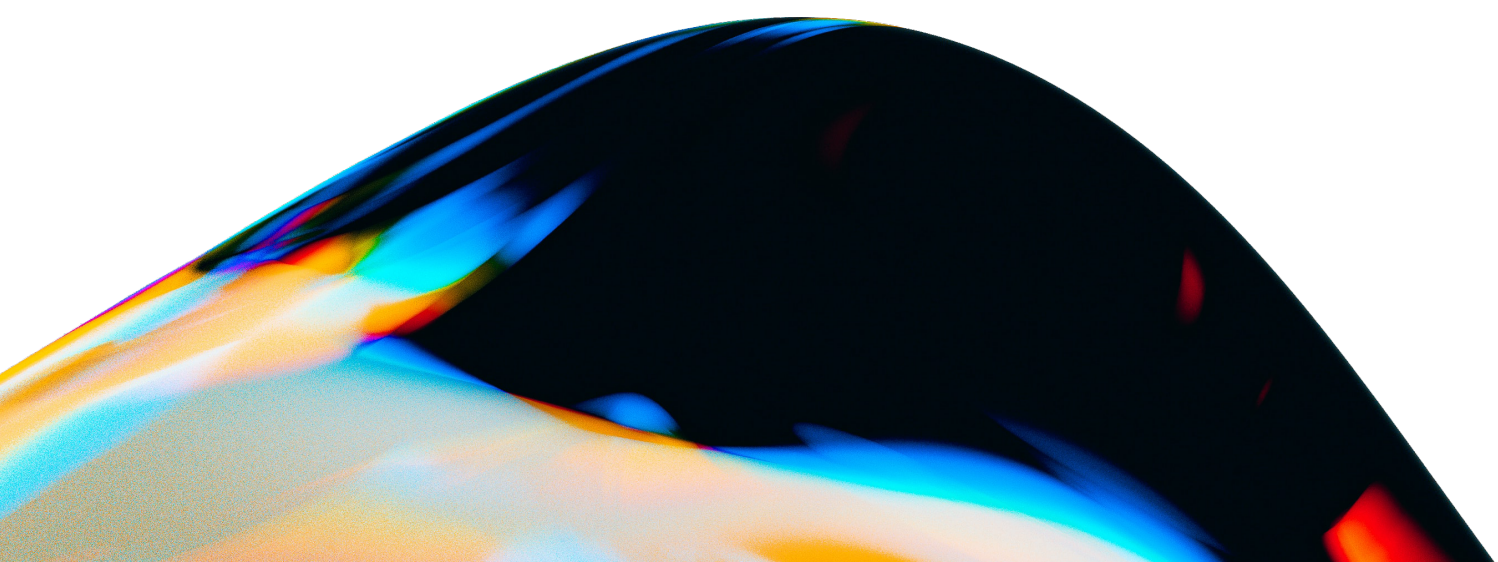
Market Overview

# The Current Size and Growth Rate of the AI Market for Enterprises

Based on the Fortune Business Insights AI Industry Report, the global artificial intelligence market size was estimated at $428 billion in 2022. AI market size 2030 is expected to increase from $515.31 billion in 2023 to $2,025.12 billion, exhibiting a CAGR of 21.6%.

According to the report's artificial intelligence market forecast, the sector is expected to expand significantly due to the rise in AI applications and the expansion of partnerships and collaborations.

The rise of small-scale AI providers, the changing complexity of corporate structures, and the demand for hyper-personalised services contribute to the expansion of the AI market. Government programs and investments in AI technologies are also advantageous for businesses and end users.

The enterprise AI market is a significant segment of the global AI market. According to Precedence Research Global ICT Industry Analysis, the market for enterprise artificial intelligence (AI) was valued at $7.02 billion in 2022 and is anticipated to increase to $270.06 billion by 2032, with a CAGR of 44.1% from 2023 to 2032.

Enterprise AI Market Analysis by Coherent Market Insights states that the industrial AI market size was $16.02 billion in 2022 and is estimated to grow at a CAGR of 34.1% from 2023 to 2030. While the research studies differ significantly in the current size of the global enterprise AI market, both organisations agree that it will grow at a high CAGR in the next decade.

PRECEDENCE RESEARCH

Enterprise AI market size, 2022 – 2032 (USD Billion)
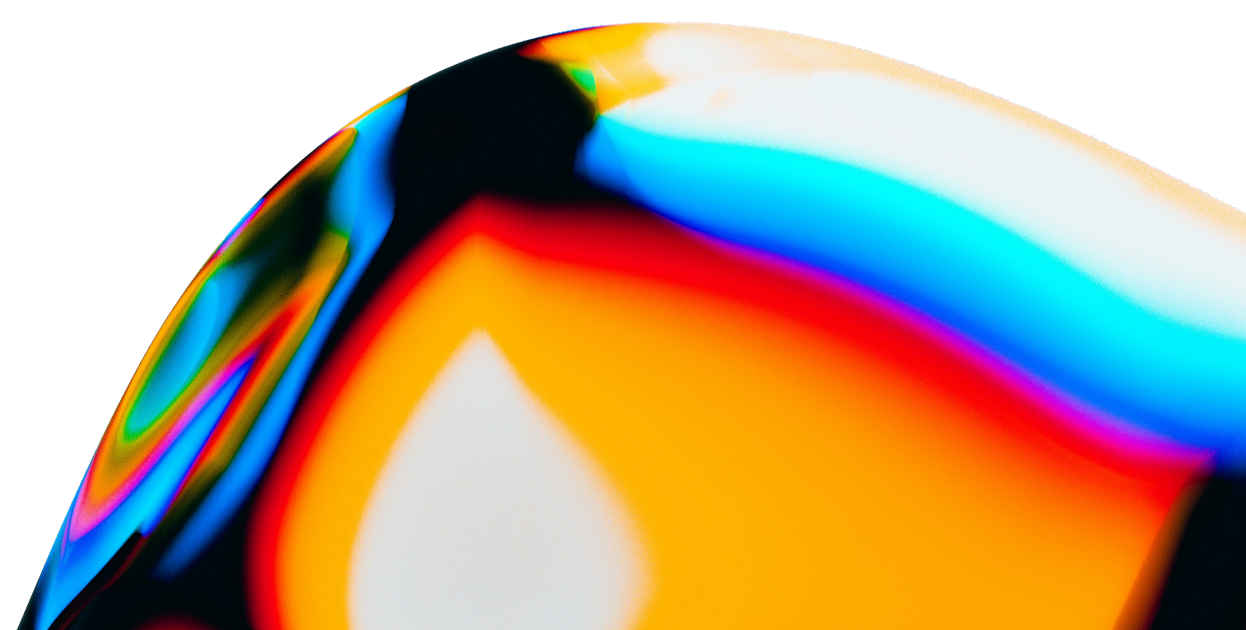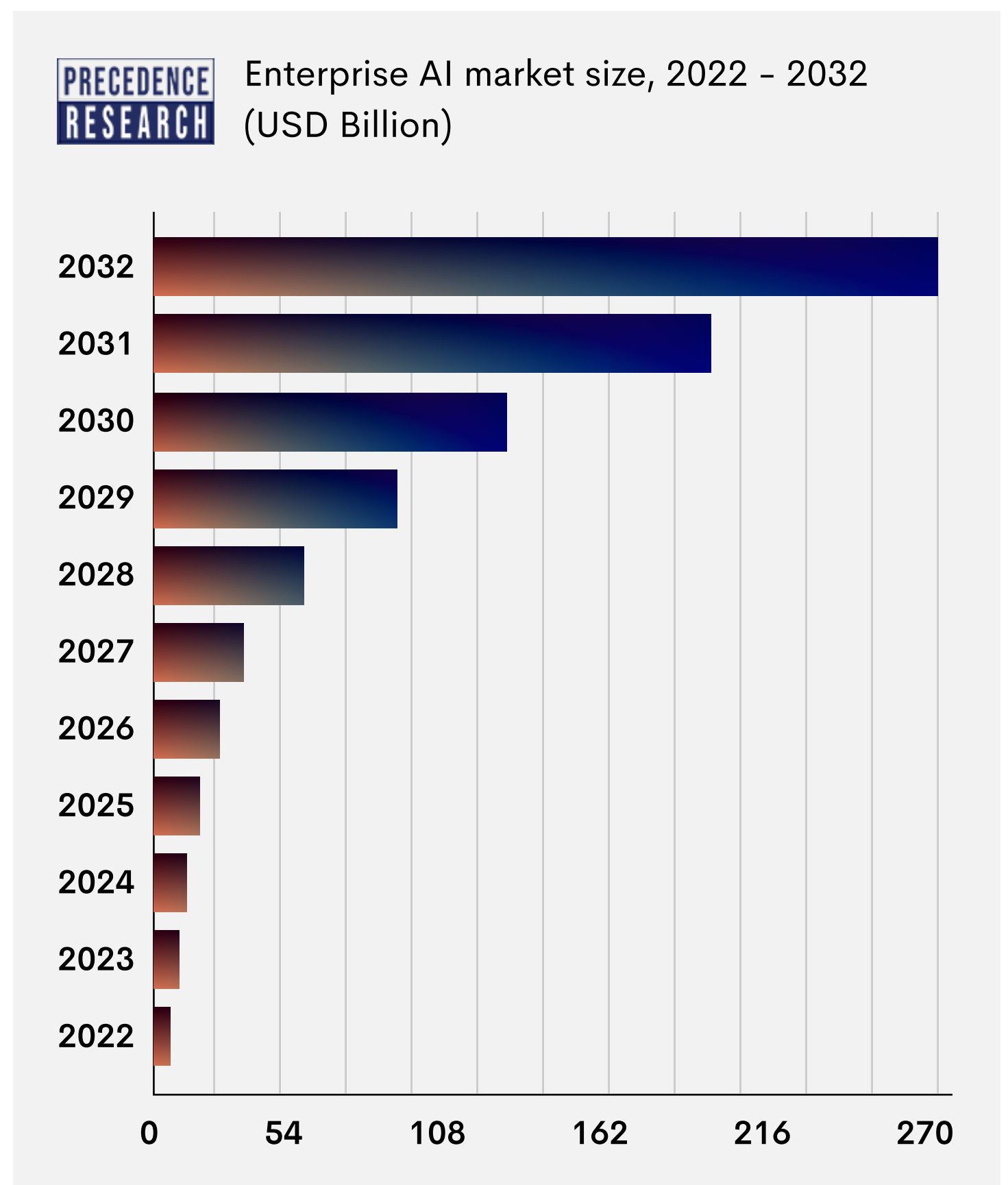
Major Drivers and Challenges Affecting AI Adoption

1 **Market Driver**

Rising Adoption of Digitalization in Organisations

According to the Precedence Research Global Industry Analysis, the increasing digitalisation of end-use industries is one of the key factors driving the market growth. In addition, new technologies like edge computing, augmented and virtual reality (AR/VR), industrial robots, self-driving cars, digital manufacturing, and industrial internet of things (IIOT) have significantly expanded AI in manufacturing market size.

These technologies improve the personalisation, flexibility, and agility of production processes. Moreover, the widespread product utilisation by several enterprises for analysing and interpreting enormous volumes of data favourably affects market growth. Additionally, it is anticipated that the market will expand due to ongoing developments in robotics and intelligent virtual assistants, rising disposable incomes, and the implementation of numerous government initiatives encouraging industrial automation.

2 **Market Driver**

Increase in Customer Satisfaction and Adoption of Reliable Cloud Applications

In recent years, machines have overtaken humans' ability to recognise voices, images, and faces. AI is being implemented across numerous industrial verticals to improve key customer experience areas, cut costs, increase efficiency, and increase customer satisfaction. Employees at call centres can eventually be replaced by automated systems that can respond to inquiries and requests in any situation, whether online or offline.

The development potential of the global enterprise artificial intelligence (AI) market is also anticipated to be significantly impacted by the quick advancements in robust and economical cloud computing infrastructures. Developing reliable cloud computing infrastructures and improvements in dynamic AI solutions for preventative maintenance, consumer behaviour research, and detecting fraud and threats significantly boosts market growth.

3 **Market Driver**

Recent AI Advancements in Growing Economies Creating Market Opportunities

Recent advancements in several verticals, including media and advertising, finance, retail, healthcare, automotive & transportation in growing economies like China, Japan, and India, have provided significant growth potential for AI in these areas.

The main growth factors that have contributed to an increase in the use of this technology in the developing world are the long-term time and cost benefits that AI offers and more significant investment in AI.

Many players have developed better robot brains, which is expected to allow robots to function autonomously. (Rethink Robotics' Baxter and Hanson Robotics human-like robots). A further opportunity for the business is the development of better virtual assistants. For example, a Jarvis Corp. startup is developing a virtual assistant that responds to queries, functions as an Internet server, and is a controller for connected devices.

4 **Market Driver**

Greater Investment in Artificial Intelligence Technologies

AI technologies' ability to analyse data effectively and predict decisions is the main explanation for the rise in investments in AI-related technology.

For instance, Netflix suggests movies based on users' past viewing habits. AI has significantly changed how organisations are managed in the current business environment by fusing technology for workflow management, brand advertising, trend prediction, etc.

Moreover, numerous startups and tech companies have started investing in adopting open-source AI platforms to increase the efficiency of their value chains. Additionally, the increased accessibility of high-quality, affordable AI technologies is anticipated to support the market's expansion.

5 **Market Driver**

Increased Number of Partnerships and Collaborations For AI Technology Advancements

AI businesses participate in ongoing partnerships and collaborations to achieve technological excellence. The key vendors collaborate to combine the best elements of their concepts with those of their partners. For instance, in October 2022, Ericsson Canada collaborated with Montreal-based colleges to increase 5G sustainability.

Additionally, crucial AI vendors acquire startups specialising in AI to broaden their market penetration, improve their marketing approaches, and gain technological expertise. For example, IBM Corporation acquired Dialexa, a U.S.-based provider of digital product engineering services, to support business innovation and digital growth plans.

Dialexa can help IBM enhance hybrid cloud and AI capabilities and accelerate growth for clients.

1 **Challenge**

The Lack of AI Talent

The lack of trained and experienced AI professionals, especially in developing countries, is a restraining factor for the growth of the global AI market. The workforce using AI systems should be knowledgeable about deep learning, machine learning, image recognition, and cognitive computing.

Therefore, integrating AI technology with current enterprise systems is challenging and requires substantial data processing to replicate how the human brain functions accurately.

Statista also sees the shortage of skilled workers as a major barrier to AI's expanded use and business potential. The most in-demand and challenging to find positions in the entire field of AI-related labour are those involving data. Based on Statista insights, nearly 25–30% of companies said they had trouble locating and hiring enough qualified data engineers, data scientists, and data architects.

2 **Challenge**

The Requirements for a Significant Amount of Training Data

The requirement for a large amount of data to train AI systems for character and image recognition is one of the main difficulties restraining AI market expansion.

The fundamental problem with artificial intelligence is the lack of data availability, which makes it difficult to make intelligent decisions with accessible information.

Additionally, the healthcare sector lacks the necessary information to recognise malignancies in X-rays. Furthermore, the method for training networks with less data is still under development and is projected to be commercially available in the next 10 to 12 years. Another challenge with artificial intelligence is the absence of clear procedures and standards for data acquisition.

3 **Challenge**

The Black Box Effect

The "Black Box problem" refers to the inability to observe how deep learning algorithms decide what to do. This effect presents a challenge for AI market growth. The black box effect causes the AI algorithms to provide results that are difficult to verify. These algorithms' results might be biased in a subtle way that is hard to detect. Therefore, the results are not adequately explained. Users frequently lack confidence and a sense of security when using AI technologies.

Enterprises improve their solutions with more explicable AI models to counteract these influences and minimise the "black box effect." Moreover, governments and businesses have started building research centres and educational sectors to address the worldwide skills shortage for AI. The abovementioned criteria indicate that the AI industry will expand more quickly globally.
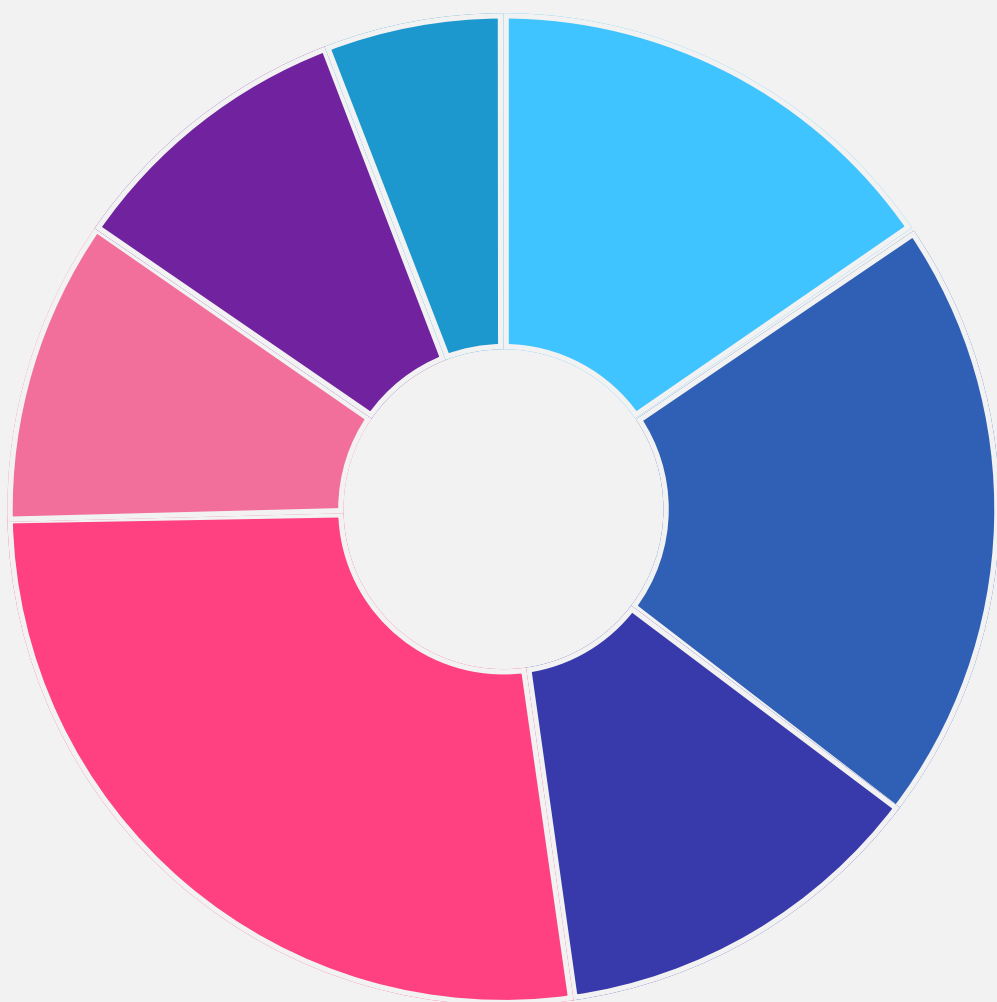
Key Industries and Sectors Leading in AI Implementation

Based on the Grand View Research report, media & advertising, retail, BFSI (Banking, financial services, and insurance), IT & telecom, healthcare, automotive & transportation were the major segments of the enterprise AI market in 2021.

Other sub-segments include manufacturing, aerospace & military, and academics. With a $2.95 billion AI market share, the IT & telecom segment was the largest in 2021.
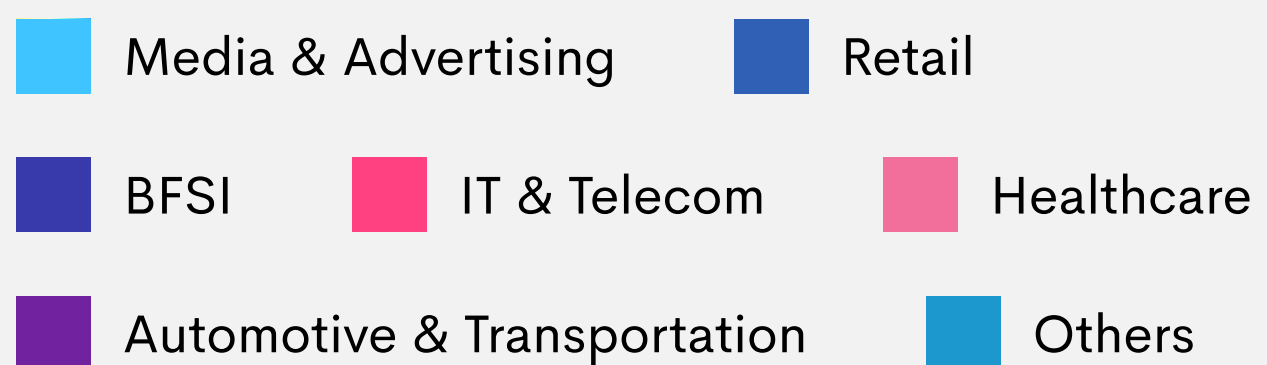
According to the Precedence Research Market report, IT & telecom remain the sectors with the largest revenue share in the global Enterprise AI market, with $2.98 billion in 2022. It is anticipated to grow at a CAGR of more than 32.40% from 2023 to 2032. This is related to increased investments by central IT and telecom companies in AI technologies. The other sub-segment also includes manufacturing, aerospace & military, and academia.

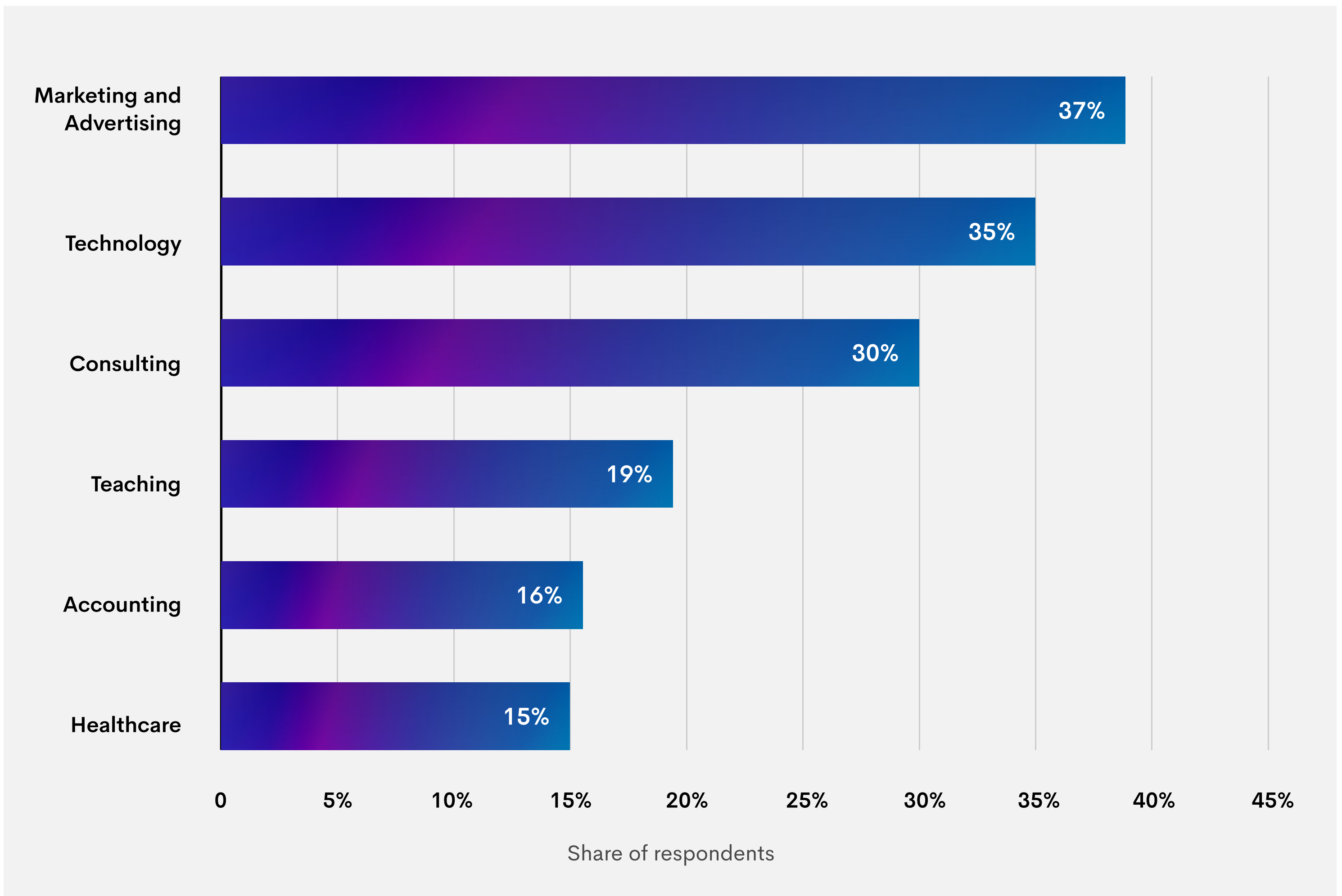Global Enterprise Artificial Intelligence market, Share, by end-use, 2021 (%)

$11.4B

Global Market Size, 2021

- Media & Advertising
- Retail
- BFSI
- IT & Telecom
- Healthcare
- Automotive & Transportation
- Others

A 2023 Statista survey reveals the percentage of US professionals employing generative AI technologies at work in various industries. 37% of people in marketing or advertising use AI to help with work-related tasks, while only 15% of healthcare workers utilise AI at the workplace, making it the industry with the lowest adoption rate.
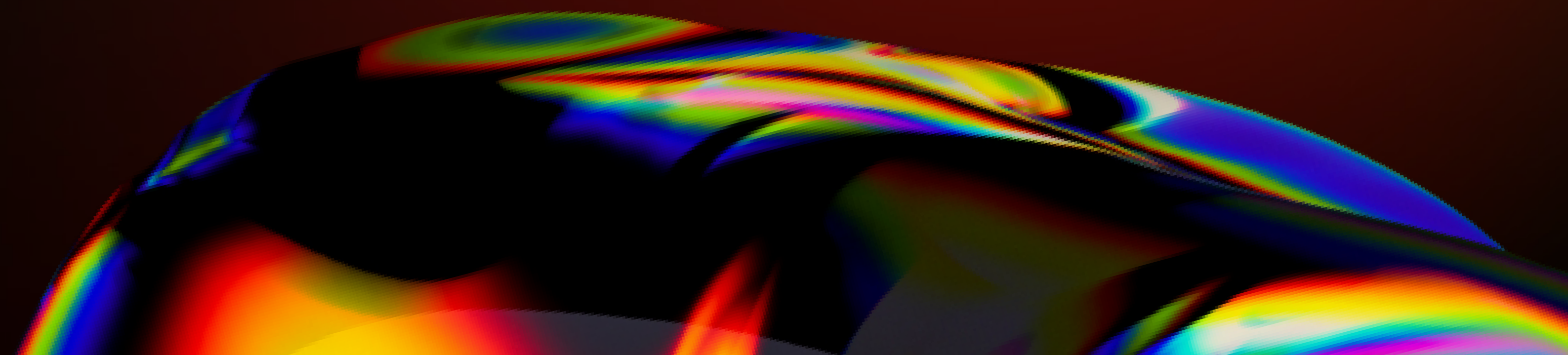
37%

of people in marketing or advertising use AI to help with work-related tasks

Marketing and Advertising — 37%
Technology — 35%
Consulting — 30%
Teaching — 19%
Accounting — 16%
Healthcare — 15%
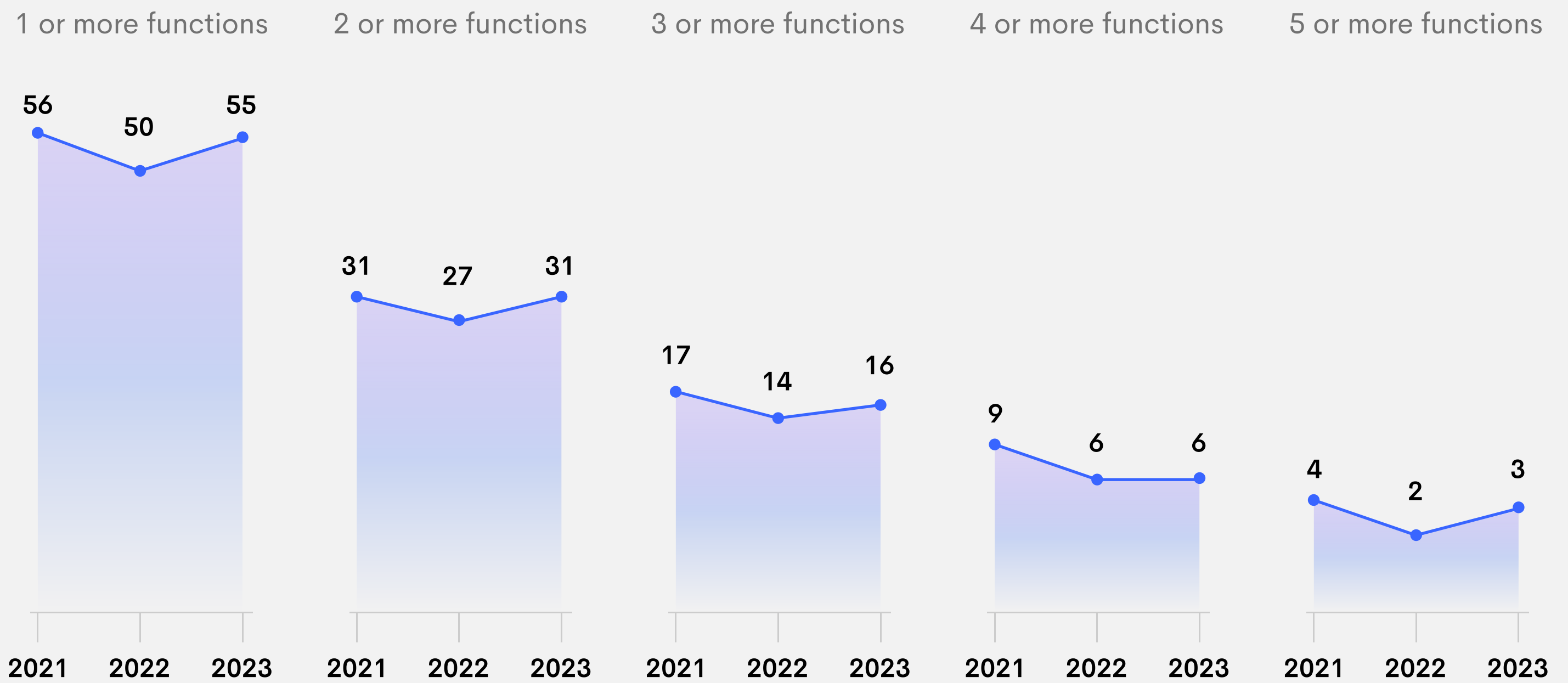
Share of respondents

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AI Applications in Enterprises

AI Applications in Enterprises

Categorization of AI Applications Based on Enterprise Functions

Number of business functions at respondents' organizations
that have adopted AI, respondents (%)

1 or more functions	2 or more functions	3 or more functions	4 or more functions	5 or more functions

1 or more functions
56 (2021) · 50 (2022) · 55 (2023)

2 or more functions
31 (2021) · 27 (2022) · 31 (2023)

3 or more functions
17 (2021) · 14 (2022) · 16 (2023)

4 or more functions
9 (2021) · 6 (2022) · 6 (2023)

5 or more functions
4 (2021) · 2 (2022) · 3 (2023)

Less than one-third of respondents say their organizations use AI in
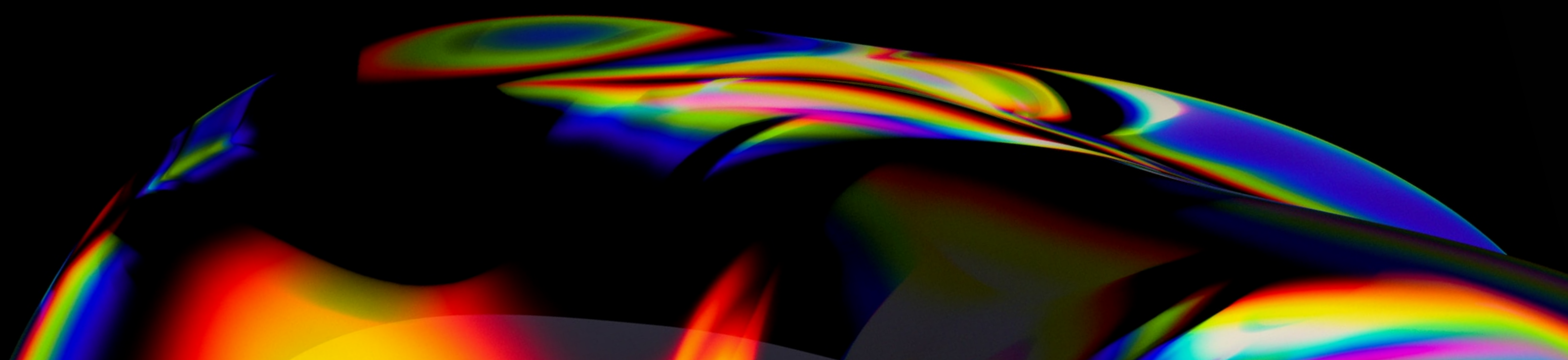more than one fucntion – a share largely unchanged since 2021.

The Verified Market Research report states that marketing and sales, finance, law, security, and human resources are the main segments of the AI market based on business function.

According to the latest McKinsey global survey, product and service development and service operations remain the two corporate functions respondents most frequently state AI use. Less than one-third of respondents say that their company uses AI for more than one function. Let's look at AI applications in specific sectors.
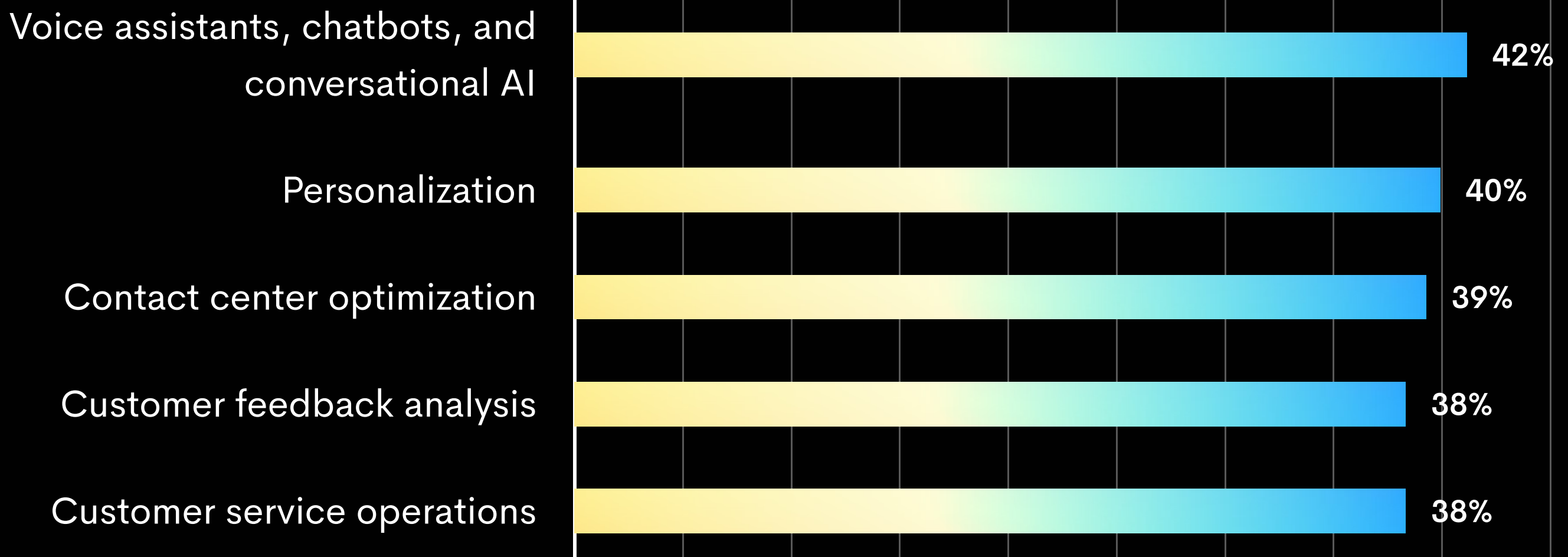
Finance

Finance is one of the primary end–use industries that employs artificial intelligence. The banking, financial services, and insurance (BFSI) sector accounts for a significant market share, with a CAGR of 33.9% between 2022 and 2030. This growth can be explained by the rising demand from banks and financial organizations to improve operational efficiency, minimize downtime, and cut expenditures on capital investments.

According to a 2022 Statista survey, voice assistants, chatbots, and conversational AI are the most widely used applications of AI in customer experience and marketing, while financial reporting and accounting AI tools are the most popular in the operations and finance business segments. The daily application of AI included marketing personalization and cloud pricing optimisation.

Financial services processes using artificial intelligence (AI) in day-to-day use worldwide in 2022, by business segment

Customer experience & marketing:

Process	Percentage
Voice assistants, chatbots, and conversational AI	42%
Personalization	40%
Contact center optimization	39%
Customer feedback analysis	38%
Customer service operations	38%

Operations & finance:

Process	Percentage
Financial reporting and accounting	42%
Cloud pricing optimization	40%
IT operations management	39%
Uptime and reliability optimization	39%
Process automation	39%
Sales and business development	38%
Predictive maintenance	38%
Research and development	38%

Workforce and HR:

Process	Percentage
Workforce scheduling optimization	37%
Recruiting and hiring	37%

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%

Healthcare

The healthcare industry is one of the early adopters of AI technology, which has increased the precision and effectiveness of diagnoses, treatments, and predictions. According to Statista, the application of AI in healthcare will rise in the next few years. The use of technology can result in better care, more accurate diagnoses, and less time spent on administrative activities by healthcare workers, freeing up more time for patient interaction and treatment.

The Verified Market Research report predicts that the healthcare sector will overtake other industries by 2030. It states that AI use cases in healthcare will include robotic surgery, dosage error reduction, virtual nursing assistants, clinical trial participant identification, hospital workflow management, preliminary diagnosis, and automated picture diagnosis.

Energy

AI technologies have a significant impact on the energy sector. Businesses have started to adopt artificial intelligence to improve energy efficiency and develop original solutions to problems in the sector. Countries' governments invest in the potential for incorporating AI into their energy industries. For instance, the Dutch government created the Knowledge and Innovation Covenant (KIC) to invest in Dutch businesses, focusing on supporting the application of AI to the energy transition.

The TechUK AI for Energy report outlines opportunities for applying AI in the energy sector. Based on the report data, AI technologies can be used for grid management, renewable generation forecasting, demand-side response, efficiency optimisation of individual assets within the energy system, electric vehicle integration, domestic building, and home management, increasing the energy efficiency of commercial and industrial facilities, and microgrid management.

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Hospitality and Retail

Hospitality

The use of AI tools by the hospitality and travel industries fundamentally alters how these industries function and customers experience travel. The commercial implications of AI tools in hospitality include chatbots advising trip plans or handling customer service duties like rescheduling delayed flights. Moreover, AI-generated texts are applied for marketing campaigns or to enhance back-end operations.

A Statista survey examined the AI implementation level of companies with revenue higher than one billion U.S. dollars in the travel sector worldwide. The organisations were categorised based on the degree of implementation of various AI-related initiatives. Two-thirds of the studied travel agencies were classified as "AI Experimenters", while "AI Achievers" comprised 13% of the respondents. The survey showed the broad adoption of AI and the potential for further expansion of the use of AI in the hotel business.

Retail

The size of the global artificial intelligence in the retail market, estimated at $5.50 billion in 2022, is expected to increase from $7.14 billion in 2023 to $55.53 billion by 2030, with a CAGR of 34.1%. Productivity, operational cost savings, and a faster time to profitability are the three key areas where executives working in retail organisations saw tremendous benefits of artificial intelligence. Retailers can also benefit from AI in customer satisfaction, risk management, and personalisation.

Over 60% of retail professionals interviewed in a Statista survey stated that using AI in physical retail store operations, like stock allocation or demand forecasting, was extremely important for exceeding customer expectations. The share of respondents who stated that this technology was not significant for their firm was only 16 per cent.

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The Potential Impact of AI on Future Business Processes

The Potential Impact of AI on Future Business Processes

Process Automation

In 2022, the greatest use of AI capabilities was found in robotic process automation (RPA). AI-enabled software bots allow businesses to build automated processes for manual, repetitive, and rule-based workflows. AI automation raises process effectiveness, enhances customer satisfaction, improves labour productivity, lowers costs and risks, fosters product and service innovation, and successfully monitors and detects fraud. Process automation is expected to expand due to the growing adoption of RPA technology.

AI-Driven Predictive Analytics

Predictive analytics forecasts future trends, enabling organisations to optimise inventories, enhance delivery times, boost sales, and ultimately cut operating costs. Future forecasting will be more precise and timely when predictive analytics insights are combined with AI. In 2022, predictive AI's market value was $12.49 billion and is estimated to be worth $38 billion by 2028. Therefore, companies that haven't employed AI-driven predictive analytics risk falling behind.

Intelligent Decision-Making

AI technologies have revolutionised decision-making processes by giving businesses new analytical capabilities, enabling them to extract insightful information from massive amounts of data. In the near future, businesses will be forced to use AI to rely on more efficient, affordable, and precise marketing strategies. Enterprises can boost audience response and create a strong online brand that can compete with others by incorporating AI into marketing efforts.
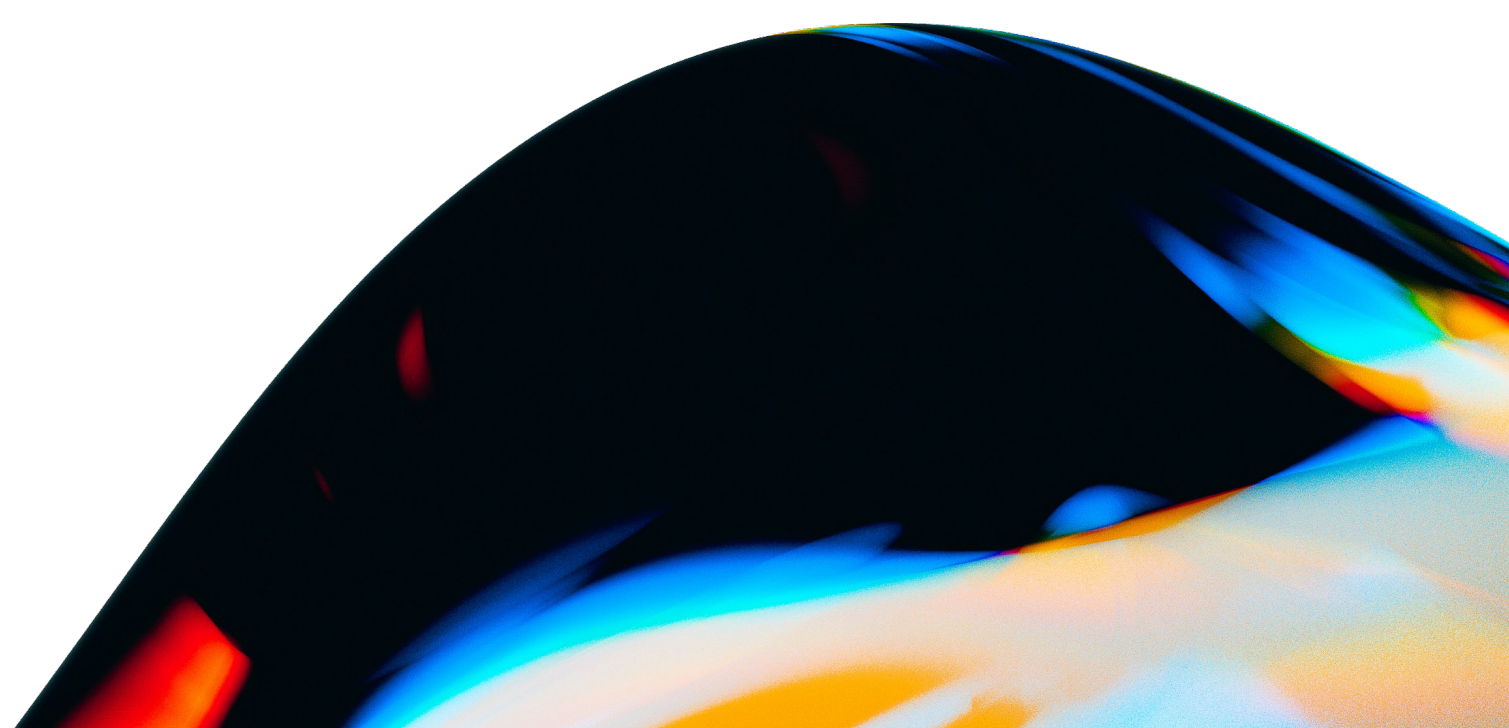
AI Technologies and Tools

Popular AI Technologies and Tools Used by Enterprises

The global enterprise AI market comprises four major segments by technology: natural language processing (NLP), machine learning, computer vision, and speech recognition. Other sub-segments include planning, scheduling, optimisation, robots, and expert systems.

Natural Language Processing (NLP)

Natural language processing enables computers to read and manipulate languages to convert text into structured data. It is expected to dominate the enterprise AI market at least until 2030. Natural language processing (NLP) accounted for the largest revenue market share by technology of over 33.40% in 2022 and is anticipated to grow at a CAGR of 33.40%.

This artificial intelligence technology is growing due to increased business use of virtual support services and rising expenditures in AI by numerous industrial verticals. The capacity to produce and extract intent from a document in a legible, grammatically correct, and stylistically natural manner is another factor driving the need for NLP technology among enterprises.

Machine Learning

Some machine learning (ML) applications in business include automatic query replies and customer service, automated stock trading, and recommendation engines. Most AI projects and software fall under the category of machine learning, making the ML market the most significant share of the AI market. Statista anticipates the machine learning market to increase from about $140 billion to almost $2 trillion by 2030.

The Coherent Market Insights report also anticipates the machine learning market to experience rapid expansion by 2030. Based on the report, machine learning is used for fraud detection, oil and gas exploration, sales forecasting, inventory control, and public health. Machine learning is also crucial for computer vision because it trains vision models to recognise objects more accurately.

Computer Vision

The Global Data report estimates the value of the computer vision market at $17.7 billion in 2023. While to date, the share of computer vision is smaller than that of natural language processing, it is forecasted to develop at a CAGR of 36.6% from 2023 to 2032, making it the fastest-growing AI market segment by technology.

The adoption of computer vision technology is expected to increase by 2026 due to the implementation of edge computing, artificial intelligence, the Internet of Things (IoT), and automated machine learning. It is anticipated to be fueled by a growing demand for process automation and optimisation across numerous industries, including healthcare, automotive, retail, and BFSI (Banking, financial services, and insurance).

Speech Recognition

Speech recognition is widely used in the telephonic industry to automate customer service interactions. AI-enabled speech and voice recognition technologies constitute a significant market valued at $10.42 billion in 2022 and are expected to increase to $59.62 billion by 2030, at a predicted CAGR of 24.8% from 2023 to 2030.

The use of deep learning and neural networks in apps, including audio-visual speech recognition, isolated word identification, speaker adaptation, and digital speaker recognition, propels the demand for voice technologies. In 2022, Google LLC introduced a neural sequence-to-sequence model used by Google's Speech-to-Text API to improve accuracy in 23 dialects and 61 of the supported localities.

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Generative AI Tools
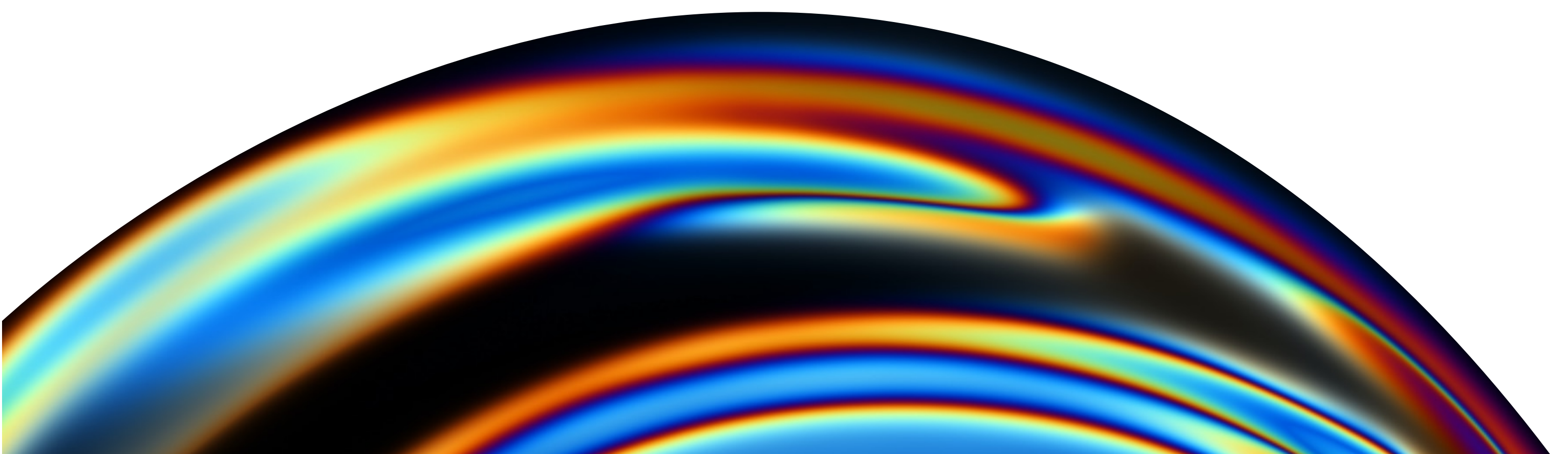
Generative AI Tools

The latest McKinsey Global Survey on the current state of AI demonstrates the explosive popularity of generative AI tools. Technology leaders are increasingly focusing on testing out AI-based technologies, with 90% of respondents concentrating on ChatGTP, Bing Chat, and OpenAI. Moreover, 80% of tech executives reported boosting their investment in AI over the upcoming year. 56% of tech executives testing generative AI said they are doing it for cost savings.

Over 75% of respondents to a 2023 Statista survey of marketing and advertising professionals in North and South America and Europe said they used ChatGPT at work. Nearly 17% of respondents used Google's Bard and Microsoft's Bing. The respondents also mentioned Midjourney, DALL-E 2, and Adobe Firefly, among other popular AI tools.

The same study found that content generation, idea generation, and research were the key uses of generative AI in advertising and marketing.
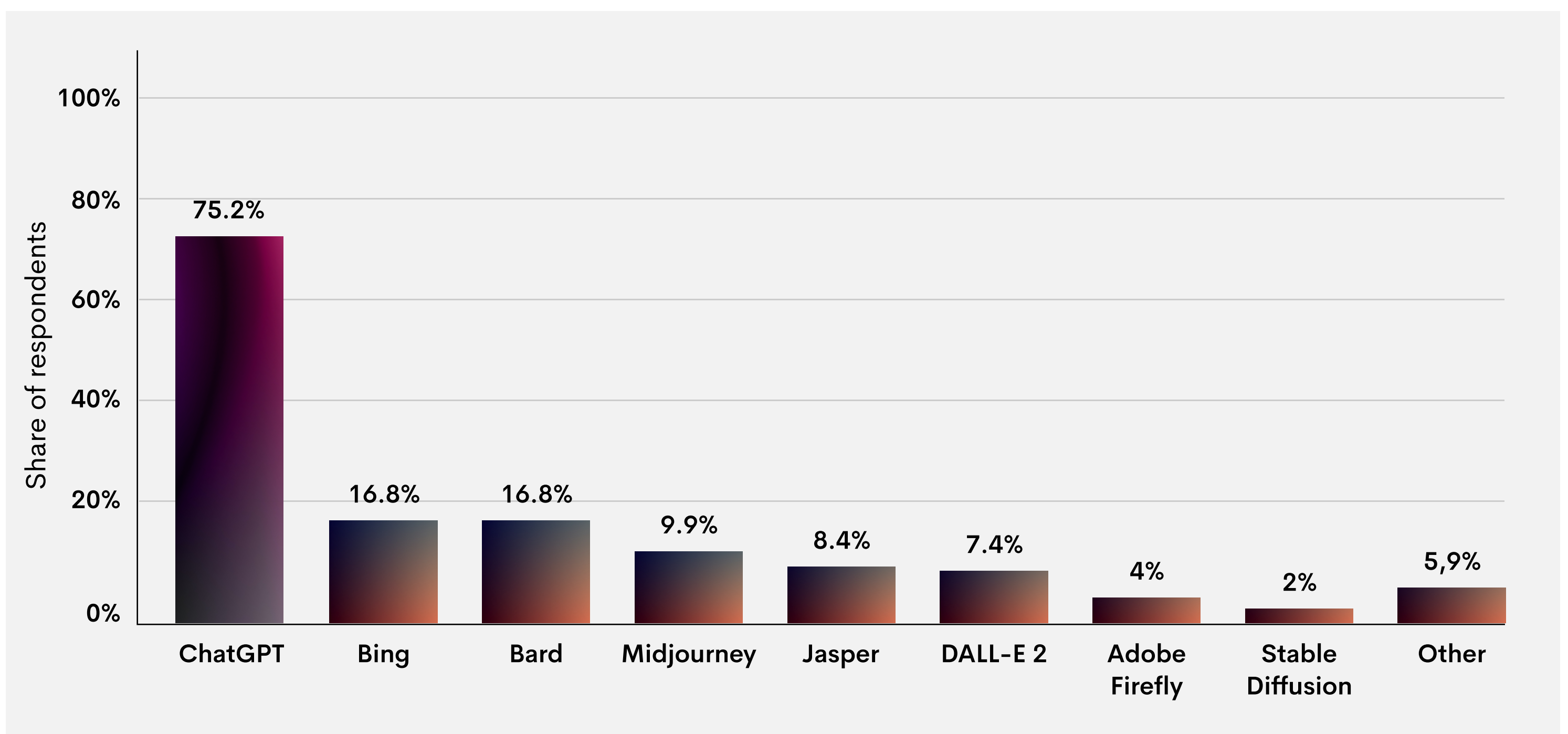
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Advantages and Disadvantages of Different AI Frameworks

Advantages and Disadvantages of Different AI Frameworks

AI frameworks provide data scientists, AI developers, and researchers with the building blocks to design, train, validate, and deploy models. Practical AI frameworks define a technology in terms of its capabilities and map the capabilities to a particular business objective or use case.

Below, we summarised the significant pros and cons of popular AI frameworks.

Framework	Advantages	Disadvantages
PyTorch	- Dynamic computation graphs - Preferred among researchers for flexibility - Supports complex architectures	- Limited accessibility to Python community - Not suitable for Java engineers - Spotty documentation
TensorFlow	- Tools for reinforcement learning and other algorithms - Part of Google's ecosystem - Supports automatic differentiation	- Slower compared to some frameworks - No commercial support - TensorFlow operations don't match Numpy operations
Caffe	- Good for feedforward networks and image processing - Suitable for finetuning existing networks - Python interface	- Requires C++/CUDA for new GPU layers - Not ideal for recurrent networks - Cumbersome for large networks - Limited extensibility - No commercial support
Theano	- Python and Numpy support - Offers a computational graph abstraction - Good for RNNs	- Low-level for raw Theano - Long compile times for large models - Limited commercial support
Keras	- Intuitive - Helps developers to minimize the number of user actions - Deployable on a wide range of devices	- Slow in training and executing deep learning models - Complex architecture - Low-level backend errors that are difficult to debug
Caffe2	- BSD License	- Lack of commercial support
CNTK	- Various neural network types - Python API over C++	- Non-standard license for one-bit SGD
Chainer	- Python API with dynamic computation graphs	- Smaller user community

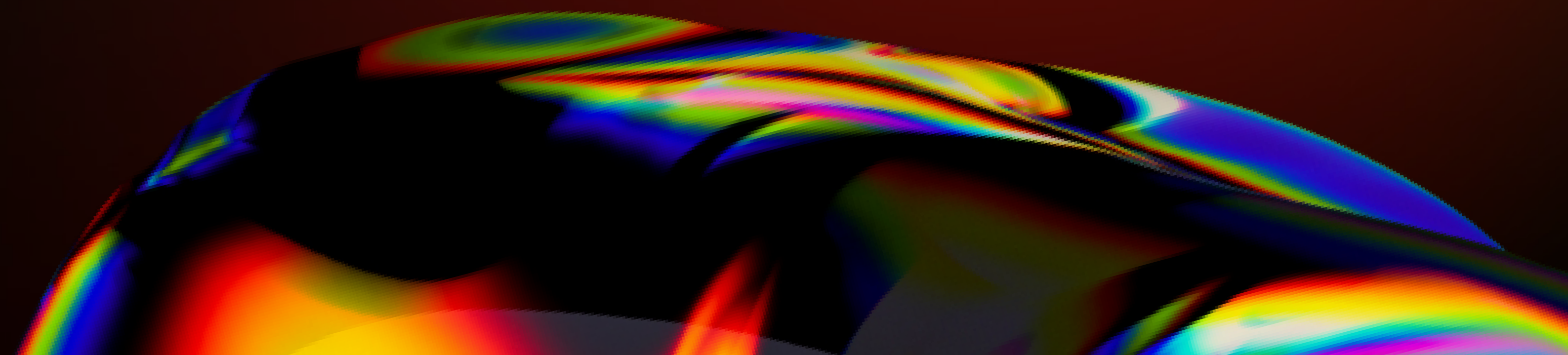| Framework	Advantages	Disadvantages
DSSTNE	- Handles Sparse encoding	- Amazon's preference for MxNet over DSSTNE
DyNet	- Dynamic computation graph	- Small user community
Gensim	- Fast word2vec implementation in Python	- Limited to word2vec
Gluon	- Dynamic computation graph like PyTorch and Chainer	- Competing with TensorFlow and Keras for user base
MxNet	- Supports multiple languages	- Uncertain future due to Amazon's backing of other frameworks
Paddle	- The most recent deep-learning framework - Offers a Python API	- Not identified
BigDL	- A new deep-learning framework with focus on Apache Spark	- Only works on Intel chips

The Emergence of AI-as-a-Service (AIaaS) and Its Impact on the Market

In recent years, the demand for AI-as-a-Service has formed a separate proliferating market. The SMEs' lack of IT infrastructure and skilled talent to build and implement AI solutions fuels the AIaaS adoption. AIaaS allows SMEs and individuals to get cloud-based AI services from prominent market players, such as Amazon Web Services, IBM Corporation, and Microsoft Corporation.

AIaaS offers business advanced features like sentiment analysis, robotics, text recognition, IoT solutions, speech-to-text translation, augmented reality, and computer vision. The AIaaS market was valued at nearly $2.4 billion in 2017 and is anticipated to be worth $43.29 billion in 2030, expanding at a 25.8% CAGR.

High demand for AIaaS solutions stimulates further growth in the global AI market. The rising need for AI and cognitive computing are the key AIaaS market drivers. Additionally, the AIaaS market expansion is fueled by the increasing use of digital technologies, their simplicity of use, and the low upfront costs of AIaaS solutions.

AI Ethics and Regulation

Ethical Challenges Associated with AI Adoption in Enterprises

Rapid technological advancements present profound ethical concerns of AI. According to UNESCO, these result from the potential for AI systems to introduce biases, contribute to climate degradation, threaten human rights, and more. Such risks associated with AI are starting to pile on top of previously existing inequalities, further affecting already marginalised groups.

According to the Stanford AI Index Report 2023, the number of newly reported AI incidents and controversies in the AI, Algorithmic, and Automation Incidents and Controversies (AIAAIC) Repository database was 26 times more in 2021 than in 2012. The report suggests that the sharp increase in reported incidents is most likely a sign of the world's increasing adoption of AI and the public's rising awareness of the potential ethical misuse of this technology.

Number of AI Incidents and Controversies, 2012–21

Source: AIAAIC Repository, 2022 | Chart: 2023 AI Index Report
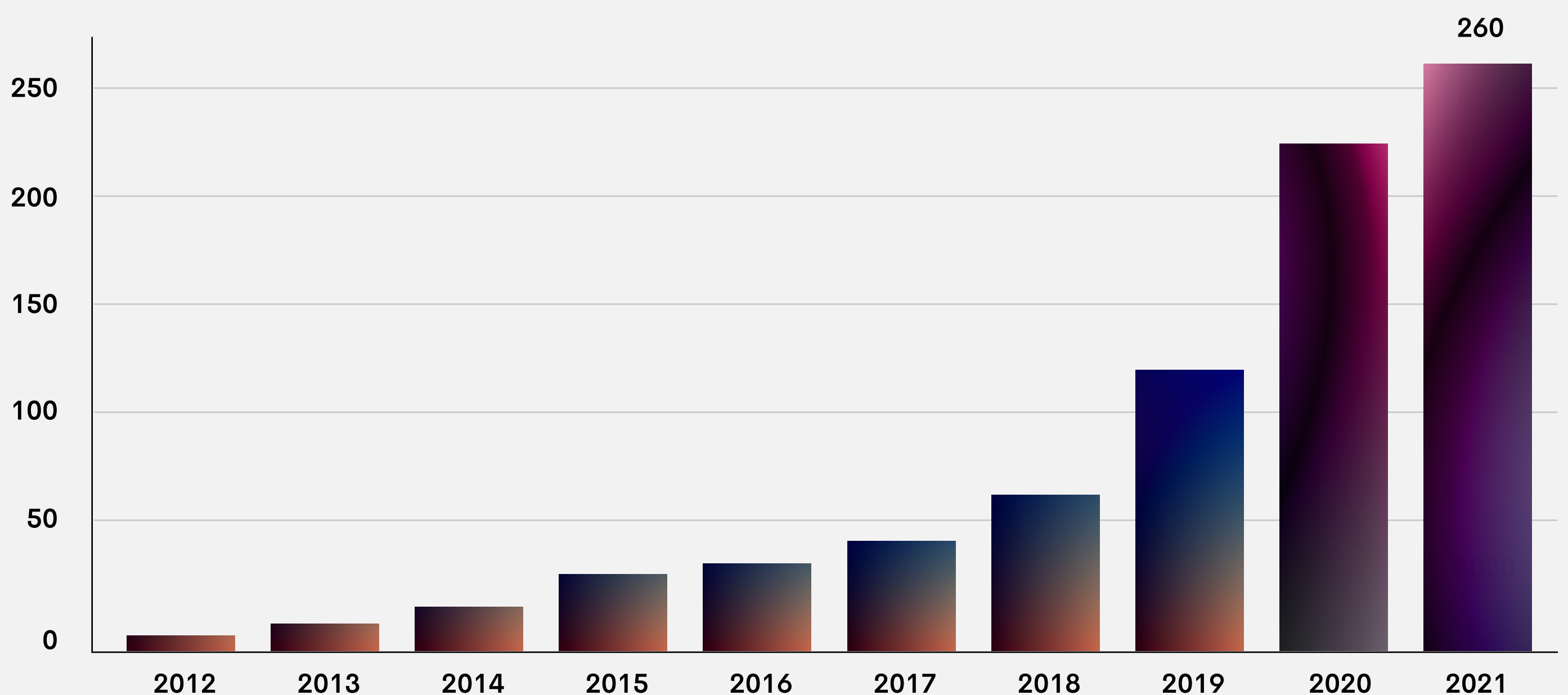
Recent scientific research, Ethical Impacts, Risks and Challenges of Artificial Intelligence Technologies in Business Consulting, highlights that ethical problems positively correlate to harmful effects of AI, such as the potential for job losses, a lack of human connection, and creativity. The following ethical outcomes negatively impact employees' perceptions of the potential uses of AI in business: discrimination, privacy intrusions, denial of individual autonomy, irrational results, and social connection breakdown.

Ksapa, a strategic global platform of reference advancing human rights, climate, and circular economy issues, identifies the following ethical challenges associated with AI:

- **Bias and fairness:** AI systems can unintentionally inherit biases from the training data, providing discriminatory results.
- **Privacy and data protection:** AI frequently relies on substantial data gathering and processing, raising questions regarding personal data's security and privacy.
- **Transparency and explainability:** Many AI systems are complex and opaque. Lack of transparency and explainability challenges understanding how AI systems make decisions or recommendations.

- **Accountability and liability:** As AI systems become more autonomous, there are rising concerns regarding who should be held accountable for their actions and any potential harm.
- **Impact on employment and socioeconomic disparities:** AI technology adoption can potentially alter established job roles and increase socioeconomic inequalities.
- **Human oversight and control:** AI systems should enhance human capabilities instead of completely replacing human judgment. Therefore, ensuring human oversight and control over AI systems is crucial.
- **Unintended consequences and risks:** AI systems can act unexpectedly or make mistakes with severe consequences.
- **Ethical decision-making:** AI systems can encounter ethical dilemmas and the necessity of making moral judgments. Determining how AI should prioritise conflicting values or handle morally ambiguous situations is a complex challenge.

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Recent Regulatory Developments Related to AI Usage

Recent Regulatory Developments Related to AI Usage

Since 2016, legislative bodies in different countries have passed 123 AI-related bills. Notably, 37 AI laws were passed in 2022. With nine laws passed, the United States led the list, followed by Spain (5) and the Philippines (4).

Several bills addressed nondiscrimination and accountability in AI algorithms, education reforms to address issues brought on by new technologies like AI, and an act establishing an AI training program.

Number of AI-Related Bills Passed into Law Globally

37
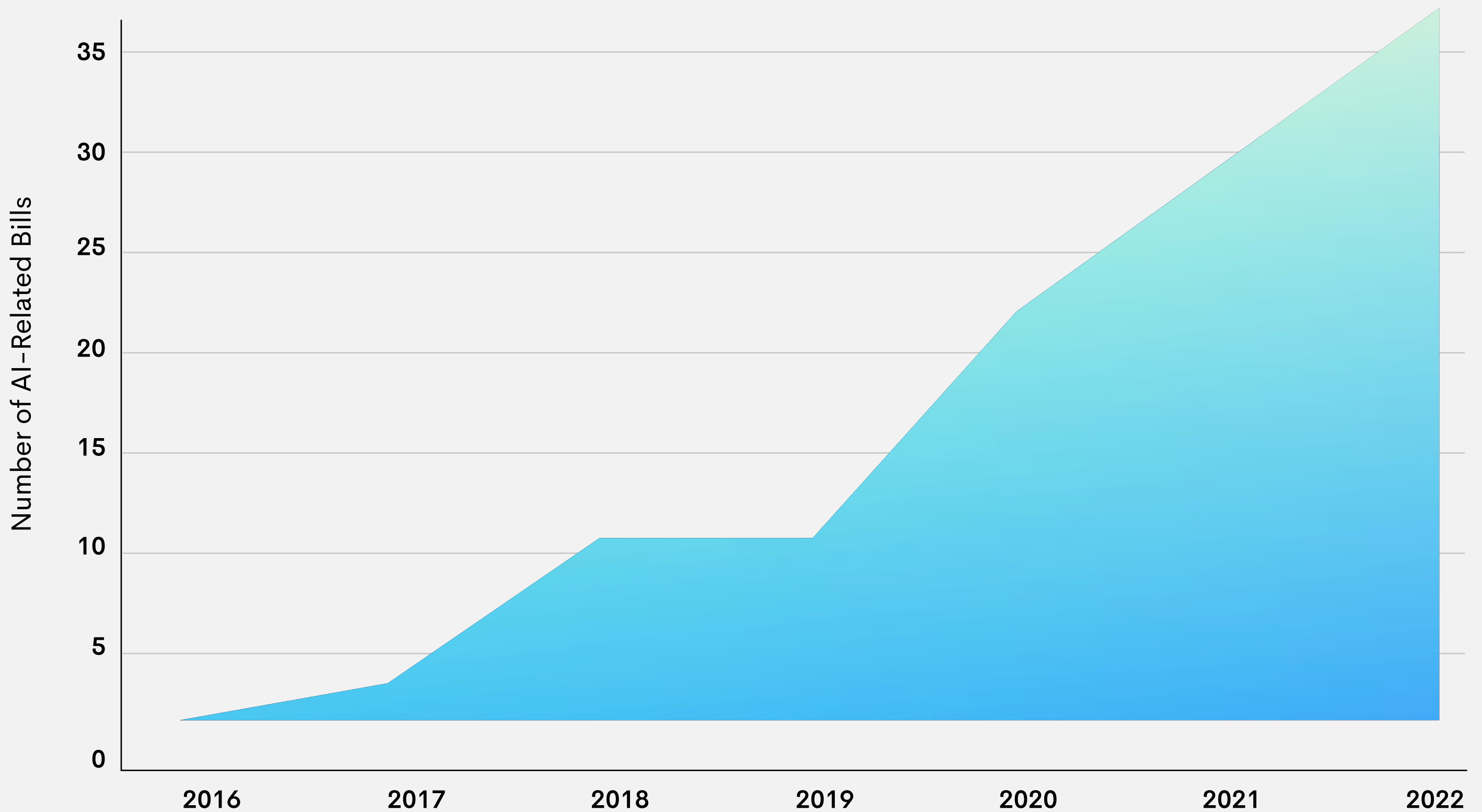
In 2021, UNESCO produced the first global guideline on AI ethics, the Recommendation on the Ethics of Artificial Intelligence, adopted by all 193 states. The Recommendation's cornerstone is to protect human rights and dignity by advancing fundamental principles like justice and transparency while considering the importance of human oversight of AI systems.

The European Union is developing a new legal system that will dramatically strengthen rules governing the creation and application of artificial intelligence. The proposed legislation, The Artificial Intelligence Act, primarily focuses on enhancing the regulations governing data quality, human oversight, accountability, and transparency. It also intends to address ethical issues and implementation challenges in various industries. The final EU AI Act should be adopted by the end of 2023.

In 2023, the UK government published an AI white paper to provide guidelines for using AI in the UK, encourage responsible innovation, and maintain public trust in this technology. The white paper introduced a new approach to regulating AI adoption in the UK. It relies on five principles, including safety, openness, and justice, that will govern the use of artificial intelligence in the UK as part of a new national vision for the UK's world-class regulators.

China has the most comprehensive suite of AI laws worldwide, including its recently published draft regulations for generative AI. The State Council of the People's Republic of China's A Next Generation Artificial Intelligence Development Plan has been the primary source of guidance for Chinese regulations since 2017. This plan promotes AI development and the related laws, regulations, and ethical standards.

How Enterprises Are Addressing Ethical Concerns and Compliance

The Tata Consulting Services whitepaper highlights that enterprises address the community's and consumers' expectations and standards of responsible AI adoption on the path to business growth. Balancing corporate value and trust is only possible by carefully considering brand risks, fairness, ethical standards, and compliance.

Microsoft leads in tackling the ethical risks of AI technologies. The U.S. tech giant has around 350 experts in cybersecurity, privacy, digital safety, and other ethical issues related to the use of AI. This in-house team has conducted over 600 detailed assessments of potential ethical problems associated with AI deployment during the past four years.

The company insists it is ready to decline potentially lucrative business opportunities if the risk of violating its responsible AI guidelines is high.

The most recent survey by the London-based Institute of Business Ethics (IBE) found that 46% of the largest 250 listed businesses in the UK don't have public codes of conduct. At the same time, the survey notes specific improvements. For instance, the number of the UK's FTSE 100 (Financial Times Stock Exchange 100 Index) companies with public codes of ethics has risen from 81 in 2021 to 90 in 2023. The number of high-standard codes has also increased from 46 to 57.

While more enterprises recognize the value of an ethical code, there is still substantial room for improvement. Harvard Business Review experts suggest that discussing the three following topics can help companies act faster to address ethical concerns of AI:
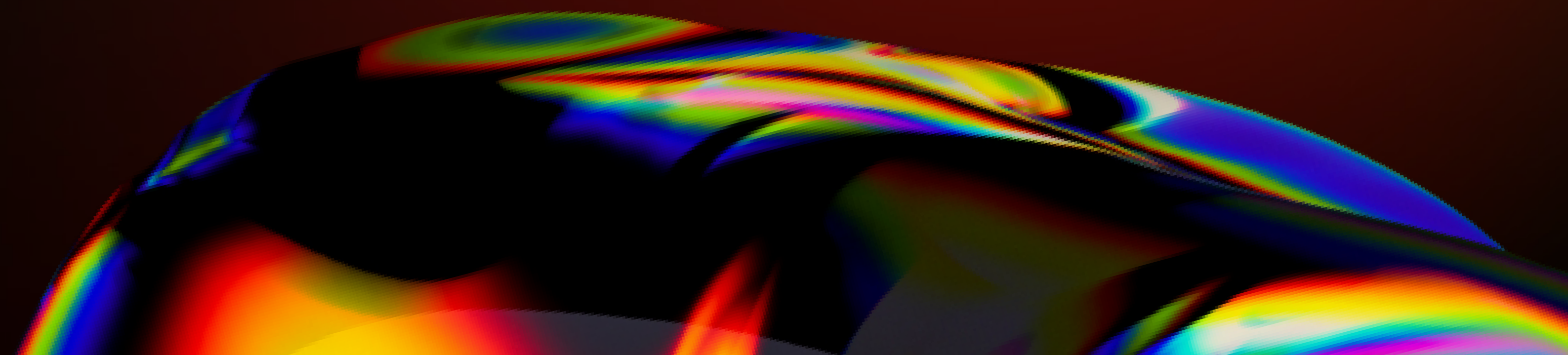
- Defining the company's ethical standard for AI
- Identifying gaps between the current state and the established standard for AI,
- Understanding the sources of the problems and operationalizing solutions.

The ethical risk associated with AI requires high attention from enterprises. Constructive discussions on the outlined topics, high-standard codes of conduct on AI, and detailed assessments of potential ethical issues can push things forward.

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AI Talent and Workforce Transformation

AI Talent and Workforce Transformation

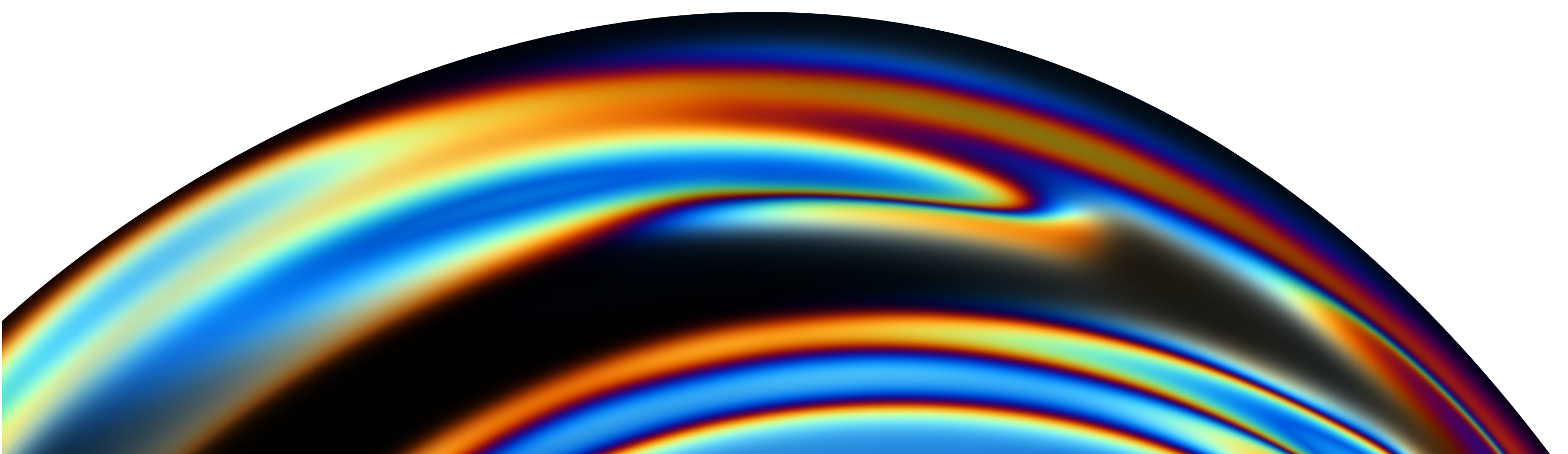# Demand for AI Talent in Enterprises

According to the Stanford AI Index Report 2023, the average number of AI-related job postings increased in most US businesses in 2022. The lack of trained and experienced AI specialists is the primary constraint to expanding the global AI market. The demand for AI/ML software developers rises due to ChatGPT and other generative AI technologies' widespread adoption and use.
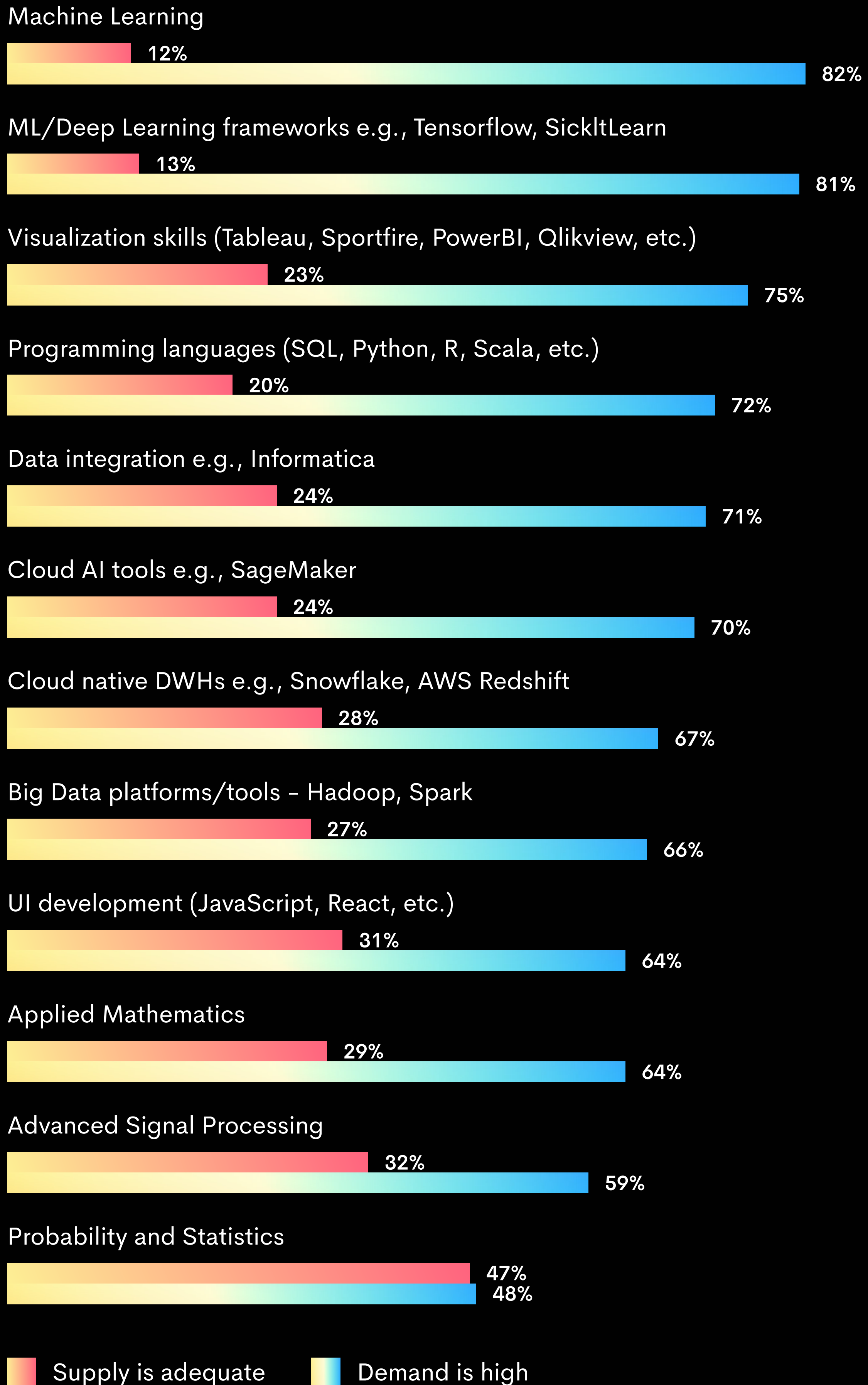
The Statista survey illustrates the supply and demand for AI-related skills in enterprises in Australia, China, France, Germany, India, Italy, the Netherlands, Spain, Sweden, the United Kingdom, and the United States. 82% of firms demand machine learning skills, while only 12% of respondents believe an adequate supply of professionals with these skills exists.

There is also a significant shortage of specialists with ML/Deep learning frameworks and visualization skills.

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Supply and demand for AI-related skills in enterprises

Machine Learning

12%

82%

ML/Deep Learning frameworks e.g., Tensorflow, SickltLearn

13%

81%

Visualization skills (Tableau, Sportfire, PowerBI, Qlikview, etc.)

23%

75%

Programming languages (SQL, Python, R, Scala, etc.)

20%

72%

Data integration e.g., Informatica

24%

71%

Cloud AI tools e.g., SageMaker

24%

70%

Cloud native DWHs e.g., Snowflake, AWS Redshift

28%

67%

Big Data platforms/tools – Hadoop, Spark

27%

66%

UI development (JavaScript, React, etc.)

31%

64%

Applied Mathematics

29%

64%

Advanced Signal Processing

32%

59%

Probability and Statistics

47%

48%

Supply is adequate   Demand is high

The Challenges Faced by Enterprises in Acquiring and Retaining AI Professionals

High demand for specialists with AI-related skills and low supply make acquiring and retailing AI talents challenging for enterprises. Since 2019, there has been an increasing problem with hiring qualified AI specialists, and the more digitalized global economy has only worsened the situation. According to Gartner research, the average time to fill competent AI positions is more than 100 days, and in cities like the Bay Area, Seattle, and New York, the competition for available jobs has increased to almost 30%.

Positions involving working with data are the most highly demanded and challenging to fill in the field. According to Statista insights, between 25 and 30 % of companies reported having difficulty finding and hiring enough competent applicants for positions as data engineers, data scientists, and data architects.

2022 Statista's report on hiring for AI-related tech roles worldwide confirms that finding AI data scientists was the hardest. Nearly 80% of respondents stated that it had been extremely or moderately difficult for their company to employ for such roles in 2022. Business leaders must adapt their hiring practices to locate and hire top AI talent. Garner suggests using analytics to address the challenge of acquiring the best AI specialists.

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How AI is Reshaping Job Roles and Workforce Composition

How AI is Reshaping Job Roles and Workforce Composition

Automation of Non-Routine Tasks in Various Occupations

A joint report of the European Commission and the US Council of Economic Advisers states that AI as a prediction technology can automate non-routine tasks of high-skill specialists, such as pattern recognition, decision making, and optimising. Clinical laboratory technicians, chemical engineers, optometrists, and power plant workers are the most exposed professions.

Balancing Between Hiring and Reskilling Employees

Due to the lack of AI talent, enterprise leaders should consider reskilling current developers, IT personnel, and other employees to increase the company's AI competence. Enterprises should develop programs to train existing staff to use AI systems while performing their tasks and responsibilities. Employees should adopt a mindset of lifelong learning and consider how using AI can enhance their future careers.
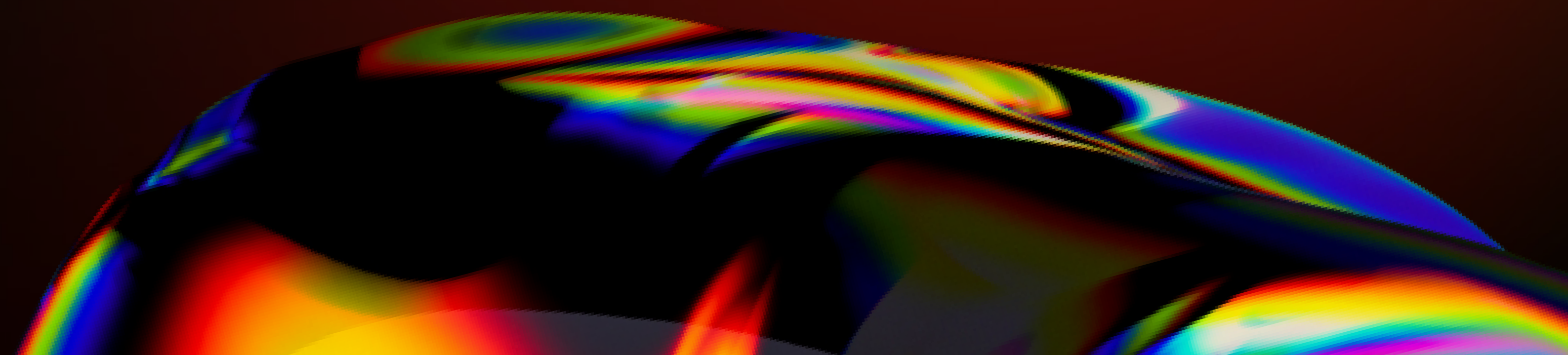
AI Both Eliminates and Creates New Jobs

A 2023 Goldman Sachs report found AI technologies could disrupt over 300 million jobs worldwide. The World Economic Forum predicted that 83 million employment would be lost globally during the next five years due to AI, and 69 million new jobs will be created, eliminating 14 million occupations.

While AI automation will inevitably displace workers in some jobs, augmentation due to AI is more significant than automation in particular occupations. It leads to increased employment in fields like industrial engineering and analytics. AI technologies will also create new occupational titles, such as digital assistant engineer, warehouse robot engineer, and social media content tagger.
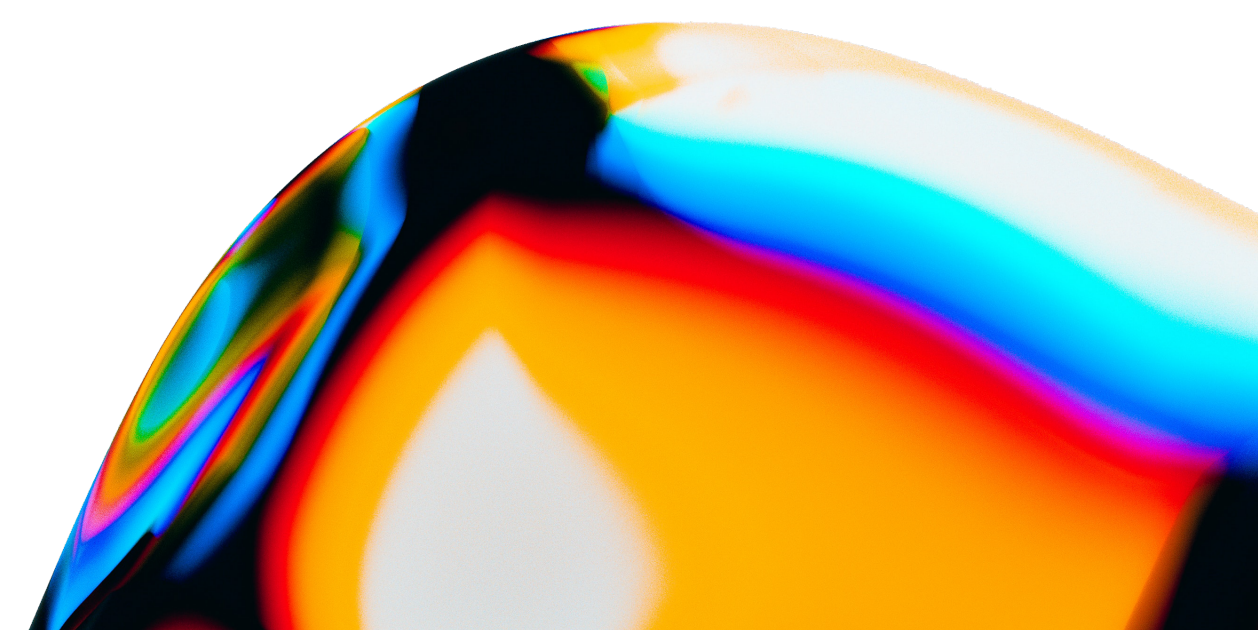
Market Share and Competitive Landscape

Market Share Data for Leading AI Solution Providers

While the global artificial intelligence market is highly fragmented, the Mordor Intelligence industry report identifies five major players with the biggest market shares: IBM Corporation, Intel Corporation, Microsoft Corporation, Google LLC. (Alphabet Inc.), and Amazon Web Services (AWS) Inc.

The list of the top five AI solution providers on the global AI market slightly differs in industry reports and data sources. The Markets and Markets report names Oracle, along with Microsoft, IBM, and AWS, as the four leading players in the AI market. Analytics Insights lists the following top five AI companies with their market shares:

- IBM – 10.3%;
- Google – 8.2%;
- Microsoft – 7.6%;
- AWS – 7.1%;
- Meta (Facebook) – 5.6%.

Artifical Intelligence Market Leaders

1 IBM Corporation

2 Intel Corporation

3 Microsoft Corporation

4 Google LLC. (Alphabet Inc.)

5 Amazon Web Services Inc. (amazon.com Inc.)

*Disclaimer: Major Players sorted in no particular order

Market Concentration

Consolidated – Market dominated by 1–5 major players

◀ Artificial Intelligence Market

Fragmented – Highly competitive market without dominant players

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Competitive Landscape and Key Players in the AI Market

# Competitive Landscape and Key Players in the AI Market

Several well-known global corporations stand out in the highly fragmented AI market's competitive landscape. They include IBM Corporation, NVIDIA, Google LLC (Alphabet Inc.), Microsoft Corporation, and Amazon Web Services, in the AI market's competitive landscape. These key market players invest heavily in various AI methodologies, focusing on conversational platforms.

According to Statista, while Amazon and eBay are investing in AI to improve their eCommerce platforms, Google, IBM, and Microsoft are leading AI developments in the IT sector. Baidu, Facebook, and Salesforce are a few further notable businesses. Leading businesses, including Amazon, Apple, Facebook, Google/DeepMind, IBM, and Microsoft, collaborate to build AI applications.

In the last two years, there has been a growing number of agreements, partnerships, mergers and acquisitions (M&A) from supplier and demand side market participants. In 2021 alone, the number of M&As in the AI sector has grown by 33.5%. Considering these developments, the market competition is expected to be more intense by 2026.

The Straight Research report provides the most comprehensive list of the global AI market's key players comprising 20 significant companies:

1. Google LLC
2. IBM Corporation
3. Microsoft
4. Intel Corporation
5. Hyperverge, Inc.
6. Nvidia Corporation
7. Baidu, Inc.
8. Zebra Medical Vision Inc
9. IBM Watson Health
10. Lifegraph
11. Sensely, Inc.
12. Ai.
13. Ai As
14. Cyrcadia Health
15. Ayasdi Ai LLC
16. Aicure, Arm Limited
17. Atomwise, Inc.
18. Enlitic, Inc.
19. Clarifai, Inc
20. Advanced Micro Devices
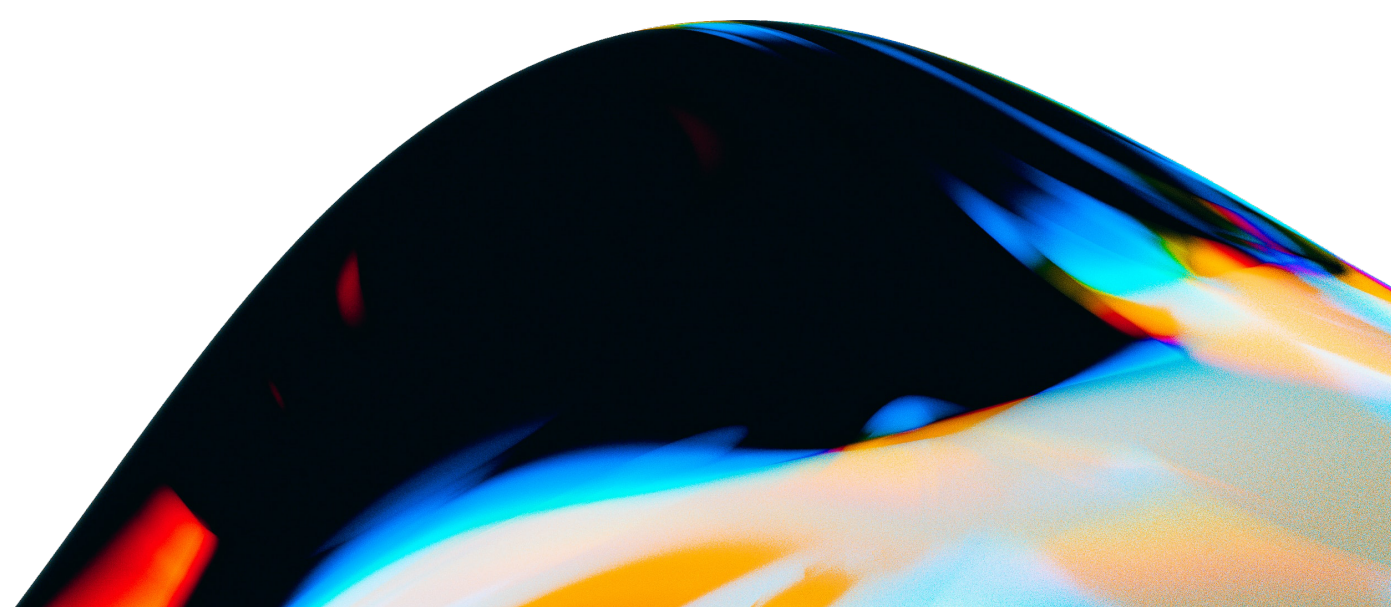
Identifying Emerging Startups and Their Potential to Disrupt the Industry

Emerging startups introduce disruptive innovations that challenge established industry standards. They identify gaps in the market, addressing specific pain points, from automating complex tasks to delivering unique customer experiences. Numerous AI startups get billions in backing from Big Tech and venture capital, driving the industry's most recent developments. In 2023, funding for US startups that use AI doubled.

Percentage of US Venture Funding Going To AI-Related Startups

Includes seed through growth-stage rounds
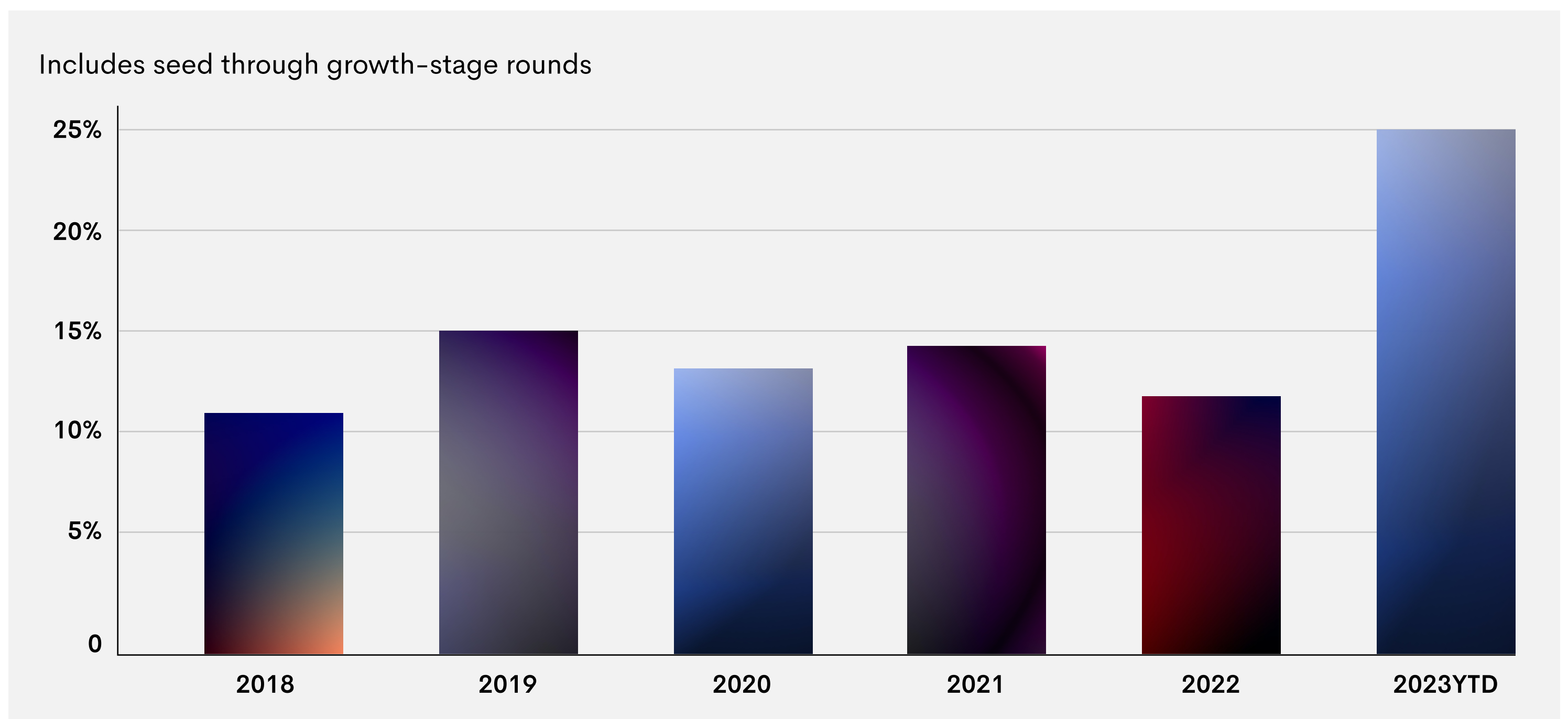
Let's look at some of the most closely watched and disrupting AI unicorn startups in 2023.

ByteDance: This Chinese AI company valued at over $140 billion was the biggest AI unicorn startup in 2021. ByteDance's AI and machine learning algorithms provide users of its TikTok and Douyin applications with personalized content feeds.

OpenAI: The startup with a $30 billion valuation ignited interest in generative AI technologies that can reply to written prompts with content like photos, essays, or poetry. In 2022, it released an image generator, Dall-E, and a chatbot, ChatGPT, sparking a chatbot boom and the emergence of numerous generative AI startups.

Scale AI: A San Francisco-based AI company valued at $7.3 billion develops an API for validating and training data for apps. The company provides software for labelling texts, images, and speech data. Scale AI worked with OpenAI to improve ChatGPT by better aligning language models with human instructions.

Anthropic: Founded in 2021, this Google-backed company has a roughly $5 billion valuation. Its AI "next-gen" algorithm can do various tasks, from answering emails to performing research and generating art, and produces human-like content.

Abnormal Security: An email security platform valued at $4 billion uses machine learning to spot fraudulent behaviour. The company protects against phishing, malware, ransomware, social engineering, executive impersonation, supply chain compromise, internal account compromise, spam, and graymail.
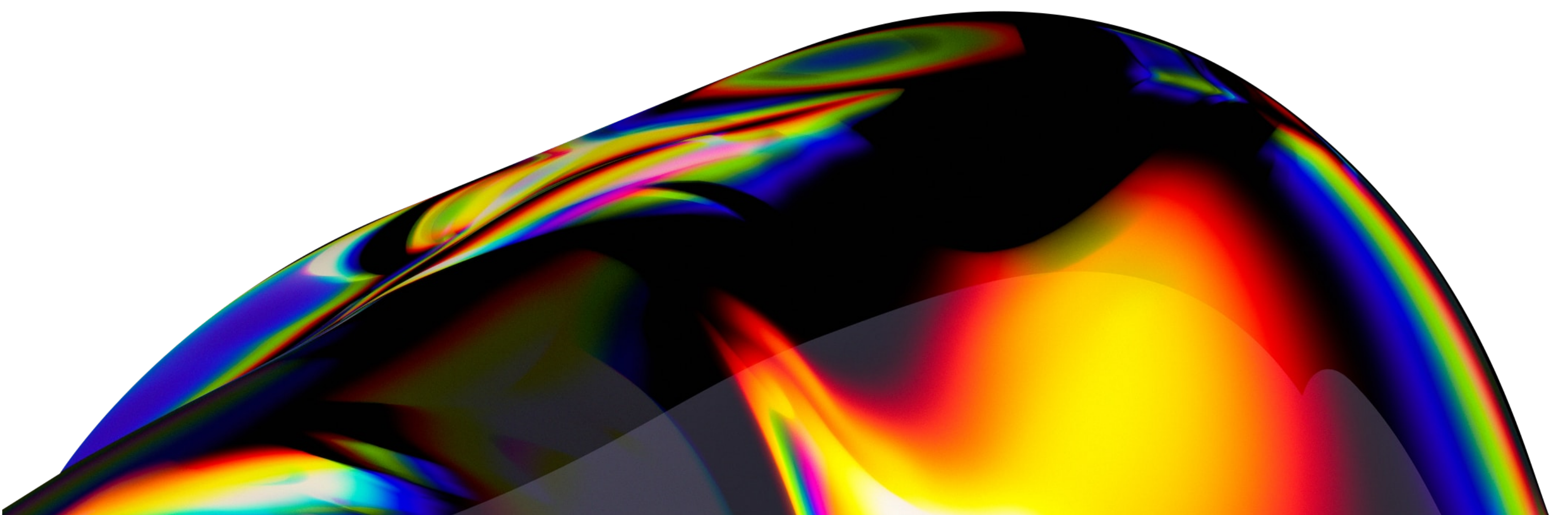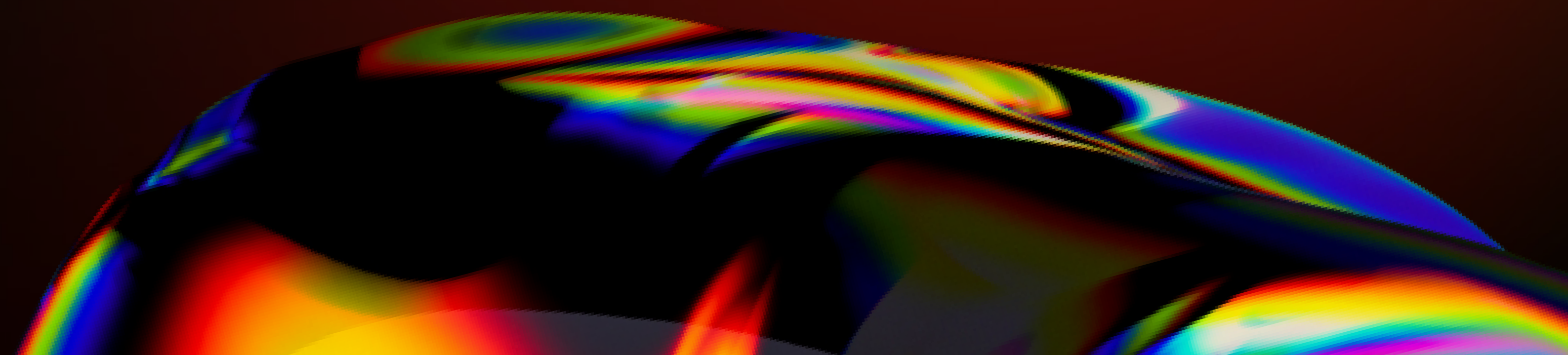
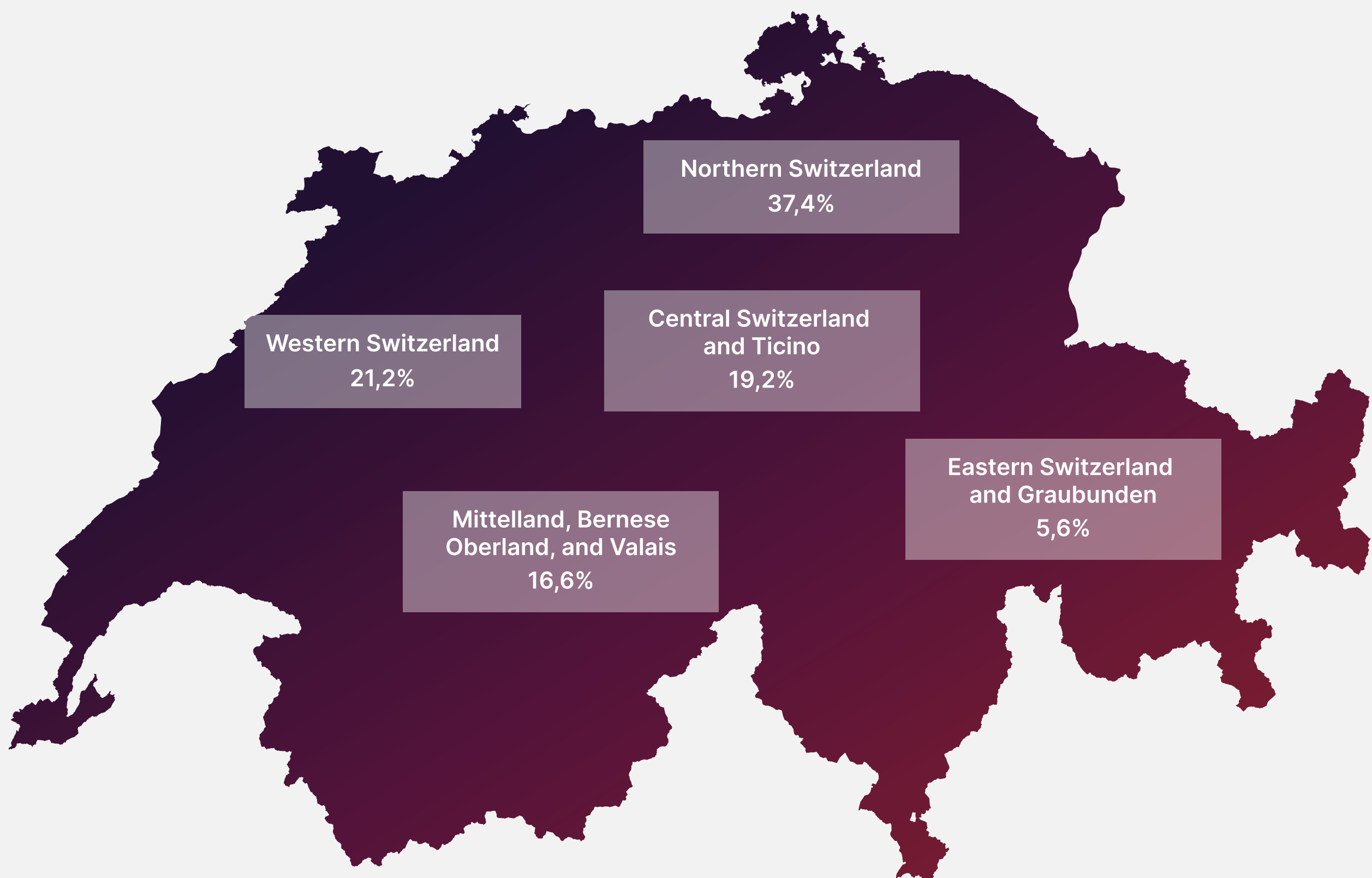# Regional Analysis

Regional Analysis

Adoption of AI in Enterprises in Switzerland and the UK

AI is a central component of the Swiss digitalisation process. As of 2021, there were over 500 AI companies, 220 investors, and about 50 Non-profits, R&D centres and hubs in Switzerland. The main reasons to adopt AI in Switzerland are to gain efficiency and stay competitive.
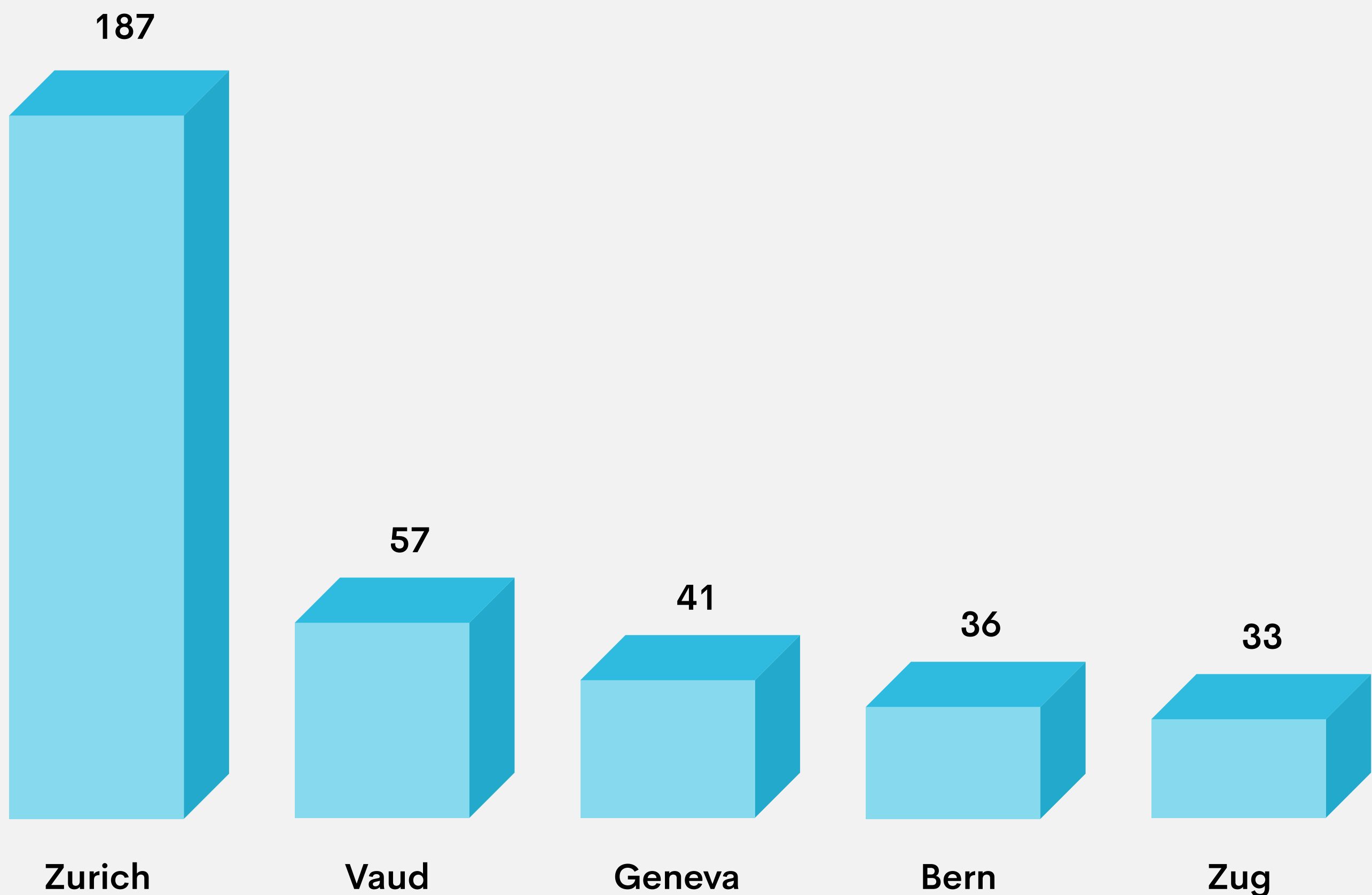
Swiss AI enterprises represent the following sectors: AdTech, sales and CRM, marketing and analytics, consulting, entertainment, FinTech and InsurTech, healthcare, logistics, recruitment, retail, science and engineering, security and cybersecurity, etc.

Distribution of AI Companies by Swiss Regions

Distribution of AI Companies by Swiss Regions, Q4 2022

Northern Switzerland
37,4%

Western Switzerland
21,2%

Central Switzerland and Ticino
19,2%

Eastern Switzerland and Graubunden
5,6%

Mittelland, Bernese Oberland, and Valais
16,6%

Top 5 Cantons by Number of AI Companies, Q4 2021

|				
187	57	41	36	33
Zurich	Vaud	Geneva	Bern	Zug

Machine learning is the most popular AI technology in Switzerland. Other key AI technologies include chatbots and AI assistants, computer vision, data analysis, the Internet of Things, predictive analytics, recommendation systems, robotics, search engines, language processing, cybersecurity, and AI-optimised hardware.

In the UK, about 15% of all businesses, or 432,000 companies, have incorporated at least one artificial intelligence technology. Another 62,400 UK companies (2%) are testing at least one AI technology. A further 292,000 companies (10%) intend to use AI in the future. The industries with the highest adoption rates are IT and telecommunications (29.5%) and legal (29.2%), while the industries with the lowest adoption rates are hospitality (11.9%), health (11.5%), and retail (11.5%).

Most UK businesses implemented <u>AI solutions for data management and analysis</u> (9%). This is followed by machine learning (7%), natural language processing and generation (8%), AI hardware (5%), and computer vision and image processing and generation (5%). Typical AI use cases include customer support tasks where chatbots and voice assistants simplify customer inquiries and guide them to the most relevant department or person.

Regional Variations in AI Implementation Strategies

Countries and regions worldwide are developing strategies and initiatives to coordinate governmental and international activities to direct and promote the development of AI. Since Canada released the first national AI strategy in 2017, <u>more than 30 countries</u> and regions have published similar documents.

Countries with published AI strategies: 32   Countries developing AI strategies: 22
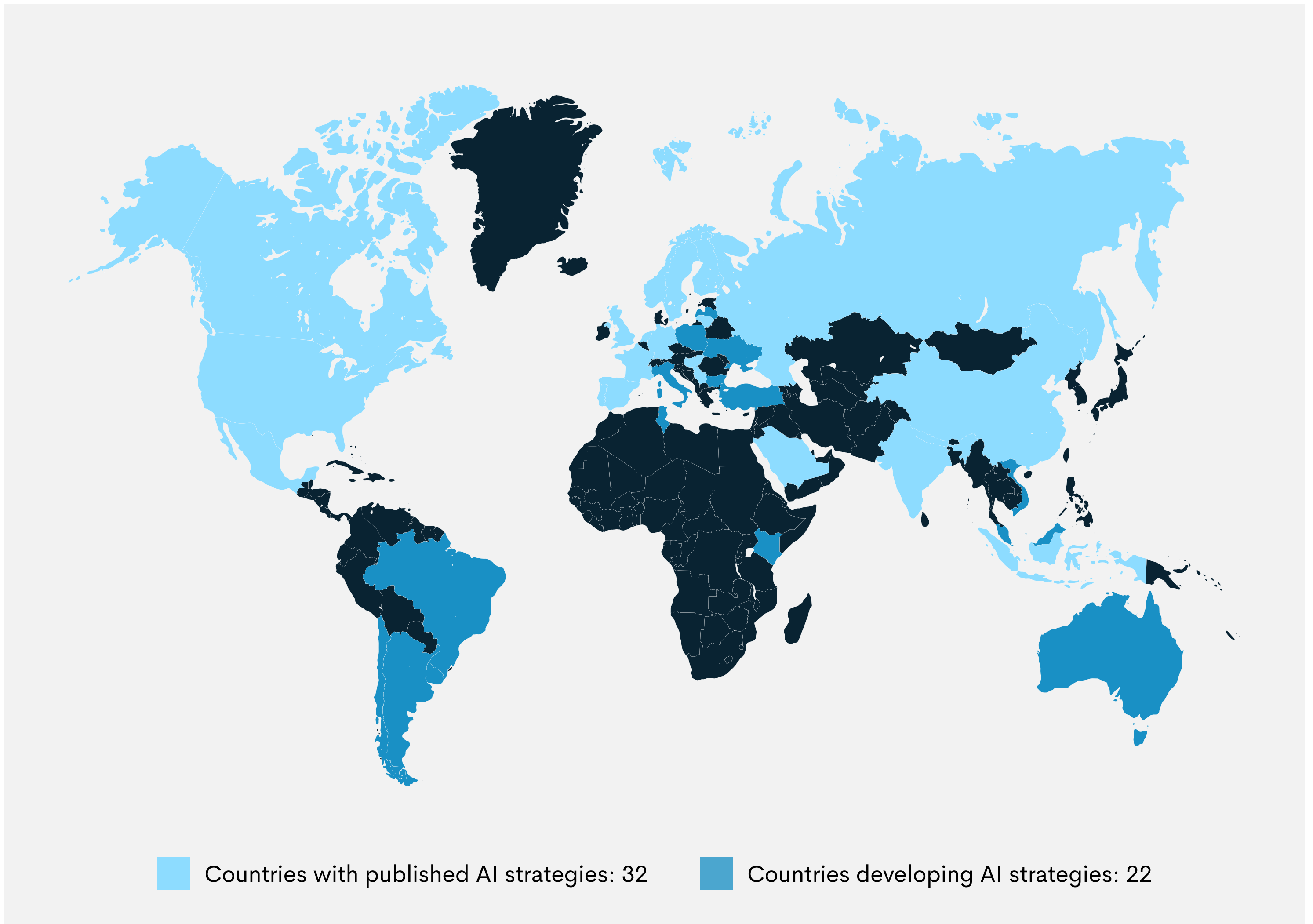
European Union

In 2018, the European Union published its AI Strategy, <u>Coordinated Plan on Artificial Intelligence</u>. It highlights the importance of constructing European data spaces, public-private collaborations, and ethics norms. EU member states, Norway, and Switzerland agreed on pledges and activities to increase investment and develop their AI talent pipeline.

United States

<u>The American AI Initiative</u> prioritises the need for federal funding for AI research and development, lowering obstacles to national resources and ensuring technical standards for the secure creation, testing, and application of artificial intelligence technology. The White House also focuses on training a workforce proficient in AI and conveys a commitment to working with international partners while advancing American leadership in the field.

United Kingdom

<u>The U.K. 2018 AI strategy</u> strongly emphasises collaboration between business, academia, and the government. It outlines five pillars for an effective industrial strategy: becoming the most innovative economy in the world, creating jobs with higher earning potential, improving infrastructure, fostering a business-friendly environment, and creating prosperous communities across the nation.

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Factors Influencing AI Adoption in Switzerland and the UK
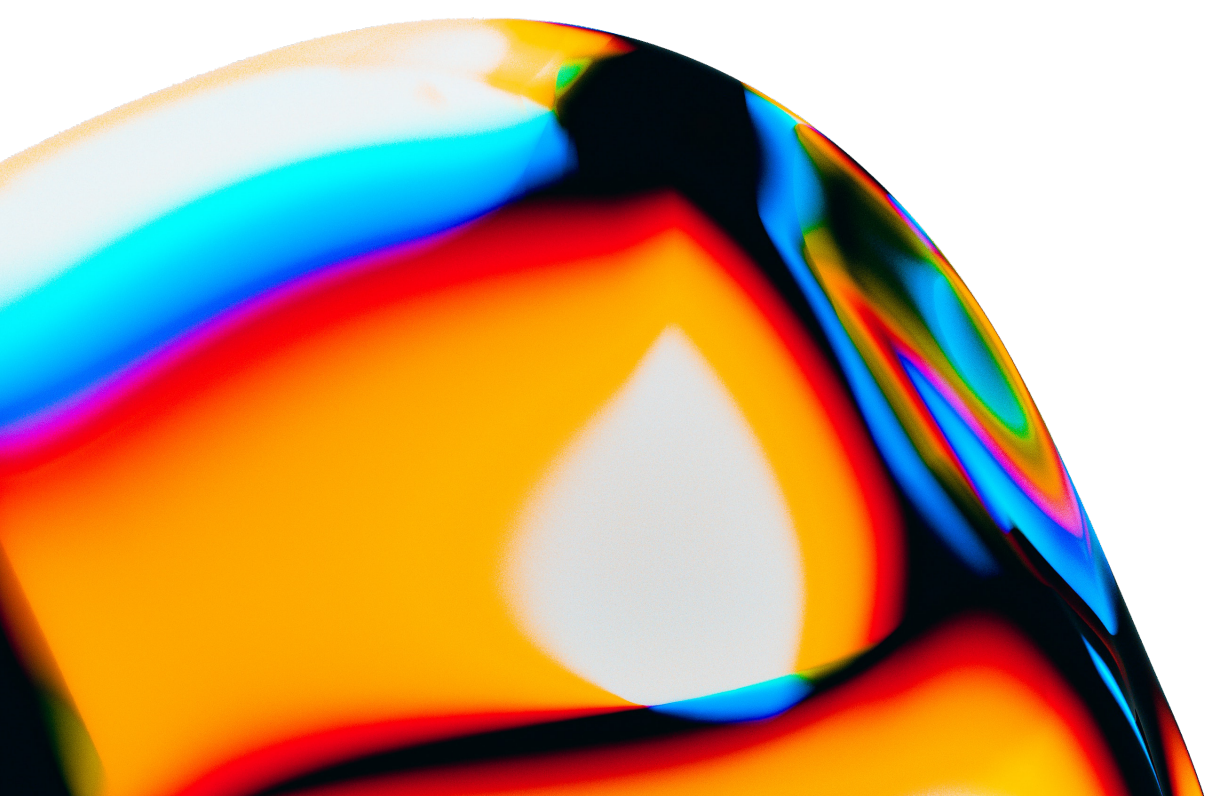
Factors Influencing AI Adoption in Switzerland and the UK

Stable Political and Economic Environment

Switzerland provides global companies with a safe and stable environment to host and validate their data. Reduced business risks result from high data security and quality levels, political stability, and legal clarity. The country's tax system, geographic and political position, low inflation, and highly qualified workforce provide a safe place for investors' assets.

Business Size

In the UK, large companies are twice as likely as medium-sized companies to adopt AI. 68% of enterprises, 34% of medium-sized companies, and 15% of small businesses have implemented AI technologies. Since small companies make up the majority of the UK's business landscape, they drive the UK's AI adoption rate of 15%. Similarly, business size impacts the percentage of companies planning to adopt AI. 9% of enterprises tested at least one AI technology, contrasting with 2% of small and 5% of medium-sized businesses.

Collaborative Opportunities

Switzerland hosts numerous leading AI research institutes and strong industry players — their collaboration results in highly efficient technology transfer and innovative products. Pharma, banking, and health tech industry clusters boost the country's AI ecosystem. As a result of the country's concentration of top AI research institutes, many multinational IT enterprises chose to locate their AI research operations in Switzerland.

Lack of Specialists with AI and Data Science Skills

The lack of AI and data science skills among existing employees and talent shortages in the larger workforce are the two external barriers to implementing AI technology most frequently mentioned in surveys conducted in the EU and the UK. These shortages hamper the availability of AI technologies. Programming, big data management, and machine learning or modelling expertise are the three main relevant skills that the EU workforce lacked.

Future Outlook
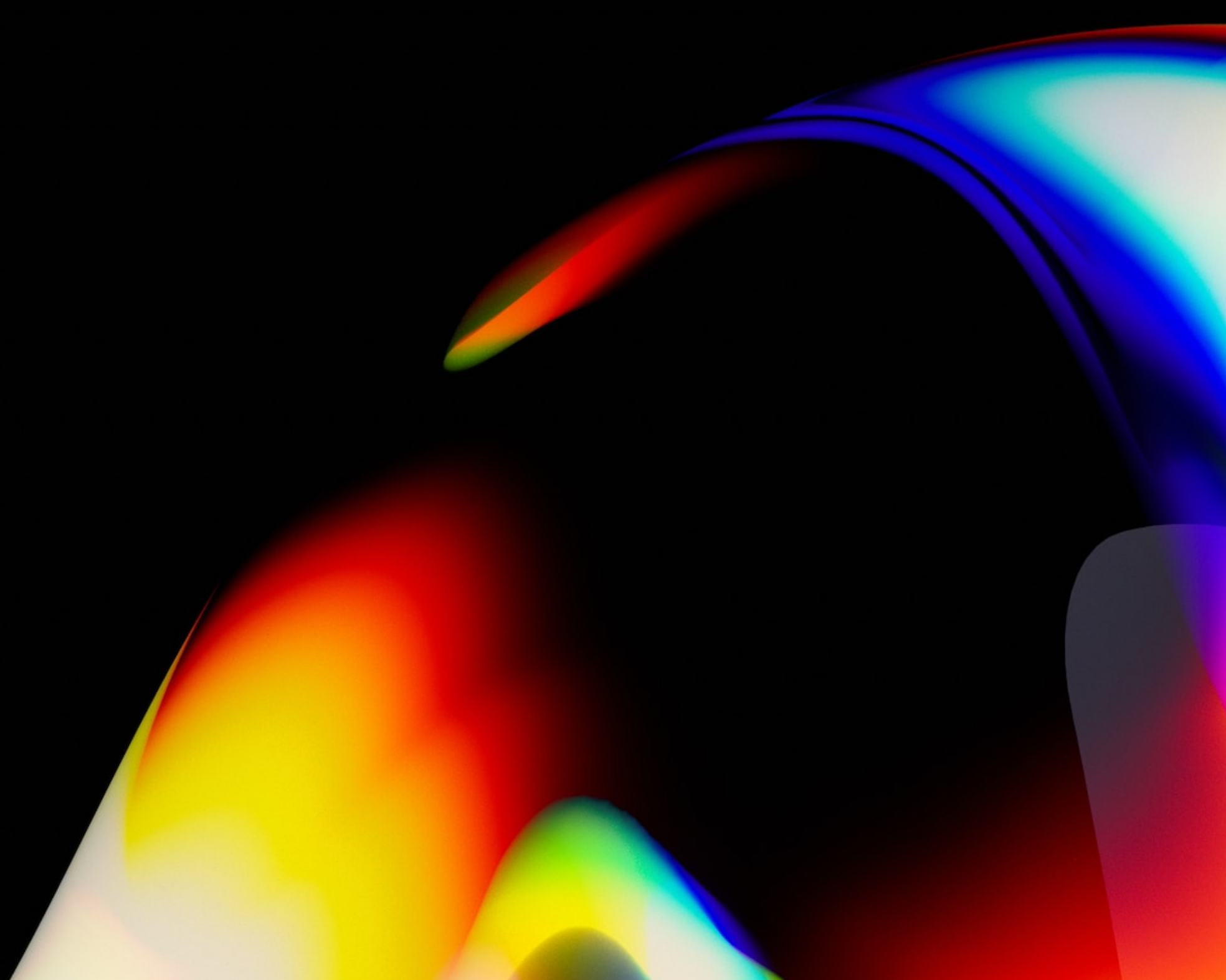
Predictions for the Future of AI in Enterprises

Significant enterprise AI market growth

The enterprise artificial intelligence market is anticipated to reach approximately $270.06 billion by 2032, expanding at a CAGR of 44.1% from 2023 to 2032. The small and medium-sized business segment is anticipated to have the most significant growth rate.

Growing importance of AI to business operations and strategy

AI's centrality to corporate strategy increases as the value proposition of ML systems progresses to "in-band" actors. More organisations will see AI efficiently integrating into business processes.

## Digitalisation as the key AI market driver

The rising adoption of digitalisation in organisations is the primary driving factor of the enterprise AI market. AI software adoption is anticipated to be boosted by enterprises' need for understanding and analysing visual content to derive valuable insights.

Data-driven enterprises

By 2025, most enterprise employees are expected to use data to optimise nearly all aspects of their work. Smart AI-enabled workflows and seamless interactions among humans and machines will likely be standard.

Bans on using generative AI tools at the workplace

Seventy-five per cent of enterprises are implementing or considering bans on ChatGPT and other gen AI apps. Data security, privacy, cybersecurity, and corporate reputation risks are the main reasons. If the risks are not mitigated, bans on generative AI may aggravate.
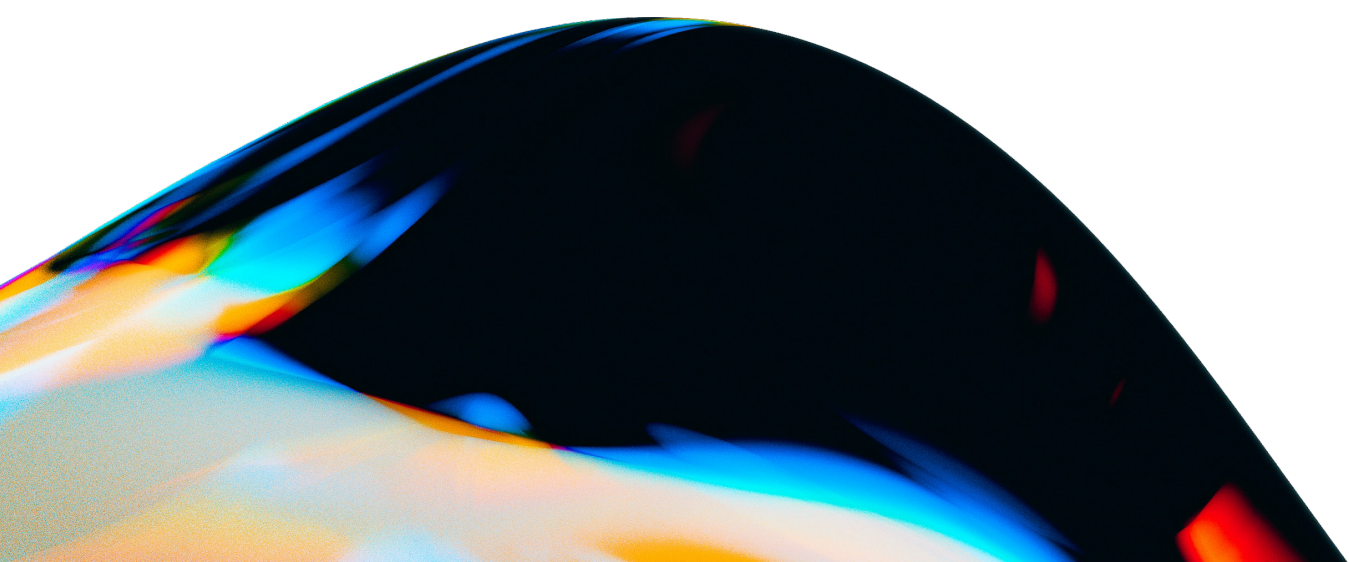
Upcoming Trends and Innovations in AI Technology

- Favourable government initiatives, scientific research, and tech giant investments in AI innovations are anticipated to affect industry expansion positively.
- AI will become a cornerstone of US foreign policy and the country's continued geopolitical leadership and economic resiliency.
- By 2028, explainable AI will improve the interpretability and transparency of AI models, while sophisticated edge AI will leverage advanced hardware and algorithms.
- Various AI startups are developing deep learning software and hardware innovations in the e-commerce, cyber security, and retail sectors.
- By 2030, AI-generated content will reach human-level sophistication and redefine artificial and human creativity.

Potential Challenges and Opportunities for Enterprises

Opportunities

- **Rapid growth in digital data**: The proliferation of data generated daily offers diverse resources for leveraging AI algorithms, allowing enterprises to make data-driven decisions and foster innovation.
- **Rising acceptance from research scientists:** An abundance of scientific research initiatives will transform artificial intelligence in the next years, accelerating data analysis, identifying patterns, and aiding in complex stimulations. It will streamline breakthroughs across diverse sectors and create new revenue opportunities for enterprises.
- **Increasing investments in AI technologies**: The AI's ability to accurately evaluate the gathered data, make predictions, and increase efficiency are the primary reasons for increasing investments. Enterprises can fundamentally transform by leveraging AI for workflow management, brand advertising, and trend prediction.
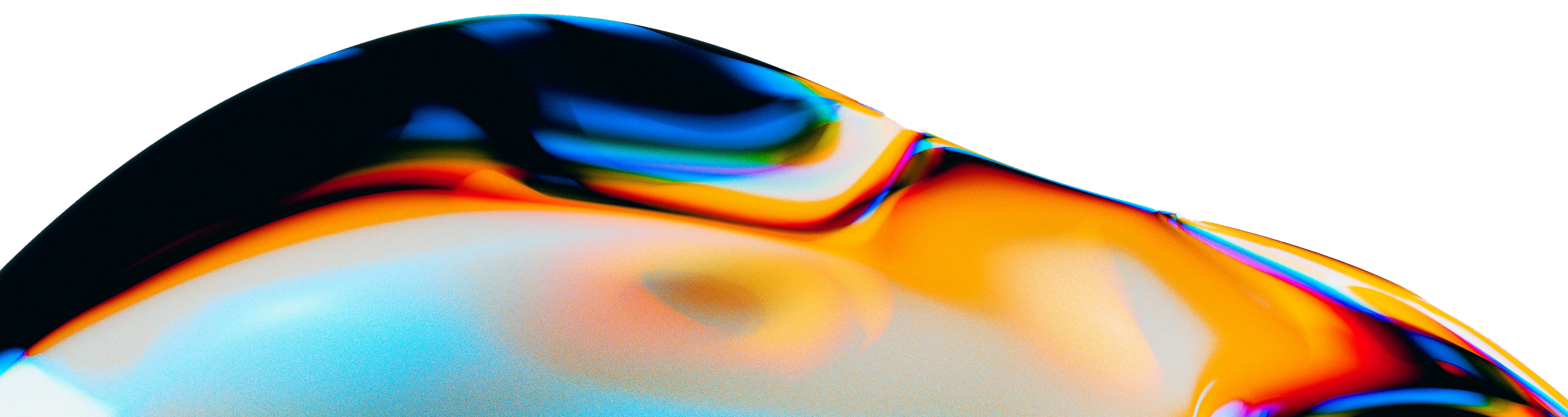
Potential Challenges and Opportunities for Enterprises

Challenges

- **Concerns about inaccurate and biased output:** When AI algorithms are trained on biased data, they can perpetuate discriminatory practices and reinforce societal prejudices. Such bias undermines trust and hinders further AI adoption and market growth.

- **Lack of skilled professionals:** The demand for skilled and trained AI specialists is expected to exceed the supply. Talent shortages can slow down AI development and limit the scalability of enterprises.

- **Bridging employees' skills gap:** Due to the AI talent shortage, enterprises will be forced to reskill current employees to translate business requirements into efficient AI solutions and maximise the technology's capabilities.
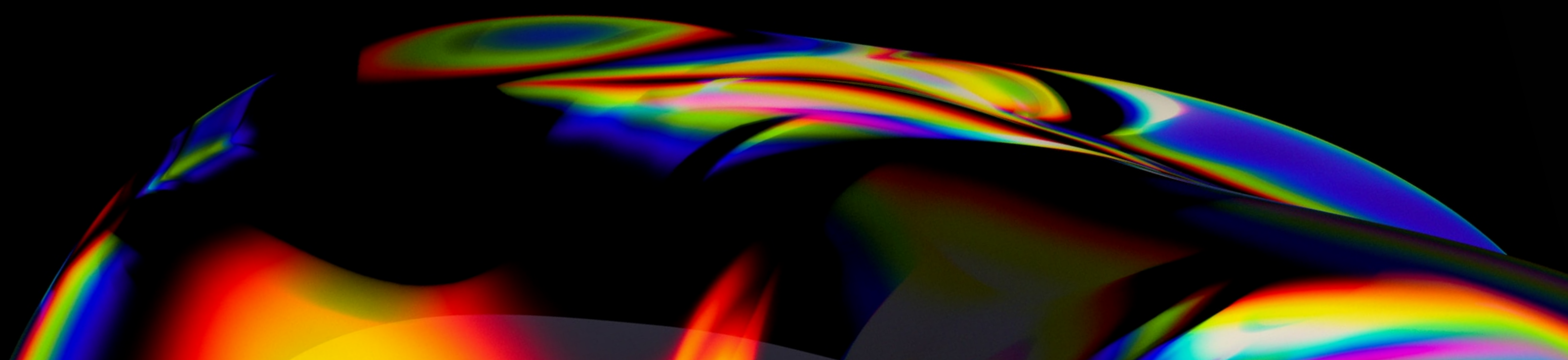
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Conclusion

Conclusion

This comprehensive AI market report highlights the transformative impact of this technology on enterprises. AI technologies significantly raise business productivity and profitability through data collection, automation, decision-making, and cybersecurity. However, increasing ethical issues require responsible AI adoption and compliance with newly adopted regulations.

In the next five years, AI can replace millions of jobs globally by automating routine and non-routine prediction and decision-making tasks and creating completely new occupation titles. Businesses must balance hiring and reskilling current employees to maximize AI implementation and ensure scalability. Therefore, businesses should prioritize responsible AI and ethics, invest in skill development, and keep up with changing AI trends.

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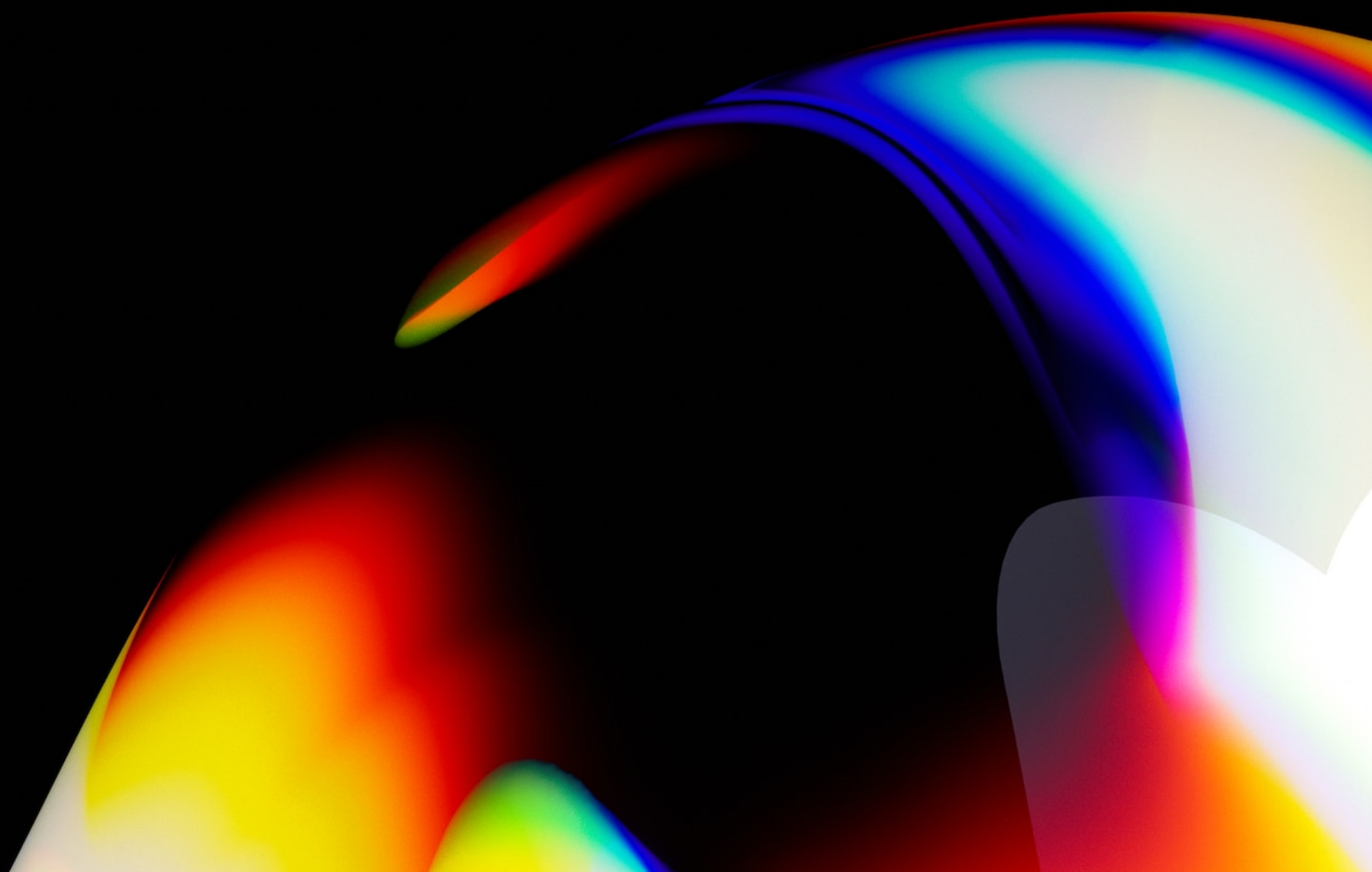🇺🇸 Salt Lake City, USA   🇺🇸 Austin, USA
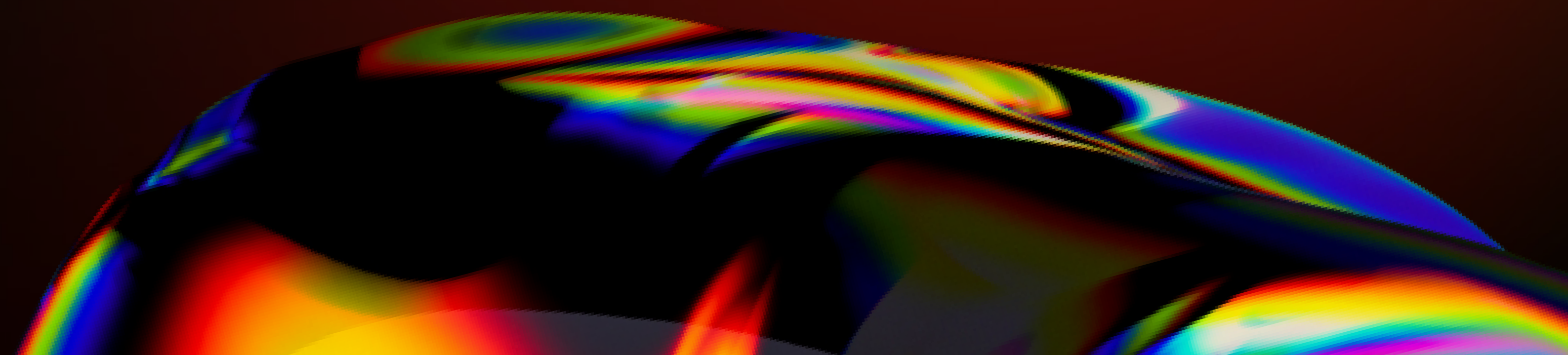
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