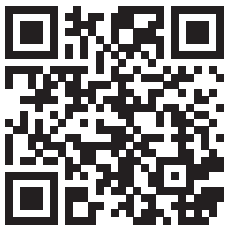




## **Artificial Intelligence in the ICT sector** Reshaping the future of business growth



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# Introduction



# Introduction

## AI

Artificial Intelligence (AI) is a broad field that encompasses various information technology principles. The AI market is expected to reach USD 309.6 billion by 2026, growing at a compound annual growth rate (CAGR) of 39.7 percent during the forecast period 2021-2026. Several reasons, including the expansion of data-driven AI, advancements in Deep Learning, and the need for robotic autonomy in order to compete in a global market, expected to boost the adoption of AI products and services. The pandemic has encouraged new applications and technological advancements in the industry. AI-powered technologies and solutions are being applied at scale to assist with disaster response. <sup>1</sup>

Applications addressed include marketing and business decision-making, workplace automation, predictive analysis and forecasting, fraud detection and mitigation, and risk assessment and management. Several additional industry verticals will be revolutionized due to this transformation, as ICT and digital technologies are used to support various areas of business operations, such as supply chains, sales and marketing processes, product and service delivery, and customer support models. <sup>2</sup>

The rising use of artificial intelligence has transformed several industries by improving the performance of organizations and enabling data security. Thanks to the fast digitization of the industry, organizations are increasingly relying on the capabilities of AI. An April 2020 study by the Fraunhofer Institute found that 75 percent of businesses were planning to employ AI solutions, with 16 percent already implementing them to increase efficiency and reduce costs. Data from the market may be examined using artificial intelligence systems to ensure that marketing efforts are more targeted, and new methods of photo and text recognition provide innovative approaches to protecting user data. <sup>3</sup>

The purpose of this paper is to examine the megatrends impacting the global business of information computing technology, and to provide the context of such growth. Additionally, it focuses on various AI technologies and how they could be used to improve the performance of various industries. It is on the verge of profoundly altering the Information and Communications Technology (ICT) business, as technologies such as Machine Learning, Natural Language Processing, and Deep Learning significantly improve communication performance. Additionally, AI will enable new business models and state of the art prospects.



## Section 1

The key megatrends impacting global Information Computing Technology

## Section 1

# The key megatrends impacting global Information Computing Technology

## Digital Data Deluge

The term 'data deluge' implies that organizations and researchers are struggling to keep up with the volume of data being created. To enable 21st century data-driven research and technology, infrastructure and technologies need to be developed to handle the massive amounts of data generated. Given the fast growth of digital data, the gap is only natural. The process to develop and maintain long-term data infrastructures that can handle large amounts of data, should be set in motion immediately.<sup>4</sup>

The data from IDC's latest analysis of the ever-expanding 'collective world data', as it is referred to, is startling. In 2018, IDC estimated that the total amount of data in the globe would expand from 33 zettabytes to 175 zettabytes (trillion of gigabytes) by 2025, with a compound annual growth rate of 61 percent. According to IDC's 'Data Age 2025' whitepaper, sponsored by Seagate Technology<sup>5</sup>, who is global leader in data storage services and management solutions for more than 40 years, there are three key areas in the data sphere: (a) analytics, (b) the proliferation of IoT services, and (c) cloud migration initiatives.

Primary location components include traditional data centers and cloud data centers. Secondary components are edge nodes such as cell towers and branch offices, and third is endpoints such as desktop and mobile devices and Internet of Things (IoT) devices. In short, 2025 will mark significant milestones:

- The storage industry will ship 42ZB of capacity
- IoT devices will generate 90ZB of data
- Public cloud settings will hold 49 percent of all data
- Over 30 percent of all data created will be consumed in real time.<sup>6</sup>

A Splunk survey of 2,259 data-focused IT and global business leaders in senior technology shows that organizations struggle with data volume with only 14 percent of the sample being prepared for the coming data wave. The poll, conducted by True Global Intelligence throughout the United States, France, China, Australia, the United Kingdom, Germany, Japan, and the Netherlands, indicated that two-thirds of respondents expect the value and the amount of data volumes to increase nearly five times by 2025. As a result, 81 percent of these front-line managers consider that data is essential to their organization's success, 57 percent believe the volume of data is growing faster than their company's ability to keep up, and 47 percent believe they will fall behind if faced with rapid data growth.

This study also examines regional and vertical data to better understand competitiveness in the data age across industries and geographies. Financial services is the leading vertical for five of the six technologies in terms of current development of use cases. Retail ranks second in most situations, while merchants trail well behind in terms of AI implementation. 62 percent of healthcare organizations report half or more of their data is unstructured, and they struggle with data management and utilization. In terms of adoption of innovative technologies, the public sector lags behind commercial enterprises. Manufacturers are more likely than any other industry to forecast growth in data volume (78 percent), and in data value (76 percent).



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Furthermore, almost 90 percent of respondents in China expect the value of data to increase, and 83 percent of Chinese firms are prepared or planning for significant data development, compared to only 47 percent in all other countries. The United States respondents are the second most optimistic about their ability to prepare for a major data expansion, with 59 percent expressing at least some confidence. In France, 59 percent report that no one in their company is discussing the implications of the next wave of data. In Japan, 67 percent of participants think their company struggles to keep current, compared to a global average of 58 percent. Managers in the United Kingdom indicate a low level of present utilization of new technologies, but are positive about future plans to utilize them. For example, just 19 percent of UK respondents reported they are already using AI/ML technology, while 58 percent plan to do so in the future.<sup>7</sup>



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