Artificial Intelligence In Agriculture Market - Growth, Trends, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 81 pages | Mordor Intelligence

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Report description:

The global artificial intelligence in agriculture market is projected to register a CAGR of 4.2% during the forecast period.

Key Highlights
Artificial intelligence techniques for agriculture help boost productivity and yield. Consequently, agribusiness corporations adopt artificial intelligence technologies in terms of predictive analytics-based resolutions.
AI-based applications and techniques can maximize crop yields, driving the market. According to the United Nations (UN), the global population is projected to reach 9.8 billion by 2050. And limited arable land availability and the need for increased food production for food security drive a green revolution fuelled by the Internet of Things (IoT), artificial intelligence, and big data.
Moreover, an increase in the adoption of cattle face recognition technology is driving the market. By applying advanced metrics, including cattle facial recognition programs and image classification incorporated with body condition scores and feeding patterns, dairy farms can now monitor all behavioral aspects in a group of cattle individually.
However, the need for more data collection and sharing standardization is restraining the market growth. Machine learning, artificial intelligence, and algorithm designs have advanced fast, but collecting well-tagged, meaningful agricultural data needs to catch up. This holds back the market's growth during the forecast period.

Artificial Intelligence in Agriculture Market Trends

Labor Shortage and Increasing Costs of Labor to Drive the Artificial Intelligence Market

The agriculture labor force has decreased in recent years due to the decreased interest in farming and the aging farmer population. As the population of farm laborers continues to decline, farmers are feeling pressure to keep up with production for the growing demand for fresh produce.
Moreover, the downward trend of labor is translating into higher labor wages. A massive workforce decline is being observed worldwide for many reasons. A lack of skilled labor, aging farmers, and younger generations finding farming an unattractive profession contribute to this decline. Thus, encouraging trends for artificial intelligence in agriculture are increasing.
According to the Food and Agriculture Organization Corporate Statistical Database (FAOSTAT)(2017-20) report, the agriculture sector's contribution to employment declined from 896.34 thousand people in 2017 to 873.75 thousand people in 2020.
Furthermore, the agricultural industry in the United States and the United Kingdom, among other countries, depend on laborers, and a similar trend is seen across other developed countries as well. On a similar note, Asia-Pacific, where agriculture occupies a significant part of the economy, is witnessing a massive decline in the workforce, nearly a decline of 618,147 thousand people in 2017 to 589,103 thousand people in 2020.
The labor shortage has become a global problem, with an aging farmer population that further limits the supply of manual labor. Thus, the decline in the agricultural workforce is encouraging governments and private organizations to focus on automating operations by adopting artificial intelligence technologies in the agricultural sector. Owing to the above factors, the market for artificial intelligence in the agricultural sector is likely to boom in the years to come.

North America Dominants the Market

In North America, artificial intelligence solutions are anticipated to witness exponential growth in the coming years, owing to the region's leading industrial automation industry and the adoption of artificial intelligence solutions. North America is characterized by the improved purchasing power of the population, considerable investments in IIoT, continuous investments in automation, and increasing focus from governments on in-house AI equipment production.
For instance, in 2021, the US Department of Agriculture's National Institute of Food and Agriculture (USDA-NIFA) and the US National Science Foundation (NSF) announced a $220 million investment in 11 new NSF-led Artificial Intelligence Research Institutes.
The market also benefits from the presence of numerous agricultural technology providers exploring artificial intelligence solutions, including IBM Corporation, AGCO Corporation, Deere & Company, Microsoft, Granular, Inc., and The Climate Corporation.
In 2020, AGCO Corporation introduced the Momentum planter in the crop production market in North America.
The product is developed to help tackle North challenges in planting conditions. Moreover, it is integrated with Smart Frame technology, which is used for automated vertical contour toolbar, and smart &configuration capabilities. Thus, increasing innovations in the North America AI sector are likely to further boost the adoption of AI in the agricultural sector in the coming future.

Artificial Intelligence in Agriculture Market Competitor Analysis

The AI in agriculture market is fragmented, as a number of players are supplying the same product at a lower cost, which makes market competition stiff. Also, technological advancements by players and the presence of local and regional players pose a major threat in the price-sensitive market. Key players are Microsoft Corp., IBM Corp. (NITI Aayog), Agribotix LLC, etc.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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