Distributed Control Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The Distributed Control Systems Market size is estimated at USD 22.71 billion in 2025, and is expected to reach USD 29.37 billion by 2030, at a CAGR of 5.28% during the forecast period (2025-2030).

The distributed control system market will be driven in the future by the tendency for manufacturers in the process industry to implement the best automation technologies to obtain a competitive edge in the current competitive environment.

The growing adoption of smart applications and IoT technologies are the key drivers for the market. With the increased adoption of smart devices, there is an increase in the demand for multifunctional microelectronics with reduced time delays and improved performance.

The process industry currently operates in a very complex environment, and the requirements for its control technology are correspondingly demanding. Control technology is a key lever for gaining a competitive edge in the process industry, all the more so if it can meet the tremendous challenges of both today and tomorrow. The latest iterations of DCS systems provide marked improvements over their predecessors regarding security, compatibility with the latest technology, and operator effectiveness, which drives the distributed control systems market.

COVID-19 had a significant impact on all industries worldwide. Because of the rapid growth, governments worldwide took stronger measures for functioning industrial plants and offices, resulting in stricter lockdowns. The lockdown significantly influenced the power sector as power demand from commercial and industrial sectors reduced significantly. For most businesses worldwide, the recovery phase following large losses during the pandemic was nearly completed.

According to Wind Europe, delays were expected in many new wind farm projects, causing developers to miss the deployment deadlines in the auction systems and face financial penalties due to COVID-19, The International Renewable Energy Agency stated that despite the pandemic threatening global supply chains in the power sector, it would not stop the industry from transitioning to net-zero CO2 emissions. The pandemic also showed how essential manufacturing automation was to modern industry functioning, with some fueled by social distancing and some by cyber threats. Social distancing measures had a greater impact as they led the manufacturers to restructure their operations to rely more on robotics.

However, the latest iterations of DCS systems provide marked improvements over their predecessors regarding security, compatibility with the newest technology, and operator effectiveness, a market driver for distributed control systems. Modern DCSs include new capabilities, such as asset diagnostics, performance monitoring, fleet management, alarm handling during the fault, prioritizing messages, and simplifying actions to be taken in the event of a failure. The purpose of the newer DCSs is to serve the entire lifetime of the power plant. The DCSs can be updated online, where updates and security patches are installed, and new features can be added without shutting down the plant.

Moreover, DCS is often employed in batch-oriented or continuous method operations, such as oil purification, power generation, organic compound manufacturing, craft, food and drink manufacturing, pharmaceutical production, and cement. DCSs can control various instrumentality types, including variable speed drives, quality control systems, motor control centers (MCC), kilns, manufacturing equipment, and mining equipment.

One of the significant benefits of DCS systems is that the digital communication between distributed controllers, workstations, and other computing elements follows the peer-to-peer access principle. To achieve greater precision and control in process industries, like the petrochemical, nuclear, and oil and gas industries, there is an increasing demand for controllers which offer specified process tolerance around an identified set point.

These requirements have driven the adoption of DCS, as these systems provide lower operational complexity, project risk, and functionalities, like flexibility for agile manufacturing in highly demanding applications. The ability of DCS to integrate PLCs, turbomachinery controls, safety systems, third-party controls, and various other plant process controls for heat exchangers, feedwater heaters, and water quality, among others, further drives the adoption of DCS in the energy sector.

Distributed Control Systems Market Trends

Services Constitute a Considerable Market Share

The services market in the DCS industry is the most intriguing of all the revenue stakeholders among the other components included in the report's scope. Due to its widespread applicability in maintenance, installation, alarm management, upgrade services, plant asset management, lifecycle services, consulting services, migration services, simulation, and training services, the service segment is also expanding demand for DCS. As a result, rising energy demand and considerable technological advancements will drive demand for the services segment, among others, during the projection period.

Moreover, the top market suppliers continue to emphasize expanding capabilities for projects and operations and maintenance services for continuous market expansion. The different components in the scope of services covered in the market report include project management services, non-contract maintenance, retrofits, and upgrades.

Due to an enormous increase in the number of distributed antenna systems service providers in the industry, the services market, which currently holds a significant part of the DCS market, is anticipated to develop at the fastest rate over the projection period.

With the rising awareness, industry players are focusing on deploying and executing IIoT strategies to enhance the DCS network

services. The relationship has changed because sensors and edge devices are far more capable, with some processing and communications abilities similar to a PC. Instead of acting in a passive listen-and-respond role, each device can perform more as a peer.

In addition, the main automation contractor (MAC) concept is increasingly becoming important in project services, where the supplier is responsible for all automation-related systems of the project.

The trend is growing in the majority of the large DCS projects. The services market encapsulates entities from the bottom of the pyramid, i.e., the spare parts and repairs, which prove to be helpful in system productivity, cost curtailment, and extension of the product life cycle and systems by reducing the uptime of production units, thus, efficiently delivering operational excellence.

North America Holds Significant Market Share

The rapidly growing shale gas industry in North America is expected to be a major driver of the Distributed Control Systems market in the region.

According to the Department of Energy, in the United States, The shale gas percentage is expected to reach nearly 45% by 2035, which is likely to result in a parallel growth of the tightly integrated DCS market, which provides sustainability of the process through redundant controls in high-risk environments.

In addition, this market is currently challenged by reducing oil prices globally but can be relied upon to be a sizeable industry in the future. The requirement for a large amount of water in Shale gas extraction has created a market for DCS systems in water treatment facilities, resulting in a significant rise in the overall market.

Moreover, the chemicals sector in North America is benefiting from improved dependability, simplified remote monitoring, and lower installation costs. Additionally, several businesses in the chemicals sector are switching from outdated DCS systems to more advanced ones to improve production, efficiency, and safety and decrease human error.

The oil and gas industry in North America is process-driven, with ongoing operations and intricate monitoring methods. It is challenging for operators to keep an eye on and regulate the operation of the machinery used in the sector. Many North American businesses are implementing the usage of an HMI and a controller, or DCS, which enables operators to manage operations. These systems automate safety procedures, including alarm management systems, and perform equipment maintenance and repair tasks.

Distributed control systems have proven vital in managing nuclear power plants, further helping their market in the United States and continuously increasing its nuclear power plant capacity and numbers.

Distributed Control Systems Industry Overview

There are several significant competitors in the competitive distributed control system market. Few of the big competitors now control most of the market in terms of market share. Major firms with a sizable market share are concentrating on growing their consumer base internationally. Many businesses rely on strategic collaboration projects to improve their market share and profitability.

In December 2022, Honeywell announced that Regreen Excel EPC, India, has deployed Honeywell's PlantCruise by Experion Distributed Control Systems (DCS) solution, modular systems, and field instruments (FI) across its 40 plants in India. Regreen Excel EPC India Pvt. Ltd. is a distillery, sugar and cogeneration, biofuels, zero liquid discharge systems, and renewable energy

company. The technology assists users in increasing production uptime, improving safety, dependability, and efficiency, and lowering investments and running costs.

In May 2022, ABB modernizes process control systems and cement grinding equipment in the UAE to improve uptime and consistency across several sites. ABB builds a cutting-edge distributed control system (DCS) automation technology at Star Super Cement cement grinding operations in the United Arab Emirates. With the new enhanced systems and homogeneity throughout the multiple linearization and grinding unit sites, Star Cement will benefit from greater operator visibility, easier maintenance, and little downtime.

Additional Benefits:

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

Table of Contents:

Distributed Control Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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