

## **Capacitive Proximity Sensor Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)**

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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### **Report description:**

The capacitive proximity sensor market is expected to grow at a CAGR of 7.21% over the forecast period. The increasing trend of automation in manufacturing and process industries, along with the paradigm shift of the automotive industry towards autonomy and electrification, is expected to drive the capacitive proximity sensor's market growth during the forecast period.

#### Key Highlights

Capacitive proximity sensors are critical for efficiently managing material handling operations throughout manufacturing processes. These sensors help carry out these tasks because they are beneficial in detecting non-ferrous substances, including liquids, glass, wood, and plastic. Non-ferrous elements must be seen from the finished output or throughout the manufacturing process. To find goods like packages and boxes, amongst numerous other things, these sensors can detect various objects. Thus, giving it a competitive edge over other sensing technologies.

Additionally, the capacitive proximity sensors usually contain a potentiometer that allows users to adjust sensor sensitivity such that only the desired objects will be sensed. Furthermore, features such as wireless sensitivity and lack of moving parts make them ideal for industrial applications.

The rise in automation of complex production systems has increased the demand for components capable of providing critical data related to the production process. These sensors facilitate process control in factories by detecting the presence and position of metal objects. For instance, E53 capacitive proximity sensors from Eaton are self-contained devices designed to detect metallic and nonmetallic targets and are ideally suited for liquid-level control and sensing granulated and powdered materials.

Recent technological advancement in capacitive proximity sensor technology significantly expands their use cases. For instance, the adoption of these sensors has been increasing in the renewable energy sector, especially in wind turbines for level detection for coolant and transmission lubrication. Such trends are expected to support the studied market's growth during the forecast period.

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However, limitations in sensing capabilities, vulnerability to variations in humidity and temperature in the surroundings, and availability of other sensors at a lower cost are among some factors challenging the growth of the Capacitive proximity sensor market.

Although it witnessed a slowdown during the initial outbreak of the pandemic, primarily due to supply chain disruptions and a slowdown in industrial activities, COVID-19 has accelerated the market expansion since then, primarily due to an upward trend in the adoption of automation in the industrial sector. Many companies have digitalized their operational processes, including manufacturing, supply, sales, and related managerial tasks, which have driven the demand. With the trend expected to continue during the forecast period, the studied market will also witness an upward growth trend.

## Capacitive Proximity Sensors Market Trends

### Automotive Industry to Hold a Significant Market Share

The demand for proximity sensors has been growing significantly in the automotive sector as the automotive industry is moving towards autonomous vehicles. Along with protecting people from injury, these sensors also protect the car against damage and even collisions in some cases. There are many different proximity detection sensors available for automotive applications, including capacitive, infrared, ultrasonic, optical, etc.; capacitive proximity sensors are usually preferred for proximity detection range between 5mm to 300mm proximity detection range.

These sensors are widely used for applications including door entry control, switching interior car lights on/off when the hand is near the sensor, sensing the presence of large objects around the car during parking, etc. One example of capacitive proximity detection is in car door entry systems; once object proximity has been detected, the central unit sends a wake-up signal via the LF antenna, which activates the car key transmitter, which then exchanges information with the RFID receiver, which then unlocks the door, if the code matches the central control unit.

There is a continuous demand for passenger cars due to the increasing purchasing power of the millennial population. According to OICA, global passenger car sales were estimated to be 82 million units in 2021. Due to the latest trend in adopting autonomous vehicles, the demand is expected to increase during the forecast period. For instance, according to data provided by Intel, UBS, and NVIDIA, the global share of autonomous vehicle registration is estimated to reach 12% by 2030, from 0.17% in 2022. Furthermore, the increasing adoption of electric vehicles is expected to support the studied market's growth. According to the International Council on Clean Transportation (ICCT), the cumulative global EV sales by the end of 2021 reached 18.6 million, a 58% increase from 2020. Furthermore, the global average EV share of new vehicle sales reached an all-time high of 8.3%, up from 4.2% in 2020.

### North America to Account for a Significant Market Share

North America, being among the largest industrial automation markets, is expected to hold a significant market share of the global capacitive proximity sensor market. A higher awareness of advanced technologies and the presence of some of the biggest market players, such as Rockwell Automation Inc. and Honeywell International Inc., contribute to market growth.

According to the International Federation of Robotics (IFR), The North American robotics market experienced significant growth as US, Canadian, and Mexico companies ordered 11,595 industrial robots, up 28% compared to the first quarter of 2021. The increasing investment in industrial robots and advanced automation technologies is, thus, expected to create a favorable market scenario for the growth of the studied market.

Furthermore, capacitive proximity sensors are massively used in consumer electronics. For instance, nowadays, each smartphone is equipped with a capacitive proximity sensor, which helps reduce battery consumption by turning the display when not in use,

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settled on a table or a surface, or while on a call. Thus, the increasing adoption of smartphones across the region is expected to boost market growth over the forecast period. For instance, according to Consumer Technology Association 2022, smartphone sales forecast in the U.S. in 2022 is expected to surpass USD 74.7 Billion.

The automotive industry in North America is booming due to the latest trend of self-driving cars and increasing demand for advanced autonomous vehicles, like SUVs and pickup trucks. The United States dominates the region owing to the presence of significant industries and car manufacturing market giants General Motors and Ford. Also, parts manufacturers like Hyundai and Kia. For instance, according to BEA, around 3.34 million units of cars were sold in the U.S. in 2021.

Furthermore, increasing demand for autonomous vehicles in the region is expected to offer growth opportunities for capacitive proximity sensors over the coming years. For instance, In March 2021, Motional declared that the Hyundai IONIQ 5 electric car would be the foundation for its upcoming robotaxi. Beginning in 2023, customers in a few cities will be allowed to reserve a Motional robotaxi via the Lyft app, owing to their cooperation. The IONIQ 5 from Motional will be capable of Level 4 autonomous driving.

## Capacitive Proximity Sensors Market Competitor Analysis

The capacitive proximity sensor market is moderately fragmented due to growing competition among the players. These market players are adopting strategies such as product launches, technological advancement, mergers and acquisitions, and others to compete in the global market. Some significant players include Rockwell Automation, Omron Corporation, Honeywell International Inc., Pepperl + Fuchs GmbH, and Fargo Controls Inc., among others.

November 2022 - SomaCap, a pioneering new form of a capacitive sensor offered by Somalytics, was named a 2023 CES Innovation Awards recipient in the Embedded Technology category by the Consumer Technology Association. Somalytics focuses on developing sensors that can revolutionize human interaction with the Internet of Things, significantly improving natural contact with and control over the digital environment.

November 2022 - Infineon Technology Co., Ltd. has introduced the new PSoC 4100SMax series. The product includes the fifth version of CAPSENSE capacitive and inductive contact sensor technology, an expanded flash storage device, and a generic input/output interface (GPIO). It can also satisfy the demands of the emerging generation of human-computer interaction (HMI) applications.

### Additional Benefits:

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

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