

Sector Snapshot

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# Sensors for process manufacturing

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# Sector Definition

- **Purpose:** design, manufacture, and supply industrial sensors and related instrumentation used in the monitoring, control, and optimization of continuous or batch processes involving fluids, gases, chemicals, or bulk materials
- **Key Customers:** process industries such as oil and gas, chemicals, pharmaceuticals, food and beverage, water and wastewater treatment, pulp and paper, and other



# Process Sensor Types

## By measured parameter

**Temperature**

**Pressure**

(Absolute, gauge, differential)

**Flow**

(Mass or volumetric)

**Level**

**Analytical**

Gas, pH/ORP, conductivity,  
humidity/moisture, turbidity,  
viscosity, density, etc

## By communication architecture / protocol

**Analog**

4-20 mA

**Serial (Non-fieldbus)**

HART (Analog + digital overlay),  
IO-Link, ASCII

**Fieldbus**

Foundation Fieldbus, PROFIBUS,  
Modbus RTU (lightweight fieldbus)

**IP-based / Ethernet**

Wired: PROFINET,  
Modbus TCP,  
EtherNet/IP

Wireless:  
Wi-Fi, NB-  
IoT/ LTE-M

Application-level: OPC UA, MQTT

**Wireless**

WirelessHART, ISA100.11a,  
LoRaWAN, IO-Link Wireless, BLE

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# Industry Requirements

- **Oil & gas:** high temperature/pressure, explosion-proof, corrosion resistant
- **Chemical:** chemical resistance, batch-flexible, safe in explosive zones
- **Pharma:** hygienic, autoclave or sterilise/ clean-in-place (SIP/CIP), validated, ultra-accurate
- **Food & beverage:** sanitary design, FDA/EHEDG, CIP/SIP, fast response
- **Water/Waste:** non-fouling, waterproof, low-maintenance
- **Pulp & paper:** abrasion resistance, moisture/dust protection

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# Market Size & Growth

- **Global Process Sensors Market:** valued at USD 17 bn in 2023, projected to reach USD 23 bn by 2032 (CAGR 3%)
- **Main Growth Areas:** digital transformation and modernisation, expanding process industries, and environmental mandates
- **By Segment:** growth led by Pharma & Biotech, Food & Beverage, Water & Wastewater, Chemicals, while conventional Oil & Gas lags behind



# Regional Dynamics

- **Asia-Pacific** leads sensor market growth driven by rapid industrialization and technological advancements
- **Europe** and **North America** grow steadily through environmental regulations, sustainability initiatives, safety, modernization and digitalization
- **The Middle East** and **Latin America** show emerging growth driven by energy, mining, and food sectors



# Market Structure

- **Diversified Industrial Automation:**  
Honeywell, Emerson, Siemens,  
Yokogawa, Schneider Electric, ABB,  
Rockwell Automation
- **Process Instrumentation Specialists:**  
(sensors) Endress+Hauser, KROHNE,  
VEGA, (+ valves and actuators)  
Bürkert, GEMÜ, (+ control systems)  
JUMO, as well as smaller niche players
- **Sensors and Connectivity Specialists:**  
TE Connectivity, Keyence, SICK,  
Pepperl+Fuchs



# Selected Key Players



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# Underlying Key Drivers

- **Industrial Automation:** Growing implementation of smart factories and digitalized process plants
- **Environmental Regulations:** Emission control, waste reduction, and resource efficiency – use of gas detection and analytical sensors to ensure compliance
- **Growth of Core Process Industries:** Expansion in pharmaceuticals, chemicals, food & beverage, water treatment, and renewable energy



# Recent Key Trends

- **Smart Sensors and Wireless Technology:** Shift from legacy devices to smart, self-diagnosing, and wireless sensors
- **Predictive Maintenance and Condition Monitoring:** Transition from reactive to proactive maintenance strategies
- **Cloud & Edge Computing Integration:** Sensors are increasingly part of larger edge analytics and cloud-based control platforms



# Transaction Market

## Historical Activity:

- Strategic investors have pursued market consolidation, as well as broadening of their product portfolios, providing the acquired companies with access to capital, technology, and global distribution networks
- Private equity funds have successfully executed buy-and-build strategies, achieving value through select exits
- European sensor producers were attractive for the international buyers

# Transaction Market

## Key Drivers of Potential Deal Activity:

- Strategic acquisitions focused on differentiated, proprietary technologies that enhance capabilities in cost efficiency, speed, reliability, and smart connectivity—driving innovation beyond internal R&D efforts
- Ongoing interest from international buyers, driven by the pursuit of advanced technological expertise and innovation



# Transaction Market

## Outlook & Potential Opportunities:

- The process sensor industry is evolving rapidly, with strong long-term growth tied to process optimisation, digital transformation and sustainability
- To thrive, manufacturers must balance innovation and integration with cost-efficiency and reliability
- The sector remains attractive for buy and build strategies, offering significant consolidation potential



# Selected Deals

  
**PST**  
PROCESS SENSING  
TECHNOLOGIES

Sale to  


 **DWYEROMEGA™**

21/11/24

  
**GEONICA**

Sale to  


 **senseca**

29/10/24

  
 **Dr. Födisch**  
Umweltmesstechnik AG

Sale to  


**ABB**

27/08/24

  
**SEN SORCE**

Sale to  


**PST**  
PROCESS SENSING  
TECHNOLOGIES

07/09/23

  
 **FLEXIM**

Sale to  


 **EMERSON.**

16/08/23

  
**Heraeus**  
Nexensos

Sale to  


**YAGEO** GROUP

05/05/23

  
**TEWA**  
Temperature Sensors

Sale to  


 **cis** Your Partner in Smart Solutions.

28/02/22

  
 **TESTA**

Sale to  


 **Dr. Födisch**  
Umweltmesstechnik AG

22/12/21

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# Get in Touch



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