



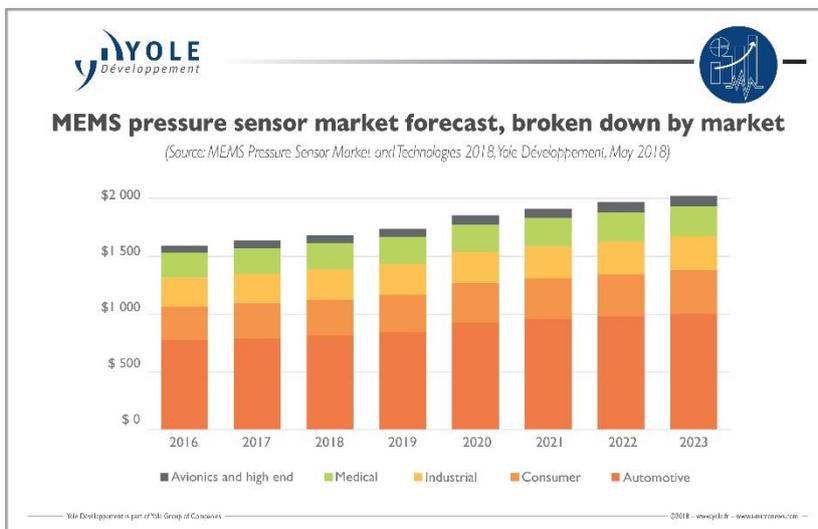
FOR IMMEDIATE RELEASE:

Pressure sensors market: automotive and consumer segments are still the main drivers

Extracted from: MEMS Pressure Sensor Market and Technologies 2018 report, Yole Développement, May 2018

LYON, France – May 22, 2018: “The MEMS pressure sensor market will grow by 3.8% per year, reaching a value of US\$2 billion in 2023”, announces [Yole Développement \(Yole\)](#) in its new MEMS & Sensors report: [MEMS Pressure Sensor Market & Technologies](#). Pressure sensors are used in a wide variety of applications and the market growth is very variable depending on the application. According to Yole’s analysts, automotive, consumer and avionics are the most dynamic markets. In addition, market leaders are different for each market segment, except for some MEMS sensor manufacturers, Robert Bosch, who is leading both automotive and consumer and Honeywell, and NXP who are present in 3 of the following market: automotive, industrial, medical and avionics & high end.

Based on their 20-years expertise in the MEMS & Sensors area, Yole’s analysts propose today a comprehensive technology & market analysis of the MEMS pressure sensor industry. Including 29 applications, the report identifies the key driving forces and restraints for each pressure sensor market and application, and provides accurate market value and volume forecasts. This new analysis also details the competitive landscape with market shares globally and by market. In addition, analysts propose key technical insight on main pressure technologies and main technological trends, reverse engineering trends for TPMS and consumer applications, technological landscape ...



What is the status of the MEMS pressure sensor industry? What are the main drivers? Who is leading this industry? Yole offers you today a snapshot of the MEMS pressure sensors market.

The automotive industry is the oldest and the biggest market for MEMS pressure sensors. Therefore, powertrain applications represent more than 50% of the pressure sensors business, followed by

safety, with TPMS¹ being the biggest single automotive application. Driven by CO₂ emission reduction and automation, pressure sensors will increasingly be used in the next five years, especially in China. Indeed government's regulations will require pressure sensors for several applications. These include TPMS, diesel and gasoline particle filters (DPF, GPF) and fuel tank evaporation (EVAP).

In parallel, the consumer market is now the second largest pressure sensor business, thanks to recent rapid adoption in high-end smartphones and tablets. This will further extend to Android mid-to-low value smartphones, driven by new use cases, such as indoor and outdoor navigation. Lower sensor costs and better accuracy and power also enable new applications to grow, such as wearables, electronic cigarettes, drones, and smart homes.

Avionics and high-end applications are still niche markets, but exhibit the fastest market growth thanks to the dynamic aircraft market and MEMS taking over from traditional technologies.

The medical and industrial markets are growing at a moderate rate because there is no significant change in term of applications, with one exception. New medical smart inhalers are in between the medical and consumer markets, and pave the way for many future medical consumer IoT² applications.

"The competitive landscape varies greatly with the type of market addressed," asserts **Yann de Charentenay, Technology & Market Analyst, Photonics, Sensing & Display at Yole**. And he details: *"In both the high-volume automotive and consumer markets, Robert Bosch is clearly the dominant leader. This is a unique position. Robert Bosch has succeeded in leveraging its automotive product leadership to become leader in the newer consumer market."*

Robert Bosch has aggregated both markets' production volume to reduce cost, and further increase its competitive advantage. Other players like Infineon, Sensata, Denso and Melexis are mainly focused on automotive, while STMicroelectronic and Alps serve the consumer market. Only TE Connectivity and NXP also have multimarket presence. The key players are large groups active in various MEMS sensors, with inertial, pressure and gas sensor devices. Vertical integration is usual in automotive at companies like Bosch, Denso and Sensata, but not in consumer, because systems are smaller and thus there is no need for tier one component suppliers.

The medium-to-low-volume medical, industrial, avionics and high-end markets all have many of the same key players. They include Honeywell, Amphenol, NXP, TE Connectivity, Omron, First Sensor, Merit, Elmos SMI, and TDK. These companies grow their business by

¹ TPMS : Tire Pressure Management System

² IoT : Internet of Things

targeting multiple markets, and by making added-value modules. There are also pure avionics and high-end market players, such as Kulite or Memscap.

Mergers and acquisitions (M&A) between Amphenol and GE, Sensata, Schrader and CST, TDK and Invensense, and Qualcomm, NXP and Freescale all included pressure sensor activities, and activity has therefore been concentrated. The budget for future acquisitions will probably exceed US\$100 million. The MEMS pressure sensors from Yole report lists future possible targets, and ranks them to help M&A³ decision makers. A detailed description of the report is available in the [MEMS & Sensors report section, on i-micronews.com](#).

The MEMS & Sensors team is attending lot of key conferences and trade shows all year long. This is a great opportunity for Yole's analysts to meet leading MEMS & Sensors companies and present results of latest technology & market analyses. Next dates are:

- [Sensors Expo & Conference](#) (June 26-28, San Jose, USA) with two presentations:



"The perceptual era of IoT has begun, mobile phones first" on June 27 at 10:00 AM – Speaker: **Guillaume Girardin**, Photonics, Sensing and Display Head of Division at Yole Développement.

"Autonomous Vehicle Sensors and Sensor Fusion" on June 26 within the Automotive Workshop – Speaker: **Dr. Yohann Tschudi**, Software & Market Analyst & **Guillaume Girardin**, Photonics, Sensing and Display Head of Division at Yole Développement

- 3rd European MEMS & Sensors Summit powered by SEMI (September 19-21, Grenoble, France):

"Megatrends Impacts on the MEMS Business" on September 20 – Speaker: **Dr. Eric Mounier**, Senior Analyst - Photonics, Sensing & Displays Division, Yole Development.

As well as a presentation proposed by **Pierre Cambou**, Principal Analyst, Technology & Market, Imaging at Yole.

Click [here](#) to discover Yole's agenda.

³ M&A : Mergers and Acquisitions

ABOUT THE REPORT:**MEMS PRESSURE SENSOR MARKET AND TECHNOLOGIES 2018**

Automotive and consumer applications are propelling the MEMS pressure sensor business to new heights. – Produced by Yole Développement part of Yole Group of Companies.

**Companies cited in the report:**

Alps, Amphenol, Bosch, CFSensor, Continental, Delphi, Denso, Elmos SMI, First Sensor, GE Druck, Honeywell, Infineon, Invensense, Keller, Kistler, Kulite, Meggit, Melexis, Memscap, MEMSensing Microsystems, Merit, MT microsystem, Murata, Murata, Nano-MEMS, NXP, Omron, Panasonic, Rohm, Schraeder, Sensata, Sensirion, ShuangQiao Sensor, ST Microelectronics, TDK, TE Connectivity, Thales, Xfab... [Full list](#)

Author of the report:

Yann de Charentenay works as a Technology & Market Analyst for Yole Développement (Yole). As part of the MEMS & Sensors Business Unit, Yann is strongly involved in technology & market analysis of applications of disruptive technologies and components such as memory, MEMS and sensors. Yann contributes to the development of Yole's activities daily, with a dedicated collection of market and technology reports as well as custom consulting projects.

Prior to joining Yole, Yann was engaged as a marketing engineer at the Commissariat à l'Energie Atomique (CEA), France, as well as a consultant at Algae, also in France. He has spoken at numerous international conferences and has authored or co-authored numerous press articles. Yann graduated from the University of Compiègne in France, with a master's degree in innovation management. He also graduated from INP Phelma in Grenoble, France, with a master's degree in materials science.

ABOUT YOLE DEVELOPPEMENT

Founded in 1998, Yole Développement (Yole) has grown to become a group of companies providing marketing, technology and strategy consulting, media and corporate finance services, reverse engineering and reverse costing services and well as IP and patent analysis. With a strong focus on emerging applications using silicon and/or micro manufacturing, the Yole group of companies has expanded to include more than 80 collaborators worldwide covering MEMS & Sensors - Imaging - Medical Technologies - Compound Semiconductors - RF Electronics - Solid State Lighting - Displays - Photonics - Power Electronics - Batteries & Energy Management - Advanced Packaging - Semiconductor Manufacturing - Software & Computing and more...



The "More than Moore" market research, technology and strategy consulting company Yole Développement, along with its partners System Plus Consulting, PISEO and KnowMade, support industrial companies, investors and R&D organizations worldwide to help them understand markets and follow technology trends to grow their business. . For more information, visit www.yole.fr and follow Yole on [LinkedIn](#) and [Twitter](#).

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