Description: “The piezoelectric actuators market is expected to witness a significant growth in the coming years owing to the increasing demand for ultra-precision positioning devices.”

The piezoelectric devices market is expected to reach USD 27.24 billion by 2020 from USD 20.35 billion in 2015, growing at a CAGR of 6.01% between 2015 and 2020. The increasing demand for piezopolymers and composite materials; emerging applications of piezo devices such as low-power and portable-energy sources in the medical sector and structural health monitoring, computer disk drives, robotics, accelerometers in cellphones, and notebooks in the consumer sector; increase in funding from investors and governments; and emerging applications of piezoelectric energy harvesting devices are expected to drive the piezoelectric devices market during the forecast period.

“Increasing demand for ceramic-polymer composite material is driving the piezoelectric devices market.”

Piezoelectric ceramic-polymer composites offer design versatility and performance advantages over both single-phase ceramic and polymer piezoelectric materials used in both sensing and actuating applications. Piezoelectric ceramics are widely accepted as they offer high piezoelectric activities and permittivity and the ease of fabricating materials into various sizes and shapes, including sheets of different sizes, cylinders, bars, and plates.

“Piezoelectric actuators and motors are expected to hold the largest share of the piezoelectric devices market.”

The global piezoelectric actuators and motors market is expected to witness a significant growth during the forecast period owing to the benefits like reliability and cost effectiveness offered by piezoelectric actuators and motors. The increase in demand for ultra-precision motion devices used in industries such as manufacturing, structural health monitoring, non-destructive testing, automotive, and consumer electronics is expected to drive the market in the coming years. The piezoelectric actuators market has possibilities to grow in the areas of autofocus assemblies required in phone cameras, fuel injectors used in the automotive sector, and precision-movement applications in microelectronics production.

“Industrial & manufacturing applications are likely hold the largest share of the piezoelectric devices market.”

Industrial & manufacturing is the leading application area for piezoelectric devices. Piezoelectric motors, sensors, actuators, and transducers have a number of important uses in industrial processes. Piezoelectric sensors such as ultrasonic sensors are used in sorting and material handling at various stages of manufacturing processes. A piezoelectric level sensor deploys sound waves to detect and monitor the level of materials in a bin. This increases automation and accuracy and reduces material losses due to human error. Actuators are used to precisely control industrial machining tools. Piezoelectric actuators, which use the piezoelectricity of crystals, are widely deployed in the high-precision positioning mechanism in manufacturing and inspection equipment to control mechanical displacements at a high speed.

“The automotive sector is likely to have new growth opportunities for piezoelectric devices.”

Piezo auto actuators play a major role in a variety of vehicle components. These actuators are maintenance-free and can be operated billions of times without incurring wear or deterioration. Another important component is fuel injector incorporating piezo technology, which provides improved fuel economy and reduced emissions. Also, piezosensors are used to enhance the automotive controlling and provide an enhanced driving experience.

Companies such as APC International and Morgan Advanced Materials are actively involved in manufacturing and designing piezoelectric products specific to automotive applications.
In the process of determining and verifying the market size for several segments and sub-segments gathered through secondary research, extensive primary interviews were conducted with key people. Break-up of profiles of primary participants is given below:
- By Company Type: Tier 1% – 35%, Tier 2% – 40%, and Tier 3% – 25%
- By Designation: C-level – 35%, Director Level – 25%, and Others – 40%
- By Region: North America – 43%, Europe – 19%, APAC – 29%, and RoW – 9%

"Energy harvesting is likely to be the most promising application of piezoelectric technology."
Growing demand for energy harvesting devices and increase in funding from investors and governments are expected to propel the growth of the piezoelectric devices market in the next five years.

The key market players profiled in the report are:
- APC International, Inc. (U.S.)
- Exelis, Inc. (U.S.)
- Morgan Advanced Materials (U.K.)
- PI (Germany)
- Piezosystem Jena (Germany)
- CeramTec GmbH (Germany)
- Piezo Solutions (U.S.)
- Piezo Systems, Inc. (U.S.)
- Piezomechanik GmbH (Germany)
- Mad City Labs, Inc. (U.S.)
- US Eurotek, Inc. (U.S.).

The report would help the companies in this market in the following ways:
- The report segments the piezoelectric devices market comprehensively and provides the closest approximations of the revenue numbers for the overall market and the sub-segments across different verticals and regions.
- The report helps stakeholders to understand the pulse of the market and provides them information on key market drivers, restraints, challenges, and opportunities.
- This report would help stakeholders to understand the competitors better and gain more insights to enhance their position in the business.
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