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The Global Market for Printable, Flexible and Stretchable Sensors and Electronics 2018-2027

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Abstracts

Based on a new generation of advanced materials, printed, flexible and stretchable sensors and electronics will enable new possibilities in a diverse range of industries from healthcare to automotive to buildings. These technologies will drive innovation in smart medical technology, automotive, smart manufacturing, Internet of Things (IoT) and consumer electronics.

The recent growth of the Internet of Things (IoT) and wearables has created the need for electronics and sensor systems that are small, lightweight, mechanically flexible and low-power. These systems must also be able to conform to the shape of and survive the environment in which they must operate. They are typically fabricated on flexible plastic substrates or are printed/woven into fabrics. Applications covered in this report include:

Electronic components and displays

Multilayer printing of circuitry.

Large-area electronic-based sensors for Internet of Things (IoT)

Organic-semiconductor based circuits.

Highly stretchable large-area sensors.

Large-area flexible electronic devices.

Inkjet-printed stretchable electrodes.

Stretchable, biocompatible and biodegradable substrates.

Wireless sensors and networks.

Structural monitoring.

Energy harvesting and storage

RF, piezo and thermal harvesting.

Flexible PV cells.

Printed PV cells.

Printed flexible energy harvesting devices.

OLED lighting.

Novel interconnects.

Printable batteries and supercapacitors.

Flexible thermoelectric devices.

Smart wearables

Smarter and lighter wearable consumer electronics.

Stretchable/ultra-flexible electronics.

Fitness monitoring.

Biosensors for sports.

Automotive

Integrated dashboards.

Flexible OLEDs.

Healthcare and medical

Health monitoring devices, including intelligent patches and bandages for medical treatments.

Flexible X-ray imaging.

On-body ECG monitoring.

Biosensors and electronics to interface biological tissue.

Artificial skins.

Printed and Flexible Sensors for Vital Signs Monitoring.

Development areas covered include:

New organic semiconducting materials for organic electronics.

Conductive inks for 2D and 3D printed devices.

Flexible IGZO backplanes.

Stretchable thermoformed inks.

OTFTs (organic thin-film transistors).

Solution processed polymer semiconductors for thin-film transistors.

Transparent conducting films (TCF) for touch sensors.

Organic thin film transistors (OTFT).

Organic photodetectors (OPD).

Nanomaterials based printed, flexible and stretchable electronics and applications.

Graphene for flexible electronics.

Flexible transparent conductive electrodes for Organic Devices.

Hybrid transparent conductors for deformable displays.

Report contents include:

Current and future printable, flexible and stretchable products.

Advanced materials used in printable, flexible and stretchable electronics and sensors.

Stage of commercialization for applications, from basic research to market entry. Markets covered include conductive inks, wearables and IoT, medical & healthcare sensors, electronic clothing & smart apparel, energy harvesting & storage, electronics components and flexible displays.

Market drivers and trends.

Market figures for conductive inks, by materials type and revenues to 2027.

Market figures for inkjetable conductive inks to 2027.

Global market revenues for wearable electronics to 2027.

Global transparent conductive electrodes market forecast by materials type.

Addressable market for smart textiles and wearables in medical and healthcare.

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Global smart clothing and apparel market revenues to 2027.

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Global market for flexible OLED displays to 2027.

Over 250 in-depth company profiles.

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