Stretchable Electronics 2017-2027

Description: This report provides you with everything that you need to know about stretchable electronics. It provides the most comprehensive and insightful view of this diverse emerging industry, assessing more than 32 product areas, analysing more than 16 different stretchable materials/components, covering the progress of more than 87 companies and 25 research institutes including first-hand primary research on 59 companies, and giving ten-year market forecasts segmented by more than 7 application and 15 material/component areas.

This report develops a critical technology assessment for a vast array of emerging stretchable electronic materials and components. These include stretch sensors, stretchable ink-, yarn-, or wire-based interconnects, stretchable transparent conductive films, stretchable PCBs, haptics and actuators, transistors and logic, energy harvesters, batteries, supercapacitors, encapsulates, substrates, and so on. Our forecasts are segmented by 15 different stretchable component types.

This report also provides a detailed view of end use markets including healthcare & medical, automotive, consumer, sports & fitness, industrial, and so on. The ten-year forecasts are segmented by 7 key markets and at least 7 product types such as robotics, apparel textiles, non-apparel textiles, skin patches, and so on.

Technology insight and business intelligence based on years of primary research

This report is the result of years of global primary research on stretchable electronics itself, but also on its constituent elements and target applications. Our analysts, for example, have been covering conductive inks, in-mold electronics, electronic textiles, flexible/stretchable printed circuit boards, wearable technologies, stretchable sensors, stretchable transparent conductive films, and structural electronics and so on.

In the past three years alone, we have met and/or interviewed at least 60 companies active in the value chain of stretchable electronics, attended more than 15 conferences/tradeshows across the world where stretchable electronic products were discussed/exhibited, and delivered multiple tailored consulting projects.

In addition, for the past decade, we have been organising the Show!, a business-focused bi-annual conference and tradeshow focused on electronics with new form factors. This show has given us a window to stay connected with the leading players as the industry has evolved.

Stretchable Electronics: enabling the future of electronics

The electronic industry is in the midst of a major paradigm shift: novel form factors are emerging ranging from limited flexibility to ultra-elastic and conformable electronics. This transfiguration has, of course, been in the making for more than a decade now, but it is only now that it is beginning to make a substantial commercial impact.

This shift is not an incremental or a sustaining technology that furthers technology performance along well-established industry lines. Instead, it seeks to create new functions, new applications, and new users. As such, this technology frontier currently only has vague figures-of-merit and limited insight on customer needs.

Indeed, many opponents have long argued that this entire class of emerging materials/devices is a classic case of technology-push, a solution looking for a problem. This view may have been right in the early days, but we now see this trend as an essential step towards the inevitable endgame of new electronics: structural electronics.

Structural electronics is a disruptive megatrend that will transform traditional electronics from being components-in-a-box into truly invisible electronics that part of the structure. This is a major long-term innovation that we lead to a root-and-branch change of the electronic industry including its value chain, its materials, its components, and so on. Stretchable and conformable electronics is giving shape to this megatrend. Indeed, it enables it.
Out of the lab and into the market

Stretchable Electronics is an umbrella term that conceals great diversity. It refers to a whole host of emerging electronic materials, components and devices that exhibit some degree of mechanical stretchability. These include interconnects, sensors, actuators, functional films, batteries, logic, displays and so on. It is therefore an emerging technology frontier that simply cannot be painted with a broad brush.

In fact, this emerging frontier covers diverse technologies, each sitting on a different point on the technology/market readiness spectrum. Indeed, some stretchable electronics components are on the cusp of entering the markets, whereas several others are still in the proof-of-concept stage. We expect that this technology frontier will soon fragment, with some constituents becoming successful commercial stories, whilst others remain largely an academic curiosity.

This ship is beginning to sail now. Indeed, we anticipate that in many cases the winners will emerge within the next 3-5 years. This is why companies now need to urgently establish a closer collaboration between their commercial and research units, and should follow a strategy of touching upon as many nascent application spaces as their bandwidth allows to garner feedback, offer customized solutions, and fine-tune their research direction.

In this report we provide a critical assessment of all the existing and emerging technologies. You will learn about the technology readiness levels, latest performance levels, unsolved technical challenges, late-stage or commercial prototypes, and so on. You will also learn about the emerging global business ecosystem pushing each technology.

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