Xerox Develops Silver Ink for Cheap Printable Electronics

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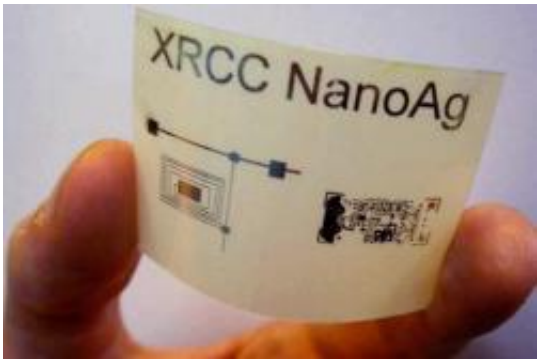

Xerox has invented a silver ink that conducts electricity, and could be used to build flexible electronics cheaply and easily. Image credit: Xerox.

(PhysOrg.com) -- Xerox has developed an ink which can be used to print circuits onto plastics, films, and textiles. Although circuits printed on flexible materials aren't new, Xerox's method may be cheap and easy enough to open the doors to many new possibilities for flexible electronics.

The new ink, which Xerox calls its "silver bullet," is a silver ink that conducts electricity and has a melting temperature lower than the melting temperature of plastic. One of the biggest challenges in developing flexible electronics has been the fact that most metals melt at about 1,000 degrees C, while plastic melts at 150 degrees C. Under these conditions, attempting to melt ink on top of a plastic will melt the plastic

before the ink melts. However, the new silver ink melts at 140 degrees C, allowing researchers to print ink without melting the underlying plastic.

Xerox is discussing the technology with manufacturers. The company hopes that the ink (along with other lightweight electronic components, such as semiconductors) could lead to a variety of applications. For instance, circuits could be printed onto plastic sheets as if printing a document, and then constructed into a bendable electronic gadget. The circuits could also be used to build plastic electronic book readers that are flexible, lightweight, and can withstand damage. Other applications may include weaving the circuits into clothing, low-cost radio frequency identification (RFID) tags, flexible signs, solar cells, and novelties.

via: Venture Beat