

# The future is here: Interactive screens on your packages

April 8 2016

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Instead of reading a label, consumers could be interacting with an electronic screen on packaging in the future, thanks to a revolutionary new development by scientists at the University of Sheffield.

The scientists collaborated with technology company Novalia to create a new way of displaying information on packaging, a move that could revolutionise the packaging industry.

This technology could be used in greetings cards or products where a customer could receive a simple message. More complex developments could include a countdown timer on the side of a packet to indicate when a timed product was ready - such as hair-dye, pregnancy tests or home-baking using a 'traffic lights' system.

In a paper published in the *IEEE Journal of Display Technology*, the team explain how a screen can be fixed onto packaging to display information.

The process involves printing electronic tracks onto paper and then fixing low-cost electronics and a polymer LED display to the paper using an adhesive that conducts electricity.

Working together, University of Sheffield scientists and Novalia also designed and constructed a touch-pad keyboard on the paper that allows a user to selectively 'drive' the LEDs in the display.

The research has been funded by the Engineering and Physical Sciences Research Council (EPSRC) and testing so far has taken place on paper but the process could potentially be printed on other surfaces.

The team's next steps are to create fully flexible organic displays on a plastic substrate that then fix onto the electronic tracks. The LED devices need to be low-cost and flexible enough to be used on all packaging.

Professor David Lidzey from the University's Department of Physics and Astronomy said: "Labels on packaging could become much more innovative, and allow customers to interact with and explore new products. The use of displays or light emitting panels on packaging will also allow companies to communicate brand awareness in a more sophisticated manner."

Chris Jones from Novalia said: "The [paper](#)-based [packaging](#) industry is worth billions of dollars. This innovative system we have developed with the University of Sheffield could give manufacturers a way to gain market share by being able to distinguish its products from competitors."

**More information:** Tao Wang et al. Polymer Light Emitting Diodes Powered via Paper-mounted Electronics, *Journal of Display Technology* (). [DOI: 10.1109/JDT.2016.2544946](https://doi.org/10.1109/JDT.2016.2544946)

Provided by University of Sheffield

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