

# Functional inks bring additional information and entertainment to products

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Traceable consumer products and entertaining solutions are about to become part of our everyday lives, particularly in food packaging or, say, textiles and household appliances.

Through the TagItSmart project, VTT Technical Research Centre of Finland is developing functional inks which can be used to add variable codes to products. For example, using such a code a mug can notify a consumer of the temperature of a drink, or packaging can notify of the 'best before' date and the product origin and country of production.

Functional inks are used for the printing of 2D codes on various products. "The idea is that that ink reacts at a certain temperature or within a certain time and provides the consumer with a message containing varying, additional information based on a dynamic code," says Project Manager Liisa Hakola.

"We are also developing a leakage indicator suitable for packaging, which reacts to oxygen entering vacuum-packaging. Using this technology, for example [food packaging](#) can indicate whether its contents are fit for consumption or spoiled. If the leakage indicator is a code, it can be used to access additional services and information based on the situation and time of reading."

Practical IoT applications are being developed under the TagItSmart project over a period of three years. VTT will also explore consumers' opinions of the applications. In addition to VTT, Upcode is representing

Finland on the project.

New applications will become available to consumers by the end of the project at the latest.

Provided by VTT Technical Research Centre of Finland

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