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## INTELLIGENT FOOD PACKAGE

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### Applications

Foodstuffs with high degree of freshness, such as meat and fish products, are prone to microbial spoilage processes. But the actual freshness of packaged food products is not easily detectable. In the project FRESH the scientists at Fraunhofer EMFT and Fraunhofer IVV, together with industrial partners, are developing a package foil, where the color of the package indicates the actual freshness of the packaged food product.

### Technical Innovation

Integrating chemical sensor materials (optical chemosensors) into food packaging makes it possible to determine the quality of the foodstuff simply by looking at the package. The sensors react selectively to gases emerging during the degradation of the foodstuff, such as biogenic amines. When a certain concentration limit within the package is reached, the sensor material reacts by changing its color.

### Outlook

The possibility of real-time monitoring of the microbiological status of packaged food contributes to increasing product safety for foodstuff. Additionally, it helps avoiding unnecessary food waste at the end of the value chain, since the package delivers information on whether the food can still be consumed after the expiration date has elapsed.

### Partners

- EVONIK Recource Efficiency GmbH
- Wipak Walsrode GmbH
- Siegwirk Druckfarben AG & Co. KGaA
- Albis Plastic GmbH
- MuWe Fleischhandels GmbH

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