



## Spiromatic develops a breadcrumb analysis tool

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**East Flanders-based Spiromatic specialises in total solutions for artisanal and industrial bakeries. The company relies on their in-house knowledge for the design and implementation of custom-made processes and automatic dosing of raw materials for bakery products. The company was seeking in-depth insights into the mixing and baking processes, and into the machine settings used by customers.**

More and more processes are becoming automated, including for bakery products. Because the transition to automated solutions changes the way ingredients are handled, this could have an impact on the quality of the dough and the end product. To better support its customers and so they could see the effects of the various technologies on the end product for themselves, Spiromatic started an on-site test – a bakery with a corresponding laboratory – for the production of pre-ferment, sourdough and other breads. The bakery expert scientifically analyses the product and production process at the test bakery, so they can advise on the options for optimisation. The company developed a software tool for breadcrumb analysis for this purpose.

### **Analysis tool**

The first step was to monitor the sourdough process itself. Spiromatic provided the experimental bakery with the necessary infrastructure and measuring equipment.

They then focused on substantiating their advice to customers. Post-baking analysis of the bread must be possible. One important parameter is the crumb. The breadcrumbs were analysed using the new Breadcrumb Analyser software, which can be set up to analyse photos of the bread slices (based on parameters). To develop this software, Spiromatic approached Sirris and the University of Ghent.

Sirris based the development of their specific software program on University of Ghent research data. Sirris provided an easy-to-use interface and added the option to adjust the parameters, to automatically display the results in Excel files in columns, diagrams and even on the images themselves. Once the development had been approved by Spiromatic, the know-how was transferred to the company, whose experts can now use the software and expand it as required.

The Breadcrumb Analyser ensures Spiromatic's customers can scientifically evaluate and compare their products in the test phase, and estimate the effect on the structure of even the tiniest change in ingredients. This makes it easier to adjust the recipe or the production process until the desired final quality is achieved.

## Authors



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