

Photonics for Dairy

Application Case Study

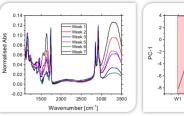
Global milk production is expected to exceed 1000 million tonnes by 2025 and is an important part of Ireland's Agri-Food sector; the Irish dairy industry exports 90% of its production to over 140 countries, valued at $\notin 3.1$ billion. Photonics can, and does, provide a range of invaluable solutions to the dairy industry:



Rialtas na hÉir

Innovation Voucher Case Study: Maturity Cycle of Processed Mozzarella Cheese

A pizza company approached CAPPA to develop a quality control test for mozzarella cheese, availing of a €5,000 Enterprise Ireland Innovation Voucher. The problem was an issue with the cheese burning during pizza preparation depending on the maturity of the cheese. CAPPA gathered 8000 NIR spectra over 7 weeks, and used **Chemometrics** (Principle Component Analysis) to develop a model to identify the current maturity of the cheese, and hence determine the optimum cheese maturity point.



Tionól Réig an Deiscirt

Southern Regiona

NIR spectra of mozzarella cheese

PCA model of maturity cycle

Enterprise

🗅 Ireland

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