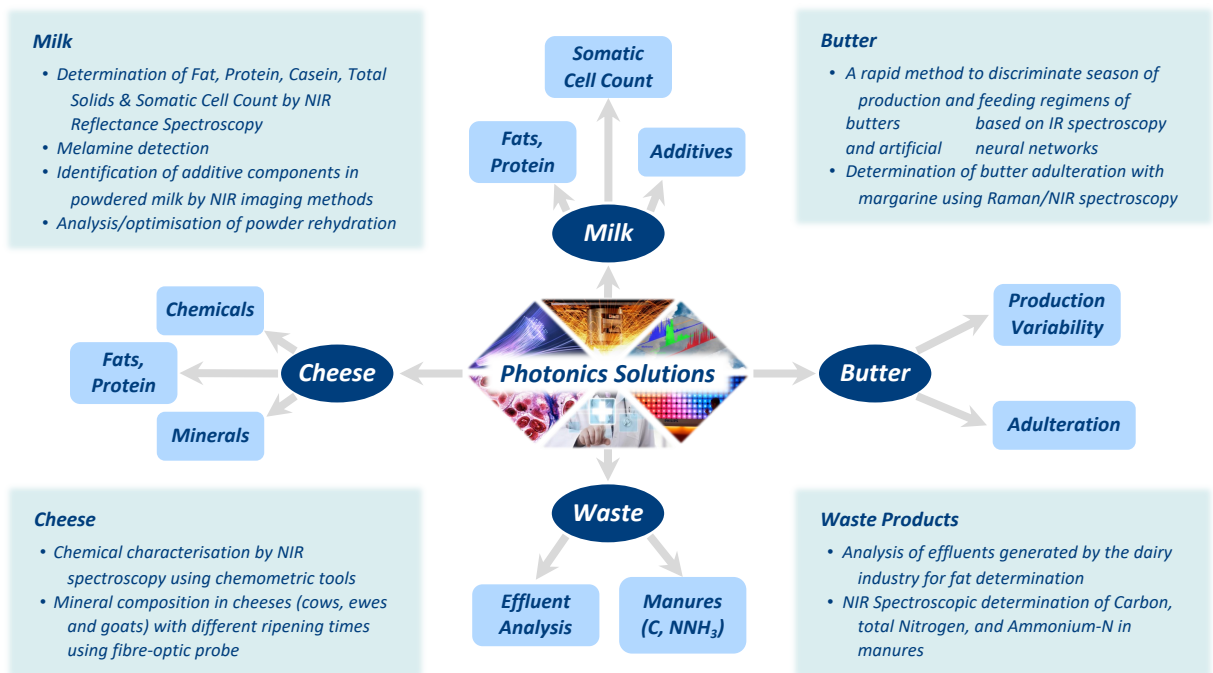




Photonics for Dairy

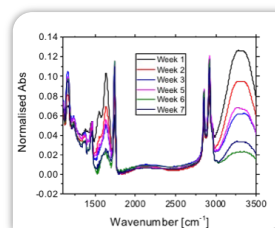
Application Case Study

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 €3.1 billion. Photonics can, and does, provide a range of invaluable solutions to the dairy industry:

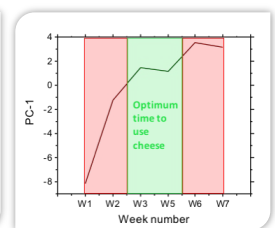


Innovation Voucher Case Study: Maturity Cycle of Processed Mozzarella Cheese

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.



NIR spectra of mozzarella cheese



PCA model of maturity cycle

