diamond

Consumer Products

CASE STUDY

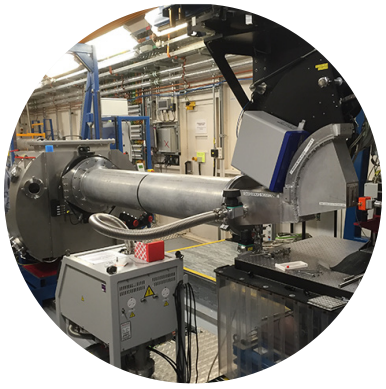
# Diamond SAXS industrial beamtime aids Unilever hair care R&D project towards home use trial prototype

Hair care is a rapidly developing science. Consumers demand more from their products in terms of sensory perception and functionality.

Rapid innovation into market is key to growth. Increased product complexity requires greater understanding of the interplay between components and an accurate description of the product microstructure and its rheological and dispersion properties are essential.

Unilever

## The Challenge



The project milestone deadline was fast approaching and evaluation of the new technology was needed on a fast timescale. Specialist synchrotron-based experiments were needed to demonstrate the stability and suitability of the new technology in product formulations in both product and “in use” formats.

The R&D team members were not all familiar with the technique so extra guidance was needed to optimise the experiments and guarantee rapid delivery of the results.

## The Solution

Unilever scientists worked as a team with Diamond Industrial Liaison scientists. Experiments were carefully optimised and the power of the I22 beamline was demonstrated in being able to investigate the product microstructure in diluted form.

Working as an extended team, data was translated into understanding and communicated to the project team within just a few weeks of the original experiment.

## The Benefits

The team were able to gain a significant insight into the behaviour of their formulations and were able to demonstrate the suitability of the novel technology to meet a key project milestone.

Consequently the project accelerated to a working prototype product which went through an “in home trial” in late 2013.

> **“The excellent facilities, flexibility and “can do” attitude at the Diamond Light source aligned well with our project needs and objectives. Without this contribution we would not have our current best prototype option to hand. An excellent partnership which bodes well for the future.”**

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