

Partner:



CAPPA Assists Alcon in Process Analysis and Optical Metrology

Background

Alcon, part of the Novartis Group, is the world's largest ophthalmic company with 22,000 employees worldwide serving three product areas: pharmaceuticals, surgical devices and vision care. Its facility in Cork, certified to ISO 9001 and ISO 13485, employs 360 people and manufactures the company's leading surgical product, the intraocular lens (IOL).

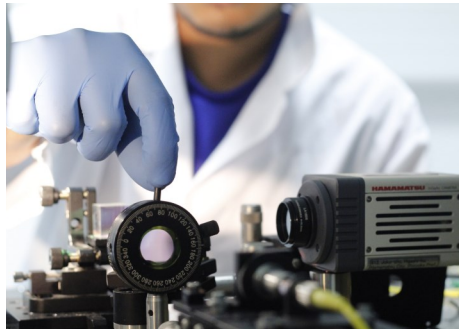
Alcon's AcrySof® IOLs are prosthetic lenses that replace the patient's natural lens following cataract surgery and are implanted in 60% of cataract patients worldwide. Each of the one million lenses manufactured in Cork annually undergoes 77 different quality inspections to ensure all specifications necessary for the sight-saving surgery are met.

The Need

The initial stages of IOL manufacturing have a direct impact on the optical performance and quality of the finished lenses. However, these characteristics cannot be measured until end of line, resulting in wasted effort for rejected lenses. Alcon sought to investigate an automated technology that would allow them to identify potential end of line failures right at the start of their manufacturing process.

The Solution

CAPPA and Alcon have engaged in collaborative R&D, which has been supported, jointly by the company and



Enterprise Ireland under their Innovation Partnership programme.

Working in collaboration with Alcon, CAPPA carried out R&D for an advanced optical inspection system, which passed all pre-validation testing, and was licensed by Alcon. The system facilitates early automated prediction of lens quality and the removal of reject lenses earlier in the process. It achieves significant improvements in manufacture and production line testing, providing valuable new information to Alcon on their products and manufacturing process.

Benefits of the Engagement

This was Alcon's first significant process improvement on the IOL manufacturing line to take place outside of the US. It has direct benefits in terms of yield, quality, and throughput, resourcing and process knowledge and has raised the profile of the Irish facility within Alcon's corporate structure.

Alcon subsequently hired a member of the CAPPA research team on completion of the project, to assist in the technology

transfer. CAPPA and Alcon are currently negotiating a follow-on process improvement project, which has successfully passed the technical feasibility stage.

CAPPA has worked with Alcon since 2008 on various direct funded consultancy projects in conjunction with the Process Engineering and Quality Assurance groups within the company. This has provided Alcon with access to CAPPA's high-resolution imaging and spectroscopy facilities to assist them in a wide range of materials, process and product investigations.

"A successful relationship has been forged with CAPPA, which is now bearing fruit. Alcon Ireland recognised the capability of CAPPA to provide value for money expertise in the area of process analysis and optical metrology."

- Barry Walsh,
Process Engineering Manager,
Alcon Ireland.



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Call us today on +353 21 433 5302 to discuss a collaboration to suit your needs!