



Liquid lens solution for biometric sensors



Corning® Varioptic® has worked with a leader in identity technology to develop a biometric sensor used for iris recognition as part of border control measures. This new generation of device benefits from an auto-focus capability provided by the integrated liquid lens which drastically improves the accuracy and time to scan of the system, thus ensuring a smooth and efficient identity processing.

Customer's expectations

Our customer's request was an upgrade of their existing system with the following enhanced performance:

- Greater range of focusing
- Enough resolution to decipher an iris over the range of focus
- Shorter time-to-focus
- Low power (embedded device)

An additional request was to have a system that could endure millions of cycles to address the need to serve tens of millions of people annually.

Selection of a liquid lens optical module

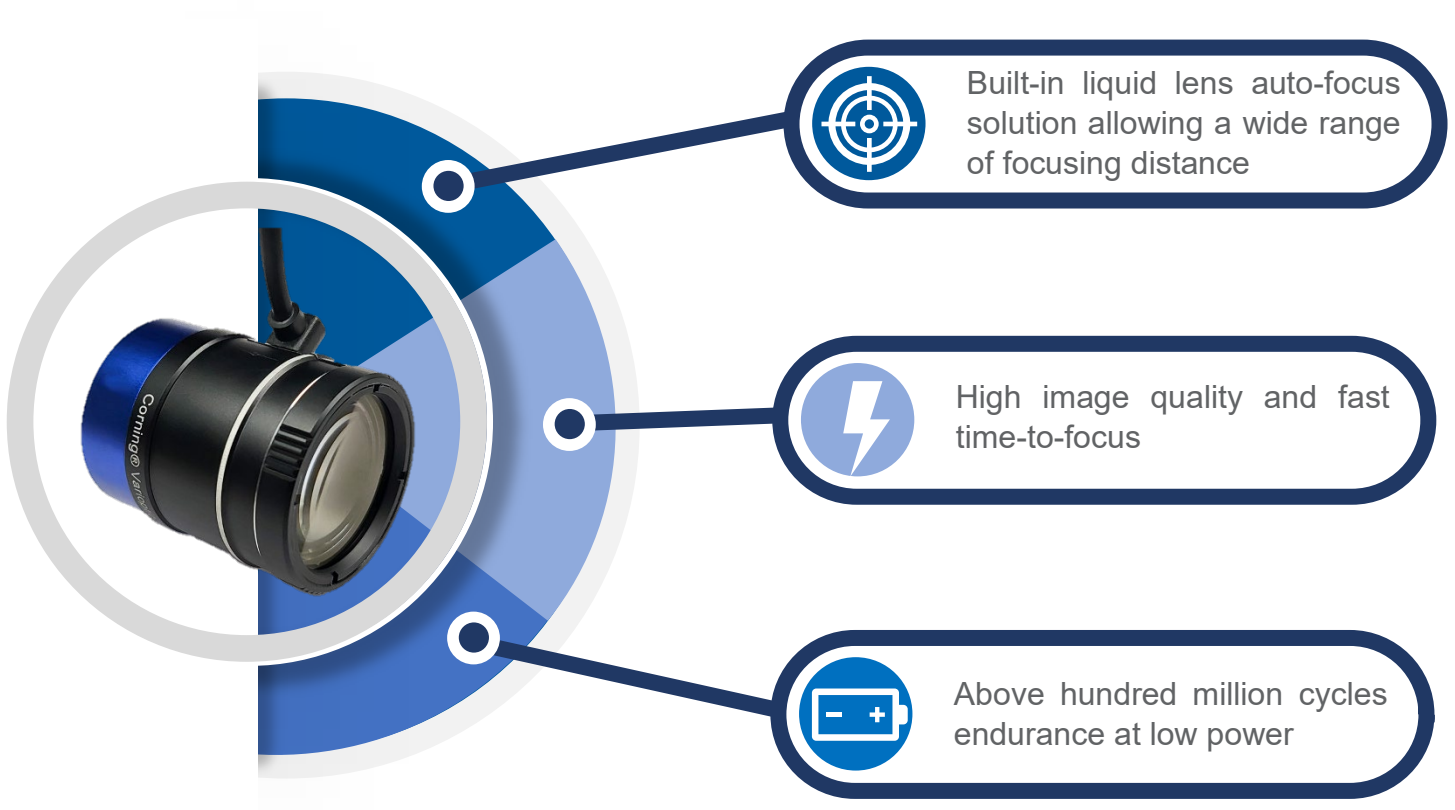
Based on the customer's optical requirement, Corning® Varioptic® was able to provide an off-the-shelf optical module that fitted the technical specifications: the C-mount 25mm focal length. The compliance with the range of focus was possible thanks to the optical dynamic range of the liquid lens integrated in the module.

Thanks to the autofocus capability and the low wave front error of liquid lenses, the resolution criteria (2lp/mm) could be met over the entire focusing range and the iris texture could properly be decoded.

Thanks to the dedicated electronics provided by Corning® Varioptic®, the focusing algorithm has been optimized for this specific use-case which provided a time-to-focus below 1s, which is fast enough for this new generation of biometric device.

Liquid lens run on very low current and because no mechanical movements are required, the final system is low power and can endure hundreds of millions of cycles with no degradation.

Key solution highlight



Contact us

You would like to know more about our products, or you have a specific use-case in mind?

Please visit our website: [Corning® Varioptic®](https://www.corning.com/varioptic)

Or contact us at varioptic@corning.com

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