



Liquid lens solution for AR VR applications



Corning® Varioptic® has worked with major actors in the augmented and virtual reality domain. The optical devices developed in this field often require complex opto-mechanical integration with additional constraints on the high imaging quality. Liquid lens-based modules offer a compact, robust and low power solution to capture or project images at multiple depths with no compromise on the image quality.

Customer's expectations

Our customer had two use-cases in mind:

- External camera for environment monitoring and extended bar code reading on a head-mounted system
- Internal projection system for depth perception generation

Selection of a liquid lens optical module

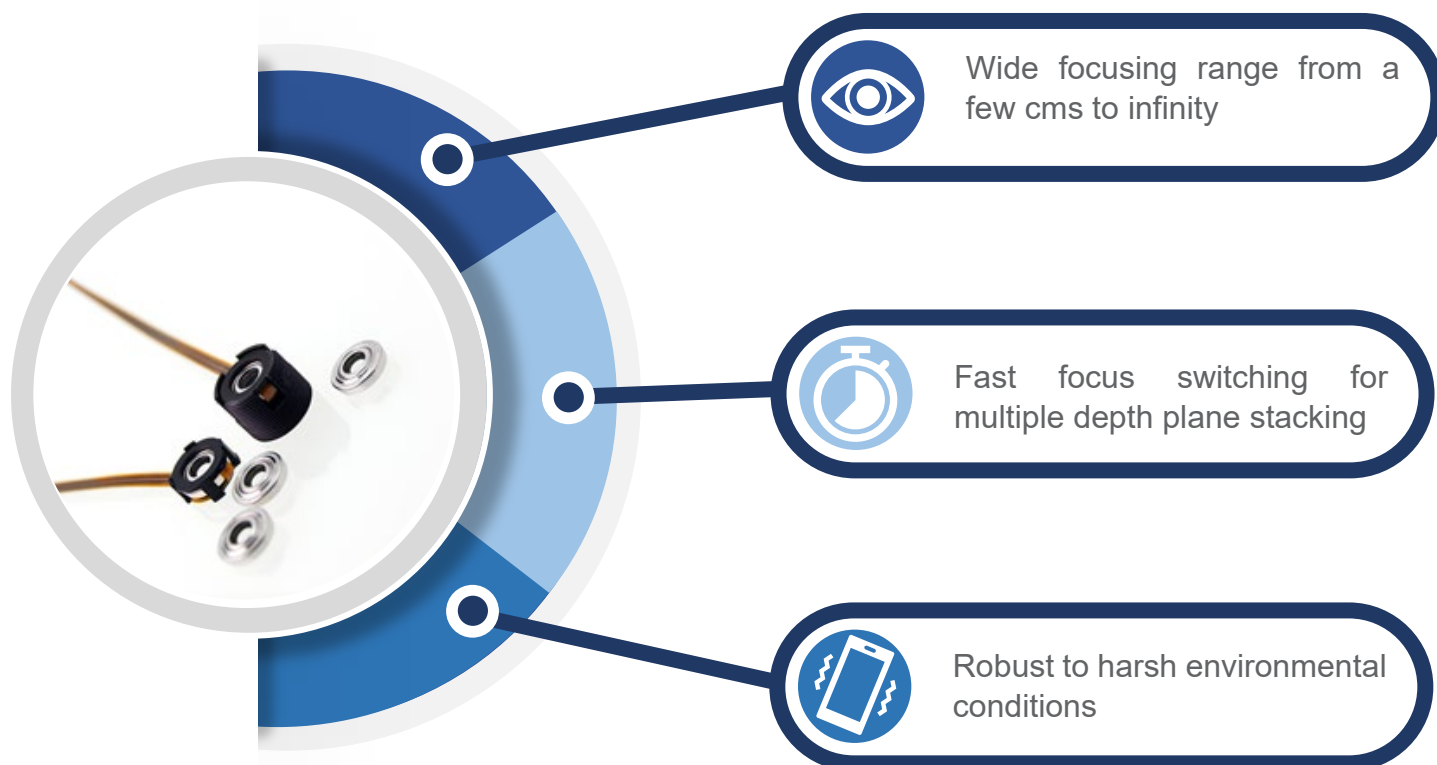
For the external camera, conventional systems have limited focusing capabilities on short distances making hard to get sharp images below 10cm. This issue becomes stronger for barcode reading applications which rely on automatic decoding algorithms.

The wide focus range of liquid lens-based module from Corning® Varioptic® allow to focus at distances below 5cm up to infinity. In addition, these lenses are extremely robust, withstanding >6500g and numerous cycles (few 100 million cycles).

The internal projection system is limited to a unique plane with fixed optics, thus limiting the 3D perception of the projected image.

Corning® Varioptic® liquid lenses are capable of quickly changing the focus of the image plane with the unique property of featuring high optical quality while the focus is changing. Images at various planes can be projected and stacked within one image frame, generating the depth perception on camera.

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/varioptric)

Or contact us at varioptric@corning.com

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