

Unlocking High Performance Waveguides at Scale with Jet and Flash Imprint Lithography

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Magic Leap's vertically integrated waveguide combiner production solution has enabled a revolutionary AR display, scaled with high yield and low cost. This presentation will provide insight as to how Magic Leap's optical designers, equipment and process engineers have redefined design rules and evolved diffractive waveguide designs with in-house built design tools, Jet and Flash Imprint Lithography (J-FIL) Technology, high index imprint resin, low-cost sub-masters, and high-precision equipment. To ensure consistent high-volume production, Magic Leap relies on our deep understanding of the correlation between optical and process performance measured through rigorously designed optical test equipment running custom algorithms. This vertical integration from design to high-volume manufacturing allows us to deliver high-performance, low-cost waveguide combiners on a rapid timeline.