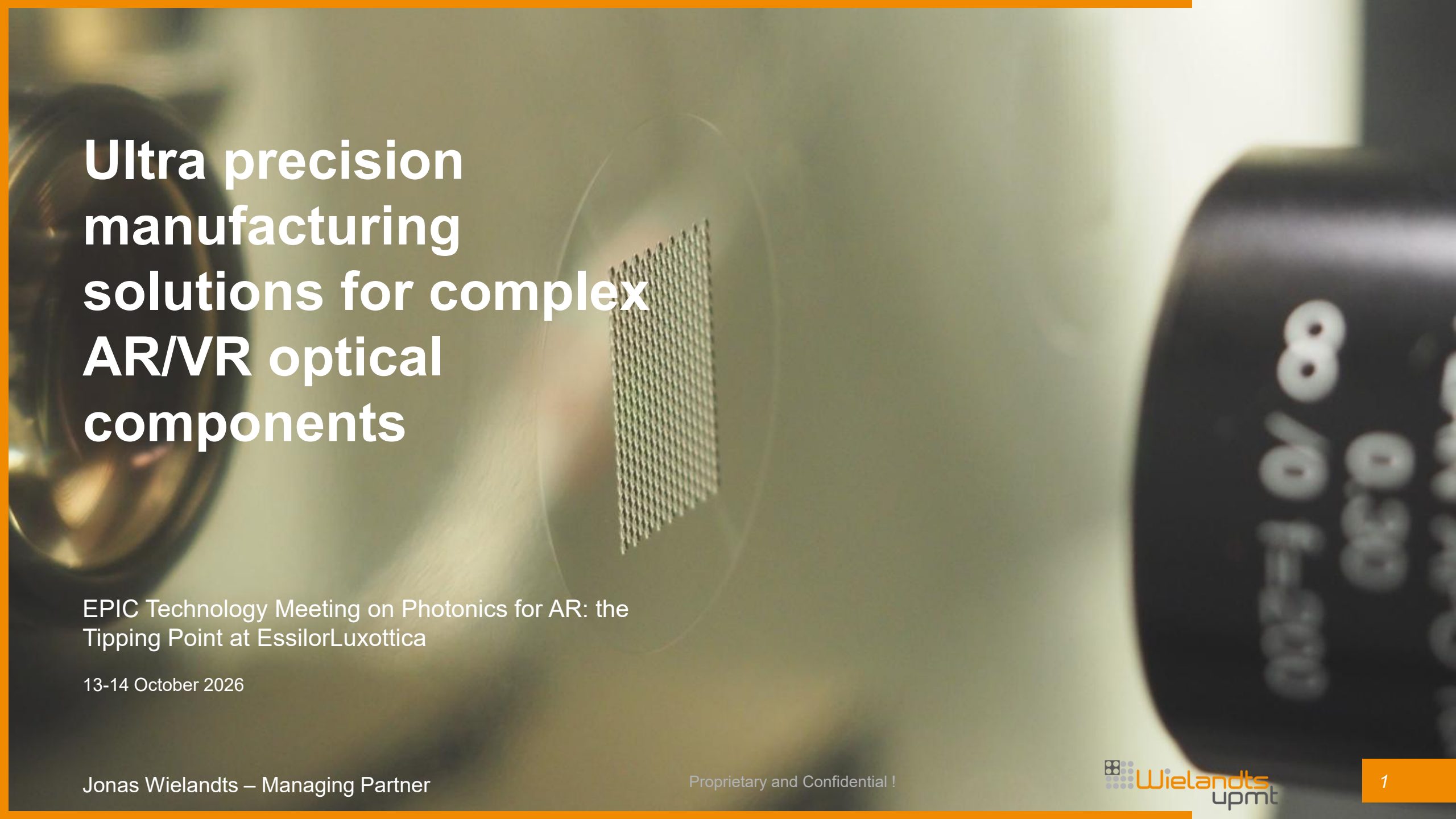


Ultra precision manufacturing solutions for complex AR/VR optical components

EPIC Technology Meeting on Photonics for AR: the Tipping Point at EssilorLuxottica

13-14 October 2026

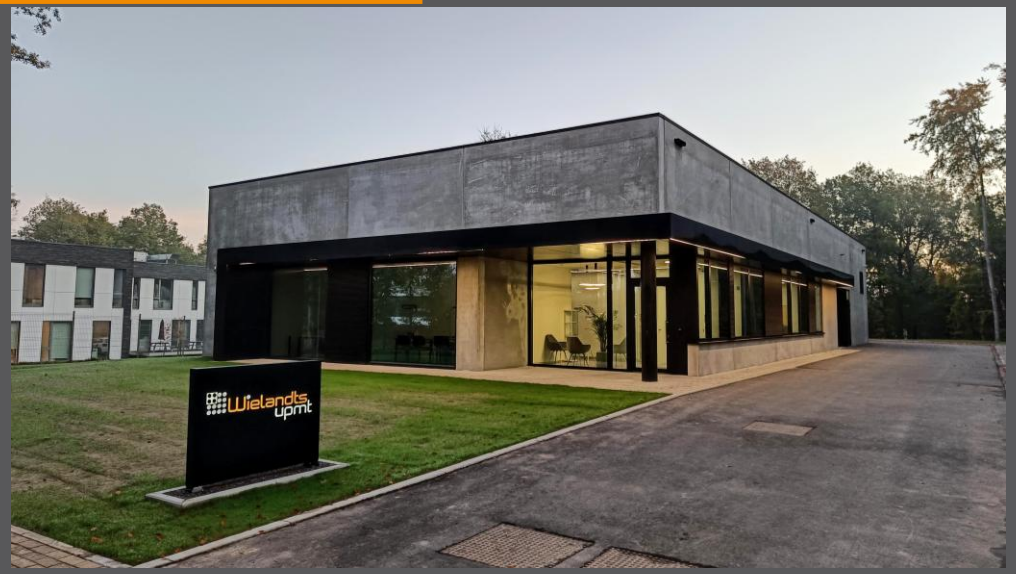
Jonas Wielandts – Managing Partner

Proprietary and Confidential !

Wielandts upmt

Agenda

- Company
- Our solutions
- AR/VR/XR specific parts
- Conclusion



In-house processes

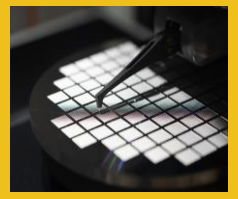
Maximize process control and know-how for innovative manufacturing solutions

Ultra-Precision Machining

Diamond turning (SPDT) *(incl. freeform)*

Micro-milling

Laser assisted diamond turning (*IR materials*)



DPI® *Multi-cavity diamond turned surfaces*

Replication processes

HiFi Optics® *Thermoplastic compression molding*

Injection-compression molding

CNC Machining

3/5-axis milling

Specialized Processes

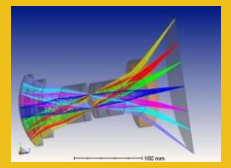
Galvanic Nickel-phosphorous (NiP) plating

Plasma treatment

Saw dicing

High-End Engineering

CAD/CAM engineering

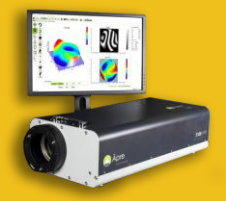


Optical engineering

Metrology

Tactile profilometry

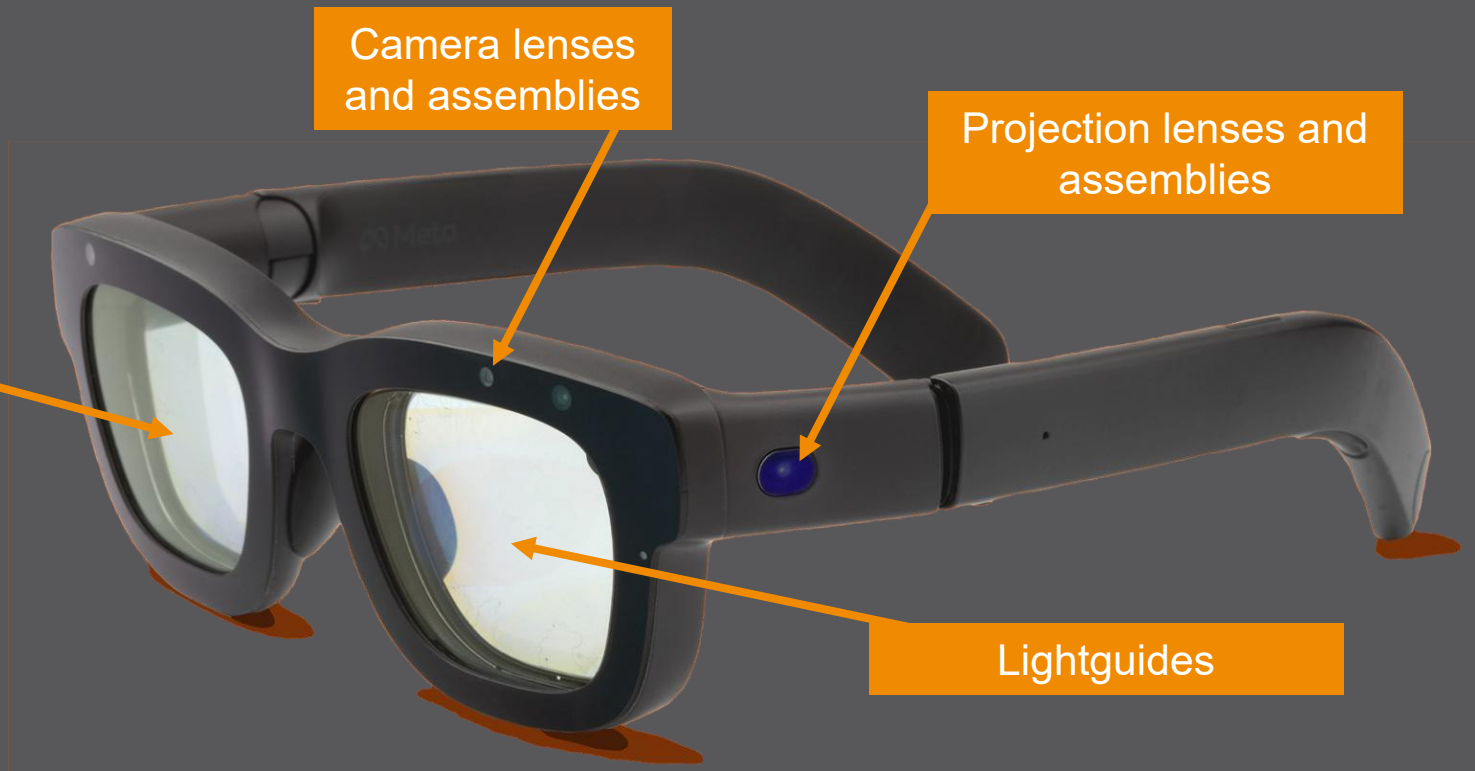
Laser scanning confocal microscopy



Fizeau interferometry

Residual stress polarizer

UPMT customers projects for AR/VR/XR



AR/VR/XR specific parts

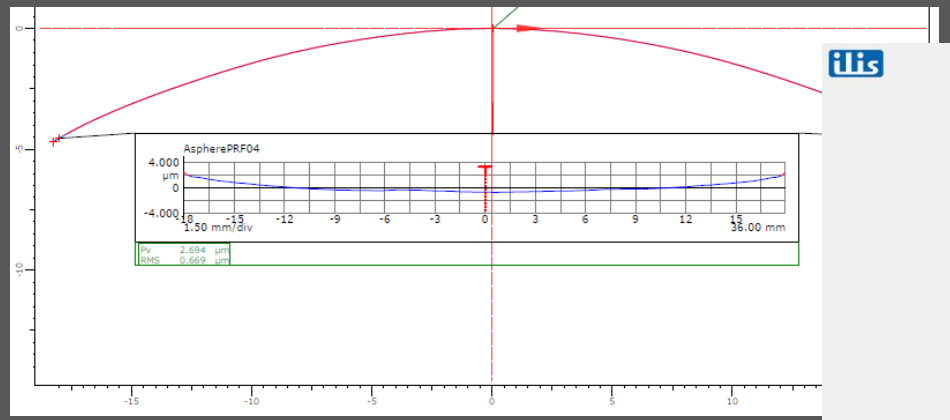
Pancake lenses

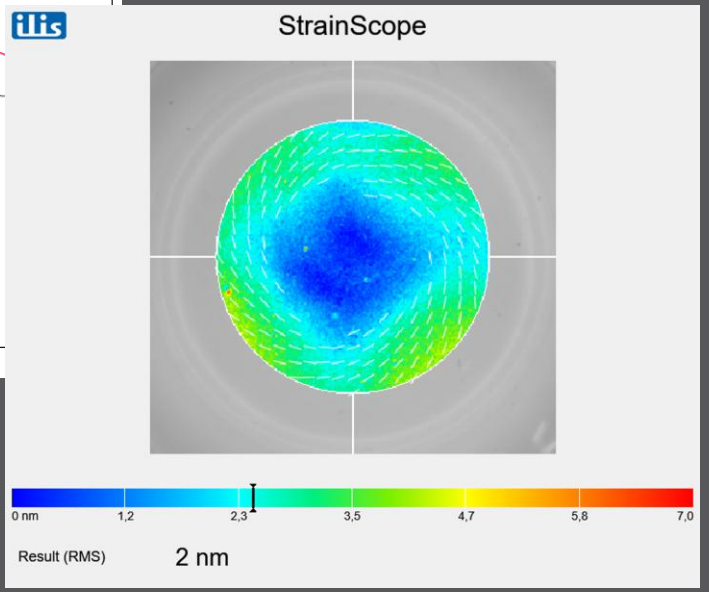
DT molding tool

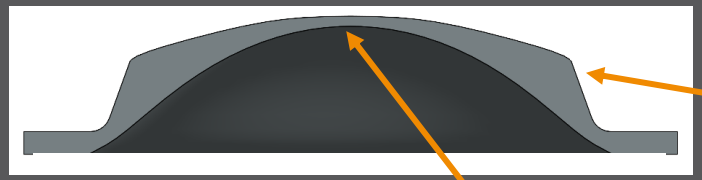
Molding preform

Compression molding

Finished part







Edge Thickness: 8mm

Center Thickness: 1mm

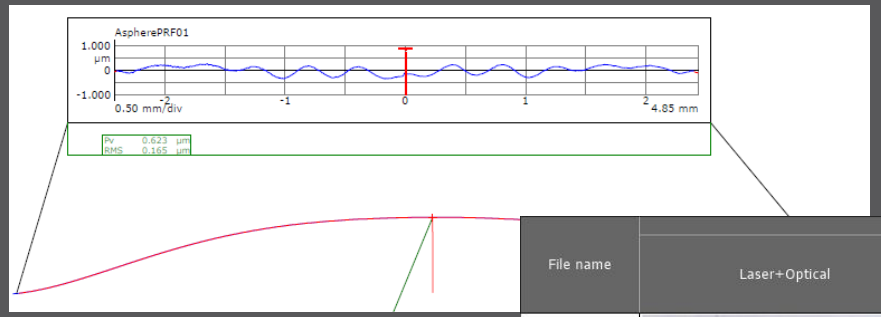
AR/VR/XR specific parts

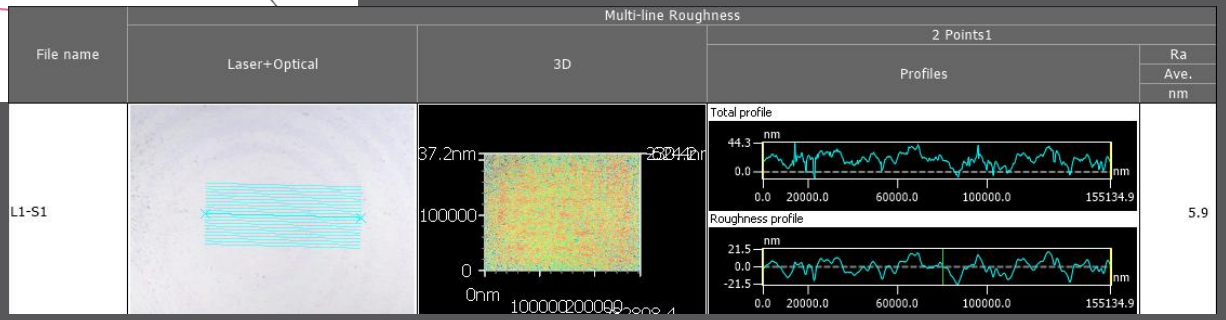
3D perception system for industrial application

Lenses : DT + DPI® → AR coating

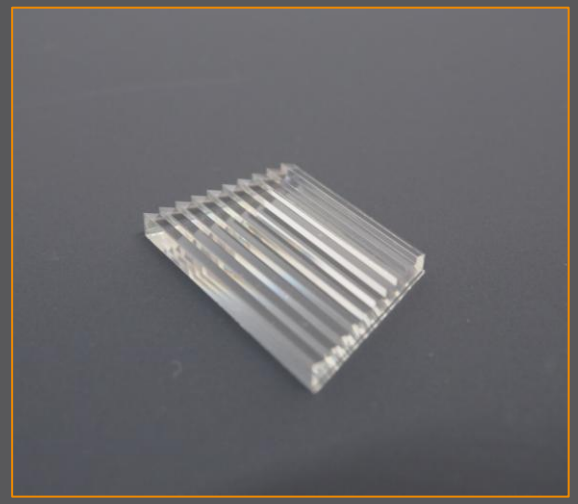
Barrels : CNC machining → Black anodizing

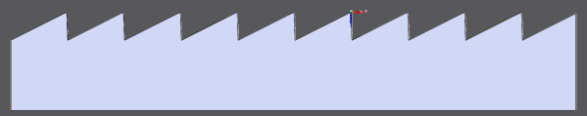
Assembly





AR/VR/XR specific parts





Geometric waveguides

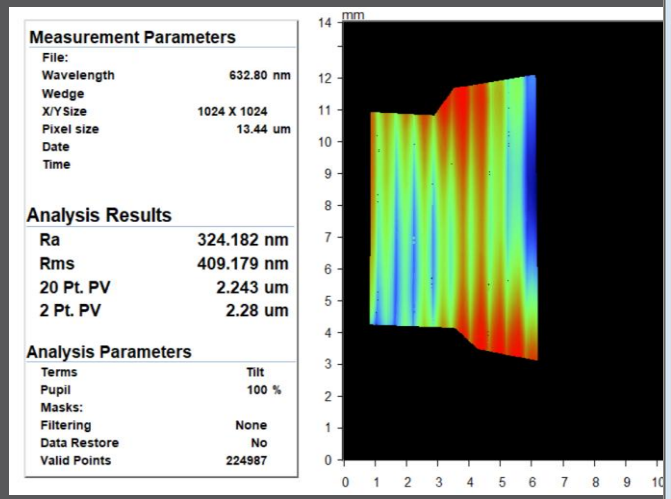
Diamond machining molding tool

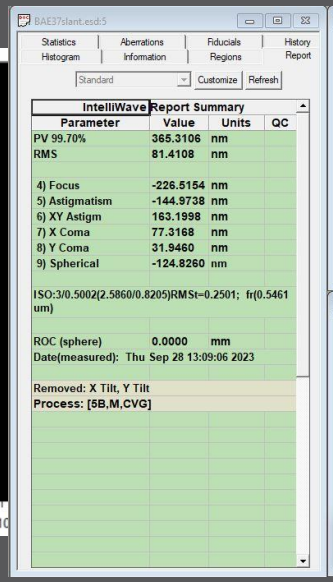
Molding preform

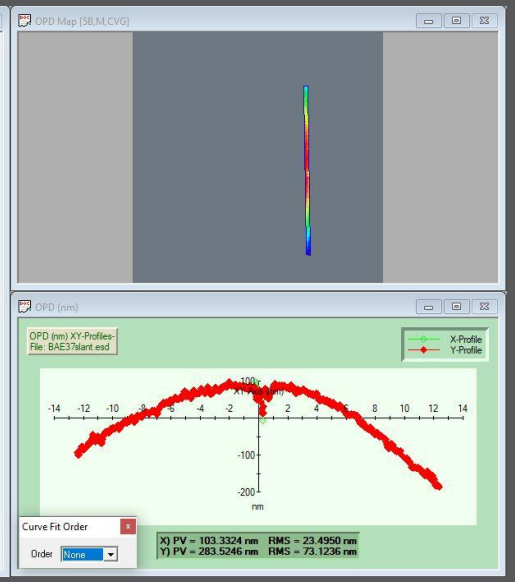
Compression molding

Post process

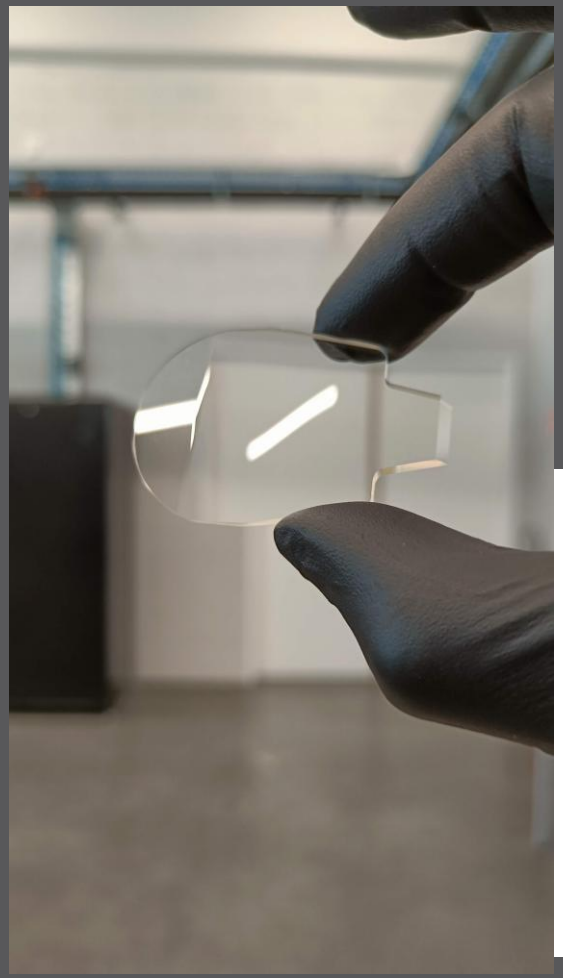
Finished part







AR/VR/XR specific parts



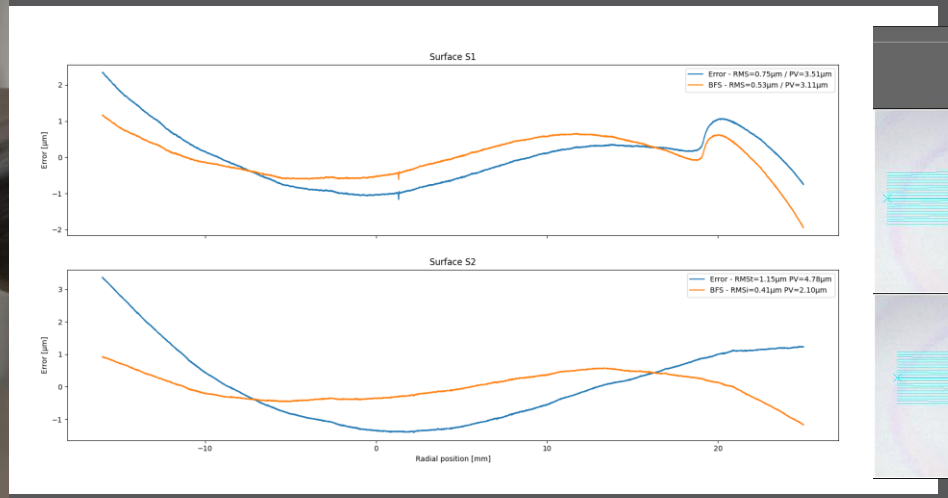
Freeform lightguides

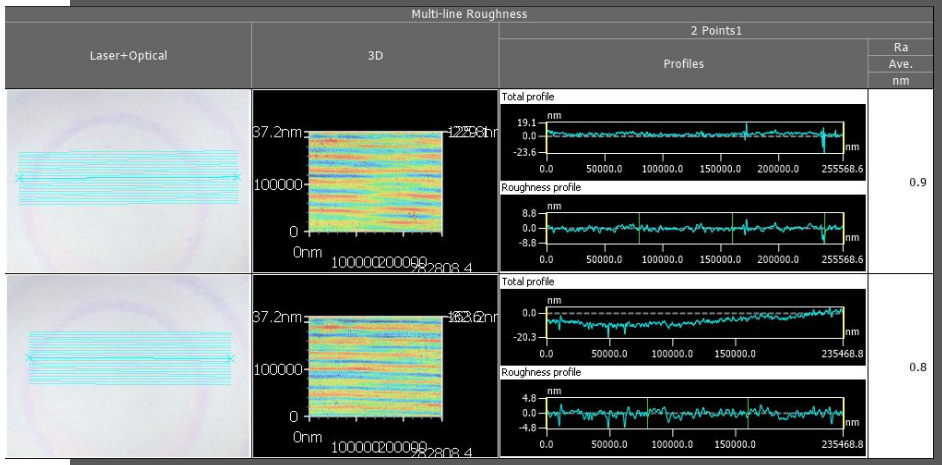
DT molding tool

Molding preform

Compression molding

Finished part





Summary

Driven by your ideas !

Every advanced optical design carries its own set of challenges; we try to provide the engineering required to overcome manufacturing pain points.

Master complexity

Combining deep process mastery with proven industrial foundations to turn complex concepts into manufacturable reality.

Your partner in precision

Let’s discuss how we can enable your optics manufacturing roadmap.

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Proprietary and Confidential !