INTRODUCING OPTOFIDELITY PRODUCTION-IQ

Enabling A Smarter Future

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OPTOFIDELITY

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OUR STORY

NORDIC ROOTS

Founded in Tampere, Finland, a Nordic technology hub in 2005

FOCUS ON XR TESTING

Early to the XR market, working with industry leaders & gaining valuable insights into the technology and market needs

PRODUCT HOUSE

Out-of-the-box, precise, repeatable, and scalable optical metrology products for R&D and production

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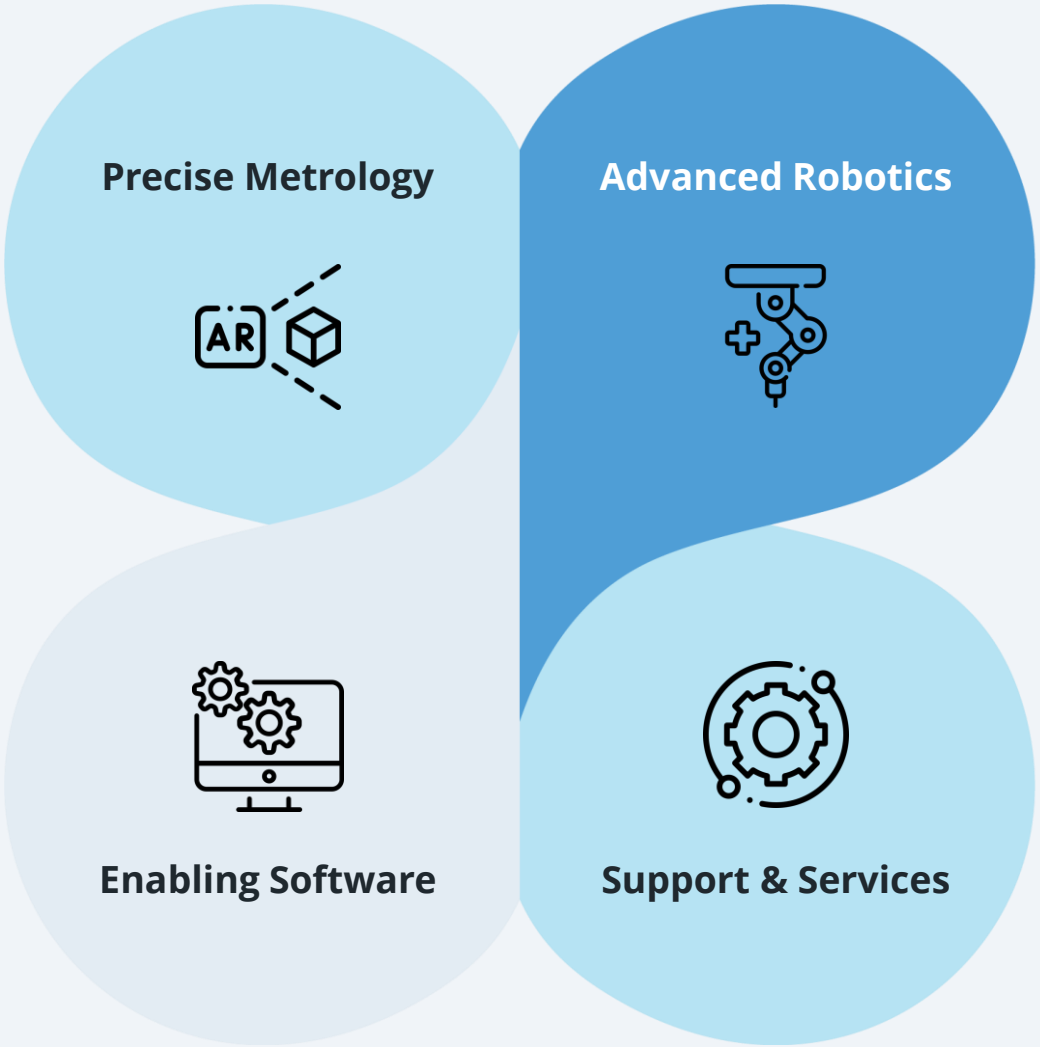
ABOUT OPTOFIDELITY



19 years of outstanding R&D experience in Metrology, Imaging & Robotics

370 employees globally. Headquarters and R&D center in Finland, Europe

3 production sites: Finland, Estonia and China

9000+ systems delivered to global brands and component manufacturers

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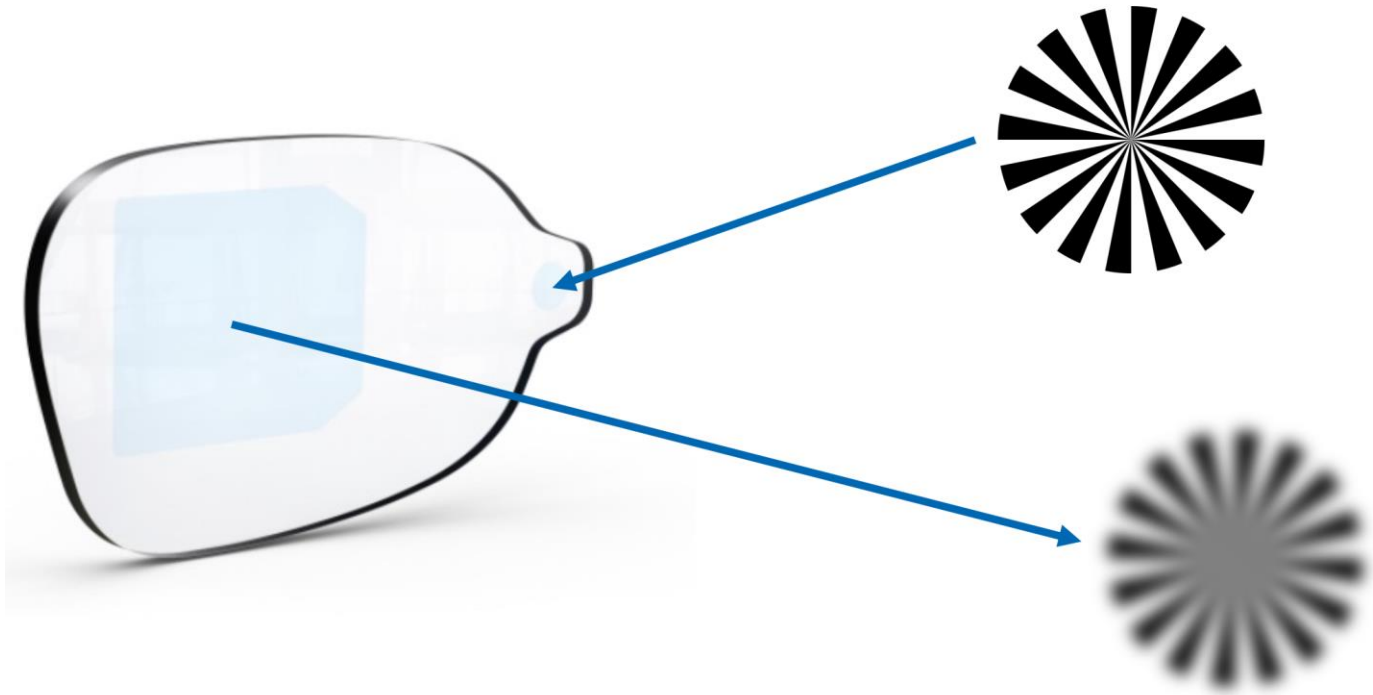
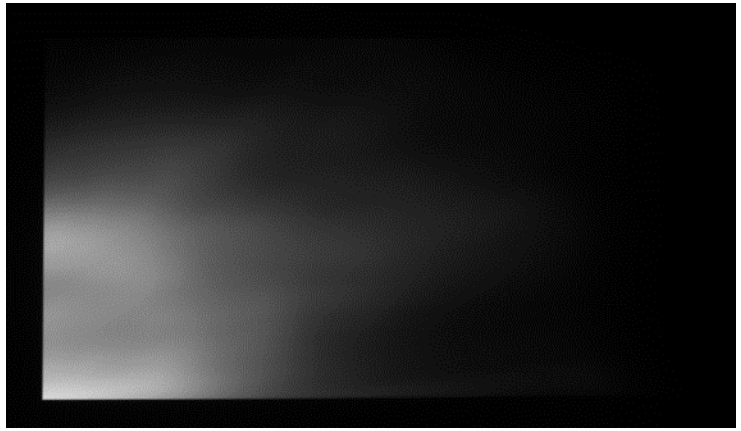
The Challenge in Waveguide Displays



Expectation

Worst Case Reality



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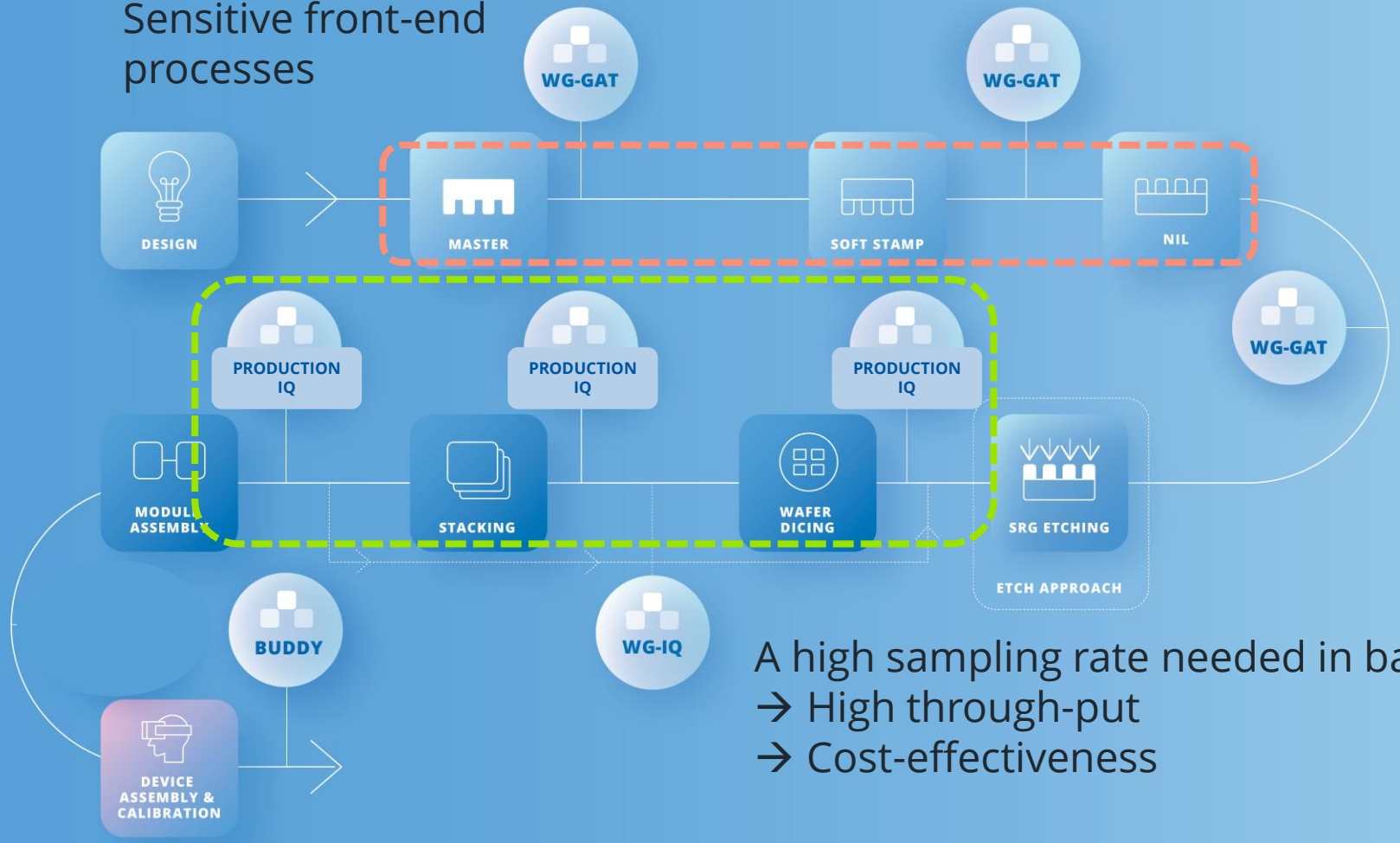
The Challenge in Waveguide Manufacturing

Sensitive front-end processes



A high sampling rate needed in back-end
→ High through-put
→ Cost-effectiveness

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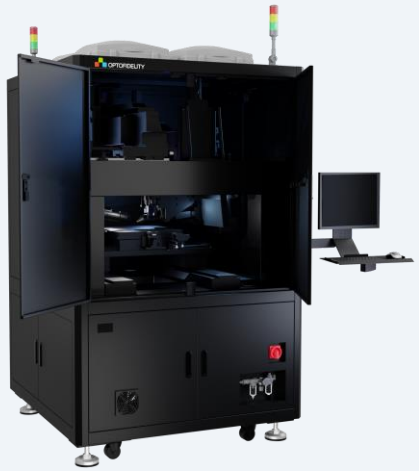
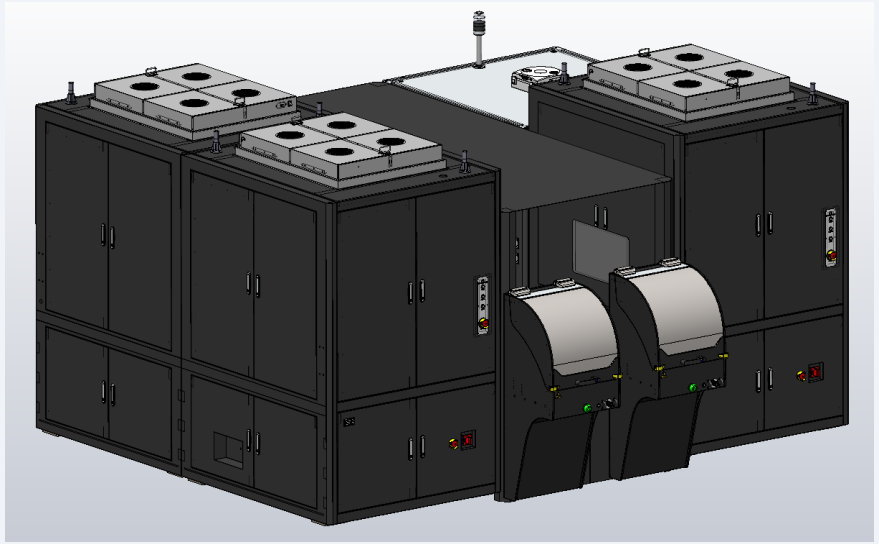
Introducing PRODUCTION-IQ





Quality Control Metrology
For pilot and manufacturing lines

Key CTQs of Waveguides
Uniformity, efficiency, contrast, MTF, colour…

Modular and Scalable
Multiple modules working together
or standalone

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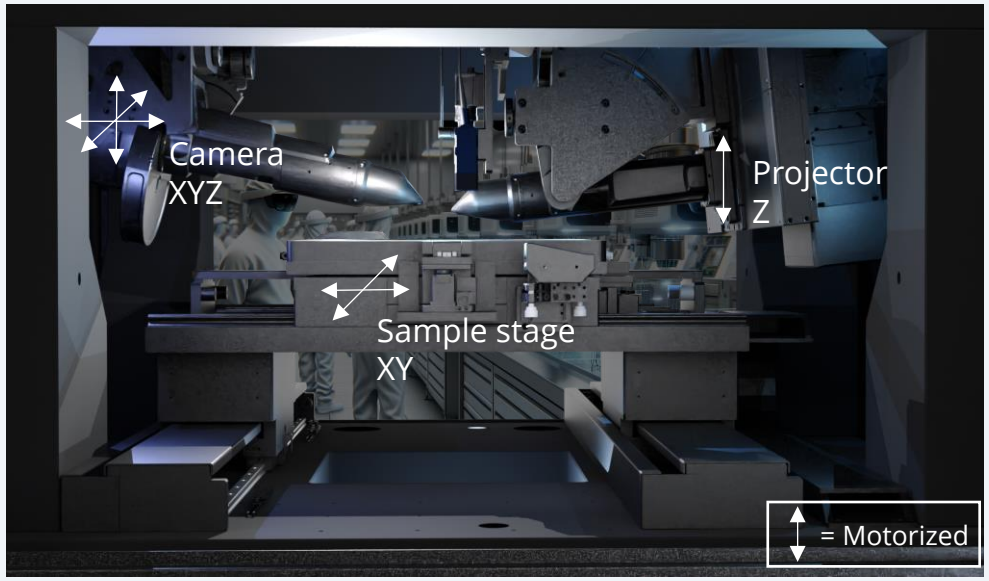
Sample Support & Robotics



Individual sample compatibility study & design is done together with customer

Sample Support	
Sample configuration	Eye-side (mirror mode)
Sample type	Any (diffractive, reflective, ...)
Sample size & shape	Any up to 300 mm diameter
Pantoscopic tilt angle	Up to 20°*
Face wrap angle	Up to 15°*

Robotics	
Camera	XYZ
Projector	Z
Sample stage	XY
Alignment	XY

* Maximum achievable mechanical angle depends on sample size, and incoupling and outcoupling locations.

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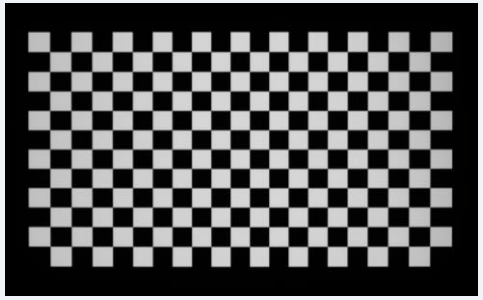
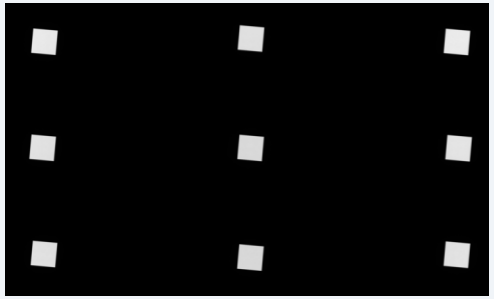
Measurement Capabilities

Solid reticle example

Checkerboard reticle example



Slanted edge reticle example



FOV and Standard Analyses	
Max. FOV	80° x 60°
OptoGrayscale	Radiance Uniformity
	Efficiency
	Checkerboard Contrast
	FOV
	MTF (slanted or crosshair)
OptoColor (in addition to above)	Luminance
	Luminance Uniformity
	Colour Uniformity
	Chromaticity

Customizable analyses (API) and reticles patterns and sizes.

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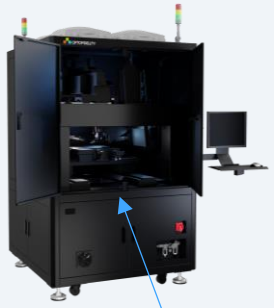
Value Adding Time

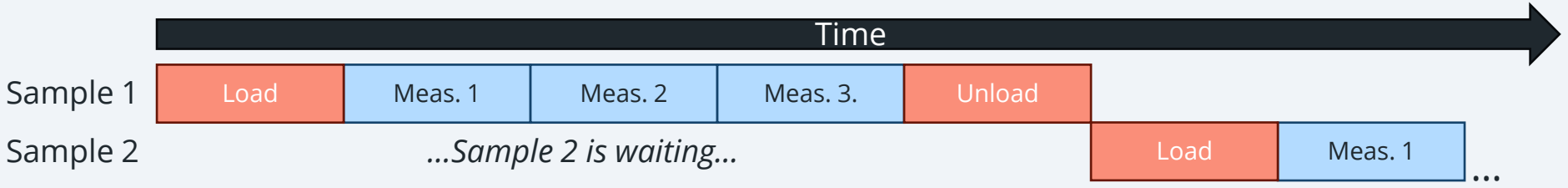
Non-Value Adding Time

Motivation for Multiple Modules

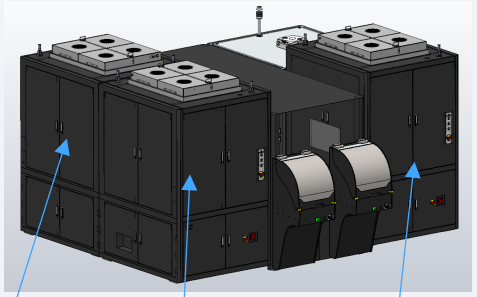
Single tool:

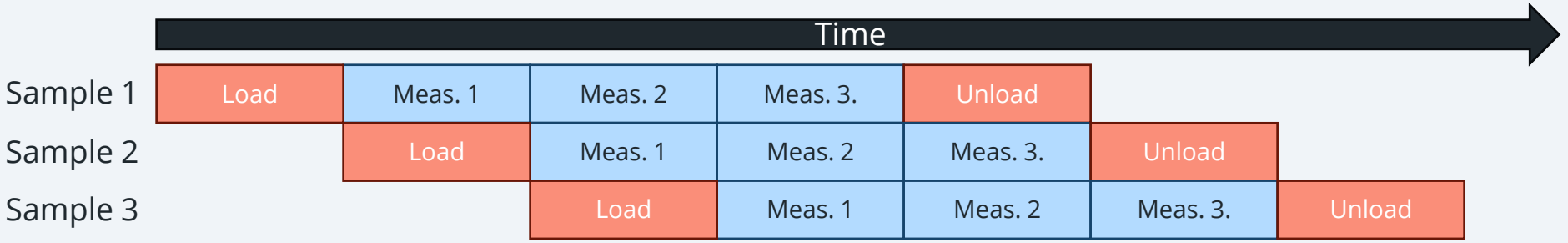


Meas. 1 + Meas. 2 + Meas. 3



Parallel modules:





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Thank You!

Have questions? Contact us today!

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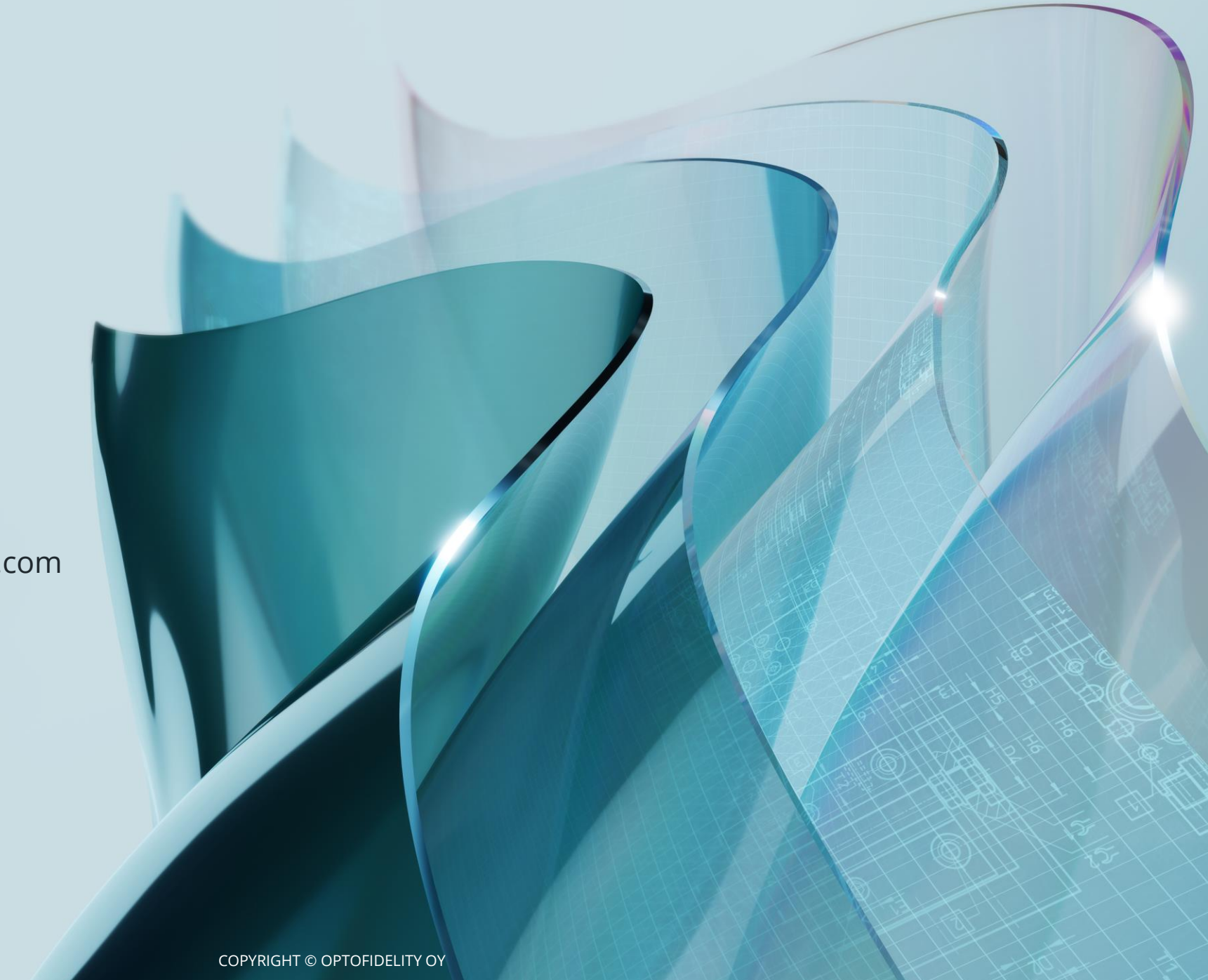

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