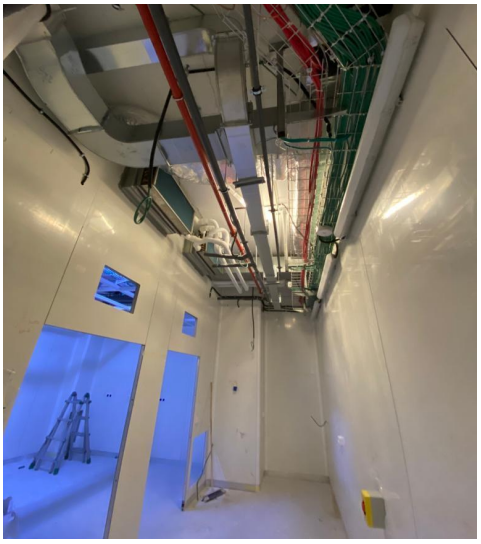
Holo/Or Newsletter – Q3 2023

Company News

Getting ready for the move to our new building



Holo/Or has been at its current premises for more than 30 years, constantly dealing with the challenge of maintaining an ISO 7 class cleanroom and stringent production quality in an older building. With the growth of our business, we felt the need to move to a state-of-the-art cleanroom production facility to better serve our customers.

We are now excited to see the cleanroom and the rest of the production facility starting to take shape - with more than 200m^2 of cleanroom, Holo/Or will be able to offer our customers the same high quality optics at larger volumes and better lead times.

Soon we will start moving new machines in- stay tuned! You can follow us on linkedin to get the latest updates.

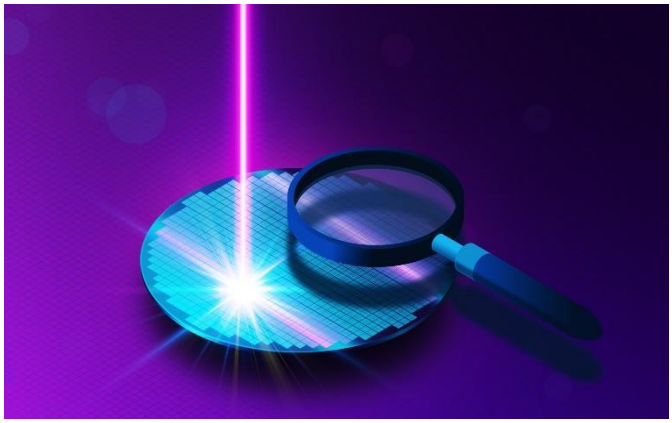
Holo/Or proud to be part of EPIC expedition to Abu-Dhabi

As a member of EPIC- European Photonics Industry Consortium, Holo/Or took part in an expedition to the Technology Innovation Institute (TII) in Abu Dhabi. As an Israeli company, it is especially exciting

for us to cooperate with leading researchers in the UAE, and together serve to advance the photonics research and industry worldwide.

Products and Applications

High precision small angle diffusers are the perfect fit for advanced laser illumination applications



Tailored laser illumination for metrology and wafer inspection is a growing application field in recent years, with many machine builders switching from LED illumination to laser due to the high brightness and coherence. Such applications often require close to flat top illumination over a line or rectangular area, typically at relatively small angles of <3 deg and with strict demands on the illuminated area size and shape. Holo/Or's diffractive diffusers are the perfect solution for such metrology applications, as our element have almost absolute angular tolerance and excellent shaping quality. Feel free to contact us with your metrology and precise illumination tasks!

Large wafer optics for aerospace laser telecom applications

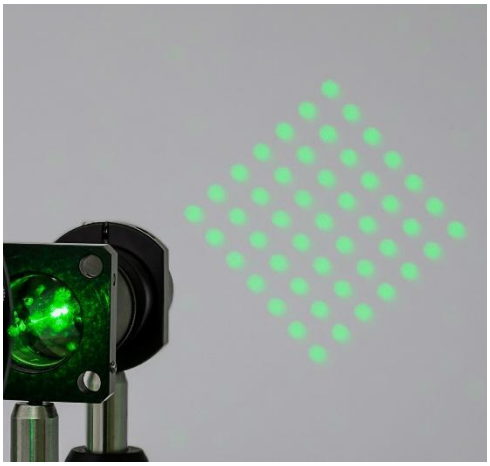
The 2022 launch of the TBIRD satellite, showing a data rate of 300Gbit/s, is another steppingstone in the stairway leading to space, that is space based telecom applications at high bandwidth. The interest in laser free space telecommunication is rapidly increasing, and with it the need for robust, large size and high-quality beam shaping optics.

With our ability to produce flat optics up to 200mm diameter, , Holo/Or is capable of satisfying the need of most laser aerospace applications. Our DOEs can serve multiple relevant shaping applications- from homogenizing beams with low divergence to improve accuracy of position sensors such as four quadrant diodes, through multiplexing by dividing a beam into an array of sub beams, to focusing a beam into a fiber array or collimating its output. Feel free to come to Holo/Or with your Aerospace telecom applications- the Sky's (not) the limit!

Technical Tips

What happens if you use a diffractive beam splitter at a non-nominal wavelength

Some customers are interested in using a diffractive beam splitter at a wavelength different from the design wavelength .While small deviations of 1-2% generally, have little effect, large wavelength changes cause the following:



- Angle change- splitting angles will change linearly with wavelength, i.e angle will be multiplied by the ratio of the wavelength used to the design wavelength.
- Zero order increase- zero order will increase significantly. A good tool for rough estimate is our grating calculator, just input modulation depth of 3.14*(used wavelength/design wavelength).
- Efficiency drop
- Uniformity effect- p2v between spots is unaffected by wavelength for binary beam splitter, but for high efficiency multi-level designs, uniformity is also affected (deteriorates).
- Despite these issues, beam splitter can sometimes be used for several wavelengths, consult us with your application's specific needs.