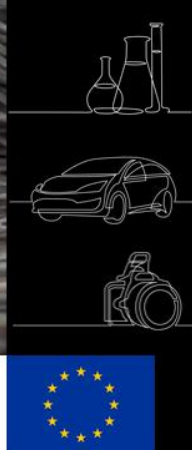


sub-wavelength nanostructures fabricated on a pilot manufacturing line using self-assembling block copolymers

SUNPILOT



World of Photonics 2019: Reflections on surface texturing innovations

28 June 2019

Held once every two years the World of Photonics is the largest gathering of optical component vendors in Europe.

SUN-PILOT visited the tradeshow to meet with optical component vendors, distributors and system integrators.

The news is that almost every component vendor and distributor was aware of the principles of nanotexturing and its role as a robust alternative to dielectric AR coatings.

Overall it appears the optics industry is ready to embrace nanotexturing when offered at industrial scale and price.

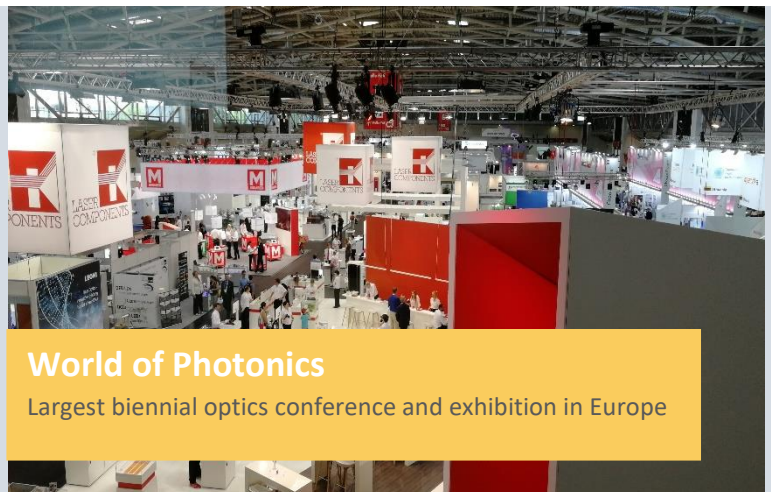
Funded through the European Union's Horizon 2020 research and innovation programme, SUN-PILOT will develop pilot-scale industrial processes for producing nanotextured products. Our primary commercial applications are in the optics and automotive industries.

Never have the smallest been displayed on such a grand scale. The cavernous halls of World of Photonics 2019 showcased the latest advancements in surface micro- and nano-structuring.

David Nugent (CEO, Elucidare Limited) toured the exhibition to take the pulse of surface texturing in the optics industry and engage with prospective industrialisation partners.

elucidare.co.uk

world-of-photonics.com



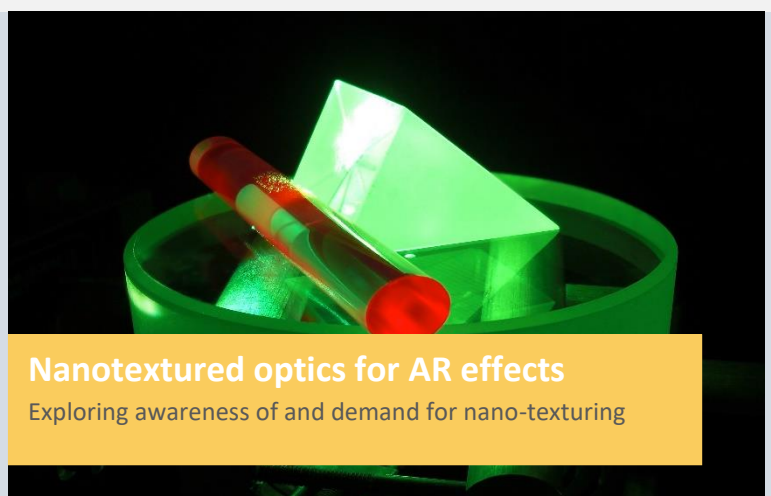
World of Photonics

Largest biennial optics conference and exhibition in Europe

By most accounts 2018 was a defining year for nanotextured optics. Exactly 140 years after Lord Rayleigh published his seminal paper on antireflecting graded-index interfaces, Newport Corp became the first major optical component vendor to offer random nano-texturing as a broadband and robust alternative to dielectrics.

WoP provided an opportunity to discuss such developments with optical component vendors. Are buyers becoming more aware of and interested in surface texturing solutions and how are vendors planning to respond?


newport.com



Nanotextured optics for AR effects

Exploring awareness of and demand for nano-texturing

For more information contact: info@sunpilot.eu

 sunpilot.eu



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 760915



SUN-PILOT foresees nanostructures forged onto injection mould cavities using wet chemistry lithography and plasma etching. Whilst this technology is being developed, maskless methods such as laser micro-milling validate the possibilities of micro-textured moulding for a wide range of industrial, medical and consumer applications.

Lightmotif micro-textures moulds using 3D surface laser texturing. Texturing enables the creation of moulded parts with functional surfaces.

Samples of textured plastics felt silky soft with an eye-pleasing matte velvet-like surface finish.

lightmotif.nl



Micro-textured injection moulds

Velvet smooth plastics created using micro-milling moulds

European Photonics Industry Consortium (EPIC) hosted a workshop on surface structuring. Presentations covered topics ranging from high-power ultra-short pulse lasers to high-speed MWIR cameras for monitoring laser-based surface texturing processes.

Raul Garcia (CEO, Microrelleus) gave the keynote talk on the industrialisation of functional texturing applications using 5-axis femtosecond lasers. Andres Lasagni (TU Desden) gave an update on developments at the EU-funded LAMPAS project. LAMPAS combines multi-beam interference and high-speed beam deflection to deliver high-speed laser structuring on challenging substrates.

epic-assoc.com lampas.net microrelleus.com

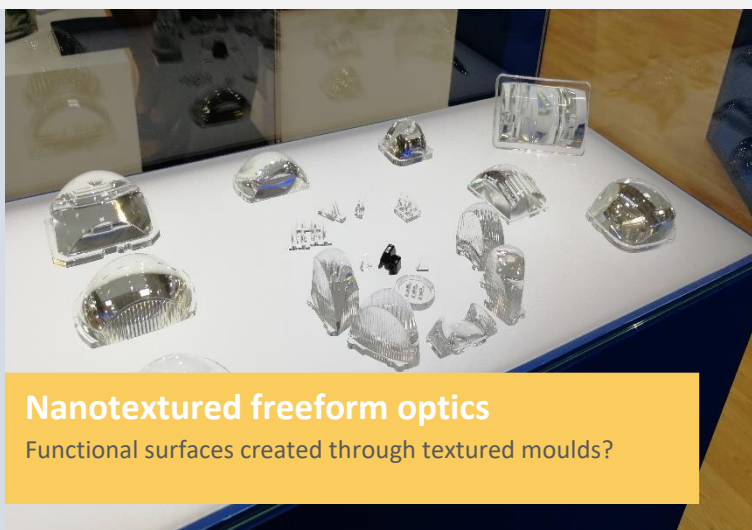


EPIC workshop on surface structuring

Updates from the world of micro-scale laser-based texturing

Strictly speaking freeform plastic optics are not a deliverable or application of the SUN-PILOT project. Nevertheless, WoP provided irresistible opportunities to discuss mould nanotexturing and the production of enhanced 3D light guides with some of the leading freeform optic designers and producers. From improved light extraction efficiency for automotive headlights to LIDAR optics and antimicrobial medical devices, the possibilities are endless.

docteroptics.com



Nanotextured freeform optics

Functional surfaces created through textured moulds?

