

International Scientific Conference on

# LASERS, OPTICS, PHOTONICS AND SENSORS



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## Display optics Challenges for AR Smart Glasses. The monolithic plastic optics solution.

All attempts to introduce consumer augmented reality (AR) smart glasses have failed so far because they have never managed to look like "normal glasses". None have gained significant traction with consumers because nobody wants to wear ugly, heavy and uncomfortable computing devices on their face. The problem is not industrial design. There are several technology breakthroughs required, but first and foremost is the see-through display which is at the heart of the smart glass product. Large FOV, high pixel per degree resolution, high power efficiency, excellent transparency, high visual comfort, and clearance are required while maintaining small size and weight for the display. Furthermore, the combiner in front of the wearer's eye cannot be made using a breakable glass substrate. This is a showstopper. Unbreakable plastic is the only long-term solution for consumers to confidently adopt this technology.

The presentation will give an overview of on the state of the art of display technologies for AR displays and will explain the solution developed by Optinvent based on its monolithic plastic light guide combiner that meets the above-mentioned requirements and offers a scalable, low-cost solution for the manufacturing.

## Biography

Recognized expert in worldwide Display industry and leading figure in the field of Microdisplay based projection systems, compact projection systems, and near to eye optics. Chaired several industry consortium such as SID/IDW. Holds more than 20 patents in optics for projection and wearable displays. Inventor of new display systems and disruptive technologies with a vision on the consumer market. Proven experience as a Start-Up CTO driving innovation and multidisciplinary product development. Strong problem solving approach and ability to drive highly skilled development teams to reach challenging company goals. Hold Phd in Optics from the University of Franche Comté, Besançon, France and a "Diplome d'Ingenieur" from Ecole Supérieure d'Electronique et Electrotechnique; ESIEE, Paris in Semiconductor physics. Currently CTO and Co-Founder of Optinvent a French Start-up that offer the best technology for see-through video glasses for consumer market