



28 December 2021, Tucson AZ – Norcon Technologies Awarded NSF SBIR Phase II for Novel NIR/SWIR 3D Depth Sensing Optics

Norcon Technologies Holding, Inc. has been awarded a National Science Foundation Small Business Innovation Research (SBIR) Program Phase II Award entitled, “Chalcogenide Polymer Infrared Optics” (NSF 21-565). The purpose of this award is further the commercialization activities that Norcon began with its prior NSF SBIR Program Phase I Award, received May 2020. Based on the technical and marketing discovery achievements in the Phase I, Norcon received the Phase II award for bringing to market innovative high refractive index polymer optical products specifically for near infrared (NIR) and shortwave infrared (SWIR) 3D depth sensing applications.

Digital 3D sensing is growing exponentially, based on the rapid adoption of depth perception and facial recognition in smartphones and the emergence of LiDARs in cars. The lenses in these 3D sensors rely on optical technologies optimized for visible light, with refractive indices that inherently increase lens size and reduce light collection.

3D sensing, however, is not performed with visible light, but in the near infrared (NIR) and shortwave infrared (SWIR). Norcon’s polymeric chalcogenide (Polycalc) optics are the first lens technology for NIR and SWIR 3D sensing. The chalcogen content of Polycalc raises the refractive index. The higher index doubles sensing range. Polycalc components can also decrease optical assembly sizes by 30% and cut their cost by as much as 50%. Moreover, Polycalc optics can be fabricated using wafer-level processes, allowing for rapid scaling.

The Phase II cooperative agreement was awarded on the 15th of November 2021. Funding is provided for 24 months of engineering and commercialization activities. Norcon’s goal is to have achieved customer validation, as demonstrated via design-win and shipment of small volume production units.

About Norcon Technologies

Norcon Technologies Holding, Inc. is commercializing innovative technologies in infrared (IR) polymer optics and photonics. Norcon produces proprietary high refractive index Polycalc optics for near infrared (NIR) and shortwave infrared (SWIR) 3D imaging and depth sensing applications. Polycalc optics enable more compact 3D sensors and LiDARs with greater range and wider Fields-of-View. Norcon is located in Tucson Arizona and is privately held.

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