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Surmet Wins 3-year DARPA Funding for fabrication of ALON® Optical Ceramics

DARPA has awarded Surmet a \$4.66 million option spread over 36 months for Phase II of DARPA's Manufacturable Gradient Index Optics (M-GRIN) program. The award follows successful completion of an earlier \$1 million Phase II base effort. The continued DARPA funding will help Surmet to demonstrate manufacturing capability for ALON® Gradient Index (GRIN) optics for use in the visible through the mid-infrared (MWIR) range.

[Surmet](#) will seek to develop and establish processes that are compatible with large volume specialty manufacturing. If successful, at the end of this phase Surmet will have demonstrated the capability for an intermediate volume production to design and manufacture axial and radial ALON® GRIN lenses.

"It has been very interesting so far and we are heading in the right direction for achieving the goals set on this program," said Dr. Nagendra Nag, the Principal Investigator.

"Though there are technical challenges ahead, we are confident that we will meet the program goals and demonstrate yet again our determination to excel in Advanced Precision Optics," said Dr. Santosh Jha, the Director (R&D Administration) at Surmet.

DARPA's M-GRIN program aims to develop sustainable GRIN technology for use by DoD systems and the defense industrial base. The program seeks to address technology maturity by resolving issues in the manufacturing, metrology and design of these material structures. If successful, new GRIN technology would provide significant weight and cost savings for the DOD optical systems.

GRIN-based lenses are made in such way that the refractive index is varied within the material in a controlled fashion. This type of lens can control the light within the lens along arbitrary paths so that the light no longer needs to travel in straight lines, leading to enormous reduction in size, weight and complexity of optical systems.

[ALON®](#) is a polycrystalline transparent ceramic and is best known for its ballistic performance and superior optical clarity. As one of the hardest ceramic materials available to date, ALON® GRIN lenses hold the promise of extreme durability as well as higher Visible-MWIR performance.

Founded in 1982, [Surmet Corporation](#) is an Advanced Materials Technology and solutions company, with a vertically integrated manufacturing capability. Surmet is headquartered in Burlington, MA and has R&D and manufacturing facilities in Buffalo, NY and Murrieta, CA. In addition to ALON, Surmet is a leading manufacturer of high strength fine-grained Magnesia Spinel optical components. Surmet also is a leader in making Aluminum Nitride (AlN) powder and sintered AlN bodies with high thermal conductivity.

To learn more about ALON® or to find out what Surmet can do for you, please visit our website www.surmet.com or contact us at sales@surmet.com