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GIST Advanced Photonics Research Institute selected for the Tech-Bridge project to develop semiconductor production equipment

- GIST (Gwangju Institute of Science and Technology, President Kiseon Kim) Advanced Photonics Research Institute (Director Ji-Woong Park) Dr. Tae-joong Eom and Dr. Ik Bu Sohn led a research team that was as a technology developer* using Tech-Bridge, which is supported by the Ministry of SMEs and Startups (Minister Young-sun Park).

* The Ministry of SMEs and Startups has selected 31 projects for the 'Technology Development Project Using Tech Bridge' that will provide funds for developing technologies for subsequent commercialization of transfer technologies to small and medium-sized enterprises that have transferred core technologies in materials, parts, and equipment from universities and research institutes. The selected companies will receive up to 800 million won in technology development funds over the next two years, and universities and research institutes, which will transfer technology to the selected companies, will participate in the technology development of the selected companies and will transfer know-how and share in the technology development.

- A total of two tasks were selected for the GIST Advanced Photonics Research Institute: ▲ 'Development of non-destructive laser-ultrasonic measurement technology for semiconductor metal thin film measurement equipment' (Research Director: Dr. Tae-joong Eom) ▲ 'Development of small laser scanners and high-speed precision processing equipment' (Research Director: Dr. Ik Bu Sohn).

- Dr. Tae-joong Eom's research team is developing and utilizing a laser technology that can measure the thickness of metal thin films that are only tens of nanometers in thickness, which all domestic semiconductor companies have depended on overseas companies to develop.
 - For this project, the researchers plan to secure a source technology that can more accurately measure minute changes in the metal surface caused by echoes using laser optical interference technology, and they will explore equipments applicable to the production process.
- In addition, during the semiconductor production process, various precision processing processes requiring lasers inevitably occur. In this case, the research team of Dr. Ik Bu Sohn will challenge related companies to develop small laser scanners and high-speed precision processing devices capable of high-speed-large-area laser processing.
 - This research is expected to be applicable not only to the semiconductor field but also to various industrial fields through the development of small laser scanners and high-speed precision processing equipment.
- Advanced Photonics Research Institute Dr. Tae-joong Eom and Dr. Ik Bu Sohn said, "The laser light source technology and precision optical measurement technology developed during the operation of the ultra-short laser facility will actively support not only academic research but will also to solve urgent industrial problems. Through this project, the goal is to secure source technologies that enable industrial use of laser light technology and to help domestic companies increase their competitiveness in the semiconductor-related equipment industry."
- The GIST Advanced Optical Technology Research Institute was established in May 2001 as a research institute specializing in laser and optical science technology. Currently, a total of 90 experts, including 50 Ph.D.s, are concentrating on research in five fields, including ultra-powerful lasers, laser application systems, spectral application systems, integrated optics, and nanotechnology optics. The Advanced Optical Technology Research Institute has been seeking ways to contribute to the semiconductor industry by utilizing its world-class laser optical technology and research capabilities that it has accumulated, and it is actively conducting joint research with companies that want to develop these technologies.

