

## **Title: Fostering Talents in the Era of the 4th Industrial Revolution**

**Sang Hyuk Son**

**President**

**Daegu Gyeongbuk Institute of Science and Technology (DGIST)**

We are entering into an era of innovation and rapid change, fueled by disruptive technology. It is a new kind of technological revolution that will fundamentally change the way we live and work. In its scale, scope, and impact, the transformation will be unlike anything mankind has experienced before. It is called the Fourth Industrial Revolution (4IR). If we look closely into the 4IR, it has intelligence information technologies at its core converging with existing industries and being combined with science and engineering in diverse fields, bringing out novel innovations. Some people expect that the changes in next twenty to thirty years will be greater than what happened in previous 250 years. For example, some people expect that many jobs will be taken by intelligent robots. Millions of jobs will disappear in next several years but millions of different kind of jobs will be created. According to one estimation, over sixty percent of the jobs our children will get when they grow up and start working are new kind of jobs that do not exist at this point.

For a government that wants to take the lead in the 4IR, it is imperative to provide a sufficient number of companies with a new growth engine. Since companies need talented individuals and novel technologies to grow and compete, universities should meet these demands, and such an effort is the key to a successful cooperation among industry, university and government. Then what kind of talented individuals should the university foster? We need to educate them to be equipped with convergence thinking, problem-solving capabilities, and a sense of responsibility. Individuals with a convergence mind-set

can freely work across multiple fields of study, while problem-solving individuals demonstrate the flexibility to perform well in any situation based on their knowledge and experience. Individuals with a sense of responsibility are those who want to contribute back to the society and the world by providing their talents and knowledge.

Talented individuals, who have received such an education, will also obtain the essential competence needed for the new era: convergence and communication. Moreover, universities should teach the importance of cooperation and community, by providing various education programs and innovative industry-university cooperation programs. Using such programs, universities should be in the forefront in educating the students about collaboration, so that they would perform a key role to build a collaborative culture and convergence network in a triple helix community of industry-university-government.

For the success of industry-university-government interactions, the government and the university must understand the industrial environment and technology trends, and together devise a development strategy. In addition, the university must foster talented individuals and create novel technologies to support the strategy. Continuous yet active, systematic, and innovative industry-university cooperation is imperative, should we try to keep the triple helix of industry-university-government to stay on course and not falter on the ground. While it is important to maintain the cooperation between government-industry and government-university, we need to strengthen industry-university cooperation. We should break from the convention of waiting for the government to lead, and devise a new model that will make industry-university cooperation the driving force.