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GIST Professor Kwanghee Lee to "Develop an Integrated Building with High-Efficiency Eco-Friendly Solar Cell Mini-Power Plant"

- GIST (Gwangju Institute of Science and Technology, President Kiseon Kim) School of Materials Science and Engineering Professor Kwanghee Lee will start to develop a "building-integrated, high-efficiency, eco-friendly solar cell mini-power plant demonstration system" that increases the aesthetic of the building's exterior.
 - Recently, eco-friendly energy buildings based on Building Integrated PV (BIPV) have been spotlighted as suitable technologies for renewable power generation in urban areas. In this regard, the problem of space constraints has been solved, but the problem of low aesthetics that spoils the appearance of the building remains.
 - It is expected that a building-integrated solar cell mini-power plant that can implement transparency, lightness, flexibility, and multicolored solar cells, which are characteristics of BIPV, will be able to develop zero-energy buildings that are close to 100% energy independent.
- Professor Kwanghee Lee hopes to realize the next generation of mini-power plants that can be used in the real world through the registration of the National Renewable Energy Research Institute (NREL) chart of organic and perovskite solar cell modules and the production of organic and perovskite solar cell panels applicable to urban structures.

- In addition, the proposed goals of demonstrating high-efficiency modules, high stability, eco-friendliness, and light weight, as well as transparent electrode-encapsulation integrated substrates, mass production, and being outdoors is challenging and will be achieved through organic collaboration with the research team.

- Professor Kwanghee Lee said, "The successful development of next-generation solar cell modules is to expand the proportion of solar energy to power and to build distributed power systems. Through this, the government is expected to not only supply centralized energy demand in urban centers but to also actively respond to environmental and climate changes."

- GIST School of Materials Science and Engineering Professor Kwanghee Lee's project was selected as the solar cell field project of the Korea Research Foundation 2020 Climate Change Response Technology Development Project. UNIST Professor Jin-Young Kim and Korea Institute of Energy Technology Dr. Dong-Seok Kim are planning to develop and verify an integrated solar cell mini-power station demonstration system through joint research with M. Sway Co., Ltd. This project is expected to be funded for a total of 12.2 billion won, and will be promoted for the next 5 years (2020-2025).

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