Invest KOREA Market Place

Invest KOREA Market place (IKMP) is an online business matching platform available on Invest KOREA's website with information on approximately 300 Korean companies seeking to partner with foreign investors. This month, we introduce some outstanding companies in Korea's Chemical industry.

COMPANY A

Investment Requirement		Company Profile	
Amount	USD 5 Million	**Patents and Certificates**	Total 8 patents related to thermoelectric modules and their manufacturing methods, thermoelectric module-based hot and cold-water mat circulation systems, and sterilization and Peltier function-based hot and cold air conditioners
Investment Structure	Equity Investment, Joint Venture, M&A	**Financial Performance**	(Sales in 2024) USD 1.63 million

Automotive electronic components using semiconductor thermoelectric modules

Hot & cold water mat using semiconductor thermoelectric modules

Investment Highlights

Consumer electronics market using semiconductor thermoelectric modules

Products utilizing semiconductor thermoelectric modules in the consumer electronics market are experiencing growth, driven by increasing consumer demand for energy-efficient, compact, and low-noise appliances. According to global market analysis, the thermoelectric module market is expected to continue its steady growth until 2024, with particularly strong growth anticipated in the Asian region.

Key characteristics of core technology

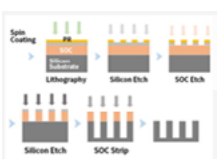
Semiconductor thermoelectric modules are devices that can convert electrical energy into thermal energy or vice versa, and are used in various industries and technologies. They have the following characteristics.

· Peltier Effect: This occurs when two different types of semiconductors, when subjected to an electric current, absorb or release heat at the junction, allowing for direct temperature control in areas requiring heating or cooling. It is commonly used in cooling devices, car seats, and small refrigerators, etc.

· Seebeck Effect: This phenomenon occurs when a temperature difference between two different semiconductor junctions generates an electric current. It can be used to generate electricity by utilizing temperature differences, improving energy efficiency in applications such as waste heat recovery systems and thermoelectric generators.

COMPANY B

Investment Requirement		Company Profile	
Amount	USD 5 million	**Patents and Certificates**	Total 6 patents related to SOC organic hardmask
Investment Structure	Joint Venture	**Financial Performance**	(Sales in 2024) USD 15.17 million



Hardmask used ACL (Amorphous Carbon Layer) with existing CVD, but has been replaced with Carbon Polymer substance capable of spin coating. The above image shows the lithography and etching processes for each layer after spin-coating and heat treatment process

Investment Highlights

Key characteristics of core technology

· SOC Hardmask Material Technology: Semiconductor SOC materials are organic polymer materials in hardmask series used in advanced semiconductor manufacturing processes. The company has polymer forming technology using high-carbon monomers as well as polymer forming technology with flexible structure.

· Development of polymer-forming structural materials simultaneously satisfying the properties of polymer materials: While organic hardmask coating process provides excellent solubility and a simple process, it shows inferior etch resistance and heat resistance compared to CVD deposition processes. Its polymer forming structural material satisfies etch resistance, heat resistance and solubility at the same time.

Competitiveness of core technology

Since SOC material technology of the company can satisfy excellent wear resistance, heat resistance, and solubility without the expensive equipment of CVD deposition method, it can respond to requirements of thickness control and high-specification according to customer demand, and has excellent price competitiveness with its simple process.