

MINAPACK: Micro and NAno technology for PACKaging

Background

The MINAPACK project targets the cavity package market, estimated annually at \$2 billion, and aims to **develop and test new Level 1 cavity packages by using rupture material and process technologies.**

These packaging could be used in the following applications: power lasers, telecom fiber lasers, RF and HF, MEMS sensors, imaging, 3D mechatronics, healthcare, energy conversion, low-power, embedded, and high-temperature electronics, and systems-on-plastic (SOPs).

Innovation

The MINAPACK project will **develop new processes to make cavity packages** using the following rupture materials and process technologies:

- Inorganic micro- and nano-materials
- Liquid crystal polymers (LCPs) and their charges
- Composite materials for thermal management (instead of heavier, less-efficient metals or alloys)
- Low-temperature assemblies
- Beyond screen-printing high-performance metallization capabilities
- Plating finishing suitable for all the above

Generally, use low-cost materials and processes to deliver beyond state-of-the-art performance and lower costs, without sacrificing any of the reliability needed for chips needing a cavity, like air-tightness or hermeticity (total or relative).

Partners

SME

Egide - Gamberini - **NovaPack** - Serma Technologies

Research laboratories

CEA-Leti

Key figures

Budget: €3.42 million

Duration: 36 months

Human resources allocated: 18.2 FTE