

## Summary of Re-Shoring Advanced Semiconductor Packaging: Innovation, Supply Chain Security, and U.S. Leadership in the Semiconductor Industry

### Findings:

- **Leadership in advanced packaging is essential for future semiconductor industry competitiveness.** Advances in packaging are increasingly essential to maintain innovation roadmaps and improve system performance.
- **There is limited semiconductor packaging capacity in the United States, and the associated ecosystem is lacking.** The global semiconductor industry has continued a multi-decade trend of locating most assembly, test, and packaging facilities in Asia. Likewise, the packaging ecosystem is concentrated in Asia. The United States lacks advanced packaging capacity.
- **Re-shoring advanced packaging is essential to increase semiconductor supply chain security.** Multiple provisions within the CHIPS Act authorize, but do not require, funds to be directed toward advanced packaging projects. Funds should be targeted to incentivize these projects and improve the resilience of the associated ecosystem (for example, substrates).

### Recommendations:

- **The current focus on increasing the capacity for advanced semiconductor fabrication should be paired with a concurrent emphasis on U.S.-based advanced packaging.** The United States should use funds made available by the CHIPS for America Act to increase the advanced packaging that integrated device manufacturers (IDMs) and foundries provide. Favoring fabrication project proposals that include co-located packaging facilities is advisable.
- **The United States should create and implement programs to increase domestic advanced packaging innovation.** The United States should make investments and provide incentives to ensure continued semiconductor industry leadership in chiplets, wafer-level packaging, and packaging equipment automation.

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