



TSV-HANDY is a project labelled by CATRENE under the ID CAT-801

It gathers a consortium of 5 countries (Austria, Belgium, Germany, Portugal & France). This consortium is organized in several "work packages" which define the different collaborations. RECIF worked within this line with its work package partners:



More information about CATRENE organization & Aeneas can be found at <https://aeneas-office.org/> or [www.catrene.org](http://www.catrene.org)



More information about TSV-HANDY project can be found [Here](#)



**RECIF thanks Aeneas, CATRENE, its projects partners and the French public authorities (DGE) for their support in this achievement**

More information @ [www.reciftech.com](http://www.reciftech.com)

## News Release

### After 48 months of collaborative work, TSV-HANDY project ended with optimistic outlook for the advanced packaging manufacturing

TSV-HANDY's main objective was to respond to challenges of 3D TSV and Fan-Out Level Packaging, and the multiplication of substrates types which presents different mechanical behaviors and physical properties. A modular equipment, able to manipulate several types of wafers, without any hardware reconfiguration and a smart software management was developed to help the end-users to gain equipment flexibility and up-time.

Adopting a modular approach called SMART platform (a common robotics and software core interfaced with several loading stages and end-effectors), RECIF delivered within the European Project **TSV-HANDY Project**, 2 EFEM modules for qualification at Amkor:

- ✓ A Platform able to handle wafers on frames on which Unity-SC adapted a metrology tool with LISE and SPIRO sensors. A load-port was designed for a FOUP developed by Entegris to carry frames.
- ✓ An atmospheric EFEM for silicon and recon wafers handling on which Unity-SC has integrated a brightfield inspection module



RECIF 300mm equipment with Unity inspection module

Thanks to this project, partners have been able to demonstrate that both equipments (heterogeneous inspection & frame metrology) could respond to the wafer handling and inspection/metrology requirements for middle end manufacturing.

The resulting prototypes were installed and evaluated by Amkor Portugal, according to their usage within the TSV-HANDY project (in terms of automation, cleanliness, and stability...).

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