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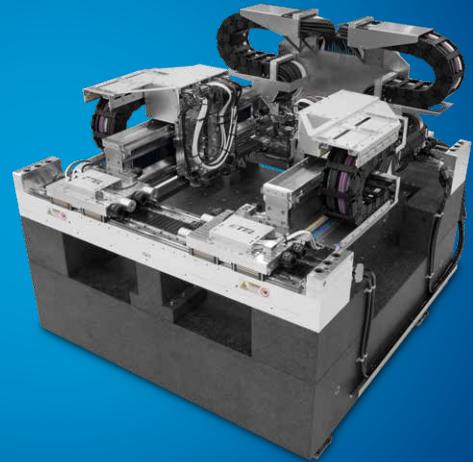
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# XYZ Dual Gantry System

**TELICA** 

**ETEL**

**ETEL**

TELICA is ETEL's new multi-axes platform primarily dedicated to semiconductor back-end applications. Its dual gantry architecture provides motion along 3 degrees of freedom, X, Y and Z, for a total number of 8 controlled axes. It is designed to fulfill the most challenging requirements of advanced die bonding processes (Flip-chip, Fan-out, 3D stacked packages),  $\mu$ -LED bonding, dispensing applications or more generally any application requiring simultaneously throughput and accuracy.

## TELICA

TELICA fits any application requiring a combination of accuracy and throughput.

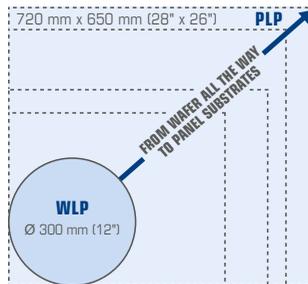


By design, conventional motion system architectures are either optimized for high positioning accuracy or high throughput. Thanks to a very innovative motion system architecture, TELICA meets simultaneously accuracy and throughput at an unprecedented level, namely:

PRIOR ART	TELICA
10 $\mu\text{m}$ @ 7 kUPH OR 5 $\mu\text{m}$ @ 3 kUPH	<b>1 <math>\mu\text{m}</math> @ 10 kUPH</b>

TELICA is available in two standard variants:

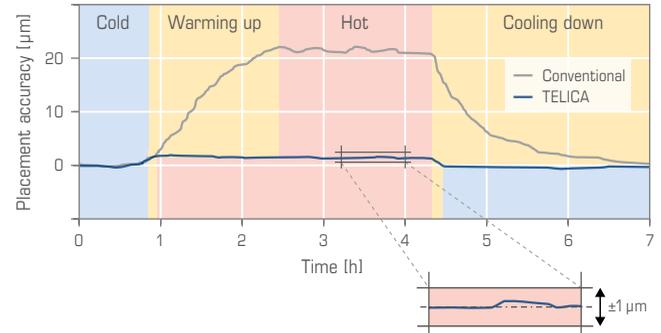
- **Variant 1:** Dual gantry, Wafer Level Packages, travels of X410 x Y445 x Z30 mm
- **Variant 2:** Dual gantry, Panel Level Packages, travels of X750 x Y800 x Z30 mm



TELICA introduces a new approach consisting in having a secondary metrology loop at the process plane level. It drastically reduces the Abbé errors as well as the relative positioning mismatch between process tool and substrate.

Multi-dimensional encoders ensure the placement accuracy level while water cooled ironcore motors allow extreme duty cycles.

**PLACEMENT ACCURACY OVER TIME AT 7 kUPH**



Coupled with ETEL's state-of-the-art AccurET controllers, the TELICA platform benefits from multiple control features such as: non-linear control, advanced feedforward and trajectory filters, full synchronization of all axes with nanosecond jitter, a specific gantry control algorithm, multidimensional mapping, advanced triggering capabilities based on real mapped position, advanced software diagnostic and system identification tools for control optimization.

## PRODUCT HIGHLIGHTS

- Wafer (300 mm) and panel (720 x 650 mm) substrate process-ability
- $\pm 350$  nm local placement accuracy (moves with local alignment)
- $\pm 1$   $\mu\text{m}$  global placement accuracy (blind moves)
- <10 minutes thermal transient (from cold start to hot working state)
- Up to 10 kUPH throughput for a typical flip chip die bonding application
- Up to 180 kUPH throughput for  $\mu$ -LED bonding
- Up to 4 g acceleration in X, 6 g in Y and 7.5 g in Z
- Up to 2 m/s speed in X and Y and 1 m/s in Z
- ISO 5 cleanroom compatible