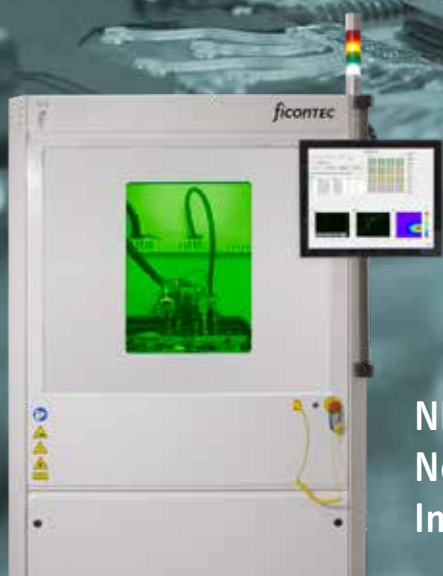


ASSEMBLYLINE

A800 / A1200 / A1600



Automated photonic device assembly utilizing a new, configurable and modular system approach, complete with a production-optimized housing layout. Made for cassette-to-cassette and in-line high-volume manufacturing, as well as for R&D & NPI.



NEW
Next-generation
In-line ASSEMBLYLINE systems

Automated photonic device production

ASSEMBLYLINE systems are high-precision stand-alone and in-line assembly machine solutions designed for fully-automated production (align-&-attach) of photonic devices. They uniquely combine fast-active optical alignment capability and flexible attachment configurations with a tried and tested software control interface, all in an industry-proven design. Optional modules provide additional features, with the high-end models providing automatic tool changing, optical test functionality and wafer processing capability.

Now, ficonteC's new, next-generation in-line assembly systems feature a redesigned, production(-line)-optimized platform (800, 1200, 1600). They are available in specific in-line configurations as an individual and versatile production cell for existing production lines, or they can be supplied as extended production segments comprising several task-optimized systems. In principal, even entire production lines can be envisaged.



Multiple In-line system line-up



Lens align-&-attach

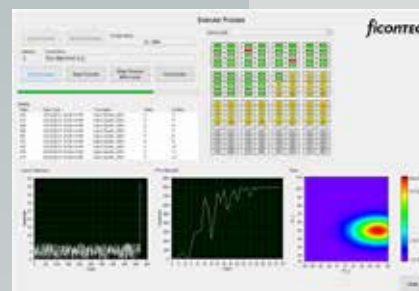
Software Control

PROCESS CONTROL MASTER (PCM) is our user-friendly and process-oriented software control interface that is shipped with all turn-key systems and multiple machine configurations. PCM features an intuitive UI that includes all machine vision, high-resolution positioning and system management routines required to reliably and repeatably drive passive/active alignment and attachment/bonding process hardware.

PCM is already fully enabled for automated electro-optical test and characterization tasks and employs AI-based Deep Learning capability for chip facet defect recognition and classification. PCM also monitors and logs single or multiple production line performance and can even sync parallel lines remotely.



High-level function interface



Freely configurable operator interface



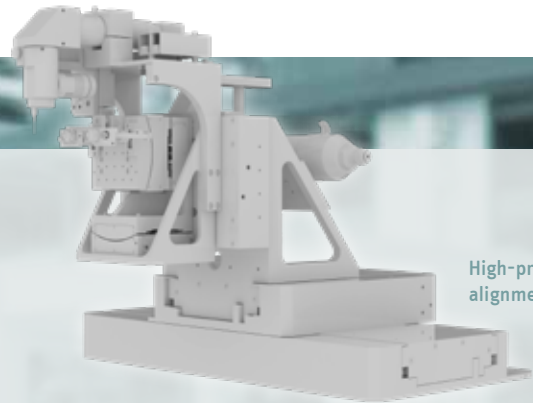
ASSEMBLYLINE

A800 / A1200 / A1600

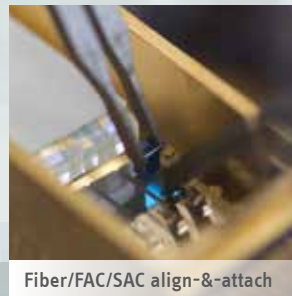


Key features

- ✓ Fully-automated photonic device assembly
- ✓ High-precision AUTOALIGN multi-axis motion
- ✓ Configurable closed-loop fast-active alignment
- ✓ Epoxy dispensing, curing & shrinkage control
- ✓ Chip & wafer-level handling/processing



High-precision alignment unit



Fiber/FAC/SAC align-&-attach



Adhesive dispensing

General tasks & applications

- Precision adhesive dispensing
- Thermal or UV curing
- Chip-to-package assembly
- Fiber/FAC/SAC align-&-attach
- Active mirror align-&-attach
- Active VBG spectral tuning
- HPLD module assembly
- PICs, Silicon Photonics
- Hybrid integrated photonics



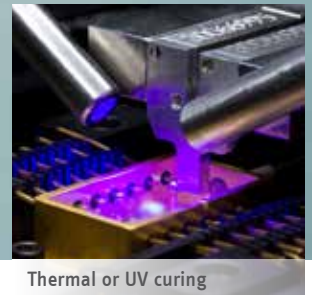
Silicon Photonics



Pick-&-place



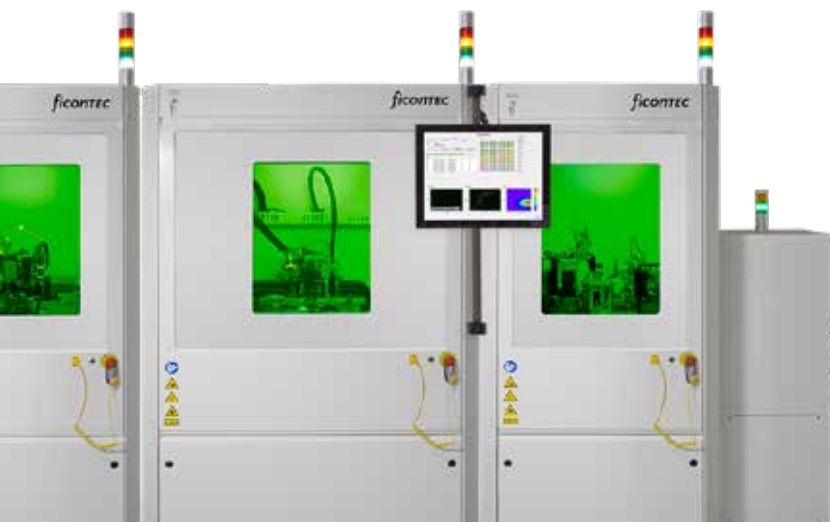
Fiber alignment



Thermal or UV curing

Flexible, modular & (re-)configurable

- State-of-the-art feed IN/OUT options
- FAB & HVM-ready – scalable and parallelizable
- Single systems slot into existing production lines
- Daisy-chain multiple systems for production segments
- Operate, monitor and sync parallel lines remotely
- Add and/or swap modules to re-configure & re-purpose



What we do

ficonTEC is a recognized market leader for automated assembly and testing systems for high-end opto-electronic components and photonic devices, including PICs. Considerable process capability and dedicated assembly technologies have been accumulated in serving requirements for telecom and datacom, high-power diode laser assembly, micro-optical systems, sensing from bio-med to automotive to IoT, and more.

A unique and modular approach to production equipment design means that each system delivered is the automated and optimized embodiment of a customer-defined process.

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Core system specifications	 A800	 A1200	 A1600
Motion system	gantry system with minimum 6-axis high-precision alignment*	gantry system with minimum 6-axis high-precision alignment* or cantilever system w/o multi-axis system	cantilever system with minimum 6-axis high-precision alignment*
Handling options	single conveyor	single or dual conveyor	
Wafer capable	no	up to 6"	up to 12"
Machine vision	standard/dual positioning and observation camera options		
Feed options	suitable for Jedec or Auer boats, or for customer trays		
Software features	ergonomic, flexible and powerful process software – extended operator-less control – remote control server option		
Physical features	rugged steel-base production cell - access door lifts vertically without affecting footprint		
Minimum connections	400 VAC (or country specific), air/vacuum, 100 Mbit/s network		
Cleanroom compliance	ISO 6**		
Dimensions (w x b x h, mm)	800 x 1200 x 1600/2000	1200 x 1200 x 1600/2000	1600 x 1200 x 1600/2000
Weight (typ., kg)	1300	1800	2500

* alternative multi-axis configurations optional ** others available on request

ASSEMBLYLINE systems are suitable for in-line applications in high-volume manufacturing (HVM), including multiple production lines operating in parallel and in sync, optionally via remote control. Custom systems and special purpose cells and robotic systems can be flexibly designed and incorporated to suit customer requirements.