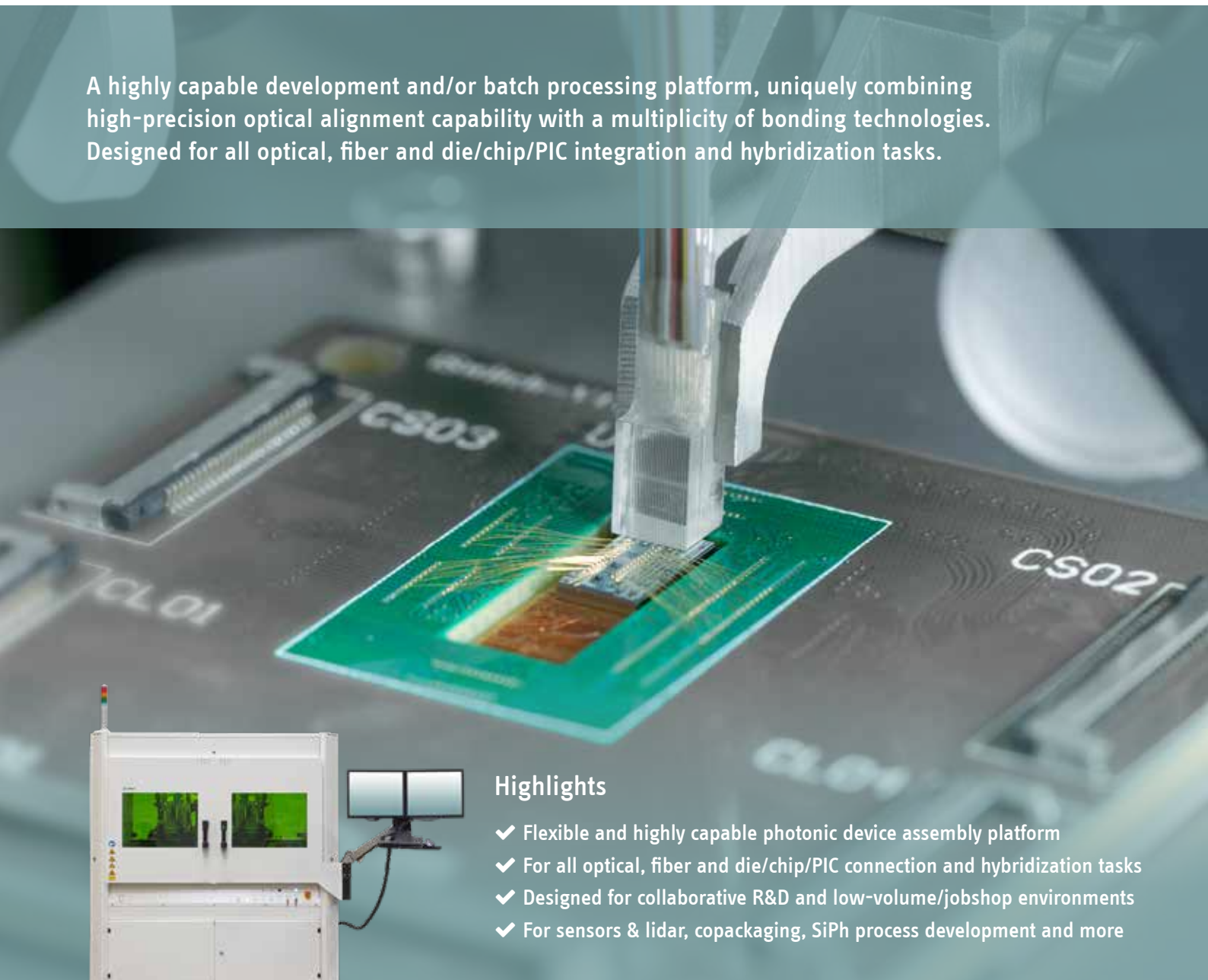




CUSTOMLINE

Flexible, multi-purpose align-&-attach platform

A highly capable development and/or batch processing platform, uniquely combining high-precision optical alignment capability with a multiplicity of bonding technologies. Designed for all optical, fiber and die/chip/PIC integration and hybridization tasks.



Highlights

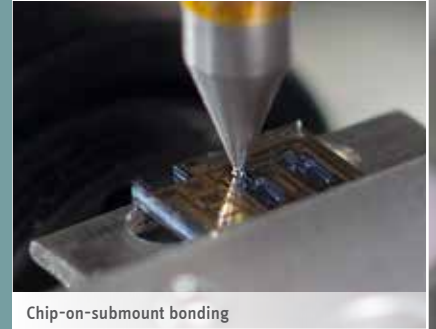
- ✓ Flexible and highly capable photonic device assembly platform
- ✓ For all optical, fiber and die/chip/PIC connection and hybridization tasks
- ✓ Designed for collaborative R&D and low-volume/jobshop environments
- ✓ For sensors & lidar, copackaging, SiPh process development and more

Flexible, multi-purpose align-&attach platform

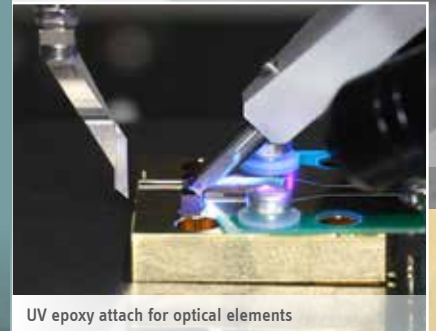
CUSTOMLINE is a highly capable process development and/or batch assembly platform for customers in the semiconductor and photonics packaging market. More than any other ficonTEC product, these systems combine high-precision optical alignment capability with a multiplicity of assembly technologies – including epoxy-based attachment, eutectic die bonding and laser-assisted soldering.

Customizable and versatile from the ground up, CUSTOMLINE systems can be configured as highly-capable stand-alone workstations with the broadest array of installable modules for any ficonTEC platform. The industry-proven design can be re-configured to the widest range of manufacturing tasks – an aspect that is utilized extensively within collaborative research as well as in photonics jobshop environments.

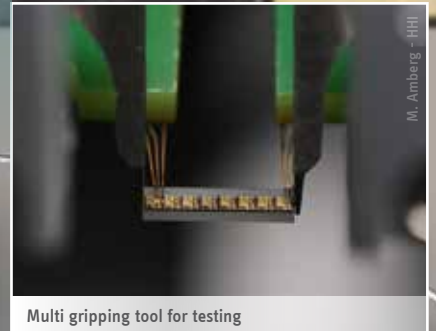
Importantly for any development process, CUSTOMLINE systems can be operated manually, semi automatically or fully automatically. Optional modules extend operational functionality even further, including automatic tool changing, wafer handling capability and TESTLINE (test-&-qualify) functionality.



Chip-on-submount bonding



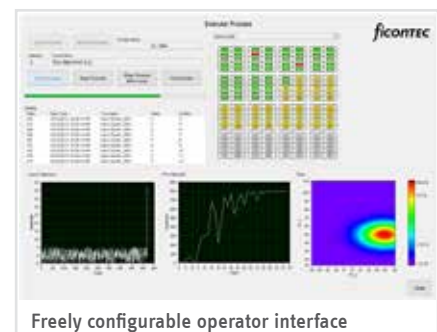
UV epoxy attach for optical elements



Multi gripping tool for testing

Software control

PCM is ficonTEC's unified process-oriented control interface that ships with all turn-key stand-alone systems and multiple machine configurations. PCM features an intuitive UI and an up-to-date feature set that includes all machine vision, high-resolution positioning, system management software and test routines required to reliably and repeatably drive passive/active alignment and bonding process hardware.



Freely configurable operator interface



CUSTOMLINE

Flexible, multi-purpose align-&-attach platform



Key features

- High-precision motion and alignment ($\mu\text{m}/\text{sub-}\mu\text{m}$)
- Automated passive and fast-active align-&-attach
- Epoxy and eutectic bonding, laser soldering
- Heating plate, bond force and flip-chip modules
- Exploratory R&D through to batch production

General tasks & applications

- Optical element & die/chip/PIC align-&-attach tasks
- Fiber & waveguide pigtailling & connectorization
- Optoelectronic, HPLD, MOEMS and sensor assemblies
- Camera modules, 3D scanning & lidar, PICs & silicon photonics
- Collaborative, multifunctional process & product development

Modular & (re-)configurable

- State-of-the-art die and carrier handling options
- Highest number of diverse module types available
- Add or swap modules to re-configure & re-purpose
- Processes directly transferable to production systems



CUSTOMLINE in collaborative R&D

CUSTOMLINE systems are used extensively and successfully within collaborative funded research throughout Europe and at other locations around the globe. The combination of flexible automation, capability diversity and large working space make CUSTOMLINE ideal for highly exploratory and innovative development.

MANUFACTURING MADE LIGHT

Solutions for integrated photonics. Built to scale.

ficonteC is the global market leader for automated assembly and test solutions for modern optoelectronics and integrated photonic devices. In serving development and manufacturing needs for telecom/datacom interconnects, sensors & lidar, camera modules, high-power diode lasers and many other integrated applications for over 20 years, ficonteC's suite of process capabilities is unmatched.

Additionally, a unique and modular approach to production equipment design means that each solution is the automated and optimized embodiment of a customer-defined process.

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www.ficonteC.com/locations



Core system specifications	 C2000
Motion system	minimum 4-axis (3+1) high-precision alignment*
Device handling	pick-&-place from/to Gel-Pak, Waffle Pack, blue tape, custom
Temperature control	temperature-controlled chuck, -+15 to +80 (+/- 0.1) °C
Load options	any combination of manual and/or automated loading (with single or dual conveyor)
Feed options)	suitable for Jedec or Auer boats, or for customer trays
Machine vision	system referencing and observation camera options device and I/O port referencing
Software features	flexible and powerful process programming extended operator-less control Windows 10 PC
Minimum connections	120 VAC (or country specific) air/vacuum 100 Mbit/s network
Cleanroom compliance	ISO 6**
Physical features	rugged steel base production cell
Dimensions (w x b x h, mm)	1850 x 1500 x 2000
Weight (typ., kg)	2500

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

- All ficonteC systems are compatible with PXI-based electro-optical instrumentation modules and leveraging of NI's LabVIEW™. Non-LabVIEW and alternative instrumentation environments are also compatible.
- In addition to all driving align-&-attach processes, PCM software also includes AI-based Deep Learning defect recognition capability, optional ML-oriented production data monitoring, and can direct call functions in Python files.
- Special purpose cells, robotic systems as well as some TESTLINE functionality can be flexibly incorporated to suit customer needs.