

Our team develops the systems with modern development tools:



- Concept Development
- 3D Design Environment
- Prototype Systems
- Finite Element Analysis
- Vision System Integration



- Software development
- Customized machine controls
- Process vision systems
- Image processing systems

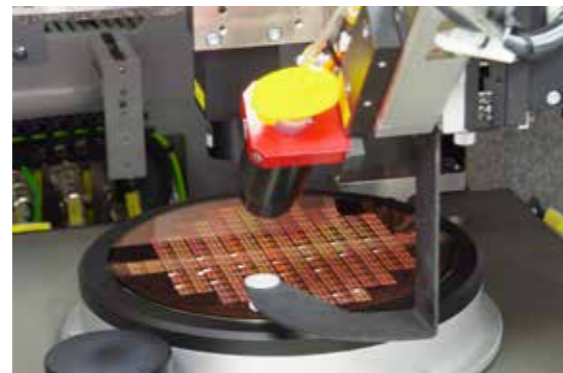


- Process development & process production transfer
- Sampling and small volume production

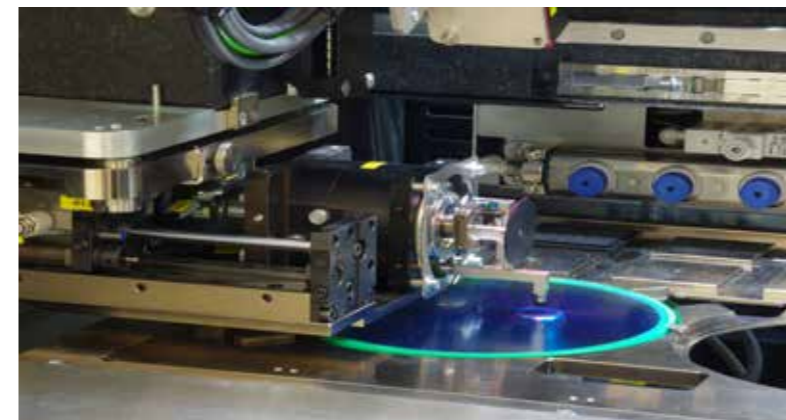
We are open to custom designs & complete solution developments

For Example:

- Gel Fill Assembly Line
- Pressure Sensor Lid Attach Line
- Customized 6-axis Freedom System
- Integration of unique dispensing systems
- Active alignment system
- Plasma cleaner integration
- FOUP Wafer Loader
- Innovative Submount Fixture Solutions
- Unique Process Gas Solutions
- Wafer Bonding Integration



ENABLING THE DIGITAL WORLD



# Products

Product Solutions,  
 Advanced Technology,  
 & Unique Capabilities

## Advanced Packaging Die Bonder & Flip Chip Bonders

### NANO

#### ULTRA-PRECISION DIE & FLIP CHIP BONDER

- Supports  $\pm 0.3\mu\text{m}$  @ 3s placement accuracy
- Supports all die attach and flip chip applications including all AFC<sup>PLUS</sup> capabilities
- Higher resolution alignment optics
- Active vibration damping system
- Automatic placement offset tuning system
- High resolution 300mm bonding station
- Dynamic alignment system
- Quantitative parallelism calibration

#### MARKETS

- Single Mode/SiPhotonics/PIC AOC/WLP
- Optical Device Packaging
- Direct Bond Interconnect



### AFC<sup>PLUS</sup>

#### FULLY AUTOMATIC SUB-MICRON DIE & FLIP CHIP BONDER

- Accuracy down to  $\pm 1\mu\text{m}$  @ 3s with cycle-times down to 25 sec AuSn eutectic process
- Eutectic laser soldering or epoxy bonding
- Small die size down to  $100\mu\text{m}$
- Closed loop bond force control
- Supports all dispensing technologies
- Optional: flip chip bonding, wafer mapping, post bond inspection, heated tools, etc.

#### MARKETS

- AOC/VCSSEL/Multi Mode/Lidar
- Laser Bar and MEMS assembly
- Semiconductor advanced packaging (3D, Stack Die etc.)



### NOVA<sup>PLUS</sup>

#### HIGH-SPEED DUAL HEAD DIE & FLIP CHIP BONDER

- Accuracy down to  $\pm 2.5\mu\text{m}$  @ 3s with cycle-times down to <3 sec AuSn eutectic process
- Modular machine concept for all micro assembly applications
- Eutectic laser soldering for high-speed assembly
- Supports all dispensing technologies
- Offering automatic tool changers
- Optional: flip chip bonding, wafer mapping, post bond inspection, heated tools, etc.

#### MARKETS

- AOC/Optoelectronic/Photonics/LED
- Lidar/Laser Bar and MEMS Assembly
- Semiconductor advanced packaging (TSV, eWLB, FanOut, WLP, 3D, Stack Die)



## High-Speed Dispense System

### HDS

#### FULLY AUTOMATIC HIGH-SPEED AND PRECISION DISPENSE SYSTEM

- Quad or dual headed dispensing system
- Underfill, Glob Top, Flux, eneral Dispensing Applications
- Supports all standard dispensing pump technologies (Jet Pump, Spindle Pump, time pressure vacuum pump)
- Cognex Vision System (automatic fiducial mapping, post inspection system)
- Support PCB, laminate strip, leadframes, carriers, etc.
- Inline, magazine to magazine, reel to reel

#### MARKETS

- MEMS, Automotive, Semiconductor Industry, Electronics



## Wafer Inking Systems

### AIS & SIS

#### FULLY AUTOMATIC OR SEMI AUTOMATIC HIGH-SPEED INKING SYSTEM

- Dot size down to  $70\mu\text{m}$
- Inking of diced und undiced wafers down to 20 dots/s
- Automatic wafer loader for up to 12" wafer

