OAI is a Silicon Valley-based manufacturer of advanced precision equipment for the MEMS, Semiconductor, Nanotechnology, Microfluidics, Micro TAS and Flat Panel industries. The company offers a broad portfolio of field-proven products that include: mask aligners, UV exposure systems, UV light sources, nano imprint modules, wafer bonders, UV ozone surface treatment systems, edge bead exposure systems, wafer sorters, clean room conveyors and numerous, custom-engineered solutions. These products deliver exceptional performance, high versatility with excellent reliability. Based on a proven platform of modularized subsystems, many of these advanced tools can be custom configured to meet your specific requirements. With over 35 years of experience, and thousands of systems and instruments in use around the world, OAI has earned a reputation for exceptional products and superior customer support.
MEMS Precision Equipment for R&D or Production

Model 200IR Mask Aligner System
- Front and Backside IR Mask Aligner System.
- Entry level price point
- Flexible design for easy change of wafer and mask holder
- Accommodates substrate up to 8”
- PLC controlled
- Filter holder and a wide range of filters available

Wafer Bonder
- Activate, align and bond in one system
- Eliminates the need for separate aligner system
- Lower temperature bonding, high bond strength, and higher yields
- Anodic, silicon direct and thermal compression bond tooling available
- In-situ low-temperature bonding

Model 800 MBA Mask Aligner System
- Semi Automated Optical Mask Aligner with Front and Backside Alignment. For use in R&D and low volume production applications.
- Includes anti-vibration table
- Automated substrate planarization
- Optical 4-camera front and backside alignment
- Flexible design for fast and easy changes in wafer and mask sizes
- Touch screen control of exposure time and process settings
- Priced to meet most budgets
- Motorized backside focus
- Motorized auto-leveling and auto gap-setting
- Optional chuck and Z-gap digital display

Model 8000 Mask Aligner System
- Fully Automated Optical Front and Backside Mask Aligner.
- True proximity, hard, soft and vacuum contact modes
- High precision automated alignment
- Flexible, modular design for substrates up to 300mm
- May be retrofitted in the field from manual to fully automated system
- Computer controlled LED microscope lighting for difficult substrate viewing conditions

Model 30 Collimated UV Lightsource
- Modular unit can be used as a stand alone or integrated into almost any mask aligner or exposure system.
- Available with Near, Mid and Deep UV
- Power up to 10Kw
- Pictured with optional stand

Any OAI mask aligner system may be configured with an optional OAI Nano Imprint Module
Microfluidics and Micro TAS

UV Ozone Treatment System
Improves surface adhesion.
- UV Ozone Treatment Systems available for R&D through production
- Super low pressure lamps for improved surface treatment
- Improves bonding for polymer and glass
- Improves yield

Model 30 Collimated UV Lightsource
Modular unit can be used as a stand alone or integrated into almost any mask aligner or exposure system.
- Available with near, mid and deep UV
- Power up to 10KW
- Pictured with optional stand

Model 200 Mask Aligner System
Manual, table top Contact Mask Aligner.
- Flexible - fast, easy change of substrate & mask holder
- Substrates up to 8”
- Entry level price point
- Available with near, mid and deep UV
- Optics and holders available for small substrates
- Can be configured with an OAI CLiPP microfluidic module
- Filter holder and a wide range of filters available

CLiPP Fabrication: Methodology for Microfluidic Prototype and Production Devices

Contact Liquid Polymer Process (CLiPP)
- Designed for single or multi-dimensional devices
- For use with readily available liquid UV photopolymers
- Controlled hydrophobic or hydrophilic surfaces and channels
- CLiPP modules can be fitted to any OAI mask aligner

Any OAI mask aligner system may be configured with an optional OAI Nano Imprint Module

Fill chamber with monomer mixture.
Add binary photomask
Expose with collimated flood exposure source
Remove uncured monomer
Fill channels with sacrificial material
Adjust cavity for subsequent layer

Contact Liquid Polymer Process (CLiPP)
Designed for microfluidic device production
- Designed for single or multi-dimensional devices
- For use with readily available liquid UV photopolymers
- Controlled hydrophobic or hydrophilic surfaces and channels
- CLiPP modules can be fitted to any OAI mask aligner

Fill chamber with monomer mixture.
Add binary photomask
Expose with collimated flood exposure source
Remove uncured monomer
Fill channels with sacrificial material
Adjust cavity for subsequent layer

Contact Liquid Polymer Process (CLiPP)
Designed for microfluidic device production
- Designed for single or multi-dimensional devices
- For use with readily available liquid UV photopolymers
- Controlled hydrophobic or hydrophilic surfaces and channels
- CLiPP modules can be fitted to any OAI mask aligner

Any OAI mask aligner system may be configured with an optional OAI Nano Imprint Module
Semiconductors

Model 200 Mask Aligner System
Manual, table top Contact Mask Aligner for Universities and R&D.
- Flexible - fast, easy change of substrate and mask holders
- Substrate sizes up to 8”
- Entry level price point
- Available with Near, Mid and Deep UV
- Special optics and holders for small pieces and substrates
- Available with optional back side IR alignment
- Optional Nano Imprint Module available

Model 30 Collimated UV Lightsource
Modular unit can be used as stand alone or integrated into almost any mask aligner or exposure system.
- Available with Near, Mid and Deep UV
- Power up to 10KW
- Constant intensity and constant power mode
- Excellent uniformity and collimation angle with increased intensities
- High speed electronic shutters for very short, very accurate exposures are available
- Pictured with optional stand

Model 500 Mask Aligner System
Semi-automatic Contact Mask Aligner for R&D as well as low volume production.
- Integrated frame and vibration isolation
- Available with Near, Mid and Deep UV
- Accommodates substrate up to 8” square
- Available with 9mm field objective separation for small pieces and substrates
- Optional Nano Imprint Module available

Model 2000 Automated Flood and Edge Exposure System
- Wafer sizes up to 8”
- Computer controlled Windows® based graphic user interface software
- SEMI S-2 compliant
- Cassette-to-cassette robotic handling

Model 5000 Mask Aligner System
Fully Automated Mask Aligner System with precision automatic alignment and advanced pattern recognition.
- True proximity, hard, soft and vacuum contact modes
- Stores process recipes
- For substrates measuring up to 300mm
- Computer controlled LED microscope lighting for difficult substrate viewing conditions

Model 2012 300MM Edge Exposure System
300mm Exposure System
- 8” to 300mm wafers
- Automated FOUP loading
- SEMI S-2 compliant

Any OAI mask aligner system may be configured with an optional OAI Nano Imprint Module
Flat Panel Display

Model 600 Large Area Aligner System
Contact / Proximity Aligner.
- Accommodates substrate sizes up to 20"x20"
- Flexible design allows small to large substrates to use the same tooling

Model 5000E Mask Aligner System
Fully automated mask aligner system with precision automatic large area alignment and advanced pattern recognition.
- True proximity, hard, soft & vacuum contact modes
- Stores process recipes
- For substrates measuring from 300mm to 20"x20"
- Computer controlled LED microscope lighting for difficult substrate viewing conditions

Lightsource Grande
Large Area, Collimated UV Lightsouce
- Power up to 10KW
- Accommodates a full range of large sizes utilizing collimating mirrors

Nano Imprint

Nano Imprint Technology (NIL)

Model 800 MBA Mask Aligner System with Nano Imprint Module
Semi-Automated Optical Mask Aligner with Front and Backside Alignment. Configured for use in nano imprint applications.
- Featuring OAI Nano Imprint Module for NIL
- Includes anti-vibration table
- Automated substrate planarization
- Optical 4-camera front and backside alignment
- Flexible design for fast wafer & mask changes
- Touch screen control
- Priced to meet most budgets
- Motorized backside focus
- Motorized auto-leveling and auto gap-setting
- Optional chuck and Z-gap digital display

Nano Imprint Module System
High-yield mold release technology.
- Technology developed at Hewlett Packard
- Low cost solution for R&D
- High yield mold release technology
- Modular add-on for mask aligners

Package includes:
- OAI Aligner Module
- Process controller
- Imprint material
- Mold

Cleanroom Conveyor Systems
Cleanroom Class 1-10.
- Systems with integrated intelligence
- Individual modules or complete systems
- Designed to individual specifications

Wafer Sorters
Cleanroom Automation Solutions.
- Wafers up to 300mm
- Flexible, modular design facilitates easy customization of wafer handling stations
- Designed for cassettes or FOUPs

Automation