S3 ALLIANCE

S3 Alliance provides the network, and product portfolio that brings leading edge solutions to our customers.

Our supply and service solutions are tailored to meet our customers ever changing requirements, enabling them to be competitive in what is now a truly global marketplace.

We source and offer quality products at the right price within the following areas:

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EQUIPMENT

Remanufactured CMP/Grinding/Scrubbing Systems

- **CMP**
  - AMAT / Mirra, Mirra Mesa
  - Speedfam IPEC / 472, 372M
  - Auriga, 676, 776
  - Strasbaugh / 6EC, 6DSSP

- **Post CMP Scrubbers**
  - Ontrack / DSS 100, 200
  - Synergy

- **Grinders**
  - Strasbaugh (7AF), Disco
  - (DFG 841), Okamoto

- **Foundry Services for CMP, Backgrinding and Cleaning processes**
- **CMP and Backgrinding Upgrades**
- **Process Integration**

CMP & Cleaning Systems for R&D

- **CMP**
  - Semi-automated CMP Systems from 2” to 12”

- **Post CMP Cleaners**
  - Semi-automated (4”-12”) or fully automated 3” to 6”

- **GNP Process group provides also:**
  - Consumable development evaluation
  - Process development and optimization
  - Throughput enhancement
  - Additional CMP Options Characterization like MEP, OEP
  - Comprehension of CMP characteristics

Tape/Detape/Wafer Mounting/Systems

- **Semi or Fully Automated Tape Lamination or Detape System**
- **Wafer Mounting**
- **UV Irradiation System**
- **Edge Contact Handling and Processing**

- **Applications**
  - BG Tape Lamination
  - DFR Lamination for MEMS and SAW/BAW, Microfluidics
  - Backside Coating Lamination
  - Vacuum Lamination for Trench Filling, Via Filling
  - BG Tape Remove, Cover Film Remove
  - Dicing Tape Mount w/BG Tape Remove
  - De-Mount/Reverse Wafer Mounting
  - Regular Dicing Tape Mounting
  - UV Irradiation

Tailored Wet Processing Systems

- **Linear Wet Benches**
  - Semi to Fully Automated

- **Upgrade Programs**
- **Spray Acid Tool (SAT)**
- **Spray Solvent Tool (SST)**

- **New SRD Systems**
  - Tabletop, Single or double Stack Stand Alone

- **Refurbishment of Legacy Wetbenches, Parts for**
  - Akrion, SCP, Steag, UP

- **Applications**
  - Advanced Metal Etch
  - Metal Lift Off
  - Resist Strip
  - Advanced Cleaning

www.axustech.com
www.teikoku-taping.com
www.gnptech.com
www.meillc.com,
New & Remanufactured Thermal Processing Solutions & Diffusion Furnaces

Vertical Thermal Reactor (VTR)
Horizontal Thermal Reactor (HTR)
Compact Thermal Reactor (CTR)
Remanufactured Systems

www.exper-tech.com

Atomic Layer Deposition (ALD)

Technology
- Showerhead Type ALD / CVD Process
- Traveling Wave Type ALD Process
- Furnace Type Batch ALD Process
- High Film Uniformity & Quality

Applications
- Available Materials: Metal, Metal oxide, Metal nitride, Metal sulfide, Lamine, and mixed materials
- Application fields: Semiconductor, Display, Solar cell, LED, MEMS, Optical, Bio, Nano, and flexible devices

Critical Point Dryers (CPD)

Critical Point Dryers (CPD)
- Semi to Fully Automated

Products for cleanroom and non-cleanroom
- Research chemicals Supplies
- Accessories and instruments for the electron microscopy and analysis laboratory

Nozzle-less ultrasonic spray head technology
- Sprays thin, uniform films down to sub-micron thickness
- Variety of precision coating platforms available from bench-top to large format

Applications
- Coating applications include display, semiconductor
- Photoresist, Polyimide
- Conductive Coating
- Metal Coating (EMI Shield)

Spray Coating Systems

Nozzle-less ultrasonic spray head technology
- Critical Point Dryers (CPD)
- Single Wafer WET Etch & Clean Systems

PVD Systems

ONYX
- Single Wafer Chamber up to 300mm
AXCELLA
- Single Wafer or Multi Wafer Chamber up to 300mm & Segment Carriers
TOPAZ
- Single Panel Chamber 500mm & 600mm

Monitoring Film Deposition Services
- MEMS, Power Devices, Fan Out
- EMI Conformal Package Shielding
- Ad. Packaging (Bumping, UBM, RDL, TSV)

Applications
- Available Materials: Metal, Metal oxide, Metal nitride, Metal sulfide, Laminate, and mixed materials
- Application fields: Semiconductor, Display, Solar cell, LED, MEMS, Optical, Bio, Nano, and flexible devices

www.cn-1.co.kr

www.ultraspray.com

www.tousimis.com

www.acmrcsh.com

PVD Systems

EQUIPMENT
High Precision Spin Coating Systems

Spin Coater TOP-8
speed up and down freely 0 ~ 50 to 8,000 R.P.M. (Option: 10,000 R.P.M)

Spin Coater ACE-200
speed up and down freely 0 ~ 50 to 8,000 R.P.M. (Option: 10,000 R.P.M)
Most Compact spin coater; High & controllable speed.

Coater / Developer Track Systems

Remanufactured TEL Track Systems
- MARK Series
- ACT Series
- LITHIUS Series

Spare Parts
Engineering Service

Gasonic Asher Equipment

Remanufactured Gasonics L3510 Asher equipment
- Plasma Asher; Plasma Resist Strip and Etch tools
- Unique innovative upgrades
- cost-effective technical solution

Applications
- Semiconductor; MEMS
- Biomedical
- Nanotechnology & LED Industries

CO₂ Dry Cleaning

CO₂ Snow Aerosol Cleaning
- Semi-automatic or fully automated
- 4” to 12” Equipment for
- MASK Cleaning
- Post Repair Clean
- Full MASK Clean

Applications
- MEMS Cleaning
- Backend Package Cleaning
- Metal lift Off
- Particle removal
- Post Dicing Cleaning

Room Temperature Wafer Bonder

Principle surface activation
Room Temperature
Vacuum
Void-free high yield rate bonding can be realized

Applications
- Si / Si
- Si02 / Si02: For insulated pack.
- Si / Quartz, Quartz / Quartz
- Cu / Cu
- Wafer Level Pack. for MEMS (Acc.sensor)

Manufacturer of Plasma (RIE/ICP) Systems

RIE, ICP Etch
- Phantom III
- Minilock

PECVD
- Titan
- Minilock Orion
- Oracle III

Resist Strip / Descum
- Apollo (single chamber)
- Gemini (multi chamber)

www.triontech.com

www.esi-semi.com

www.aplt.co.kr

www.spincoater.net

www.ecosnow.com

www.mhi-global.com
**Ultra Violet Lights for Clean Room**

Detect particles as small as 30 microns that are not visible to the human eye and prevent contamination. Easy to use.

**Applications**
- Cleanroom incoming parts control after cleaning by external cleaning subcontractors
- UV inspection prior to assembly in Clean Room
- UV inspection during assembly in a Cross Flow Cabinet
- UV inspection after cleaning

www.labino.com

**Table Top Mini SEM**

**MiniSEM**
- Easy to use, simple SEM
- Small size, fast image scan SEM (image within 3min)
- Low, easy maintenance
- High resolution

All Options:
- 5 Axis fully motorized: XYZ, tilt angle and rotation
- Top View CCD camera in the chamber
- High and low vacuum mode
- Dual detector (SE, BSE)

**Applications**
- Semiconductors, Electronics, Fuel Cells,
- Material Sciences, Biology, Medicine,...

www.seceng.co.kr/eng/

**Automated Wafer Handling Loader / Unloader**

Standard wafer handling solutions for non-standard wafer handling requirements (OEM, end-users)
- From 50mm to 450mm
- Bridge tool capability with no tooling change-over
- Non-standard wafer handling solutions (thin, warped, glass, thick, film frame)
- For all types (SMIF, FOUP or open cassette)
- SIM (Standard Interface Module) SIM 500, SIM 1000

www.jabil.com

**Automatic Wafer / Package Inspection / Laser Marking Systems**

2D and 3D Vision with Micro and Nano Pixel Imaging
Surface Defect Inspection for:
- Contamination, Foreign Material, Scratch, Etch Residue, Discoloration
- Post-wafer thinning and Dicing Crack Inspection
- Wafer Macro defect inspection Tool:
  2D, 3D Bump, die to die and
  Cracks inspection kerf, Edge trim Inspection
- Laser Marking Tool
- Reticle Inspection Tool
  - Pellicle Surface Inspection and defects
  - Backside Surface inspection,...
- LED 2D and 3D Inspection Tool
  - LED FAB Process Inspection

www.ati2000.co.kr
**METROLOGY & HANDLING**

**Manual Wafer Handling Products**
- Manual Wafer Transfer from 2” to 8”
- Auto Wafer Transfer from 2” to 8”
- Manual Flat/Notch finder
- Auto Flat/Finder
- Manual Wafer Lifter from 2” to 8”

**Automatic Wafer Handling Systems**
- Wafer Handling
  - Manual Wafer Handling Tools
  - Flat & Notch Aligners
  - Wafer Inspection
  - Horizontal Slide Transfer
- Mass Transfer
  - Wafer Transfer Units
  - Back-to-Back Loading
  - Cross-slot detection
- Automation Systems for
  - Wafer Sorting
  - Wafer Inspection
  - Automated Furnace Loading
  - Wafer Packaging

**Wafer Surface Metrology**
- Capacitive, IR, BP or WL Interferometry
  - Thickness, TTV, Bow, Warp measurement
  - Wafer Characterization
  - Layer thickness measurement
- Wafer Surface Metrology
  - Roughness measurement
  - MEMS/Membrane thickness
- Applications
  - Bumps dimensions
  - Film Thickness
  - Step Height, cavities
  - Ultrathin wafer
  - Silicon, sapphire Characterization
  - System using Capacitive Sensors:
    - Thickness, Bow Warp,
    - Local Flatness,
    - High throughput
  - Wide range of Material measurements using White Light Sensors for SiC, GaN, Glass, Ge....

**Automatic Batch Wafer Systems**
- Single Batch Transfer
- 2/3 Station or Vertical Transfer
- Sorters, OCR Sorters
- OCR Readers

**Contact Information**
- www.r2d-automation.com
- www.mactronix.com
- www.stc.tw
- www.microsense.net
**Parts & Consumables**

### Retaining Ring & Customized Plastic Parts

- Retaining Ring available in different materials
  - PEEK, PPS, PBT
  - available for AMAT Mirra, Reflexion, Ebara FRED
- Parts for CVD and ETCH Producer, Speed, Endura, Centura

[Wilbe S&T](http://www.wilbesnt.com)

### CMP Pad Conditioners

- Diamond CMP Pad Conditioners
  - Flexible and accurate diamond arrangement
  - ARIX Technology (extended Lifetime) Defectivity Reduction
  - CVD Type Technology (LASER Processing)

[Shinhania](http://www.shinhandia.co.kr)

### CMP Parts & Services

- Development and Manufacturing of CMP Parts for AMAT & EBARA parts
- Silicon and Rubber parts for CMP, Etch and Other
- CMP Parts and CMP Repairs

[Wärde](http://www.warde.com.sg)

### CMP Pads

- CMP Polyurethane Pads
  - Controlled pore size and distribution
  - using Single Mold Technology
  - Window Pad available for EPD
  - All types of grooves

- Applications
  - Oxide, STI, W, Cu
  - Sapphire, Glass, Quartz

[4T Technologies](http://www.4t.com.tw)

### Hard Material Slurries

- CMP Slurries for hard Materials: SiC, GaN, Sapphire, Diamond, AIN
  - Foundry Services
    - High Polishing rate, low Sub Surface Damage, low roughness
  - Micro Diamond Slurry for higher removal rate, low Sub surface Damage
  - Ultra smooth, low removal rate, very low roughness slurry

[Sinmat](http://www.sinmat.com)

### Materials for Cleaning Critical Surfaces

- Materials
  - ScrubPads
  - Foams
  - Microfiber Wipers
  - Swabs
  - Ergonomic Tools (ScrubPen, tips...)
- Chamber Cleans
  - CVD, HDP chamber from AMAT, LAM
  - ETCH from LAM, AMAT, TEL
  - VOC Free PM Wiping Change tent
  - Implant, Photo

[Foamtec International](http://www.foamtecintlwcc.com)
**PARTS & CONSUMABLES**

### Wafer Cassette

- **CKplas**
  - PEEK from 4" to 8"
  - Teflon/PFA, PP from 2" to 12"
  - Shipping Box from 2" to 8"
  - Single Wafer Carrier 2", 3", 4", 5", 6" made of PP
  - Mask package, Reticle SMIF POD
  - Plastic or Metal Film Frame
  - FOUP for Thin Wafer

[www.ckplas.com](http://www.ckplas.com)

### Back Grinding Wheel

- **SHINHAN DIAMOND**
  - Backgrinding Wheels
  - Available for all Type of Grinders, DISCO, OKAMOTO, TSK, Strasbaugh,
  - Super Polish Wheels for Low Roughness and low Sub surface Damage

[www.shinhandia.co.kr](http://www.shinhandia.co.kr)

### Bearingless Pumps

- **Levitronix**
  - (UK & Ireland)
  - For following applications:
    - Slurry mixing and dispense
    - Electro Chemical Deposition
      - (Au, Cu, Permalloy, Solder)

[www.levitronix.com](http://www.levitronix.com)

### Dicing Saw & Blades

- **NDS**
  - Chuck Tables
    - New and Refurbished
  - Dicing Saw
  - Dicing Blades
    - Resin, Electro formed, Metal, vitrified Bond
  - High Temperature UV Tape

[www.npmt.com.tw](http://www.npmt.com.tw)

### Diaphragm Pumps & Heaters

- **Trebor**
  - (CH, CZ, D, France, Italy, PL, Russia)
  - High Purity PFA Chemical Pumps
  - High Purity Di Water Quartz Heater
  - High Purity Chemical Heaters
  - New Flexible Chemical Heaters

[www.treborintl.com](http://www.treborintl.com)

### Advanced Ceramic Solutions

- **Advanced Ceramic Solutions**
  - For CVD and PVD
    - HDP Tubes
    - Insulated Rings
    - Housing Gas Nozzles

[www.theadvancedceramic.com](http://www.theadvancedceramic.com)
<table>
<thead>
<tr>
<th>Service Category</th>
<th>Description</th>
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<td><strong>Vacuum Pump and Power Supply</strong></td>
<td>Repair / Exchange</td>
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<tr>
<td>PTBSales.com</td>
<td>Cryo Pump Repair, Refurbishment or Exchange</td>
</tr>
<tr>
<td>PTBSales.com</td>
<td>Power Generators / Supply Repair and Refurbishment</td>
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<tr>
<td>PTBSales.com</td>
<td>Refurbished turbo and mechanical pumps</td>
</tr>
<tr>
<td><strong>Atmospheric and Vacuum Robot</strong></td>
<td>Repair / Exchange</td>
</tr>
<tr>
<td>Greenspec.co.kr</td>
<td>Robots and Aligner</td>
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<tr>
<td>Greenspec.co.kr</td>
<td>Aligners, Brooks, PRI, Equipe Genmark, Rorze</td>
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<tr>
<td>Greenspec.co.kr</td>
<td>Head Platen Motors</td>
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<tr>
<td>Greenspec.co.kr</td>
<td>Kollmorgen</td>
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<tr>
<td>Greenspec.co.kr</td>
<td>CVD Vaporizer / LMFM Unit Repair / Overhaul</td>
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<tr>
<td>Greenspec.co.kr</td>
<td>Source Material: TEOS, TDMAT, TEP, TMCTS, BCHD</td>
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<tr>
<td><strong>Hydrogen Separators, Analyzers, Generators</strong></td>
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<tr>
<td>Powerandenergy.com</td>
<td>Hydrogen Analysis</td>
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<tr>
<td>Powerandenergy.com</td>
<td>HEMS – Hydrogen Elimination Mass Spectroscopy ppb qualification of Hydrogen</td>
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<tr>
<td>Powerandenergy.com</td>
<td>Hydrogen Generation</td>
</tr>
<tr>
<td>Powerandenergy.com</td>
<td>Fuel Cell-Ready Hydrogen</td>
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<tr>
<td>Powerandenergy.com</td>
<td>Hydrogen Separation</td>
</tr>
<tr>
<td>Powerandenergy.com</td>
<td>Reforming fuels</td>
</tr>
<tr>
<td>Powerandenergy.com</td>
<td>Gas or Liquid, Fossil or Bio</td>
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<tr>
<td><strong>Yaskawa and Kawasaki Robot Repair Service</strong></td>
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<tr>
<td>Cektech.com</td>
<td>Yaskawa Robot Repair and Service</td>
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<tr>
<td>Cektech.com</td>
<td>Robot Maintenance &amp; Service Contract</td>
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<td>Cektech.com</td>
<td>Robot and Controller Repair Service</td>
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<td>Cektech.com</td>
<td>Kawasaki Robot Repair</td>
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<td>Cektech.com</td>
<td>Receiving Robot</td>
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<td>Cektech.com</td>
<td>Visual Inspection</td>
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<td>Cektech.com</td>
<td>Disassembly, Assembly, Function Test</td>
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<tr>
<td>Cektech.com</td>
<td>Final Assembly &amp; Torque Test</td>
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</table>
Customer service is the key driving force behind our company and the reason our customers keep coming back to us.

We strive to ensure customer satisfaction at all times by maintaining permanent communication, keep our staff well trained, work closely with suppliers if technical support is needed. And having market adapted conditions (pricing, response time, . . .)

We provide warranty on all our tools and services, offer onsite support where necessary and often accommodate what would be traditionally defined as out of hours support.

Different service contracts are proposed with preventive and/or corrective maintenance up to Full service contract.

We also apply an escalation policy in order to have different level of reaction based on the criticality of the situation.
LOCATIONS

S3 Alliance operates from 4 locations within Europe

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