

R&D and Services

www.Solutions-on-Silicon.com

Company introduction Solutions on Silicon BV

Solutions on Silicon



Your partner in

- **Equipment Support**
Maintenance, Trouble shooting, Upgrading, Training
and Onsite Service Contracts
- **Process Support**
Process design, Improvement,
Fab-to-Fab Transfer and Integration
- **Refurbishment**
From custom to complete refurbishment

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Your partner in

- **Relocation**

Auditing, Fingerprinting, Decommissioning,
Installation, Acceptance

- **Materials**

Supplier of first class second source parts

- **Specialties**

Develop special solutions (in close cooperation
with our customers)

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SoS organization

- **Solutions on Silicon BV**
 - Company founded 2004
- **Solutions on Silicon Trading BV**
 - SoS Trading offers fab's to offer there access equipment true SoS website, with a 100% transparent deal closing structure .
 - SoS Trading offers fab's also equipment's from the world market where we will locate the pest possible machines (configuration/price) for our customers.
- **Solutions on Silicon Service BV**
 - SoS Service, supports our customers in the field on equipment and process support.
 - SoS Service offers turnkey solutions on equipment installations and upgrades.
- **Ascent'tec Europe BV**
 - Ascent'tec Europe BV operates one of the Largest E-commerce Platforms for Semiconductor Parts world-wide

Solutions on Silicon Service equipment capabilities



Applied Materials

- P5000, Centura (Etch-CVD-RTP), Endura PVD, implant

ASMi

Epsilon, A400

CSD Epitaxi

EpiPro 3000 and 5000 series, Gemini 1, 2 and 3 series, Concept 2400

Lam Research

Autoetch, Rainbow, Alliance

SVG / Rite-track

8600, 8800 and 90-S / SE series

Varian / AMAT

Varian E220, E500 and AMAT 9500 series

Solutions on Silicon Service

Your ASM vertical furnace specialist



Equipment Support

Maintenance, Trouble shooting, Upgrading, Training and Onsite Service Contracts

Process Support

Process design, Improvement,
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Refurbishment & retrofits

PS2 computer replacement
Mid to High temperature conversion.
Introduction of boot rotation
Tylor made flanges with for example extra injectors
Poly to Power Poly conversion
4 to 5 zone heater upgrades
Complete process changes including new gaspanels

* Note, Most of the services above can be preformed in the Fab

ASM upgrades by SoS

A400 High Temp conversion



Conversion of an oxidation furnace to High Temp

SoS will supply

- ✓ High temperature flange
- ✓ High temperature door plates
- ✓ High temperature heater
- ✓ High temperature Power module
- ✓ High temperature Doors

To be decided after inspection

- ✓ Elevator arm
- ✓ External exhaust
- ✓ Gas panel (no changes for oxidation tool)

Solutions on Silicon Service

Your ASM EpiTaxy Specialist



Equipment Support

Maintenance, Trouble shooting, Upgrading, Training and Onsite Service Contracts

Process Support

Process design, Improvement, Fab-to-Fab Transfer and Integration

Refurbishment & retrofits

- MMI Footprint Reduction
- VAT valve for handling chamber
- Replacement H₂/HCl Detection (Riken Keiki)
- Flash Memory to replace FD and HD, System controller upgrade
- Compumotor replacement
- Inhouse transfer arm and gearbox refurbishment
- Inhouse MPI cleaning and calibration
- Power module footprint reduction
- Integrated LPE bubbler cabinets
- Piezocon TCS Delivery
- Improved water cooling cabinet

ASM upgrades by SoS

E2 / E2000



Available as field retrofits & refurbishment

- ✓ MMI Footprint Reduction
- ✓ Replacement H2/HCl Detection (Riken Keiki)
- ✓ Flash Memory to replace Floppy Disk and Hard Disk
- ✓ System controller upgrade
- ✓ Improved transfer arm and gearbox
- ✓ VAT valve for handling chamber
- ✓ Upgrade Blade to MPI Injectorblock

Available mainly for refurbishment

- ✓ Improved water cooling cabinet
- ✓ Power module footprint reduction
- ✓ Integrated LPE bubbler cabinets
- ✓ Piezocon TCS delivery

ASM upgrades by SoS

E2000 H₂/HCl Detection System



- **Original Gastech detection system**
 - ✓ Standard on installed base
 - ✓ Obsolete
- **New H₂/HCl gas detection system**
 - ✓ State of the art Riken Keiki model BEACON 800
 - Up to 8 sensor modules
 - ✓ Serviceable for many years to come

ASM upgrades by SoS

E2000 Water cooling

- **Old OEM system**
 - ✓ Galvanized bronze components
 - ✓ heavy tools to replace parts
- **New OEM system**
 - ✓ New material PVC → leakage
 - ✓ Plastic hoses to reactor
- **New SoS system**
 - ✓ Polypropylene → no leakage
 - ✓ Quick connects
 - ✓ SS piping to reactor
 - ✓ Easily replaceable parts
 - ✓ Identical for LH and RH systems

ASM upgrades by SoS

E2000 Integrated LPE Bubbler Cabinets / Piezocon TCS Delivery



- **Mini Bubbler Cabinet Mounted on the tool**
 - ✓ TCS source closer to the tool
 - ✓ Reduced bubbler preparation time in the recipe
- **Piezocon TCS vapor sensor replaces LVC**
 - ✓ Eliminates PCRC runs to stabilise the LVC before production
 - ✓ Reduces gas usage
 - ✓ Reduces predeposition steps in recipe

AMAT upgrades by SoS

Centura/Endura and P5000



Solid State replacements for Hard Disk & Floppy Disk Drive

The Situation:

The **AMAT** cluster tool computer system was designed in the 1980's using technology that has been obsoleted.

The **SCSI bus hard disk & floppy disk drives** are no longer available new. Furthermore the data file transfer size and speed limitations of this system are a barrier to its usefulness.

The SoS Solid State Replacement Solution:

- **SSHHD:** replaces the hard disk with a solid state drive equivalent.
- **SSFDD:** replaces the FD drive with a solid state version utilizing CF card.
- **SSRMM:** Solid State Removable Memory Module replaces the floppy disk drive with a large capacity removable memory option for backups.

Touchscreen replacement for Lightpen Interface

The Situation:

The light pen control system for the **AMAT** cluster tools was designed in the 1980's and has been obsoleted.

The SoS Flat Screen Replacement Solution:

- Plug and play installation
- Touchscreen control, trackball or mouse
- Switching between clean room and grey room

Solutions on Silicon Service

Your AMAT Implanter specialist



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Solutions on Silicon Service

Your Varian Implanter specialist



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LAM upgrades by SoS

LAM Rainbow

- **Dual Monitor upgrade**

1. Robot calibration much easier
2. Better access to process chamber
3. No remote monitor needed anymore → footprint reduction

- **Power Supply upgrade**

1. Replaces obsolete power supplies
2. Major cost savings plus 2 years warranty
3. One size fit all (LAM 4420, 4520, 9400 and 9600)

- **Pneumatics upgrade**

1. Less slit valve errors (overlock) → big MBR improvement
2. Less noise and air consumption

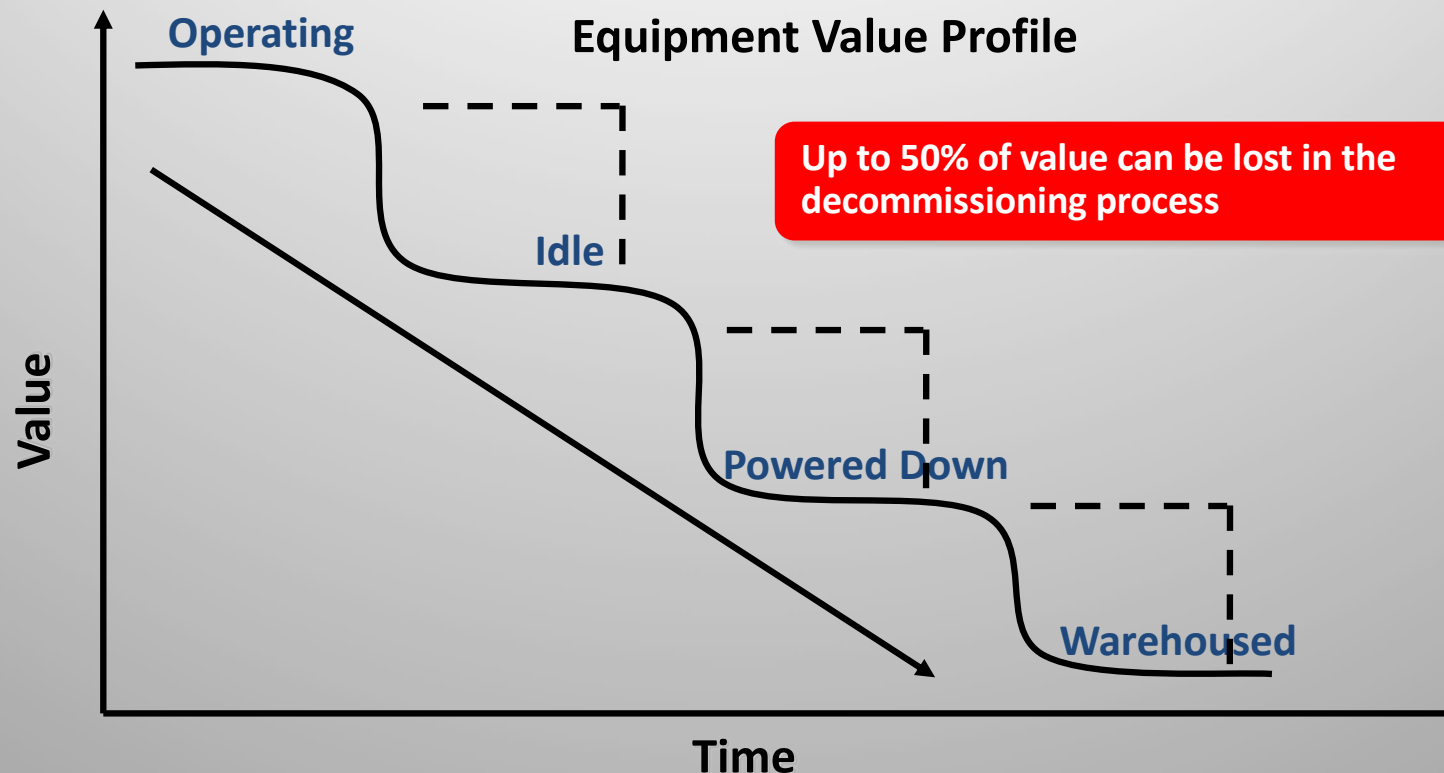
Closing Remarks

Buying secondary equipment

- Ask for serial number and tool location to determine the tool owner
- Use specialised, reliable refurbishment partners

Selling surplus equipment

- Find a reliable, global remarketing partner without a own stock of equipment
- Use specialised service partners for the decommissioning
- Collect tool data in early stages



Thank you

