ISIT SMD-Line
Stencil printing, screen printing, jet printing, dispensing
- Application of solder pastes, solder flux, adhesives and underfill materials
- Automated and manual processes
- Rip-in-Paste-manufacturing, Pump-Print-and Step-printing processes
- Printing of glass frit paste on wafer level
- Processing of 8”-wafer (incl. Taiko-process)

Inspection of solder pastes
(many, automated 2D-, 3D), 3D-Inline SPI
- Closed-Loop high resolution 3D solder paste inspection system

SMD-placement system
- Automatic, semi-automatic, and manual
- Handling of components 0,2x0,4 mm² to 40 mm edge length
- FlipChip-Mounting from waffelpack as well as from diced wafer

Reflow soldering
- Convection reflow soldering under defined nitrogen and air atmosphere
- Vacuum vapour phase soldering
- Low void soldering of power components
- Multiple soldering processes by step soldering technology

Cleaning
- Automated semi-aqueous cleaning of screen printing parts, misprinted circuit boards, soldering frames and assembled boards.

Inspection, non-destructive and destructive quality control and evaluation
- Evaluation of assemblies according to industrial standards (e.g. IPC-A610)
- Manual optical inspection by Erascope, Stereo Magnifier, Microscope
- 2D- and 3D-X-ray inspection
- Scanning electron microscopy (SEM) and EDX material analysis
- Ultrasonic microscopy (SMM)
- Topographic measurement by laser profilometer
- Electrical testing
- Mechanical testing
- Metallographic cross-section preparation and analysis
- Project related image documentation

ISIT Hybrid Technologies for Manufacturing of Printed Electronics
- Inkjet-, screen- and stencil printing techniques for manufacturing of printed circuit boards
- Handling and SMD-mounting of flexible substrates
- Low-temperature bonding processes (adhesive bonding, sintering, conductive adhesion)

ISIT THF-Manufacturing
- Manual THF-assembly
- Inert gas wave soldering (lead free and leaded)
- Selective wave soldering (lead free and leaded)

ISIT Repair Center
- Standardized handling of components and modules
- System selection for an optimized soldering process
- Rework, repair, and modification of complex assemblies
- Selective soldering for completion of assemblies
- Gentle repair soldering processes for electronic assemblies
- Quality control by optical and X-ray inspection as well as cross-section analysis
- Process training
- SMD- and THF-repair services
- Video documentation

ISIT Balling Center
- Manufacturing of all current substrates and single components incl. Taikowafer up to 8”
- Chemical NiAu UB on wafer level
- Printing of fluxing agents
- Solder Balling
- Finepitch-solder paste printing of discrete and integrated circuits on wafer level
- Powerballing
- Convection- or (vacuum) vapour phase soldering

ISIT Workshops and In-House Offers
Periodically offered theoretical and practical workshops for manufacturing, quality evaluation and reliability of electronic assemblies.

Controllable manufacturing of electronic assemblies
- Manufacturing quality, failure analysis, optimization of processes
- Solder paste application
- Technologies, optimization of processes, error prevention
- Temperature measurement techniques
- How to perform temperature accurate measurements
- Optimization of reflow profiles
- From heat flow in the soldering equipment to the „optimized soldering profile"
- The optimized rework process
- How to control the repair process safely

Wave soldering and selective soldering
- Technologies, error prevention by optimization of processes, evaluation of quality

Customer and Application Specific Offers
- Theoretical and practical customized In-House workshops
- Technology days
- Manual soldering
ISIT Application Center Service Offers

- Evaluation, assessment, optimization, testing, and implementation of (innovative) technologies for manufacturing of electronic assemblies
- Processing of rigid and flexible substrates
- Enhancement of processes and process techniques, manufacturing machines, tools and auxiliary materials
- Technical certification of manufacturing facilities
- Benchmark tests
- Lead-free and leaded SMD- and THT processes (as well as eutectic AuSn soldering)
- Design for manufacturing, approval of manufacturing specific design
- Qualification and optimization of soldering profiles for in-line, selective and repair soldering processes
- Generation of application notes (footprint design, recommendation of repair soldering processes)
- Assembling and development of prototypes, functional samples and pre-series
- Neutral validation of manufacturing processes
- Assistance to implementation of novel products and manufacturing processes
- Technology and process transfer to customized manufacturing processes
- Support to conversion of manufacturing processes
- Testing of manufacturing parameters for RoHS conformity
- Qualification of components and materials, e.g. soldering heat resistance
- Moisture Sensitivity Level (MSL)-tests according to J-STD 020
- Validation of soldering pastes considering valid industrial standards
- Assistance to evaluation of suppliers performance
- Audit assistance
- Employee training

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