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FRAUNHOFER-INSTITUT FÜR INTEGRIERTE SYSTEME UND BAUELEMENTETECHNOLOGIE IISB

TOWARDS 450 MM

PREPARING AN R&D INFRASTRUCTURE

TOWARDS 450 MM

Fraunhofer IISB is preparing and offering a 450 mm R&D infrastructure. Our institute has more than 10 years of experience in support of equipment and metrology development and selected short-loop processes. Stepping forward, IISB is your partner towards 450 mm:

Processes

- Ion implantation
- Polishing
- Cleaning
- Etching

Metrology

- Test bed for characterization
- Ultra-trace analysis

CONTACT

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COMPETENCE IN SUPPORT OF EQUIPMENT AND METROLOGY DEVELOPMENT

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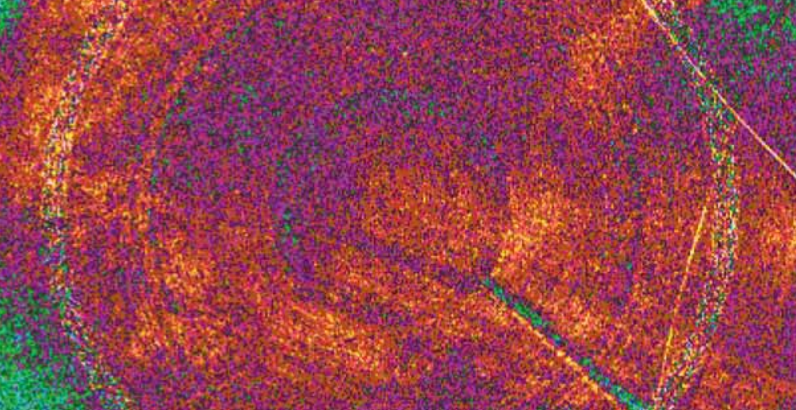

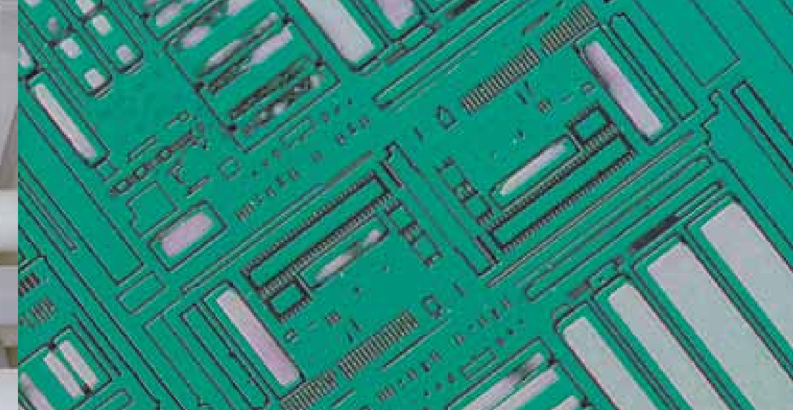

POLISHING

Polishing removes sub-surface defects and recovers geometry and surface flatness.

Equipment

- Double-side polishing
- Single-side polishing

Research

- Advanced abrasive polishing and planarization processes
- Test of consumables
  - Slurries
  - Pads
  - Wafer carriers
- Contamination of polishing processes
- Modeling of equipment

TOWARDS 450 MM - INNOVATIVE POLISHING

CLEANING & ETCHING

Cleaning guarantees low number of surface defects and specified surface properties.

Equipment

- Wet cleaning
- Single wafer wet station

Surface modification

- Reliable slurry removal
- Development and test of surfactants
- Solutions for etching, full or partial removal of patterns and layers

TOWARDS 450 MM - ULTRA-CLEAN PROCESSING

CHARACTERIZATION

Characterization is the clue to equipment qualification. Fraunhofer IISB offers test beds supporting the development and control of processes as well as the development of metrology.

Local inspection

- Flatness (wave front sensors)
- Imaging (microscopy)
- Roughness (atomic force microscopy)
- Total thickness variation
- Layer properties (ellipsometry, XPS)

Ultra-trace analysis of liquids and on wafer surfaces

Determination of *in-situ* process parameters (e.g., hydrostatic pressure, temperature, gas composition)

TOWARDS 450 MM - METROLOGY AND PROCESS CONTROL