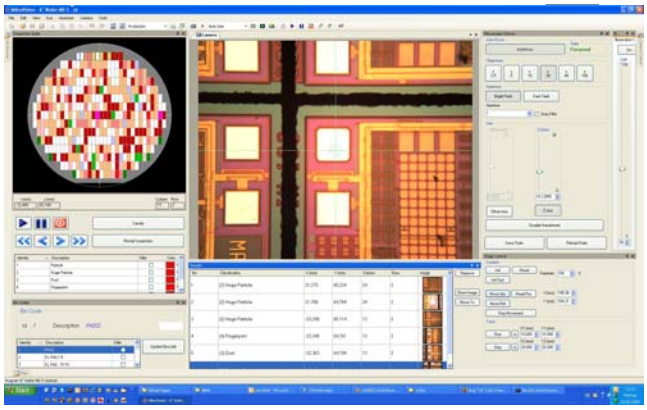
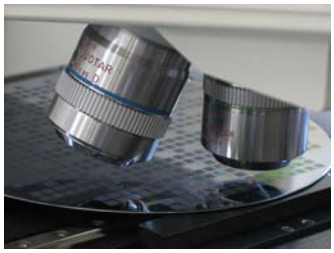
PRO micron
Micro Measuring Imaging

MCS-OWI
Optical Wafer Inspection

Defined software-supported microscope inspection of wafers and frames - optional with inker and waferloader.(For cut and non-cut wafers on bluetapes.)

The permanently increasing integration density in modern chip fabrication, with structures becoming smaller and layers thinner, is a big challenge for measurement systems in the semiconductor industry. On the base of a fully motorized high-end microscope the ProMicron MCS-OWI software supports the requirements of a constantly reliable visual inspection in terms of your quality assurance requirements.





The clearly structured computer interface displays besides the live picture of the digital camera and also the wafermap and control elements of microscope, waferloader ect..
Thanks to the high-class ergonomy of the system the operator is able to concentrate on his inspection duties for hours.

For each of the programmed inspection issues the whole bunch of microscopical possibilities is available.

That is: highest optical capability with maximum zoom from 25x to 1500x (max. up to 3000x) and all important microscopical contrast methods
(bright field, darkfield, interference contrast, confocal).

- The motorized xy stage in combination with the dynamic laser autofocus always enables an exact positioning and focussing of the specimen.
- Of course you can always interfere manually, i.e. in order to look at another focus level or inspect a nighbouring chip before the programmed process continues.
- The operator is able to assign defect codes and save the images with the relating position coordinates. Optionally bad dies can be inked, whereas an actual inkmap is created.
- At the end of the inspection there are lot- and wafer- related data of good chips and statistics (relating to the occured defects and its allocation) available.

features

- Vistec/Leica INM 200 automatic hight performance microscope
- high precision X/Y positioning
- realtime laser autofocus
- wafer size from 100mm bis 200mm d
- clean room category 1 compatibel
- easy handling
- high reliability

Optical Wafer Inspection

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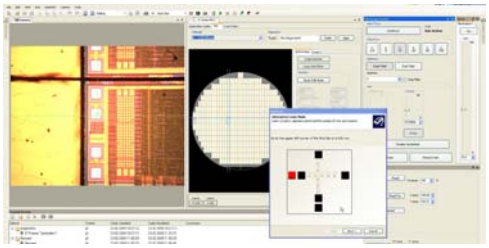
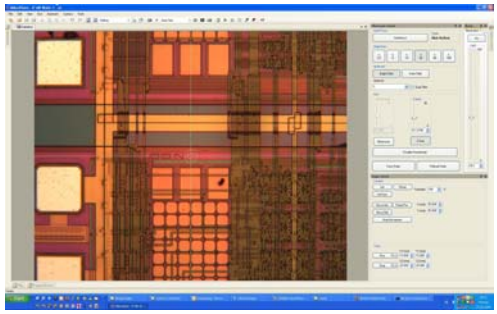
Supervisor



- Teaching of wafer mapping
  more than 6 dies (3 x, 3 y and manual entry of randdies = "ugly dies")
  or import of pass/fail mapping tester (post inking)
- **manual options** of the chips which are to be inspected
- **options per random** (absolute rate or in %)
  > compilation of the inspection files, that is a **setup** with all settings
- **microscope settings** (magnification, contrast method HF/DF, apertur diaphragm)
  alternatively illumination stettings,
  alternatively camera settings,
  completion of the setup by saving as inspection file (as many as desired)
- **definition of the microscans**
  a.) by manual teaching with joystick
  (alternatively: autofocus on or off, selection of the objective-magnification, selection HF / DF, go to the positions)
  b.) by mäandering on dies in image field relevant steps
  c.) mode for continuous run)
  starting point and end point are calculated automatically according the wafermap and the chosen objective



Operator

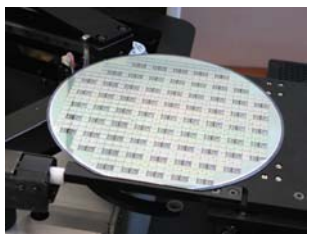
select inspection file/
go to basing point/
inking of bad dies/ ink-map compilation -
output statistics / physical inking/
automatic wafer transport

- **input** wafertype / lot and number

Inspection procedure

- **Waferalignment** (manual approach of reference positions)
- **Microscopical Inspection**

several inspection points are quitted by the operator with space key
manual interference during the procedure is possible at any time. Thereby any magnification size or stage position is selectable. Optionally images can be saved (with every image the xy position is saved as chip number and as coordinate and magnification. Alternatively is the labelling with defectcodes and post ink maps possible.



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System-Options

- On the base of the same hard and software platform we also offer systems for overlay and layer width or thin film measurement.
- **A completely new equipment option is the microscopic NIR camera-inspection by silicium which is transparent in the near infrared spectrum**
- We have all capacities to adapt the systems to specific requirements or substrate forms.
- Mechanical construction facilities, CNC production lines and opto-electronical development resources are available.
  There are, for instance, specific substrate forms possible (see i.e. image below: film substrate / roller to roller processing).

System Optionen

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