

It's time to rethink...

Mask and Field Assembly

PRODUCTIVITY

GOTmask intuitive flow and powerful automation cuts mask set assembly time.

SECURITY

Checks are performed at each step of the mask and field assembly flow ensuring error free database and mask order.

RELIABILITY

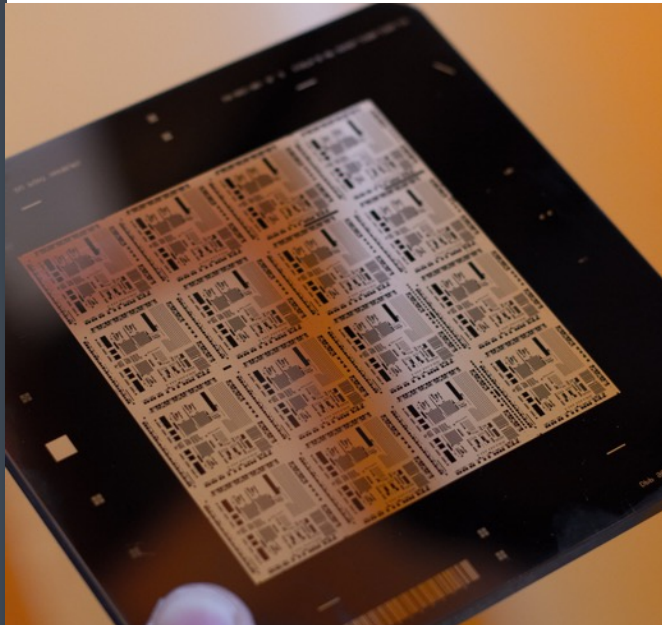
Mask and field assembly solution has been used in production by leading edge companies for years.

AUTOMATION

Integrated Mask Data Preparation solution is scriptable for full automation in production mode, using standard TCL commands and programs.

PORTABILITY

XYALIS Mask Data Preparation solution supports standard layout and job deck formats: GDSII, OASIS, OASIS.MASK, MEBES.



- Automated field placement with reusable templates
- Supports Multi Layer Reticule and Multi Scan technologies
- Optimized 1X mask flow
- Automated creation of compatible step plans and wafer maps
- Mask manufacturability verification
- Automatic documentation and database merging
- Essential companion toolbox

Shrinking geometries, new manufacturing paradigms, exploding file sizes... It's time to rethink everything.

XYALIS increases the productivity, reliability, and repeatability of field and mask set edition with GOTmask, an interactive and intuitive mask edition framework that handles the largest designs with maximum performance and minimum memory requirements thanks to the new GDSII & OASIS (GOT) data representation engine tailored to leverage native OASIS.MASK optimizations.

GOTmask automates mask set assembly, supporting new technologies such as Multi Layer Reticules, Multi Scan masks, back side masks, and full wafer or 1X masks, independently of the targeted mask shop or mask making equipment. It ensures that all masks in the mask set are compatible and optimizes the step plans and wafer maps.

By automating a repetitive process and by verifying the manufacturability of the resulting mask set, GOTmask increases the productivity of the mask data preparation team, avoids costly delays at the mask shop, and prevents the manufacturing of faulty mask sets.

GOTmask automates the edition of mask sets for any lithography equipment type: stepper, scanner...



Features and Benefits

ESSENTIAL COMPANION TOOLBOX

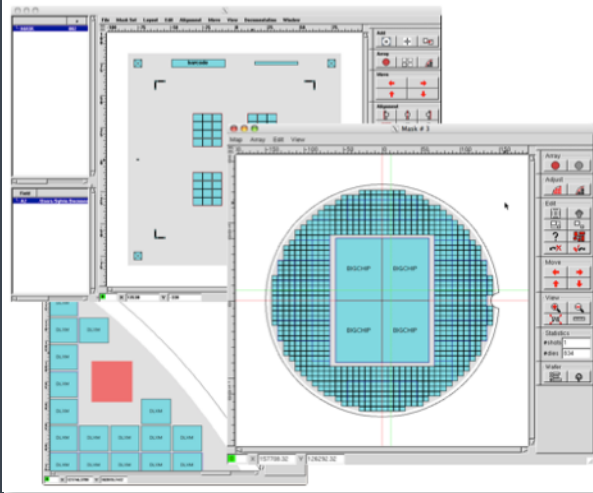
XYALIS offers a set of tools dedicated to Mask Data Preparation (frame generation, multi-chip assembly) and manipulation of large layout databases that can process even the largest GDSII and OASIS files with the highest processing speed and the lowest memory requirements, and provide a safe transfer to silicon for the most complex SOC designs.

SYSTEM REQUIREMENTS

Runs on any Linux workstation with RedHat 6 or above. Management of multi-cores is automatic. A Mac OSX version is also available. Binaries for other platforms may be provided on request.

INFORMATION

For more information on products or services please visit www.xyalis.com or email sales@xyalis.com



- **Automated field placement with reusable template**
The different elements constituting the mask: fields, alignment and inspection marks, barcodes... are assembled on the mask using a dedicated graphical environment or reusable scripts. Default settings allow for most common mask assembly practices but can be customized to match specific procedures and placement can be manually modified.
- **Support for MLRs and Multi Scan technologies**
New mask manufacturing technologies, such as Multi Layer Reticule and Multi Scan technologies aim at reducing the cost of mask sets by using a single mask for printing several reticules. GOTmask streamlines the instantiation of multiple fields on the mask by automatically positioning the fields. GOTmask also offers support for backside masks.
- **Optimized 1X mask flow**
GOTmask offers a specific flow for full wafer masks or 1X masks which optimizes the field placement in order to maximize the number of chips or minimize the number of shots necessary to produce the chips. This flow accommodates multi-chip masks: different fields can be instantiated on the full wafer mask, including very large chips whose size extends beyond the normal boundaries of the field. To improve wafer planarity and increase manufacturing yield GOTmask offers wafer level dummy fill.
- **Automated creation of compatible step plans and wafer maps**
GOTmask automates the creation of the step plan for each mask of the mask set. It optimizes the reticule placement in order to maximize silicon usage or minimize manufacturing time, while taking into account protected zones on the wafer. It is possible to manually fine tune the step plan. A Mix and Match function ensures that all step plans and the wafer map are fully consistent and generates any missing wafer layout.
- **Mask manufacturability verification**
A design database analyzer combined with an assembly rule checker warrants that the mask data is free from error. Special checks are carried out to ensure that the final mask set database can be handled with no problem by any mask shop and manufacturing processing and inspection tool.
- **Automatic documentation and database merging**
User documentation is generated by the click of a button. Format is customized through a plug-in mechanism. Final layout data is generated as a single or multiple files to offer the best trade-off between job deck complexity and file size.



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