

IC Layout finishing software

Mask Data Preparation Solution

SIMPLICITY

XYALIS offers the most user friendly mask data preparation solution with dedicated tools for each specific need that fit in any existing flow.

SECURITY

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

RELIABILITY

XYALIS mask data preparation solution has been used in production by leading edge foundries for many years.

AUTOMATION

All mask data preparation software can be scripted to run smoothly without human intervention in production mode.



- Frame generation
- Multi chip assembly
- Mask and field assembly
- Step plan optimization
- Mask manufacturability verification
- Error free SEMI-P10 compliant mask order process
- Automatic documentation and database merging
- Essential companion toolbox

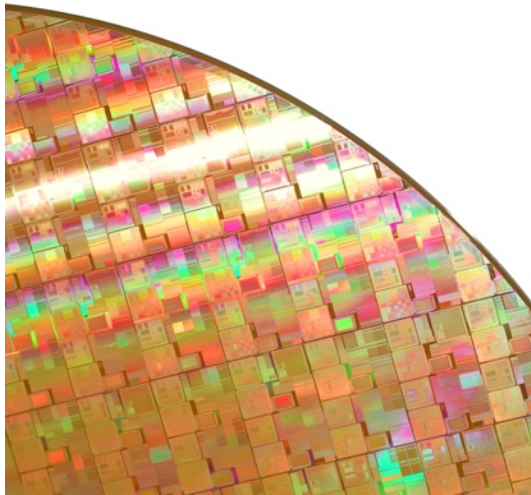
As the cost of a complete mask set has dramatically increased and now represents a significant part of the overall project cost, it is critical for design teams, mask data preparation teams, and mask shops to implement a robust and repeatable Mask Data Preparation flow, which increases the productivity of the mask set creation and removes any risk of error.

XYALIS offers a suite of tightly integrated state-of-the-art Mask Data Preparation modules that automate the repetitive and time consuming tasks between design and manufacturing: frame generation, multi-chip assembly and placement, mask set layout, step plan optimization, wafer level dummy fill, and mask manufacturability verification and offers an enterprise-wide mask data management system for an error-free SEMI-P10 compliant mask order process.

Built around a powerful dedicated graphical editor and a shared data format, XYALIS Mask Data Preparation solution handles standard layout and job deck formats: GDSII, OASIS, MEBES. Each module can be run through the common graphical user interface, or on the command line for automatic processing and easy inclusion in an existing flow.



Features and Benefits



ESSENTIAL COMPANION TOOLBOX

XYALIS offers a set of software dedicated to large layout database manipulation and update that can process even the largest GDSII and OASIS database, with the highest processing speed available, to provide a safe transfer to silicon from the most complex SOC designs, recommended in every tape-out sign-off flow.

SYSTEM REQUIREMENTS

Software runs on any Linux workstation with RedHat 5 or above. Management of multi-cores or multi CPU is automatic. A MacOSX version is also available. Binaries for other platforms may be provided upon request.

INFORMATION

For more information on any of our products or services please visit us on the Web at: www.xyalis.com or mail to: sales@xyalis.com

- **Frame generation**

XYALIS automated frame generation optimizes the placement of process and mask specific items into the scribe lines. The placement engine finds an optimal solution that meets all the constraints while minimizing the scribe line width and the field area. Automatic frame generation works for both regular arrays of dies and Multi-Project Wafers (MPWs) or shuttles.

- **Multi chip assembly**

A dedicated placement tool allows automatic generation of multi chip assemblies, taking into account diverse optimization criteria: silicon area, number of cut sets, number of wafers necessary for production delivery... Field-wide dummy fill inserts customer-defined dummy tiles into the empty areas of the assembly to guarantee higher manufacturing yield.

- **Mask and field assembly**

To speed up the creation of complete mask sets XYALIS automates the generation of final mask layouts according to user-defined templates, supporting any scale of mask as well as front and back-side masks, Multi-Layer Reticules (MRLs), and Multi Field Masks. A special full wafer mask (1X) flow offers the possibility to mix different chips, including very large scale dies and provides wafer-wide dummy fill .

- **Step plan optimization**

Step plans and wafer maps are automatically calculated and optimized according to various criteria: minimal number of photo shots, maximum number of usable dies, and take into account all forbidden areas on the wafer.

- **Mask manufacturability verification**

A design database analyzer combined with an assembly rule checker warrants that the mask data is free from error and can be manufactured. Special checks are carried out to ensure that the final mask set database can be handled with no problem by mask shop and manufacturing processing and inspection tools.

- **Error free SEMI-P10 compliant mask order process**

A universal mask database manages all data related to mask data preparation throughout the life of the project and provides semiconductor companies with an error-free, 100% SEMI-P10 compliant mask order process warranting interoperability between mask suppliers.

- **Automatic documentation and database merging**

User documentation is generated by the click of a button. Format and available information are customized through a plug-in mechanism. Final layout data is generated as a single database or multiple databases that can be adjusted to offer the best trade-off between job deck complexity and file size.



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