

IC Layout finishing software

Multi Chip Assembly

PRODUCTIVITY

XYALIS GTmuch intuitive flow and powerful automation cuts multi-chip assembly from days to hours.

SECURITY

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

RELIABILITY

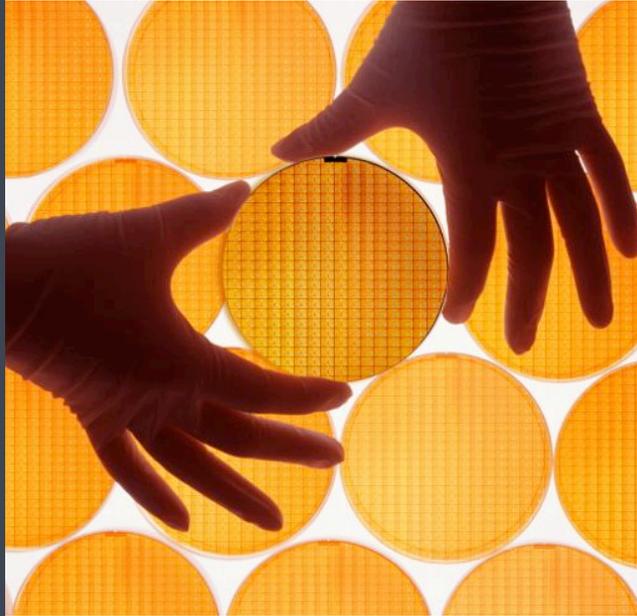
XYALIS multi-chip assembly solution has been used in production by leading semiconductor companies for many years.

AUTOMATION

XYALIS GTmuch is fully integrated in XYALIS Mask Data Preparation solution.

PORTABILITY

XYALIS GTmuch supports standard layout and job deck formats: GDSII, OASIS, MEBES.



- Production aware placement
- Mask manufacturability verification
- Automatic dummy fill
- Intuitive graphical environment
- Automatic documentation and database merging
- Essential companion toolbox

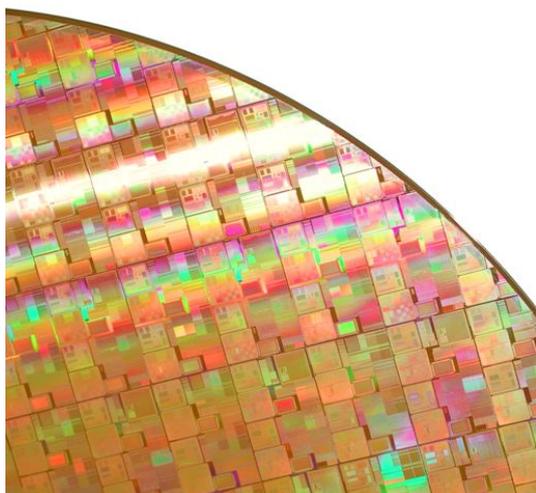
As the cost of a complete mask set has dramatically increased and now represents a significant part of the overall project cost, it is critical for design teams, mask data preparation teams, and mask shops to implement a robust and repeatable Mask Data Preparation flow, which increases the productivity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

Multi-chip assemblies also known as Multi Project Wafers, Shuttles, or Pizza Masks are becoming more prevalent in order to share mask costs between projects and are now used for manufacturing test chips, prototypes, and low production chips.

XYALIS GTmuch is a powerful workbench for building multi-chip assemblies. It increases productivity, maximizes the yield, and eliminates the risk of error by combining an easy to use graphical editor with powerful engines that automate all steps required for multi-chip assembly: optimize chip assembly with a powerful production aware placement engine, check integrity and mask manufacturability of all chips imported in the assembly, insert dummy fill between chips to avoid Chemical Mechanical Polishing (CMP) issues, and automatically generate the documentation of the assembly.



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

- **Production aware placement**

An automatic placement engine minimizes the area of the chip assembly while XYALIS GTcross option takes into account advanced placement criteria and production requirements in order to provide an optimum placement which minimizes production costs according to users criteria. The tool positions saw lines and identifies the optimum cut set to retrieve all chips.

- **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.

- **Automatic dummy fill**

To increase manufacturing yield designers must insert dummy tiles into empty areas of the design to help flatten the surface of each metal layer before Chemical Mechanical Polishing (CMP). GTmuch automatically inserts dummy tiles or full-layer structures in the empty areas between the chips of the multi-chip assembly. The resulting database is only a few percent of the original database.

- **Intuitive graphical environment**

The intuitive customizable graphical environment can be used to quickly build chip assemblies and manually place the chips. It is also the cockpit of XYALIS Mask Data Preparation solution, from where users can launch and control all tasks necessary to build mask sets.

- **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.

- **Light remote multi assembly chip client**

GTmuch comes with GTmuchLight, a lightweight multi chip assembly client program for approval or placement modification.



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