

# It's time to rethink...

## Multi-Chip Assembly

### PRODUCTIVITY

GOTmuch 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

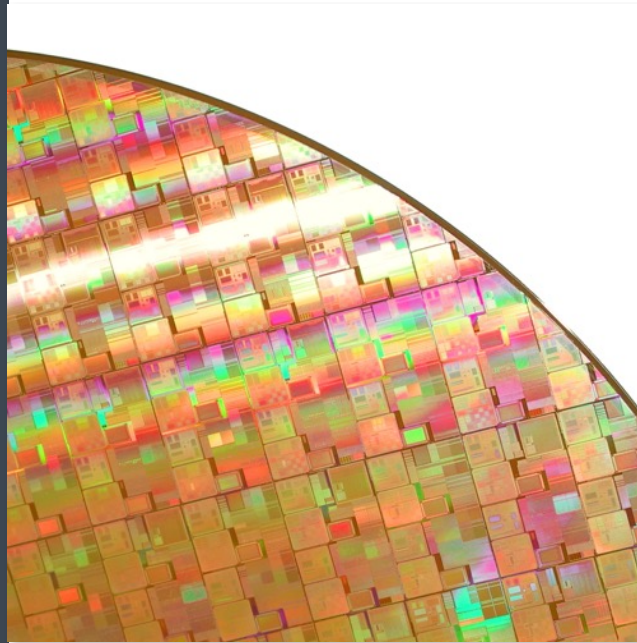
Multi-chip assembly solution has been used in production by leading companies for years.

### 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.



- Production aware placement
- Mask manufacturability verification
- Automatic dummy fill
- Intuitive graphical environment
- Fully scriptable
- Web interface for shuttle contributors
- 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 multi-chip assembly edition with GOTmuch, an interactive and intuitive multi-chip assembly 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.

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. They are used for manufacturing test chips, prototypes, and low production chips.

GOTmuch is a powerful workbench for creating multi-chip assemblies. It increases productivity, maximizes yield, and eliminates the risk of error by combining an easy to use graphical editor with powerful engines that automate all steps: automatic verification of database integrity and mask manufacturability of each imported chip, optimized assembly placement, assembly wide dummy fill insertion, documentation generation.

To streamline collaboration between design teams and mask data preparation teams XYALIS offers WISC, a multi-chip assembly information database with an intuitive web-based environment to securely exchange design layouts and multi-chip assembly placement requirements and validate final placements before manufacturing.



## ESSENTIAL COMPANION TOOLBOX

XYALIS offers a set of tools dedicated to Mask Data Preparation (frame generation, mask set creation) 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.

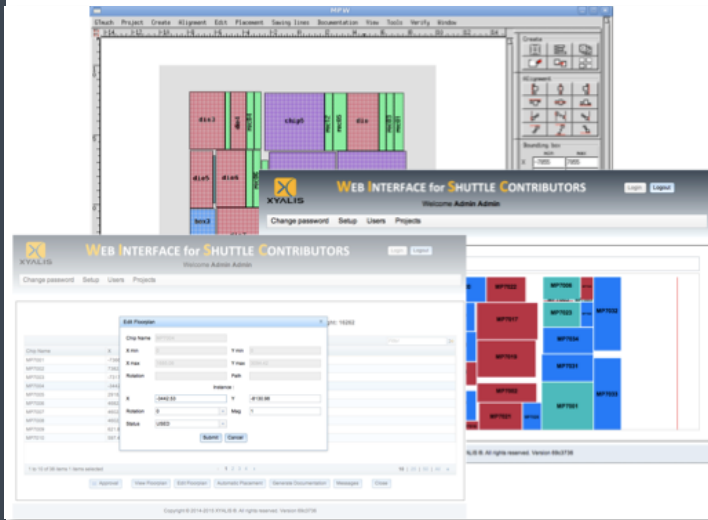
## SYSTEM REQUIREMENTS

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](http://www.xyalis.com) or e-mail [sales@xyalis.com](mailto:sales@xyalis.com)

# Features and Benefits



- **Production aware placement**

An automatic placement engine minimizes multi-chip assemblies area while GOTcross takes into account advanced placement criteria and production requirements to provide an optimum placement minimizing production costs according to user defined criteria.
- **Web Interface for Shuttle Contributors**

To streamline and automate the collaborative process of multi-chip assembly, WISC provides an intuitive web-based graphical environment. Design teams can securely upload chip layout databases along with production requirements and placement preferences, and validate the final multi-chip assembly proposed by the mask data preparation team. They also have access to a floorplan layout editor to propose different placements.
- **Automatic dummy fill**

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

A design database analyzer combined with an assembly rule checker warrants that the generated 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.
- **Intuitive graphical environment**

The intuitive customizable graphical environment can be used to quickly build multi-chip assemblies with manual or automatic placement. 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.
- **Fully scriptable**

GOTmuch comes with a large set of TCL based commands to build and manipulate multi-chip assemblies from automated scripts.
- **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.



### European Headquarters

World Trade Center  
BP 1510  
38025 Grenoble cedex 01  
France  
Phone +33 456 58 36 34

### Xyalis USA

14938 Camden Avenue  
Suite 216  
San Jose, CA 95124  
USA  
Phone +1 408 313 8433

### Xyalis Asia

541 Orchard Road  
#09-01 Liat Towers  
Singapore 238881  
Phone +65 9818 4228