Multi Project Wafer Placement

- Manufacturing and production requirements

- Customized optimization criteria

- Optimized customer deliveries

- Extended capabilities with XYALIS GTmuch

- Automatic documentation and database merging

- Essential companion toolbox

OPTIMIZATION

XYALIS GTcross optimizes the placement of Multi Project Wafers with respect to production cost.

SECURITY

Checks are performed at each step of the Multi Project Wafer Placement flow ensuring error free database and mask order.

RELIABILITY

XYALIS Multi Project Wafer Placement solution has been used in production by leading edge semiconductor companies for several years.

AUTOMATION

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

PORTABILITY

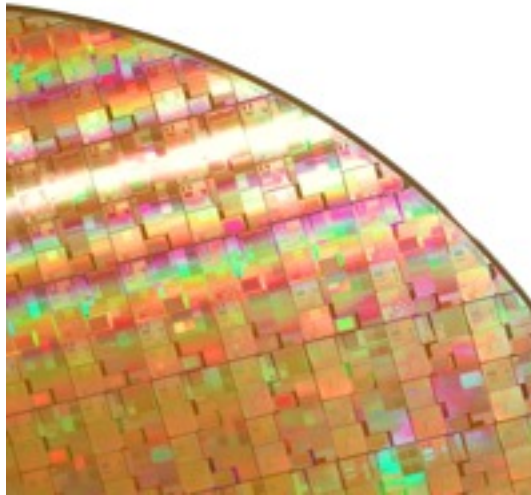XYALIS GTcross supports standard layout and job deck formats: GDSII, OASIS, MEBES.

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 Project Wafers (MPWs, 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 GTcross is an advanced placement engine dedicated to MPWs and their specific requirements in terms of deliverability, chip packaging, and expected production outcome. XYALIS GTcross optimizes the placement solution in order to meet specific customer needs with respect to area minimization, cut set minimization, or customer delivery optimization.

XYALIS

Features and Benefits

- **Manufacturing and production requirements**
  Unlike general purpose placement engines, XYALIS GTcross is tailored for MPWs and takes into account packaging requirements: saw line width, guard rings, and margins, as well as production requirements, allowing the customer to define expected production outputs for some or all of his chips.

- **Customized optimization criteria**
  As MPWs are used for different purposes (test chips, low production chips...) XYALIS GTcross offers different optimization criteria: minimum area, minimum number of cut sets, optimized customer deliveries... Customers select pre-defined optimization modes or even create their own in order to best reflect their needs.

- **Optimized customer deliveries**
  Often MPWs regroup chips from different customers, different groups, different packaging requirements... that need to be retrieved independently after manufacturing. XYALIS GTcross optimizes the delivery of such chips by minimizing the number of cut sets necessary to saw them.

- **Extend capabilities with XYALIS GTmuch**
  Before placement XYALIS GTcross checks the integrity and mask manufacturability of all chips imported in the assembly and at the end it inserts dummy fill between chips in order to avoid Chemical Mechanical Polishing (CMP) issues. XYALIS GTcross can be used in standalone mode or within XYALIS GTmuch graphical multi-chip assembly editor for results visualization and manual tuning.

- **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.