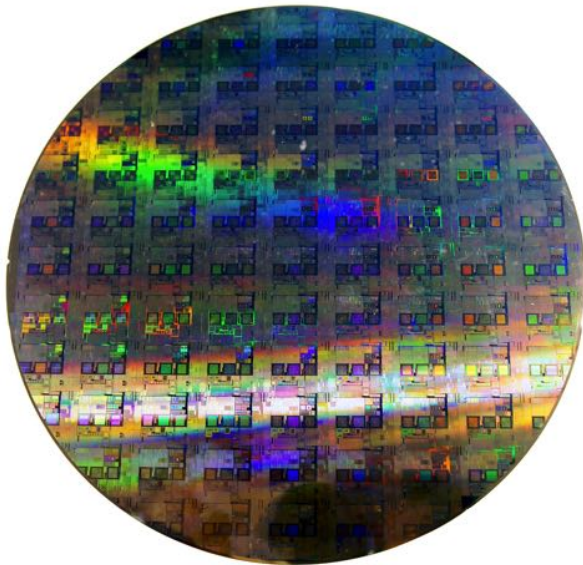# It's time to rethink…

…Multi Project Wafer placement

GOTcross

- Manufacturing and production requirements

- Customized optimization criteria

- Optimized customer deliveries

- Extended capabilities with GOTmuch

- Mask manufacturability verification

- Automatic documentation and database merging

- Essential companion toolbox

XYALIS increases the productivity, reliability, repeatability of multi-chip assembly placement with GOTcross, a production aware placement engine which computes the optimum placement of chips in a multi-chip assembly in order to meet customer specific optimization needs: area, wafer lots, etc…

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.

GOTcross is an advanced placement engine dedicated to multi-chip assemblies and their specific requirements in terms of deliverability, chip packaging, and expected production outcome.

GOTcross optimizes the placement solution in order to meet specific customer criteria with respect to area minimization, cut set reduction, or customer delivery optimization.

GOTcross handles the largest designs with maximum performance and minimum memory requirements.

XYALIS

Features and Benefits

Cutset Optimization
8 wafers needed

Area Optimization
12 wafers needed

- **Manufacturing and production requirements**
  Unlike general purpose placement engines, GOTcross is tailored for multi-chip assemblies and takes into account packaging requirements: saw line width, guard rings, and margins, as well as production requirements, allowing customers to define expected production outputs for some or all chips.

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

- **Optimized customer deliveries**
  Often multi-chip assemblies include chips from different customers or design groups, with different packaging requirements... that need to be retrieved independently after manufacturing. GOTcross optimizes the delivery of such chips by minimizing the number of cut sets necessary to saw them.

- **Extend capabilities with XYALIS GOTmuch**
  GOTcross can be used in standalone mode or within GOTmuch, a graphical multi-chip assembly editor for result visualization and manual tuning. Automatic insertion of dummy fill between chips is made with GOTfiller in order to avoid Chemical Mechanical Polishing (CMP) issues.

- **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 without 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 can be customized through a plug-in mechanism. Final layout data is generated as single or multiple files to offer the best trade-off between job deck complexity and file size.