

## agileMPG Case Study: Leading Semiconductor Company

### Client

A leading semiconductor company headquartered in Europe with over 30,000 employees working in more than 20 countries posting over \$6B USD in 2007 sales

### Situation

Our client was experiencing preventable maintenance costs due to:

- Excessive unscheduled tool downtime, such as premature and continuous downtime of implant equipment
- Poor quality of completed tasks
- Complexity of adherence to safety issues
- Inefficient routine maintenance tasks
- Indiscriminate replacement of parts and consumables
- Vague maintenance procedures

All of which culminated in tens of millions of dollars in manufacturing losses due to ill-performed or neglected preventable maintenance.

### Challenges

In addition to addressing the needed cost reductions within preventive maintenance, the solution must also provide answers to the following:

- Transforming fabrication facilities (FABs) from reactive maintenance/repair to proactive maintenance/repair
- Simultaneous implementation to multiple shifts across multiple FABs
- Reliable, sustainable solution across all FAB maintenance and repair activities
- Scalable solution for company-wide rolling implementation

### Solution

agileTCP implemented our agileMPG Maintenance Procedure Guide to include numerous FAB maintenance and repair activities throughout three fabrication facilities in order to:

- Improve overall maintenance response times, including mean time to repair (MTTR) and mean time between repairs (MTBR) associated with skill requirements
- Increase overall maintenance quality by minimizing the number of visits per issue
- Reduce overall operations cost by keeping scheduled and unscheduled downtime to a minimum
- Reduce overall training cost, including minimizing company costs associated with entry-level training and knowledge requirements

The six-step methodology within our agileMPG solution aids our client in both developing and optimizing the specific steps necessary to perform routine operations and maintenance tasks within their semiconductor fabrication facilities.

Differing greatly from traditional training techniques, our proprietary agileMPG approach:

- Focused mainly (80%) on kinesthetic (or hands-on/natural discovery) skill development over cognitive (inactive learning/lecture) skill development (20%)
- Equipped our client with basic task procedures that leverage best known methods (BKMs) and numerous graphical elements
- Created a living job aide that our client's technicians and engineers found easy to follow and update, regardless of skill level





Converting intellect to asset.™

With a design tailored to fit our client's specific operations and maintenance requirements, agileMPG's architecture for this specific client included the following capabilities:

- Dense graphics concentration (such as photography, illustration, animation and CAD in black/white and color options) to support kinesthetic learning, reduce multi-culture translation costs and decrease time needed for updates/revisions

- Ability to use existing documentation and procedures to allow ease of conversion, industry familiarization and standardization needs

- Uniformity in design, content and templates to provide consistent performance and results across multiple fabrication facilities

- Rapid instruction design model to quickly disseminate critical operations and maintenance updates to target employees across multiple facilities, minimizing confusion

- Versatile delivery options (including multi-media such as online manuals, hard copies and electronic files) to minimize personnel costs in entry-level training and knowledge requirements

## Results

As a result of our agileMPG solution, overall operations and maintenance efficiencies increased while associated costs decreased.

Within six weeks, the agileMPG solution:

- Standardized maintenance procedures within clean room, sub-FAB and all other areas across three FABs simultaneously

- Combined multiple protocols into one standard protocol

- Doubled the uptime hours for implanter equipment

- Scaled to include an additional 1.5 specific procedures per day, averaging 10 additional procedures per week

Within one quarter, the agileMPG solution:

- Achieved 100% return-on-investment (ROI)

- Reduced dynamic cycle time

- Reduced overall operations costs

- Improved MTTF and MTBF associated with skill requirements

- Provided shift-to-shift standardization of maintenance/repair procedures

- Increased controlled maintenance uptime and downtime

- Optimized technician's time on tools

- Reduced number of visits per issue, significantly improving quality while reducing overall costs

Moving forward, the agileMPG solution:

- Continues to maintain the benchmark quarter's metrics

- Improved implant equipment operating hours across all three FABs

- Is currently being implemented across all areas in all FABs company-wide

Whether you are in need of gaining greater efficiencies with or higher quality output from your workers during routine operations and maintenance tasks, agileTCP has the training and subject matter expertise to guide you in using knowledge management solutions to reduce operational costs, training costs and time-to-profitability for new and unskilled workers. We call that agileMPG.

Join many of the largest global semiconductor manufacturers in choosing agileTCP as your knowledge management solution partner-of-choice. For more information on our expertise in the semiconductor industry or our agileMPG solution, please contact us today.

## about agileTCP

agileTCP ([www.agileTCP.com](http://www.agileTCP.com)) is a knowledge management and training solutions company based in Austin, Texas that provides technology-driven solutions by working with clients to transform, control and package business intellect. Since 1996, agileTCP has been meeting and exceeding the training and knowledge management needs of companies worldwide. Our proven techniques, methodology and subject matter expertise have maximized business value for our clients, including increased operational efficiencies of over 80%, reduced training costs of over 40% and substantially increased revenue across our client base. For more information on agileTCP, please visit [www.agileTCP.com](http://www.agileTCP.com) or call 512-732-2223.