

# Improving Manufacturing Efficiencies



## Success Story

Ibis Technology Corporation develops, manufactures, and markets implantation equipment and wafers for the worldwide semiconductor industry.

### Client Vision

Increase manufacturing yield efficiency by improving reaction times to equipment based failures.

### Challenge

Adding controls and rules-based monitoring that would provide enough flexibility for changing production specs.

Making such controls easy to use so any engineer could work with them without a knowledge of programming.

### Nobilis Solution

Nobilis Ci ProcessWriter v4.01  
MS Excel 2000

### Success

10 hours of Engineers' time, previously spent on manual review, saved every week.

Reaction time to data that is outside of specification has been reduced from days to minutes.

Quicker reaction time has led to increased yield of the production line.

### Problem

Ibis Technology, a manufacturer of implantation equipment and wafers for the worldwide semiconductor industry, faced a challenge with their production process. Maintaining an efficient production line required constant monitoring of inline information to guard against deviations from production specifications. The manually intensive process they followed provided the analysis they needed, but the cycle times required to review the relevant information left potentially long lag times between indications of equipment failure and corrective actions. As any product that was produced outside of spec was worthless, faster reaction times to potential problems would have a direct impact to the yield of the production line and, in turn, on the bottom line of the company.

“Nobilis enables small manufacturers like ourselves, who can't afford the cost or the lengthy implementation of a manufacturing execution system, to automate production processes that have a direct impact on our bottom line.”

**Kevin Dempsey**  
Ibis Technology

The original process required employees on the floor to enter production data into a spreadsheet in MS Excel. These entries would produce charts of information on a variety of production metrics, such as the number of particles generated, thickness deposited, and clean efficiency. Engineers would then take the charts and review them manually, looking for statistics that fell outside of specification. Beyond the normal possibility of human error in catching anomalies in the process, Engineers would often take days to review production statistics, leading to costly lag times in spotting problems.

### Solution

Ibis needed a solution to the issue that would dramatically reduce the lag between

“The flexible nature of the Nobilis platform is perfect for pursuing process optimization through approaches like Six Sigma. Because we can change the business rules as well as the activity flow of any given process without programming, it enables us to easily create a process optimization feedback loop, gathering information to improve a process, making changes, and monitoring their success into the future.”

problems and corrective actions. They also were constrained by a lack of resources to apply to the issue and were facing an aggressive production ramp. Time was of the essence and they couldn't afford the lengthy implementation that a manufacturing execution system would require.

The Nobilis Ci ProcessWriter provided an optimal solution to the problem, automating the review process by leveraging the MS Excel spreadsheets that Ibis had already used to that point. Ibis was able to use the Nobilis Ci ProcessWriter to create a workflow that utilized flexible business rules and applied them to those preexisting spreadsheets - all without programming.

Today, the Ibis production floor employees continue to enter information into spreadsheets but Nobilis provides immediate review and actionability. Based upon a set of business rules configured and maintained by the Engineers themselves, any piece of inline data that falls outside of spec parameters instantly alerts the Engineers and the production floor itself. As a result, any potential equipment failure or required adjustments may be caught and acted upon immediately. Likewise, as the requirements for each production line change, the Engineers can easily alter and update the business rules that drive the process, making the solution flexible to their changing needs.

## Results

Today Nobilis has streamlined the production monitoring process, eliminated most errors and cases of missing information that were prevalent with manual review, and slashed reaction times from days to minutes. Implementation of the process was completed in a week and a positive return was achieved in days. Engineers, who used to spend 10 hours every week manually reviewing production data, are now free to spend that time on more productive pursuits. Most importantly, the quicker reaction time to potential production problems has led to a more efficient process, boosting production yields and adding money to the company's bottom line.

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Nobilis provides the leading self-service application development platform that meets the needs of business users and IT resources alike to automate processes across the enterprise, from everyday work to mission critical activities. Nobilis Ci - the ProcessWriter™ for the business desktop - is the leading self-service application development platform for business users. Nobilis Enterprise provides the scalable and extensible platform required by IT resources to support enterprise level computing.

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