Needle in a Haystack: Finding Root Cause Saves €2.8 Million

Electronic

CLIENT

Siemens is one of the world's largest electrical engineering and electronics companies.

CHALLENGE

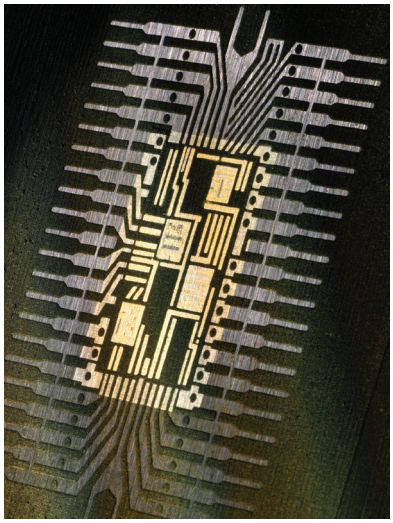
At a Siemens plant that produces custom logic and memory chips, a corrosion problem occasionally developed on aluminum interconnects, and chips had to be discarded. For ten years—since production first began—the problem resurfaced every few months but defied resolution. Customers had to wait while the plant produced the chips again. The complexity of production and the elusiveness of the problem made finding the cause similar to finding a needle in a haystack. Production involved over 4,000 people and 400 different steps; complicated by a problem that occurred infrequently and disappeared during testing.

SOLUTION

A cross-functional team drawn from various departments tackled the problem again, this time using KT Problem Solving and Decision Making processes. With Situation Appraisal, the team was able to sort concerns, break issues into workable pieces, and set priorities. After agreeing that "pitting corrosion on the interconnects" was the highest priority concern, the team used KT Problem Analysis to evaluate data, develop the most plausible hypothesis, test it, and conclude that water was causing corrosion when it was added during production. Using Decision Analysis and Potential Problem Analysis the team settled on the best corrective action. Going against industry standards, the team decided to remove a series of corrosion containment steps that included a water rinse. The very steps implemented to prevent the corrosion were the root cause of it.

RESULTS

The corrective action proved to be 100% effective, and production was converted to the new process. Eliminating the faulty steps reduced material costs by €108,000. More important, production delays disappeared, customer satisfaction improved, and Siemens saved €2.8 million in losses due to defects.



SCORECARD

- Saved €2.8 million in annual losses due to defects
- Saved €108,000 in annual material costs
- Solved a complex, recurring problem
- Improved customer service