BORGWARNER TURBO SYSTEMS
PREVENTING THE MIXING OF SMALL PARTS

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BorgWarner Turbo Systems is part of the BorgWarner portfolio of engine and drivetrain manufacturing companies. Turbo Systems is a global manufacturer of turbochargers and boosting systems, selling components to manufacturers of passenger cars and commercial vehicles. In 2014, the division’s ten manufacturing facilities produced nine million turbochargers and generated 28 percent of all BorgWarner’s sales.

Turbo Systems currently lacks systematic control and traceability of small components. This creates opportunities for similar small parts to be assembled incorrectly and for the errors to be undetected by operators or quality inspectors. These errors increase BorgWarner’s cost of quality and negatively impact its reputation. To solve this problem, the Tauber team was tasked with designing a global solution to prevent the mixing of small parts without increasing production and material costs.

The Tauber team evaluated four manufacturing facilities and completed 44 interviews to understand Turbo Systems’ current practices. By pairing these findings with external benchmarking and industry requirements for traceability, the team designed new processes for material and information control of small parts. To ensure end-to-end traceability, the team introduced updated auto-ID technologies for material control and a concept for a new part numbering system for information control. The team published global standards for traceability, simulated the effect of the new processes on small parts, and designed a dynamic model for evaluating auto-ID technologies.

The recommendations were shared with global and local leaders –teams within each of the global functions and local facilities are beginning to implement the proposed changes. The team’s recommendations will reduce labor and material identification costs, recall expenses, and the opportunity for small parts to become mixed. By using these ideas for material and information control for all components across the division, Turbo Systems will have 100 percent control and traceability of components and save up to $10.61 million annually.