BOSTON ENGINEERING™

Handheld Tool Gains Power and Shaves Costs

Background

An automotive and manufacturing tools provider needed to redesign a major handheld product due to obsolescence of critical electronic components. The redesign coincided with the company's refocus on innovation to differentiate itself amid growing competition. The global company selected Boston Engineering to develop custom motion control software to advance its industrial fastening product.

Strategy

To improve performance of the rechargeable tool, Boston Engineering developed a field oriented control design to replace the product's existing motor control capabilities. Additional project requirements included:

- Improve usability:
  - Reduce product vibration significantly by providing a smoother motor motion at low and high speeds
  - Enable multiple pre-programed settings to simplify operation
- Increase precision:
  - Measure torque and angle targets to support a variety of applications
  - Improve precision by controlling motor speed and monitoring motor torque
- Enhance quality control by comparing individual employee performance against established manufacturing benchmarks. Employees can see their accuracy via the handheld tool's LED display, and companies can also archive the quality data
- Integrate seamlessly with the client's proprietary host control software

Impact

Boston Engineering's brushless DC (BLDC) motor control capabilities delivered new levels of performance and precision in a small form factor. The redesign also enabled the client to reduce production costs and part count. Based on project success, the client asked Boston Engineering to apply its motion control software to improve a second product line. The company is now seeing strong sales in both product lines.

Boston Engineering Corporation ● marketing@boston-engineering.com ● 781-466-8010
www.boston-engineering.com