



**Mitchell Maiman**  
 Vice President Engineering  
 Symbol Technologies Division  
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“Altitude was instrumental in establishing Symbol Technologies (now Motorola) as the defining brand in our industry. We engaged Altitude in groundbreaking research quantifying the optimum physical parameters for an ergonomic handheld device — the value of which stands the test of time through generations of new products. Altitude continued with us through every aspect of product development from color studies, design conception and concept execution on numerous, highly successful products. The team at Altitude is a pleasure to work with — competent, creative and collaborative.”

*Awards*  
 P460 & P360  
**IDEA Gold**

## Laser-Sharp Insight

Over the course of a decade, Altitude helped transform Symbol Technologies, the largest producer of laser barcode scanners, from a \$200 million technology company to a \$2.5 billion business. We were instrumental in helping the company better understand its customer base and led the effort in designing products that met the needs of its target audience.

### Building Blocks

Altitude’s long-term collaboration with Symbol began with three years of comprehensive research into the both the company’s customers and its competitors’ customers. Altitude’s research and strategy team traveled across the United States, Europe, South America, and Asia to garner consumer insights through extensive one-on-one interviews and observational sessions, in which we observed use of Symbol and competitor scanners within a variety of settings. We established a deep knowledge base of user-specific environmental conditions, ergonomic circumstances, and visual elements within three business categories: retail, industrial, and mobile.

### Delivering Value: Knowledge Meets Creativity

Even while we were deep in the three-year data-gathering process, we began generating ideas for products immediately and developed a new approach for the company’s physical design and color palette. The visual design language met the needs of individual situations, while signature elements linked them as a highly recognizable product line. The “look” of Symbol product has proven exceptionally long-lasting, even timeless.

We also conceived of, designed, and oversaw the construction of an on-site 2,000 sq ft user-insights lab at Symbol’s headquarters. The lab allowed the team to watch and even film volunteers

*Awards*

DLL 5010M Laser  
Barcode Scanner  
**IDEA Gold**

PPT 4600  
**IDEA Gold**  
**LS 4000 Scanner**  
**IDEA Silver**

PDT 4000  
**IDEA Silver**

using existing products or conceptual prototypes, inspiring new ideas and refining concepts. The lab also became a profit center for Symbol since customers began using it to improve process efficiencies. The lab also doubled as an effective selling environment.

**Of the 60-plus products we have designed for Symbol, the more notable include:**

- A ring scanner that streamlines the inventory and package-sorting processes in busy company environments such as UPS, US Post Office, and FEDEX. Sorters no longer have to struggle to align the scanner with the bar code on an object, greatly increasing the sale speed.
- A mobile scanner that can wirelessly capture inventory and point-of-sale data within a 150-foot radius. The modular design approach allows the base structure to be modified for use within either an industrial or retail environment and rugged enough for warehouse use.
- A retail scanner created specifically for the European market that won the prestigious Red Dot and IDEA Gold awards for good design. This product was so successful that it served as the foundation for entire Italian division.
- The Portable Shopping System (PSS), a complete solution to alleviate the most frustrating part of supermarket shopping: the wait at the checkout queue. Altitude integrated ergonomics, hardware and software in one easy-to-use experience that enables shoppers to complete transactions themselves. Implementation skyrocketed in Europe because this product met the need to save space and reduced the staffed checkout footprint.
- A precursor of the PDA that combined a pen-based touch screen with a barcode scanner. This ergonomic handheld solution met the needs of workers who operated the device for extended durations in conditions that were often extreme. This product met riid Mil-spec waterproofing and ruggedization specifications.

In short, the relationship between Altitude and Symbol Technology proved exceptionally fruitful. In 1994, the Board of Directors personally invited Altitude to Symbol's annual stockholders meeting. In his speech, the CEO acknowledged our role in Symbol's success, citing Altitude's informed approach to "world-class industrial design." Through Altitude design, Symbol products are ubiquitous in retail