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## Reducing Production Waste with Laser Profiling and Characterization

A laser profiling system can characterize and identify which variables affect product quality and waste. But many laser users have never evaluated the quality of the beam beyond the initial delivery. This leads to frequent process adjustments to try to get back to "normal" and frantic calls to outside laser services. Wouldn't it be better to avoid these problems and added expenses?

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**Reducing Production Waste with Laser Profiling and Characterization**

By Mark S. Sosik, Pacific Northwest Sales Manager, Ophir

Since the Scientific Revolution of the 1500's and the Industrial Revolution of the 1700's, both science and industry have moved and merged at a rapid pace. Every time you look through a trade journal, listen to the daily news, or explore the Web, you see announcements about discoveries and innovations. Remember thinking how fantastical the technologies showcased in the movie *Star Wars* were? Yet today we are beginning to see some of them emerge. What was once deemed science fiction or fantasy is now becoming reality.

One of the key principles driving the success of science and industry is the adoption of production processes and the tools supporting it. Humankind has been able to take what we now think of as basic production concepts and tools and change or evolve them to accomplish things never before thought possible. Using various, and occasionally exotic, materials, methods, and disciplines, we have seen many awe-inspiring things come to fruition. In some cases, manufacturing processes no longer even require direct human intervention to accomplish the desired end result.

Thanks to the efforts and imagination of Theodore Maiman of the Hughes Research Laboratory in California on May 16, 1960, we now have the laser, a mainstay of many industries (image source: [laserfest.org](#)). Since its discovery, the laser has undergone significant changes and iterations. And industry has duly taken advantage of these changes and applied them to many different applications. Lasers are now widely used and present in many industries, phases of

**Components of the first ruby laser**

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