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IPG PHOTONICS CHALLENGE INTRODUCTION SCRIPT

What modern tool can cut through steel, perform delicate surgery, read out the bar code on a box of cereal at the supermarket, and detect the microscopic pits on a CD or DVD? Lasers can do all of these tasks and much more!

You might be surprised at how many materials are processed with lasers! The explosion of new types of lasers at the end of the 20th century has led to countless new applications of laser technology, such as cutting, drilling, welding, etching, engraving and surface treating. Metals, plastics, wood, even cloth and leather can be processed with lasers of the right power and wavelength. Medical laser applications can be thought of as a type of “material processing” as well, ranging from dermatology and ophthalmology to dentistry and delicate cardiac surgery.

IPG Photonics in Oxford, Massachusetts is the leading developer and manufacturer of **fiber lasers**. These lasers create light inside a hair-thin strand of glass fiber that is energized by diode (semiconductor) lasers. Although the fiber appears to be quite delicate, fiber lasers can produce thousands of watts of optical power! Fiber lasers are rapidly replacing other lasers in both industrial and medical applications because they are small, efficient, and reliable. Since light is generated in a fiber, these lasers can be easily used with industrial robots.

How do the companies that buy IPG's lasers know that the laser will perform as it should? *Let's find out.....*