

## Nexa3D Uses Iradion in Thermoplastic Additive Manufacturing



The QLS 350 uses (4) Iradion 100-watt lasers with high speed scanners to produce precision parts.

**Nexa3D, Ventura, CA.** The product release of the Nexa3D QLS 350 represents a breakthrough in thermoplastic additive manufacturing by offering one of the largest polymer powder bed work zones: 350 mm x 350 mm x 400 mm. It harnesses the precision beam quality of (4) Iradion Infinity 100-watt lasers with high speed scanners to achieve exceptional performance.

As a result, the QLS 350 can achieve 4X the print speed of traditional laser sintering technologies, and deliver a polymer-based production alternative to injection molding.

Designed for “lights-out” 24/7 operation and equipped with movable powder Build Units, the QLS 350 facilitates continuous precision part production of a wide range of SLS materials. The explosive growth of new applications utilizing glass, plastics, fiber, polymer and other exotic materials has impacted many industries from medical to aerospace to automotive. Nexa3D has advanced the technology with an innovative combination of hardware and software....continued on page 2

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## PerfoTec Keeps Things Fresh With Iradion Lasers

**PerfoTec B.V., Woerden, Netherlands.** The PerfoTec Laser System has perfected a way to extend freshness of fresh produce by optimizing the permeability of the packaging. By precise control of air circulation, the quality and shelf life of fresh produce is guaranteed, and this is achieved by microperforating the packaging. Using Iradion CO<sub>2</sub> Lasers, the system produces very small diameter holes that are consistent in size and numbers to create the Active Modified Atmosphere Packaging for fruits, vegetables and even flowers.

The PerfoTec Laser System has a patented closed-loop-feedback-camera-system. The integrated camera inspects each hole, if necessary, the lasers are automatically adjusted ‘on the fly’ to compensate for packaging film thickness. Iradion laser technology supports the process with fast rise/fall pulsing and power stability.



Perfotec's Laser System perfects the packaging of fresh vegetables, fruits, and even flowers.

### Special points of interest:

- Philippe Brak, CEO and President
- Iradion Customers: Laser Engineering, Perfotec, Trotec, Nexa3D
- Ceramic Core versus Metal Tube Lasers
- Rapid Response to Customer Needs

Contact PerfoTec for more info: +31 (0)297 25 55 54 [www.perfotec.com](http://www.perfotec.com)

## “Message From The CEO/President”... Philippe Brak



As CEO and President of Iradion, and on behalf of the Iradion team, I want to express our excitement, enthusiasm and dedication to providing the highest quality laser products and services to our global customers in 2022 and beyond.

In 2021, Iradion experienced its best year ever! The company not only received a record volume of orders from existing and new customers, but it manufactured and shipped a record number of lasers. By proactively managing our supply chain, hiring new employees and expanding our manufacturing capabilities, Iradion positioned itself to minimize supply chain issues that plagued the industry. We were able to quickly respond to the laser delivery needs of existing and new customers.

This advanced production planning has enabled three major benefits for our customers: 1) Iradion is maintaining short lead times for most models, 2) Iradion has created a **“New Laser Inventory Program”** that provides immediate shipment of many models, and 3) Iradion has developed for its customers a **“RAPID RESPONSE SERVICE PROGRAM.”**

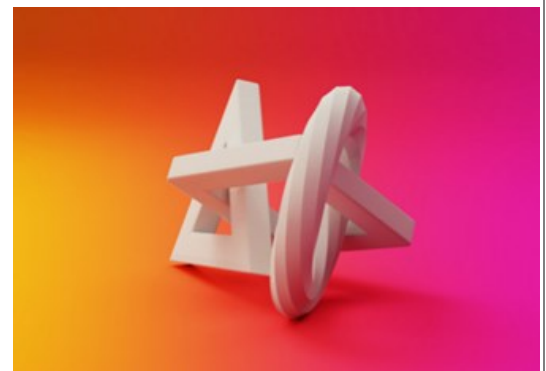
Finally, Iradion is expanding its marketing programs to educate the market place about new applications as well as the unique feature/benefits of our laser technology. This issue features some of our existing customers as well as some exciting new applications. Recent magazine publications have also reported on Iradion’s innovative technology and its customers success stories.

In closing, Iradion is looking forward to a bright future serving our customers and the industry. Please let us know how we can support your laser application needs.

## Nexa3D Uses Iradion...continued from page 1

**Tomasz Cieszyński, Nexa3D Director of Technology**, explained the selection of Iradion lasers. “The ceramic core CO<sub>2</sub> technology proved to be an excellent alternative to the traditional metal tube lasers by offering unique performance features as well as addressing the issue of long term CO<sub>2</sub> laser gas integrity of older technologies.”

The ability to achieve high resolution and intricate detail during the sintering process is critical to additive manufacturing of plastics, polymers and ceramics. This is achieved by precise laser pulsing control with simultaneous accurate scanner focusing of the laser beam. Nexa3D proprietary software unifies the process to monitor and control the delicate balance of power, position and duration as each new layer of powder is sintered and bonded to the previous layer.



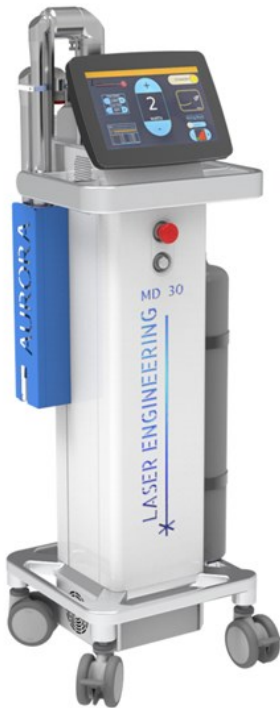
*Example of Nexa3D xPBT sintered part: 1st ever PBT commercially available powder that has excellent dielectric properties for electronics applications.*

Contact Nexa3D for more info:

800-797-0633

[www.nexa3d.com](http://www.nexa3d.com)

## Laser Engineering Achieves A Cutting Edge with Iradion Lasers



**Laser Engineering, Nashville, TN.** The company has been a pioneer in applying CO<sub>2</sub> laser technology to develop solutions for surgical medical challenges. It developed one of the first CO<sub>2</sub> Laser Scalpel Instruments using a CO<sub>2</sub> glass laser tube over 30 years ago. Another innovative instrument was the CO<sub>2</sub> metal laser tube work station that was used to perforate damaged heart tissue allowing oxygenated blood to enhance healing and helping over 5,000 patients improve cardiac performance.

In 2021, the company has released the **Aurora MD CO<sub>2</sub> Isotope Laser** with dual beam delivery: the **OXID Articulated Arm** and the **Ultralase Hollow Waveguide**. Iradion supported Laser Engineering's new product line by developing a special Eternity 40-watt 11.2 micron wavelength to enhance the performance of surgical procedures. The laser beam can be effectively delivered through the flexible Ultralase Hollow Waveguide to precision, narrow surgical tools for GYN and Endoscopic procedures or the counter balanced articulated arm for typical procedures.

**Brian Sanders, Laser Engineering Sales Manager**, explained how Iradion helped the new product development. "Iradion management understood the challenges of project, and dedicated engineering and testing to meet our specifications. The ceramic core CO<sub>2</sub> technology provides the performance and reliability that the medical industry demands. The Ceramic Core CO<sub>2</sub> Laser Technology enables the Aurora MD Isotope Laser to deliver the widest possible power range of any CO<sub>2</sub> laser on the market while maintaining excellent power stability and consistency."

Contact Laser Engineering for more Info:      877-638-5872      [www.laserengineering.com](http://www.laserengineering.com)

## Trotec Puts Iradion Technology To Work

**Trotec Laser Inc., Plymouth, MI.** Industry-leading laser manufacturer, **Trotec Laser** has expanded its use of **Iradion's Ceramic Core CO<sub>2</sub> laser tubes** with the recent release of its updated Speedy 100 and 300 laser models. **Ceramicore Technology**, which was already standard for higher power Speedy laser systems, is now available with 30 and 40-watts as well. Speedy models were already the fastest flatbed CO<sub>2</sub> lasers on the market, and with the updates, are all now equipped with **OptiMotion™** motion control to boost productivity by maximizing cutting speed at highest cutting quality. **Trotec's Speedy Product Line** of CO<sub>2</sub>, fiber and dual-source lasers can mark, cut and engrave a wide array of materials, and are available with options, accessories and bed sizes from 24" x 12" to 40" x 24" to answer the unique application needs of their customers.



*Trotec Speedy 100, 300, 360  
and 400 models*

Call Trotec for more info:      866-226-8505      [www.troteclaser.com](http://www.troteclaser.com)



*Iradion's 34,000 sq ft facility is a 'state of the art' operation.*

**Iradion Laser Inc., Uxbridge, MA.** The exclusive benefits of Ceramic Core CO<sub>2</sub> technology are proven:

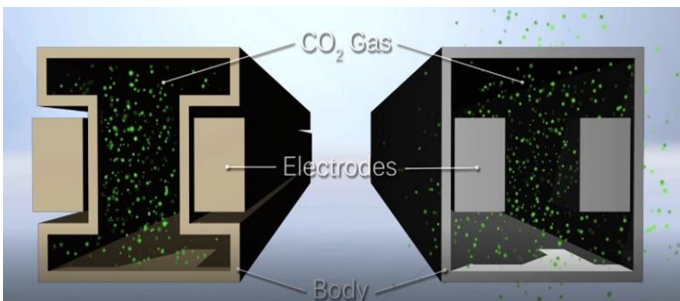
- 1) typical rise /fall times: < 75 μsecond
- 2) excellent beam quality: M<sup>2</sup> < 1.2
- 3) power stability range: 2% power to max power
- 4) hermetic-sealed laser gas: no gas refills



*Iradion's Patented Ceramic Core CO<sub>2</sub> Lasers offer superior performance and reliability.*

Iradion's lasers are produced in the factory's production clean room. The CO<sub>2</sub> laser gas mixture is hermetically sealed in a ceramic core, and the external metal RF electrodes sandwich the chamber thus exciting the gas remotely. This protects the laser gas from degradation which can cause laser power loss.

In comparison, conventional CO<sub>2</sub> lasers enclose the laser gas mixture with the metal electrodes in a glass or metal chamber using rubber seals or welding. Over time, the laser gas degrades as metal atoms contaminate its purity, and helium leakage alters the mixture, so often a laser gas refill is needed every 3 to 5 years.



*On left, Iradion seals CO<sub>2</sub> laser gas in a ceramic core with electrodes on the outside. On right, traditional lasers place CO<sub>2</sub> laser gas and electrodes in metal or glass chamber prone to gas contamination and seal leakage.*

Iradion lasers eliminate this problem. Other benefits include better power stability and consistent pulsing profiles, because the ceramic chamber has a low coefficient of expansion versus metal tubes. Moreover, this innovative architecture requires fewer components reducing the laser size and weight. The design equates to production cost savings resulting in the most competitive CO<sub>2</sub> lasers pricing in the industry.



*Iradion Laser Product Lines: Eternity (30-40 watts), Infinity (50-120 watts) and Destiny (200-250 watts).*

Iradion offers power levels from 30 to 250 watts with 10.6, 10.2 and 9.3 wavelengths to optimize the processing of a wide range of materials and applications. Prior to shipment, extensive QC testing of each laser generates a Final Test Report documenting: model, s/n #, power levels, rise/fall times, power stability, pulsing frequencies, beam quality and other metrics.

Finally, all Iradion lasers are protected with a 2-year warranty, 7-year warranty against laser gas degradation and a **RAPID RESPONSE SERVICE PROGRAM** that provides a response within 24 hours.

**RAPID RESPONSE**

**SERVICE PROGRAM**

**THE RAPID RESPONSE PROGRAM IS INITIATED IF A PROBLEM CANNOT BE FIXED VIA EMAIL OR PHONE SUPPORT:**

1) RMA# is issued to return the laser  
 2) If under warranty, a ETN (Equivalent to New) replacement unit is shipped immediately.  
 3) If out of warranty, the laser is repaired to ETN condition at a reasonable price and with a new warranty for fast shipment

customerservice@iradion.com

**Contact Iradion for more info:**  
**Telephone Number: 401-762-5100**  
**Email: sales@iradion.com**