INVESTOR PRESENTATION

June 2024

Safe Harbor Statement

Statements in this presentation that relate to future plans, market forecasts, events or performance are forward-looking statements. These statements involve risks and uncertainties, including, risks associated with the strength or weakness of the business conditions in industries and geographic markets that IPG serves, particularly the effect of downturns in the markets IPG serves; uncertainties and adverse changes in the general economic conditions of markets; IPG's ability to penetrate new applications for fiber lasers and increase market share; the rate of acceptance and penetration of IPG's products; inability to manage risks associated with international customers and operations; changes in trade controls and trade policies; foreign currency fluctuations; high levels of fixed costs from IPG's vertical integration; the appropriateness of IPG's manufacturing capacity for the level of demand; competitive factors, including declining average selling prices; the effect of acquisitions and investments; inventory write-downs; intellectual property infringement claims and litigation; interruption in supply of key components; manufacturing risks; government regulations and trade sanctions; and other risks identified in the Company's SEC filings.

Readers are encouraged to refer to the risk factors described in the Company's Annual Report on Form 10-K and its periodic reports filed with the SEC, as applicable. Actual results, events and performance may differ materially. Readers are cautioned not to rely on the forward-looking statements, which speak only as of the date hereof. The Company undertakes no obligation to release publicly the result of any revisions to these forward-looking statements that may be made to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

IPG Photonics At-a-Glance

1990
FOUNDED

~6,200
EMPLOYEES

20+
COUNTRIES

$1.3B
REVENUE

~42,000
DEVICES SHIPPED

5,000+
CUSTOMERS ACROSS 6 MAIN INDUSTRIES

Based on 2023 Data

- Global market leader in fiber laser technology across multiple end markets and applications
- Vertical integration, manufacturing scale and leading technology
- Expanding multi-billion dollar addressable market opportunity
- Industry-leading profitability, balance sheet and cash flow generation

IPG Fiber Laser ADVANTAGES

Highest Powers
Record Energy Efficiency
Industry Leading Reliability
Smallest Form Factors
Easy System Integration
Lower Total Operating Costs
Best-in-Class Portfolio
Modular & Scalable
Leading-Edge Beam Quality

Revolutionizing I the Laser Industry

IPG FIBER LASERS

Ultra High Power
Continuous Wave (CW) Lasers

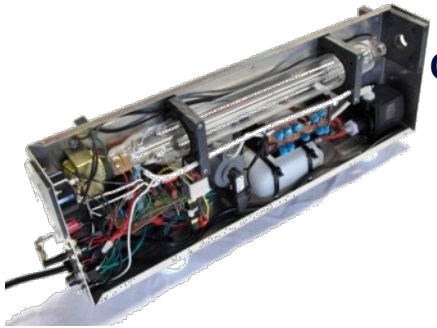
Ultra Compact Lasers

Adjustable Mode Beam and
QCW Lasers

High Power Nanosecond Pulsed
Pico and Femtosecond Pulsed

- Higher Productivity
- Compact
- Reliable
- Robust
- Efficient
- Minimal Maintenance
- No Consumables
- Scalable

TRADITIONAL LASERS



Carbon Dioxide (CO_2)

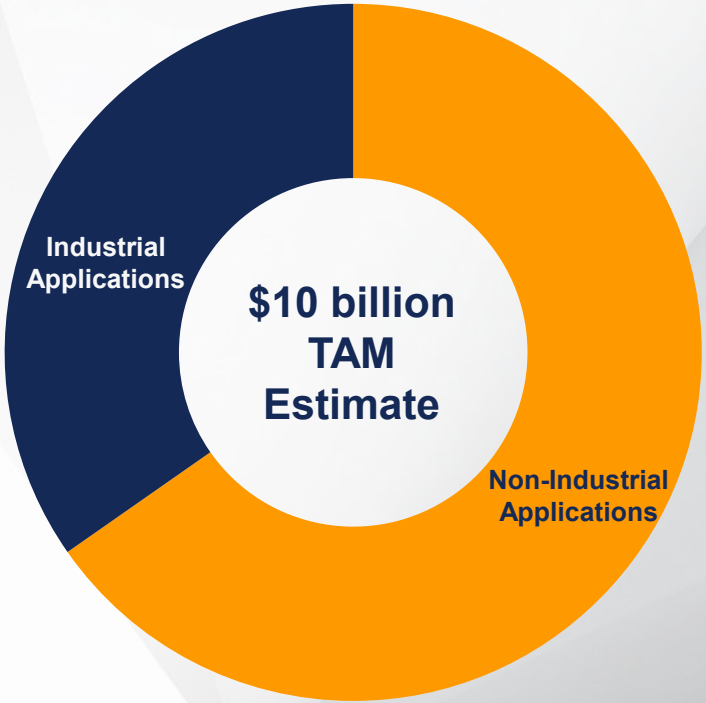
Lamp-Pumped Nd: YAG

- Expensive
- Bulky
- Unreliable
- Difficult to Operate
- Inefficient
- Frequent Maintenance
- Costly Consumables
- Not Scalable

IPG Total Addressable Market

IPG Holds Leading Positions in Industrial Applications

- Welding
- High-Power Cutting
- Marking and Engraving
- Additive Manufacturing
- Precision Processing
- Cleaning
- Heating and Drying



Share Growth Opportunities

- Medical
- Microprocessing
- Aerospace & Defense
- Sensors and Instruments
- R&D and Scientific

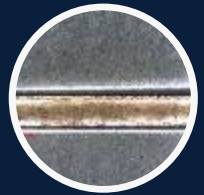
Source: Optech Consulting, Strategies Unlimited, IPG Photonics Corporation

Laser Penetration in Industrial Applications

Continued adoption of laser tools in many industrial applications


CUTTING


WELDING


BRAZING

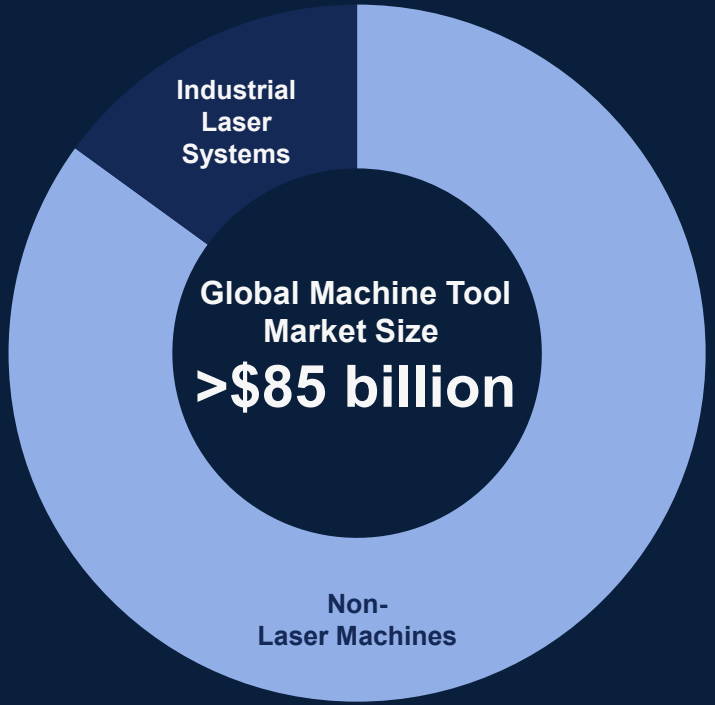

DRILLING


ABLATION


ADDITIVE MFG

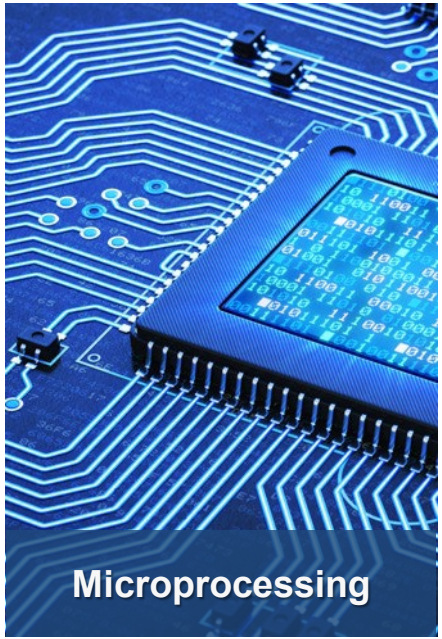
MARKING

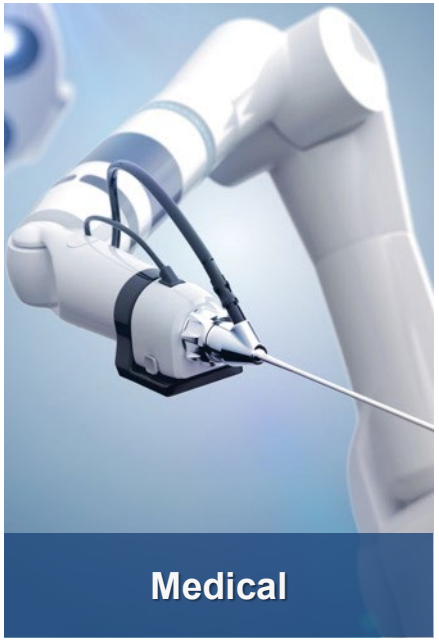

CLEANING



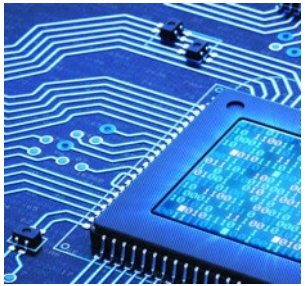
Source: Optech Consulting, VDW, IPG Photonics Corporation

Expanding Market Opportunities





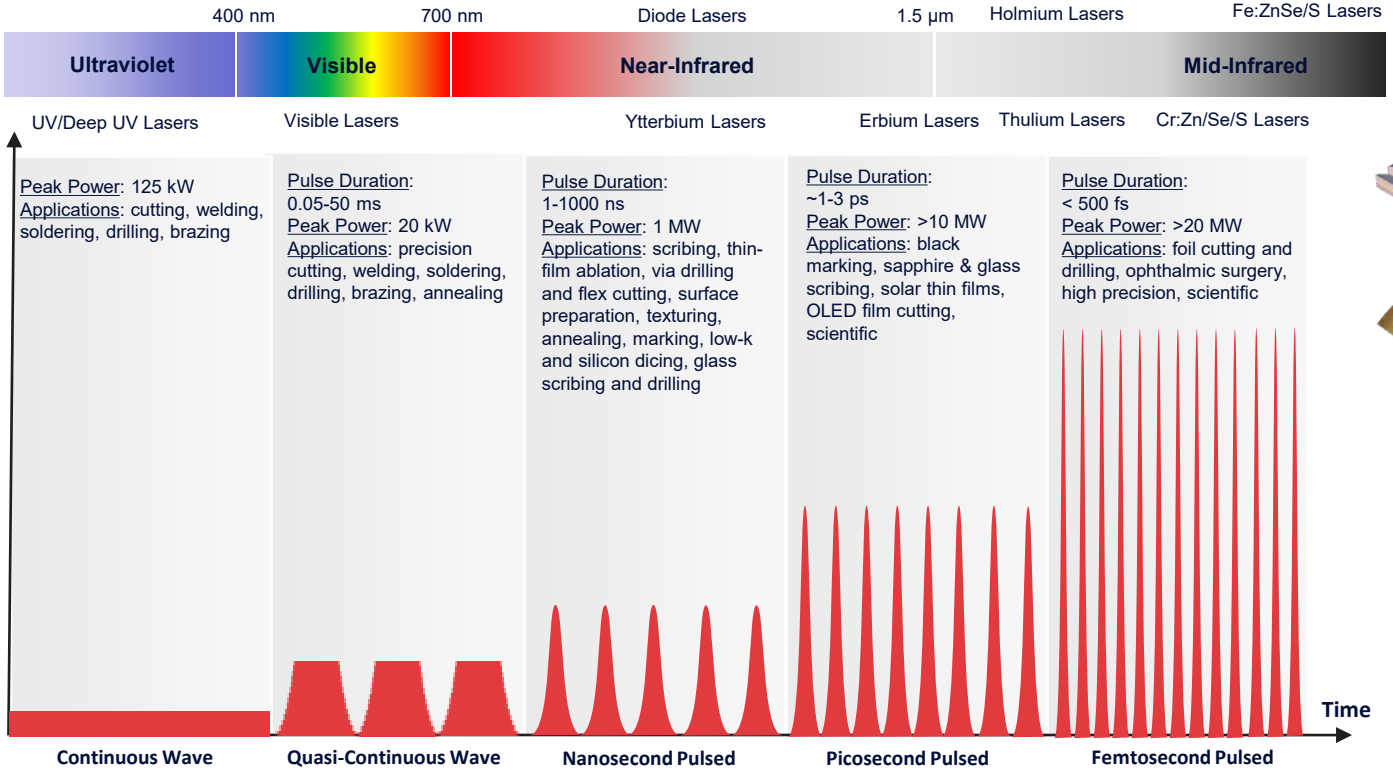
Growth Drivers and Product Diversification



- IPG is well-positioned to benefit from global macro trends such as automation, miniaturization as well as focus on sustainability, renewable energy and energy efficiency
- Fiber lasers continue to replace other lasers and non-laser tools in welding, cutting, cleaning, drying and various other applications within existing and emerging markets
- Growth comes from continued penetration of laser technologies into materials processing and microprocessing applications, with additional growth potential in medical and advanced applications
- Sales benefit from fiber laser adoption in welding applications, driven by increased investment in EV battery capacity worldwide and handheld welding market, in which LightWELD continues to gain traction competing with traditional MIG and TIG systems
- Laser cleaning and drying gains market adoption as it improves speed and productivity while providing significant energy savings and reducing waste and the use of harmful chemicals
- Medical business continues to grow with IPG's thulium laser and disposable fiber while new medical products are expected to be launched in the next several years

Broadest Portfolio I of Fiber Lasers

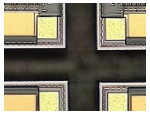
The widest choice of wavelengths, modes of operation, power and beam quality



Steel **Cutting** with a continuous wave laser

Drilling with a quasi-continuous wave laser

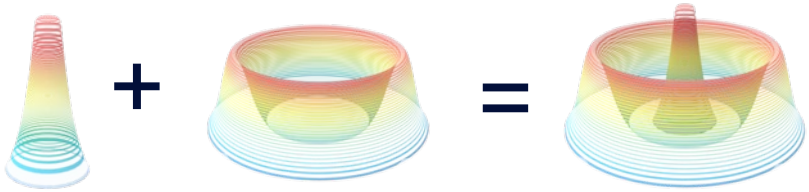
Surface Cleaning with a pulsed laser



Micromachining with an ultrafast laser

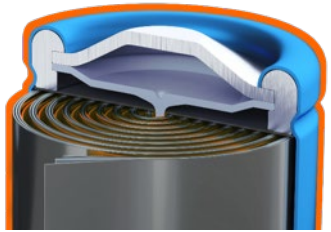
Adjustable Mode Beam (AMB)

- **Broadest range of beam profile tuneability:**
  programmable, independent control of size and intensity of the core and ring beams
- **Single & Multi-Mode:**
  beam options for consistent, high-quality welds including high-speed welding in EV battery manufacturing
- **Virtually eliminates welding spatter:**
  molten material is deflected towards the bottom of weld pool where large keyhole openings allow molten vapor to escape
- **High-speed welding for e-Mobility and automotive applications:**
  300 mm/s or higher speeds welding Al battery enclosures and drivetrains
- **Maximizes uptime:**
  less rework of parts, drastically reduces sensor contamination



Any combination of a small-spot high intensity bright core and a larger ring-shaped beam

Laser Applications in Electric Vehicle Manufacturing



Laser Welding, Cutting & Marking of Battery Cells:

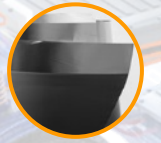
Cap to Can Welding

Tab to Pole Welding

Foil Welding

Injection Pin Welding

Foil Cutting



Pressure Relief Valve Welding

Tab to Terminal Welding

Battery Cell Marking

Hairpin Welding

Laser Welding, Cutting & Ablation for Electric Motors:

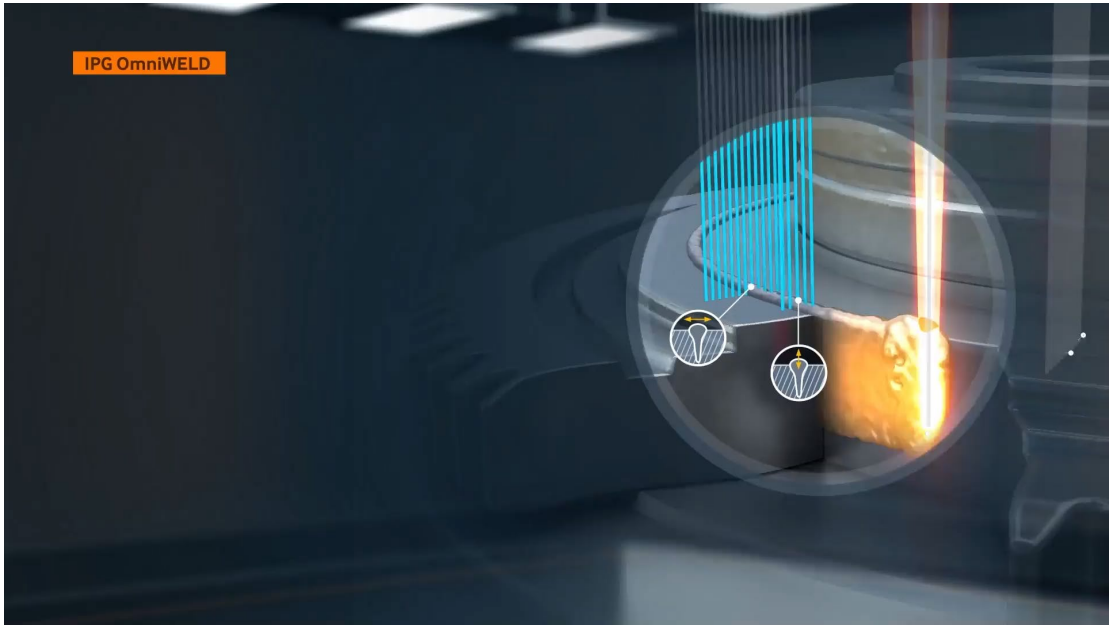
Rotor and Stator Stacks Welding

Electrical Steel Sheet Cutting

Hairpin Ablation

Real-Time Laser Weld Measurement for Unmatched Weld Quality Assurance

Using **real-time inline coherent imaging (ICI) LDD weld monitoring system** consolidates weld results into concise and actionable quality data from a single system



IPG Solutions for Electric Vehicle Manufacturers

IPG laser welding technologies enable battery module welding that is **10X faster and more reliable** than traditional bonding methods

Solutions include machines for prototype development, dedicated high-speed module welding, and flexible robot-based manufacturing cells

These combined technologies create battery welding solutions with integrated process monitoring, traceability and non-destructive testing

ADJUSTABLE MODE BEAM (AMB) LASERS

- Spatter reduction on EV batteries for **improved reliability** and **safety**
- **Superior welding quality** of challenging dissimilar materials
- **Faster, more uniform high-speed welding**

MID & HIGH POWER SCAN HEADS

- **Consistent, precise, high-speed** welding of cells to bus bars
- **High strength welds** with **no seal damage**
- **Consistent** penetration depth

INLINE WELD MEASUREMENT

- Real-time weld measurement for **optimal battery welds**
- **Eliminates the need** for destructive testing
- **Reduces scrap** and **increases overall throughput**
- **Identifies problems before processing begins**

WOBBLE WELDERS

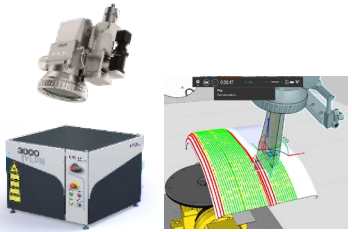
- **Reliable, high-speed** welds for battery enclosures
- **Superior aesthetic finishes** with **no pitting or cracking**
- **Pressure-tested** hermetic seals

In addition to world-leading equipment, IPG provides process development and part tooling services that **accelerate customers' system installation and achievement of high-yielding production**

Safe and reliable production of EV batteries, motors and other components rely on these technologies for their unique ability to deliver:

- Weld quality control and depth consistency
- Spatter-free and porosity-free welds
- High throughput manufacturing and high-quality results

Sustainable Laser Cleaning Solutions



Optimized Process Development

Components & Software

Robotic Integration & Flexible Platforms

Laser Cleaning Benefits for Industrial Applications

	Abrasive Blasting	Thermal Cleaning	Chemical Bath	Laser Cleaning
Cleaning Speed	Moderate	Moderate	Low	High
Consumables Cost	High	Moderate	High	Low
Safety Risk	High	High	High	Low
Process Waste	Moderate	Moderate	High	Low
Selective Material Removal	Requires Mask	No	Requires Mask	Yes
Automation	Hard	Hard	Hard	Easy

High-Speed Non-Contact Material Removal

- Safer and more environmentally friendly than alternative methods
- No harm to underlying material
- Precise area targeting with no need for masking or additional setup

Handheld Laser Welding & Cleaning Systems

Light**WELD, Light**WELD ***XC &*** Light**WELD *XR***

- Light**WELD** systems offer greater flexibility, precision, speed, and greater ease of use compared to traditional welding products.
- Light**WELD *XC***, and Light**WELD *XR*** adds additional cleaning capabilities to remove rust, oil, or any coatings prior to welding and also clean any post-weld debris or discoloration.

Accessible technology that is easy to set up, learn and operate:

- Addresses labor shortage of skilled welders
- Integrated safety features maintain a safe work environment
- Compact, Lightweight and Air Cooled

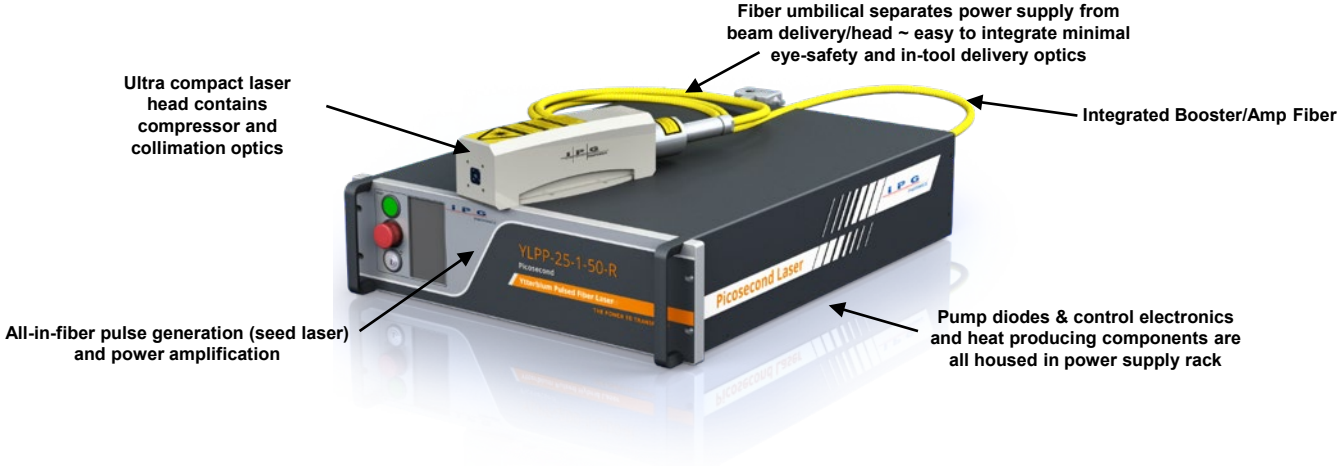
Improves productivity

- Low heat input expands fabrication capabilities – less distortion, bowing or warping
- Simple preset modes offer repeatable results and decrease scrap
- Higher quality results reduce post process time and labor

Crowds gather to watch live Light**WELD *XC*** demonstrations at FABTECH 2021 expo

Ultrafast Fiber Lasers

Ultrafast fiber lasers operate in the range of picoseconds (10^{-12} seconds) and femtoseconds (10^{-15} seconds). **Balanced throughput, precision** and **quality** are made possible with the shorter pulse durations of ultrafast lasers without undesirable heat effects. This cold processing virtually eliminates heat affected zones, unwanted melting and cracking for consistent, controlled processing of the most sensitive materials.



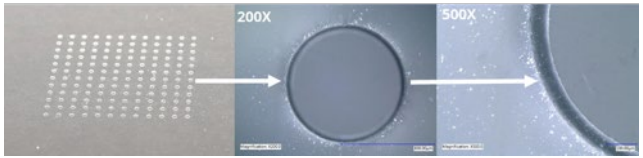
IPG Ultrafast Product Options:

- Infrared, Green and Ultraviolet Wavelengths
- High Pulse Energies
- Pico to Femtosecond Pulse Durations

IPG Ultrafast Benefits:

- Low Cost & High Efficiency
- Ultra-compact heads
- All-fiber designs
- Easily Integrated
- High Power & High Reliability

Application Examples:



Ultra-Precise Glass Drilling

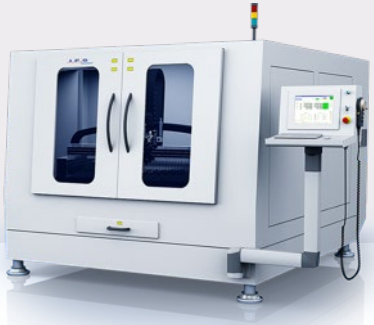
Glass Marking

IPG Laser Systems

Robotic Laser Cells for Larger Parts

Fully Automated EV Battery Welding Systems

Multi-Axis Laser Workstations for Industrial Parts



Turnkey Flatbed Laser Cutting Systems

Precision Laser Systems for Medical Parts

Compact & Flexible Precision Laser Welding

Broad Laser Portfolio for Medical Applications

Ophthalmology

- Laser Eye Surgery, Refractive Eye Surgery
- Cataract Treatment

Dermatology

- Hair removal, Vascular and Pigmented Lesion
- Skin Aging, Scar, Tattoo, Acne, Skin Whitening
- Body Contouring

Surgery

- Urology, General Surgery, ENT, Gynecology
- Cardiovascular Surgery, Phlebology, Orthopedic Surgery

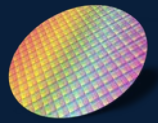
Dentistry

- Soft and Hard Tissue Dental Procedures

Imaging

- Microscopy Imaging including Confocal, Fluorescence, Multiphoton, OCT, Retinal Fluorescence and Disease Diagnosis

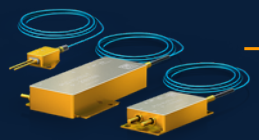
IPG Vertical Integration



Fab Operations

Semiconductor wafer growth

Diode processing, chip mounting & burn-in



Laser Diode Packaging

Up to 200 Watts of power

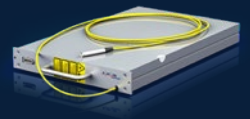
Optical Fiber

Silica based glass doped with rare earth ions

Fiber Blocks

Fiber Bragg Gratings

Isolators, Modulators



Laser Modules

Up to 3 kW

Power Supplies

Control Electronics

Industrial Lasers

Coupling | Final burn in | Shipment

Process Heads, Monitoring and Switches

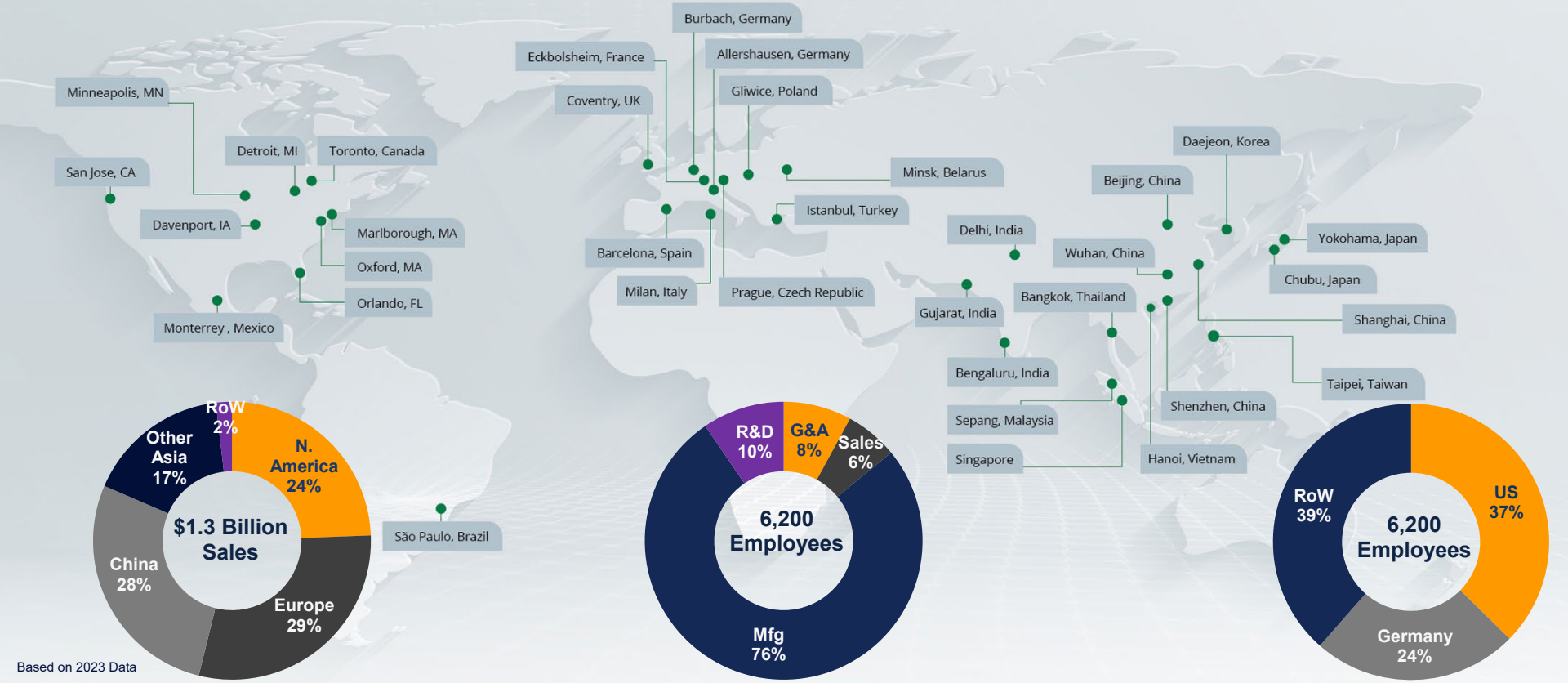
All fiber beam delivery

INTEGRATED SYSTEMS

WELDING | ABLATION
DRILLING | CLADDING
CUTTING | CLEANING

DEEP IN TECHNOLOGY
DEEP IN EXPERIENCE

Global Presence



Based on 2023 Data

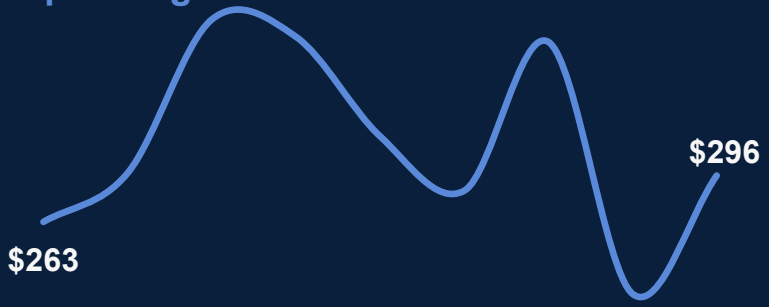
Financial Performance I Target Model

US GAAP Metrics	2019	2020	2021	2022	2023	Long-Term
Revenue Growth	(10%)	(9%)	22%	(2%)	(10%)	Double-Digit Growth *
Gross Margin	46%	45%	48%	44%(1)	42%	45%-50% *
Operating Margin	18%	17%	25%	21%(2)	18%	25%-30% *

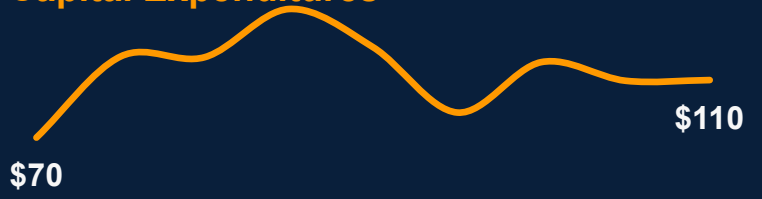
(1) Excludes inventory related charges of $74 million
(2) Excludes gains and losses on foreign exchange, inventory related charges of $74 million, impairment of long-lived assets of $79 million and the gain on sale of assets, primarily related to the disposal of the Company's aircraft, of $10 million
* Revenue growth and margins can be below long-term targets during periods of macroeconomic weakness that give rise to lower demand for our products

Strong Cash Returns

Operating Cash Flow



Capital Expenditures



2015 2016 2017 2018 2019 2020 2021 2022 2023

2023 Return on Equity [1]

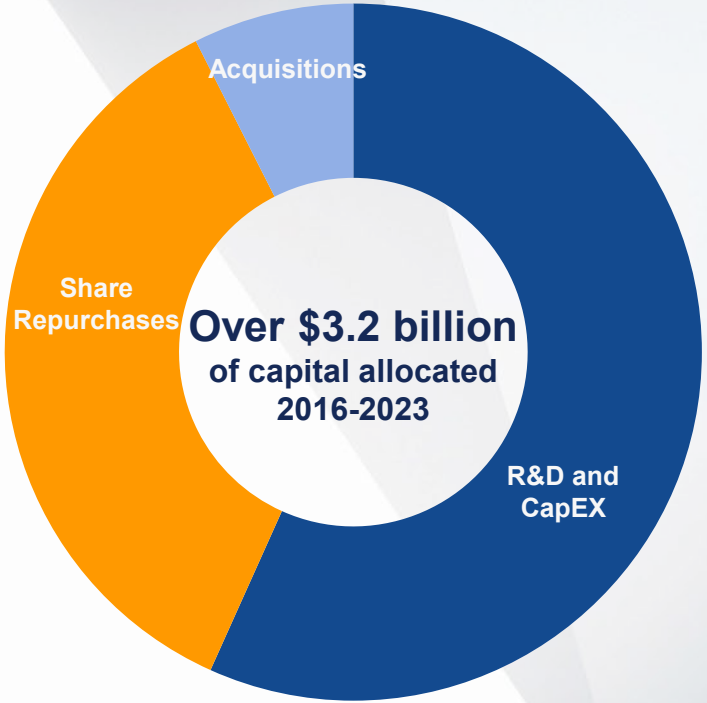
9%

2023 Return on Invested Capital [1 2]

15%

[1] Excludes gains and losses on foreign exchange, asset impairment and restructuring charges
[2] Excludes cash

Capital Allocation Strategy



Source: IPG Photonics Corporation

Capital Allocation Priorities

1. Internal Investment in R&D and CapEx
2. Share Repurchases
3. Acquisitions

IPG PHOTONICS®

OUR MISSION

Innovative laser solutions
making the world
a better place

OUR VISION

Working together to
apply light in ways
that improve life

Culture of innovation driven by an entrepreneurial spirit and
embraced within an environment of individual
respect, dignity and caring

Planet

IPG Photonics values innovation, accountability and transparency, which is why we continually strive to advance our sustainability strategy to align with the fundamental principles of our stakeholders and local communities. We integrate safety, reliability and sustainability fundamentals within our operations and product development initiatives. It is our responsibility to utilize our unique innovation capabilities in response to societal and environmental challenges.

Sustainability Achievements

55 million metric tons less CO_2 emissions when operating IPG lasers compared to traditional lasers 2014-2023

106 terawatts hours of electricity savings since 2014 from customer use of IPG lasers

IPG fiber lasers are **35-50%** energy efficient with efficiency & compactness improving each year

IPG recycled **3,600 metric tons** of metals since 2014

Approximately 11 million metric tons of CO_2 saved in 2022 from using IPG lasers

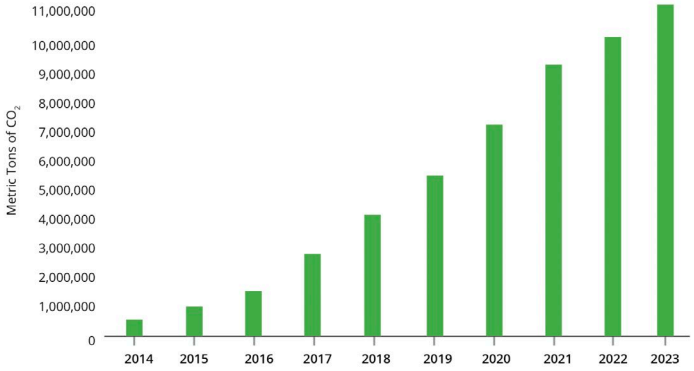
569 metric tons of recycled metals in 2023 alone

Water withdrawal was 27% less compared to 2017 despite 36% increase in manufactured optical power

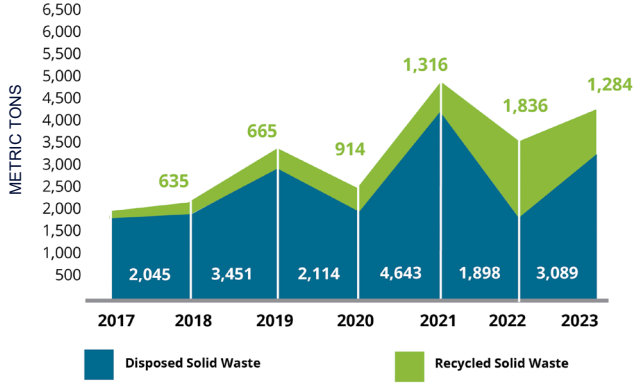
Since 2023 our German subsidiary is certified under ISO 14001

Energy & Resource I Conservation

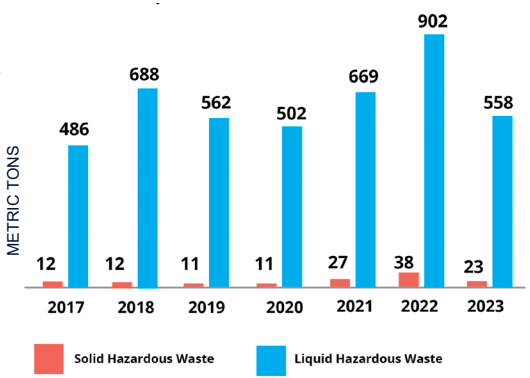
CO_2 Savings From IPG Fiber Lasers Sold Since 2013



Non-hazardous Waste Generation & Diversion



Solid & Liquid Hazardous Waste Generation



IPG invented high-power fiber lasers and successfully commercialized them. Our novel fiber laser technology is substantially more electrically efficient than traditional laser technologies enabling our customers to substantially reduce their greenhouse gas emissions and achieve their sustainability targets. We estimate that IPG lasers saved our customers approximately 55 million metric tons of CO_2 emissions cumulatively from 2014 to 2023 as compared to the use of traditional laser technologies. With a limited number of ways companies can offset their emissions, this is IPG's way of estimating our global impact against our emissions.

- Electricity savings calculation based on IPG total megawatts of power sold, and assumes IPG fiber lasers are replacing lamp-pumped and diode-pumped Nd:YAG, CO_2 and disk lasers
- According to the World Bank, ~ 2/3rds of energy globally is produced from oil, gas and coal
- According to the US Energy Information Administration, typical oil, gas and coal power plants produce ~1.9, ~0.9 and ~2.2 pounds of CO_2 for every kilowatt hour of electricity

Energy & Resource Conservation

Since 2017, our energy intensity decreased 31%

IPG has been actively lowering greenhouse gas emissions and preserving natural resources to protect balanced ecosystems.

		2017	2018	2019	2020	2021	2022	2023
Energy Consumed MWh	Heating Oil	323	265	341	203	196	532	444
	Natural Gas	73,811	66,515	85,631	74,321	73,703	79,312	97,567
	Diesel	0	0	16	33	0	49	2,028
	Purchased Electricity	88,840	79,138	76,275	77,116	114,690	100,475	76,171
	Purchased Heat	11,791	13,760	12,650	12,830	13,923	12,901	13,023
Total Energy Consumption		174,764	159,678	174,913	164,502	202,512	193,268	189,232
Greenhouse Gas Emissions, Metric Tons		54,035	48,856	50,897	49,217	63,073	60,366	50,305
Laser Production kW		34,436	40,384	48,963	53,746	62,447	55,723	46,723
Carbon Intensity GHG Emissions per Laser Sold (t/kW)		1.57	1.21	1.04	0.92	1.01	1.08	1.08
Water Consumption Cubic Meters		198,698	178,540	182,917	192,628	200,766	189,304	145,802
Water Intensity Water/kW Lasers Sold		5.8	4.4	3.7	3.6	3.2	3.4	3.1

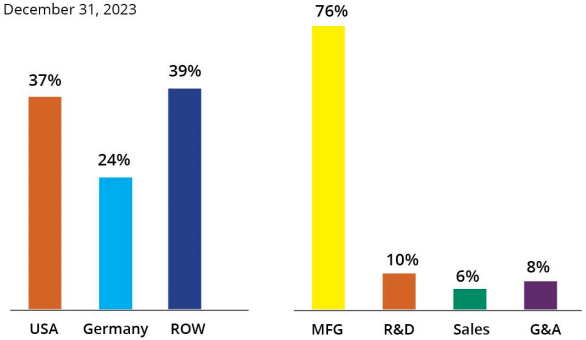
ESG data is reported for all global manufacturing facilities and facilities over 50,000 square feet and/or with over 100 employees. Data since 2019 includes Genesis Systems LLC. Data since 2023 includes IPG Photonics Sp. z.o.o and Genesis Systems Mexico.
We updated the data for years 2017-2023 to reflect heat purchased by some of our subsidiaries. We use the CO_2 conversion rates and average US emissions factor provided by US Environmental Protection Agency (EPA).

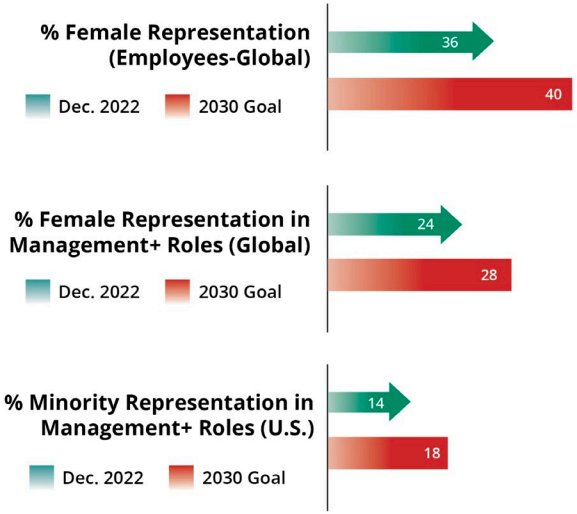
People

Our employees are our most valuable asset and are the definition of IPG Photonics. We are committed to attracting and retaining the best talent, and we believe that an engaged, diverse and thriving workforce will drive a sustainable future for our company and society. IPG is proud of our supportive culture, innovative spirit and workplace programs.

~6,200 Full Time Employees Worldwide

*As of December 31, 2023





We are tracking new metrics focused on increasing female and minority representation in our workforce, and providing professional development opportunities for employees. In 2024, we established diversity and inclusion goals for the first time.

Promoting Stakeholder Engagement

- We engage with key stakeholders to communicate our efforts to protect the planet and to secure a safe working environment
- We continue to evaluate the concerns of our customers, employees and stockholders to ensure that our sustainability strategy is consistently updated to prioritize industry-specific as well as global material issues
- In 2021, we commenced our first materiality assessment involving our key stakeholders and expect to share in our next sustainability report

Our Key Stakeholders

Customers

Dedicated to helping our customers grow their businesses while helping them achieve their energy reduction goals from using our efficient and environmentally-friendly lasers

Employees

We focus on attracting and retaining talent from diverse backgrounds and experiences

Stockholders

Our sustainability activities are inspired by the ideals and values of our stockholders

IPG recognizes the value of transparency and accountability to our various stakeholders

Corporate Governance Highlights

Independent Leadership and Oversight

- Governed by a 11-member board of directors, 8 of whom are independent directors under Nasdaq guidelines
- Super majority of independent directors and 100% independent Board committees
- Separate roles of Chairman and CEO; Non-executive Board Chair
- Board adopted oversight framework for ESG risks in 2022

Continued Focus on Board Refreshment

- Continued refreshment of the Board with a focus on representation
- A new female director joined in 2023
- The Board policy requires external director candidate pool to include diversity of gender and race/ethnicity

Structured to Empower Shareholder Rights

- Annually elected directors
- Director majority voting policy
- Single class of voting stock
- No supermajority voting provisions

The IPG Advantage


IPG
PHOTONICS®
THANK YOU