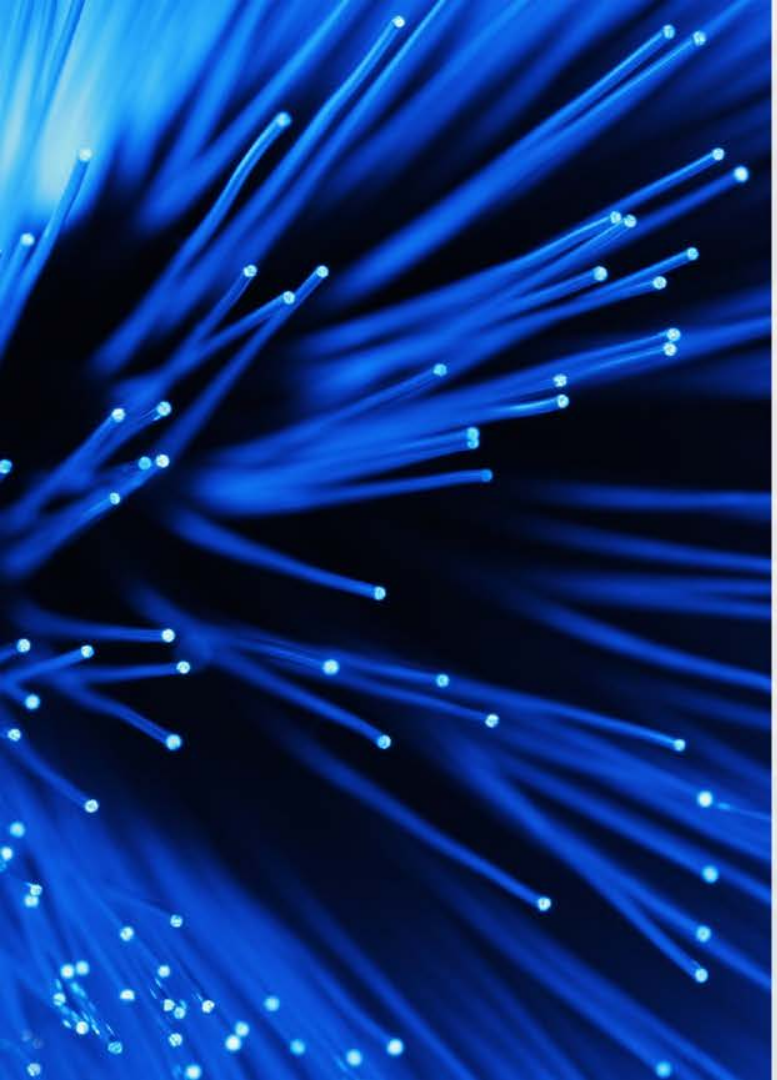


IPG PHOTONICS®

INVESTOR PRESENTATION

Safe Harbor Statement

The 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; 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.

PRODUCT ACROSS
ALL INDUSTRIES





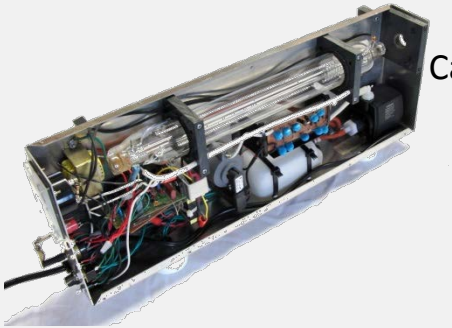



are made better AND at lower cost with

IPG FIBER LASERS

Revolutionizing the Laser Industry

Traditional Lasers



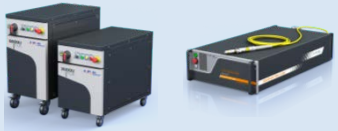
Carbon Dioxide (CO_2)

Lamp-Pumped Nd: YAG

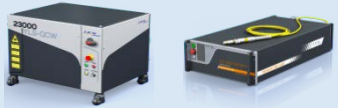
- Expensive
- Bulky
- Unreliable
- Difficult to Operate
- Inefficient
- Frequent Maintenance
- Costly Consumables
- Not scalable

IPG Fiber Lasers

20 & 30 Kilowatt (kW)
Continuous Wave (CW)



3 & 6 kW CW



5 & 23 kW Quasi CW

5 kW Nanosecond Pulsed
& 100 W Picosecond Pulsed

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

Our Mission

Making our **fiber laser** technology the tool of choice in mass production

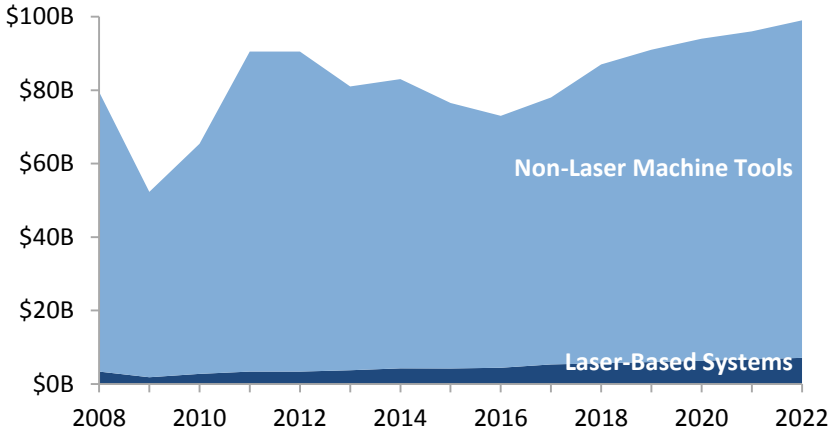
Key Takeaways

1. Global market leader in fiber laser technology across multiple end markets and applications
2. Vertical integration, manufacturing scale, and technology driving industry-leading margins
3. Expanding multi-billion dollar addressable market opportunity
4. Strong growth in earnings and cash flow

Dual Secular Growth Strategies

(1) Conversion from Non-Laser to Laser Technologies

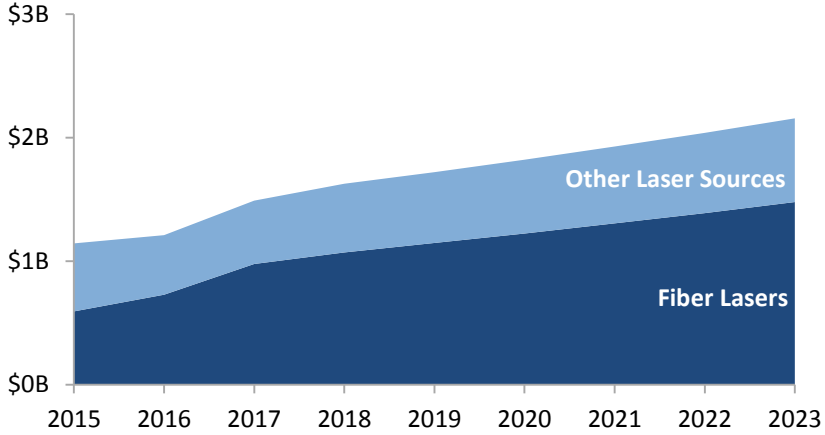
Global Machine Tool Consumption in 2018: $81B
Global Cutting Laser Systems in 2018: ~$6B
Laser Cutting Tools 6-7% of Worldwide Machine Tools & Growing



Source: Oxford Economics, Optech Consulting and IPG Photonics Corporation

(2) Conversion from Traditional Lasers to Fiber Lasers

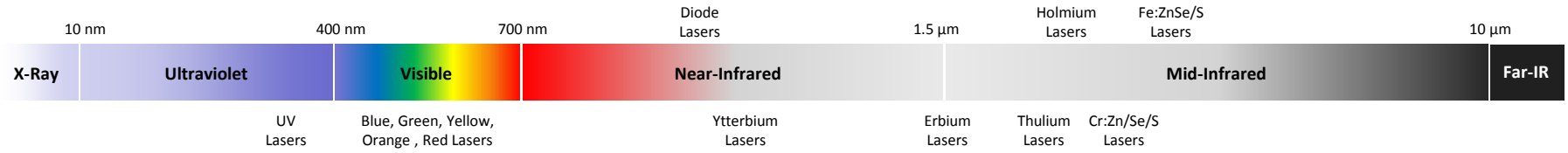
Fiber Lasers a Growing Percentage of Annual Demand for High-Power Industrial Laser Sources

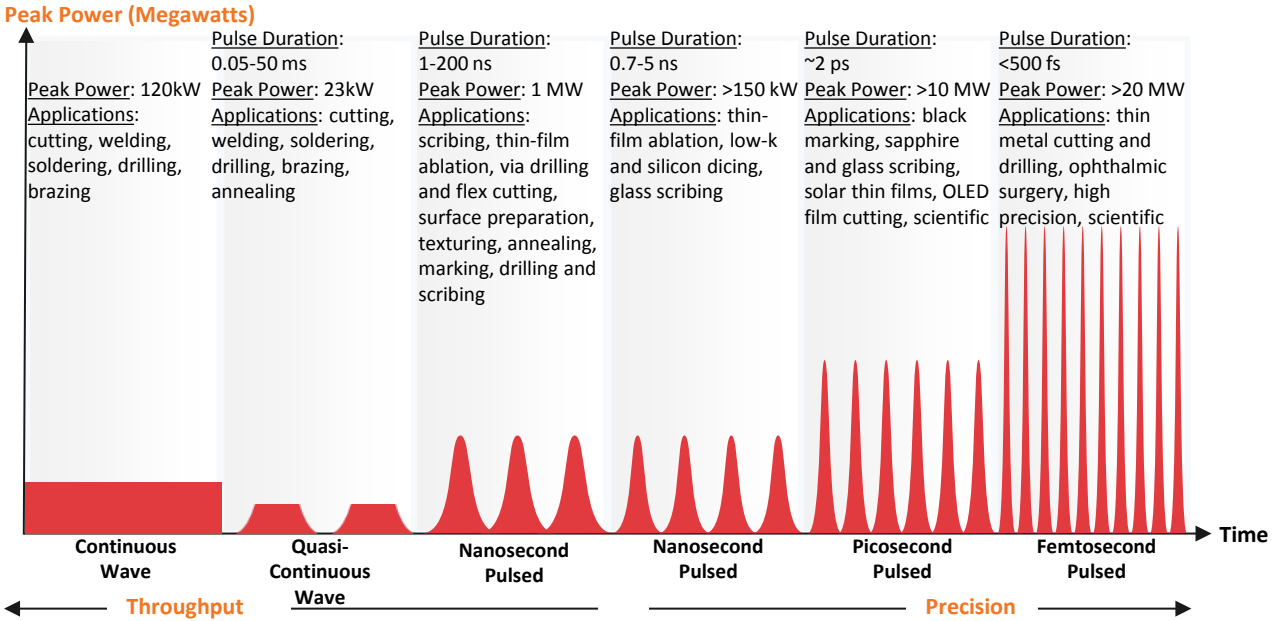


Source: Optech Consulting and IPG Photonics Corporation

Broadest Portfolio of Fiber Lasers

Any wavelength, mode of operation, power, beam quality or application

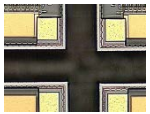




Thick steel cut with a continuous wave laser

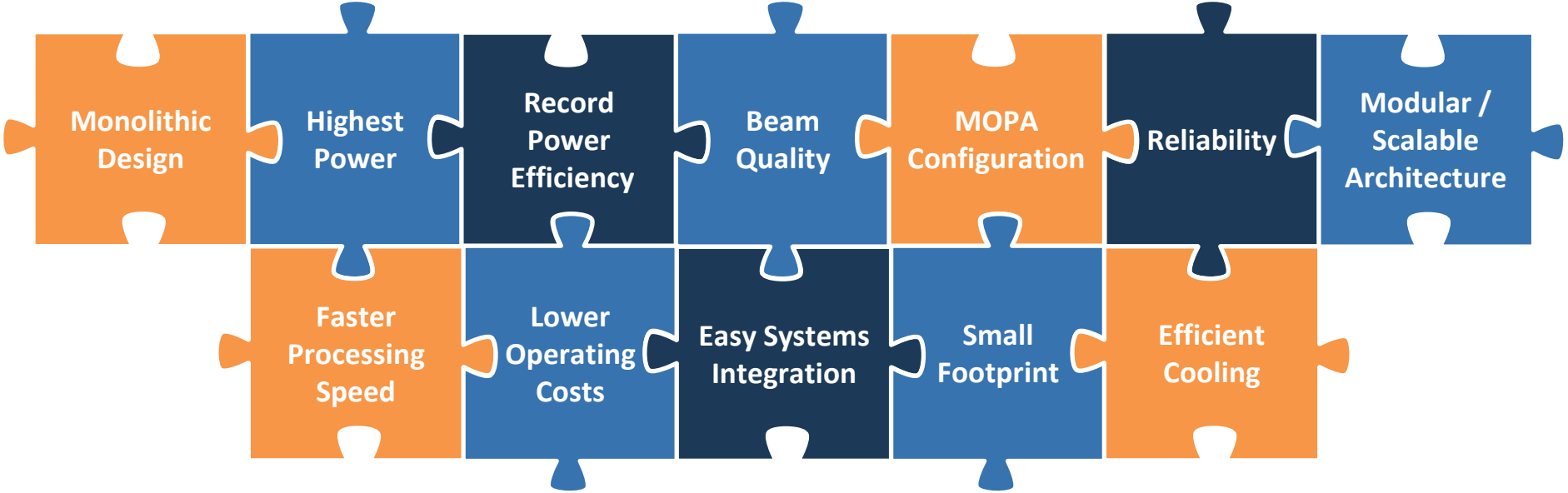
Drilling using a quasi-continuous wave laser

Surface Cleaning using a pulsed laser



Micromachining using an ultrafast laser

Advantages of Our Fiber Lasers



Significant Barriers to Entry

Technology: IP & Process Know-How

Business: Vertical Integration & Scale

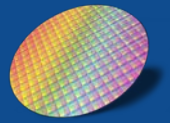
Continuous Innovation	→	>350 Patents >430 Pending
Vertically Integrated	→	Lowest-Cost Provider
Manufacturing, Distribution & Service Scale	→	Thousands of Lasers Shipped Each Quarter

The Power to Transform®

IPGs Vertical Integration

INTEGRATED SYSTEMS

Welding | Cladding
Drilling | Ablation



Fab Operations

Semiconductor wafer growth

Diode processing, chip mounting & burn-in

Laser Diode Packaging

Over 200 watts of output power from 100 µm core fiber

Optical Preform

Silica based glass

MCVD method

Dope with rare earth ions

Components

Bragg Gratings | Isolators | Couplers

Modules

Up to 2000 Watts

Laser Sources

Coupling | Final burn in | Shipment

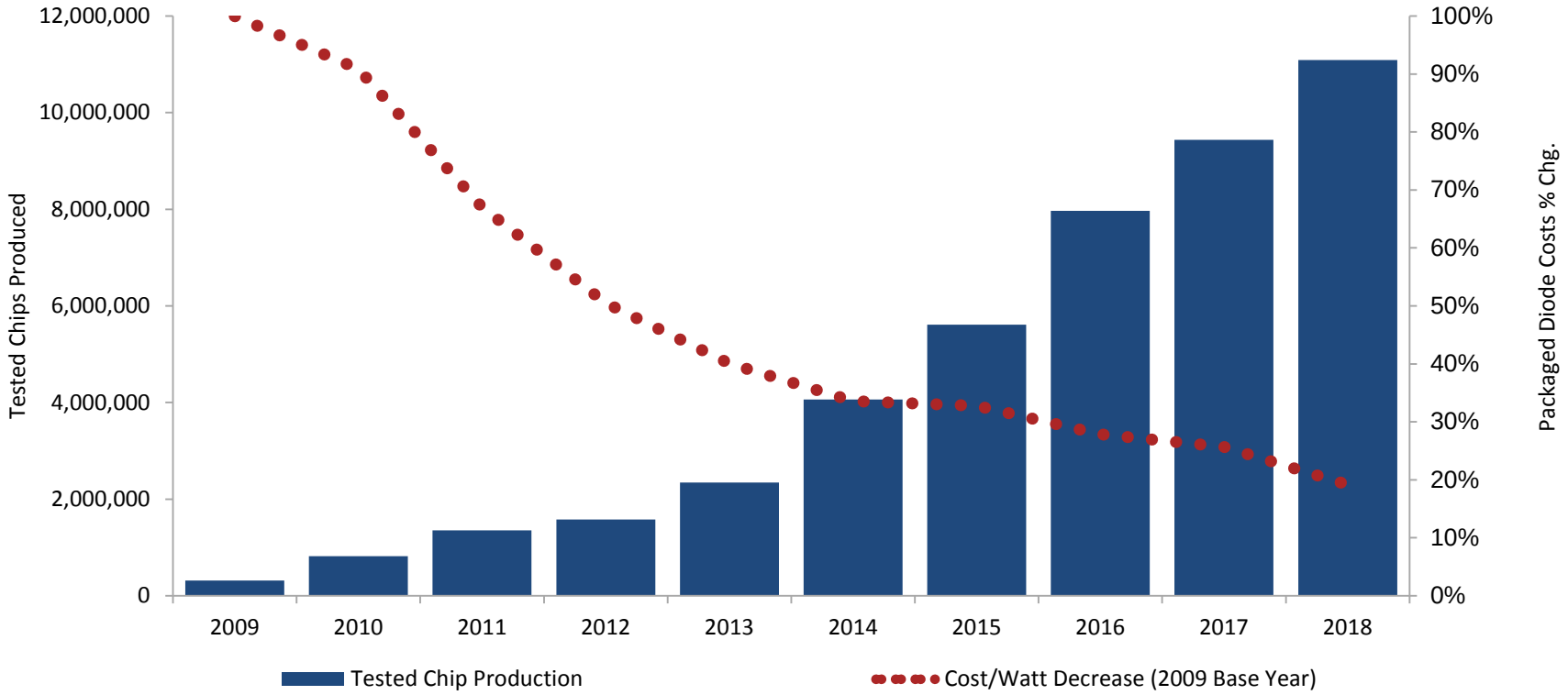
Process Heads and Switches

All fiber beam delivery

DEEP IN TECHNOLOGY
DEEP IN EXPERIENCE

The Power to Transform®

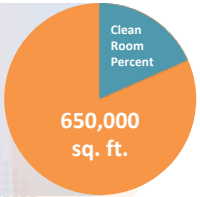
Highest Volume, Lowest Cost Diode Producer

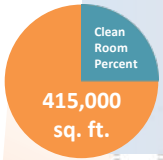


Source: IPG Photonics Corporation

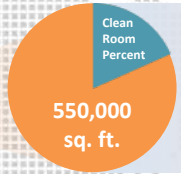
Global Presence

Oxford & Marlborough, MA, USA
- Wafer fab operation, chip-on-submount assembly, wafer packaging, components and final assembly
- ~2,000 employees

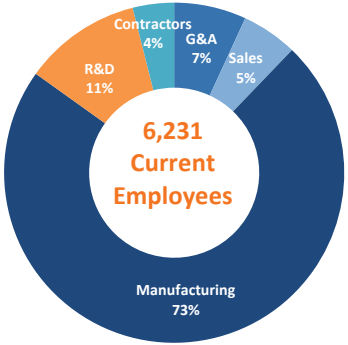


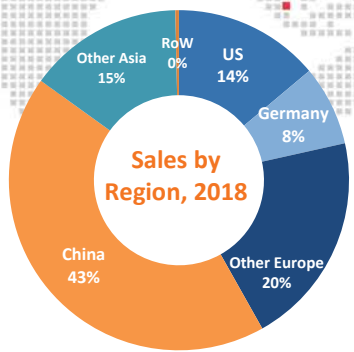


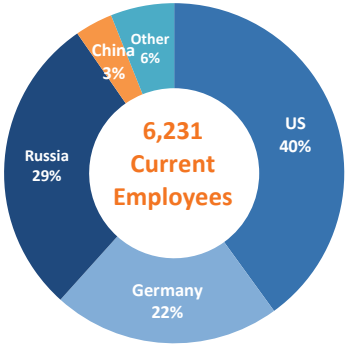
Burbach, Germany
- Components and final assembly
- ~1,300 employees



Fryazino, Russia
- Components and final assembly
- ~1,700 employees



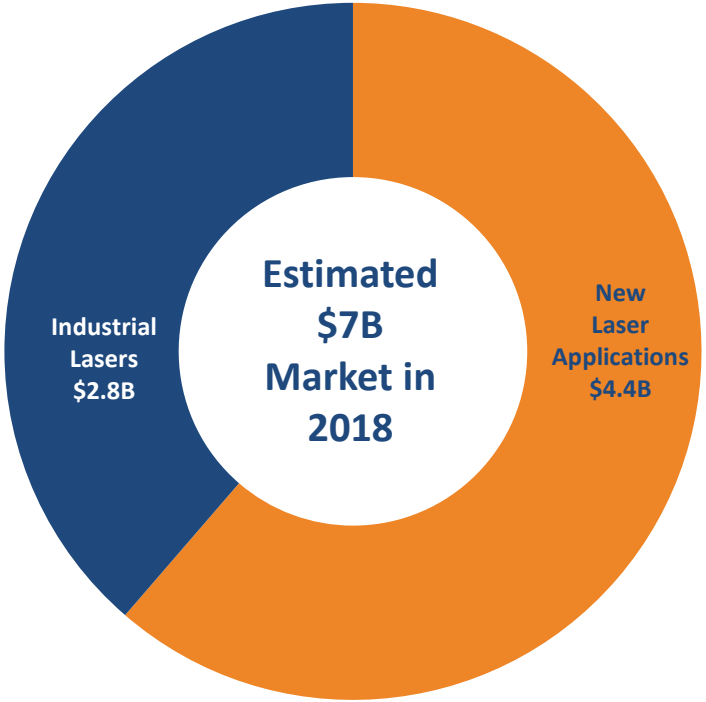


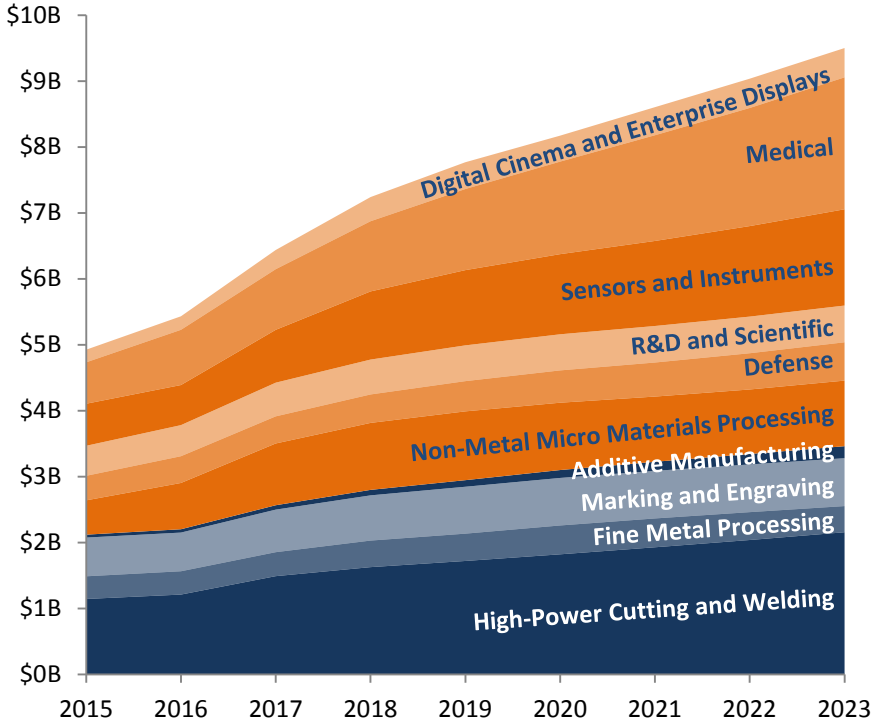


Sales & Service
Development, Sales & Service
Manufacturing, Development, Sales & Service

The Power to Transform®

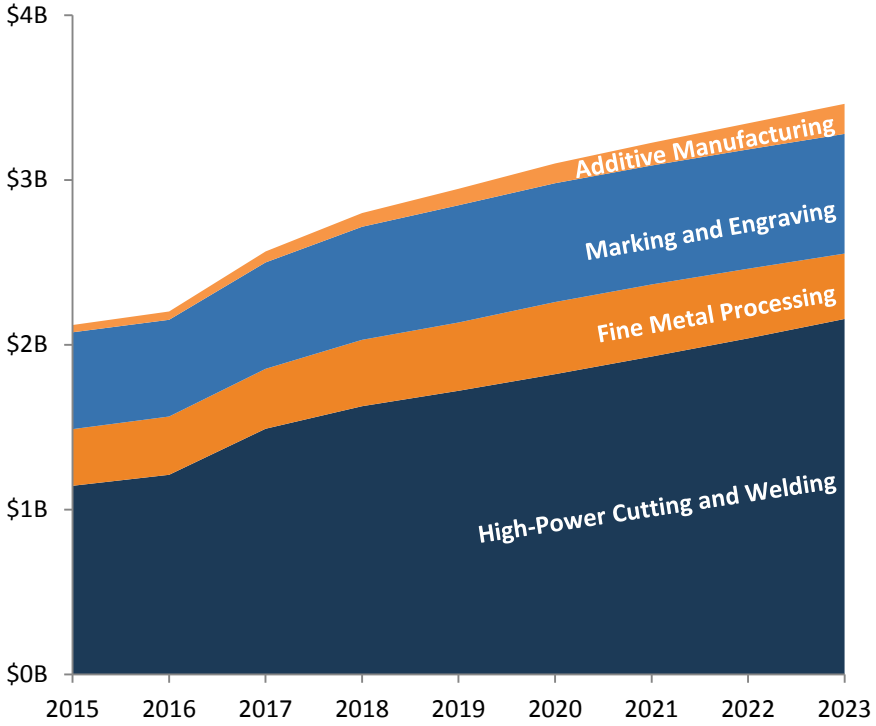
Total Addressable Market

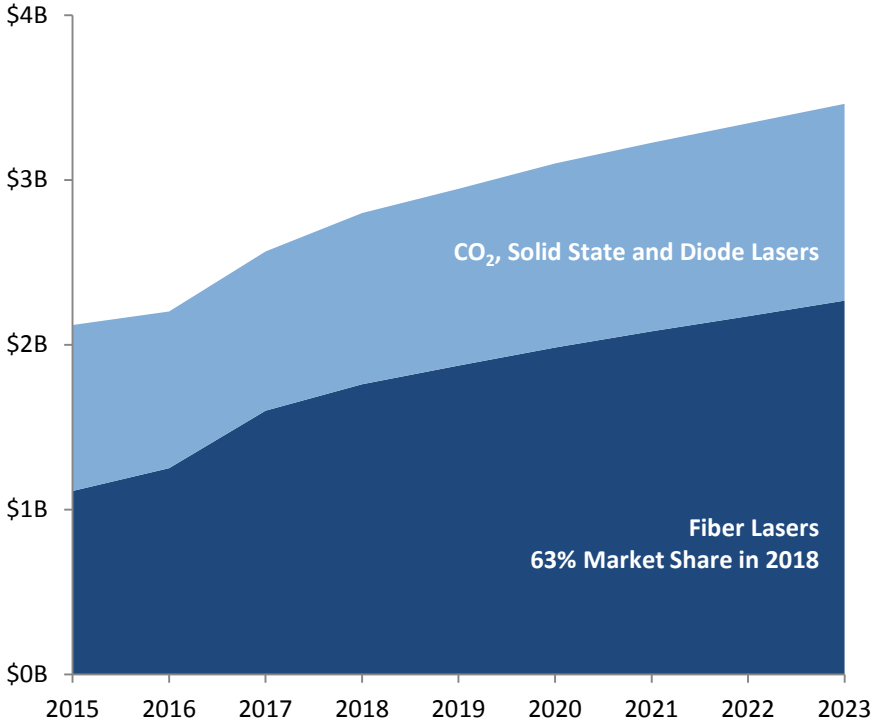




Source: Optech Consulting, Strategies Unlimited and IPG Photonics Corporation

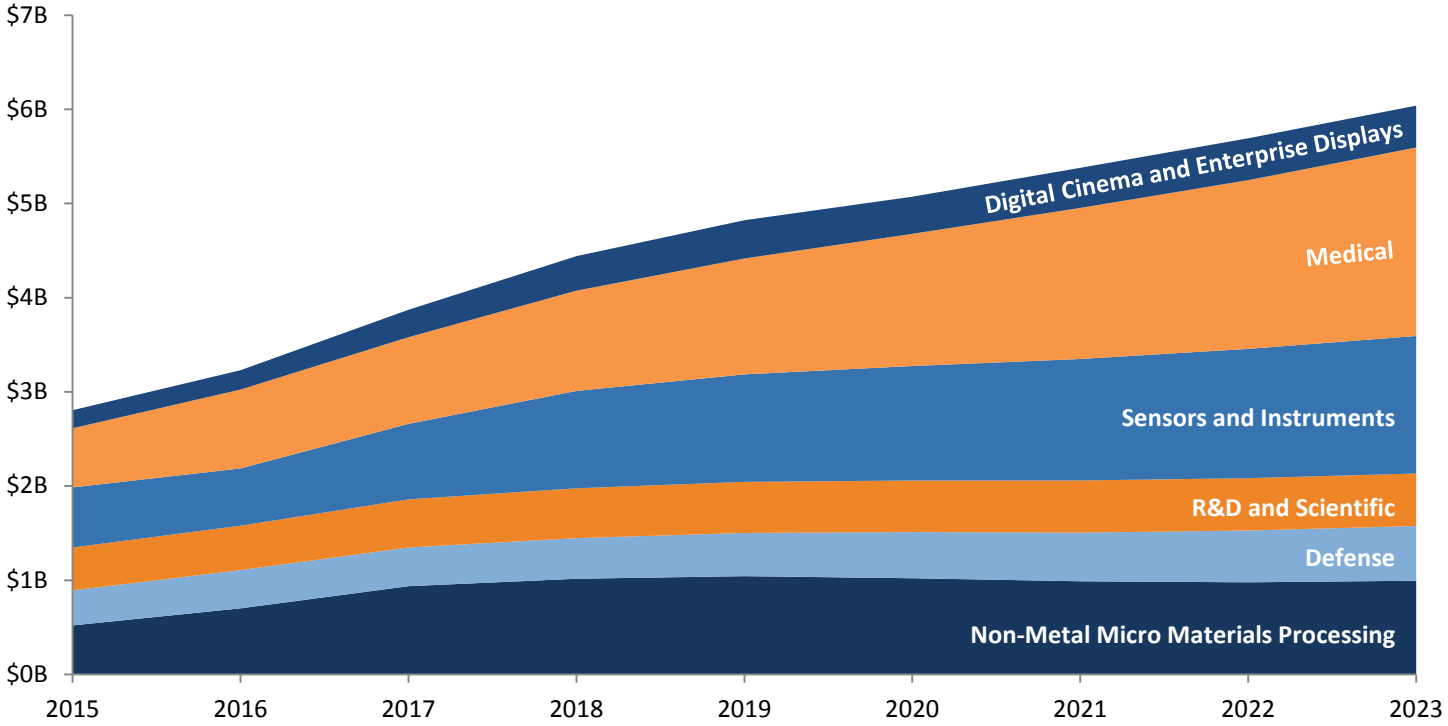
Industrial Laser Market





Source: Optech Consulting, Strategies Unlimited and IPG Photonics Corporation

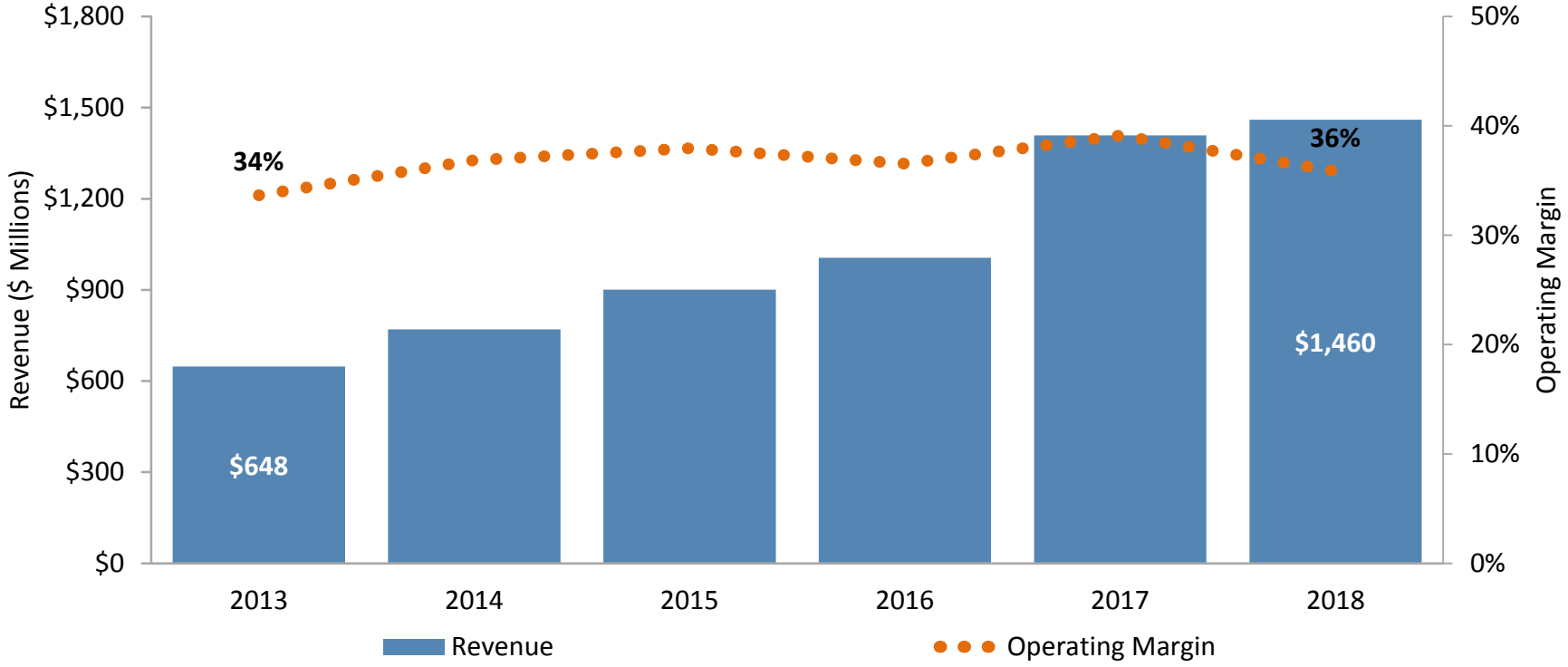
New Laser Applications



Source: Strategies Unlimited and IPG Photonics Corporation

The Power to Transform®

Solid Growth and Industry-Leading Margins



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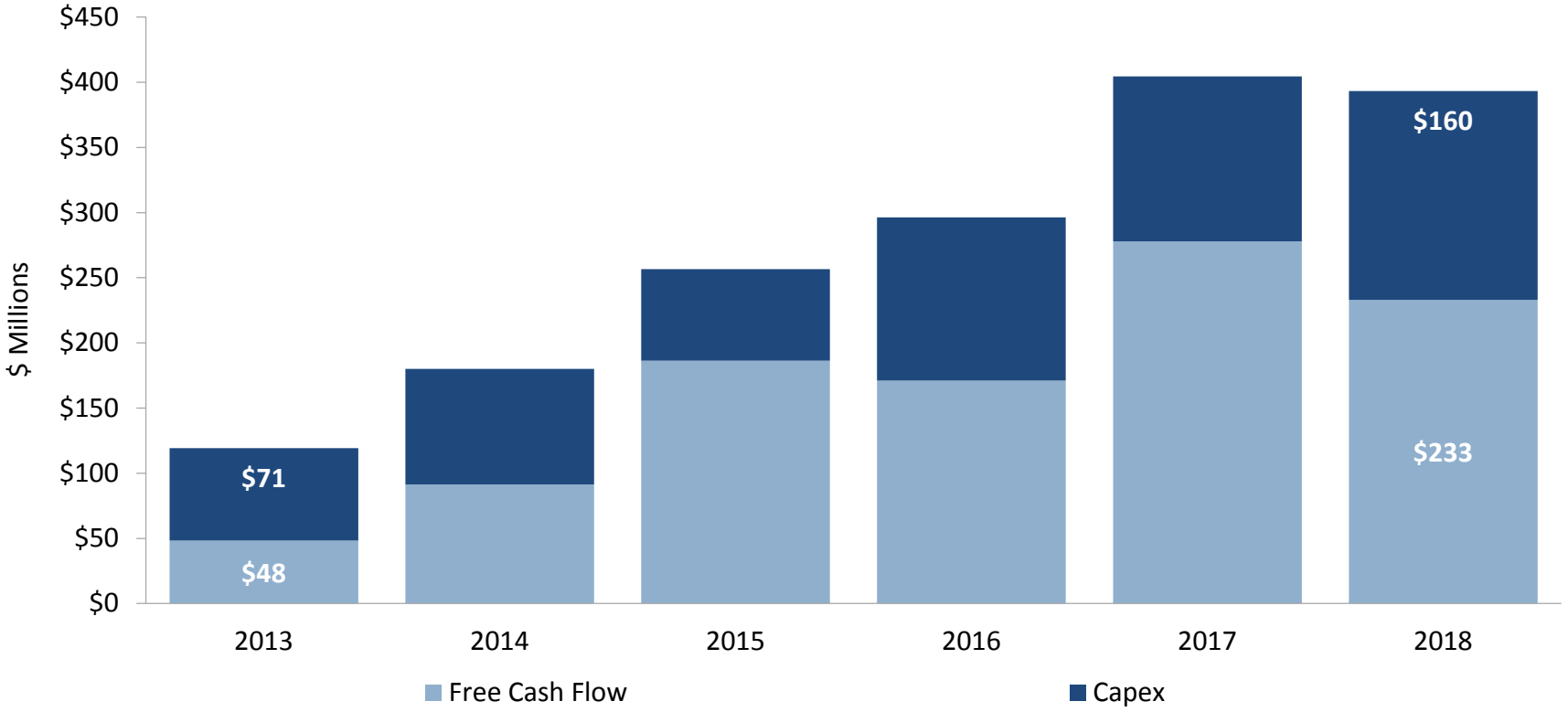
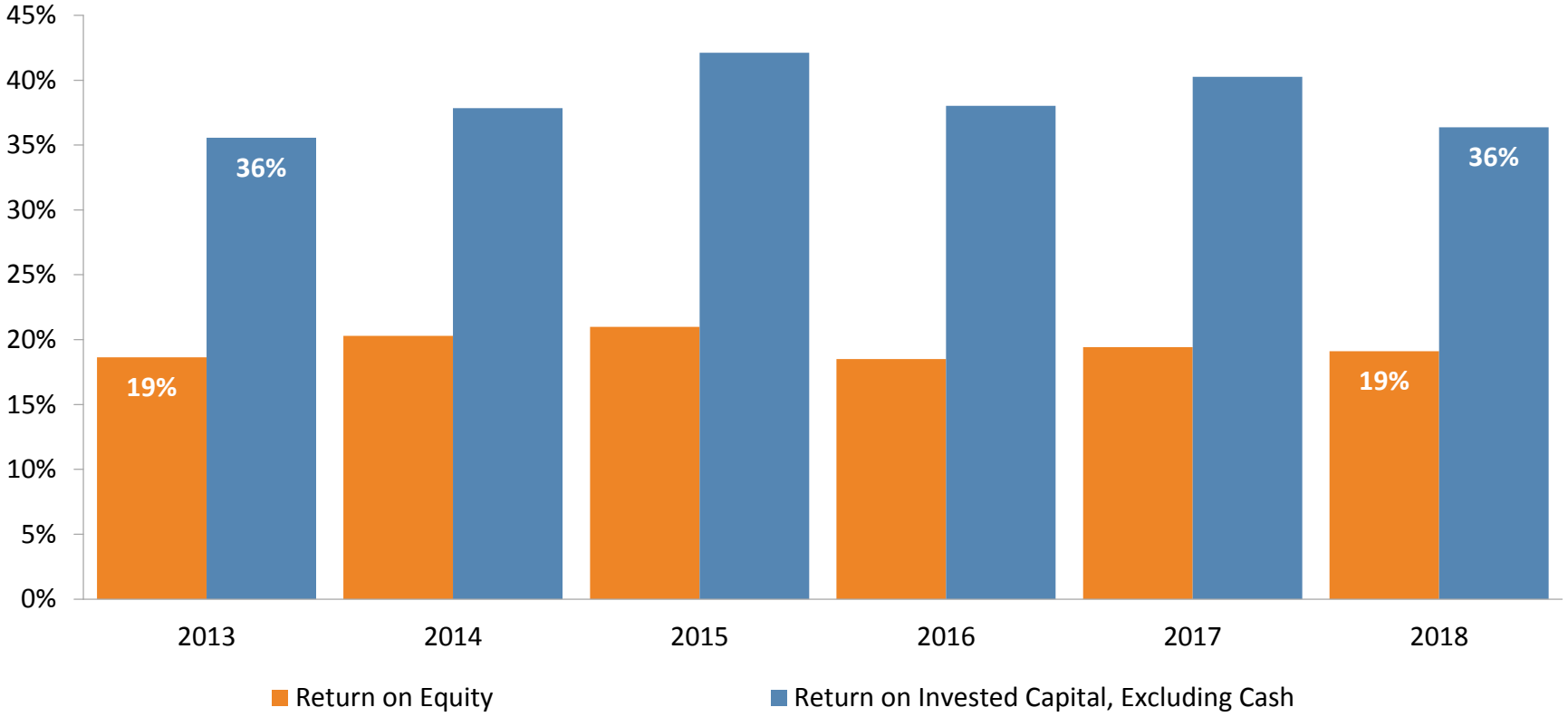
Free Cash Flow



The Power to Transform®

Return Profile



The Power to Transform®

Target Business Model

GAAP Metrics	2012-16	2017	2018	Long-Term
Revenue Growth	16% CAGR	40%	4%	Double Digit Growth *
Gross Margin	54% Average	57%	55%	50%-55% *
Operating Margin	36% Average	39%	36%	32%-37% *

* Revenue growth and margins can be below long-term targets during periods of macroeconomic weakness that give rise to lower demand for our products

Thank You

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