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.
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. Rapidly growing earnings and cash flow
Dual Secular Growth Strategies

(1) Conversion from Non-Laser to Laser Technologies

Global Machine Tool Consumption in 2017: ~$78B

Laser Systems 18% of Worldwide Machine Tools and 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

<table>
<thead>
<tr>
<th>Peak Power (Megawatts)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Throughput</td>
<td>Precision</td>
</tr>
<tr>
<td>Continuous Wave</td>
<td>Quasi-Continuous Wave</td>
</tr>
<tr>
<td>10 nm</td>
<td>400 nm</td>
</tr>
<tr>
<td>X-Ray</td>
<td>Ultraviolet</td>
</tr>
<tr>
<td>EUV Lasers</td>
<td>Excimer Lasers</td>
</tr>
<tr>
<td>Visible</td>
<td>Near-Infrared</td>
</tr>
<tr>
<td>Blue, Green, Yellow, Orange, Red Lasers</td>
<td>Ytterbium Lasers</td>
</tr>
<tr>
<td>700 nm</td>
<td>1.5 µm</td>
</tr>
<tr>
<td>Diode Lasers</td>
<td>Holmium Lasers</td>
</tr>
<tr>
<td>1.5 µm</td>
<td>Fe:ZnSe/S Lasers</td>
</tr>
<tr>
<td>10 µm</td>
<td>Far-IR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pulse Rate</th>
<th>Peak Power</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05-50 ms</td>
<td>0.05-50 kW</td>
<td>cutting, welding, soldering, drilling, brazing</td>
</tr>
<tr>
<td>1-200 ns</td>
<td>1 MW</td>
<td>thin-film ablation, via drilling and flex cutting, surface preparation, texturing, annealing, marking, drilling and scribing</td>
</tr>
<tr>
<td>0.7-5 ns</td>
<td>0.7-5 MW</td>
<td>thin-film ablation, low-k and silicon dicing, glass scrib ing</td>
</tr>
<tr>
<td>~2 ps</td>
<td>~2 ps</td>
<td>black marking, sapphire and glass scrib ing, solar thin films, OLED film cutting, scientific</td>
</tr>
<tr>
<td>&lt;500 fs</td>
<td>&gt;20 kW</td>
<td>thin metal cutting and drilling, ophthal mic surgery, high precision, scientific</td>
</tr>
</tbody>
</table>

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

Peak Power: 120kW
Applications: cutting, welding, soldering, drilling, brazing
Peak Power: 23kW
Applications: cutting, welding, soldering, drilling, brazing, annealing
Peak Power: 1 MW
Applications: thin-film ablation, low-k and silicon dicing, glass scrib ing
Peak Power: >10 MW
Applications: black marking, sapphire and glass scrib ing, solar thin films, OLED film cutting, scientific
Peak Power: >20 kW
Applications: thin metal cutting and drilling, ophthal mic surgery, high precision, scientific
Advantages of Our Fiber Lasers

- Monolithic Design
- Highest Power
- Record Power Efficiency
- Beam Quality
- MOPA Configuration
- Reliability
- Modular / Scalable Architecture
- Faster Processing Speed
- Lower Operating Costs
- Easy Systems Integration
- Small Footprint
- Efficient Cooling
Significant Barriers to Entry

**Technology:**
- IP & Process Know-How

**Business:**
- Vertical Integration & Scale

**Continuous Innovation** → >240 Patents
- >380 Pending

**Vertically Integrated** → Lowest-Cost Provider

**Manufacturing, Distribution & Service Scale** → Thousands of Lasers Shipped Each Quarter

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Highest Volume, Lowest Cost Diode Producer

Source: IPG Photonics Corporation

 Tested Chips Produced

Cost/Watt Decrease (2009 Base Year)

Packaged Diode Costs % Chg.

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
  - ~1,500 employees

Sales by Region, 2017

- China: 54%
- Germany: 9%
- Other Europe: 24%
- US: 13%

Sales by Region, 2017

- China: 54%
- Germany: 24%
- Other Europe: 29%
- US: 29%

Current Employees

- 5,193

- 650,000 total ft²
- 370,000 total ft²
- 530,000 total ft²

- Clean Room Percent

- Contractors: 5%
- R&D: 7%
- G&A: 7%
- Sales: 10%
- Manufacturing: 72%
- US: 38%
- Germany: 24%
- Russia: 29%
- China: 54%
- Other Europe: 6%
Total Addressable Market

- Industrial Lasers: $2.6B
- New Laser Applications: $3.9B
- Total Market in 2017: $6.5B

Source: Optech Consulting, Strategies Unlimited and IPG Photonics Corporation
Fiber Lasers
63% Market Share in 2017

CO₂, Solid State and Diode Lasers

High-Power Cutting and Welding

Marking and Engraving

Additive Manufacturing

Industrial Laser Market

Source: Optech Consulting, Strategies Unlimited and IPG Photonics Corporation
Metal Cutting

Source: Optech Consulting and IPG Photonics Corporation

Installed Base of ~100,000 Laser Cutting Systems Worldwide

CO₂, Solid State and Diode Lasers

Fiber Lasers

Fiber

CO₂ & Other
Metal Joining (Welding & Brazing)

Source: Optech Consulting, Freedonia Group and IPG Photonics Corporation
New Laser Applications

Source: Strategies Unlimited and IPG Photonics Corporation
Strong Growth and Industry-Leading Margins

![Growth and Operating Margin Graph](image-url)

Revenue ($Millions):
- 2011: $474 (37%)
- 2012: $600
- 2013: $900
- 2014: $1,200
- 2015: $1,048 (39%)

Operating Margin:
- 2011: 37%
- 2012: 39%
- 2013: 39%
- 2014: 39%
- 2015: 39%
- 2016: 39%
- 9M Sep-17: 39%
Rapidly Growing Cash Flow

<table>
<thead>
<tr>
<th>Year</th>
<th>Free Cash Flow</th>
<th>Capex</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>$34</td>
<td></td>
<td>$53</td>
</tr>
<tr>
<td>2012</td>
<td>$53</td>
<td></td>
<td>$206</td>
</tr>
<tr>
<td>2013</td>
<td>$100</td>
<td></td>
<td>$153</td>
</tr>
<tr>
<td>2014</td>
<td>$150</td>
<td></td>
<td>$200</td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>$84</td>
<td>$213</td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>$84</td>
<td>$213</td>
</tr>
<tr>
<td>9M Sep-17</td>
<td></td>
<td>$84</td>
<td>$213</td>
</tr>
</tbody>
</table>
Return Profile

Return on Equity

Return on Invested Capital, Excluding Cash

- 2011: 31%
- 2012: 25%
- 2013: 20%
- 2014: 18%
- 2015: 23%
- 2016: 21%
- TTM Sep-17: 21%
## Target Business Model

<table>
<thead>
<tr>
<th>GAAP Metrics</th>
<th>2016</th>
<th>2017</th>
<th>Long-Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Growth</td>
<td>12%</td>
<td>37%-39%</td>
<td>Market Growth</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>55%</td>
<td>50%-55%</td>
<td>50%-55%</td>
</tr>
<tr>
<td>Operating Margin</td>
<td>37%</td>
<td>32%-37%</td>
<td>32%-37%</td>
</tr>
</tbody>
</table>
Thank You

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