Company Profile

- Company founded in 1985
- Corporate headquarters located in Ottawa, Canada
- Manufacturing facility in Ottawa/Canada, Izmir/Turkey, and Jiaxing/China
- Seven Product Groups: Laser-to-Fiber Delivery Systems, High Power Fiber Optic Components, Polarization Maintaining Products, Attenuators, Opto-Electronic Packaging, Test Equipment, Fiber Optic Sensor Systems
- Sales offices in Canada, USA, Turkey and China
Company Profile

Three Product Groups:

- Fiber Optic Components 70%
- Optical Test Equipment 25%
- Fiber Optic Sensors 5%

- Over 1,000 products
- Leading Edge R&D
OZ Optics Products

Polarization Maintaining Fiber Optic Components
Patent Numbers: USA 7058775, 7059851, 7295731, China 1072073

- Polarization Maintaining Connectors / Patchcords
- Polarization Maintaining and Polarizing Splitters / Combiners / Fused Couplers / Switches
- All Fiber Manual and Electrically Driven Polarization Controllers / Scramblers
- PM Fiber Directional Taps / Power Monitors
- Manual / Electrically Controlled PM Fiber Pigtailed Variable Attenuators
- Fiber Pigtailed Polarizers
- PLC Splitters
- PM Fiber Pigtailed Circulators

High Power Fiber Optic Components
Patent Numbers: Canada 2494133, USA 7058775, 7059851, 7295731, China 1072073

- High Power/Temperature Connectors & Patchcords
- High Power Isolators
- High Power Laser to Fiber Couplers / Collimators / Focusers
- High Power Mode Field Adapters
- High Power Optical Taps / Power Monitors
- CO2, Cleaning for High Power Components
- High Power Splitters / WDM’s
- Shutters / Receptacles / Sleeve Tiris Adapters with Sensors

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Product Innovation

Fiber Optic Distributed Strain and Temperature Sensors

- BOTDA only, BOTDR only, or both BOTDA and BOTDR modules in one unit
- Simultaneous measurement of strain and temperature
- Fast, dynamic measurement of strain and/or temperature up to 100 km sensing range
- Uses standard telecommunication fiber to minimize costs

Global Leader in Fiber Optic Products since 1985

OZ Optics

Fiber Optic Fault Finder for Optical Network Safeguard™

- Monitors and reports network health status in real time, 24 hours/day, 365 days/year
- Reduces revenue loss due to fiber plant outages
- Reports fault location, giving GPS coordinates with time stamp
- Lowers network operation and maintenance expenses
- User friendly interface via various wireless interfaces (Wi-Fi, OPUS, DSB, or RS-232)
- Early alert and outage reports via cellular phone, email, IM, SMS, or text messaging

Remote Monitoring and WDM Network

Remotely Accessible Wireless Fault Finders

GPS Locator

OZ Optics

www.ozoptics.com

PRIVATE AND CONFIDENTIAL
Product Innovation
Company Profile

Over 470 employees worldwide:

- 260 in Ottawa and US
- 50 in Turkey
- 160 in China

OZ Canada

OZ China

OZ Turkey
Company Profile

*OZ Optics is lead by an experienced team:*

- Ömür Sezerman, Chairman, President & CEO
  - Founder and CEO since inception (31 years)
- Zahide Sezerman, VP of Human Resources
  - With OZ Optics since inception (31 years)
- Garland Best, VP of Components Division
  - 24 years at OZ Optics
- Gordon Youle, VP of Test Equipment Division
  - 17 years at OZ Optics
- Martin Powell, Operation Manager
  - 12 years at OZ Optics
- Sarah Miller, Controller
  - 3 years at OZ Optics
- Metin Sezerman, General Manager of OZ Turkey
  - 15 years at OZ Optics
- Bing Li, General Manager of OZ Optics China
  - 12 years at OZ Optics
Company Profile

- ISO9001:2008 certified
- Broad patent portfolio
- Advanced proprietary processing technology
Company Profile

- Using our strong direct sales and distributors, we address the following markets:
OZ Optics has resellers and distributors in over 30 Countries & Regions and over 10,000 customers globally:

- Australia
- Austria
- Belgium
- Brazil
- Canada
- China
- Czech Rep.
- Denmark
- France
- Germany
- Greece
- Hong Kong
- India
- Ireland
- Italy
- Japan
- Netherlands
- Luxembourg
- Norway
- Poland
- Portugal
- Singapore
- South Korea
- Spain
- Switzerland
- Sweden
- Taiwan
- Thailand
- Turkey
- United Kingdom
- United States
In-House Production Capabilities

- Experienced and well-trained staff in following fields:
  - optical, mechanical, electronics & software

CNC Machine Shop

AR Coating

Femtosecond Laser Lab

Clean Room

Laser Conditioning/Cleaving
Branch Network

OZ OPTICS CANADA
(Headquarters)

OZ OPTICS TR
(Turkey Factory)

OZ OPTICS CHINA
(Jiaxing Factory)
Facility – Ottawa Headquarters

- 60,000 sq ft. – Manufacturing and R&D Facilities
- 15,000 sq ft. – Admin, Sales and Marketing
- 15,000 sq ft. – Training and Fitness Facility
- R&D, Product Design, Engineering, Final Assembly & QA
Facility – Ottawa Headquarters

Production Area

Training Centre Building

Meeting Room

Swimming Pool
OZ Optics – Turkey Factory

- Operational since 2000
- 33,000 sq ft. Manufacturing Facility
- Located in Free Trade Zone
- Low Tax Rates
- Sub Component Parts Manufacturing
- Cost Effective Manufacturing
- High Quality Labor
OZ Optics China

- Operational since 2009
- Wholly Foreign Owned Enterprise
- Subcomponent Parts Manufacturing
- Cost Effective Manufacturing
- High Quality Labor
- Extensive Training (3-6 months in OZ Canada)
OZ China Facility

Jiaxing, China

- Located in Economic Development Zone
- 500 sq meters – Admin, Sales and Marketing
- 1500 sq meters – Manufacturing Area
  - 100 sq meters – Class 10,000 Clean Room
  - 100 sq meters – ESD Working Area
Manufacturing Strategy

- OZ Canada
- R&D Design Engineering
- Made-in China
  - Sub-Components
  - Made-in Turkey
    - Sub-Components
    - World-Wide Sourcing
      - OZ CND Qualification
      - Customer Qualification

- OZ Canada
  - Final Assembly Quality Assurance
  - Customer Qualification
  - Customer

- OZ CND
  - Customer Qualification

- World-Wide Sourcing
  - OZ CND
  - Customer

- Customer
Industry Standards

All products manufactured are in strict accordance with international industry standards:

- Telecordia Compliance
- CE Compliance
- RoHS Compliance
- ISO 9001:2008 Certified (China, Turkey and Canada)
- Controlled Goods Directorate Registered
Core Competencies

• Pioneer in Polarization Maintaining (PM) Components
• Leader in Wavelength Flattened, High Power & Low PDL Components
• Leader in High Power Fiber Optic Delivery Systems
• Custom Test Equipment, Including Polarization Test Equipment and FTTH Equipment
• Widest Range in Attenuator Product Offering
• Fiber Optic Distributed Strain and Temperature Sensors
• Complete product line for OCT applications & 2 Micron
Leading Technology

- High Power Isolators
  - power handling > 50W
  - low loss, low cost
  - turnkey solution

- Fiber Optic Sensor
  - fast and simultaneous measurement of strain & temp
  - large structure health monitoring

- Pioneer in Polarization Maintaining (PM) Components
  - wavelength flattened
  - high power & low PDL
  - PM test equipment

- Leader in High Power Fiber Optic Delivery Systems
  - specializes in custom design
OUR VISION
• Be the preferred Supplier of choice
• Capture and expand market share
• Maximize shareholder value

OUR MISSION
• To become the leading provider of innovative optical products to telecom and non-telecom sectors

OUR CORE VALUES
• Leadership
• Teamwork
• Boldness
• Commitment
• Innovation
• Rewards

OUR QUALITY POLICY
• Provide our Customers with a competitive advantage, leveraging performance, price and delivery, through a continuous process of Quality advancement in all areas of our Company
• Communicate effectively to our Customers, Suppliers and Shareholders our commitment to Quality and continuous improvement
• Promote opportunities of professional development for all members of our Company through education, training and personal challenge

Ömür Sezerman
President
Competitive Advantage

- Exceptional Quality & Service
- Competitive Pricing
- Extensive Experience in Fiber Optics Manufacturing
- Global Presence
- Superior Technology & Innovative Engineering
Foresight™ DSTS Awards & Patents

USA Patent # 7499151 on March 3, 2009
USA Patent # 7599047 on October 6, 2009
Applications – Innovative Solutions

- Oil and Gas Pipeline Monitoring
- Dam Monitoring
- Oil and Gas Well Monitoring
- Bridge and Building Monitoring
- Power Line Monitoring
- Border Security Monitoring
Fiber Optic Distributed Strain and Temperature Sensor (DSTS)

Innovative and Complete Solution for Monitoring Tiny Cracks
OPGW Monitoring

- Monitoring the working status of OPGW
- Abnormal event found and located
- Event caused by broken strand, lightning, frost covering, change of strain, etc.
OPGW Status Monitoring

- The OPGW is located from Smith Falls to Merivale-Ottawa, Ontario, Canada.
- The total fiber length was close to 140 km.
- The BOTDA located in Merivale-Ottawa made measurements as often as once every 60 minutes starting in June 2012 and continuing till July 2013.
The Costs of Catastrophic Failure

- Example: Druzhba Pipeline July 2006
- Small 50 cubic meter leak results in:
  - Interruption of $100M/day pipeline
  - Global spike in oil prices
  - Report of environmental catastrophe
  - Months of investigation and ecological monitoring
- Single point of failure in 3000 km pipeline
OZ Optics Foresight™ DSTS Benefits

*Total System Solution Provides*

- **Reduced Operating Expenses**
  - Centralized monitoring
- **Reduced Danger of Catastrophic Failure**
  - Real-time continuous monitoring
  - Corrosion and leak detection
- **Optimized Field Engineering Resources**
  - Automated dispatch with GPS coordinates
OZ Optics Foresight™ DSTS Features

• Temperature and strain in a single telecom fiber

• High resolution over lengths up to 100 km/sensor

• Sends time and location stamped alerts

• Escalates alarms until problem solved
Working Principle — BOTDA

Brillouin scattering

Unstrained

Strained

Optical Fiber

\[ \nu_B = \nu_{B0} + C_T (T - T_0) + C_\varepsilon (\varepsilon - \varepsilon_0) \]
OZ Software Translates Raw Data...
...Into Service Calls
OZ Monitoring System Architecture
Compact 2UR1US Model Package
Available Rack Mountable Package
Quantifiable Value Proposition (QVP)

- Example 1: Druzhba Pipeline
- 10 hour service interruption = $43M
- Clean-up, repair & site surveys = $3M
- Fines and penalties (Unknown)
- Brillouin installation < $2/meter
- Single 50 cubic meter spill costs much more than sensor installation.
Example 2: Nigerian Pipeline July 2006
- Accidental leak
- 180,000 barrels / day shutdown
- $13M per day
- 10-day shutdown = $130M
- Brillouin operation << $1/m/year
- Single production shutdown far exceeds lifetime sensor operating costs.
Getting Started with DSTS

• Review OZ Optics reference material
• Contact OZ with your needs
• Consult with OZ on system design
• Request customized QVP estimate
• Receive OZ system quotation
The OZ Optics Commitment

OZ Optics is committed to providing a complete solution, lab evaluation, and field trial to meet your structural health monitoring requirements.
Your solution provider for existing and next generation fiber optic components, test equipment, and sensor systems...

For sales information please contact us at:
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