

# PHOTON CONTROL INC.

## MANAGEMENT DISCUSSION AND ANALYSIS

This Management Discussion and Analysis report is dated August 11, 2005.

The business of Photon Control Inc. (the "Company" or "Photon") continues focused on selective product development and commercialization of new-technology optical instruments. The instruments are sensor systems for measurement and control of its customers operations, frequently to serve under extreme conditions.

The Company manufactures and sells these valuable products.

### BUSINESS OPERATIONS

#### Product Development Management

Photon is building long-term leadership in new optical technology because

- Photon innovations are created to fit specific requests from established leaders in selected industries;
- Photon has top scientific and technological management and staff
- Photon also receives input from an extended network of non-employee experts, many of whom are also shareholders; and
- The intellectual property is controlled entirely by Photon.

Photon's products are described in 4 categories: Original Equipment Manufacture ("OEM") systems; Optic flow and Quality Meter Products ("OF&QM"); and Temperature and Pressure Sensor Products ("T&P Sensors"); and Media Analysis Product.

#### Original Equipment Manufacture ("OEM") Systems

In 2004 Photon started substantial sales with \$1 million of positioning-sensor systems to a "Fortune 500" manufacturer of semiconductor capital equipment. This excellent customer has invited Photon to supply other products, which currently are in development. This customer then bought another \$1 million in Q1 2005, \$0.4 million in Q2, and indicates increasing purchases.

Photon's 2003 customer for optic temperature sensors and switches for patient warming mattresses continues to demonstrate its Cool/Heat product, pending some corporate reorganization.

Further OEM type products will include: a detection device which will identify the formation of plasma in computer chip etching machines, a contact wear monitor for load tap change manufactures for use in electricity distribution, and a temperature sensor for monitoring temperature inside the windings of high-power electric transformers. There is more about this latter product under Subsequent Events following.

#### Optic Flow and Quality Meter ("OF&QM") Products

Photon's OF&QM technology includes that acquired by exclusive License from Trans Canada Pipe Lines/Nova Gas Transmission in 2002 which is enhanced by the cooperation of the Licensors including their testing and pilot project support. The Licensors are currently increasing their activities in furtherance of the objectives of the License Agreement. Photon is now an Approved Supplier for their ongoing projects.

Within its overall Flow Meter supply interest, Photon accelerated its response to requests from Western Canada and international oil and gas operators for better flare stack emissions meters. For the more numerous smaller-diameter stacks, a new technology insertion probe meter design was begun in July 2004. Prototypes were shop tested in August, and after further testing by three independent commercial test centers in September and October, these meters showed the ability to accurately measure a very wide range of velocities and to confine uncertainty of measurement to below 2%. This exceeds the regulatory requirement for such emission measurement in Alberta, Photon's first major market.

Promptly on receiving these results in test labs, the Company began planning and arranging field trials in Western Canada at a variety of sites that are representative of "Field and Stack" applications – that is, for gas field and flare or vent stack operational measurements. At this time 8 such field trials are underway, some for over 3 months and in different sites.

The field and Stack category represents a potentially large market, and is particularly in need of a meter technology providing high "turn down ratio" or "range ability", being capability to accurately measure both regular slow flow rates and occasionally very fast flow rates. In mid-2004, a producer said authoritatively that "no meter in the world can measure the low to very high velocities [for flare gas]". The Company's Focus® meters now fill that gap, providing measurement from 0.1 meters per second to 100 meters per second.

Beyond its small-diameter Field and Stack meter products, Photon has installed in early August the new 42-inch major Stack gas flow meter for service at temperatures up to 350°C and emission velocities up to 130 meters/second in a show-case chemical plant in Norway. This is another instance of optical gas flow technology chosen in place of older technologies. It is another application in which Photon wishes to lead globally.

Photon's new product for downhole measurement of methane gas production from individual coal seams in Coal Bed Methane projects has moved on in August from its exclusive Trial Period into the Commercial stage. This highly specialized capability is presently expected of limited market but an interesting reach into new technology.

Photon's Field and Stack are just the first optic flow and quality meters in the product development "pipeline". Considerable R&D effort was spent in 2004 on a new meter for measuring the quantity and quality of steam. Major markets for such a meter includes the Steam assisted Gravity Drainage (SAG-D) process for extracting heavy oil in northern Alberta. Photon products are going into field trial in Q3 2005.

Photon also reports that its first testing of the fiscal meter now in development has also been encouraging and this meter is expected to be ready to submit for regulatory approval in Canada in 2006. Fiscal meters must not exceed an uncertainty of either ½% or 1% according to different jurisdictions.

### **Other Temperature and Pressure ("T&P") Sensor Products**

Work is proceeding to finalize the design of the production version of the Nanosens™ industrial pressure sensor. In tandem, work is progressing on a version to be used for heavy oil extraction that can be used below ground in drilling well holes. The Company is working directly with operators who could be future customers.

On May 13, 2005, the Company entered into an exclusive, world-wide distribution agreement for the sale of a version of its proprietary temperature sensors to Qualitrol, a Hathaway Company headquartered in Rochester, New York. Qualitrol is a leasing global supplier of instruments, controls and monitoring systems utilized on transmission of Photon's temperature sensors for use in direct "hot spot" measurement inside transformers to provide higher accuracy and more timely reporting of problems occurring in transformers.

Also in May, the Company signed a Memorandum of Understanding with Yamatake Sensing Control Limited of California. Yamatake will have the exclusive rights to distribute the Company's temperature sensors to its customer for a designated territory and customer base, largely in the semi-conductor business. The Company expects annual sales in the order of \$0.5 million under this agreement, which has started for the month of July 2005.

### Media Analysis Product

As a new development having possibly major opportunity, in May, Photon showed a new Media Analysis prototype to an important conference in Dallas of the Oil Pipeline Association of America planning for Ultra-Low Sulfur Diesel regulations in 2006. Field trials were requested by leading operators and Photon also mounted a similar display at the conference in Houston of the Independent Liquid Terminal Association in June.

### SUMMARY OF QUARTERLY RESULTS

	June 30, 2005	March 31, 2005	December 31, 2004	September 30, 2004	June 30, 2004	March 31, 2004	December 31, 2003	September 30, 2003	June 30 2003
Revenue	\$ 483,109	995,292	\$ 404,761	\$ 345,590	\$ 239,435	\$ 122,220	\$ 125,606	\$ 47,925	\$ 42,000
Net loss	(1,286,057)	(850,942)	(1,031,078)	(1,028,304)	(667,187)	(548,644)	(484,565)	(478,892)	(454,100)
Net loss per share (1)	\$ (0.03)	(0.02)	\$ (0.03)	\$ (0.03)	\$ (0.02)	\$ (0.02)	\$ (0.02)	\$ (0.02)	\$ (0.02)

<sup>(1)</sup> As the Company has recorded a loss in each of the above periods, and since the exercise of warrants and options would reduce the loss per share, basic and diluted earnings per share are the same.

<sup>(2)</sup> There were no discontinued operations or extraordinary items.

### Discussion of Operations and Financial Condition

The following discussion and analysis should be read in conjunction with the Company's unaudited financial statements for the six months ended June 30, 2005 and the accompanying notes thereto.

### RESULTS OF OPERATIONS

Results relating to the six months ended June 30, 2005 will be compared to the six months ended June 30, 2004. Certain of the comparative figures have been reclassified to conform to the presentation adopted for the current year.

#### Revenue

Revenues in the first two quarters of 2005 amounted to \$1,478,401, which represents an increase of 310% compared to the first two quarters of 2004, as a result of the sales of OEM products to a Fortune 500 company in California. As disclosed in the MD&A published for the first quarter of 2005, the decrease in revenue during the second quarter of 2005 was expected by Photon due to production scheduling adjustments of the Fortune 500 company. As mentioned above, it is expected that purchases from this company will increase in the last two quarters of 2005.

#### Expenses

General and administrative expenses increased approximately \$243,000 in 2005 over 2004, due to increases in: salaries (\$104,900); office expenses (\$32,300); and legal and accounting fees (\$54,550); and investor relations expenses (\$37,540). These expense increments can be attributed to additional administrative and accounting staff, an increase in executive compensation, additional office space rented and a substantial increase in the issuance of common shares resulting from private placements.

Research and development expenses increased by approximately 125% in 2005 compared to 2004, as a result of increased levels of development engineering undertaken as a result of the Company's expanded product development activities. Increases in salaries (\$508,000) and materials (\$276,000) accounted for most of the increase in research and development expenses. Additional engineering staff were hired during the first six months of 2005, and expenditures on materials increased as a result of the increased product development activities referred to above.

Business development and marketing expenses increased by approximately \$101,000 in 2005 compared to 2004, primarily due to increased salaries resulting from an increase in business development activities with respect to Photon's Optical Flow Meter products.

### Loss for the Period

The loss for the six months ended June 30, 2005 was \$2,136,999 compared to a loss of \$1,215,831 in the comparable period of 2004, resulting from the increase in research and development expenditures and additional general and administrative expenses. The increase in expenses have been partially offset by a significant increase in gross profit on, which increased from \$172,577 in 2004 to \$637,688 in 2005, resulting from a substantial increase in product sales.

### Liquidity and Solvency

At June 30, 2005, the Company had \$1,266,562 in cash and cash equivalents compared to \$682,648 in cash and cash equivalents and short-term investments as at December 31, 2004. The Company had working capital of \$1,324,519 as at June 30, 2005 compared to \$539,200 as at December 31, 2004. The improvement in liquidity and working capital was the result of a private placement, which raised gross proceeds of \$840,850 from the tranche that closed in January 2005. The Company expects to be able to continue financing its activities by the exercise of existing warrants and from the gross margins from product revenues, supplemented if required by the private placement of its shares.

The Company's quarterly high and low share prices and average daily trading volumes during the last four quarters were as follows:

	Share Price		Avg Daily Volume
	High	Low	
Q304	\$ 0.43	\$ 0.33	16,268
Q404	\$ 0.46	\$ 0.27	49,240
Q105	\$ 0.93	\$ 0.44	80,098
Q205	\$ 0.76	\$ 0.45	63,003

The Company's future operations are dependent upon the market's acceptance of its products in order to ultimately generate future profitable operations, and the Company's ability to secure sufficient financing to fund future operations. There can be no assurance that the Company's new products will be able to secure market acceptance. Management is of the opinion that sufficient working capital will be obtained from operations or external financing to meet the Company's liabilities and commitments as they become due, although there is a risk that additional financing will not be available on a timely basis or on terms acceptable to the Company.

*This quarterly report, including Management's Discussion and Analysis, may contain forward-looking statements, including statements regarding the business and anticipated financial performance of the Company, which involve risks and uncertainties. These risks and uncertainties may cause the Company's*

*actual results to differ materially from those contemplated by the forward-looking statements. Factors that might cause or contribute to such differences include, among others, competitive pressures, competing technologies and the market acceptance of the Company's photonic-based products as a replacement to existing technologies and products. Readers are encouraged to consider the other risks and uncertainties discussed in and additional information contained in the Company's required financial statements and filings filed on SEDAR at [www.sedar.com](http://www.sedar.com).*