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NEWS RELEASE

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FOR IMMEDIATE RELEASE

Image Sensing Systems Announces First Quarter Financial Results

Saint Paul, Minn., May 1, 2008-- Image Sensing Systems, Inc. (NASDAQ: ISNS), announced today record financial results for its first quarter ended March 31, 2008.

Net income for the first quarter was \$1.1 million (\$.26 per fully diluted share) compared to \$556,000 (\$.14 per fully diluted share) for the same period in 2007. Revenues for the first quarter were \$5.9 million compared to \$2.6 million for the same period a year ago. Revenue from royalties increased 26% to \$2.9 million from \$2.3 million in the first quarter of 2007 and reflects the continued success of our North American distributor, Econolite Control Products, Inc. (ECPI), in selling Autoscope® products in the United States and Canada. North American sales, which are sales of RTMS® in North America, were \$1.6 million. International sales, which include both Autoscope and RTMS sales outside of North America, were \$1.4 million in the first quarter, a four-fold increase over \$353,000 in the same period in 2007. Sales of RTMS world-wide for the quarter were \$1.8 million. We acquired the RTMS family of products in December 2007.

On a non-GAAP basis, excluding intangible asset amortization net of tax, net income for the quarter increased 113% to \$1.2 million (\$.29 per fully diluted share) and operating income increased 162% to \$1.7 million as compared to the first quarter of 2007.

Ken Aubrey, CEO, said, "Our results reflect continued strong organic growth in our core business in addition to the solid performance of our recent acquisition despite what is typically the seasonally slowest quarter of the year. We executed well across all product lines and regions including the newly acquired RTMS radar family and were the beneficiary of several large projects internationally.

"We look forward to beginning shipments of the next generation RTMS G4 in the second quarter of 2008 and concluding some important enhancements for Autoscope Terra. We believe this should position us well for the remainder of 2008."

New Bank Financing

On May 1, 2008, we entered into three loan agreements with Associated Bank that replace our previous arrangements with Wells Fargo. The first two agreements include a three-year amortizing \$3 million term loan and a three-year \$5 million revolving line of credit. Under the agreements we have drawn fully the \$3 million term loan and have advanced \$2 million on the line of credit. A major benefit of the new agreements is that we are required to pledge only our auction rate securities (ARS) as collateral and the borrowings are based on an advance formula which includes ARS and receivables. This has freed up over \$3.5 million in money market funds that were pledged under the Wells Fargo arrangement. The third agreement is a \$10 million guidance facility to be used for future acquisitions. The use of the facility is subject to lender due diligence and meeting certain debt service ratios. We refer you to our Current Report on 8-K filed with the SEC dated May 1, 2008 for further detail.

Auction Rate Security Update

We continue to hold \$5.5 million in face value of student loan backed ARS, substantially all of which are Federal government backed under the Federal Family Education Loan Program. All auctions since mid-February involving our ARS have failed. We continue to believe that the underlying credit quality of the ARS is excellent and that the main problem remains illiquidity. Based on an analysis of the ARS fair value, we have determined there is a temporary impairment and have recorded an unrealized loss of \$251,000 (\$166,000 net of tax) and have reclassified the ARS as long-term assets at March 31, 2008. The unrealized loss does not flow through our income statement, rather it is recorded directly to shareholders' equity as a component of accumulated other comprehensive income/loss. There is uncertainty in the ARS market and, should circumstances change, we may deem the impairment to be other than temporary or otherwise adjust our analysis.

Non-GAAP Information

We provide certain non-GAAP financial information as supplemental information to GAAP amounts. This non-GAAP information excludes the impact, net of tax, of amortizing the intangible assets from the EIS asset purchase that occurred in December 2007. Management believes that this presentation facilitates the comparison of our current operating results to historical operating results. Management uses this non-GAAP information to evaluate short-term and long-term operating trends in our core operations. Non-GAAP information is not prepared in accordance with GAAP and should not be considered a substitute for or an alternative to GAAP financial

measures and may not be computed the same as similarly titled measures used by other companies.

About Image Sensing

Image Sensing Systems, Inc. is a technology company specializing in software-based detection solutions for the Intelligent Transportation Systems (ITS) sector and adjacent overlapping markets. Our industry leading computer enabled detection (CED) products, including the Autoscope® machine-vision family and the RTMS® radar family, combine embedded software signal processing with sophisticated sensing technologies for use in transportation and safety/surveillance management. CED is a group of technologies in which software, rather than humans, examines the outputs of complex sensors to determine what is happening in the field of view in real-time. With more than 80,000 instances sold in over 60 countries worldwide, our depth of experience coupled with breadth of product portfolio uniquely positions us to provide powerful hybrid technology solutions and to exploit the convergence of the traffic, security and environmental management markets. We are headquartered in St. Paul, Minnesota. Visit us on the web at imagesensing.com.

Safe Harbor Statement: Statements made in this release concerning the Company's or management's intentions, expectations, or predictions about future results or events are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements reflect management's current expectations or beliefs, and are subject to risks and uncertainties that could cause actual results or events to vary from stated expectations, which variations could be material and adverse. Factors that could produce such a variation include, but are not limited to, the following: the inherent unreliability of earnings, revenue and cash flow predictions due to numerous factors, many of which are beyond the Company's control; developments in the demand for the Company's products and services; relationships with the Company's major customers and suppliers; unanticipated delays, costs and expenses inherent in the development and marketing of new products and services; the impact of governmental laws and regulations; and competitive factors. Our forward-looking statements speak only as of the time made, and we assume no obligation to publicly update any such statements. Additional information concerning these and other factors that could cause actual results and events to differ materially from the Company's current expectations are contained in the Company's reports and other documents filed with the Securities and Exchange Commission, including its Form 10-K for the year ended December 31, 2007.

Image Sensing Systems, Inc.
Condensed Consolidated Statements of Income
(in thousands, except per share information)
(unaudited)

	Three-Month Period Ended March 31,	
	2008	2007
Revenue		
Royalties	\$2,892	\$2,291
North American sales	1,625	-
International sales	1,355	353
	5,872	2,644
Cost of revenue		
Cost of sales	1,202	127
Gross profit	4,670	2,517
Operating expenses		
Selling, marketing and product support	1,333	685
General and administrative	888	570
Research and development	701	594
Amortization of intangible assets	192	-
	3,114	1,849
Income from operations	1,556	668
Other income, net	41	138
Income before income taxes	1,597	806
Income taxes	541	250
Net income	\$1,056	\$556
Net income per common share		
Basic	\$0.27	\$0.15
Diluted	\$0.26	\$0.14
Weighted average shares outstanding		
Basic	3,928	3,774
Diluted	4,026	3,888

Image Sensing Systems, Inc.
Condensed Consolidated Statements of Income
Reconciliation of GAAP to non-GAAP basis
(in thousands, except per share information)
(unaudited)

	GAAP basis	adjustments	Non-GAAP basis
Quarter ended March 31, 2008			
Revenue	\$ 5,872	\$ -	\$ 5,872
Cost of revenue	1,202	-	1,202
Gross profit	4,670	-	4,670
Operating expenses	3,114	(192) (1)	2,922
Income from operations	1,556	192	1,748
Other income	41	-	41
Income before income taxes	1,597	192	1,789
Income taxes	541	65 (2)	606
Net income	\$1,056	\$127	\$1,183
Basic net income per share	\$0.27		\$0.30
Diluted net income per share	\$0.26		\$0.29
Weighted shares – basic	3,928		3,928
Weighted shares – diluted	4,026		4,026

Notes to adjustments

- (1) Intangible asset amortization for quarter
- (2) Income tax expense impact of (1) at ISS' marginal tax rate of 34%

Image Sensing Systems, Inc.
Condensed Consolidated Balance Sheet
(in thousands)
(unaudited)

	<u>March 31,</u> <u>2008</u>	<u>December 31,</u> <u>2007</u>
Assets		
Current assets		
Cash and cash equivalents (including restricted cash)	\$6,559	\$10,876
Receivables, net	5,273	4,997
Inventories	1,888	1,579
Prepaid expenses and deferred taxes	492	370
	<u>14,212</u>	<u>17,822</u>
Property and equipment, net	639	700
Investments, net of valuation allowance	5,199	-
Deferred income taxes	1,826	1,676
Goodwill and intangible assets, net	9,948	10,140
	<u>\$31,824</u>	<u>\$30,338</u>
Liabilities and Shareholders' Equity		
Current liabilities		
Accounts payable and accrued expenses	\$ 1,916	\$ 2,029
Bank debt	5,000	5,000
Income taxes payable	674	-
	<u>7,590</u>	<u>7,029</u>
Income taxes payable	-	84
Shareholders' equity	24,234	23,225
	<u>\$31,824</u>	<u>\$30,338</u>

Image Sensing Systems, Inc.
Condensed Consolidated Statement of Cash Flows
(in thousands)
(unaudited)

	Three-Month Period Ended March 31,	
	2008	2007
Operating activities		
Net income	\$1,056	\$556
Adjustments to reconcile net income to net cash provided by (used in) operations		
Depreciation and amortization	290	57
Stock option expense	73	29
Changes in operating assets and liabilities	(249)	(722)
Net cash provided by (used in) operating activities	1,170	(80)
Investing activities		
Purchase of property and equipment, net of disposals	(37)	4
Sale (purchase) of investments	(5,450)	1,000
Net cash provided by (used in) investing activities	(5,487)	1,004
Financing activity – proceeds from exercise of stock options	-	30
Increase (decrease) in cash and cash equivalents	(4,317)	954
Cash and cash equivalents, beginning of period	10,876	11,626
Cash and cash equivalents, end of period	\$6,559	\$12,580

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