

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of report (Date of earliest event reported) September 8, 2005

Mercury Computer Systems, Inc.

(Exact Name of Registrant as Specified in Charter)

Massachusetts
(State or Other
Jurisdiction of Incorporation)

000-23599
(Commission
File Number)

04-2741391
(IRS Employer
Identification No.)

199 Riverneck Road, Chelmsford, Massachusetts
(Address of Principal Executive Offices)

01824
(Zip Code)

Registrant's telephone number, including area code (978) 256-1300

N/A

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 7.01 Regulation FD Disclosure.

The management of Mercury Computer Systems, Inc. ("Mercury") will present an overview of the Company's business on Thursday, September 8, 2005 at the Kaufman Bros., L.P. Eighth Annual Investor Conference. Attached as Exhibit 99.1 to this Current Report on Form 8-K (the "Report") is a copy of the slide presentation to be made by Mercury at the conference.

This information is being furnished pursuant to Item 7.01 of this Report and shall not be deemed to be "filed" for the purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section and will not be incorporated by reference into any registration statement filed by Mercury under the Securities Act of 1933, as amended, unless specifically identified as being incorporated therein by reference. This Report will not be deemed an admission as to the materiality of any information in this Report that is being disclosed pursuant to Regulation FD.

Please refer to page 2 of Exhibit 99.1 for a discussion of certain forward-looking statements included therein and the risks and uncertainties related thereto.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

MERCURY COMPUTER SYSTEMS, INC.

Date: September 8, 2005

By: _____ /s/ JOSEPH HARTNETT

Name: **Joseph M. Hartnett**
Title: **Vice President, Controller and
Chief Accounting Officer**

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
Exhibit 99.1	Presentation Materials dated September 8, 2005 *

* Filed herewith.

Computer Systems, Inc.
MERCURY
Challenges Drive Innovation



**Kaufman Bros. Eighth Annual
Investor Conference**
September 8, 2005

Bob Hult, SVP, Operations & Finance,
Chief Financial Officer

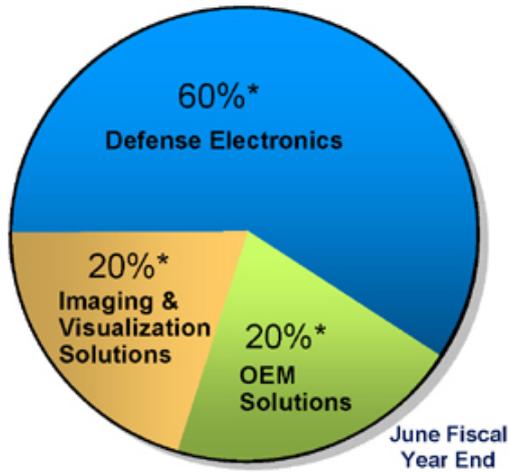
Mark Skalabrin, VP & GM, Advanced Solutions
Business

This presentation contains certain forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995, including those relating to anticipated fiscal 2006 business performance, market opportunities, and the result of acquisitions. You can identify these statements by our use of the words "may," "will," "should," "plans," "expects," "anticipates," "continue," "estimate," "project," "intend," and similar expressions. These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. Such risks and uncertainties include, but are not limited to, general economic and business conditions, including unforeseen economic weakness in the Company's markets, effects of continued geo-political unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing various engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, continued funding of defense programs, timing of such funding, market acceptance of the Company's products, shortages in components, production delays due to performance quality issues with outsourced components, inability to fully realize the expected benefits from acquisitions or delays in realizing such benefits, challenges in integrating acquired businesses and achieving anticipated synergies, difficulties in retaining key employees and customers, and various other factors beyond the Company's control. These risks and uncertainties also include such additional risk factors as are discussed in the Company's recent filings with the U.S. Securities and Exchange Commission, including its Quarterly Report on Form 10-Q for the quarter ended March 31, 2005. The Company cautions readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. The Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made. The Company may, in its discretion, provide information in future public announcements regarding its outlook that may be of interest to the investment community. The format and extent of future outlooks may be different from the format and extent of the information contained in this presentation.

USE OF NON-GAAP INFORMATION

References by the Company to non-GAAP operating income and non-GAAP earnings per share refer to costs and expenses or earnings per share excluding equity-based compensation cost. GAAP requires that this cost be included in costs and expenses and accordingly used to determine operating income and earnings per share. The Company's management uses non-GAAP operating income, and associated non-GAAP net income (which is the basis for non-GAAP earnings per share) to make operational and investment decisions, and the Company believes that they are among several useful measures for an enhanced understanding of its operating results. Excluding the equity compensation cost from GAAP operating income will enable investors to perform a meaningful comparison of the Company's operating results to prior periods. In these prior periods, the Company's GAAP financial results were not required to include expenses associated with stock option compensation, and now these expenses will be included within operating expenses in the GAAP presentation. The Company also believes that providing non-GAAP earnings per share affords investors a view of earnings that may be more easily compared to peer companies. The Company believes these non-GAAP measures will aid investors' overall understanding of its financial results by providing a higher degree of transparency for certain expenses, particularly those related to equity-based compensation costs, as well as providing a level of disclosure that will help investors understand how the Company plans and measures its own business. However, non-GAAP net income should be construed neither as an alternative to GAAP net income or earnings per share as an indicator of its operating performance, nor as a substitute for cash flow from operations as a measure of liquidity, because the items excluded from the non-GAAP measures often have a material impact on the Company's results of operations. Therefore, management does, and investors should, use non-GAAP measures in conjunction with the Company's reported GAAP results.

FY05 Revenues: \$250 M



*Approximate FY05 revenue composition

- **Founded in 1981**
- **Leading provider of innovative, engineered computing solutions for compute-intensive applications**
- **Office locations in U.S., UK, France, Germany and Japan; R&D centers in U.S., France, and Germany**
- **876 employees worldwide; 420 engineers**
- **Investment in knowledge of customer applications**

Data Acquisition



Sensor data- scanned wafers

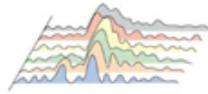


J-STARS Aircraft



Mobile C-Arm
(Digital X-Ray)

Image and Signal Processing



MERCURY TECHNOLOGY

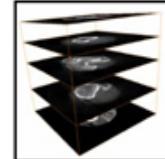
Visualization



Wafer Inspection



Radar Image Display



3-D Image
Reconstruction

Computer Systems, Inc.
MERCURY

Challenges Drive Innovation



Defense Business

- **Deployed across all environments**
 - Air, land, and sea platforms
 - Commercial, rugged, and conduction- and spray-cooled configurations
- **Provide full life-cycle support**
 - From R&D through deployment
- **Positioned for growth**
 - Driving innovation for the next-generation applications



Representative

Intelligence, surveillance, and reconnaissance (ISR) applications aid in critical decision making

Radar

Signals intelligence

Communications
Electronics

Sonar

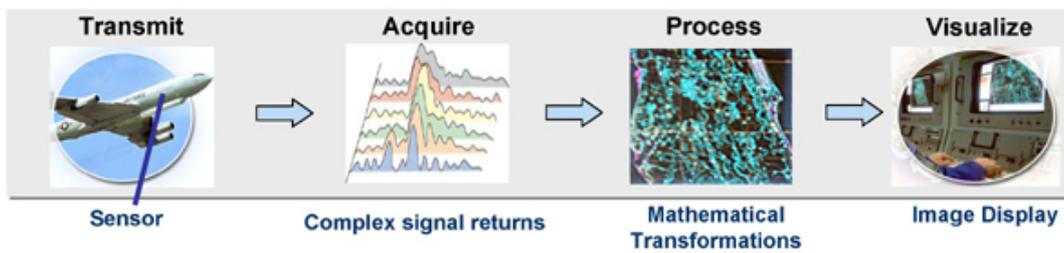
Smart weapons

Data exploitation

Imagery



Real-time signal and image processing applications



- **Sensor streaming**
- **Scalable**
- **Real time**
- **Embedded (real estate, environmental, cooling constraints)**

PROBLEM

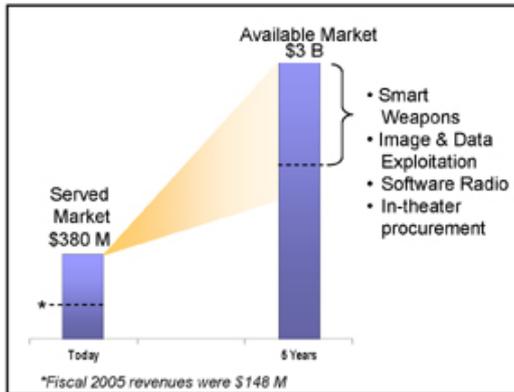
- Temperature
- Humidity
- Sand
- Dust
- Shock
- Vibration
- Corrosive elements



SOLUTION

- Conduction-, air- and spray-cooled configurations

- DoD transformation agenda/ISR initiative
- Expansion to lower echelons
- Network Centric Warfare



\$3 Billion Market Opportunity



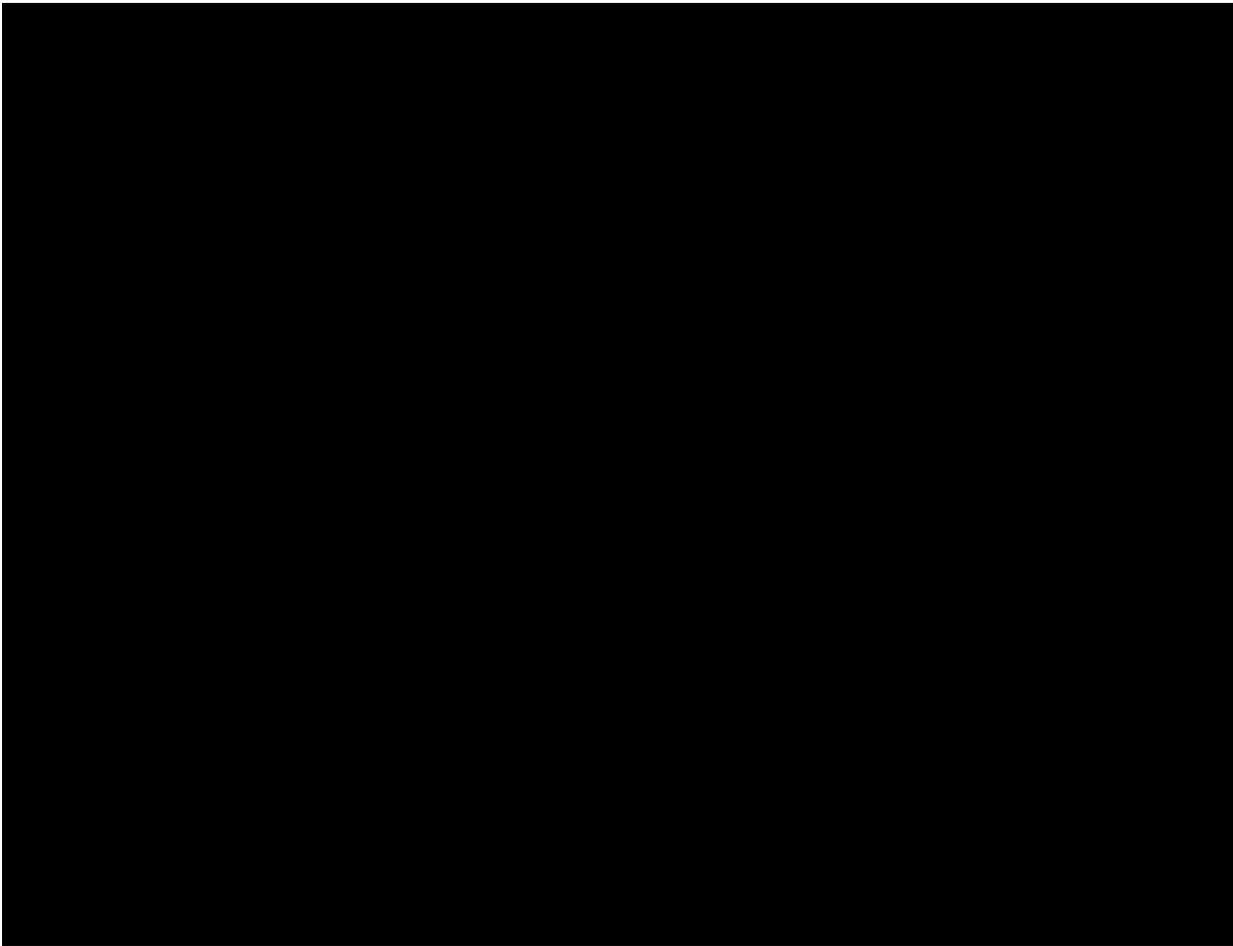
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Challenges Drive Innovation

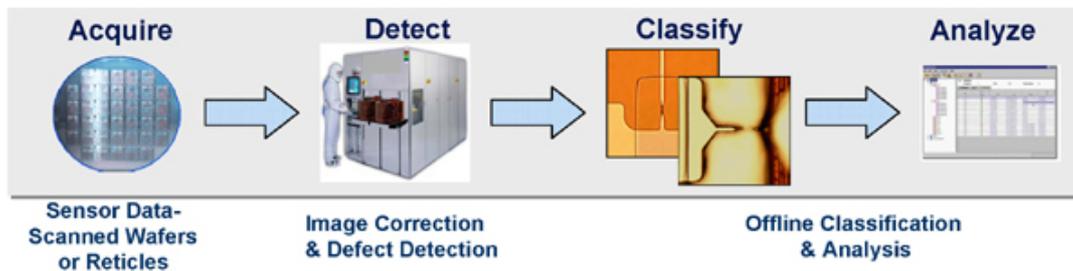


Advanced Solutions Business

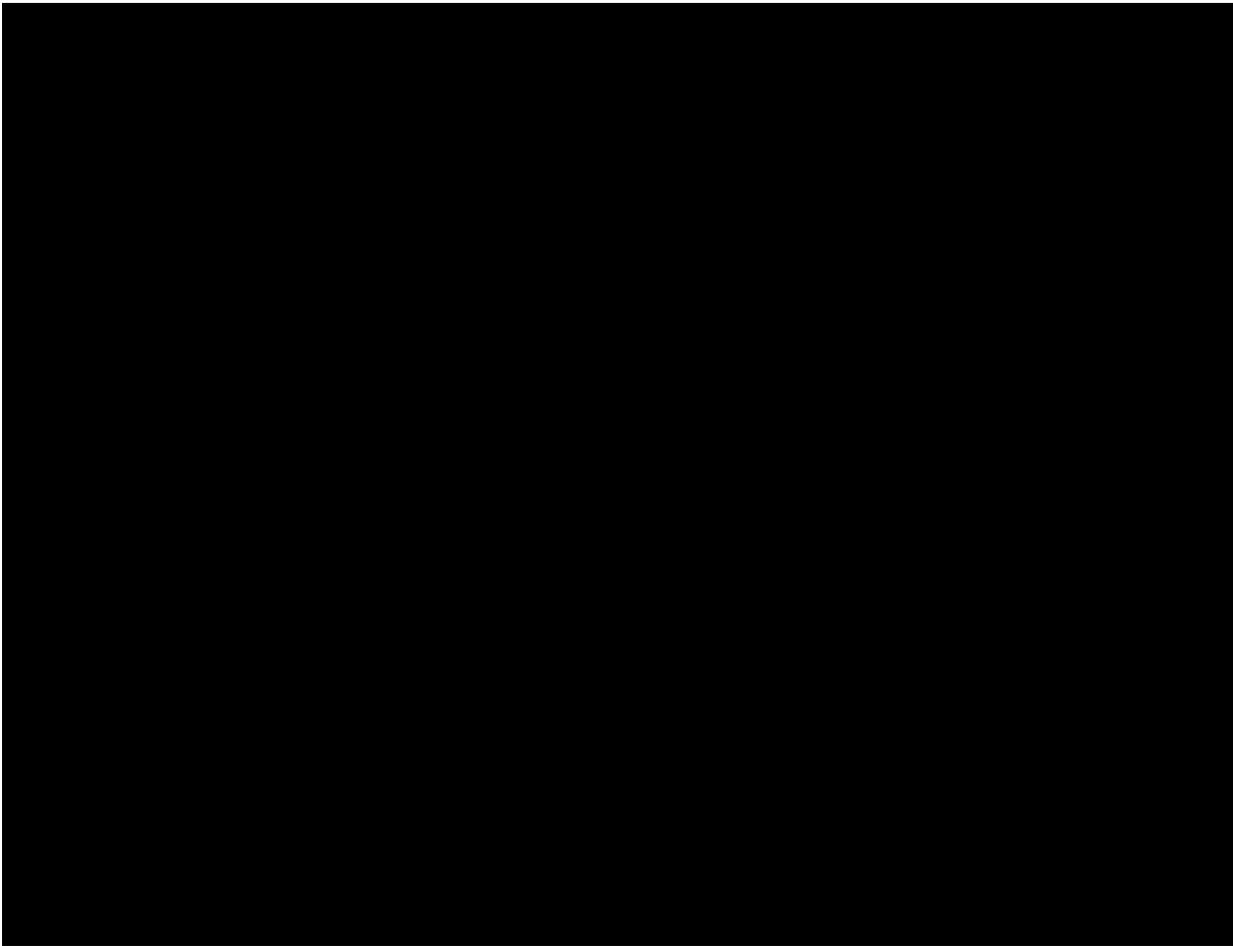
Mark Skalabrin, Vice President & General Manager



Accelerating customers' advanced algorithms to market



- Searching for defects on silicon wafers or reticles
- Scalable compute, streaming I/O, and interconnect bandwidth
- Enabling customer algorithm performance enhancements
- Software-programmable solutions



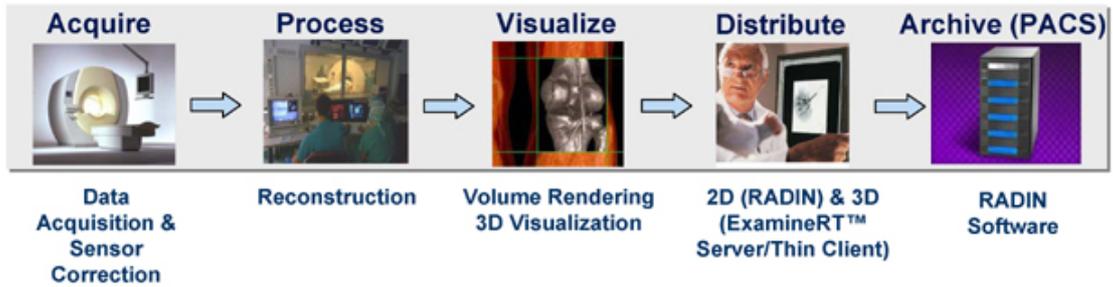
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Challenges Drive Innovation



Commercial Imaging and Visualization Business

Increase data throughput, dramatically accelerating imaging workflow



- Image reconstruction, processing, and visualization
- All steps from scanner output to end user
- Embedded components and integrated solutions
- Broad end-to-end medical systems OEM Solution portfolio

Diagnostic medical imaging including molecular imaging

Interventional imaging and image-guided procedures

Biotechnology including drug discovery and molecular dynamics

Picture archive and communication systems (PACS)

Geosciences (oil & gas) Simulation

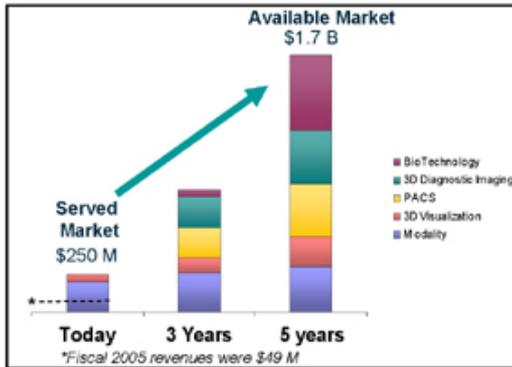


- **Growing need for intensive computing capabilities**

- Increased volume of data
- Enhanced image accuracy
- Real-time 3D: interventional

- **Market opportunities**

- Diagnostic Medical Imaging
- Biotechnology
- Geosciences
- Picture Archiving and Communications Systems (PACS)



\$1.7 Billion Market Opportunity



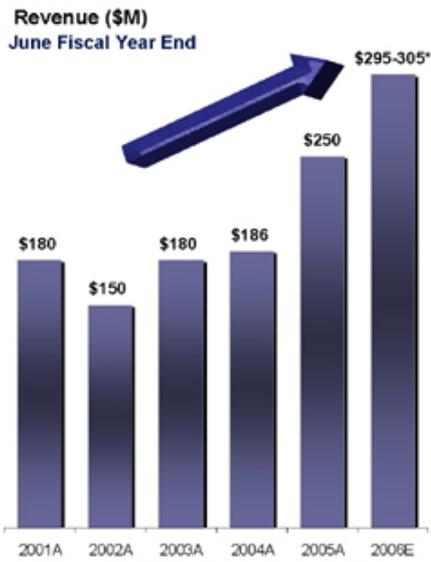
Computer Systems, Inc.
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Challenges Drive Innovation



Financial Overview

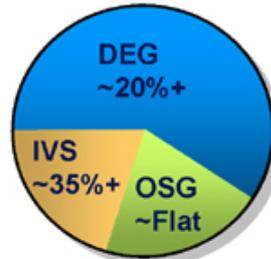
Bob Hult, SVP, Operations & Finance
Chief Financial Officer



*Per Company guidance, July 28, 2005 earnings press release

2005: Record revenues

2006: Projected revenue growth 20%
(at midpoint of guidance range)



FY06 projected growth rates



	Fiscal Year Ending June 30, 2006	
Revenues (\$M)	\$295-305	
Gross Margin	66-67%	
	GAAP	Non-GAAP
Operating Income	12%	16%
EPS	\$0.97-1.02	\$1.35-1.40

- Impact of equity-based compensation costs related to FAS 123(R) excluded from Non-GAAP
- Acquisition-related amortization of approximately \$6 M included in GAAP and Non-GAAP

Notes:

- 1) Figures in millions, except percent and per share data which includes adjustment for contingent convertibles, in accordance with GAAP
- 2) Company guidance, July 28, 2005 Q4 earnings press release

	Quarter Ending September 30, 2005	
Revenues (\$M)	\$60-63	
	GAAP	Non-GAAP
Operating Income	6%	10%
EPS	\$0.11-0.13	\$0.18-0.20

- Impact of equity-based compensation costs related to FAS 123(R) excluded from NON-GAAP
- Acquisition-related amortization of approximately \$1 M *included* in GAAP and Non-GAAP

Notes:

- 1) *Figures in millions, except percent and per share data which includes adjustment for contingent convertibles, in accordance with GAAP*
- 2) *Company guidance, July 28, 2005 Q4 earnings press release*

	FY04	FY05	Guidance FY06*	Timeless Business Model
Revenue	100%	100%	100%	100%
Gross Margin	67%	66%	66-67%	66-67%
SG&A	30%	29%		29-30%
R&D	21%	20%		20-21%
Income from Operations	17%	17%	16%	16-18%

Notes:

- Acquisition-related amortization of intangibles ~ 1%, ~1%, ~2% FY04, FY05, FY06, resp.
- FY06 Non-GAAP guidance per July 28, 2005 earnings call. FY06 GAAP Income from operations 12%

**Historically strong
balance sheet**

**Supports open
innovation growth
agenda**

<small>(Quarter ended June 30, 2005) *</small>	
Cash and Equivalents	\$228
Total Current Assets	\$242
Total Assets	\$377
Total Debt	\$136
Total Liabilities	\$179
Stockholders' Equity	\$198

**Prior to SoHard AG & Echotek Corp. closings*

Extend Mercury's capabilities with partnerships, alliances, and acquisitions

- Focused on Intellectual Property (IP), technology "fit"
- Accretive within first year
- Consider the size of the deal
- Integrate into the company



Five recent acquisitions

- TGS Group, Advanced Radio Corporation, Momentum Computer, Inc., SoHard AG, Echotek Corp.



Expanding list of alliances/partners

- IBM, NVIDIA Corporation, Ziehm Imaging, Massachusetts General Hospital (MGH)



- Strong competitive position in attractive and growing markets
- Diversified revenue base – defense and commercial
- Straightforward operating model and financial structure
- Strong balance sheet, operating cash flow with significant financing flexibility
- Open innovation strategy through partnerships and acquisitions to enhance capability to deliver solutions across target markets

Sustain a 25% or better long-term revenue growth rate

NASDAQ: MRCY