

**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): February 6, 2007

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))

Item 7.01. Regulation FD Disclosure.

The management of Mercury Computer Systems, Inc. ("Mercury") will present an overview of Mercury's business on Tuesday, February 6, 2007 at the Cowen and Company 28th annual aerospace/defense 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 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, as well as the use of non-GAAP financial measures included therein.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
99.1	Presentation materials dated February 6, 2007.

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 hereunto duly authorized.

MERCURY COMPUTER SYSTEMS, INC.
(Registrant)

Date: February 6, 2007

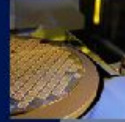
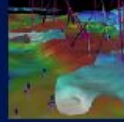
By: /s/ Alex N. Braverman
Alex N. Braverman
Vice President, Controller and
Chief Accounting Officer

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
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Computer Systems, Inc.
MERCURY

Challenges Drive Innovation



Cowen and Company 28th Annual Aerospace/Defense Conference February 6, 2007

Jay Bertelli, President, Chief Executive Officer & Chairman
Bob Hult, SVP, Chief Financial Officer

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 2007 business performance and beyond. 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 weakness in the Company's markets, effects of continued geopolitical unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing 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, the timing of such funding, changes in the U.S. Government's interpretation of federal procurement rules and regulations, market acceptance of the Company's products, shortages in components, production delays due to performance quality issues with outsourced components, the inability to fully realize the expected benefits from acquisitions or delays in realizing such benefits, challenges in integrating acquired businesses and achieving anticipated synergies, and difficulties in retaining key customers. 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 Annual Report on Form 10-K for the year ended June 30, 2006. 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.

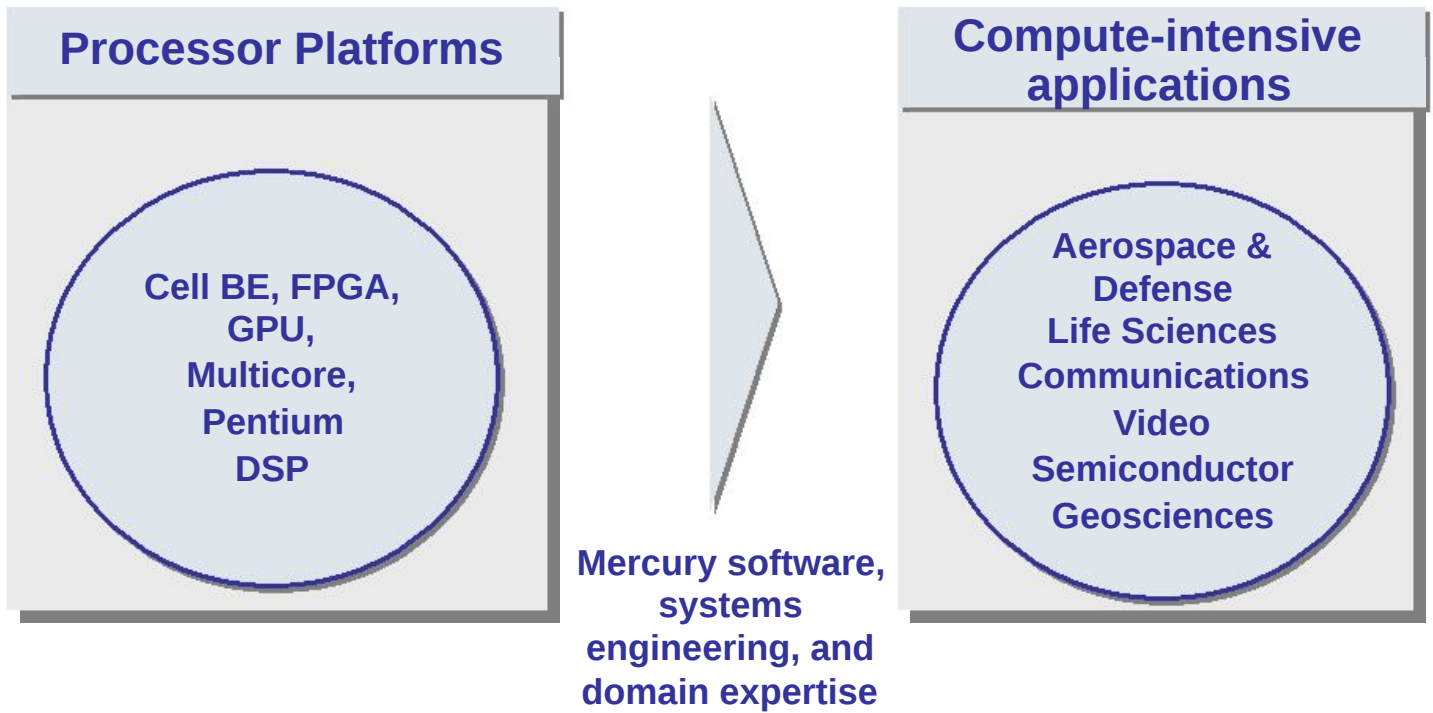
Use of Non-GAAP (Generally Accepted Accounting Principles) Financial Measures

In addition to reporting financial results in accordance with generally accepted accounting principles, or GAAP, the Company provides non-GAAP financial measures adjusted to exclude certain specified charges, which the Company believes are useful to help investors better understand its past financial performance and prospects for the future. However, the presentation of non-GAAP financial measures is not meant to be considered in isolation or as a substitute for financial information provided in accordance with GAAP. Management believes these non-GAAP financial measures assist in providing a more complete understanding of the Company's underlying operational results and trends, and management uses these measures, along with their corresponding GAAP financial measures, to manage the Company's business, to evaluate its performance compared to prior periods and the marketplace, and to establish operational goals. A reconciliation of GAAP to non-GAAP financial measures discussed in this presentation is contained in the company's Second Quarter Fiscal Year 2007 earnings release, which can be found on our website at www.mc.com/mediacenter/pr/.

- **HQ in Chelmsford, MA**
 - Sales, support, and R&D centers in U.S., Europe, and Japan
 - 823 employees worldwide
- **Founded in 1983**
 - Seven acquisitions since 2004
- **FY06 revenues: \$236M**
 - 56/44% defense/commercial
- **Industry focus areas:**
 - Aerospace & Defense
 - Life Sciences
 - Semiconductor Equipment
 - Geosciences
 - Communications
- **Nasdaq: MRCY**



Architect specialized computing solutions



Commercial



Defense

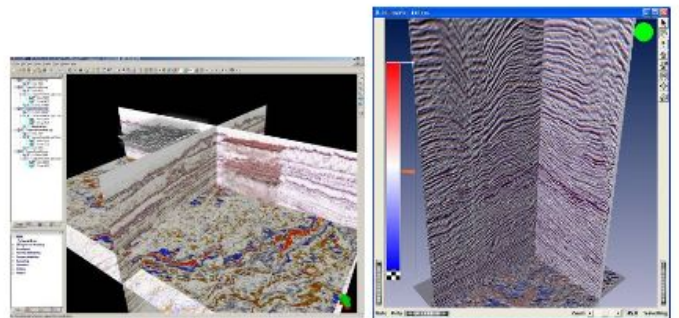


- **Data explosion across multiple markets demands skills in Mercury's technology sweet spot**
- **Well-positioned for rebound in defense market**
- **Large opportunity in 3D medical imaging**
- **Leveraging investments into adjacent and new markets**
- **Cost reductions create operating leverage opportunity when revenue growth resumes**

- Improving sensors
- Large data sets
- Growing need for intensive computing
- Enhanced image accuracy
- Real-time 3D



Multi-slice CT (32/64) 4 Gbytes typical



OIV/VolumeViz large data set module
100 Gbytes typical

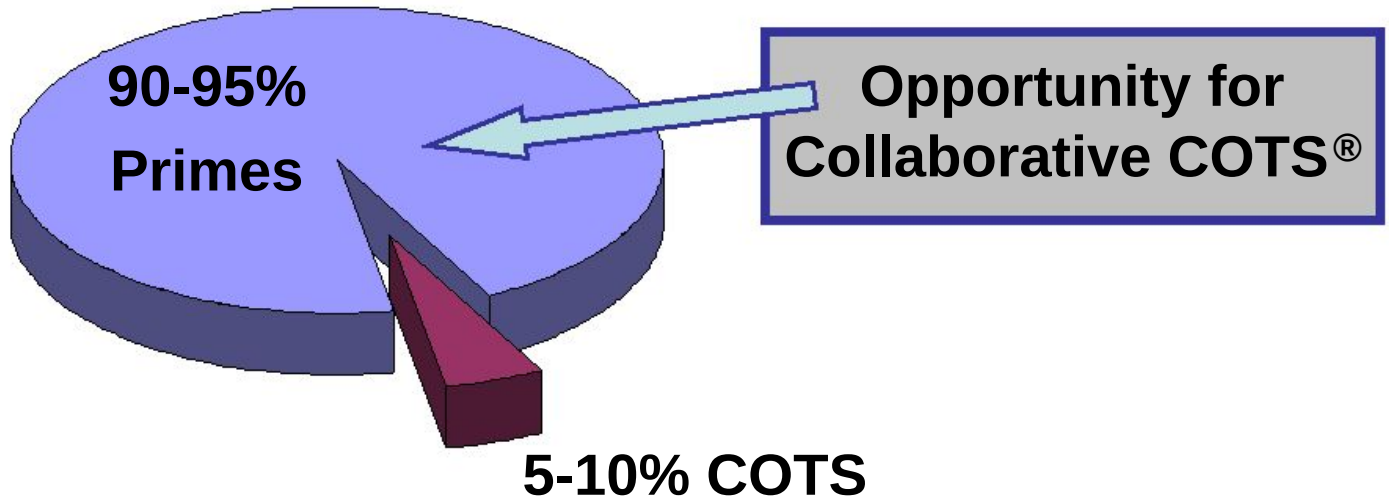
Helping our Customers to Compete

- **Unique skill set and software for processing and visualizing data**
- **Mercury's heterogeneous architectures enable systems to perform optimally in demanding applications**
- **Libraries and tools for multi-core, multi-processor computing to economically solve the most challenging compute problems**
- **Domain expertise in niche markets**

- **Strong customer base**
 - 20 years of experience
 - COTS model
- **Technology leadership**
 - Strong position in large, complex radar systems and Signals Intelligence
- **Broadened product portfolio**
 - Radio Frequency, Data Acquisition, Battlefield Computing
- **Strengthened pipeline**
 - 2x increase in business opportunities in 8 months



A \$14.2 Billion Available Market

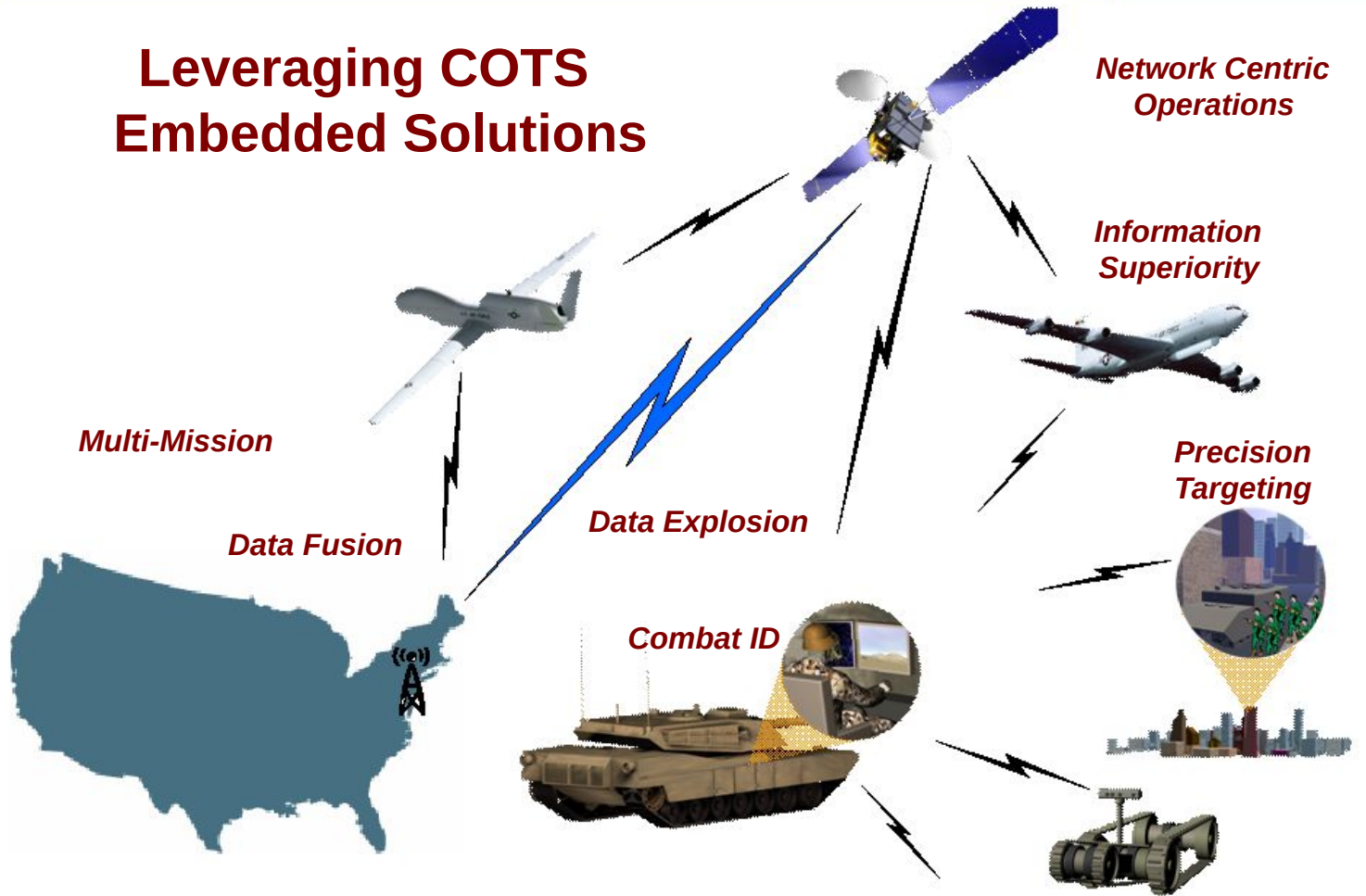


Source: The Embedded Computing Market 2006, Electronic Trend Publications Inc & Internal Estimates.
Defense Weapons & C3 Boards and Systems

Revenue potential 3 – 5 Years:

Radar	13	\$40 - \$50 Million
Signals Intelligence	3	\$7 - \$9 Million
Other	13	\$30 - \$35 Million
Total	29	\$77 - \$94 Million

Leveraging COTS Embedded Solutions



- **Airborne surveillance: MP-RTIP**
 - Global Hawk (15 platforms)
 - JSTARS and AWACS upgrade potential
- **Tactical fighters: F-35, F-22, F-16**
- **Shipboard missile defense: Aegis**
- **UAV: Predator LYNX SAR**
- **Land-based/mobile radar**

JSF (F-35)



Aegis (BMD)

Estimated \$10.4 Billion U.S. Market by 2009*

Mercury Segments

- DMI – Diagnostic Medical Imaging modalities
 - Market growth of 3% to 10%
- PACS – Picture Archiving and Communications System
 - Market growth of 12+% and higher growth in 3D
- Microscopy & Biotech Visualization
 - High market growth of 20+%

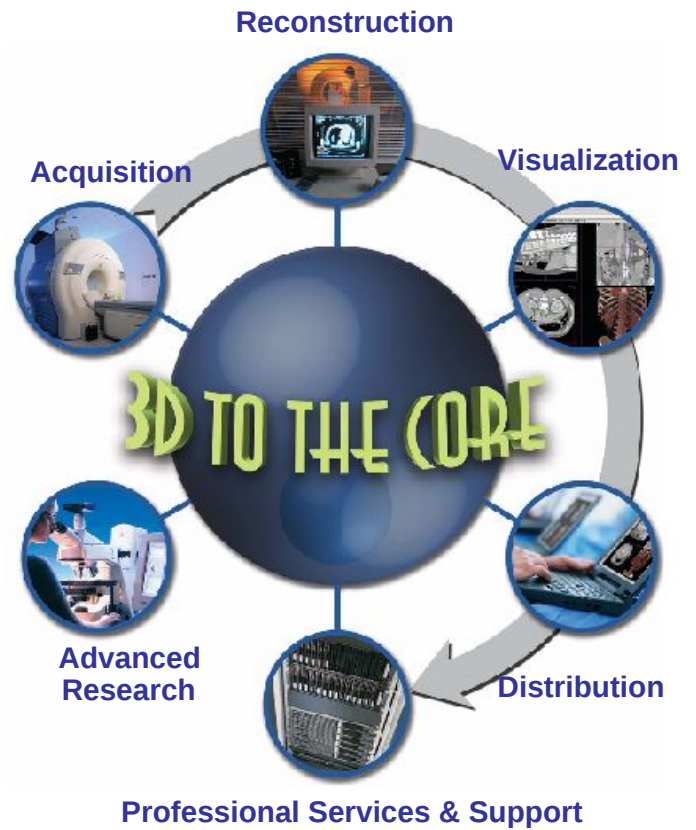


* Source: Medical Imaging. BBC Research. July 2005.

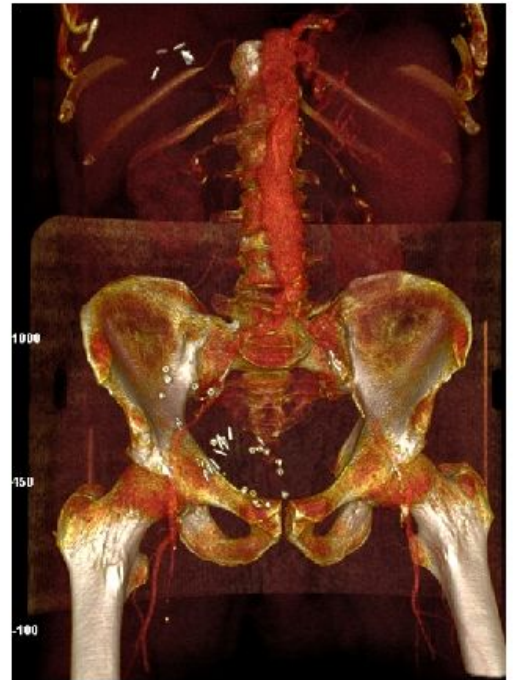
- Aging population → More diagnostic imaging
- Better acquisition sensors → More data → More compute intensive tasks
- Interventional radiology a reality with more cost-effective compute power enabling real time visualization
- PET, CT and Ultrasound high growth, MRI and XR flat
- PACS growing worldwide



- The market requires a more productive means of visualization throughout the medical imaging workflow

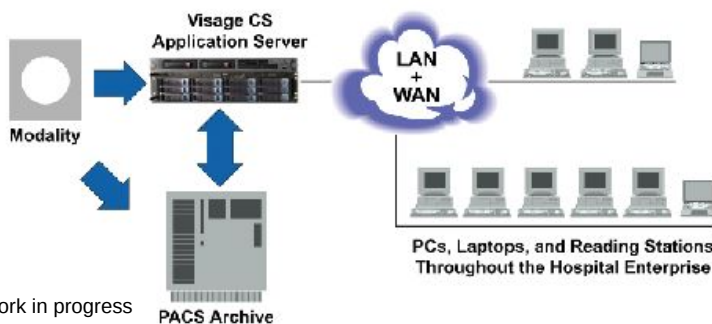


- **Medical Imaging**
 - 19 years of experience
 - Unique skill set for emerging 3D market
- **Successful introduction of software applications and full systems for end users**
- **Expanding product portfolio**
 - PACS
 - 3D visualization server
 - MRI data acquisition
- **End-to-end medical image management**

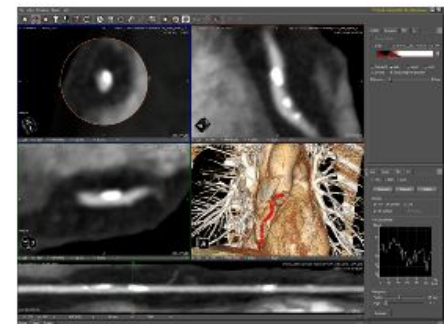


2D/3D Anytime, Anywhere

- **Visage™ CS Thin Client/Server**
 - The world's first fully scalable thin client/server
 - Instant interactive viewing for 2D, 3D and 4D studies
 - Optimal use of existing PCs throughout the enterprise
 - Tight integration with PACS and modalities
- **NEW! Visage™ Cardiac Analysis***
 - Thin client access to cardiac analysis functionality
 - Comprehensive package including LV and coronaries



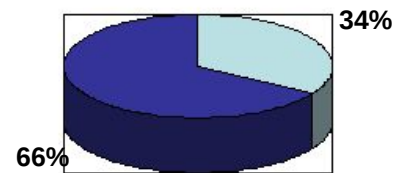
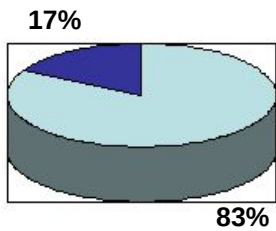
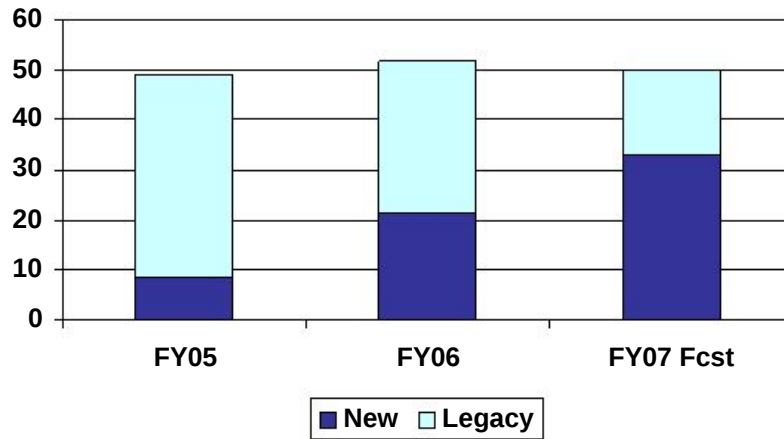
* PRELIMINARY - work in progress



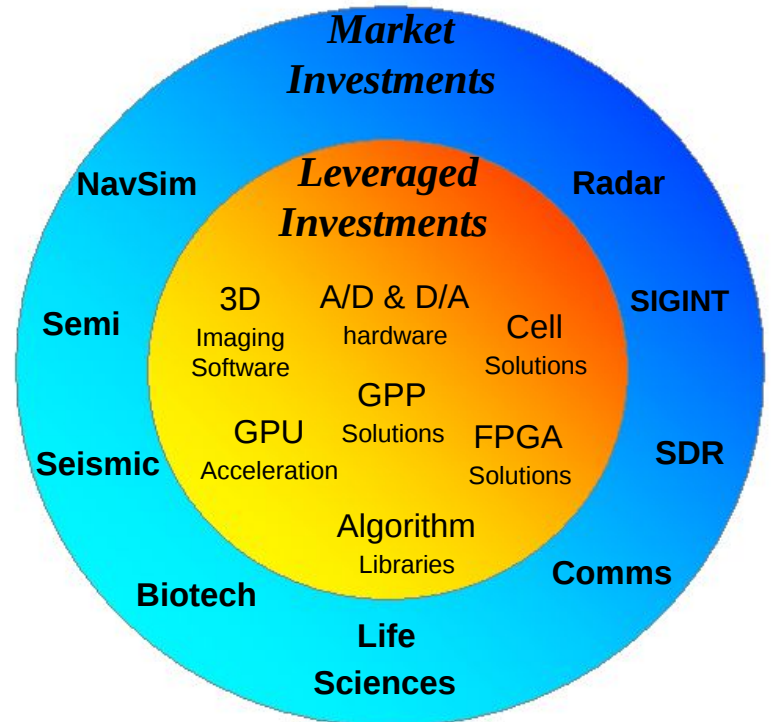
PACS	6
Diagnostic Medical Imaging	5
Surgical Navigation	1
Microscopy	1
Pre-Clinical Drug	1
Total	14

Revenue potential: \$10 - \$15 Million / Year

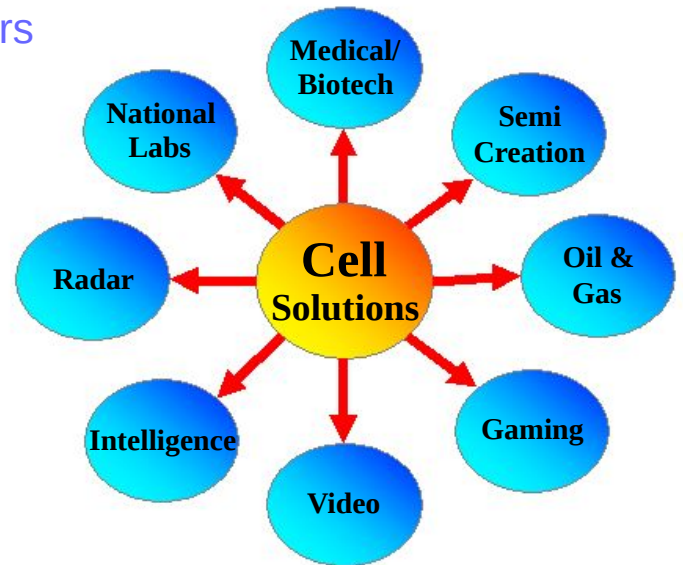
CIV Transition in Revenues FY05 – FY07



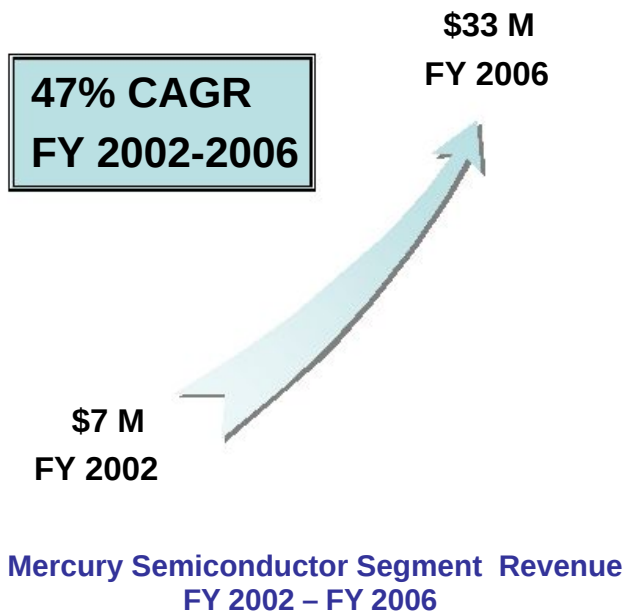
- **Increasing multi-market leverage of R&D investments**
 - Includes both organically developed and acquired technology
 - Significant trend reversal
- **Major competitive advantage**
 - Competitors in any one segment must overcome the leverage advantage
- **Required to enter market niches**
 - Most market segments are too small to support standalone investment



- **5-100x faster than conventional microprocessors**
- **A strong match to Mercury's unique capabilities**
 - Architected to solve problems in the same way Mercury has been solving problems for many years
- **Creating value in every major Mercury market segment**
 - Driving next generation engagements with existing customers
 - Bridging us back to past customers
- **Leading to new market opportunities**
 - Over 2,000 leads
- **Established significant relationship with IBM**



Strong Organic Growth

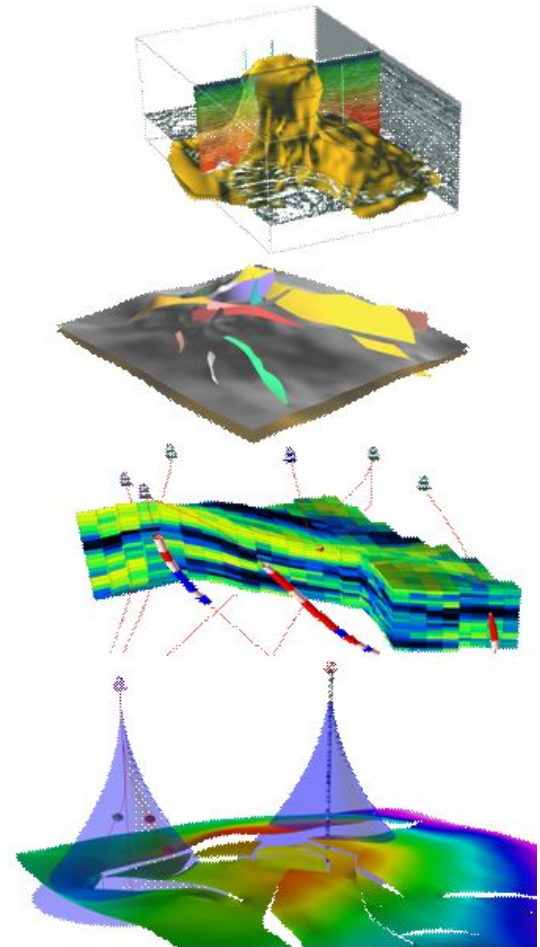


- **Supplying application-enabling solutions to leading OEMs**
- **Growth driven by production design wins**
 - Mask generation
 - Wafer inspection
 - Reticle inspection
- **Positioned for the next wave**
 - Mercury Cell BE-based solutions uniquely meet market needs
 - Emerging new applications for Mercury solutions

- **Compute-intensive processing required to prepare designs for mask creation**
 - **Resolution Enhancement Technology (RET)**
 - **Design For Manufacturing (DFM)**
- **Mercury Cell BE-based solutions to provide over 10 Teraflops to speed application by 10x to 100x**
- **Partnership with Mentor Graphics to deploy first Cell BE-based platform for EDA market**



- **Competitive advantages in computing and visualization**
 - Performance/watt/cubic inch
 - Extremely large data sets
- **Computing platforms**
 - Seismic acquisition and processing
- **Visualization**
 - Seismic QC and interpretation
 - Horizons, faults, well bores, etc.
 - Core analysis
 - Drilling planning
 - Reservoir models

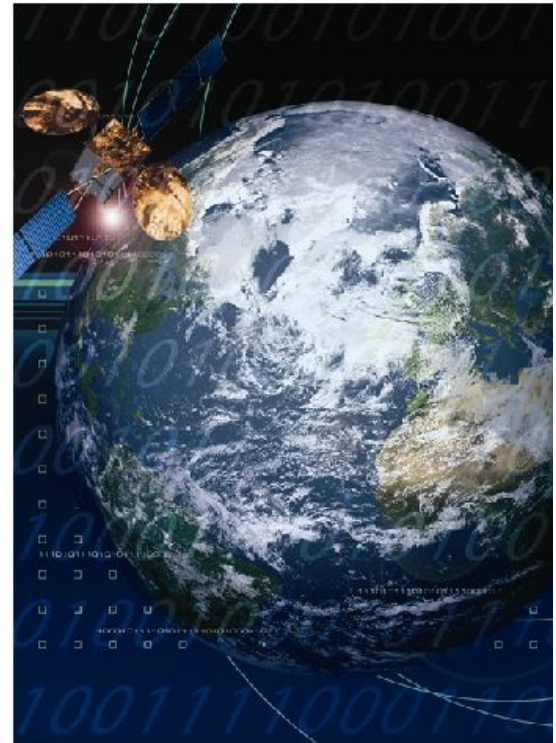


Synthetic Vision and Sensor Data Fusion

- **Forest fire detection and monitoring**
- **Precision agriculture**
- **Border surveillance**
- **Oil and gas pipeline monitoring**
- **Power line monitoring**
- **Surveillance and reconnaissance**
- **Commercial and military avionics**

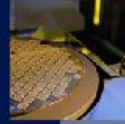
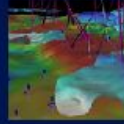


- **Communications market potential**
 - System development platforms for wireless infrastructure applications
- **Growth Opportunity**
 - **Advanced TCA DSP and FPGA compute solutions**
 - **Example: Satellite ground stations for Ancillary Terrestrial Component (ATC)**



Revenue potential / Year:

Semiconductor: <ul style="list-style-type: none"> • Reticle Inspection • EDA • Alignment 	3	\$25 - \$45 Million
Communications: <ul style="list-style-type: none"> • ATC • NextGen Base Stations 	3	\$6 - \$18 Million
Total	6	\$31 - \$63 Million

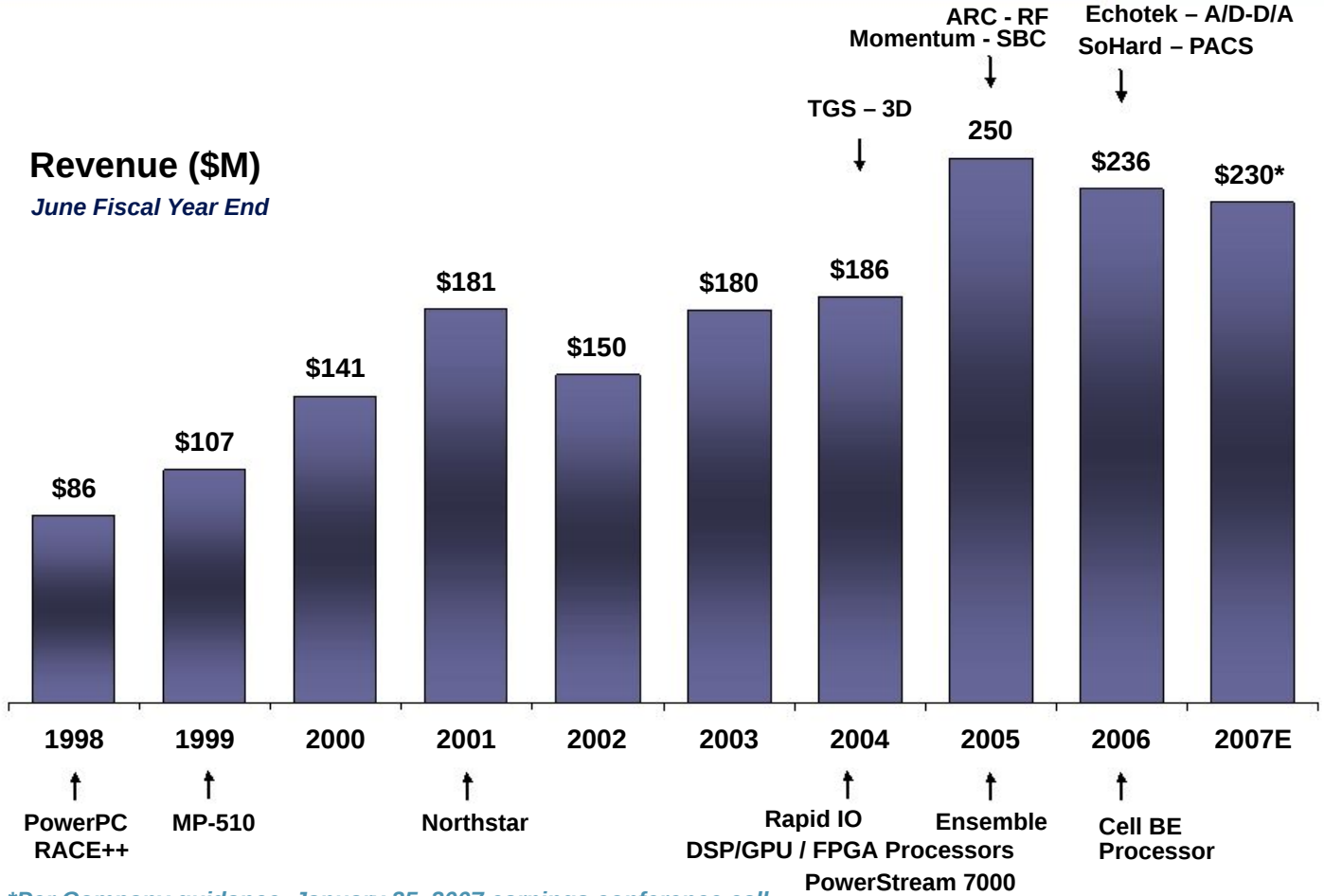


Financial Overview

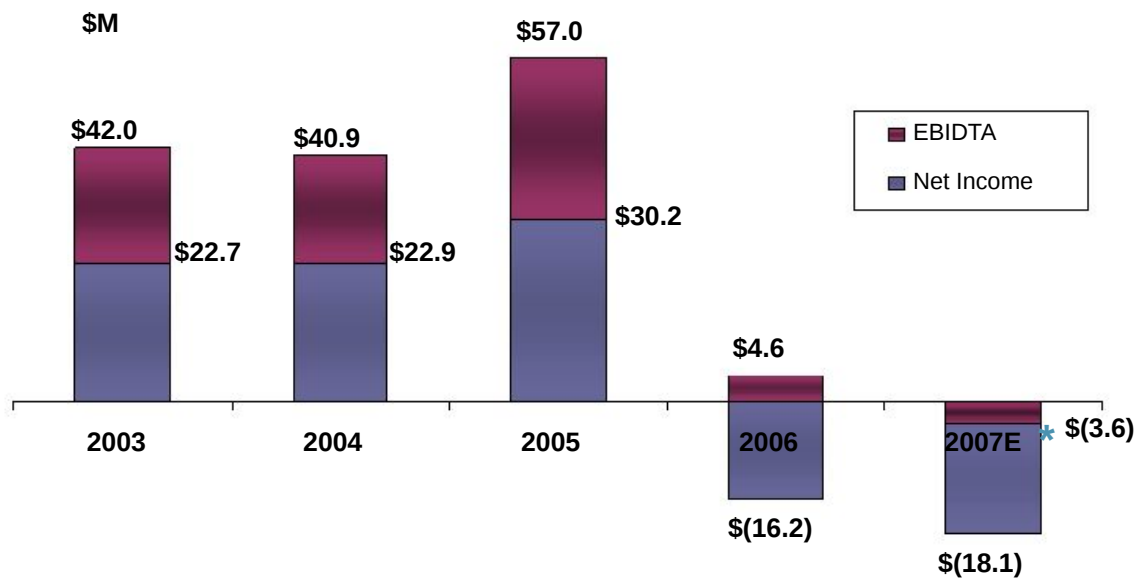
Revenue Follows Technology Cycles

Revenue (\$M)

June Fiscal Year End



*Per Company guidance, January 25, 2007 earnings conference call



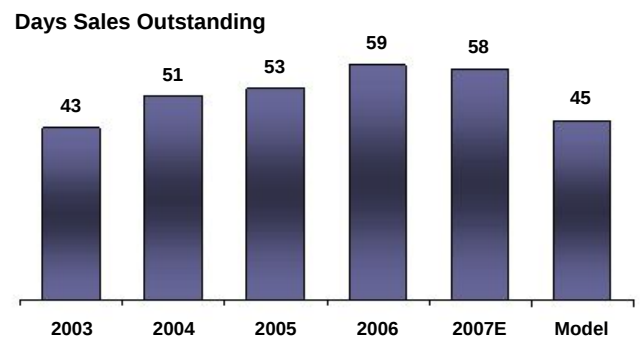
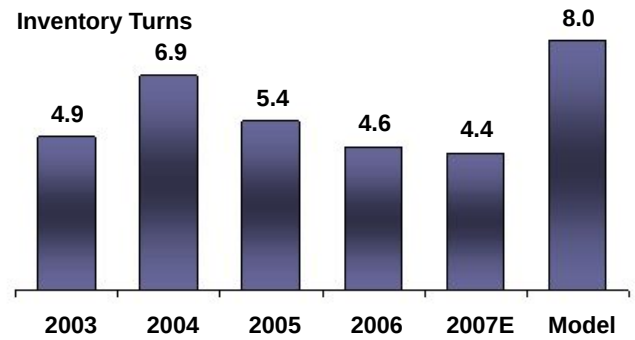
EBITDA excludes the following charges from Net Income: Interest Expense, Taxes, Depreciation and Amortization:

	2003	2004	2005	2006	2007E
Interest	0.9	1.4	4.2	4.1	4.2
Taxes	10.2	9.3	12.9	(0.9)	(7.8)
D&A	8.2	7.3	9.7	17.6	18.1

*Per Company guidance, January 25, 2007 earnings conference call

- **Supply chain transformation**
 - **Competitive advantage for Mercury and customers**

- **Customer satisfaction**
 - **DSO target 45 days**



**Historically strong
balance sheet**

Net cash positive

<i>Quarter ended December 31, 2006</i>	
Cash and Equivalents	\$137
Total Current Assets	\$172
Total Assets	\$377
Total Debt *	\$125
Total Liabilities	\$189
Stockholders' Equity	\$188

** Convertible senior notes offering*

<i>Non-GAAP</i>	FY04	FY05	FY06	Guidance FY07*	Timeless Business Model
Revenue	100%	100%	100%	100%	100%
Gross Margin	67%	66%	62%	56%	60+%
SG&A	30%	29%	34%		
R&D	21%	20%	25%		
Income from Operations	17%	17%	3%	(4%)	16-18%

**Per Company guidance, January 25, 2007 earnings conference call*

	Quarter Ending March 31, 2007	
Revenues (\$M)	\$55	
	GAAP	Non-GAAP
Gross Margin	53%	53%
EPS	\$(0.31)	\$(0.18)

- Impact of equity-based compensation costs related to FAS 123(R) of approximately \$2.8M excluded from non-GAAP
- Acquisition-related amortization of approximately \$1.8 M excluded from 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, January 25, 2007 earnings conference call*

	Fiscal Year Ending June 30, 2007	
Revenues (\$M)	\$230	
	GAAP	Non-GAAP
Gross Margin	56%	56%
EPS	\$(0.85)	\$(0.13)

- Impact of equity-based compensation costs related to FAS 123(R) of approximately \$10.7M excluded from non-GAAP
- Acquisition-related amortization of approximately \$7.1M, Q1 in-process R&D charge of \$3.1M, and restructuring and impairment charges of \$1.1M excluded from 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, January 25, 2007 earnings conference call*

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www.mc.com
NASDAQ: MRCY