
**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): May 17, 2011

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.)

201 Riverneck Road, Chelmsford, Massachusetts 01824

(Address of Principal Executive Offices) (Zip Code)

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

Not Applicable

(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 Mercury's business on May 17, 2011 at the Noble Financial Capital Markets' Seventh Annual Equity Conference in Hollywood, Florida. 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 May 17, 2011. |

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.

Dated: May 17, 2011

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Robert E. Hult
Robert E. Hult
Senior Vice President, Chief Financial
Officer, and Treasurer

Exhibit Index

Exhibit No.
99.1

Description
Presentation materials dated May 17, 2011.



**Noble Financial
Seventh Annual
Equity Conference
May 17, 2011**

**Bob Hult
SVP & CFO**

**Didier Thibaud
SVP & GM**



Forward-Looking Safe Harbor Statement

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 fiscal 2011 business performance and beyond and the Company's plans for growth and improvement in profitability and cash flow. You can identify these statements by the use of the words "may," "will," "could," "should," "plans," "expects," "anticipates," "continue," "estimate," "project," "intend," "likely," "probable," 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, inability to fully realize the expected benefits from acquisitions and divestitures or delays in realizing such benefits, challenges in integrating acquired businesses and achieving anticipated synergies, changes to export regulations, increases in tax rates, changes to generally accepted accounting principles, difficulties in retaining key employees and customers, unanticipated costs under fixed-price service and system integration engagements, and various other factors beyond our control. These risks and uncertainties also include such additional risk factors as are discussed in the Company's filings with the U.S. Securities and Exchange Commission, including its Annual Report on Form 10-K for the fiscal year ended June 30, 2010. 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 adjusted EBITDA; free cash flow; cash and marketable securities, net of debt; and adjusted working capital, which are non-GAAP financial measures. Adjusted EBITDA excludes certain non-cash and other specified charges. Free cash flow is defined as cash flow from operating activities less capital expenditures. Cash and marketable securities, net of debt is defined as cash and cash equivalents, short-term marketable securities and related receivables, and long-term marketable securities less total borrowings under line of credit and total notes payable. Adjusted working capital is defined as accounts receivable, net of allowance for doubtful accounts and inventory less accounts payable and accrued expenses. The Company believes these non-GAAP financial measures are useful to help investors better understand its past financial performance and prospects for the future. However, the presentation of adjusted EBITDA; free cash flow; cash and marketable securities, net of debt; and adjusted working capital is not meant to be considered in isolation or as a substitute for financial information provided in accordance with GAAP. Management believes the adjusted EBITDA; free cash flow; cash and marketable securities, net of debt; and adjusted working capital 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 the 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.

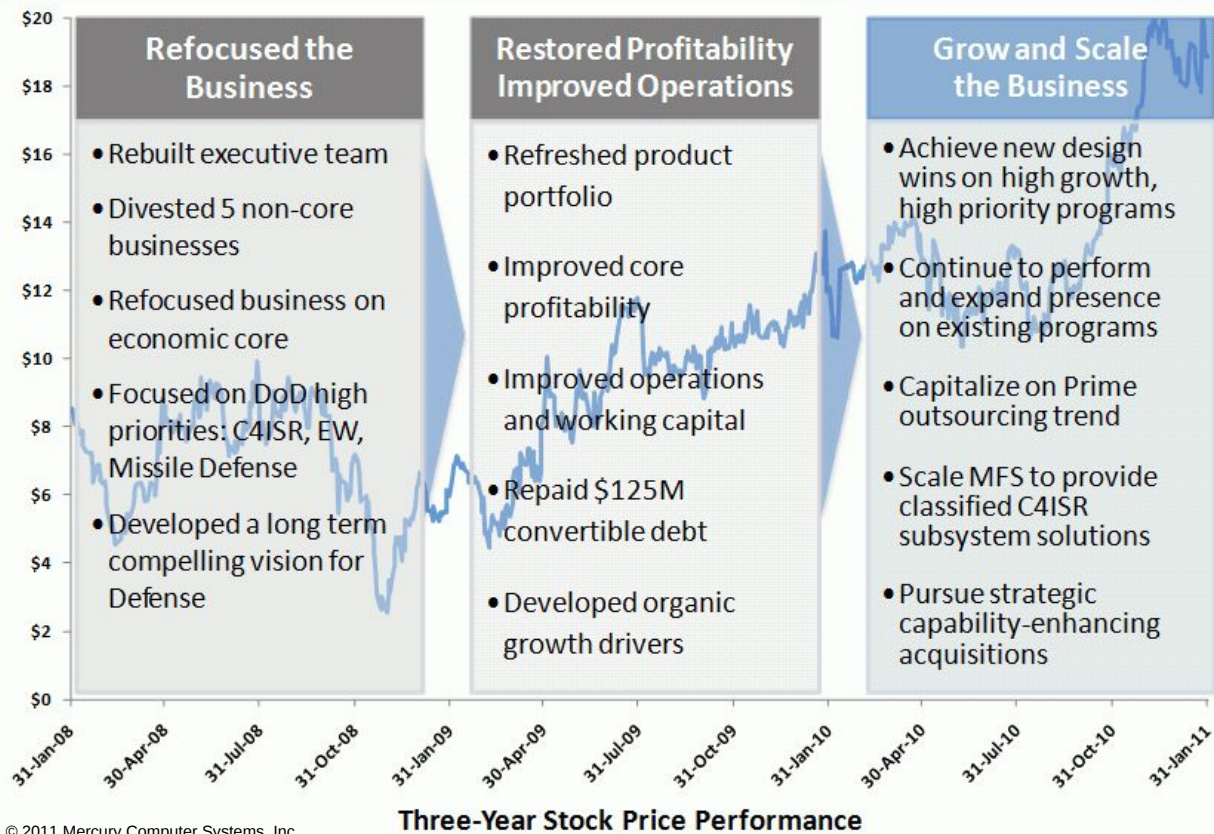
Introducing Mercury Computer Systems

- MRCY on NASDAQ
- Real-time digital image, signal and sensor processing solutions
- Focused on DoD high priorities:
 - C4ISR, Electronic Warfare; Missile Defense
- Deployed on ~300 programs with 25+ Primes
- \$231M LTM revenues; 19% Adj. EBITDA margin; 612 employees
- Defense revenue ~80% and 42% growth FY07 to FY10

Best-of-breed provider of open, commercially developed, application-ready and multi-INT subsystems for the ISR market



Current Management team has successfully transformed the business and poised Mercury for growth



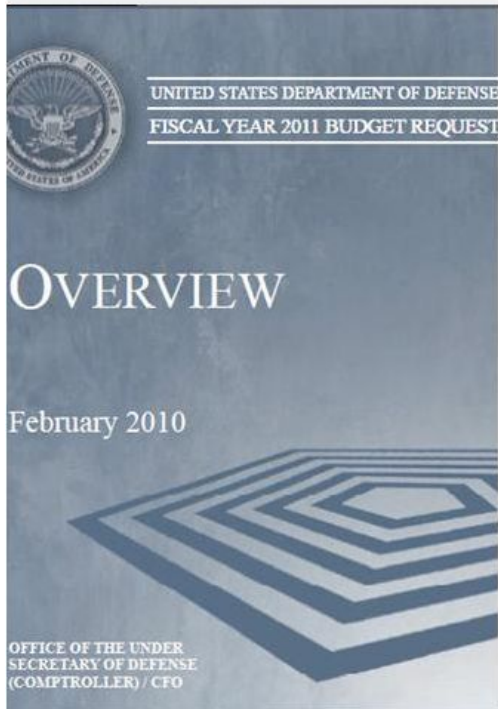
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Mercury investment highlights

| | |
|---------------------------------|--|
| Leading Market Position | Pure-play C4ISR and defense electronics company entrenched on a diverse mix of programs aligned with DoD priorities |
| Differentiated Capabilities | Best-of-breed provider of specialized computing subsystems targeting the well funded and growing C4ISR market |
| Favorable Macro Industry Trends | Increased demand for ISR and a rapidly evolving threat environment driving greater demand for our products, solutions and capabilities |
| Unique Business Model | Well positioned to benefit from DoD procurement reform requiring more affordable and rapidly developed upgrades leading to increased outsourcing by the large Defense Primes |
| Proven Management Team | Well-defined strategy with a demonstrated track record |
| Well Positioned for Growth | Successful transformation has positioned the business for strong organic growth augmented through strategic acquisitions |



C4ISR, Electronic Warfare and Missile Defense are DoD priority areas and continue to be well funded



- DoD spending projection is \$708 billion for 2011
- Defense procurement reform well underway
- Our market opportunity is defined by the growing demand for specialized embedded defense computing solutions
- C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) is a \$43 billion market segment and a high priority for the defense department

Procurement reform increasing opportunity for Mercury



Defense procurement reform: Shifting DoD priorities favor more affordable upgrades of existing platforms

Government

- Provide the war fighting capability we need with the dollars we have
- Restore affordability to Defense goods and services procurement
- Shorten procurement cycles; focus on upgrades to address urgent needs
- Obtain greater efficiency, affordability and productivity in Defense spending
- Avoid program turbulence and maintain a vibrant and healthy Defense industry






Primes

- Reduce risk given DoD shift to firm fixed price contract awards
- Primes shift from high fixed cost to variable cost model
- Affordably upgrade existing platforms with new capabilities
- Compress development and deployment cycles
- Differentiate solutions with less internal R&D dollars
- Increase success rate on new programs and re-compete

As a direct result of procurement reform, Primes are outsourcing to best-of-breed companies like Mercury

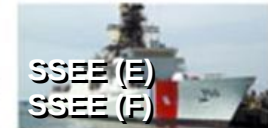


C4ISR landscape – scarcity of public investment opportunities

| | | |
|--|--|--|
| Defense Primes | <ul style="list-style-type: none"> Engaged across all sectors of the defense industry Limited growth due to exposure to broader DoD budget |  |
| Large Cap Diversified | <ul style="list-style-type: none"> C4ISR assets embedded in broader defense capabilities portfolio Focus split between commercial aerospace and defense industries |  |
| Semi-Specialized Small/Mid Cap | <ul style="list-style-type: none"> Some C4ISR focus among broader capabilities set Unwanted exposure to vulnerable portions of the DoD budget Risk associated with government insourcing of services functions |  |
| Private or Acquired | <ul style="list-style-type: none"> Several private C4ISR companies with no near-term IPO plans Several C4ISR companies have recently been acquired |  |
| Pure-Play C4ISR & Defense Electronics | <ul style="list-style-type: none"> Strong C4ISR focus Limited exposure to broader DoD budget risk Public asset with scale that provides clear C4ISR investment Business model that anticipated and expects to benefit from shifting DoD priorities and Defense procurement reform Well positioned for growth and higher returns in a consolidated industry |  |



We've been making customers successful for 30 years



Deployed on approximately 300 programs with 25+ Primes



Best-of-breed solutions spanning the entire signal processing chain

- State-of-the-art, mixed silicon, real-time embedded signal processing and multi-computing solutions
- Advanced size, weight and power design and packaging
- Ruggedized for deployment; production volume ready
- Application middleware: portability, scalability, high-availability, virtualization
- Best performance available using open standards

Boards

Full range of high-performance embedded processor and I/O boards for the most demanding applications



Systems

High-performance sub-systems solutions spanning the entire signal processing chain



Services

Outsourced engineering and Systems Integration services accelerate development and deployment of affordable customized subsystems for ISR applications to Defense primes



Software

High value added software and middleware for signal and image processing, visualization, analysis, and image reconstruction



We solve problems that can't be solved with commercial computers



Increased demand for ISR and rapidly evolving threats drive greater demand...

- More and better sensors lead to overwhelming data
- EW: new and rapidly evolving threats
- Radar: smaller, faster targets. New technologies
- EO/IR: leap in imaging detail, onboard exploitation and real-time tactical access
- C4: Net-centric command, control and collaboration
- Time to relevant information is critical



for the onboard processing products and solutions we provide



Aegis ballistic missile defense: SPY-1 BMD Radar

- Countering rogue nations' ballistic missile threats
- First systems installed on Aegis ships
- \$35M booked in FY10
- 43 ship upgrade scheduled over 5 years
- Upside opportunities:
 - New data recorder design win in FY10
 - Lockheed Martin awarded Aegis Ashore development
 - FMS sales opportunities

Mercury's largest single program in production to date



SEWIP Block 2: Countering new emerging peer threats

- Naval surface fleet EW upgrade to counter emerging peer threats
- Lockheed Martin displaced incumbent
- Met compressed schedule for field trials
- Leveraged Mercury application expertise
- Delivered best-of-breed application-ready subsystem
- EW performance-optimized



Strong partnership with Prime driving Mercury content expansion



JCREW 3.3: Joint services CIED program of record

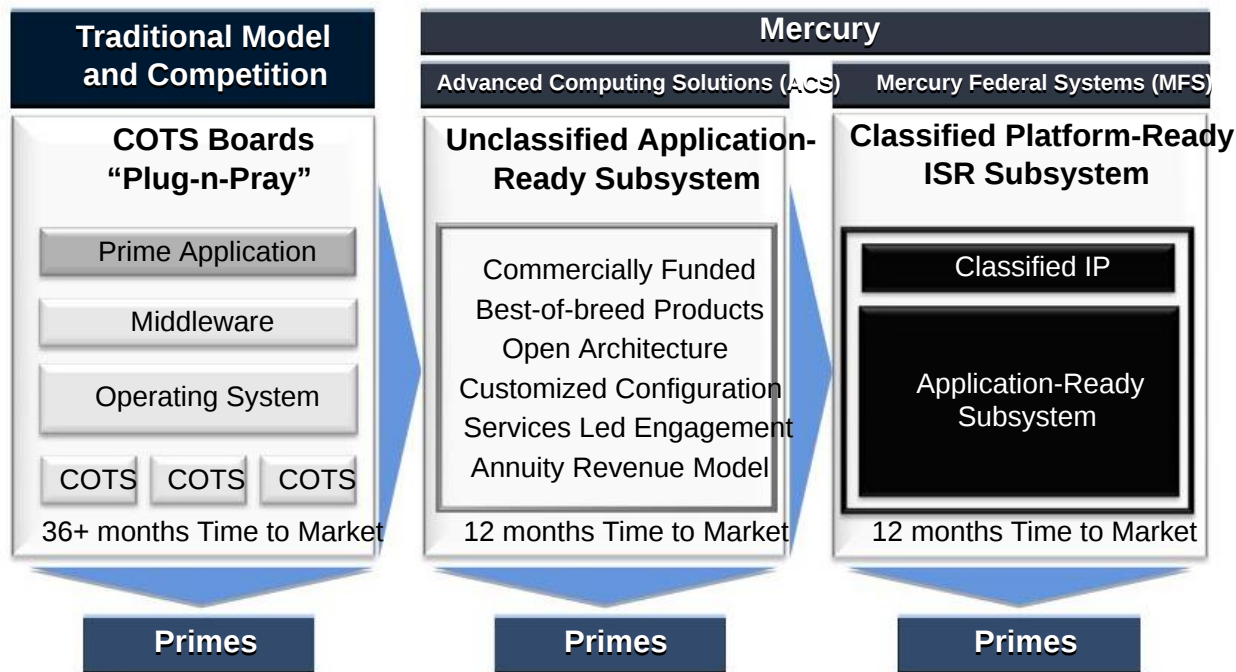
- Software defined jammer to defeat roadside bombs
 - Signal Processing & RF Tuners
- Previous generations high volume ground mobile
 - JCREW 2.1 25,000 systems
 - JCREW 3.2 5,000 systems
- JCREW 3.3 Presolicitation:
 - Currently EDM phase
 - ITT sole source. LRIP up to 1,350 systems
 - LRIP period FY13 thru FY14
 - Navy intends to compete full rate production



Potentially the largest program Mercury has won to date



We anticipated shifting DoD priorities and uniquely positioned our business for growth and higher returns



Mercury is a best-of-breed outsourcing partner to the Primes



Patriot missile defense: Next generation ground radar

- First award \$18M
 - Development
 - UAE
 - Entering production
- Second award received
 - Taiwan
- Potential future awards:
 - < 12 months: Saudi Arabia, Turkey
 - > 12 months: Others
- Major potential with US Army upgrade

Application-ready subsystem and Prime outsourcing success story



MFS major program: Wide Area Airborne Surveillance

- Quick reaction capability MFS providing image processing payload
- Partnered with Prime and other leading companies
- Rapid prototyping and demonstration of best-of-breed solution
- Open plug-n-play sensor bus architecture
- Real-time tailored feeds directly to the forces
- Near real-time "TIVO®" capability



Platform-ready ISR subsystem and Prime outsourcing success story



Mercury has the strategy, infrastructure and pipeline to supplement organic growth with acquisitions

Acquisition Case Study: LNX

- World-class supplier of next generation RF receivers for signal intelligence, communications intelligence and electronic warfare applications

- Increased content on JCREV 3.3 by over 40%

- Acquired on January 12, 2011 for \$31 million, plus up to a \$5 million earn-out

- LNX FY10 revenue \$14m, EBITD >15%, 65 employees

- Expected to be neutral to modestly accretive within 12 months

Driving growth through acquisition

- Expand ACS core business in ISR and EW by adding relevant technology or products
- Add Mercury content and services to existing and future defense and intelligence programs
- Add an ISR platform company to scale MFS

Focus on the following characteristics:

- Demonstrated profitability and growth
- Private; Low tens of millions revenue to start
- Accretive within 12 months or less
- Seek to execute with assets on hand / available

Proprietary pipeline of targets

- Attractive destination for target companies



Positioned for growth in a changing industry



- Focused on the right Defense market segments: ISR, Electronic Warfare and Missile Defense
- Positioned well on key programs and platforms to address today's and tomorrow's threats
- Business model aligned with Defense procurement reform
- Outsourcing partner to the Primes for best-of-breed application-ready and ISR subsystems
- Delivering strong organic growth in defense with improving profitability
- Pursuing complementary acquisitions to supplement organic growth

Continuing to build a pure-play, best-of-breed ISR subsystem and technology-enabled software and services company



Financial Overview



Financial highlights

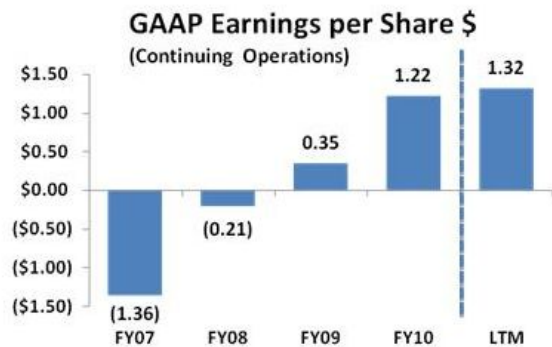
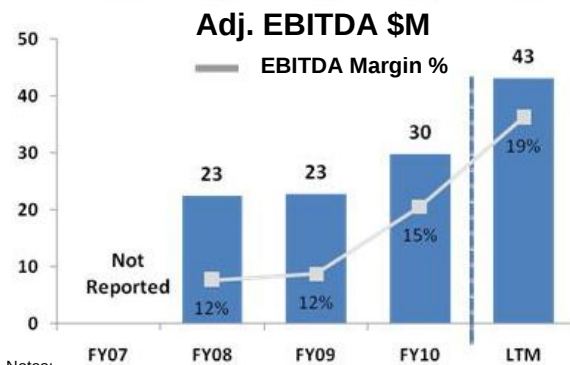
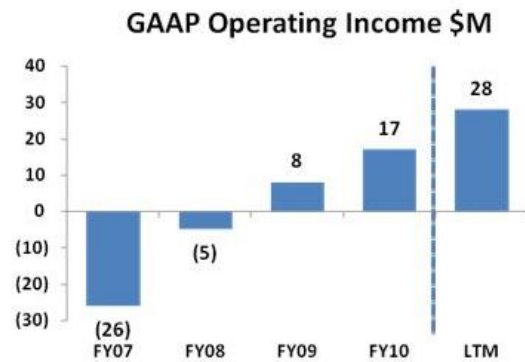
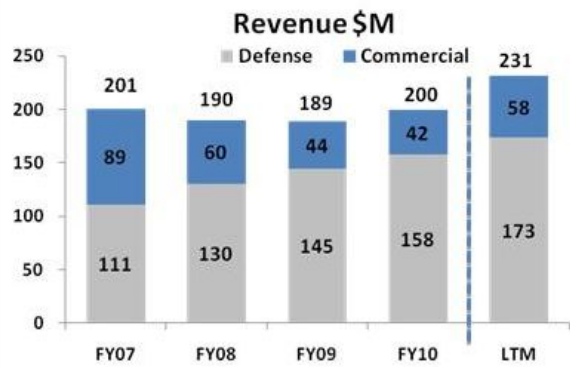


- Profitability improving
- Revenue growth accelerating
- Generating healthy cash flows from operations
- Efficient working capital platform
- Strong balance sheet
- Closing on robust target business model 17-18% adj. EBITDA margin



FY07 -FY10: Restored profitability and growth

Defense 42% growth (12% CAGR) since FY07. LTM Adjusted EBITDA 19%

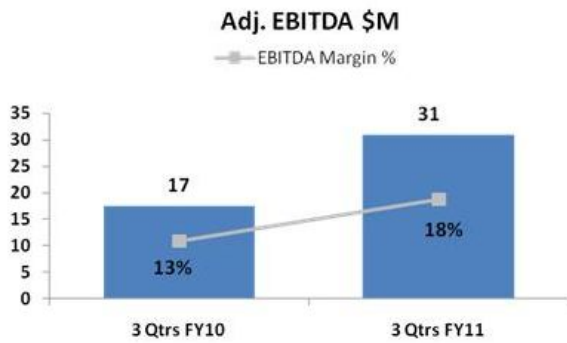
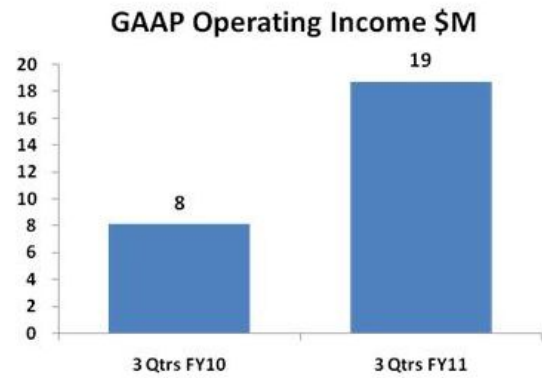
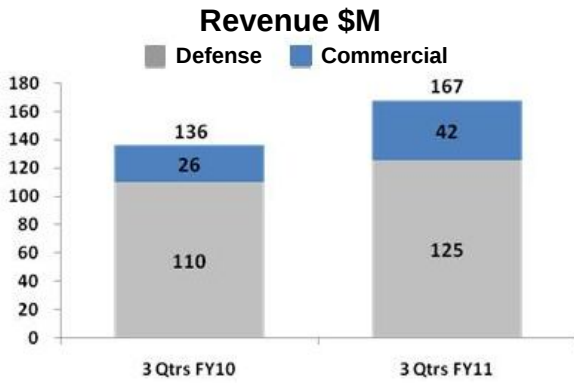


Notes:

- FY07 -FY10 figures are as reported in the Company's fiscal 2010 Form 10K.
- FY10 Earnings per Share were positively influenced by the partial reversal of the valuation allowance against deferred tax assets and an effective FY10 tax rate benefit of approximately 5%.
- LTM is Q4 FY10 and Q1-Q3 FY11.

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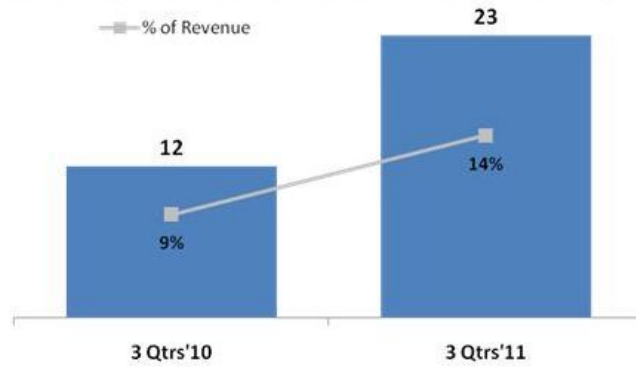
Y-T-D FY11 year over year comparison



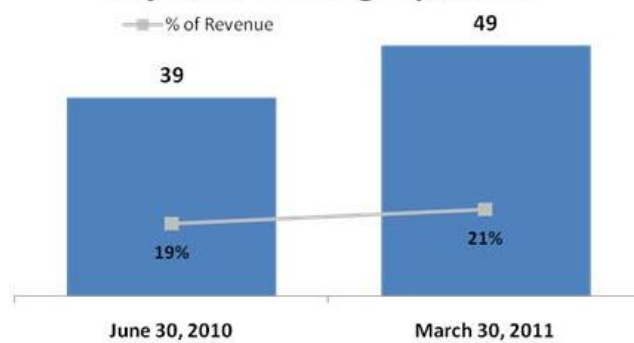
Efficient working capital platform to support growth

- Engineering and supply chain transformation
 - Engineering methods
 - Investments in DFM
 - Operational efficiencies
 - Reduced lead times
 - Improved cost of quality
 - Outsourced manufacturing
- Customer satisfaction
 - Blue chip customers
 - Terms net 30

Net cash provided by operating activities \$M



Adjusted working capital \$M



Note:

- Net cash provided by operating activities % of revenue is 3 quarters ended March 31, 2010 and 2011, respectively.
- Adjusted working capital % of revenue is fiscal year ending June 30, 2010 and LTM (Q4 FY10 and Q1-Q3 FY11).



Approaching target business model

- Organic growth only
- ACS : MFS revenue split 90% : 10% respectively
- High mix, low volume
- R&D delivering significant added value and returns
- Increased engineering services and systems integration
- Services-led design wins lead to long-term production subsystem annuity revenues

| GAAP | FY08 | FY09 | FY10 | LTM | Target Business Model |
|---------------------|------|------|------|------|-----------------------|
| Revenue | 100% | 100% | 100% | 100% | 100% |
| Gross Margin | 58% | 56% | 56% | 56% | 54+% |
| SG&A and Other OPEX | 37% | 29% | 27% | 25% | Low-mid 20's |
| R&D | 24% | 22% | 21% | 19% | High Teens |
| Operating Income | (3%) | 4% | 9% | 12% | 12-13% |
| Adj. EBITDA | 12% | 12% | 15% | 19% | 17-18% |

- (1) Other OPEX includes: Amortization of Acquired Intangible Assets, Impairment of Long Lived Assets, Restructuring, Gain on Sale of Long Lived Assets, and Acquisition Costs and Other Related Expenses.
 (2) LTM is Q4 FY10 and Q1-Q3 FY11.



Mercury's balance sheet poised for investment

Acquisition financing available

| | (\$M) |
|---|-------------|
| Q2'11 Cash and marketable securities | 88 |
| Net Proceeds from Stock Offering | 94 |
| LNX Acquisition (net of cash acquired) | (30) |
| Free cash flow | 4 |
| Q3'11 Cash and marketable securities | 156 |
| <u>Other financing sources:</u> | |
| • Operating line of credit | 35 |

Generating positive free cash flow from operations; zero deb



Q4 FY11 guidance

| | Consensus | Q4 FY10 Actual | Quarter Ending June 30, 2011 | |
|---|---------------|----------------|------------------------------|---------------|
| | | | Low | High |
| Revenue | \$59 | \$64 | \$57 | \$59 |
| GAAP EPS (Continuing) | \$0.13 | \$0.77 | \$0.11 | \$0.13 |
| Adj EBITDA | \$10.0 | \$12.4 | \$9.0 | \$10.0 |
| Note - Adj EBITDA Adjustments: | | | | |
| Net income (Continuing) | | 18.0 | 3.4 | 4.0 |
| Interest (income) expense, net | | (0.0) | 0.0 | 0.0 |
| Income tax (benefit) expense | | (8.4) | 1.7 | 2.0 |
| Depreciation | | 1.4 | 1.8 | 1.8 |
| Amortization of acquired intangible assets | | 0.4 | 0.7 | 0.7 |
| Fair value adjustments from purchase accounting | | 0.0 | (0.1) | (0.1) |
| Stock-based compensation cost | | 1.0 | 1.4 | 1.4 |
| Adj EBITDA | | 12.4 | 9.0 | 10.0 |



Last 15 quarter's revenues and EPS exceeded or met the top end of guidance

Note: Non-GAAP

GAAP

| 2008 | Q1 | | Q2 | | Q3 | | Q4 | |
|---------------|----------|---------------|----------|---------------|----------|---------------|----------|-------------|
| | Reported | Guidance | Reported | Guidance | Reported | Guidance | Reported | Guidance |
| Revenue (\$M) | 49.2 | 48.0 | 52.6 | 51.0 | 56.5 | 53.0-55.0 | 55.2 | 53.0-56.0 |
| EPS (\$) | 0.09 | (0.08) | 0.04 | (0.05) | 0.04 | (0.04)-0.00 | 0.01 | (0.05)-0.01 |
| 2009 | Q1 | | Q2 | | Q3 | | Q4 | |
| | Reported | Guidance | Reported | Guidance | Reported | Guidance | Reported | Guidance |
| Revenue (\$M) | 49.1 | 47.0-49.0 | 50.7 | 47.0-49.0 | 50.6 | 48.0-50.0 | 48.4 | 46.0-48.0 |
| EPS (\$) | 0.07 | (0.07)-(0.03) | 0.03 | (0.05)-0.00 | 0.20 | 0.05-0.09 | 0.13 | 0.05-0.08 |
| 2010 | Q1 | | Q2 | | Q3 | | Q4 | |
| | Reported | Guidance | Reported | Guidance | Reported | Guidance | Reported | Guidance |
| Revenue (\$M) | 47.4 | 43.0-45.0 | 45.2 | 40.0-42.0 | 43.6 | 41.0-43.0 | 63.6 | 58.0-60.0 |
| EPS (\$) | 0.19 | 0.03-0.08 | 0.08 | (0.08)-(0.04) | 0.16 | (0.15)-(0.11) | 0.77 | 0.25-0.28 |
| 2011 | Q1 | | Q2 | | Q3 | | Q4 | |
| | Reported | Guidance | Reported | Guidance | Reported | Guidance | Reported | Guidance |
| Revenue (\$M) | 52.1 | 48.0-50.0 | 55.5 | 54.0-55.0 | 59.9 | 58.0-60.0 | | 57.0-59.0 |
| EPS (\$) | 0.16 | 0.03-0.06 | 0.22 | 0.10-0.12 | 0.20 | 0.16-0.18 | | 0.11-0.13 |

Note: Q3'11 EPS actuals pre-stock offering were \$0.22.

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Mercury investment highlights

| | |
|---------------------------------|--|
| Leading Market Position | Pure-play C4ISR and defense electronics company entrenched on a diverse mix of programs aligned with DoD priorities |
| Differentiated Capabilities | Best-of-breed provider of specialized computing subsystems targeting the well funded and growing C4ISR market |
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| Unique Business Model | Well positioned to benefit from DoD procurement reform requiring more affordable and rapidly developed upgrades leading to increased outsourcing by the large Defense Primes |
| Proven Management Team | Well-defined strategy with a demonstrated track record |
| Well Positioned for Growth | Successful transformation has positioned the business for strong organic growth augmented through strategic acquisitions |





Appendix

Adjusted EBITDA reconciliation

| (000'S) | Twelve Months Ended | | Nine Months Ended | | Years Ended June 30 | | |
|---|---------------------|------------------|-------------------|------------------|---------------------|------------------|--|
| | March 31, | | March 31, | | 2010 | | |
| | 2011 | 2011 | 2010 | 2010 | 2009 | 2008 | |
| Income (loss) from continuing operations | \$ 32,273 | \$ 14,243 | \$ 10,039 | \$ 28,069 | \$ 7,909 | \$ (4,437) | |
| Interest expense (income), net | 18 | 49 | (120) | (151) | 492 | (3,129) | |
| Income tax expense (benefit) | (2,598) | 5,780 | (999) | (9,377) | 109 | 3,710 | |
| Depreciation | 5,997 | 4,640 | 3,790 | 5,147 | 5,640 | 7,372 | |
| Amortization of acquired intangible assets | 1,707 | 1,299 | 1,302 | 1,710 | 2,414 | 5,146 | |
| Restructuring | (12) | — | 243 | 231 | 1,712 | 4,454 | |
| Impairment of long-lived assets | — | — | 211 | 211 | — | 561 | |
| Acquisition costs and other related expenses | 407 | 407 | — | — | — | — | |
| Fair value adjustments from purchase accounting | 148 | 148 | — | — | — | — | |
| Stock-based compensation costs | 5,270 | 4,222 | 2,968 | 4,016 | 4,582 | 8,848 | |
| Adjusted EBITDA | \$ 43,210 | \$ 30,788 | \$ 17,434 | \$ 29,856 | \$ 22,858 | \$ 22,525 | |



Adjusted working capital reconciliation

| (000's) | As of | |
|--|------------------|-------------------|
| | June 30, 2010 | March 31, 2011 |
| Accounts receivable, net of allowance for doubtful accounts \$ | 36,726 \$ | 43,604 |
| Inventory | 17,622 | 19,279 |
| Accounts payable | (10,533) | (7,030) |
| Accrued expenses | (5,025) | (6,782) |
| Adjusted working capital | <u>\$ 38,790</u> | <u>\$ 49,071</u> |

