Curtiss-Wright Controls
Overview
Building on our Legacy . . .

100+ years of aviation heritage
75+ years in American industry
1929
Curtiss-Wright formed through the merging of 12 Wright and Curtiss companies
Listed on The New York Stock Exchange

1943
Curtiss Aircraft and Wright Aircraft Engines help defend Europe During World War II

1949-58
CW major supplier of engines to commercial aviation industry

1961
Expands into flow control business supporting U.S. Nuclear Naval Program

1968
Expands into metal treatment business

1978-88
Curtiss-Wright refocus its aviation business on aircraft component maintenance, repair, overhaul, refurbishment and rebuilding.

1998-99
Expands commercial energy business

2004
Celebrates 75th Anniversary

2001
Curtiss-Wright expands into Embedded Computing market

2001-05
Curtiss-Wright completes recapitalization

2004
Celebrates 75th Anniversary

2007
Curtiss-Wright Anticipates $1.5 Billion in Sales
Curtiss Wright Recent Performance

Track record of performance and growth

Sales CAGR 25%
Operating Income CAGR 24%

2001 2002 2003 2004 2005 2006 2007 2008E

Sales $M

Operating Income $M

Base Acquisitions Operating Income
Curtiss-Wright Top Level Business Groups

- Metal Improvement Company, Inc.
  - Shot Peening
  - Heat Treating

- Curtiss-Wright Flow Control Corporation
  - Enertech
    - Valves, Actuators, Diaphragms, Gaskets, Seals
  - Sprague Products
    - Air-Operated Pumps, Steam, Power Units, Specialty Valves
  - Fansis Engineering
    - Pressure Relief Valves, Tool Stands, SealMaster, Sensors

- Solent & Pratt
  - High Performance Butterfly Valves

- Target Rock
  - Safety Relief Valves, Safety Relief Valves, Control Valves, Engineering Services

- Paul-Munroe Enertech
  - Central Hydraulics: Systems, Hydraulic Power Units, Installation, Skid Set, Field Service, Spare Parts

Engineered Systems
Integrated Sensing
Embedded Computing
Curtiss-Wright Controls - A Controls Company at Heart

A Comprehensive Foundation of Complementary Products
Curtiss-Wright Controls Business Units

- Three major business segments
- 2543 total employees worldwide
- 2007 Sales $592 million
Curtiss Wright Controls

C-W Controls Sales (2002 - 2007)

2007 Top Customers

Top 10 = 47% of Sales

2007 Top Programs

21% CAGR

Bradley
F-22
Regional Jets
FCS
Black Hawk
F-16
Global Hwk
747
Stryker

BOEING
BAE SYSTEMS
GENERAL DYNAMICS
US GOVERNMENT
RAYTHEON
LOCKHEED MAR.
NORTHROP GR.
SIKORSKY
GOODRICH
CANADIAN GOV
HONEYWELL
TELEPHONICS
MOOG PARKER
INDRA

Top 10 = 47% of Sales
Commercial Aerospace

- Trailing Edge Flap Rotary Actuators
- Leading Edge Flap Actuators
- Position Sensors
- Cargo Door Actuators
- Trailing Edge Flap Position Sensor Gearboxes
- Trailing Edge Flap Drives
- Brushless DC Motors for Cabin Pressure Control Systems
- Nacelle Debris Door Actuators
- Throttle Quadrant Controllers
- Rotor Ice Detection and Protection Systems
- Aircraft Computer Systems
- Fire Protection Systems
- Power Conversion Units

4/26/2009
Military Aerospace

Canopy Actuators

Weapons Bay Door Drive Systems

Leading Edge Flap Actuation Systems

Air Data Computers

Airborne Recorders

Position Sensors

Valve Actuators for Thermal Control Systems

Cockpit Control Feel and Drive Actuators

Weapons Bay Hoist Systems

Mission Management Computers

Navigation Subsystems

Airborne Recorders

Computers

Airborne Recorders

Position Sensors

Valve Actuators for Thermal Control Systems

Cockpit Control Feel and Drive Actuators

Weapons Bay Hoist Systems

Mission Management Computers

Navigation Subsystems

Airborne Recorders
Ground Defense

- Future Combat System (Mounted Combat System)
- Pizarro (Indra)
- Self-Propelled Howitzer (South Africa)
- Expeditionary Fighting Vehicle (EFV) General Dynamics
- Piranha (MOWAG)
- Abrams Main Battle Tank (General Dynamics)
- Bradley Fighting Vehicle (BAE Systems)
- Stryker Mobile Gun System (General Dynamics)

- Hydro-pneumatic Suspension Systems
- Turret Drive Stabilization Systems
- Ammunition Handling Systems
- Power Supplies
- Position Sensors
- Fire Control Computers
- Targeting Systems
- SBC, DSP, Graphics, I/O Cards
- Gunner Handles
- Autoloader and Replenishment Controllers
- Obsolescence Management
- SBC, DSP, Graphics, I/O Cards
- Position Sensors
- Fire Control Computers
- Targeting Systems
- SBC, DSP, Graphics, I/O Cards
- Obsolescence Management
Marine Defense

Aircraft Recovery, Assist, Secure and Traverse (RAST) System

Towed Line Sonar Array Handling Systems

Variable Depth Sonar Handling Systems

Sonar Domes

Specialized Structures

Aircraft Ship Integrated Secure and Traverse (ASIST) System

Radar Display Systems

Digital Screen Recorders

Scan Converters

SBC, Graphics, I/O Cards
Industrial

Automated Passenger Bridge (APB) Systems

Diesel Injection System Valves

Hydraulic Actuators

Linear Position Sensors

Rotary Position Sensors

Audio and Video Controllers

Digital Panel Indicators

Joystick Controllers

High Speed I/O

SBC, DSP
Each with 20 years experience in the embedded computing market
Global Sales Team

Total Sales Team includes >150 WW resources in >50 locations
Utilizing the combined strength and experience of our integrated companies

Business Evolution

Added: Subsystems radar solutions with graphics and video

Added: I/O Comms

Systran

Added: Subsystems

Added: Graphics

VISTA

A Curtiss-Wright Company

Added: A&D Manufacturing

Peritek

A Curtiss-Wright Company

Added: SBC, DSP, Graphics, Comms

Dy4 Systems

A Curtiss-Wright Company

Added: Signal Acquisition

Added: Expanded SBC & DSP Capability

LA U Defense Systems

A&D Manufacturing

VALUE TO CUSTOMER
Diverse International Customer Base

Over 2000 Customers in 26 Countries

Companies logos include:
- Lockheed Martin
- General Dynamics
- STI
- Boeing
- Pilatus
- Raytheon
- Kongsberg
- EADS
- Indra
- Harris
- Sagem
- L3 Communications
- ITT Industries
- Ericsson
- Northrop Grumman
- Mitsubishi
- Honeywell
- Galileo Avionica
- SELEX Sensors and Airborne Systems
- BAE Systems
Systems Solutions.... Massachusetts Operations
• The Littleton, MA Operations Provides Engineering and Comprehensive Manufacturing Services to the Defense & Aerospace Industries…

  – Circuit Card Assembly (CCA) and test
  – System level assembly integration and test
  – Additional services:
    • Test equipment design/build
    • RF and Electrical design services
    • Design Qualification
    • Product Test
    • Lifecycle support: component selection, Obsolescence mitigation and management, design enhancement, technology insertion
Littleton, MA Operations Facility Statistics:

- Plant size: 57k sq/ft
- Approximately 160 employees
- Location – 50 miles NW of Boston
- 50+ years of manufacturing experience
- 25+ years manufacturing into the Military Ground Vehicle and Rotary Wing markets
- 99% of business is with the United States Government and Prime, Military Contractors
Littleton, MA Manufacturing Capabilities

- Electronics Manufacturing Services (EMS) – Manufacturing Capabilities:
  - Circuit Card Assembly
    - In addition to modern CCA, we have retained full leaded through hole capability to serve ongoing and legacy Defense BTP.
    - In-Circuit test and Automated Optical inspection
    - Live burn in
    - Conformal Coating done in house
CW-Littleton’s Manufacturing Capabilities

- Electronics Manufacturing Services (EMS) – Manufacturing Capabilities:
  - Wiring Harnesses
    - All gages (00 to 40)
    - Every connection, junction and pin is verified.
    - Every crimp setup is validated before and after use with pull test to failure.
    - Any wire count
      - see 600 wire harness at right
    - Any length
CW-Littleton’s Manufacturing Capabilities

- Electronics Manufacturing Services (EMS) – Manufacturing Capabilities:
  - Systems/Sub-systems/Boxes
    - Military, product box builds on multi-shift operation
    - Quick turn, small batch production
    - Flexible “Lean Cells” assembly: provides efficient, ongoing production
  
  - Network of proven suppliers: casting houses, precision machine shops, fabrication shops, paint shops that are experienced, Military metal working businesses, providing high capacity, rapid response and assured product integrity
  
  - Small internal machine shop supports tooling, fixtures, prototype builds and engineering modifications
Electronics Manufacturing Services (EMS) – Manufacturing Capabilities:

- Testing
  - Complete Electrical, Electronic and RF test equipment, including power supplies, loads, networked scopes, test control PCs, etc. All equipment is readily reconfigured into product specific test stands
  - Thermal Cycling, Hot and Cold burn in, Cold start, Hot Start and Thermal Shock Chambers
  - Combined Vibration/Thermal Environmental Stress Screening
  - Interconnection test, high pot, continuity and isolation
  - Automated switch testing, Automated circuit protection testing through trip and reset
Additional CW-Littleton Capabilities

- Comprehensive Manufacturing Services (CMS) – Competencies:
  - Obsolescence Mitigation
  - Engineering Services
  - ESS Lab / Testing / Quality Assurance
  - Program Management
  - Product Life Extension

We are more than a Job Shop, and are committed to Supporting our customers throughout their product lifecycle
Customer / Program Snapshots

- BAE (UDLP) / Bradley
- TACOM / Bradley and More
- CECOM / Radar Warning
- General Dynamics / Abrams and More
- Textron / Armored Security Vehicle
Certifications and Qualifications:

- **Quality**
  - Quality: AS9100
  - Resident on-site Government QAR.

- **Manufacturing**
  - Conformal coating: MIL-I-46058 & IPC-A-610C.

- **Purchasing**

- **Accounting**
  - Approved by Defense Contracts Auditing Agency (DCAA)

- **Facility Clearance**
  - Cleared to SECRET
  - Security Officer on site
Curtiss Wright Expansion

Expected Growth:

2007 = $38M
2008 = $40M
2009 = $45M
2010 = $54M

Drivers:

- Organic
- New capabilities
- Curtiss Wright manufacturing consolidation
  - “US Eyes only” center of manufacturing
Facility Expansion Objectives…..

- Relocate and combined current Littleton, MA separate building operations into a single, modern, facility

- Expand from current 57K Sf to an initial 63K Sf, with option for further additional expansion of 50K Sf
  - Expansion space to support:
    - New Surface Mount circuit card assembly equipment
    - New Environmental Stress Screening test chambers
    - Expanded manufacturing and engineering services

- Planned $$ Investments (2008-2009):
  - Facilities Renovations: $2.0M
  - Capitol Equipment: $2.5M
Curtiss Wright Employee Expansion

Expansion to drive estimated 30 additional new employees that will be sourced from the local region:

- **Engineering**
  - Design Engineers: 3
  - Technicians: 3

- **Manufacturing**
  - Skilled operators/assemblers: 15
  - Mfg. Engineers: 4
  - Managers: 1-2

- **Support**
  - Various: 3
Curtiss Wright Expansion

✓ Curtiss-Wright’s preference is to stay local and retain and grow its current workforce

✓ We are in the “due diligence” phase with the 151 Taylor St, Littleton facility

✓ We look forward to working with the town of Littleton