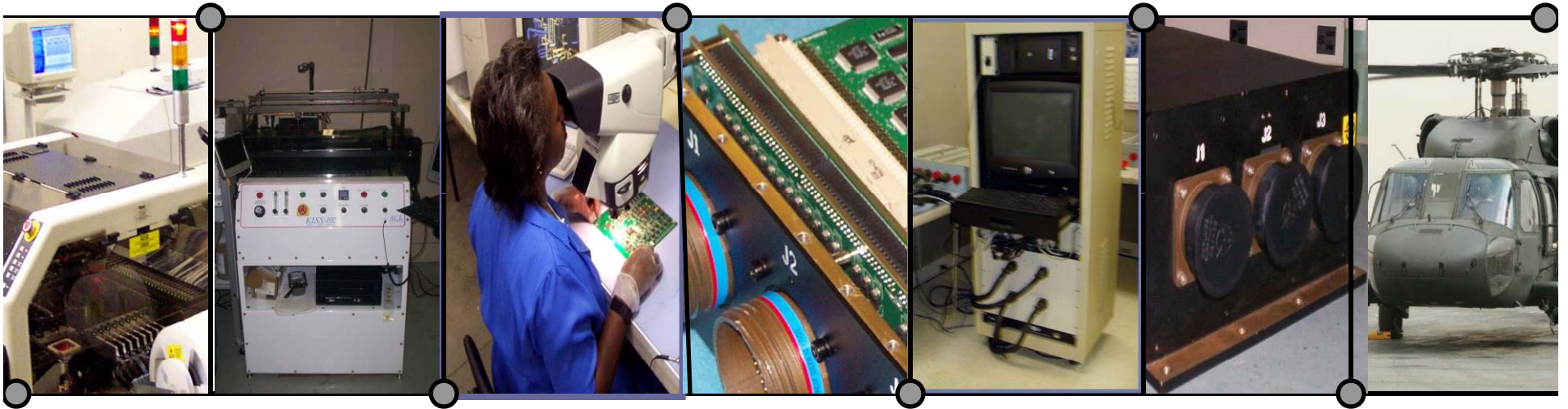


Esterline

BVR Technologies

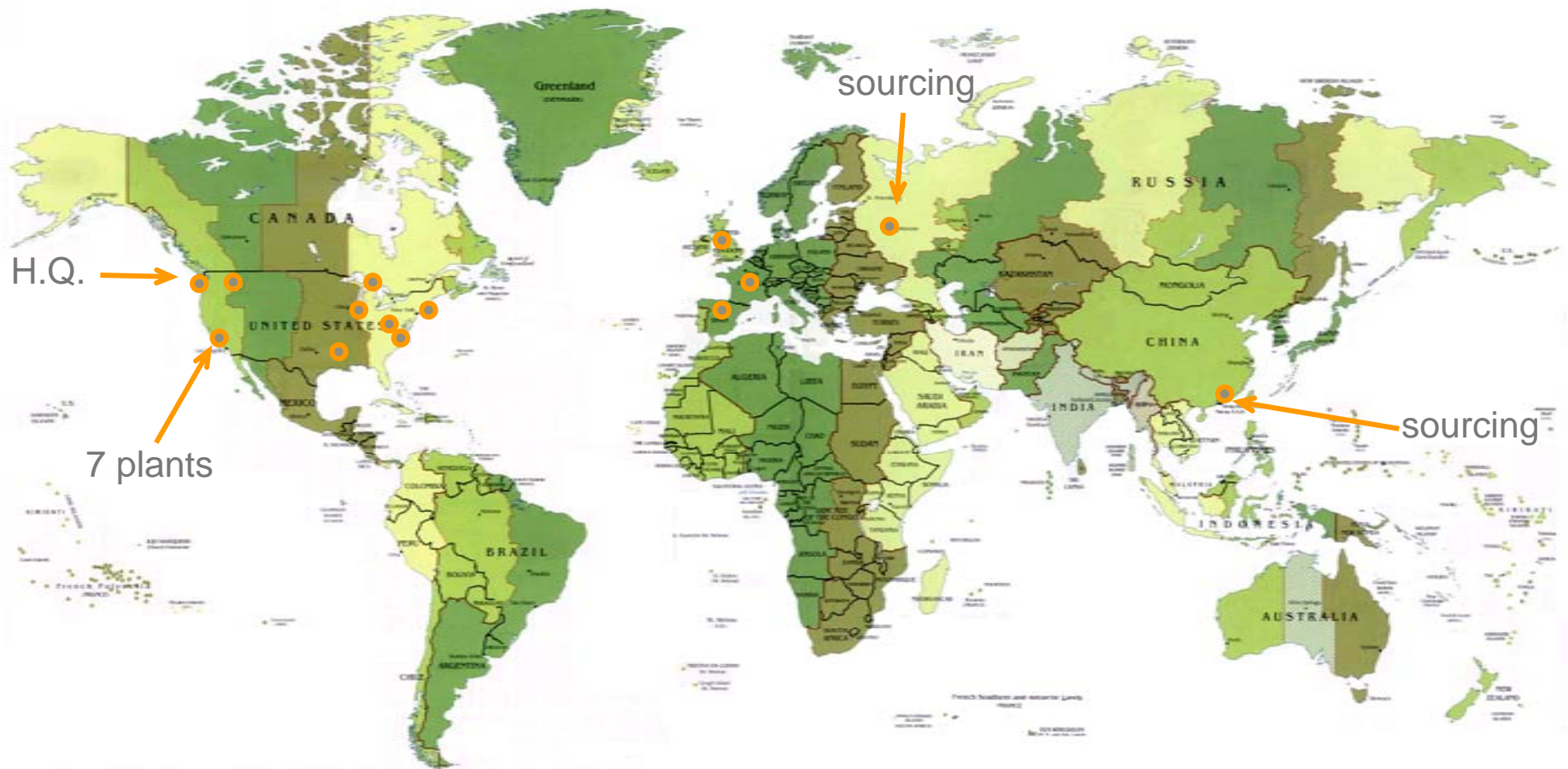


Aras Community Event
Spring 2008



Esterline (NYSE: ESL) Overview

- Global Aerospace & Defense
- \$1.2 Billion Annual Revenues
- More than 10,000 Employees Worldwide



BVR Technologies

Operations

- 1944 founded as Beaver Gear Works, a precision gear cutting company
- 1960's Production of the first aircraft indicators
- 2003 Esterline Technologies Corp. acquired BVR Aero Precision

Product Offerings

- Avionics Computers
- Actuation Systems
- Digital Position Sensors
- Precision Gears and Gear Assemblies
- Select Build to Print



BVR Technologies is a wholly owned subsidiary of Esterline Technologies Corporation headquartered in Bellevue Washington.

Esterline Technologies Corp. is a specialized manufacturing company serving principally aerospace and defense markets. Approximately 80% of total revenues are generated from aerospace/defense markets.

BVR is located approximately 1 hour 15 minutes drive via interstate highway from O'Hare Airport (ORD) and 15 minutes from Chicago Rockford International Airport (RFD). RFD is serviced by select major airlines .

BVR Technologies

- 24,000 square foot facility
 - BVR Technologies employs 81 personnel
 - Providing design and DO-178B flight critical software
 - Supported by vertically integrated mechanical, electromechanical manufacturing and assembly
 - Driven by a strategic, lean enterprise environment.
 - BVR has invested heavily in product development, new facilities and equipment, and personnel
 - FY 08 revenues \$18M and growing
-

BVR Technologies - Capabilities



Mechanical, Electronic and Software Design

- SolidWorks
- COSMOSWorks
- COSMOS FloWorks
- COSMOSMotion
- CodeWarrior
- CodeWright
- PADS
- PSpice
- NI MULTIS



ESD Positive Pressure Room



Pick & place



Selective Soldering



Prototyping & Production



CNC



Grinding



Gear Cutting



Progressive Assembly



Automated Cal. & Test



Electronic Product Testing
ATP, ESS, HALT

Certifications and Registrations

- AS9100 REV B Achieved: 14 April 2005
- Other certifications and registrations... FAA Approved Repair Station Number BPPR794K

Applying ARAS PLM BVR's Objectives

- Introduce a Consistent Part Numbering System
 - Previous system based on a mix:
 - Supplier part numbers
 - Internal part numbers
 - Customer part numbers
 - Mil-Spec numbers
 - All Documents have a sequentially assigned item number
 - All* Parts have a sequentially assigned item_number
 - Eliminate Paper-based Change Management System
 - Introduce search capability
 - Take advantage of (and organize!) the mix of data items
-

Planning is Key to Success

“I have always found that plans are useless, but planning is indispensable.” - Dwight D. Eisenhower

- If you wait for a “Perfect Plan” you’ll never start
 - Develop an Idea of what “DONE” looks like
 - High level list of the major tasks and dates
 - Revisit and re-scope as needed
 - Tactical freedom to adapt and rework ideas as needed
 - Keep eye on what “DONE” looks like
 - Needed Help, Got Help
 - Hired Crucis Technologies to assist in implementation
-

Current Execution Efforts

- Validating and Releasing Designs in Innovator
 - All parts were entered in Innovator as Preliminary at Rev +1
 - Documents and Parts are being tied together prior to release
 - Creating the AML from scratch
 - Added NFND flag to tag duplicate or obsolete parts

 - Using Change Management for the last 2 months
 - PR was first
 - ECN was next
 - ECR used heavily to compile Engineering response to RFIs

 - Entering piece part families in preparation for use of Publish2Innovator for SolidWorks from Design2Enterprise
-

Current Development Efforts

- Opportunity ItemType Development
 - Contains all information for Customer requests of any type
 - Requires lifecycle and workflow very similar to ECR process but with a different permission and notification model
 - Requires the creation of supporting ItemTypes, platform, market and end user
 - Reports and an Opportunity Dashboard
 - Adding “bad entry” detection to Part, PR, ECR and ECN ItemTypes
 - Change Management Dashboard
 - Interface to Vantage ERP
-

Future Development Efforts

- Investigating creation of the Manufacturing BOM
 - Rework the Meeting ItemType and process to match BVR specific needs
 - Investigation and use of DFMEA, Program Management
 - Reports and Dashboards to track business process performance
-

Key Learnings

■ Advantages

- Little or no finger pointing
- Willingness to dig in and invest time and effort to make improvements
- Adoption and adaptation to changes high

A “git'er done” attitude!

■ Challenges

- Minimal IT support adds challenges on unrelated, but necessary items like general networking
 - Initially lacked complete understanding of CMII
 - Lacked full understanding of Aras' implementation of CMII
 - Error conditions created from incomplete understanding of implementation
 - Created our own complex Part classification for organizing, implication was overhead to maintain
-

Questions????

Contact Information

Don Stephen
Crucis Technology
(630) 750-0324
don@crucistechnology.com

Thank You!

Esterline 

crucis 
TECHNOLOGY

BVR Technologies