



CDA InterCorp LLC

NASA Supplier Assessment Experience

NASA Supply Chain Conference 2011



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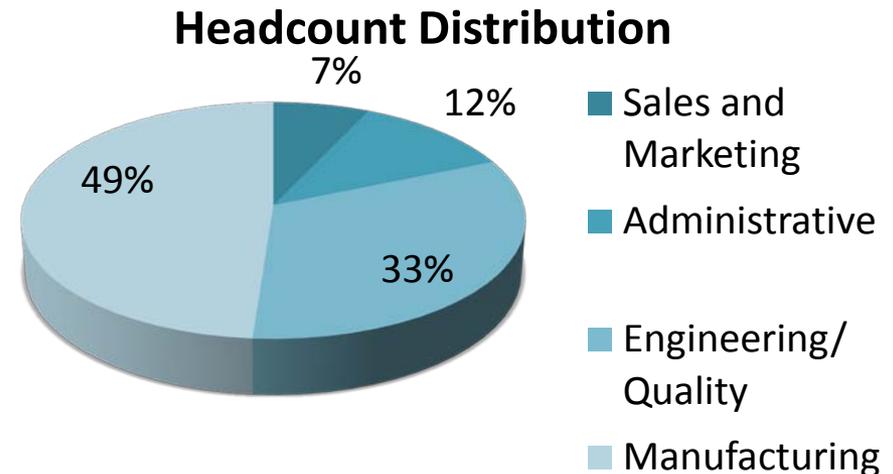
CDA Overview

- ❑ For over 40 years CDA InterCorp has been a leader in the design and manufacture of highly engineered, extremely reliable Controllable Drive Actuators for the Space, Military and Commercial Aerospace, and Down-Hole Industries

- ❑ 20,000 Sq ft Facility located in Deerfield Beach, FL

- ❑ 45 Employees

- ❑ Products:
 - Motors (Framed or Frameless)
 - Transducers
 - Gearing
 - Electronics and systems





Product Overview

CDA InterCorp's core philosophy of modular standardization has withstood the test of time. Each modular design utilizes the same inventoried piece part standards, materials, processes, and construction techniques. Inherent in our standard modules are unequalled reliability and ruggedness, while maintaining flexibility in providing "custom" mechanical interfaces and electrical characteristics.



- Seven Frame Sizes of Motors, Generators, and ECD's
- 0.750 inch to 3.000 inches
- Nine Frame Sizes of Gearheads
 - In-line (0.750 inch to 6.000 inches)
 - Right Angle
- Position Transducers
- Standard Peripheral Devices
 - Tachometers
 - Brakes
 - Rotary Accelerometers
 - Commutation Modules





CDA Heritage/Markets



APPLICATIONS INCLUDE

- Filter Wheel Drives/Focus Actuators
- Deployment Actuators
- Eddy Current Dampers
- Door and Cover Actuators

PROGRAMS INCLUDE

- HST: COSTAR, STIS, NICMOS, etc.
- JWST
- SIR-C
- SAGE III
- Genesis
- Messenger
- Phoenix
- OMPS
- SPDM (OTCM)
- Etc.....



APPLICATIONS INCLUDE

- Azimuth, Elevation Drives
- Roll, Pitch Drive Actuators
- Deployment Actuators
- Valve Drives
- Throttle Control and Feedback

PROGRAMS INCLUDE

- Mast Mounted Sight
- Longbow Radar
- F/A-18 ATFLIR
- F-22
- ECR-90 Radar
- AWADS
- DIRCM
- Etc.....



APPLICATIONS INCLUDE

- Core Sampling Drives
- Weight on Bit Drives
- Gas Lift Valve Drives
- Pump Motors
- Retractable Fail Safe Drives
- Valve Position Transducers

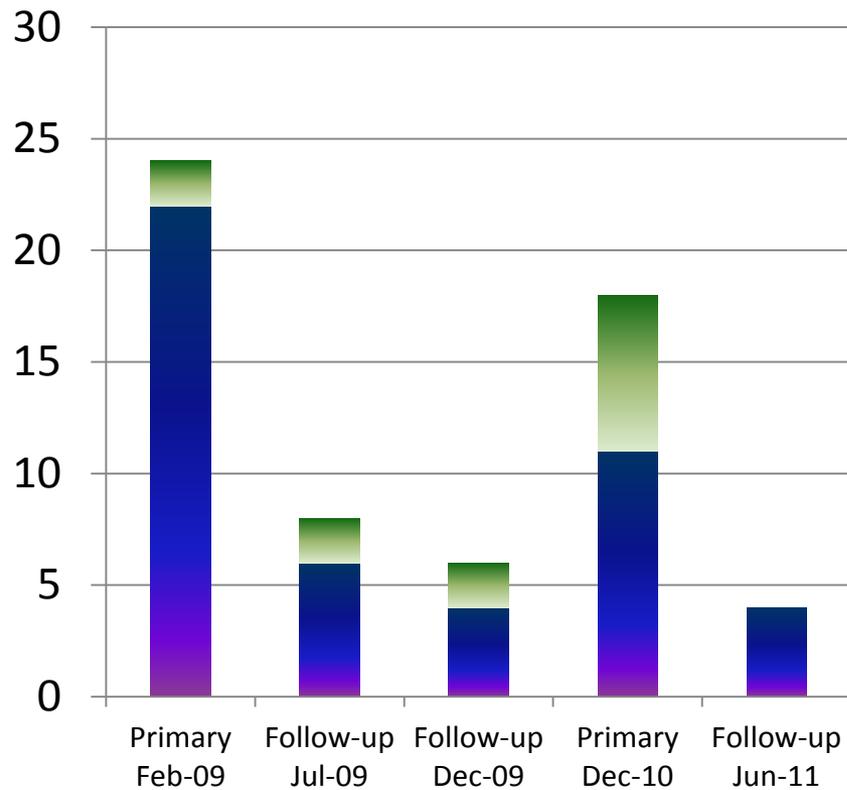
CUSTOMERS INCLUDE

- ABB
- Baker Hughes
- Halliburton
- Sandia National Labs
- Schlumberger
- Weatherford



CDA NASA Assessment

Assessment Timeline



Findings Summary

(Total from all 5 audits)

	CNC	NC	O	C
Contracts & Management		6	1	
Calibration		4		
Configuration Management		2	1	
Corrective & Preventive Action		2		
Document & Record Control		9	3	
Engineering		4	1	
GIDEP		1		
Nonconforming Material		1	2	
Procurement		1	2	
Quality & Internal Audit		6	1	
Industrial Safety		3	1	
Training		1		
Management		1		
Operations		1		
TOTAL		42	12	



CDA's Approach

- Is it worth it?
- Used the Assessment Process as the roadmap
- Value Driven Quality
 - How are we going to do this organizationally
 - What are we going to do to drive value
 - Continuously Improve





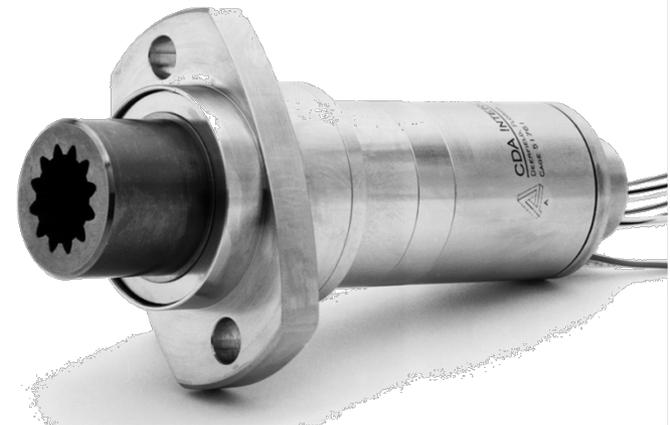
CDA Actions (Organization)

- **SPACE Product Line**
 - Separate Entity
 - SPLAT Product Line Strategy
 - Increased Engineering/Program Management Investment
 - Increased Contract Review Process, Compliance Matrix's
 - Custom Process Control Sheets
 - Increased Inspection processes



CDA Actions

- **Contract Review Processes**
 - Program Manager Responsibility
 - Documented process
 - Have discussions on potential issues up front which have resulted in faster cycle time.
 - Identified new analysis and testing requirements and added the capability





Significant Investments



ISO Class 7 Clean Room



T- Vac w/ TQCM & RGA



Cryo T-Vac w/ Dynamic Test

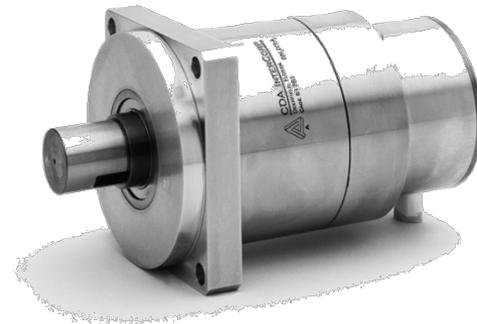
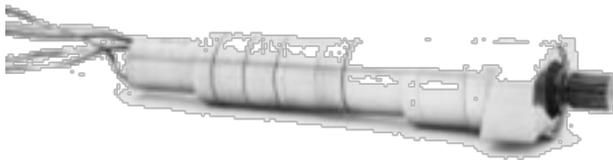


Optical CMM



CDA Actions

- **CAR system**
 - Productivity Tool
 - Documented quality/productivity programs
 - IPIP program – preventive action
 - Improved throughput and cycle time





CDA Actions

- **Automated Traceability**
 - Document management software
 - Reduced traceability request time by 99%
 - Simplified Incoming Receiving/Inspection
 - Investigating use in other areas (contract management, document control)





Summary/Lessons Learned

- Do what is right for your company/situation
- Focus on the areas that will drive value
- Focus on the “common threads”
- As long as you are making improvements, the audits get easier.

