

The background of the slide is a deep space scene. It features a dark blue and black sky filled with numerous stars of varying brightness. Several spiral and elliptical galaxies are visible, their colors ranging from light blue to purple. In the upper center, a large, pale, spherical object, possibly a planet or moon, is partially visible. On the right side, a large, reddish-brown planet with a textured surface, resembling Mars, dominates the foreground. The overall lighting is soft, highlighting the celestial bodies against the dark void of space.

# MENTOR PROTÉGÉ AGREEMENT SUCCESS STORIES AND LESSONS LEARNED

August 28, 2018



# Northrop Grumman (Formerly ATK)

## Northrop Grumman Innovation Systems

- Designs, builds and delivers space, defense and aviation-related systems to customers around the world.
- Provides the five segment Solid Rocket Motor to NASA Marshall Space Flight Center (MSFC) for the new Space Launch System.



# Mentor Protégé Agreement Summary

Phase I - Develop and design a monitoring recorder for rail transportation.

Phase II - Upgrade health monitoring capabilities and hardware monitoring capabilities.

Phase III - Replace and qualify new transportation recording monitor from castings through shipment.

## **Mentor Protégé Agreement for success**

Quality Systems Training – Establish quality control baseline and culture

Configuration Management Training – Document control

Root Cause Analysis – Provide systematic analysis of anomalies and defects

Six Sigma Training – Identify process Improvement, cost savings, increase competitiveness

Market and Proposal Development – government opportunities with past performance

Negotiated needs assessment of the protégé and ultimate capabilities of the Mentor Company



# Mentor Benefits

- The versatility of the design has allowed the Northrop Grumman to replace three separate monitoring systems with one system.
- Reduce the volume of engineering, procurement, and maintenance paper required to support these processes.
- Inventories are decreased and supply chain is streamlined resulting in savings to both Northrop Grumman and MSFC.
- Accuracy of the product and increased data provide insights to the manufacturing and shipping environments to the motors exposed and allow both Northrop Grumman and MSFC to evaluate and improve these environments reducing risks associated with the manufacture of space grade hardware.
- Comply with the goals of the contract



# Lessons Learned

- Communication
- Positive working relationship to meet the Agreement expectations and commitments. Discussions, negotiations and documented agreement.
- If possible, one Mentor program point of contact and one Protégé point of contact with scheduled communication.
- Understand the Protégé's requested needs assessment must meet the capabilities of the Mentor Capabilities.



# Lansmont Corporation

Lansmont Corporation designs and manufactures testing equipment and self-powered field instruments for recording and characterizing distribution environments.

It offers shock and vibration measurement instruments, mechanical shock test systems, servo hydraulic vibration systems, precision drop testers, mechanical package shakers, inclined impact testers, and compression testers, as well as used test equipment and instruments.

Deliverable to Northrop Grumman under the Mentor Protégé Agreement and MSFC Contract

A compact censoring recording device that is placed strategically on each of the motor segments transported by rail from Corinne, UT to Kennedy Space Center. Immediately after delivery the sensor data is extracted for both Northrop Grumman and NASA reports.



# Protégé Benefits

- Established an acceptable government standard quality system.
- Improved their document control and established a historical “as built” database.
- Trained on root cause analysis and corrective action evaluations.
- Assessment in process improvement in variety of six sigma area.
- Past performance credibility for proposal competitiveness and market probability