



Quality Assurance Office

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Assurance Technology Symposium

**Supplier Outreach & Process Control (SOPE)
Supplier Rating Initiative (SRI)**

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SUPPLIER OUTREACH & PROCESS CONTROL

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Why is SOPC so important?

- Process escapes have cost NASA millions of dollars, and many escapes can be traced back to our suppliers.
- Many suppliers do not have a clear understanding of what Process Control is and are often not aware of the criticality of controlling their processes.
- Many Suppliers have never had a positive visit from anyone representing NASA.
- Many suppliers have little, if any, knowledge of how their products are being utilized by NASA or what NASA programs and projects they are used on.



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Who is currently involved?

- The *Jet Propulsion Laboratory* (JPL) manages the SOPC effort, supplies the products, and coordinates all visits with:
 - Ames Research Center
 - Goddard Space Flight Center
 - Johnson Space Flight Center
 - Kennedy Space Center
 - Marshall Space Flight Center
 - OEM Lockheed Martin
 - OEM Orbital Sciences
 - OEM Pratt & Whitney
 - Space Shuttle Program's Process Control Focus Group (PCFG)
- *Dynacs Incorporated* provides the majority of the labor to conduct these visits through the Supplier Assessment Contract (SAC) managed by GSRC





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Supplier Outreach & Process Control (SOPC) Mission Statement

- **Promote Process Control awareness and Continuous Improvement of NASA's supplier base to increase the quality of NASA procured products and services and reduce process escapes and mishaps.**



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What do we do on these visits?

Thank

suppliers for their contributions to the many unmanned space programs they have supported.

Share

the message of how critical process controls are to our continued mutual success.

Provide

motivational tools to ensure they understand process control stay focused on this effort.

Capture

data about the suppliers during these visits and to make that information available to the NASA community.



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Outreach Products and Tools

- Supplier Specific Fact Sheets
- “8 Process Control Standards” magnets, cards and posters
- Program/Project Fact Sheets and Posters
- Process Control CD with tools
- Process Control Countdown videos *(Provided by the Space Shuttle Program’s Process Control Focus Group)*
- Process Control Websites
- “Common Approach to Problem Solving” handy pocket card
- “My Role In Process Control” Pocket Guide





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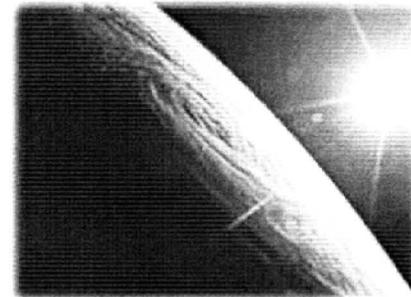
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How are Suppliers Selected?

Outreach Visits are regionally selected for suppliers of *NASA's Space Programs* (Earth Science, Space Science, and Biological and Physical Research) during the monthly SOPC telecon from a common NASA database of 1700 suppliers furnished by participating centers in the following categories:

-  Audited/Approved Suppliers
-  Audited/Deficiency Suppliers
-  Active Suppliers
-  Critical Suppliers
-  Colleges & Universities



For supplier visit schedule, go to:
<http://quality.nasa.gov/outreach>



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What has been accomplished?

54 Suppliers have been visited since June 2002 made up of:

- Large Businesses,
 - Small Business (less than 500 employees),
 - Women Owned,
 - Minority Owned,
 - Indian Owned
- The NASA SOPC team members have participated in numerous regional supplier visits
 - Three OEMs have participated in several visits
 - The addition and training of 4 Outreachers from Dynacs has allowed the visit rate to ramp up support 200 visits a year
 - The SOPC processes have been web posted

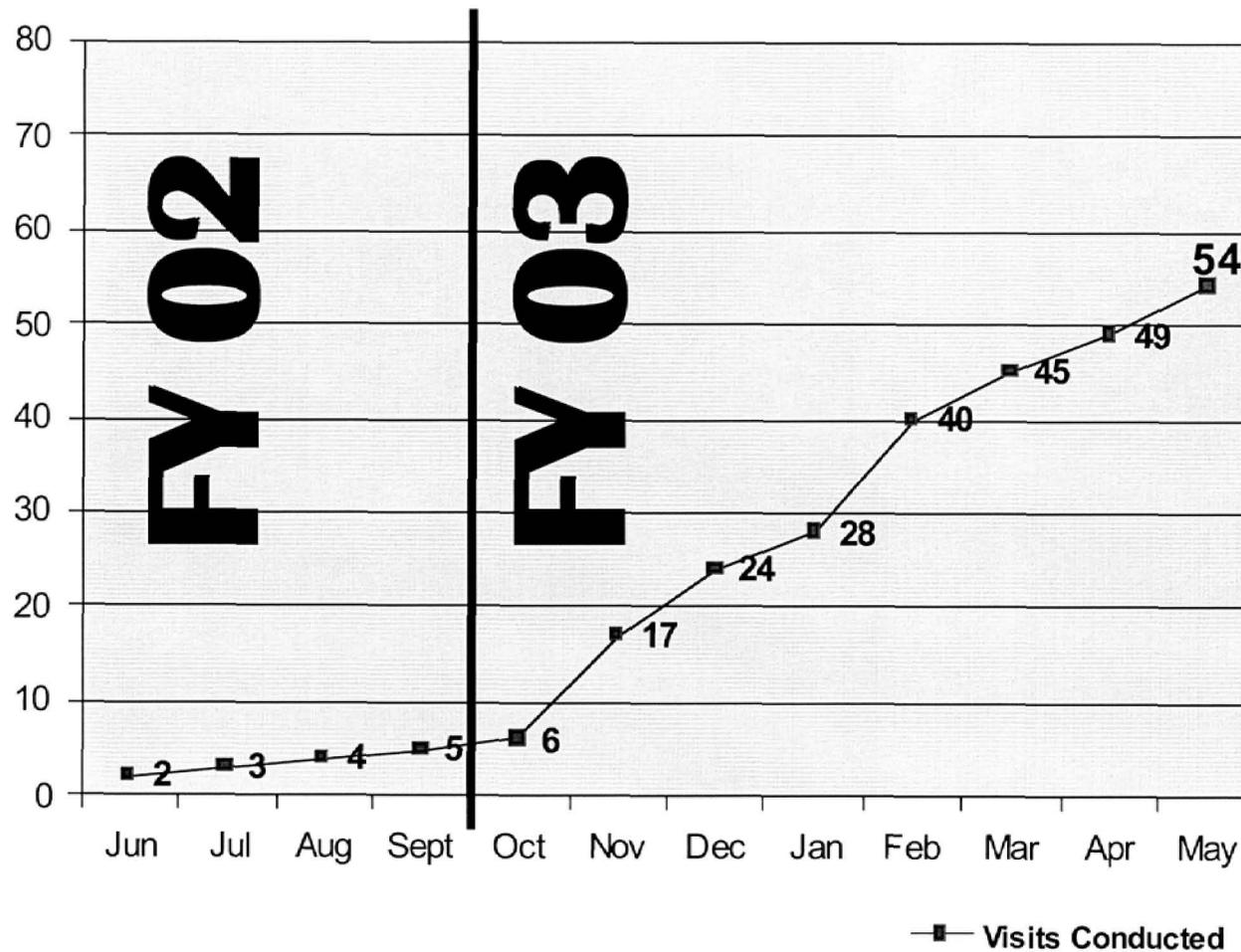


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Supplier Outreach Activity





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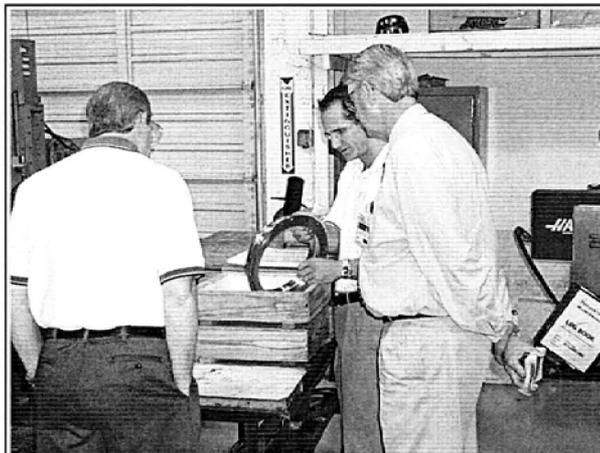


Outreach Feedback



Strongly agreed that outreach visits are value added and informative!

Would like to be visited once a year!



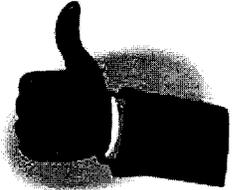
Appreciate the face-to-face recognition!



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How will SOPC benefit each Center?



- The same consistent message of the need for “Process Control” is being giving to the supplier base and they see that there is only One NASA, and that NASA and the OEMs are “all on the same page”.
- Coordinated regional visits alleviate the cost of each center conducting their own individual outreach programs and maximizes the resources for these visits.
- Information gathered is shared throughout the agency.
- Hopefully, a measurable reduction in Supplier Attributed Process Escapes



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FOR MORE INFORMATION

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SUPPLIER RISK INITIATIVE

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Supplier Risk Initiative
(Integrity, Availability, Assurance)

June 1st, 2003



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What is the challenge?

One should expect that the expected can be prevented, but the unexpected should have been expected

Augustine's Laws, XLV



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What are Unknown Unknowns?

*There are things we know that we know,
There are things we know we don't know,
There are things we don't know we don't
know.*

Donald Rumsfeld, U. S. SecDef

NATO HQ Press Conference, June '02



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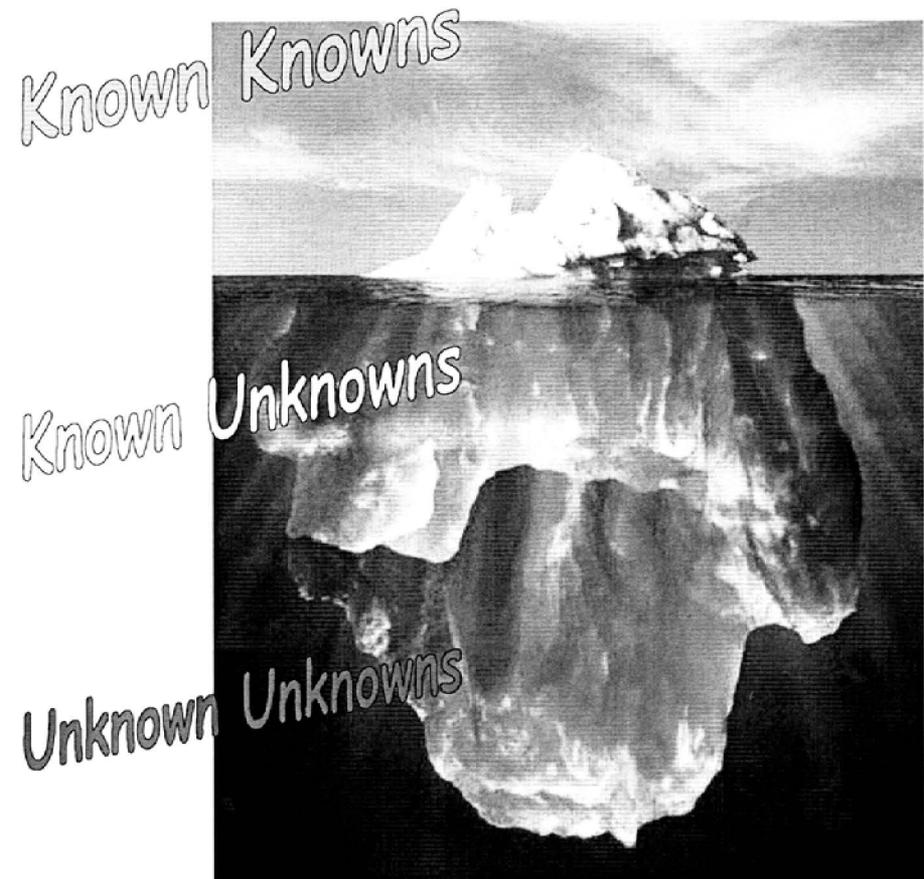
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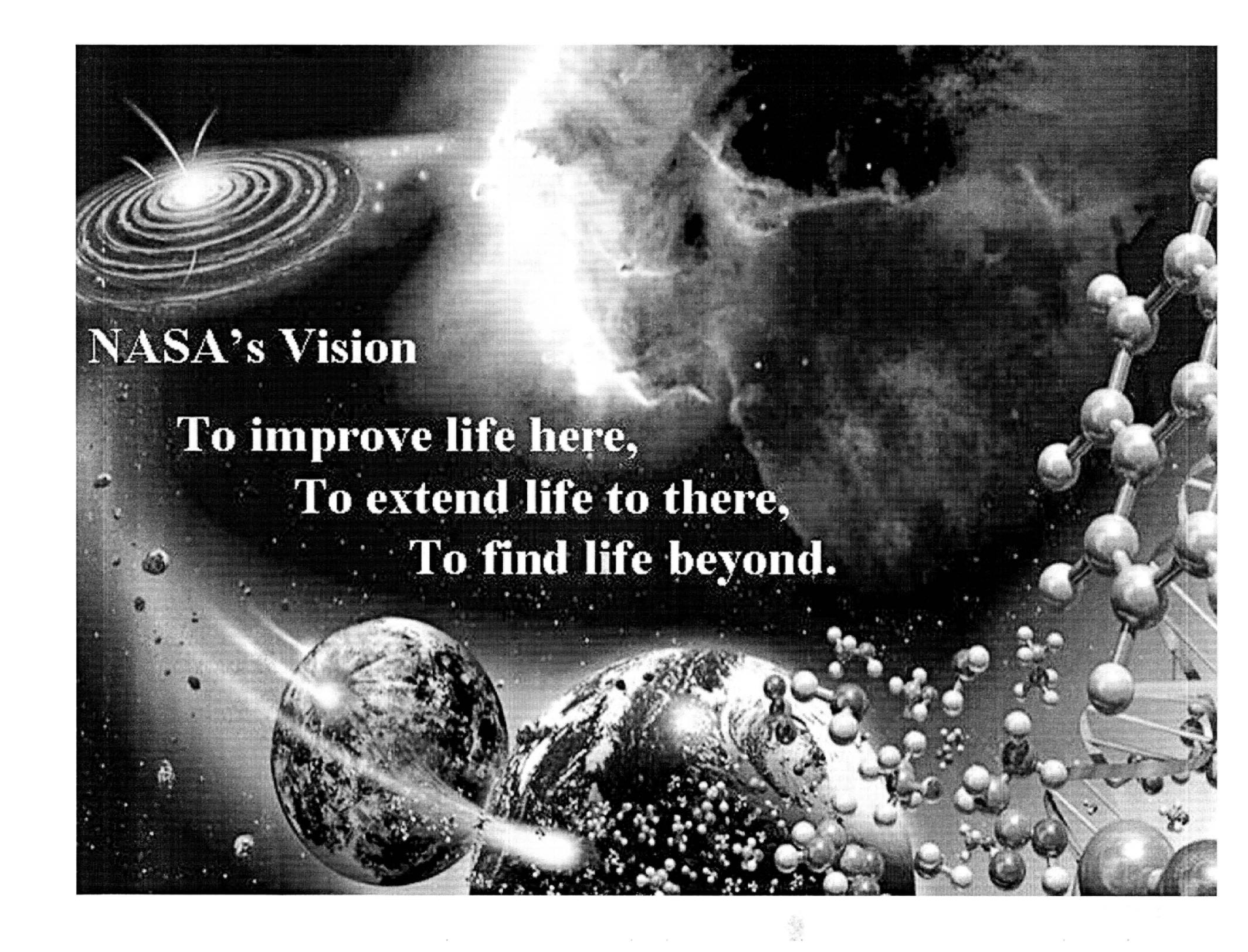
The Risk Iceberg

- Mishap recommendations
- Problem solutions
- IFA fixes

- FMEA/Hazard controls
- Close call recommendations

- Process change/Supplier Risk?
- Inadvertent excursions out of cert/family?
- Hardware talking...nobody listening?





NASA's Vision

**To improve life here,
To extend life to there,
To find life beyond.**



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What is Supplier Risk?

- Integrity Risk
- Availability Risk
- Assurance Risk



SUPPLIER RISK INITIATIVE



Why is Supplier Risk Important?

Systemic supplier risk, if moderate to high, is a leading indicator of future potential near misses, escapes, and/or failures.

Risk Visibility



Is it a Risk or a Problem

Preventive

Corrective

May occur

Has occurred

Strategic

Tactical

Long

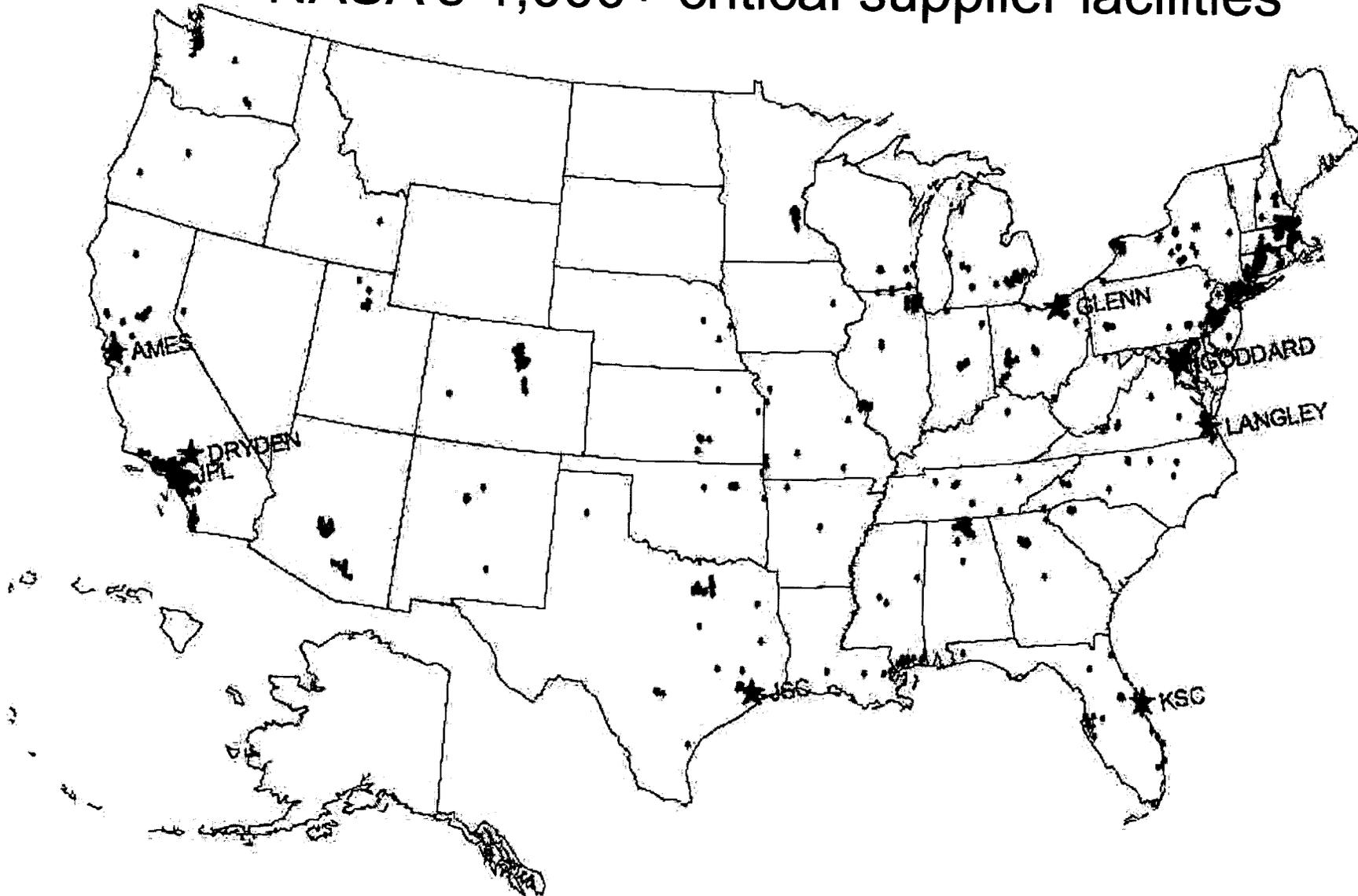
Short



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NASA's 1,000+ critical supplier facilities



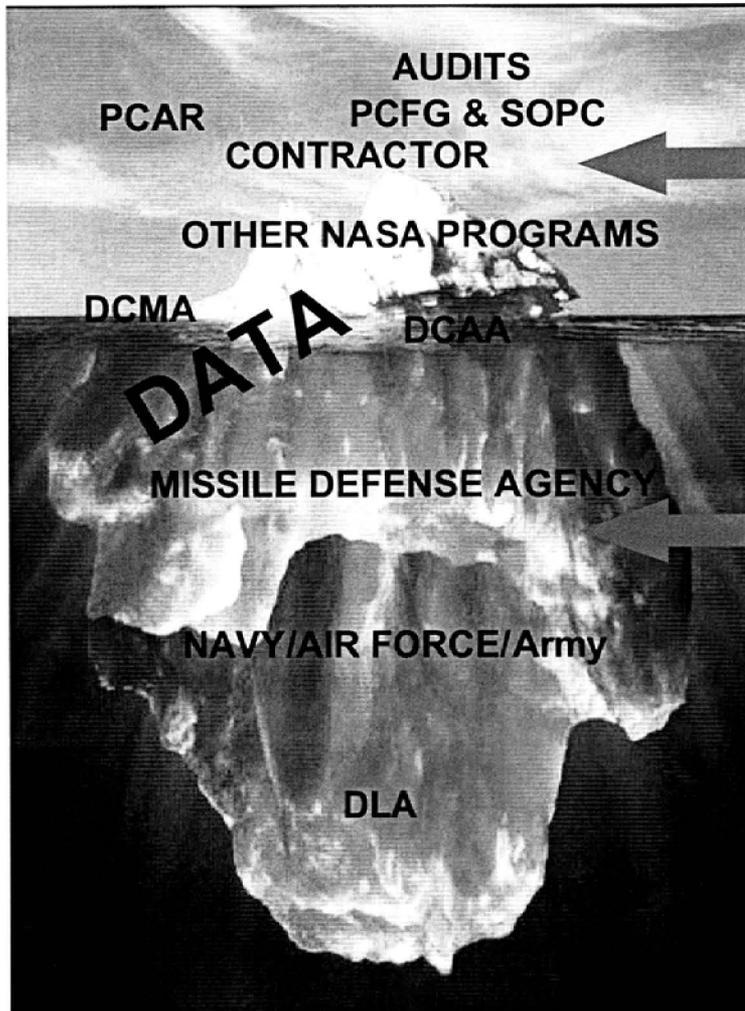


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What data are we capturing regarding suppliers?



What we use today
(limited data reported to
Program Management)

What we don't use
(supplier risk experience
from \$200 billion of
government procurement)

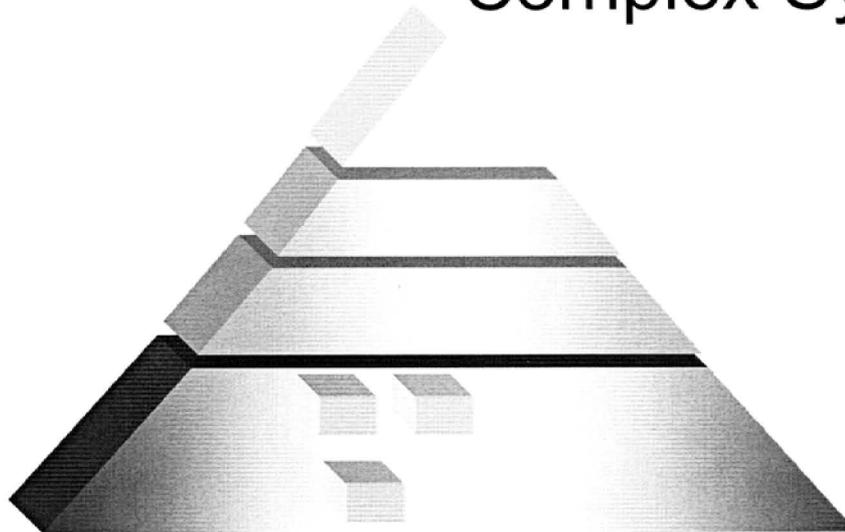


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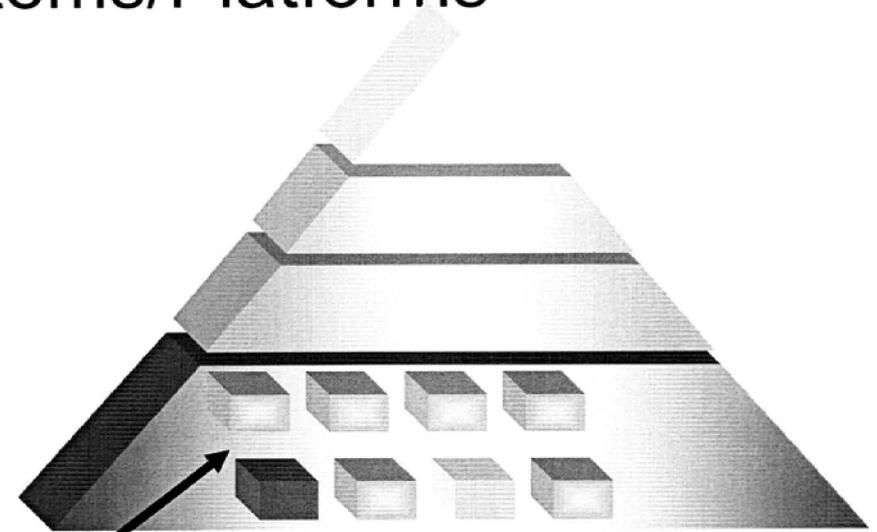
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Risk of Low Volume Production of Complex Systems/Platforms



Leading Indicator
Knowledge Drawn from
Limited Sources



Leading Indicator
Knowledge Drawn from
Multiple Sources

5	M	M	H	H	H
4	L	M	M	H	H
3	L	M	M	H	H
2	L	L	L	M	H
1	L	L	L	L	M
	CONSEQUENCE				



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Supplier Risk Mission Statement

- **Enhance NASA's ability to monitoring Supplier Risk by providing NASA programs with a R/Y/G "watch list" of leading indicators based on comprehensive *integrity, availability, and assurance* information about the facility.**



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What have we done?

- Evaluated numerous Supplier Rating Systems in the Aerospace Industry.
- Initiated projects to:
 - Pilot Supplier Audit R/Y/G evaluation (GSFC Lead)
 - Pilot DCMA Delegation R/Y/G evaluation (JSC, MSFC, GSFC leads)
 - Evaluate the use of the Navy Product Data Reporting and Evaluation Program (PDREP) system to store share information (JPL Lead)
 - Improved Joint Audit Coordination Process (JSC lead)
 - Developed consensus approaches to supplier assessment recommended practices (JAPC lead)



SUPPLIER RATING INITIATIVE

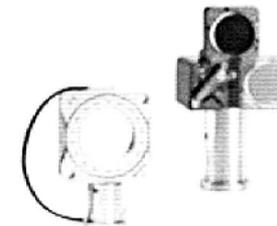
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What factors will be included in suppliers rating?

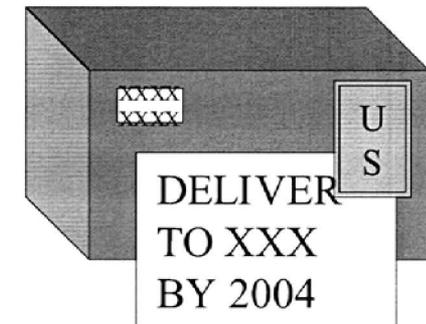
• Assurance Metric

- Receiving Inspections, (% pass/fail)
- Source Inspections, (% pass/fail)
- Quality Audit Rating, (G-Y-R)
- Quality System Failures, (points assessed)



• Availability Metric

- On time delivery (%30-60-90)
- Other indicators



• Integrity Metric

- GIDEP alerts
- Disbarment

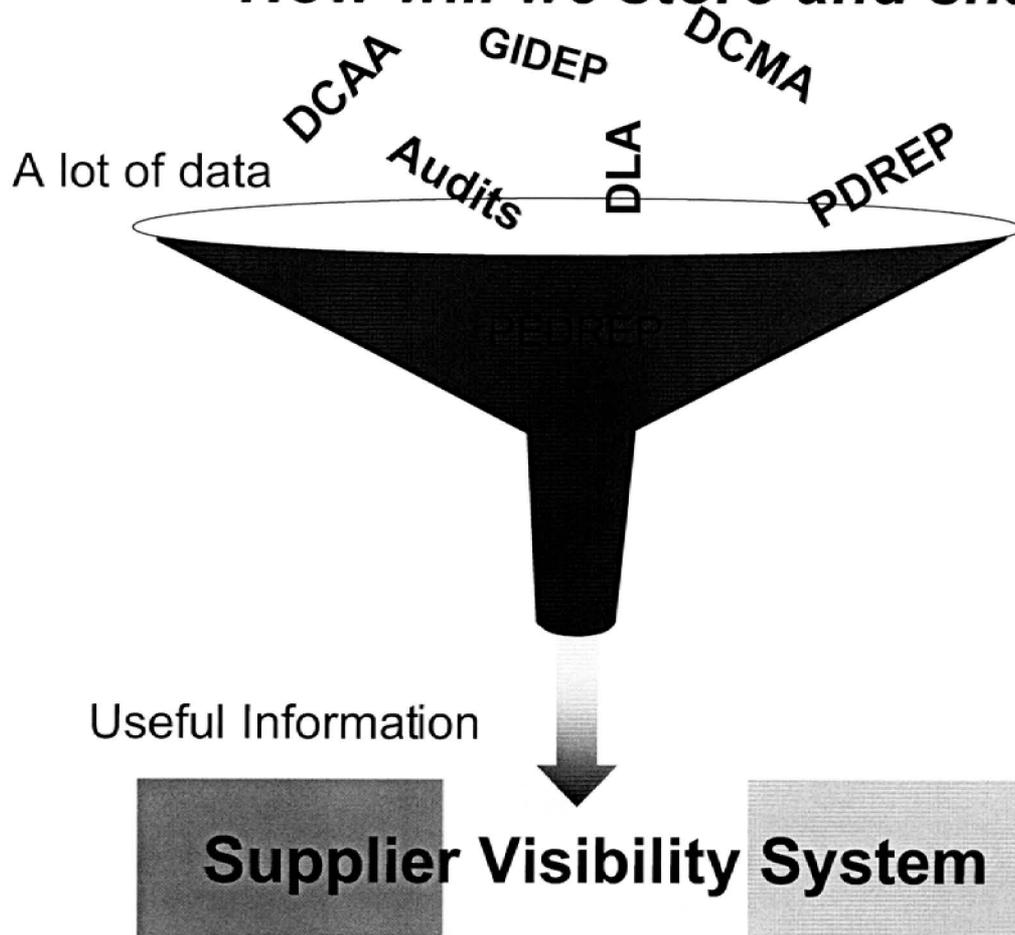


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How will we store and share the information?



PEDREP Program "Watch List"

Query by Gage Code Provides:

- NASA Leading Indicator Overall
- Quality/Delivery Rating
 - Algorithm of all inputs
- DCMA R/Y/G Rating
- Assessment Rating
- Leverage with suppliers

Accessed by:

- NASA Program Management
- Prime Contractors (restricted)
- Missile Defense Agency
- Navy/Air Force/other customers

Managed by:

- Navy – Naval Sea Logistics Center
- Legal issues addressed



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The Supplier "Watch List" Report Card

Cage Code	Supplier/ Address	Pgm Element/ Prime	NASA Leading Indicator	PDREP Q/D *	Assessment R/Y/G	DCMA R/Y/G	DCAA	Action Taken
13993	Supplier X/Y/Z	Orbiter/ USA	Y	G Y G G	Y	G	Y	Increased Surveillance

Multiple Risk Initiators Combine to a Single Leading Indicator

*Provides current rating and prediction



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The supplier will be able to view their Rating Status and see how they measure up against others suppliers of the same commodity. The rating will average last 12 months.



Welcome to the NASA Performance Evaluation System

Performance as of June 2003

Commodity-Fastener Supplier

Company Name - XYZ

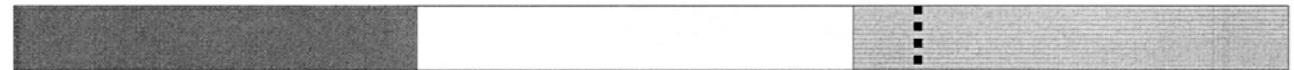
Compared to other NASA Fastener Suppliers

Assurance

Integrity

Delivery

Overall



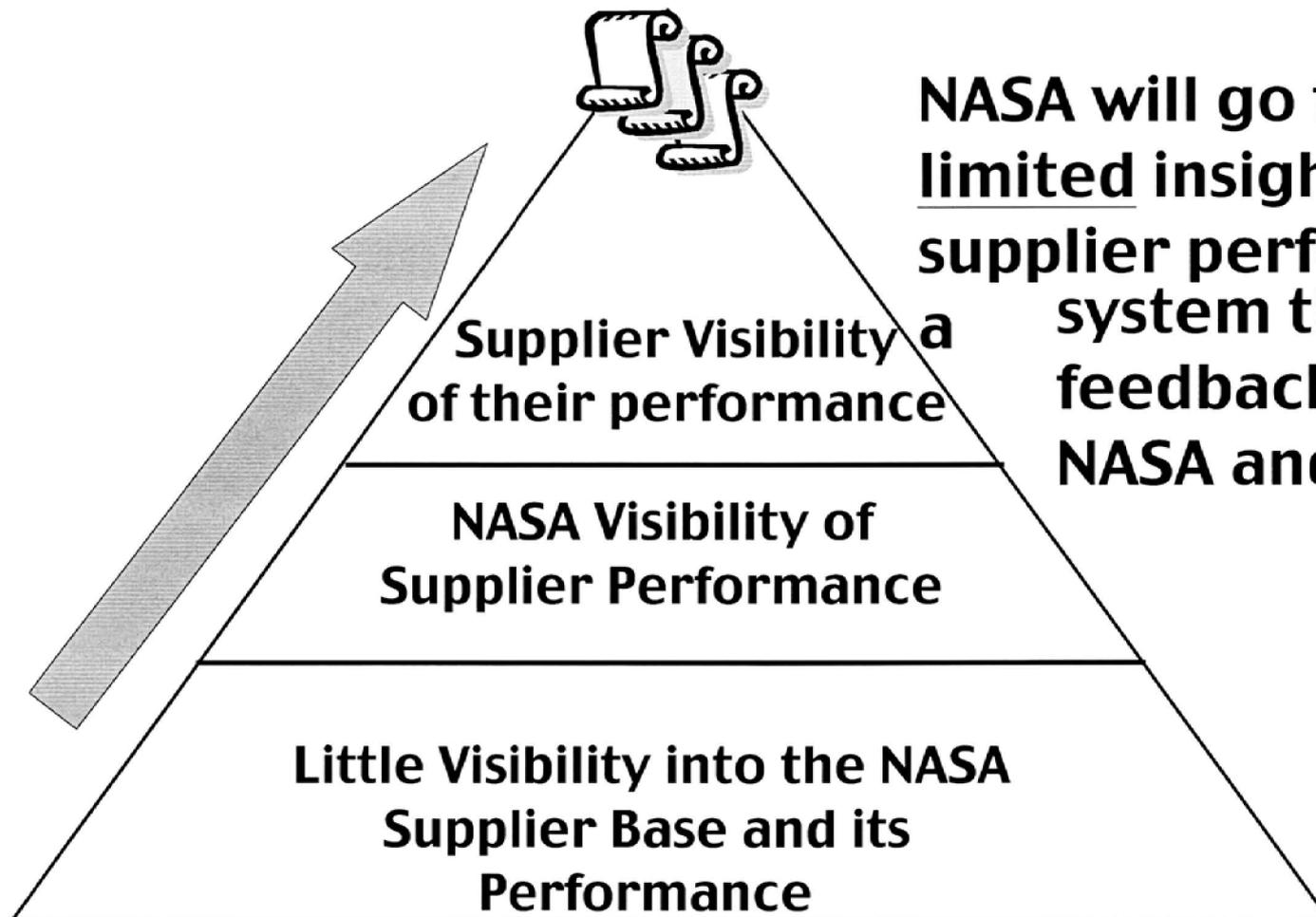
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How will the NASA Supplier Rating Initiative Improve its Supplier Base?

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NASA will go from having limited insight into supplier performance to a system that allows feedback to both NASA and the supplier



What are the next steps?

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- Complete MOA with NAVY on PDEREP (June)
- Complete development of supplier risk algorithm (June)
- Complete “supplier assessment recommended practices” (June)
- Complete R/Y/G pilot activities (July)
- Have Supplier Risk review at NASA HQ (July)
- Start pilot supplier risk deployment at program level (August).
- Agency wide policy implementation (September).