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Frontline Supply Chain Risk Management: Rapid Innovation for Supplier Surveillance During the COVID-19 Pandemic

Sandi Bowersox, Valle Kauniste, Jonathan Root

Video and slides will be available after the event on the NSC website: nsc.nasa.gov/events

January 14, 2021

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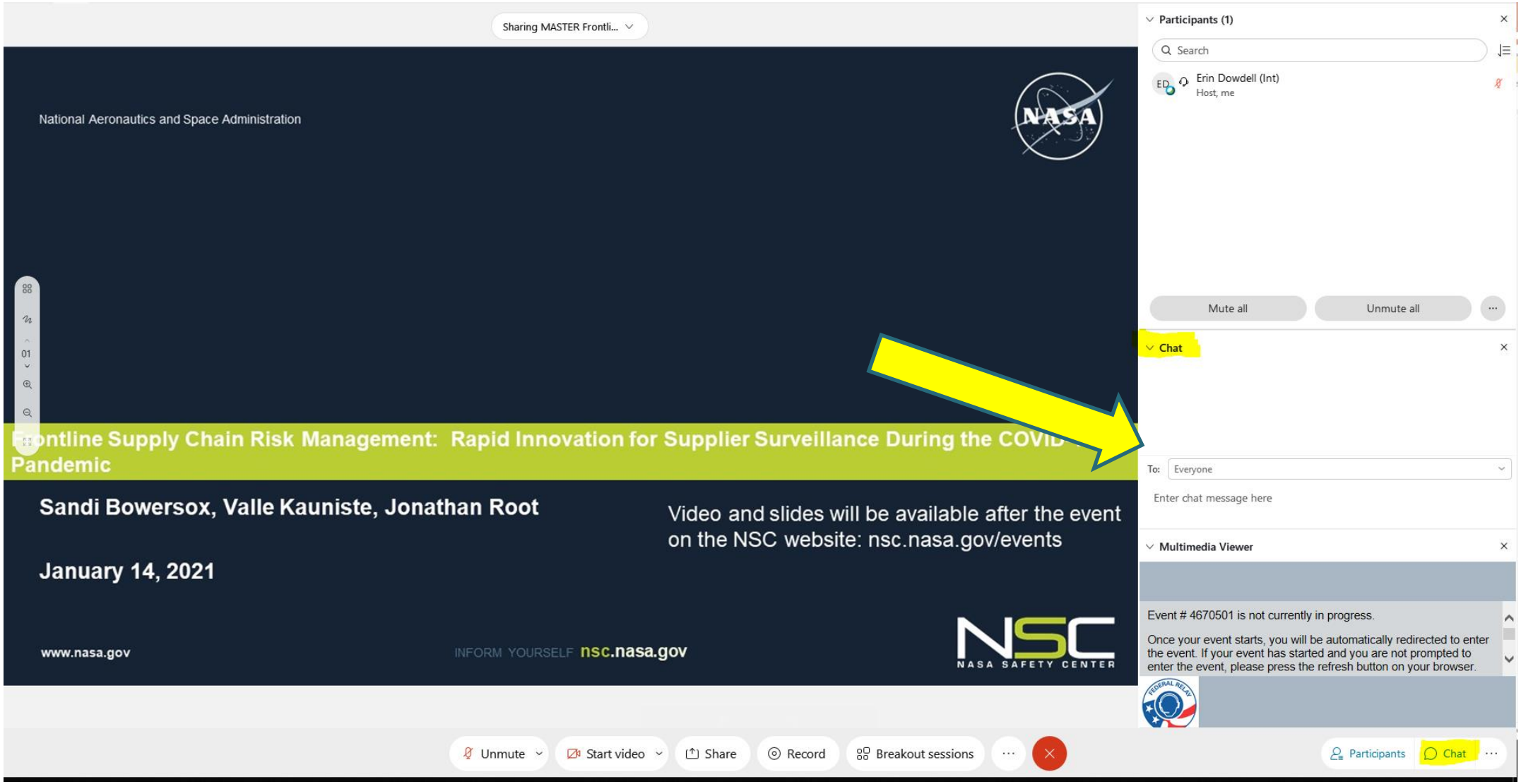
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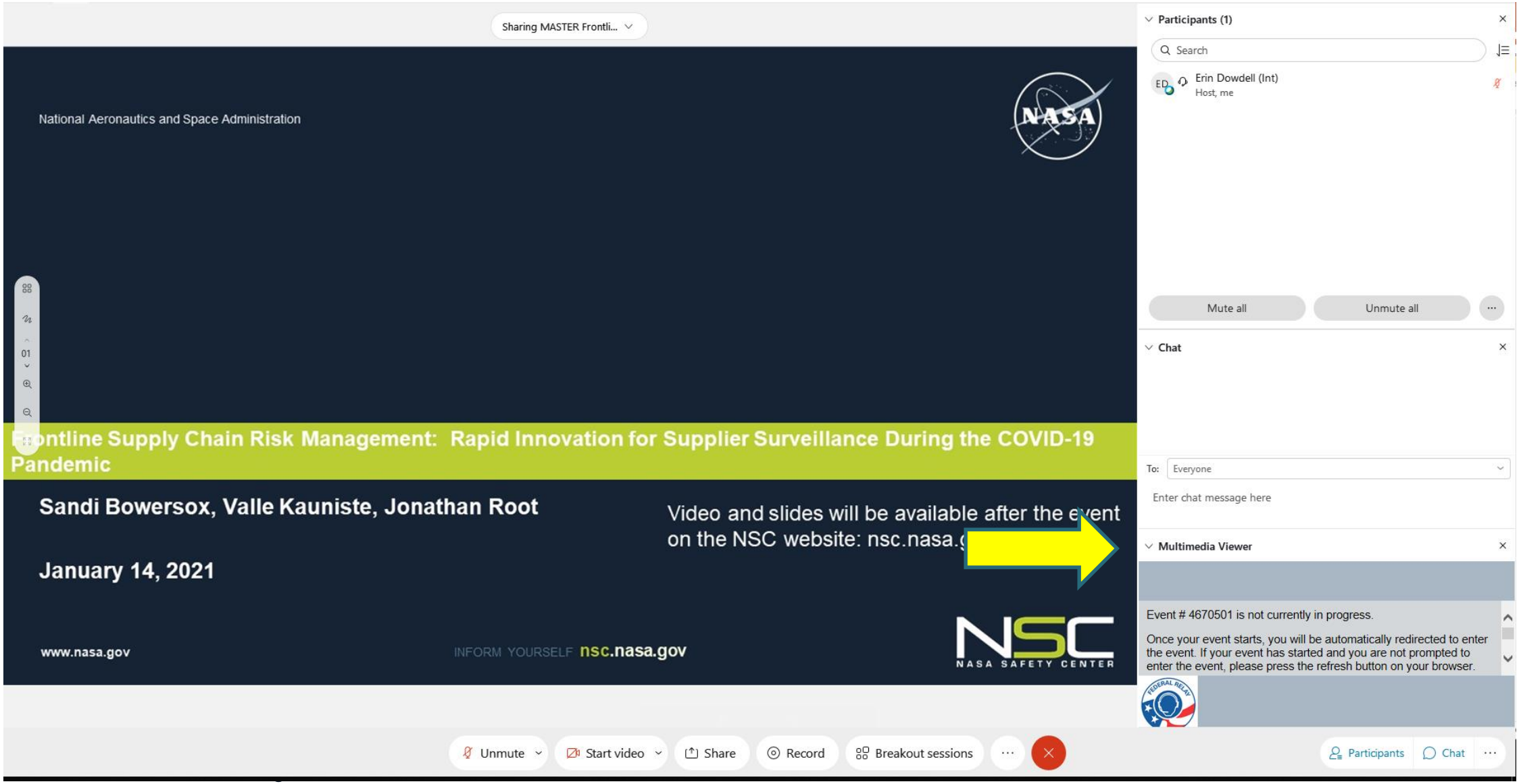
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Supply Chain Risk Management (SCRM) Webinar Series

Frontline SCRM: Innovative Supplier Surveillance during the COVID-19 Pandemic

Presented by NASA's Office of Safety and Mission Assurance (OSMA) and its Supply Chain Risk Management (SCRM) program in collaboration with the NASA Safety Center

January 14, 2021

Overview

SCRM Webinar Series

- Advance and foster strategies, policies, processes, capabilities and collaborations to manage supply chain risks that threaten the performance of NASA mission programs and projects
  - Develop understanding of risks to the agency's supply chains and of ways to manage those risks
  - Learn about "real-life" experiences, challenges and best practices from experts and webinar participants

Today's Webinar

- OSMA SCRM Update
- Frontline SCRM: Innovative Supplier Surveillance during the COVID-19 Pandemic
- OSMA SCRM Initiative: NASA Supply Chain Insight Central information services platform
- Follow-up discussions ... please submit questions during the webinar!

SCRM Webinar Series

Webinar series presented by OSMA's SCRM program in collaboration with the NASA Safety Center and participating organizations

- Webinar #1 / June 25, 2020 -- *Building Supply Chain Visibility for Risk Management: Illuminating COVID-19 Pandemic Impact upon NASA Suppliers*
- Webinar #2 / September 30, 2020 -- *Supply Chain Risk Management: Why, What & How*
- Webinar #3 / January 14, 2021-- *Frontline SCRM: Innovative Supplier Surveillance during the COVID-19 Pandemic*
- Webinar #4 / March 2021 (date TBD) -- *NASA's Supply Chain Insight Central information services platform: Enabling Agency-wide SCRM*
- Go to https://nsc.nasa.gov/events for webinar videos and presentations

National Aeronautics and Space Administration

Frontline SCRM: Innovation for Supplier Surveillance During the COVID-19 Pandemic

1/20/2021

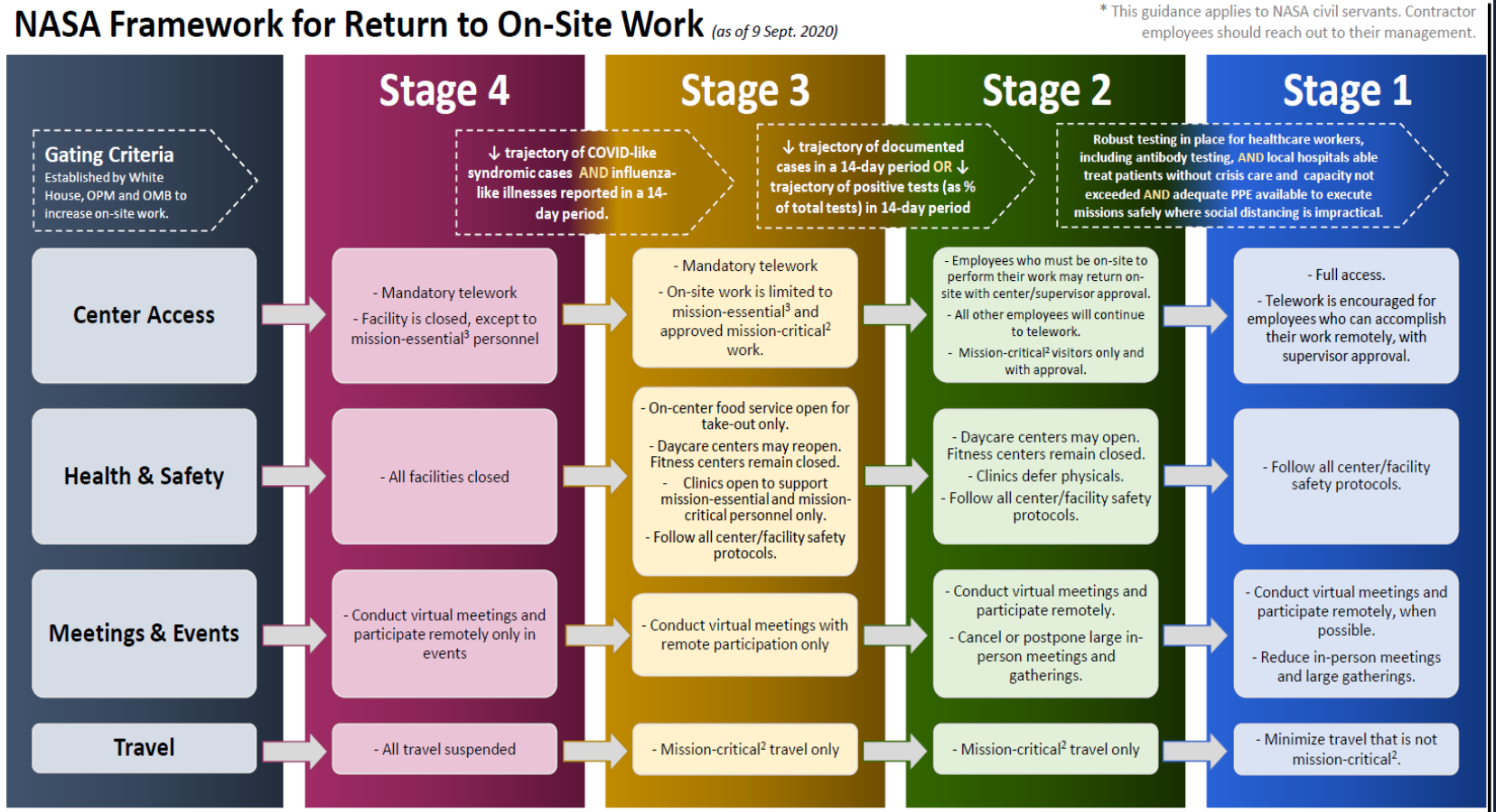
Sandi Bowersox Senior Program Manager SMA3 contract, KBRwyle Technology Solutions LLC

SMA3 Agency-wide Contract Provides SCRM

- SMA3 provides onsite visibility into the NASA supply chain through:
  - Inspection
  - Surveillance
  - Audits and Assessments

The Covid-19 Pandemic Created a Situation

- January/February 2020: Covid-19 cases increased within the US
- Mid-March 2020: NASA Centers moved to Stage 4 and mandatory telework except for mission essential work and personnel



Cybersecurity and Infrastructure Security Agency (CISA)

- Presidential Policy Directive (PPD) 21 identifies 16 critical infrastructure sectors
- Governors, through state directives, identified these sectors as able to remain in operation during state ordered closures
  - Chemical Sector
  - Commercial Facilities Sector
  - Communications Sector
  - Critical Manufacturing Sector
  - Dams Sector
  - Defense Industrial Base Sector
  - Emergency Services Sector
  - Energy Sector
  - Financial Services Sector
  - Food and Agriculture Sector
  - Government Facilities Sector
  - Healthcare and Public Health Sector
  - Information Technology Sector
  - Nuclear Reactors, Materials, and Waste Sector
  - Transportation Systems Sector
  - Water and Wastewater Systems Sector
- NASA suppliers continued to work under this directive

NASA Responded

- On 3/25/2020, NASA released contractor guidance focused on contractors that worked onsite at NASA Centers
- Mission assurance personnel not local to the area were sent home
- Mission assurance personnel local to the area continued to go onsite for inspections and teleworked as much as possible
  - Some projects were identified as needing onsite surveillance based on supplier performance
- All travel was cancelled

SMA3 Identified Risks

- Mission assurance personnel are required to visually verify and sign off on inspections; if they do not go onsite there is a high likelihood that critical inspections will not be signed off and verified as required. Either:
  - The hardware build continues without inspection through a waiver, or;
  - The hardware build comes to a halt until inspection can occur

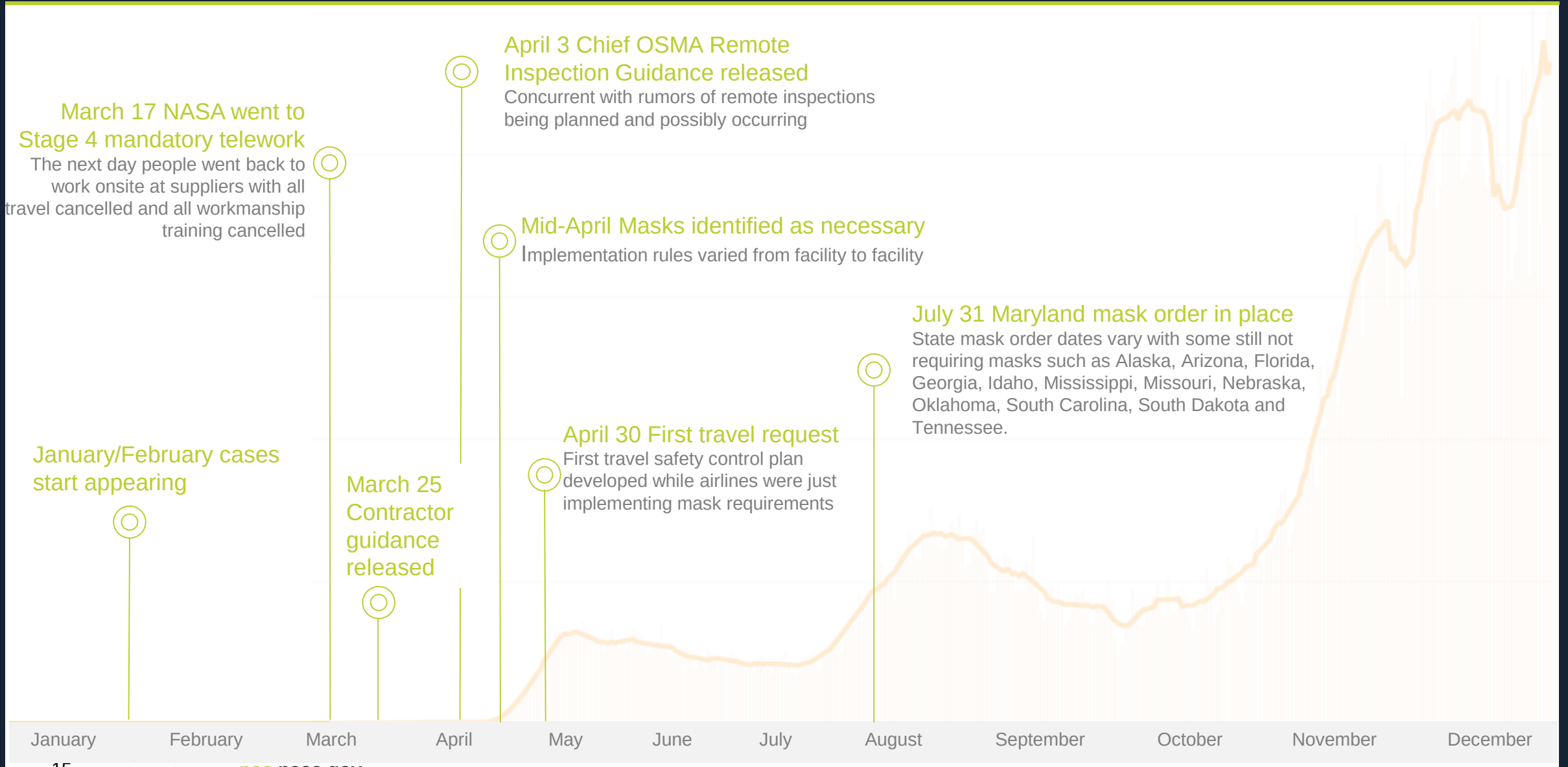
- Mission assurance personnel go onsite each day to monitor the supplier work; if they do not go onsite each day there is reduced surveillance and NASA visibility into supplier issues.

- Mission assurance personnel going onsite to suppliers increase the likelihood of those personnel contracting and spreading Covid-19.

Situation Details

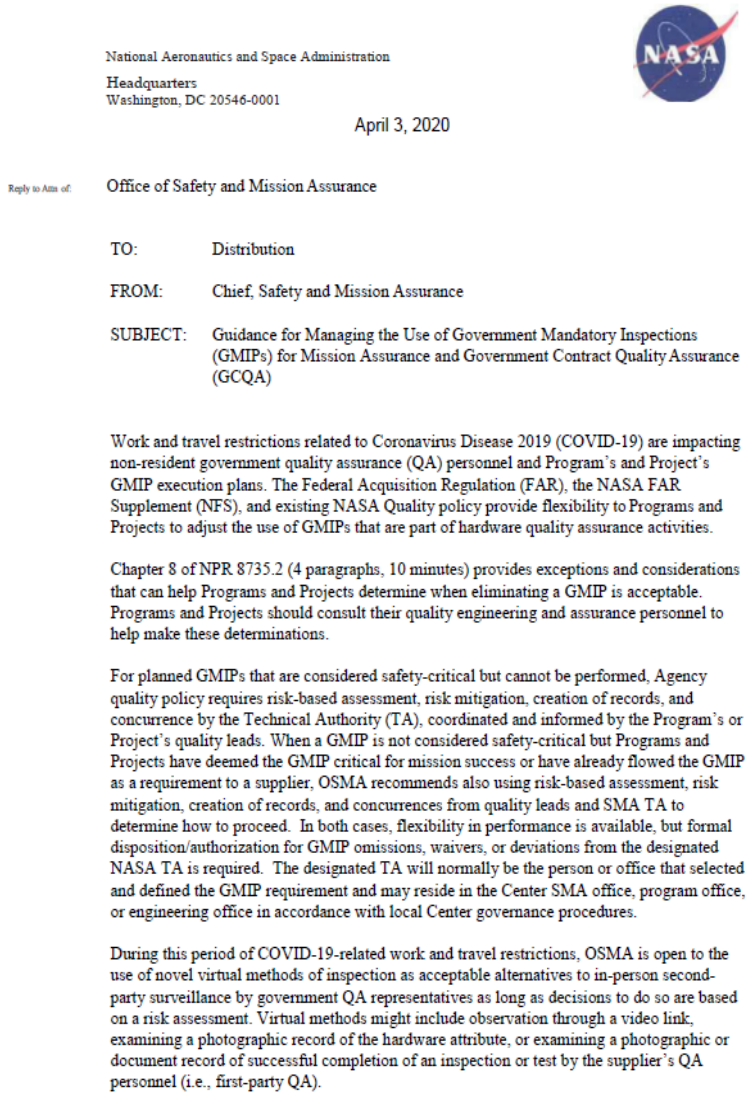
- SMA3 mission assurance personnel are located across the US
- Each state, county, and supplier have different rules
  - All of the different rules changed over time
  - CDC mask guidelines were not initially in place; but came about in the April 2020 timeframe
  - State orders varied in timing and some never ordered masking
  - SMA3 Program Management reviewed each facility's status and protocols
- The COVID-19 risk is localized and changed over time
- There was an absence of protective equipment such as hand sanitizer and disinfecting solution

Timeline: Covid-19 Responses



Remote Inspection Guidance from Chief OSMA

- Recognized the issues related to Covid-19 work and travel restrictions impact on GMIPs
- Identified NPR 8735.2B Chapter 8 for guidance related to determining when eliminating GMIPs is acceptable
- Required a risk-based assessment when safety critical GMIPs cannot be performed
- Opened the possibility of novel virtual methods of inspection as acceptable alternatives to in-person inspections as long as they are based on a risk assessment
- Risk assessments should be based on applicability of the method of inspection to the GMIP and the likelihood of defect detection



National Aeronautics and Space Administration

Headquarters
Washington, DC 20546-0001

April 3, 2020

Reply to Attn of: Office of Safety and Mission Assurance

TO: Distribution

FROM: Chief, Safety and Mission Assurance

SUBJECT: Guidance for Managing the Use of Government Mandatory Inspections (GMIPs) for Mission Assurance and Government Contract Quality Assurance (GCQA)

Work and travel restrictions related to Coronavirus Disease 2019 (COVID-19) are impacting non-resident government quality assurance (QA) personnel and Program's and Project's GMIP execution plans. The Federal Acquisition Regulation (FAR), the NASA FAR Supplement (NFS), and existing NASA Quality policy provide flexibility to Programs and Projects to adjust the use of GMIPs that are part of hardware quality assurance activities.

Chapter 8 of NPR 8735.2 (4 paragraphs, 10 minutes) provides exceptions and considerations that can help Programs and Projects determine when eliminating a GMIP is acceptable. Programs and Projects should consult their quality engineering and assurance personnel to help make these determinations.

For planned GMIPs that are considered safety-critical but cannot be performed, Agency quality policy requires risk-based assessment, risk mitigation, creation of records, and concurrence by the Technical Authority (TA), coordinated and informed by the Program's or Project's quality leads. When a GMIP is not considered safety-critical but Programs and Projects have deemed the GMIP critical for mission success or have already flowed the GMIP as a requirement to a supplier, OSMA recommends also using risk-based assessment, risk mitigation, creation of records, and concurrences from quality leads and SMA TA to determine how to proceed. In both cases, flexibility in performance is available, but formal disposition/authorization for GMIP omissions, waivers, or deviations from the designated NASA TA is required. The designated TA will normally be the person or office that selected and defined the GMIP requirement and may reside in the Center SMA office, program office, or engineering office in accordance with local Center governance procedures.

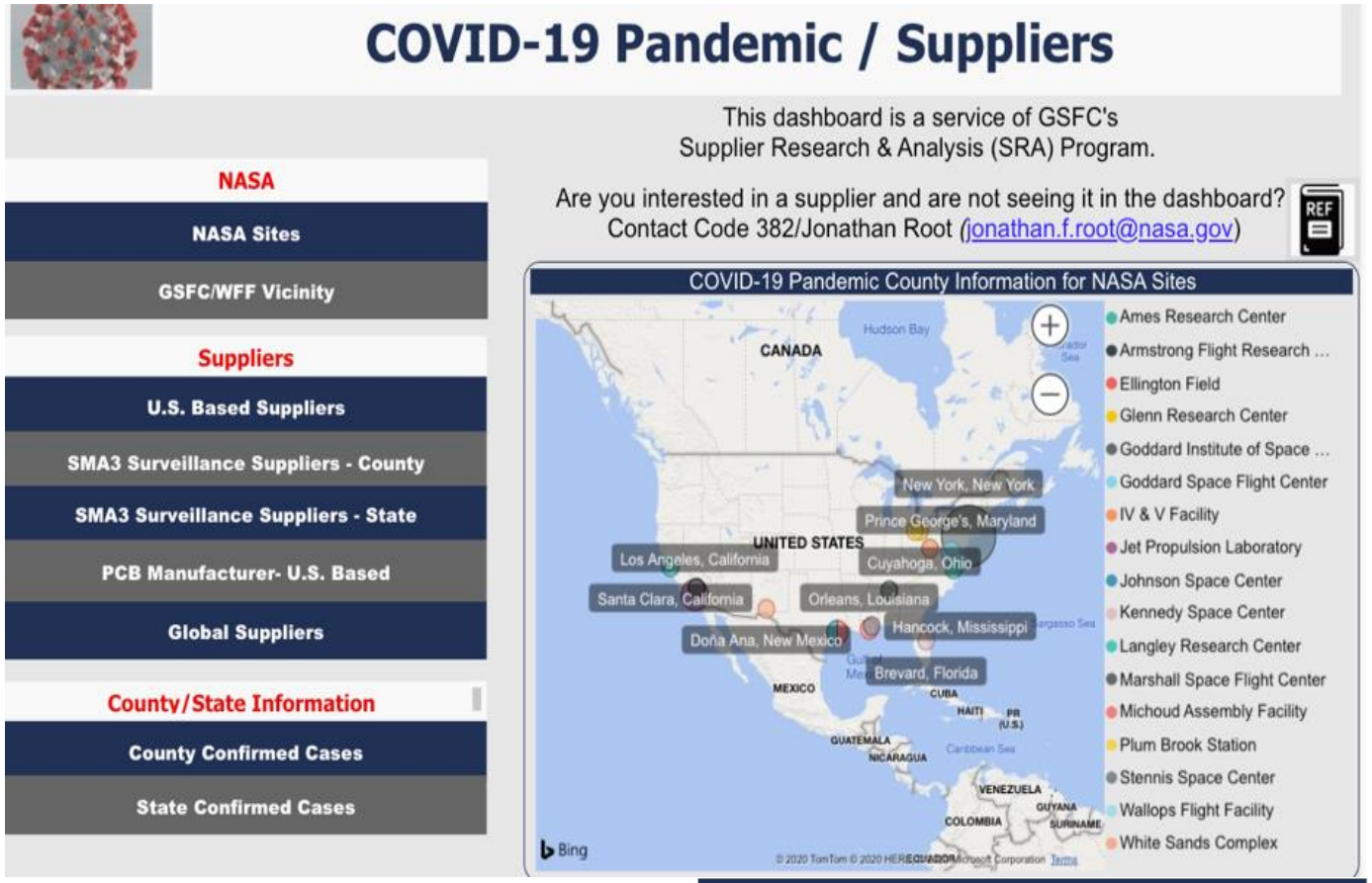
During this period of COVID-19-related work and travel restrictions, OSMA is open to the use of novel virtual methods of inspection as acceptable alternatives to in-person second-party surveillance by government QA representatives as long as decisions to do so are based on a risk assessment. Virtual methods might include observation through a video link, examining a photographic record of the hardware attribute, or examining a photographic or document record of successful completion of an inspection or test by the supplier's QA personnel (i.e., first-party QA).

Remote Inspections and Virtual Reviews

- We prioritize in-person inspections over remote inspections
- At various times, access to facilities was not possible
  - Cases in the facility or locality
  - Sub-tier supplier inspections and reviews
  - Personnel concerns
- This took a lot more coordination and planning with the facility
- QEs coordinated with local supplier QEs to exchange information
- It took a lot of trust based on the relationships already established with the suppliers and in particular the supplier QEs
- QEs documented the method of inspection
  - Document review
  - Pictures
  - Videos
  - Interactive live stream events

COVID-19 Pandemic / Suppliers Dashboard Innovation

- Dashboard produced by GSFC SMA's Supplier Research & Analysis (SRA) program using NASA's Meta information system
  - Released for pilot use in early April; initially focused on a set of suppliers for which SMA3 surveillance services are provided
- Brings data / information together into interactive displays to aid ongoing situational awareness, analysis, planning and decision-making over the course of the pandemic
- Data / information resources include:



- Internal GSFC SMA reporting (ad hoc)
- SRA team research (e.g., state orders, supplier websites)

Dashboard: Consolidates and Focuses Data on SMA3 Work Sites

Personnel Protective Equipment (PPE)

- While supplier facilities have PPE onsite, we want to be good guests in their facilities and bring our own supplies
- Supplies were in high demand and difficult to obtain
- With our personnel dispersed across the US we needed individual sets of supplies
- Masks
  - In the May timeframe, KBR provided 2 masks per KBR personnel
  - We determined masks were not required for remote personnel and should be reallocated to personnel going onsite
  - We used the NASA guidance for number of uses of a single paper mask
  - We continue to purchase and distribute masks as needed
- Hand Sanitizer Wipes
  - In May timeframe, we identified a generic brand
  - We initially had some delays from the generic supplier but those resolved in early July
- We found that shipping to suppliers did not guarantee delivery to personnel and shipment to homes was more reliable

Travel

- We had a request to travel in the May timeframe
- Working with the Safety Engineer who was traveling we developed a travel safety control plan and received the approval of the Center Director
- We researched travel businesses and their safety practices
- We researched CDC guidelines for travel
- The plan covered from leaving the house to arriving at the hotel
- We have traveled less than 20 times this year since March

It’s About the People

- We had some cases, whether exposure or testing positive, but we all made it through the 2020 year
- We recognize the dedication of our personnel to continue to go onsite in the face of this unknown and ever evolving situation
- We recognize the risk posed by a dispersed workforce working in a variety of locations and facilities with differing conditions, rules, and practices
- We appreciate the openness of the personnel to voice concerns and listened to those concerns
  - Sometimes that meant reassigning work
  - Sometimes that meant remote inspections
  - NASA was very flexible and supportive with us


NASA

Strategic Situation / SCRM Challenges

- NASA mission performance relies upon multitiered, interconnected and global supply chains of commercial, non-profit and government organizations
  - Dynamic array of technical, business, market and security risks threaten to disrupt or deny the timely, affordable provisioning of products and services as required for mission success

- SCRM challenges include:
  - Build supply chain visibility within and across projects to provide insights/situational awareness, identify/assess risks and support informed decision-making
  - Improve interfaces with established risk management and decision-making processes to anticipate, avoid and manage supply chain risks
  - Streamline the planning, resourcing and performance of supplier quality assurance (surveillance/inspection) activities to optimize the reduction of priority risks (isolated and cross-cutting)
  - Enable continual improvement of SCRM efforts through collaborations and the sharing of risk reduction actions, results and lessons-learned

Supply Chain Visibility, Situational Awareness and Analytics are Key to Managing Risks

Guest Speaker Presentation:

Frontline SCRM: Innovative Supplier Surveillance during the COVID-19 Pandemic

Sandi Bowersox

NASA Supply Chain Insight Central Information Services Platform
SCRM Challenges → Concept → Implementation

Strategic Situation / SCRM Challenges

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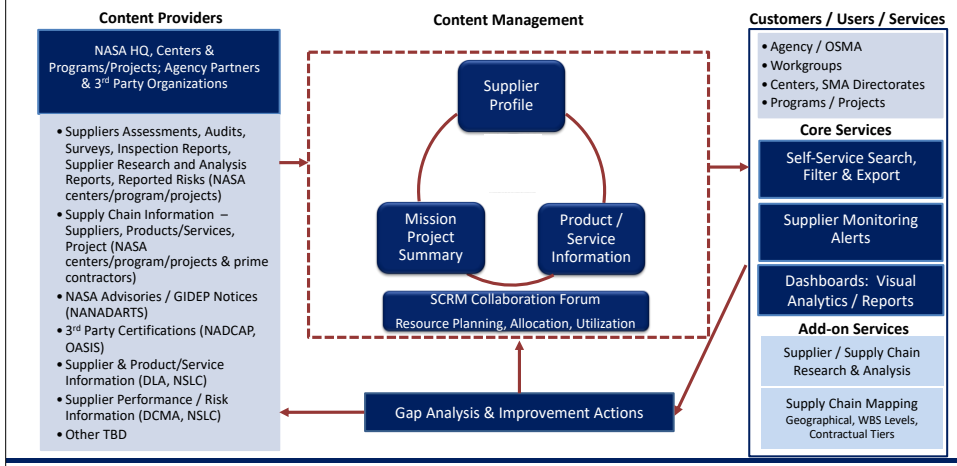
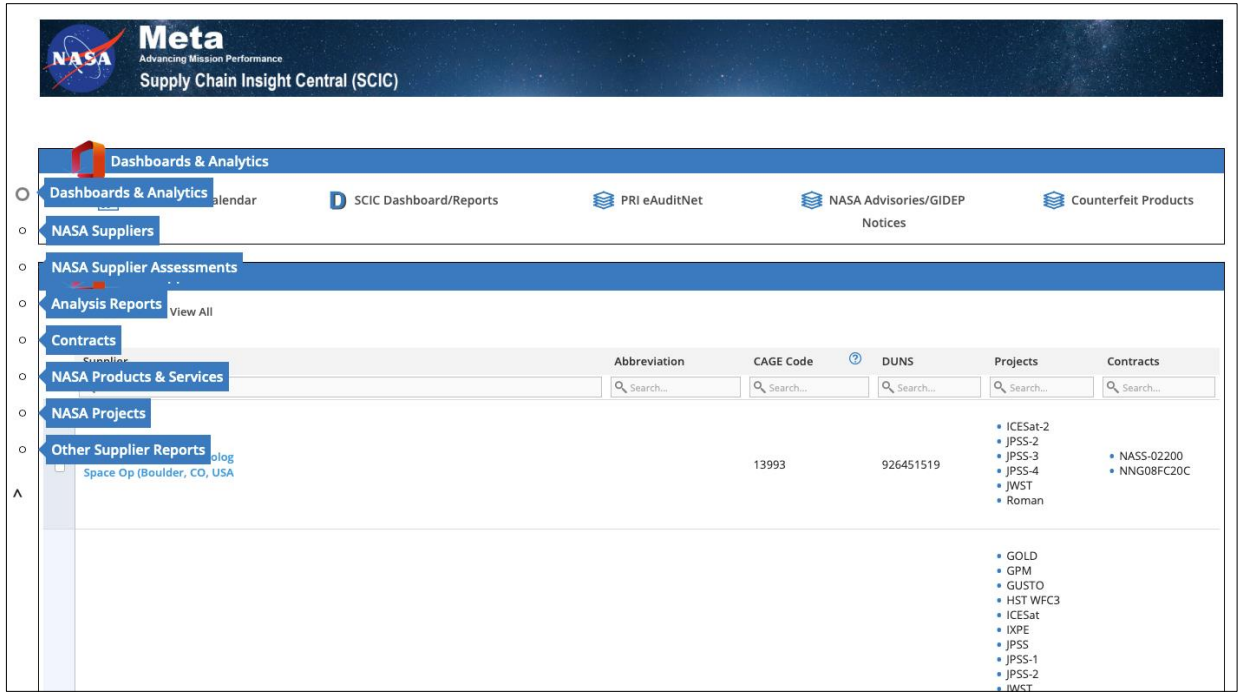
Supply Chain Visibility, Situational Awareness and Analytics are Key to Managing Risks

NASA Supply Chain Insight Central
Content / Services Overview – *Concept*



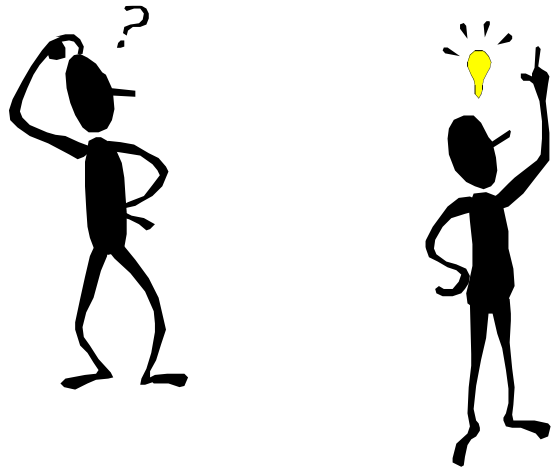


- Current status: configuration & testing of initial release
  - Leverages established capabilities of NASA's Meta information system
  - Initial release replaces OSMA's legacy Supplier Assessment System
- **Attend the OSMA SCRM Webinar in March to learn more!**

Discussion

An Old Proverb

For want of a nail the shoe was lost;
For want of a shoe the horse was lost;
For want of a horse the rider was lost;
For want of a rider the battle was lost;
For want of a battle the kingdom was lost;
And all for the want of a horseshoe nail.



Thank you for your interest and time!

Valle Kauniste

Program Manager for HQ/OSMA Supply Chain Risk Management, valle.j.kauniste@nasa.gov

Jonathan Root

Senior Advisor for HQ/OSMA Supply Chain Risk Management Program, and Program Manager for GSFC/SMA Supplier Research & Analysis and GSFC/SMA Meta Information System, jonathan.f.root@nasa.gov

Upcoming Webinars

January

- Software Assurance Panel Session – January 27

February

- How SMA Saved My Wife's Life – February 25

March

- Model Based Mission Assurance – Mid March

April

- NPR 8735.2C: Early Life Cycle Activities – April 26

For details on these events, please visit https://nsc.nasa.gov/events