



Supply Chain Risk Management (SCRM) Webinar Series Webinar #1

Building Supply Chain Visibility for Risk Management: Illuminating COVID-19 Pandemic Impact upon NASA Suppliers

Presented by NASA's Office of Safety and Mission Assurance and its Supply Chain Risk Management program in collaboration with the NASA Safety Center and the NASA Goddard Space Flight Center's Safety and Mission Assurance Directorate

June 25, 2020



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 across the NASA culture and workforce 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

- Provide an overview of supply chain risks, including those stemming from the COVID-19 pandemic
- Address the Supply Chain Risk Management (SCRM) Challenge and key aspects of NASA OSMA's SCRM program
- Present an approach to enabling supply chain visibility, insight and situational awareness in support of risk analysis, supplier assessment / surveillance / oversight activities, and risk management decision-making
- Demonstrate two dashboards produced by GSFC SMA's Supplier Research & Analysis program:
 - **COVID-19 Pandemic and Suppliers (primary focus for today)**
 - **Global Risk and Foreign-based Suppliers**
- Q&A ... Follow-up Discussions



Today's Speakers

Valle Kauniste

Program Manager for HQ/OSMA Supply Chain Risk Management

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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

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Olga Ceritelli

Vice President, Show Me Quality Consulting, and Supplier Research & Analysis Team Leader, NASA SMA3, olga.ceritelli@nasa.gov

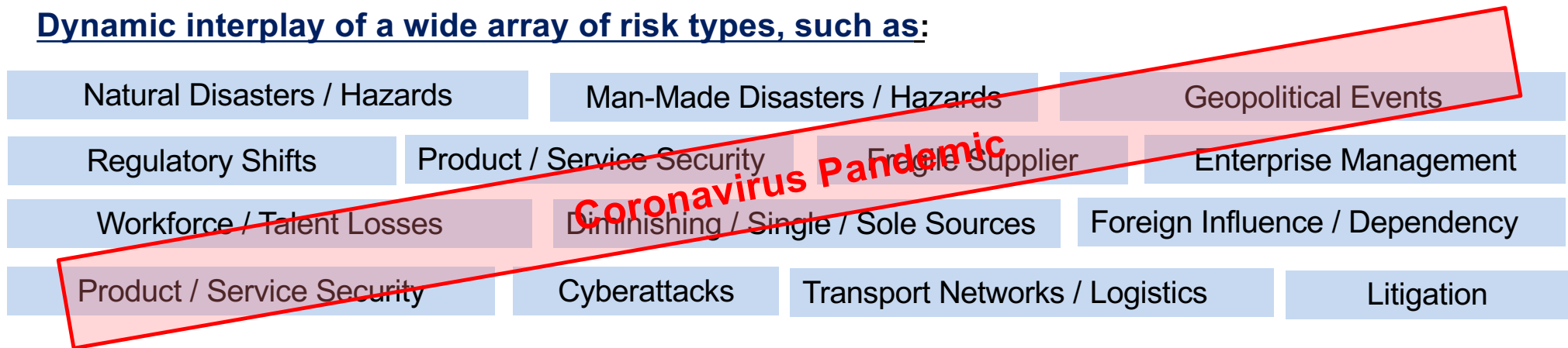


A World of Risks Threaten Supply Chains

Trends / conditions driving risks, including:

- Globalization of markets, technology and industry with supply chains operating across geographical, political, social, cultural and economic environments
- Supply chains yield advantages and exposure to risks
- Competition and conflicts
- Climate change

Dynamic interplay of a wide array of risk types, such as:



Supply Chain Visibility is Key to Managing Risk Exposure



Strategic Situation

- NASA mission performance relies upon multitiered, interconnected and global supply chains of commercial, non-profit and government organizations for the development and operation of complex systems in undertaking highly challenging and unprecedented missions to fulfill national priorities
- Supply chains for NASA's mission programs and projects involve thousands of organizations subject to a broad, dynamic array of technical, business, market and security risks that threaten to disrupt or deny the timely, affordable provisioning of products and services as required for mission success

**Limited Visibility into Supply Chain Risks =
Unknown Risk Exposure**



SCRM Challenge

- Develop, coordinate and operate agency-wide capabilities and processes to:
 - build visibility into mission program / project supply chains in order to increase situational awareness and assess exposure to supply chain risks,
 - enable and foster informed decision-making at operational and strategic levels to avoid and manage risks,
 - focus the resource allocation for supplier surveillance activities and their performance to optimize the reduction of priority risks, and;
 - feedback risk reduction results, best practices and lessons-learned to enable continual improvement

**Coronavirus pandemic and recovery presents
unprecedented supply chain risks**



OSMA's SCRM Program

- Established at the start of FY 2020
- General approach – develop and implement integrated solutions to meet the SCRM Challenge by blending:
 - Policy, processes, methods
 - Enterprise information systems and software tools
 - Organizational culture and workforce development
 - Organizational interfaces and collaborations
 - Resourcing and leveraging of existing capabilities
- Initiatives and priorities, include:
 - Design and implement the planned **NASA Supply Chain Insight Central** as the integrated information platform and services “engine” of the OSMA SCRM program
 - Leverages NASA’s Meta information system managed by the GSFC SMA Directorate
 - Risk-driven supplier oversight and utilization of SMA surveillance resources
 - Data deliverables to build supply chain visibility
 - Conduct quarterly OSMA SCRM webinar series



Definitions

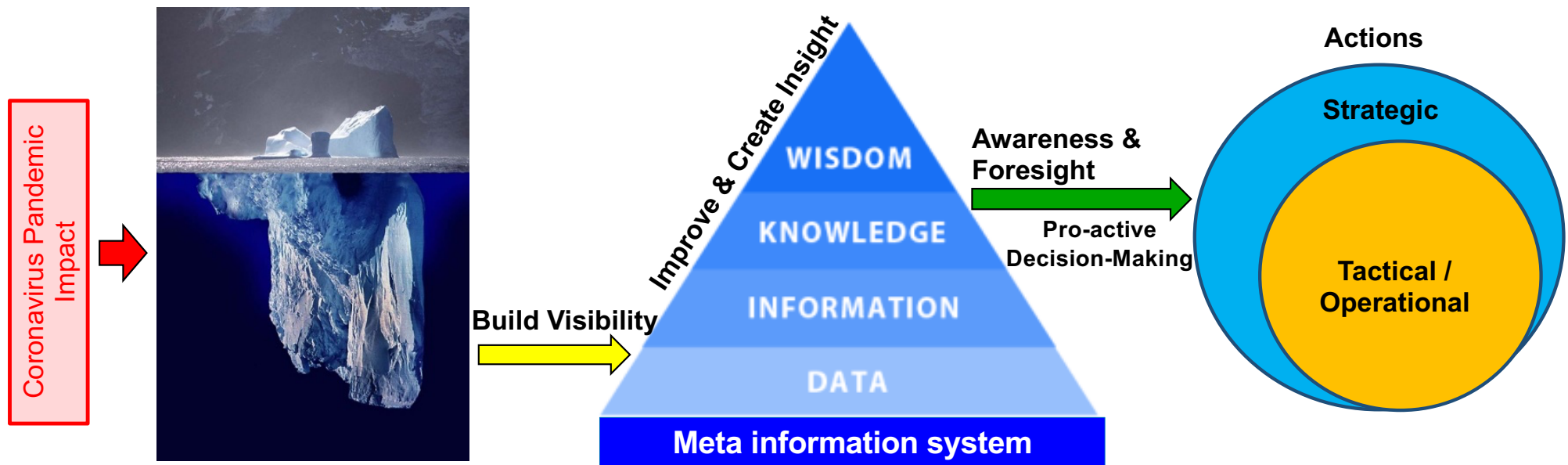
Supply Chain Risk Management (SCRM): enterprise-wide strategy and processes for the pro-active identification, assessment, avoidance and mitigation of the array of business, market, security and production/technical risks to the supply chains (direct and lower tier suppliers) of NASA programs and projects that threaten to disrupt or deny the timely, affordable provision of products and services as required for mission success

Supply Chain Visibility: Suppliers + Products/Services (Contractual Deliverables) + Project/System Configuration (Work Breakdown Structure)



Approach

Develop Capabilities and Processes for Informed SCRM Decision-Making

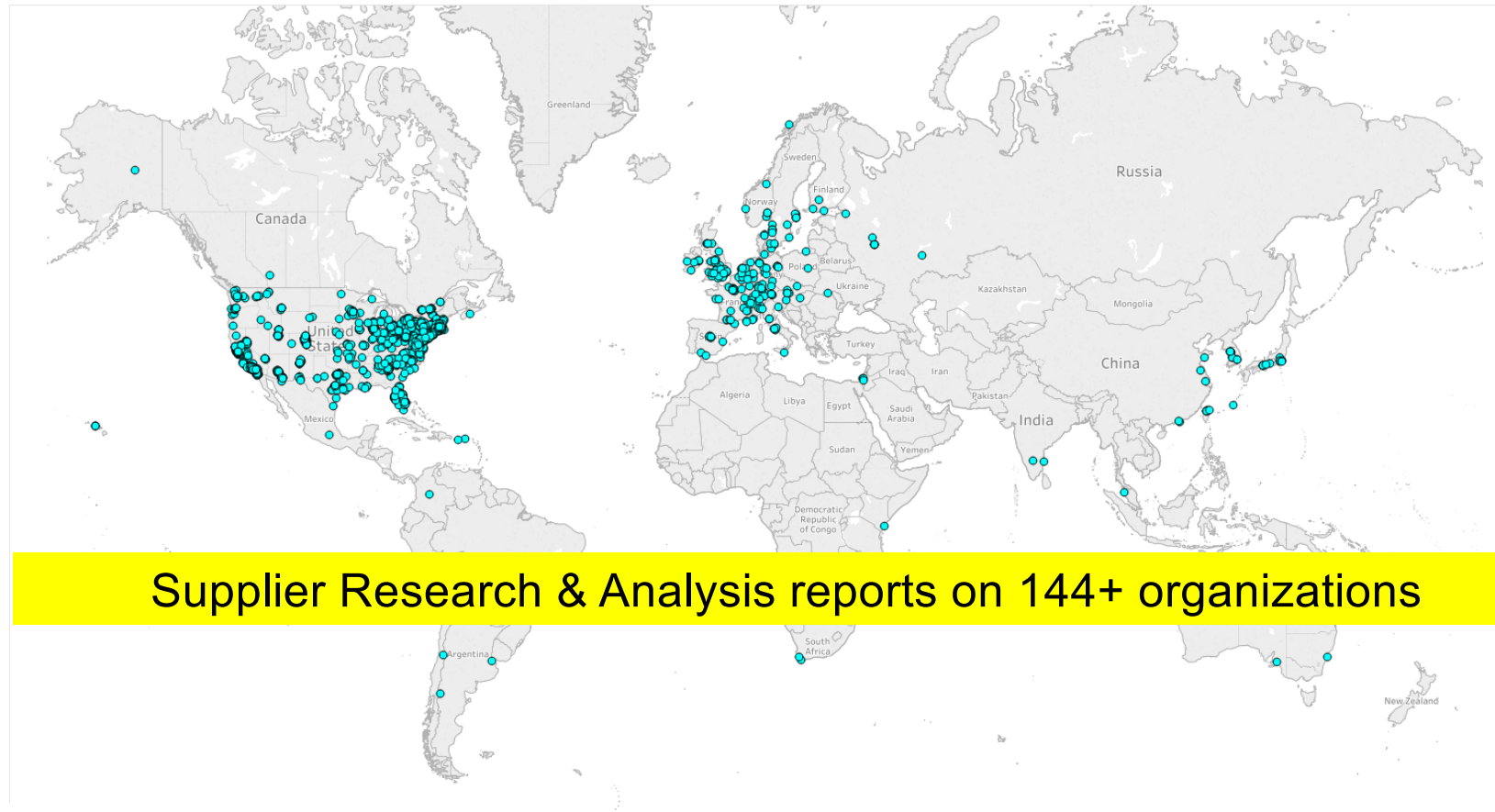


As we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know. Donald Rumsfeld, Secretary of Defense, 2002



Worldwide Locations of Suppliers

Goddard Space Flight Center



Supplier Research & Analysis reports on 144+ organizations

Source: NASA's Meta information system



Analytical Framework

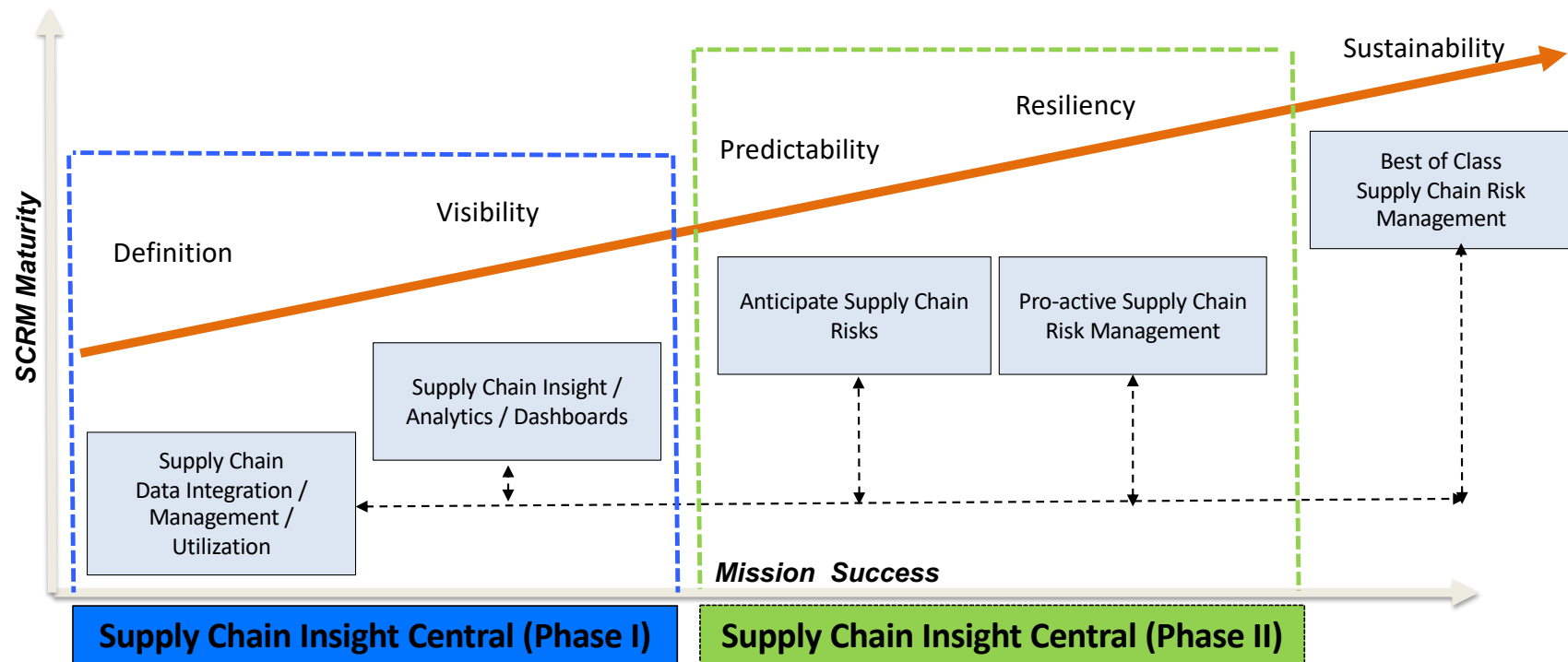
GSFC SMA's Supplier Research & Analysis Program

| Categories | Key Factors |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Design, Production & Technical | Manufacturing, Technical Capabilities, Quality Management, R&D/Innovation |
| Business Enterprise Management | Leadership, Strategy, Organization, Workforce, Product/Services Management, Supply Chain Management, Financial Health, Facilities, Business Alliances, Contractual Customers |
| Market | Industry Position, Trends and Conditions, Litigation & Legal Actions, Regulatory Actions |
| Security & Hazards | Cybersecurity, Information Security, Physical Security, Hazards (Environment, Geopolitical, Socioeconomic) |



Approach

Adapted from *21st Century Supply Chain Risk Management (SCRM) Maturity Model*, Supply Chain Risk Management: An Emerging Discipline by Schlegel, G. & Trent, R., 2015





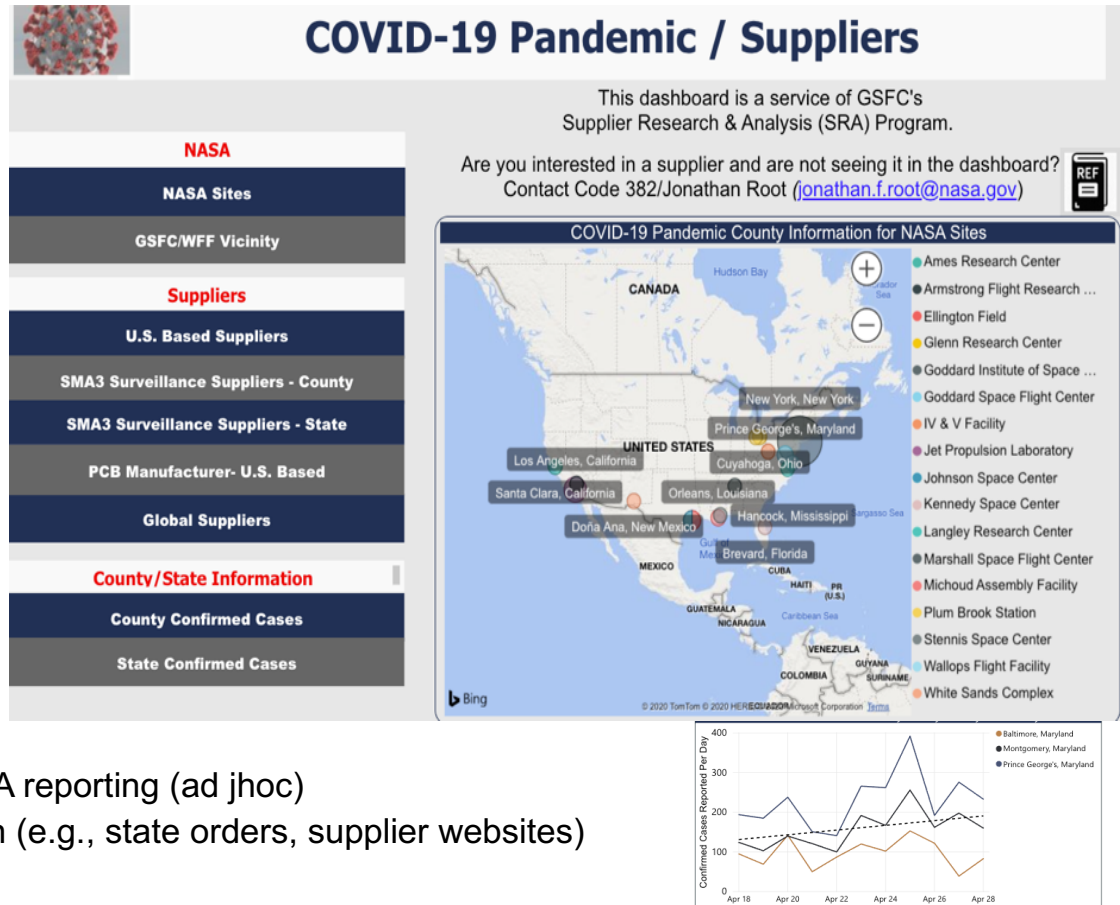
COVID-19 Pandemic / Suppliers Dashboard

Purpose and Content Overview

- 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 jhoc)
- SRA team research (e.g., state orders, supplier websites)





Global Risk – Foreign Based Suppliers Dashboard

Purpose and Content Overview

- Dashboard produced by GSFC SMA's Supplier Research & Analysis (SRA) program using NASA's Meta information system
 - Released in mid-May to support SMA risk management board
- Interactive displays focused on GSFC suppliers located outside of the U.S. and risk information produced by the U.S. State Department
- Data / information resources include:



JOHNS HOPKINS
UNIVERSITY & MEDICINE



Travel.State.Gov

U.S. DEPARTMENT of STATE — BUREAU of CONSULAR AFFAIRS



Curated Integration of Data & Information Yields
Insight and Situational Awareness



Overview of Dashboards

- COVID-19 Pandemic and Suppliers (primary focus for today)
- Global Risk and Foreign-based Suppliers



How To Access Supplier Research and Analysis (SRA) Dashboards

- Dashboards (and reports) are available in the NASA Meta information System (<https://meta.gsfc.nasa.gov>) within the SRA application; access to Meta may be requested via the NASA Access Management System (<https://nams.nasa.gov>).
- Within the SRA application use the “More” tab to select a dashboard



COVID-19 Pandemic/Suppliers Reference Tab

References and Other Information

The COVID-19 Pandemic Dashboard for NASA Suppliers is produced under the Safety and Mission Assurance, Audit, and Assessment (SMA3) Contract (NNA04B) in support of the Supplier Research and Analysis (SRA) program within NASA GSFC's Safety and Mission Assurance Directorate. The dashboard, which is provided for Internal U.S. Government Use Only, is designed to provide information and insight to aid analysis and decision-making during the COVID-19 pandemic response and recovery phases.

Contact Jonathan Root (SRA Program Manager, GSFC/Code 382) for further information

State Executive Orders/Policy Sources

| State | Executive Order Access | Additional Supporting Information | Notes regarding orders | Date Last Updated |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Arizona | https://azgovernor.gov/file/34817/download?token=9X8aqgc | https://www.azdhs.gov/preparedness/epidemiology-disease-control/infectious-disease-epidemiology/index.php#novel-coronavirus-home | Stay at home order ended May 15. Businesses reopened with restrictions. | 6/9/2020 |
| California | https://www.gov.ca.gov/wp-content/uploads/2020/03/19-20-attested-EO-N-33-20-COVID-19-HEALTH-ORDER.pdf | https://covid19.ca.gov/ | Stay at home order has no definitive end date, but gradual reopening being done on a county-by-county basis based on data. Manufacturing, retail stores and houses of worship are allowed to open with restrictions. | 6/9/2020 |
| Colorado | https://drive.google.com/file/d/15odEp4BF2gxJAiGNpxX-5nB7nCirk4z/view | https://www.colorado.gov/governor/2020-executive-orders | State-wide stay-at-home order was allowed to expire on 4/26/20. New state guidelines allow most businesses to open in a limited capacity. Some res | 6/9/2020 |

Additional Notes

This dashboard relies upon publicly available data from multiple sources that do not always agree.

The data displayed in this dashboard is the most recent data available at the time of the last data update. There may be a delay from the time the data is available for use in the dashboard.

Dashboard county and state cases and fatalities data is refreshed twice a week, typically in the first half of the week and then again in the latter half of the week. State executive orders are updated weekly, and supplier operational status information is updated as it is received/discovered.

Sources and Additional Information

| Title | Source |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| President's Guidelines for Opening Up America Again | https://www.whitehouse.gov/openingamerica/ |
| State COVID-19 Stay at Home Order Summary and links (Washington Post) | https://www.washingtonpost.com/health/2020/04/06/coronavirus-stay-at-home-by-state/ |
| State COVID-19 Stay at Home Orders (NY Times) | https://www.nytimes.com/interactive/2020/us/coronavirus-stay-at-home-order.html |
| CISA Critical Infrastructure Sector | https://www.cisa.gov/critical-infrastructure-sectors |
| U.S. Census Data Source | https://www.census.gov/quickfacts |
| NASA Framework for Return to Work | https://nasapeople.nasa.gov/coronavirus/NASA_RTOW_Framework.pdf |
| NASA's Response | https://nasapeople.nasa.gov/coronavirus/nasa_response_framework.pdf |

County & State Confirmed Cases Last Updated Date

| |
|------------------------------------|
| 6/8/2020 |
| NASA Facility Status Last Update |
| 6/9/20 |
| GSFC Surveillance SMA3 Last Update |
| 4/21/2020 |

Includes references and links

| | | | | | |
|---------------------|----------|---------------------------------------|--------------------------|---------------------------------|--------------|
| Suppliers-County-CO | COVID... | PCB Manufacturer- U.S. Based-COVID-19 | Global Supplier-COVID-19 | County Confirmed Cases-COVID-19 | State Confir |
|---------------------|----------|---------------------------------------|--------------------------|---------------------------------|--------------|

Contact information and other supporting information included

Details on Update of Critical Information



Global Risk Reference Tab

Global Risk References & Definitions

The Global Risk Dashboard is produced under the Safety and Mission Assurance, Audit, and Assessment (SMA3) Contract, Supplier Research and Analysis (SRA) Program within NASA GSFC's Safety and Mission Assurance Directorate. This tool, for Internal NASA / U.S. Government Use Only, is designed to provide information and insight to aid analysis and decision making.

Contact Jonathan Root (jonathan.f.root@nasa.gov), SRA Program Manager, GSFC/Code 382) for further information.

Contact information and other supporting information included

| Reference Title | How we use it | Link |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U.S. Department of State - International Travel | Travel Advisory & Risk Indicator Definitions | https://travel.state.gov/content/travel/en/international-travel/about-our-new-products.html |
| U.S. Department of State - Travel Advisories | All advisories are available through this site. | https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories.html |

References and links

| Travel Advisory Levels | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level | Definition |
| Level 1 - Exercise Normal Precautions | This is the lowest advisory level for safety and security risk in any international travel. Conditions in other countries may change at any time. |
| Level 2 - Exercise Increased Caution | Be aware of heightened risks to safety and security in the areas in the United States and may change at any time. |
| Level 3 - Reconsider Travel | Avoid travel due to serious risks to safety and security. The Department of State provides additional advice for travelers in these areas in the Travel Advisory. Conditions in any country may change at any time. |
| Level 4 - Do Not Travel | This is the highest advisory level due to greater likelihood of life-threatening risks. During an emergency, the U.S. government may have very limited ability to provide assistance. The Department of State advises that U.S. citizens not travel to the country or region. The Department of State provides additional advice for travelers in these areas in the Travel Advisory. |

Travel Advisory Level and Risk Indicators Defined

| Risk Indicators | |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Risk Indicator | Risk Indicator Description |
| Terrorism | Terrorist attacks have occurred and/or specific threats against civilians, groups, or other targets may exist. |
| Time-limited Event | Short-term event, such as elections that may pose safety risks. |
| Civil Unrest | Political, economic, religious, and/or social tensions may cause violence, major disruptions, and/or other safety risks. |
| Health | Health risks, including current disease outbreaks and/or a crisis that disrupts a country's medical infrastructure, are present. A Centers for Disease Control Travel Notice may be a factor. |

Date Advisories were updated

Dashboard links

Return to Global Risk By Supplier

Return to Global Risk By Country

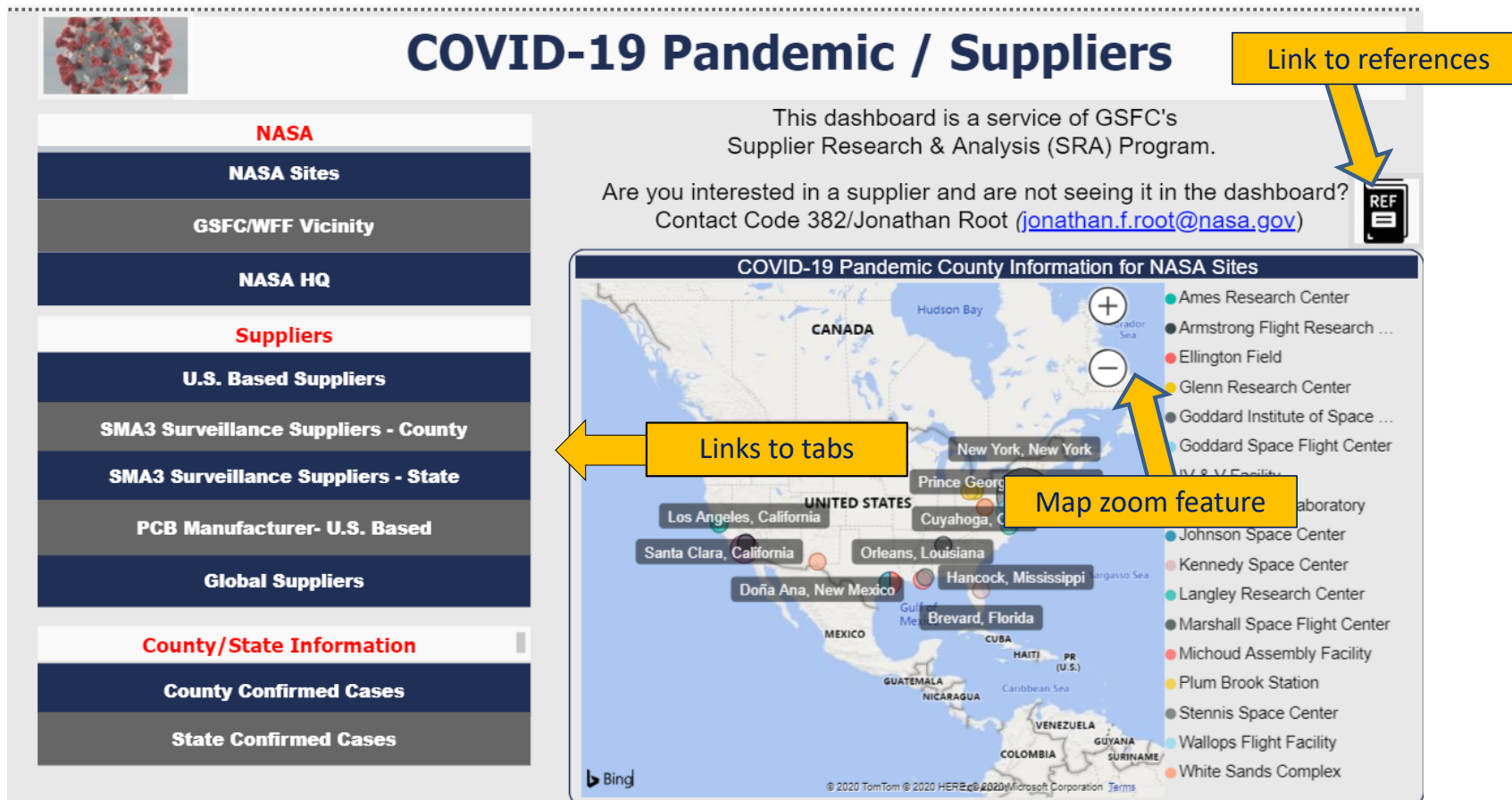
Date Data Last Reviewed (use latest travel advisory link for latest info)
5/14/2020



COVID-19 Pandemic/Suppliers Dashboard

COVID-19 Pandemic Dashboard

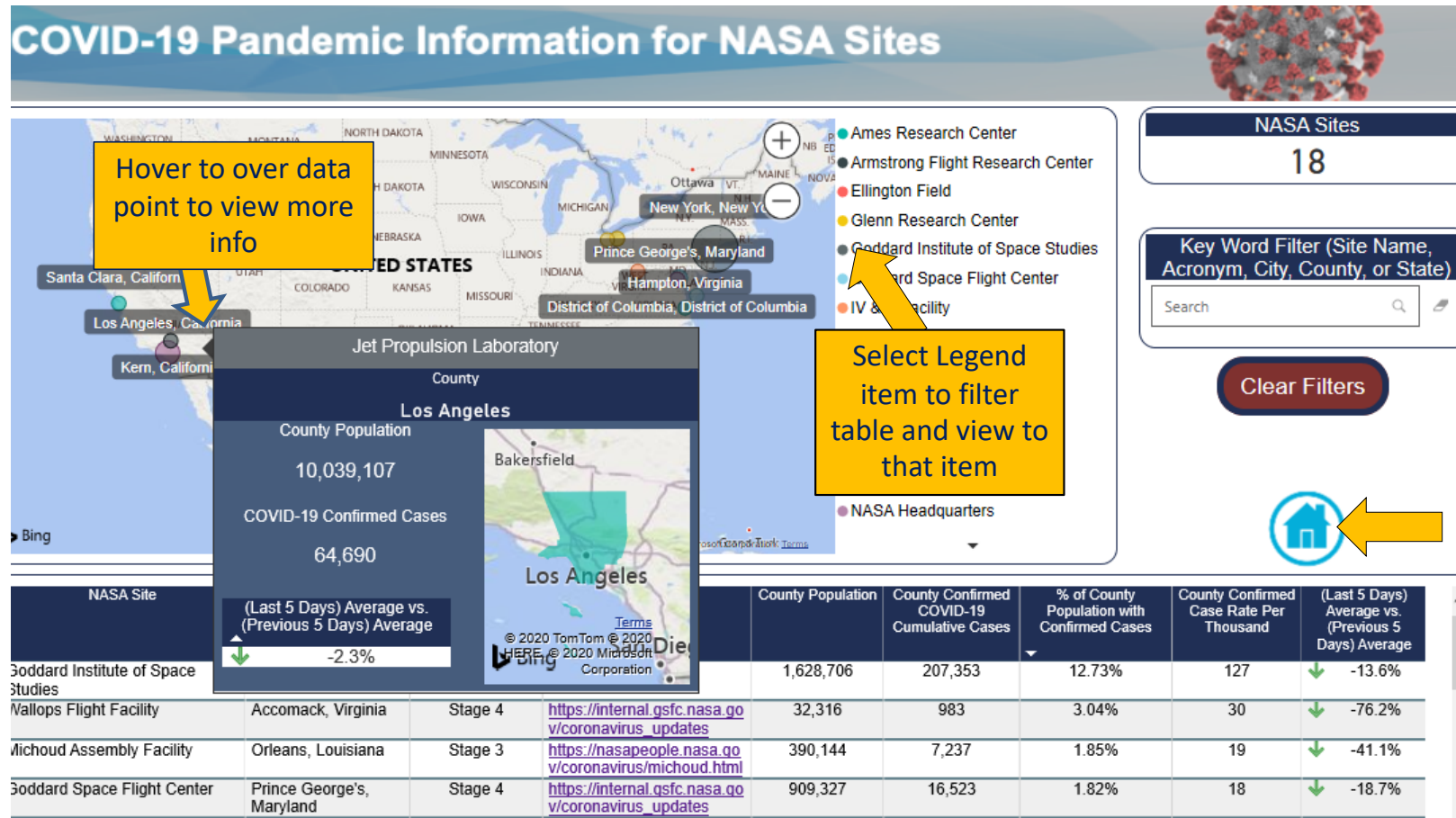
Landing Page Key Features





COVID-19 Pandemic Dashboard

Key Features



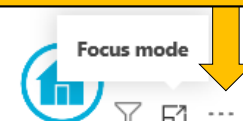


COVID-19 Pandemic Dashboard

Key Features

Select field to sort table info by Ascending/Descending

Hover over the right-hand top area to view visual header that includes applied filters, view focus mode (provide a data view), export, and more



| NASA Site | County, State | Response Framework Stage | Related Details | County Population | County Confirmed COVID-19 Cumulative Cases | % of County Population with Confirmed Cases | County Confirmed Case Rate Per Thousand | (Last 5 Days) Average vs. (Previous 5 Days) Average |
|------------------------------------|--------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------|---------------------------------------------|-----------------------------------------|-----------------------------------------------------|
| Goddard Institute of Space Studies | New York, New York | Stage 4 | https://jscsos.com/ | 1,628,706 | 207,353 | 12.73% | 127 | ↓ -13.6% |
| Wallops Flight Facility | Accomack, Virginia | Stage 4 | https://internal.gsfc.nasa.gov/coronavirus_updates | 32,316 | 983 | 3.04% | 30 | ↓ -76.2% |
| Michoud Assembly Facility | Orleans, Louisiana | Stage 3 | https://nasapeople.nasa.gov/coronavirus/michoud.html | 390,144 | 7,237 | 1.85% | 19 | ↓ -41.1% |
| Goddard Space Flight Center | Prince George's, Maryland | Stage 4 | https://internal.gsfc.nasa.gov/coronavirus_updates | 909,327 | 16,523 | 1.82% | 18 | ↓ -18.7% |
| NASA Headquarters | District of Columbia, District of Columbia | Stage 3 | https://www.nasa.gov/cen/ers/hq/emergency/index.html | 705,749 | 9,389 | 1.33% | 13 | ↓ -22.0% |
| Jet Propulsion Laboratory | Los Angeles | Stage 3 | https://emergency.nasa.gov | 10,039,107 | 64,690 | 0.64% | 6 | ↓ -7.3% |

For NASA Response Return to Work Framework details go to: https://nasapeople.nasa.gov/coronavirus/NASA_RTOW_Framework.pdf. Bubbles size increases proportionately with number of COVID-19 Cases. Reference Tab includes reference information and latest update information. Some data may not be supplied by the source. Certain counties in New York are not tracked at the County Level by the source. * % Change this Week vs. Previous Week takes all cases from the last 5 days and compare it from the previous 5 days.

19 GSFC/WFF Vicinity-COVID-19 U.S. Suppliers -COVID-19 SMA3 Surveillance Suppliers-County-COV... SMA3 Surveillance Suppliers-State-COVID... PCB Manufacturer- U.S. Based-

Select tabs for dashboard displays



Global Risk – Foreign Supplier Dashboard



Global Risk Foreign Suppliers

Key Features

SRA Completed Reports SRA Candidates SRA In-Process Global Risk Foreign ...

Global Risk - Foreign Based Suppliers

Global Health Advisory

Global Advisory Information: Global Health Advisory: Do Not Travel. Avoid all international travel due to the global impact of COVID-19.

Global Advisory Issued Date: 3/31/2020

View Details: <https://travel.state.gov/content/travel/en/traveladvisories/ea/travel-advisory-alert-global-level-4-healthy.html>

Hover to over data point to view more info

Department Travel Advisories by Supplier

No. of Foreign Based Suppliers: 378

Countries with Suppliers: 38

Country

- ☐ Select all
- ☐ Argentina
- ☐ Australia
- ☐ Austria

Filter by Countries

Key Word Search (Supplier Name, Country, CAGE)

Search

Clear Filters References

Date Data Last Reviewed (use latest travel advisory link for latest info): 5/14/2020

| Supplier Name, City, State, Country and CAGE | Country | U.S. State Travel Adv Lev | State Department Risk Indicators | Country Firmed ases |
|--------------------------------------------------------------------------------------------------------|----------------|---------------------------------------|----------------------------------|---------------------|
| 9163-2935 Quebec Inc (Opto Electronic Components) (formerly Nick Bertone), Kirkland, CAN - CAGE: L4609 | Canada | Level 1 - Exercise Normal Precautions | Health | 81,575 |
| Alba Orbital Limited, Glasgow, GBR - CAGE: n/a | United Kingdom | Level 2 - Exercise Increased Caution | Terrorism, Health | 250,138 |

Tabs to different dashboard displays

Global Risk by Country Global Risk Ref



Global Risk Foreign Suppliers

Key Features

Global Risk - Foreign Based Suppliers by Country

State Department Global Advisory Information

Global Health Advisory: Do Not Travel. Avoid all international travel due to the global impact of COVID-19.


Global Advisory Issued Date

3/31/2020

View Details

<https://travel.state.gov/content/travel/en/travel-s/ea/travel-advisory-alert-global-level-4-health>

Select a country to filter information on that country



● Level 1 - Exercise Normal Precautions
● Level 2 - Exercise Increased Caution
● Level 3 - Reconsider Travel
● Level 4 - Do Not Travel

Filters and slicers affecting this visual

Country

is not (Blank), Guam, Puerto Rico, United States, or Virgin Islands (U.S.)

Included (1)

Level 2 - Exercise Increased Caution (U.S. State Dept. Travel Advisory Level) + Brazil (Country)

U.S. State Dept. Travel Advisory Level

is not (Blank)

U.S. State Dept. Travel Advisory Level

is not (Blank)

Supplier Name, City, State, Country and CAGE

Country

U.S. State Dept. Travel Advisory Level

Travel Risk Indicators

View Latest Travel Advisory

COVID Count Confirm Case

| | | | | | |
|------------------------------------------------------------------------------------------------|--------|--------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Brazilian National Institute for Space Research (INPE), São José dos Campos, , BRA - CAGE: n/a | Brazil | Level 2 - Exercise Increased Caution | Crime, Health | https://travel.state.gov/content/travel/en/international-travel/International-Travel-Country-Information-Pages/Brazil.html | 291,5 |
| Instituto Tecnológico de Aeronáutica (Aeronautics Institute of Technology - DCTA), | Brazil | Level 2 - Exercise Increased Caution | Crime, Health | https://travel.state.gov/content/travel/en/international-travel/International-Travel-Country-Information-Pages/Brazil.html | 291,5 |

Key Word Search (Supplier Name, City, State, Country)

Clear

Date Data Last Reviewed (use latest travel advisory link for latest info)

4/2020

View filters affecting the entire page

Hover on the right-hand top are to view visual header. Filter displayed.



Demo



Summary Wrap-up

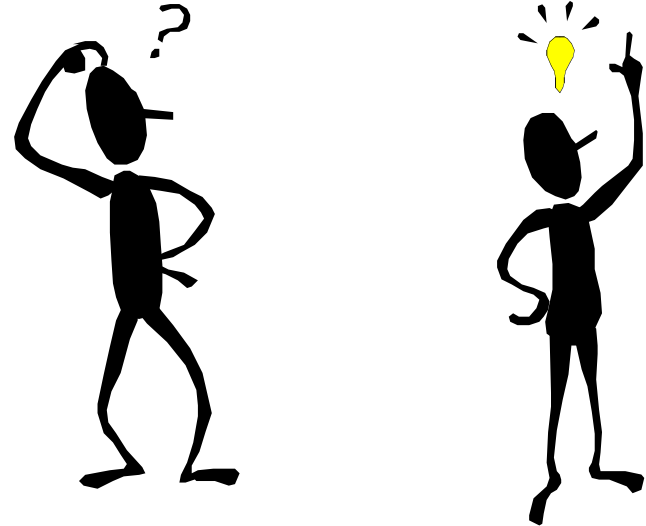
- Supply Chain Risks / COVID-19 Pandemic Impact
- Strategic Situation
- SCRM Challenge
- OSMA SCRM Program
- SCRM Defined
- Approach to Enabling Supply Chain Visibility, Insight and Situational Awareness
- Overview and demonstration of dashboards
 - COVID-19 Pandemic and Suppliers
 - Global Risk and Foreign-Based Suppliers
- **And now time for your questions!**



Q&A and Follow-up Discussions

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.



Mark Your Calendars!

SCRM Webinar #2: *Supply Chain Risk
Management: Why, What & How*
September 30, 2020 at 1pm EDT

Email Valle Kaniste (valle.j.kauniste@nasa.gov)
and Jonathan Root (Root, Jonathan F.
(jonathan.f.root@nasa.gov) for further
information and follow-up discussions

Thank you for your interest and time! Valle, Jonathan and Olga