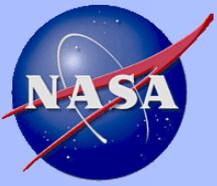




# **“ONCE 2.0”**

**2014 NASA Cost Symposium**  
**James K Johnson, Eric Plumer, Mike**  
**Blandford, and Julie McAfee**



# Overview

- **ONCE & CADRe Background**

- CADRe Data Collection: Part A, Part B, and Part C
- ONCE Database and Website

- **Major Enhancements to ONCE**

- Data Upgrades
  - New datasets and additional files/documents
- Interface Upgrades
  - Improved user interface with dynamic filters, realtime data output, and advanced charting
- Structure/Organization Upgrades
  - Standard Cost and Technical WBS
- Data Quality/Quality Assurance
  - Automated QA reporting and enhanced insight capabilities
- Hardware & Software Upgrades
  - Significant performance gains
- Security Upgrades
  - Integration with NDC/IdMax
- Additional Web Upgrades
  - Useage metrics, new URL address, and more!



- **Roadmap**

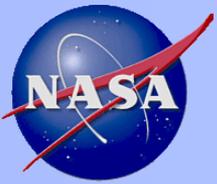
- Additional datasets, inflation normalization options, integration with NASA enterprise search, additional analysis products, ...



# Background

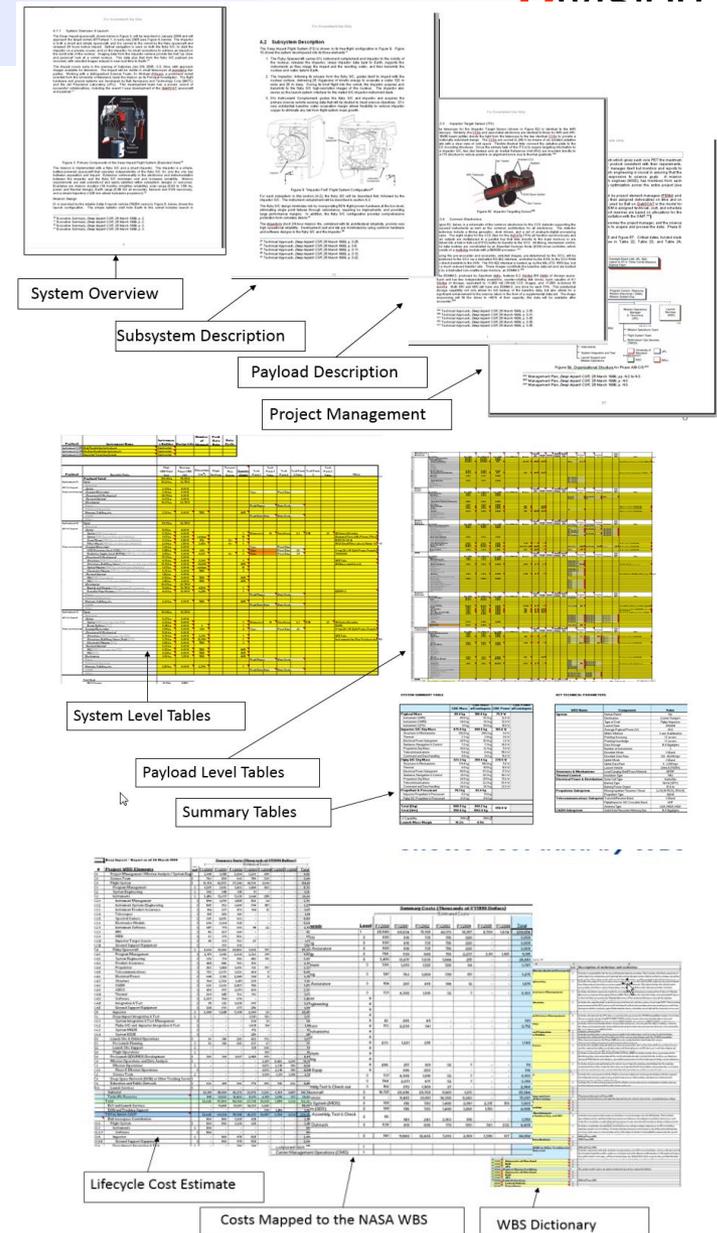
- **NASA previously cited by GAO for not having a repository of historical project data (programmatic, cost, and technical data)**
- **In 2004, NASA implemented a procedural requirement in NPR 7120.5 to conduct comprehensive programmatic data collections, called Cost Analysis Data Requirement (CADRe), at key milestones of a projects lifecycle**
- **In 2014, over 327 CADRes\* have been completed and are available for use by NASA analysts to assess trends, identify cost/schedule behaviors, and obtain project specific insight**

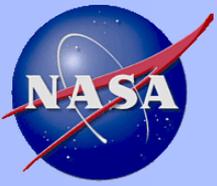
– \*Details on a later slide



# CADRe Overview

- **CADRe is a three-part document that describes a NASA project at each major milestone (SRR, PDR, CDR, LRD, End of Mission).**
  - See backup for CADRe timing
- **PART A**
  - **Narrative** project description in Word includes figures and diagrams that note significant changes between milestones.
- **PART B**
  - Excel templates capture **key technical parameters** to component-level Work Breakdown Structure (WBS), such as mass, power, and data rates.
- **PART C**
  - Excel templates capture the project's cost estimate and actual **life-cycle costs** within NASA cost-estimating WBS to the project's lowest WBS level.

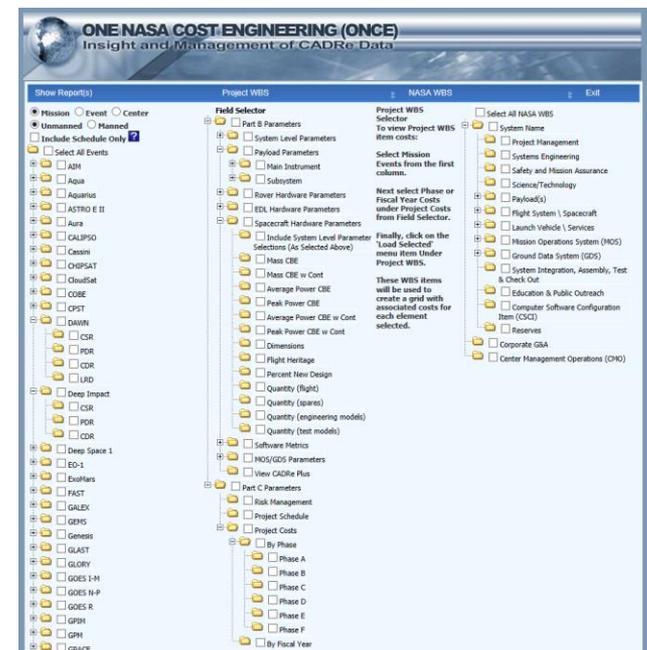
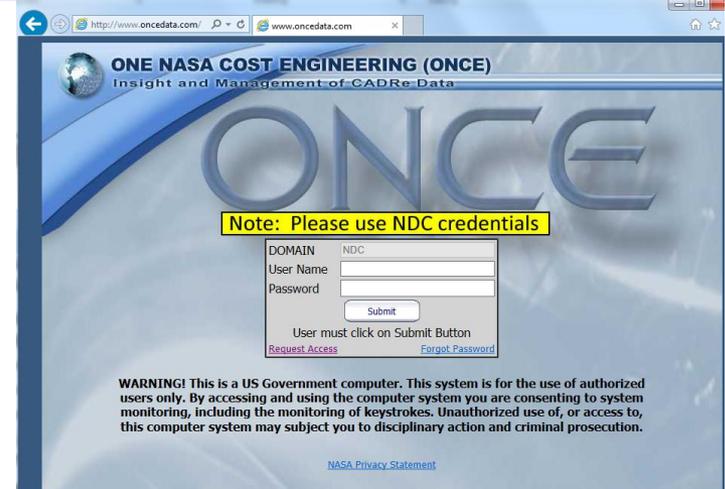




# What is ONCEData.com?

Cost  
Analysis  
Division

- [www.ONCEDATA.com](http://www.ONCEDATA.com) (aka [once.nasa.gov](http://once.nasa.gov), aka [oncedata.msfc.nasa.gov](http://oncedata.msfc.nasa.gov), aka “ONCE”) is a government website managed by HQ CAD that provides access to technical, cost, and other programmatic information about NASA Projects.
- The data primarily comes from CADRe documents which have a Part A, B, and C
  - Part A = Long narrative (MS Word doc)
  - Part B = Technical Data (MS Excel file)
  - Part C = Cost/Programmatic Data (MS Excel file)
  - CADRe is the Agency’s formal cost data collection initiative as outlined NPD 71205.E. CADRe is paid for by CAD and performed during KDP’s on Projects.
- The website provides a user interface to search and retrieve data from the CADRe’s
  - Enables analysts and estimators to quickly build analogy datasets, perform historical analysis, develop cost estimating relationships, etc.
- Users can output the data retrieved from ONCE to MS Excel for their own specific analysis needs
  - Project estimation, independent estimation, research, proposal development, etc.





# ONCE Overview

- One NASA Cost Engineering database (ONCE)
  - [www.oncedata.com](http://www.oncedata.com) or
  - [ONCE.NASA.gov](http://ONCE.NASA.gov)
- Web-enabled database with controlled access to the CADRe data
  - Structured data with search and tabular excel outputs

Search Phrase: Laser altimeter

Perform Search

Search for: Laser altimeter

Part A Results

Link	Project	Event	Section
🔗	ORF90	CDR	A. 6 Acronym
🔗	ORF90	USD	A. 1.1 System Overview & Launch
🔗	ChufSat	USD	A. 1.1 System Overview & Launch
🔗	D491N	CDR	1. CADRe Cover Sheet
🔗	D491N	CDR	2. Part A - General Descriptive Information
🔗	D491N	CDR	A. 1.1 System Description
🔗	D491N	CDR	A. 1.1 System Overview & Launch
🔗	D491N	CDR	A. 1.2 System Description
🔗	D491N	CDR	A. 1.2 Attitude Control Subsystem
🔗	D491N	CDR	A. 1.3 Payload Description
🔗	D491N	CDR	A. 1.3 Laser Altimeter (LA)
🔗	D491N	CDR	A. 1.3 Laser Altimeter (LA)
🔗	D491N	CDR	A. 4.1 Project Management
🔗	D491N	CDR	A. 4.4 Acquisition Plan
🔗	D491N	CDR	5. Summary of Part B - Technical Data
🔗	D491N	CDR	A. 4.7 Risk Assessment
🔗	D491N	CDR	A. 5 Significant Changes since Previous CADRe Submission

Part B Results

Link	Parent	Children	Mission	Event	Section
🔗			D491N	CDR	Payload - Laser Altimeter (LA)
🔗			D491N	CDR	Payload - Geospatial Laser Altimeter System (GLAS)
🔗			D491N	CDR	Payload - Advanced Topographic Laser Altimeter System (ATLAS)
🔗			D491N	CDR	Payload - Advanced Topographic Laser Altimeter System (ATLAS)
🔗			D491N	CDR	Payload - Advanced Topographic Laser Altimeter System (ATLAS)
🔗			MISSIONER	CDR	Payload - Mercury Laser Altimeter (MLA)
🔗			MISSIONER	CDR	Payload - Mercury Laser Altimeter (MLA)
🔗			MISSIONER	LRO	Payload - Mercury Laser Altimeter (MLA)
🔗			MISSIONER	EDM	Payload - Mercury Laser Altimeter (MLA)

Part C Results

Link	Mission	Event	Section	Cost
🔗	D491N	CDR	2.4 Laser Altimeter (OPC)	\$2.89M
🔗	MISSIONER	CDR	24P Mercury Laser Altimeter (MLA) Instrument (Phase A-0)	

ONE NASA COST ENGINEERING (ONCE)  
Insight and Management of CADRe Data

CADRe Status Screen

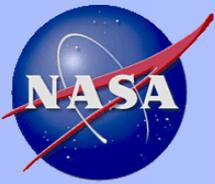
Project	Event	Estator	Developer	Status	Comments
ACRIMSAT	SRR	APL		Planned FY 07	
ACRIMSAT	PDR	APL		Planned FY 07	
ACRIMSAT	CDR	HQ		Planned FY 07	
ACRIMSAT	LRO	HQ		Planned FY 07	
ACRIMSAT	EOM	JPL	JPL	Planned FY 07	CADRe Plus
AIM	SRR	GSFC	SAIC	Planned FY 06	
AIM	PDR	GSFC	SAIC	In Process	
AIM	CDR	GSFC	SAIC	In Process	
AIM	LRO	GSFC	SAIC	Planned FY 07	Not started yet
AIM	EOM	GSFC	SAIC	Planned FY 08	
Aquarius	SRR	JPL	Aero	Completed	Need to make sure we get comments B/R; CDR delayed to Sep 2006/need to make sure EP's comments
Aquarius	PDR	JPL	Aero	Completed	
Aquarius	CDR	JPL	Aero	Planned FY 07	
Aquarius	LRO	HQ		Planned FY 06	
Aquarius	EOM	HQ		Planned FY 06	

ONE NASA COST ENGINEERING (ONCE)  
Insight and Management of CADRe Data

Project: Aquarius Event: SRR

CADRe Status

Part A	Part B	Part C																																		
<ul style="list-style-type: none"> <li>A.1 System Description</li> <li>A.2 Subsystem Description</li> <li>A.3 Payload Description</li> <li>A.4 Project Level Description</li> <li>A.5 Significant Changes since Previous CADRe Submission</li> <li>Summary of Part B - Technical Data</li> <li>Summary of Part C - Project WBS and Cost</li> </ul>	<table border="1"> <thead> <tr><th>Description</th><th>Status</th></tr> </thead> <tbody> <tr><td>System Level Parameters</td><td>●</td></tr> <tr><td>Payload Parameters</td><td>●</td></tr> <tr><td>Rover Hardware Parameters</td><td>●</td></tr> <tr><td>Entry Decent Level Hardware Parameters</td><td>●</td></tr> <tr><td>Spacecraft Hardware Parameters</td><td>●</td></tr> <tr><td>Software Metrics</td><td>●</td></tr> <tr><td>Mission Operations System (MOS) and Ground Data Systems Parameters</td><td>●</td></tr> <tr><td>Summary Tables</td><td>●</td></tr> </tbody> </table>	Description	Status	System Level Parameters	●	Payload Parameters	●	Rover Hardware Parameters	●	Entry Decent Level Hardware Parameters	●	Spacecraft Hardware Parameters	●	Software Metrics	●	Mission Operations System (MOS) and Ground Data Systems Parameters	●	Summary Tables	●	<table border="1"> <thead> <tr><th>Description</th><th>Status</th></tr> </thead> <tbody> <tr><td>Project WBS and Life Cycle Cost Estimate</td><td>●</td></tr> <tr><td>Project WBS Dictionary</td><td>●</td></tr> <tr><td>NASA WBS and Life Cycle Cost Estimate</td><td>●</td></tr> <tr><td>NASA WBS Dictionary</td><td>●</td></tr> <tr><td>Basis of Estimate</td><td>●</td></tr> <tr><td>Detailed Element WBS Costs</td><td>●</td></tr> <tr><td>Build Project WBS</td><td>●</td></tr> </tbody> </table>	Description	Status	Project WBS and Life Cycle Cost Estimate	●	Project WBS Dictionary	●	NASA WBS and Life Cycle Cost Estimate	●	NASA WBS Dictionary	●	Basis of Estimate	●	Detailed Element WBS Costs	●	Build Project WBS	●
Description	Status																																			
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NASA WBS and Life Cycle Cost Estimate	●																																			
NASA WBS Dictionary	●																																			
Basis of Estimate	●																																			
Detailed Element WBS Costs	●																																			
Build Project WBS	●																																			



# Major Enhancements

Cost  
Analysis  
Division

- **Data Upgrades:**

- Integrated the latest **NICM V dataset** to the ONCE reporting interface
- Integrated the **NAFCOM 2012** dataset to the ONCE reporting interface
- Integrated the **Part A, Part B, and Part C CADRe files** on ONCE via the CADRe page or CADRe Library menu item
- Integrated the **CADRe Source Documents** on ONCE
  - CADRe source documents are used by CADRe developers to create Part A, Part B, and Part C files (ppt, doc, pdf, etc)



- **Interface Upgrades:**

- Integrated **several graphical dashboards** into ONCE that represent user, CADRe and model download data.
- Integrated a **new ONCE reporting interface**.
- Integrated **charting capability** to the ONCE reporting interface.
- Integrated an interface for the **CADRe Reconnaissance and Master lists** to ONCE.
- Integrated a **Model Portal** into ONCE.
  - Added both the contractor and civil service versions of **NICM**.
  - Added both the contractor and civil service versions of the **Phasing model**.
  - Added **TCASE** (Technology Cost and Schedule Estimator), **POLARIS**, and **ARGO**



- **Structure/Organization Upgrades:**

- Developed a **standard WBS that encompasses all ONCE cost and technical elements**

- **Data Quality/Quality Assurance:**

- Developed **new reports for automated QA functionality** of the ONCE data

- **Hardware Upgrades:**

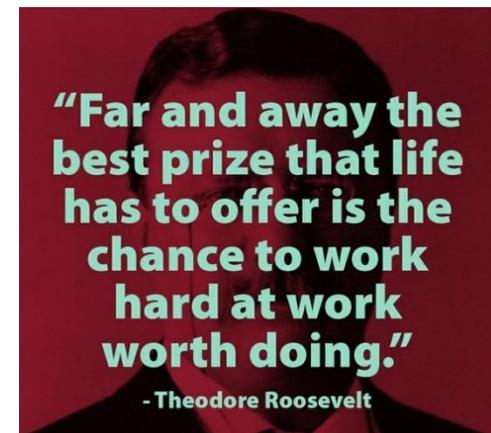
- Upgraded the ONCE Visual Studio solution to v2012 from v2005.
- Upgraded the ONCE to .NET 4.0 from .NET 2.0.
- Upgraded the ONCE server operating system to Server 2012 Standard R2.
- An additional 4GB RAM and a new CPU was acquired.

- **Security Upgrades:**

- Integrated **NASA's NDC credentials** to the ONCE log-in interface to comply with HSPD-12
- Integrated with **NASA's IdMax system** for user access request

- **Additional Web Upgrades:**

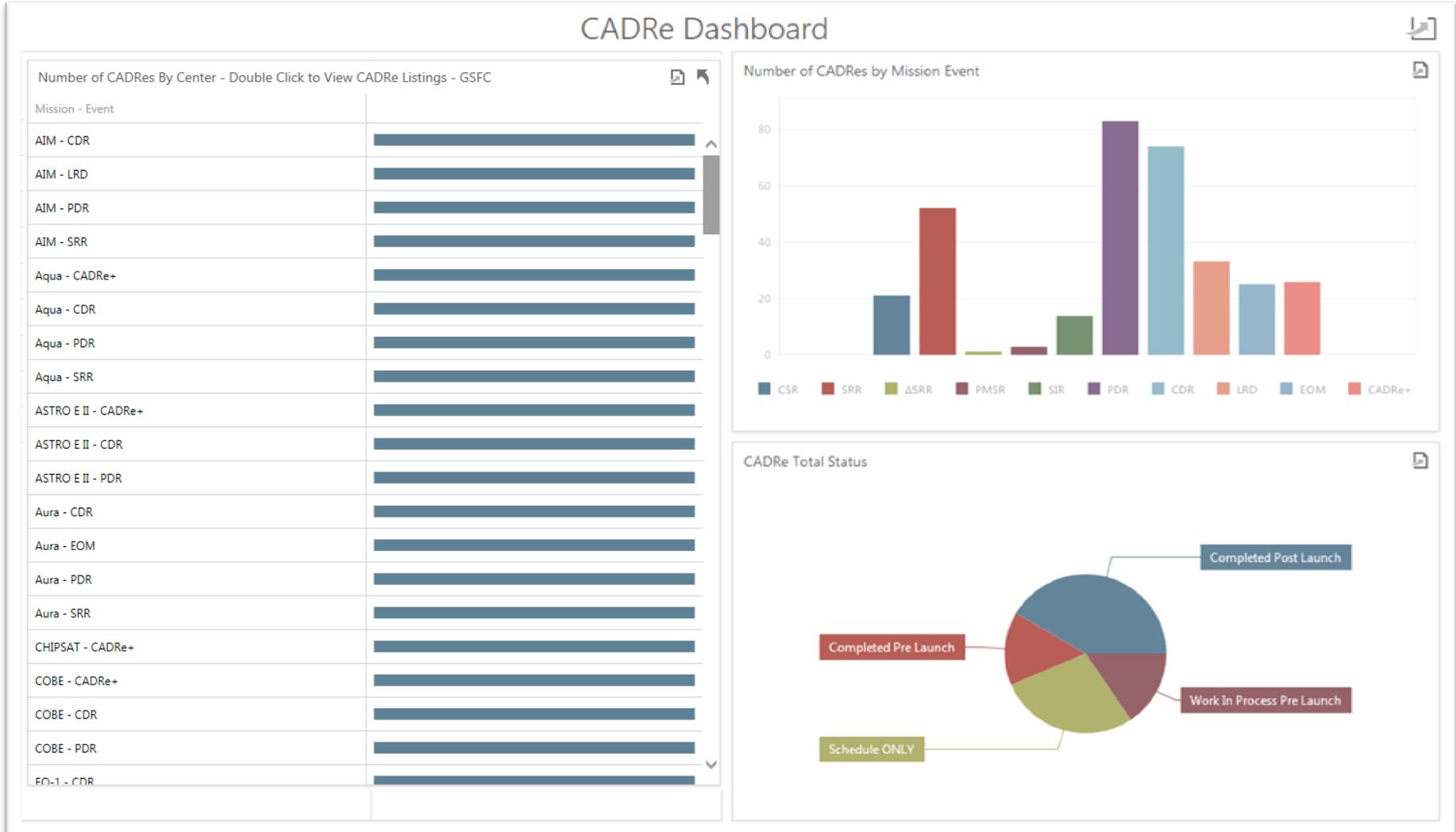
- Obtained new ONCE web address: **once.nasa.gov**
- Registered the ONCE website with Google Analytics so site usage data can be collected





# Dashboard – CADRe Example

Cost  
Analysis  
Division



# Reporting Interface

1. Dataset Selector

2. Tabbed Interface

3. Level 1 Filters

4. Mission Selectors

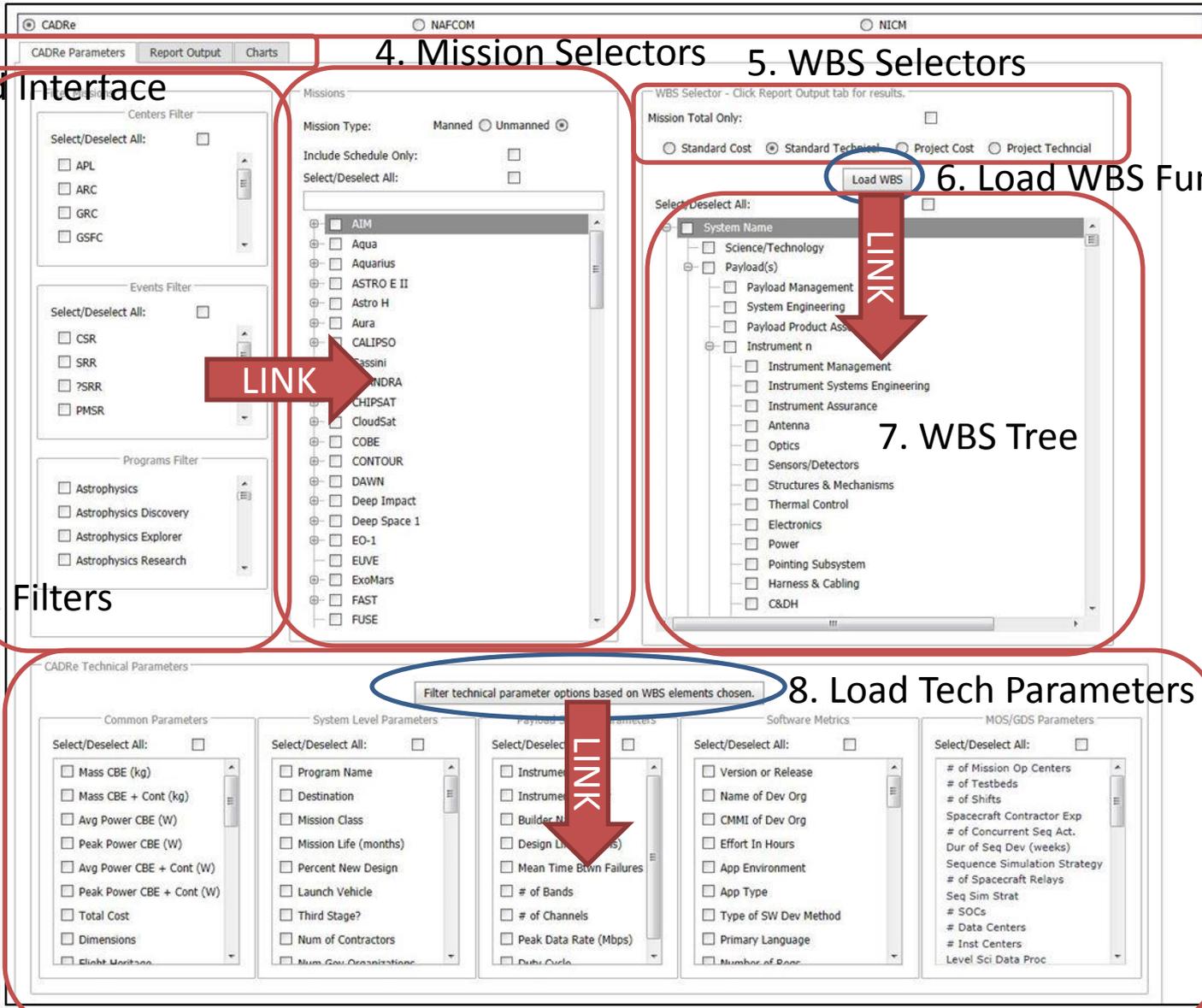
5. WBS Selectors

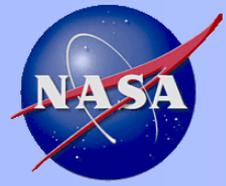
6. Load WBS Function

7. WBS Tree

8. Load Tech Parameters

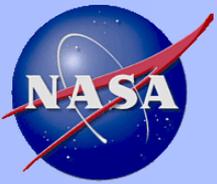
9. Tech Parameter Filters



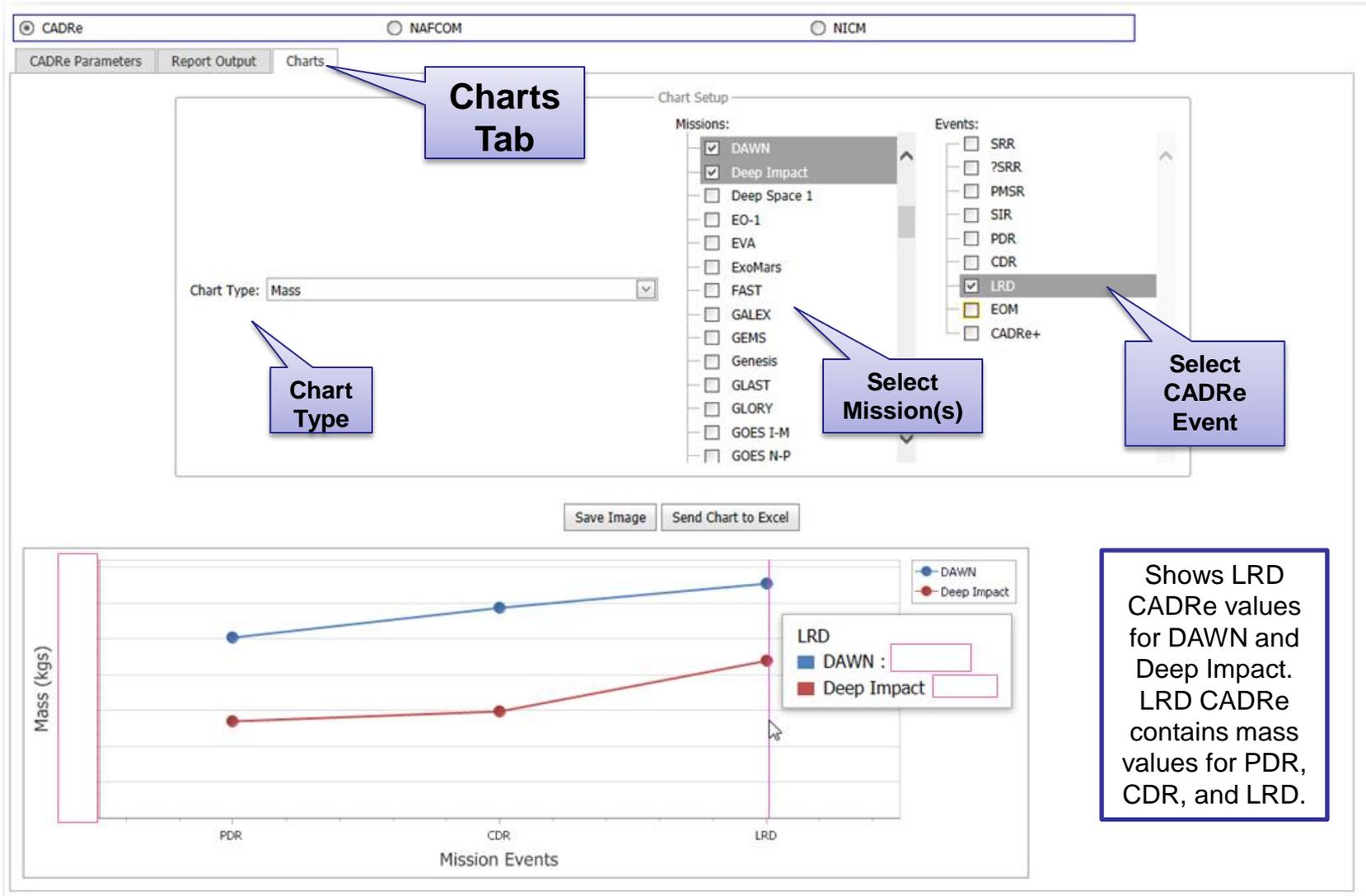


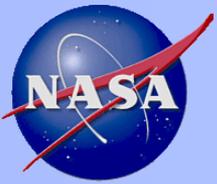
<http://goo.gl/eB3Z9Z>

# PLAY VIDEO DEMONSTRATION



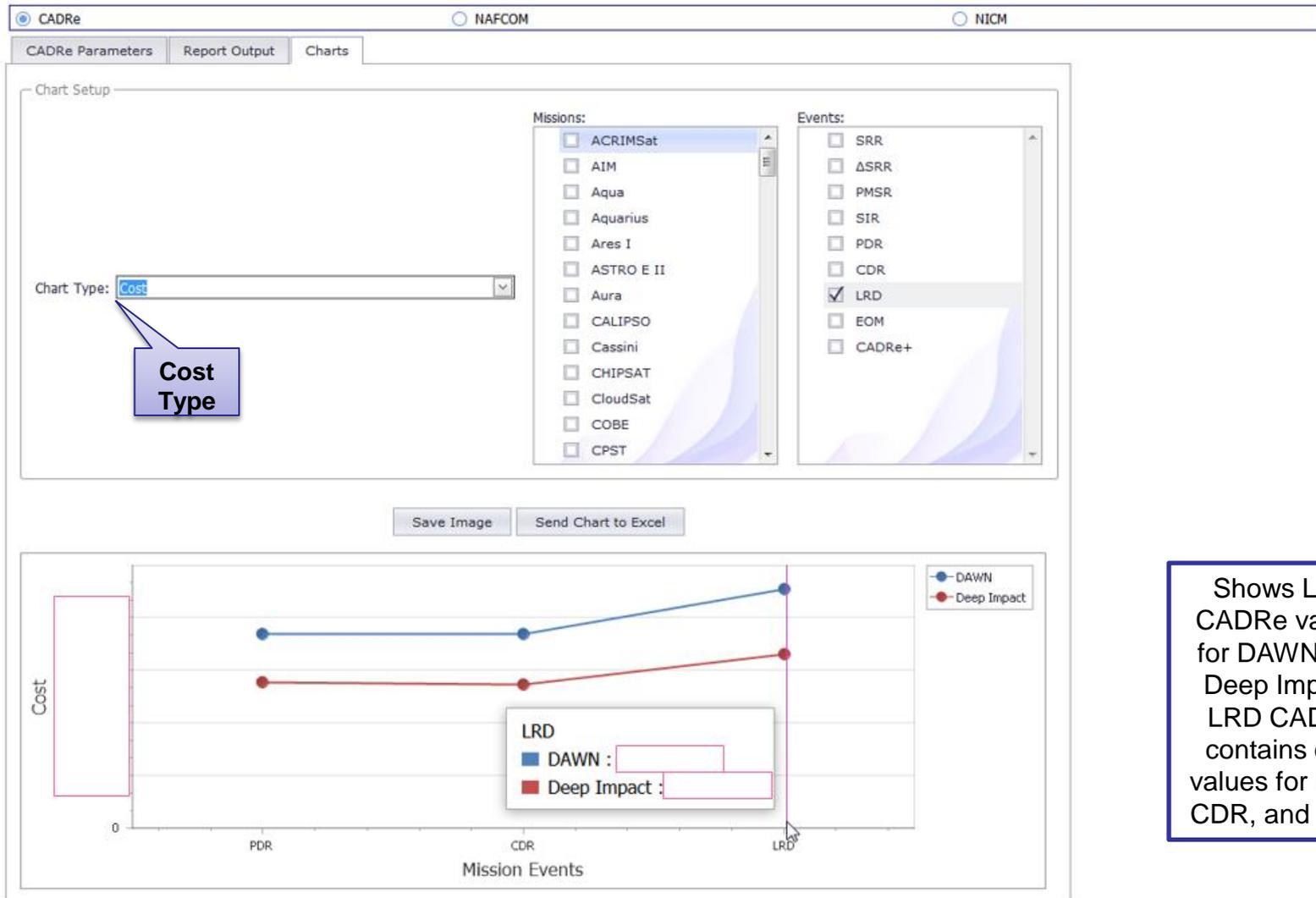
# Charting – Mass Example



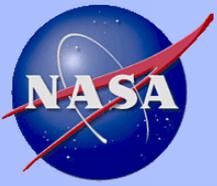


# Charting –Cost Example

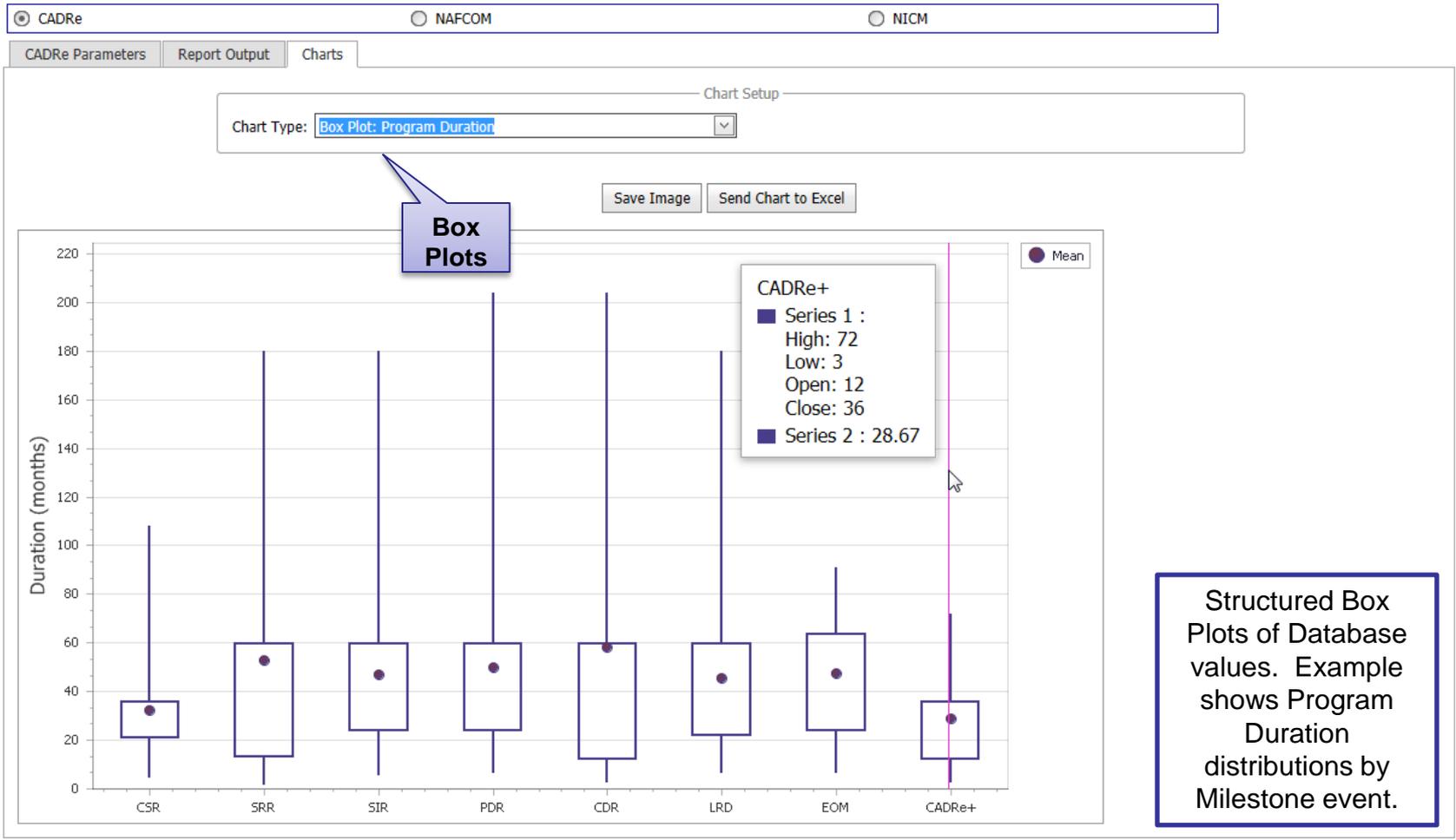
Cost  
Analysis  
Division



Shows LRD CADRe values for DAWN and Deep Impact. LRD CADRe contains cost values for PDR, CDR, and LRD.



# Charting – Box Plot Duration Example

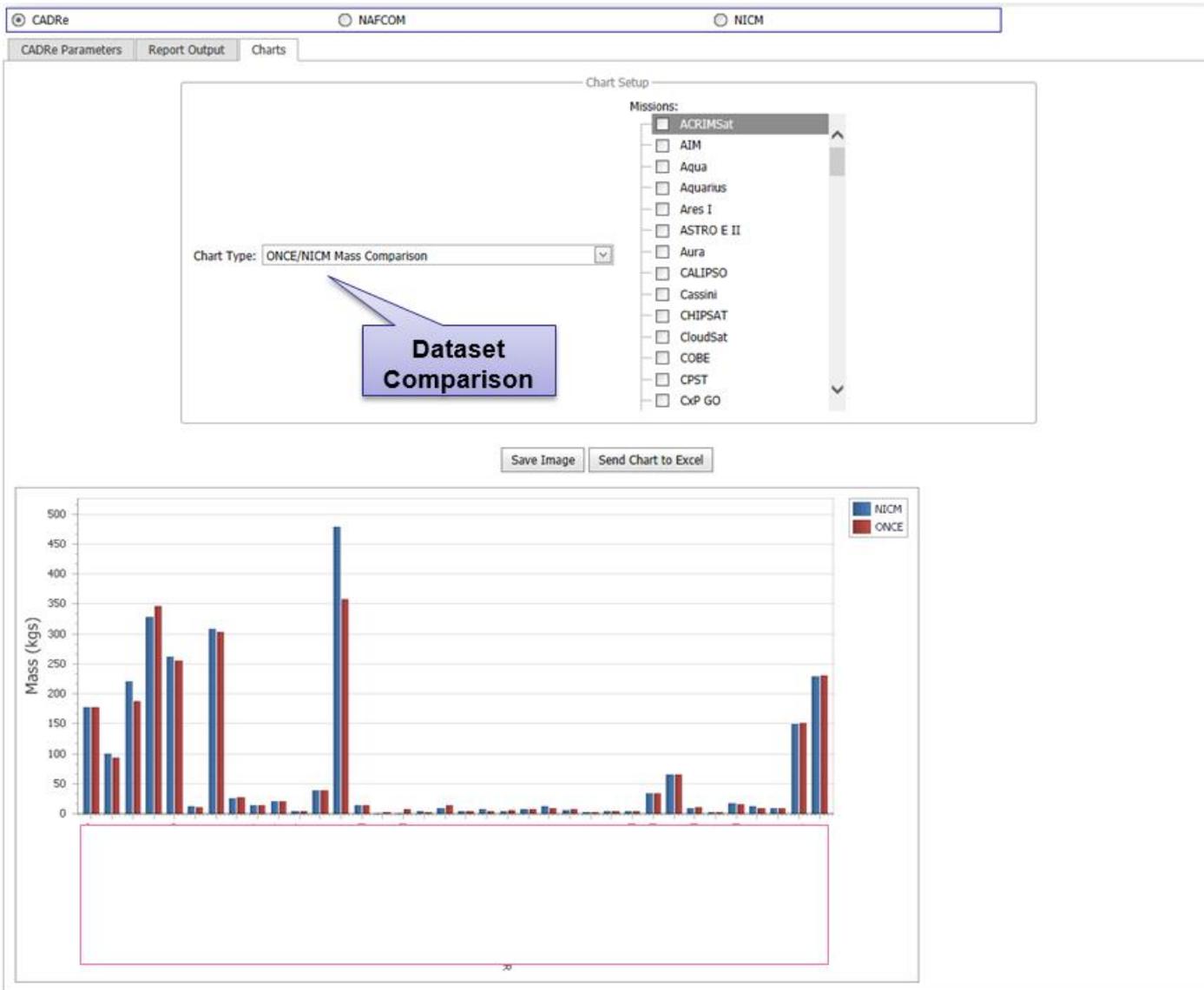


Goal is to visually represent the underlying data in the database. Aide analysts in understanding the basic population characteristics of the historical data available. Charts do not replace good analysis!



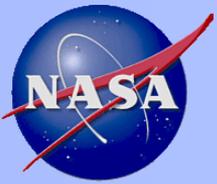
# Charting – Dataset Compare Example

Cost  
Analysis  
Division



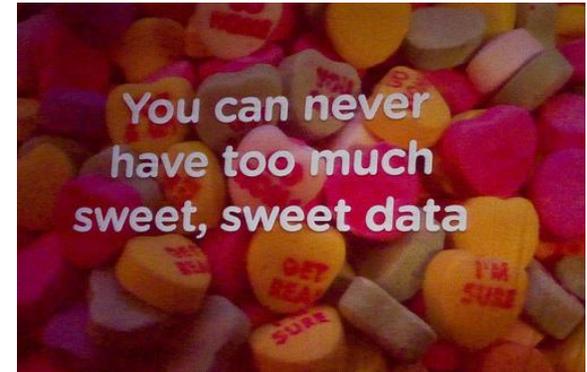
Structured Dataset Comparison of Raw and Normalized. Example Shows Instrument Mass in ONCE and NICM.

Goal is to increase transparency and traceability. Bar charts do not replace good documentation!



# Upgrades to the Data!

- **Total CADRe's available in ONCE: 327**
  - 185 Completed
    - Completed Post Launch: 136
    - Completed Pre Launch: 49
  - 92 Schedule Only CADRe's
  - 50 Works-in-Process Pre Launch
- **NICM V Dataset**
  - 159 Instrument Datapoints
    - Subsystem level information
- **NAFCOM 12 Dataset**
  - 156 Mission Datapoints
    - Subsystem level information
- **CADRe Document Files**
  - 550+ CADRe Document Files
    - Official Part A, B, and C files in native office file formats
  - 10+ Gigabytes
- **CADRe Source Document Files**
  - 1000+ CADRe Source Document Files
  - 100 Gigabytes





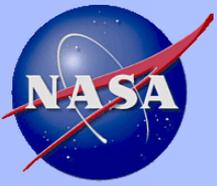
# NICM Dataset Example

The screenshot displays the NICM Dataset Selector interface. At the top, there are radio buttons for CADRe, NAFCOM, and NICM, with NICM selected. Below this are tabs for 'NICM Parameters' and 'Report Output'. The interface is divided into several sections:

- Filter Missions:** Includes a 'Destination Filter' with checkboxes for EO, Planetary, and Other.
- Instrument Name:** A list of instruments with checkboxes, including ACIS, ACRIM III, ACS, AIRS, AMR, AMSU-A, APEX PanCam, APXS-MER, APXS-MSL, APXS-Pathfinder, ASI-Galileo Probe, and SAMBA.
- Lead Org. Filter:** A list of organizations with checkboxes, including Aerojet, Aerospace Corp., AIL, Ball, APL, ARC, Arizona State University, Arizona State University, Tempe, Bell Lab, Boston University, CAB, Commercial, and Cornell University.
- Instrument Type:** A list of instrument types with checkboxes, including Active Cavity Radiometer, Active Optical, Laser Altimeter, Alpha Proton X-Ray Spectrometer, Alpha, Protons, and X-Ray, Altimeter, Atmosphere Structure Instrument, Atmospheric Analyzer, Camera, Camera and Spectrometer, Descent Camera, and Detector: H+, He+, He++, O+.
- Missions:** A list of missions with checkboxes, including ACRIMSAT, ADEOS I (Japan), ADEOS II, Aqua, Aura, Cassini Orbiter, Chandra, Chandrayaan 1, CloudSat, Dawn, Deep Impact, Defense Meteorological Satellite Program (DMSP), EP - Earth Probe Satellite, GALEX, Galileo Orbiter, Galileo Probe, Genesis, GEOSAT Follow-on (GFO), Geotail, HST - Hubble Space Telescope, and Huygens Probe.
- NICM Parameters:** Four sub-sections at the bottom: 'Instrument Information' (Instrument Description, Mission Description, Technical Contact Name, Technical Contact Phone), 'System Data' (Total Mass (kg), Launch Date, Instrument Lead Org, Destination), 'Subsystem Cost (FY12\$/K)/Mass Data' (Optics/Antenna Cost, Mech./Structure Cost, Thermal/Fluid Cost, Electronics Cost), and 'Subsystem Technical Data' (Optics/Antenna Mat'l Type, Mech./Structure Mat'l Type, Thermal/Fluid Mat'l Type, Electronics Mat'l Type).

Dynamic Filters with Links based on Dataset

NICM Dataset Selector



# NICM Report Example

Cost  
Analysis  
Division

CADRe      NAFCOM      NICM

NICM Parameters      Report Output

NICM output (Costs in FY12\$K):  
Export to XLSX

Page 1 of 7 (159 items) [1] 2 3 4 5 6 7 >

		Specific Instrument Type	Mission Lead Organization	Full Instrument Name	Optics/Ant Cost	Launch Date	Mech/Struct Cost	Therm/Fluid Cost	Elec Cost	Detect Cost	SW Cost	Other Subsystem Cost	TOTAL Mass (kg)	Instrument Lead Organization
ACRIMSAT	ACRIM III													
ADEOS I (Japan)	NSCAT													
ADEOS II	SeaWinds													
Aqua	AIRS													
Aqua	AMSU-A													Aero
Aura	EMLS (MLS)													
Aura	TES_Aura													
Aura	HIRDLS													GS
	CAPS													Sw
	Cassini Radar	SAR												
	CIRS													GS
Cassini Orbiter	INMS													GS
	ISS													
	MIMI													JHU/A
	RPWS													of Io
	VIMS													te & M
Chandra	ACIS													
Chandrayaan 1	M3													
CloudSat	CPR													PL & C
Dawn	GRAND													s (LAN
	HRI													Haryla
Deep Impact	ITS													Haryla
	MRI													Haryla
Defense Meteorological Satellite Program (DMSP)	SSMI													Hugh
EP - Earth Probe Satellite	TOMS	Spectrometer	OSPC	Total Ozone Mapping Spectrometer	8131.33	7/17/1998 12:00:00 AM	0776.07	1333.76	8131.33	1333.76	1333.76	0	34	Orbital Science Co

Page 1 of 7 (159 items) [1] 2 3 4 5 6 7 >

Technical and Cost Values

Missions and Instruments

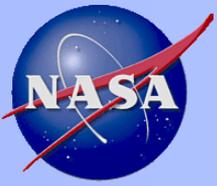


# NAFCOM Dataset Example

The screenshot displays the NAFCOM software interface with the following components:

- Top Navigation:** Radio buttons for CADRe, NAFCOM (selected), and NICM.
- NAFCOM Parameters:** A tabbed interface with "Report Output" selected.
- Missions Panel:** A list of missions with checkboxes, all of which are checked. Callout: **NAFCOM Dataset Selector**.
- WBS Selector Panel:** A hierarchical tree of Work Breakdown Structure (WBS) elements. Callout: **WBS Level Selector**.
  - NAFCOM Hardware Elements
    - CC&DH
      - Communications
      - Data Management
      - Antennas
      - Instrumentation
    - Crew Accommodations
    - ECLS
    - Electrical Power
    - Engines
    - Launch and Landing
    - Miscellaneous
    - Propulsion
    - Range Safety
    - Reaction Control
    - Separation
    - SRM
  - Structures & Mechanisms
    - Structures
    - Mechanisms

- Data Selection Panels:** A grid of panels for selecting specific data points. Callout: **Common and Subsystem Data**.
- Common Data (Cost: FY12\$M):** Weight, DD Cost, Flt Unit Cost, Total.
- AD&C Data:** Computer, Horizon Sensors, Sun Sensors.
- CC&DH Data:** Bands, # Frequency Bands, # Transmitters.
- ECLS Data:** Crew Size, Mission Duration, Environment, Volume.
- Electrical Power Data:** Output Power (watts), Design Life (months), Storage Capacity, Degree Pow Reg.
- Engine Data:** # Engines, Thrust, Specific Impulse, Duration.
- RCS Data:** Thrust, Specific Impulse, Propellant Type, Propellant Wt.
- Structures Data:** # Thrusters/Engines, Motor Type, Thrust, Specific Impulse.
- Structures Data:** Deployables, # Deployables, Material Type, Configuration.
- Thermal Data:** Design Life (months), Louvers/Heaters, Passive/Active, Material Type.



# NAFCOM Report Example

Cost  
Analysis  
Division

NAFCOM output (Costs in FY12\$M):

Export to XLSX

Page 1 of 89 (2206 items) [1] 2 3 4 5 6 7 ... 87 88 89 >

	Weight	DD	Fit Unit	Total	DD AValue	Fit Unit AValue	DD BValue	Fit Unit BValue	Funding Availability	Risk Management	Integration Complexity	Pre Development Study	Manufacturing Management	Engineering Management	New Design	Level	Hardware Class	Spacecraft Class	Orbit
Antenna																			ng
Avionics	283																		ng
Battery	58																		ng
CC&DH Group	128																		ng AE-3 CC&DH Subsystem req
Decoder	7																		ng
Distribution Unit	19																		ng
Electrical Power and Distribution Group	218																		ng
Harness, Wiring	85																		ng
Interface Unit	17																		ng
Memory	11																		ng
AE-3 Other CC&DH Components																			ng
Power Supply Equipment	32																		ng
Processor																			ng
Programmer	12																		ng
Solar Array	42																		ng
Structural/Mechanical Group	1																		ng
Thermal Control Subsystem																			ng
Transmitter																			ng
Transponder	24																		ng
Avionics																			ng
CC&DH Group																			ng
Communication																			ng
AEM-HCMM Communication Subsystem																			ng
AEM-HCMM Data Management Subsystem	18																		ng
AEM-HCMM Electrical Power and Distribution Group		7.1	2.13	0.89	3.03	0.0369	0.0136	0.83	0.93	30	23	23	30	40	30	0.7	Group	Uncrewed	Scientific Earth Orbiting

Page 1 of 89 (2206 items) [1] 2 3 4 5 6 7 ... 87 88 89 >

Missions and Elements

Technical, Cost, and Data Values



# CADRe Library

ONCE  
 Search  
 Reports  
 CADRe Dashboard  
 Status Screen  
 Part Status  
**CADRe Library**  
 Model Portal  
 CADRe  
 CADRe Reconn List

**CADRe Library Menu Item**

CADRe Library  
 Double click the file or click the green arrow menu item to download selected files.  
 Some NASA IE9 profiles may prevent the file download prompt from displaying. Please use Firefox in these cases.

Path: Missions/CALIPSO/LRD/CADRe/PartA/

#	Name	Date modified	Size
<input type="checkbox"/>	CALIPSO_Launch_CADRe_Part...	5/28/2014 7:31:47 AM	53.58 MB

**Official CADRe Files**

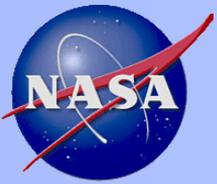
**Directory Listing for Projects and Milestone Event**

CADRe Library  
 Double click the file or click the green arrow menu item to download selected files.  
 Some NASA IE9 profiles may prevent the file download prompt from displaying. Please use Firefox in these cases.

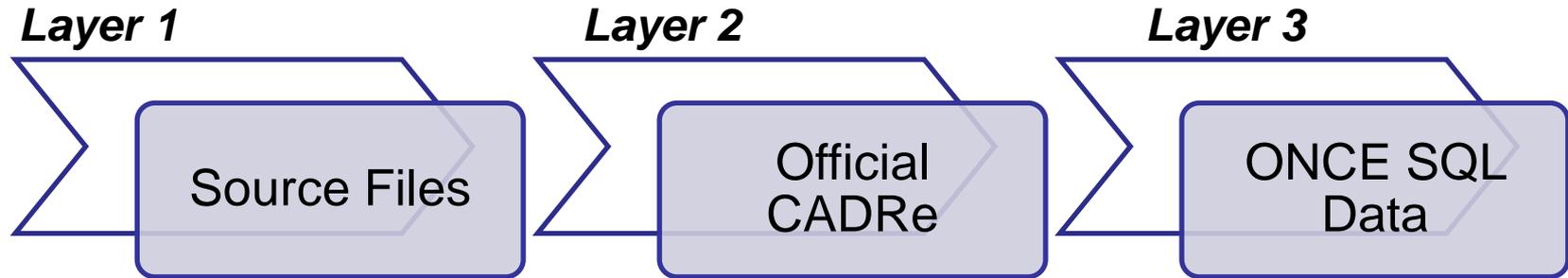
Path: Missions/Cassini/EOM/SourceDocuments/

#	Name	Date modified	Size
<input type="checkbox"/>	699-100_RevJ Mission Plan 07_16_1999.pdf	6/30/2014...	2.99 MB
<input type="checkbox"/>	AACS_CDR_slides.pdf	6/30/2014...	7.49 MB
<input type="checkbox"/>	Cassini Launch Press Kit.pdf	6/30/2014...	675.32 KB
<input type="checkbox"/>	Cassini Mission Plan, Rev.G , 06.03.1997 .pdf	6/30/2014...	2.23 MB
<input type="checkbox"/>	Cassini Mission Plan.pdf	6/30/2014...	7.52 MB
<input type="checkbox"/>	Cassini Organization Charts 1996 - 2010 D-67174 Ex...	6/30/2014...	147.39 KB
<input type="checkbox"/>	Cassini Project Mass Report Issue # 45 D-10474 09...	6/30/2014...	2.52 MB
<input type="checkbox"/>	Cassini Project Power Report Issue # 43 D-7355 06.2...	6/30/2014...	1.55 MB
<input type="checkbox"/>	Cassini Technical Progress Review_Part 1 05.19 - 20...	6/30/2014...	2.62 MB
<input type="checkbox"/>	Cassini UVIS Instrument Description.pdf	6/30/2014...	1.18 MB
<input type="checkbox"/>	Cassini VIMS Website.pdf	6/30/2014...	1.99 MB
<input type="checkbox"/>	CAS_AACS_Fxl_Rqts_doc_Nov_1997.pdf	6/30/2014...	664.95 KB
<input type="checkbox"/>	CAS_AACS_MMR_1995.pdf	6/30/2014...	1.54 MB
<input type="checkbox"/>	CAS_CDS_Fxl_Reqts_Doc_Apr_2003.pdf	6/30/2014...	1.34 MB
<input type="checkbox"/>	CAS_Support_Eqmt_Reqts_Dec_1996.pdf	6/30/2014...	432.58 KB
<input type="checkbox"/>	CAS_Support_Eqmts.pdf	6/30/2014...	3.06 MB
<input type="checkbox"/>	CAS_Support_Eqmts.pdf	6/30/2014...	66.68 KB
<input type="checkbox"/>	CAS_Support_Eqmts.pdf	6/30/2014...	6.62 MB
<input type="checkbox"/>	CAS_Support_Eqmts.pdf	6/30/2014...	6.69 MB
<input type="checkbox"/>	CAS_Support_Eqmts.pdf	6/30/2014...	11.8 MB
<input type="checkbox"/>	D-7689_B, Cassini Planetary Protection Plan.pdf	6/30/2014...	471.05 KB
<input type="checkbox"/>	MEMO to Administrator from Chairman, Program Ma...	6/30/2014...	49.75 KB
<input type="checkbox"/>	PD1699-0482_Vol1of2.pdf	6/30/2014...	2.76 MB
<input type="checkbox"/>	PD1699-0482_Vol2of2.pdf	6/30/2014...	2.72 MB
<input type="checkbox"/>	Spacecraft Preship Review Cassini Program Review #...	6/30/2014...	8.2 MB
<input type="checkbox"/>	THE CASSINI ULTRAVIOLET IMAGING SPECTROGRA...	6/30/2014...	833.92 KB
<input type="checkbox"/>	* The Descent Imager_Spectral Radiometer (DISR) A...	6/30/2014...	3.62 MB

**File Listing with Download**



# Enhanced Traceability



- The ONCE raw data in SQL can be very noisy and confusing
- Now, for the first time, analysts can easily retrieve the TWO layers of supporting information
  - Layer 2 – Official CADRe files (Signed Part A, etc.)
  - Layer 1 – Source Files used to create the CADRe
- Improvement for analysts conducting data normalization
  - Multiple cross-checks now available
  - Additional information to provide context and/or history
- **This traceability chain will set the standard for CAD moving forward**
  - Reduce and resolve instances of conflicting datasets
  - Improve insight into actual values stored in the database
  - Verify the reliability of normalized datasets and analysis based on CADRe



# ONCEData.com Model Portal

Cost  
Analysis  
Division

- “Model Portal” = Webpage portion of ONCEData.com dedicated to distributing **models, tools**, and supporting information
- Accessible from the left hand navigation column on ONCEData.com after a user has logged in
- Support for multiple models with individual tabs and support for a collection of files associated with the model
- Security inheritance for all users includes ability to control access to government or contractor model file type
- Support for multiple file download at ONCE!
  - Note: not available on NSCKN!
- Model Portal has **3 tenets**:
  - **Simplicity**: Less is more. Zero development. Time to implementation was 4 days. No requirements creep.
  - **Security**: Leverage NAMS and CIO. Files inherit existing cleared security roles.
  - **Standardization**: Multiple models available in one location for a standard distribution mechanism

The screenshot shows the ONCE Model Portal interface. On the left is a navigation menu with sections for ONCE and CADRe. The main content area displays the NICM model page, including general information and a list of files for download. A callout box points to the file list with the text "Select Model or Tool to Download".

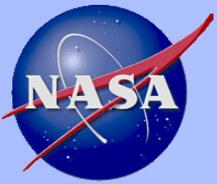
#	Name	Date modified	Size
<input type="checkbox"/>	NICM_VI Announcement Gov.docx	3/31/2014 2:28:15 PM	15.04 KB
<input type="checkbox"/>	NICM_VI_2014_3_24.xslm	3/31/2014 3:21:19 PM	25.08 MB
<input type="checkbox"/>	NICM_VI_Report_2014_3_24.pdf	3/31/2014 1:23:08 PM	2.86 MB

The screenshot shows the TCASE model page. It includes a "General Info" section and a "Points of Contact" section with the following details:

- Primary CAD POC: Scott May (256) 544-5445
- Alternate POC: Kirk Cole (757) 864-5445

The screenshot shows the Phasing Model page with a file list for download. A note indicates that users should click the green arrow menu item to download selected files.

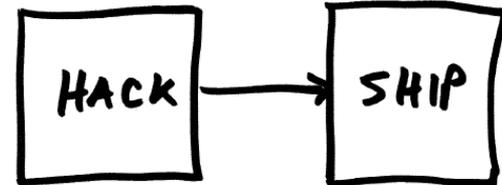
#	Name	Date modified	Size
<input type="checkbox"/>	12_PERFT Cost Symposium Final.pptx	4/4/2014 3:34:40 PM	962.58 KB
<input type="checkbox"/>	Phasing Tool_mission_level_v01262014.xlsx	4/4/2014 3:34:39 PM	66.3 KB
<input type="checkbox"/>	Phasing Tool_spacecraft_level_v01262014.xlsx	4/4/2014 3:34:39 PM	68.46 KB



# Model Portal Utilization

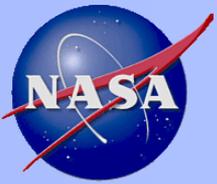
Cost  
Analysis  
Division

- **CAD currently planning on distributing official models that are created as the result of successful research, or formal model development initiatives.**
  - Avoid posting *everything*. Consider the secure location. Consider the audience and distribution mechanism. Leverage existing infrastructure and security roles.
- **Model Portal now has NICM, Phasing Model, and TCASE models available for download**
  - Government and contractor versions will depend on user credentials
  - Next up is SMART
- **Also available are the tools Polaris and Argo from Booz Allen Hamilton**
  - Includes licensing and activation information
- **Currently focused on CAD only; although option exists to expose capability to broader community via ECASG and/or approval process.**
- **POC is James.K.Johnson@nasa.gov and Eric.Plumer-1@nasa.gov**



Item	Unit	2013 \$1	2013 \$2	2013 \$3	2013 \$4	2013 \$5	2013 \$6	2013 \$7	2013 \$8	2013 \$9	2013 \$10
BEHIND THE WHEEL SOLAR PV	W	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
KEEP FINANCING RATES	%	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
NEVER SEEN A MODEL LOOK THIS GOOD											
State Selection											
Commercial (per 100)											
State											
State											
Subcontractor											
Task Order											
Enterprise Study											
Total											





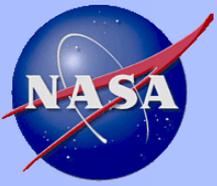
# Tracking & Administration

Cost  
Analysis  
Division

- Oversight capabilities are available to ONCE administrators to track user downloads from the Model Portal.
- Provides real-time and historical reporting by metric (user, model type, center, etc.)
- Automated dashboard for ease of use and tracking model usage across the community
- Opportunity to provide feedback to model developers
- Maintain access control of model type access by user
- Measure impact of new model releases, updated files, etc.
- Export information to Excel for use with other metrics (training, licensing, etc.)

Contact Users Automatically for New Release, Patch, Etc.

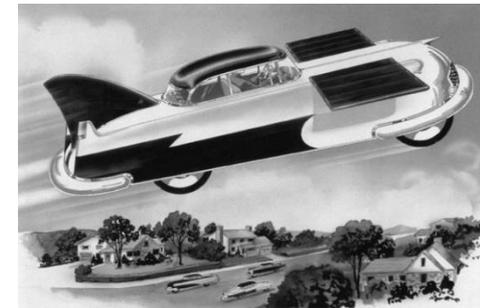
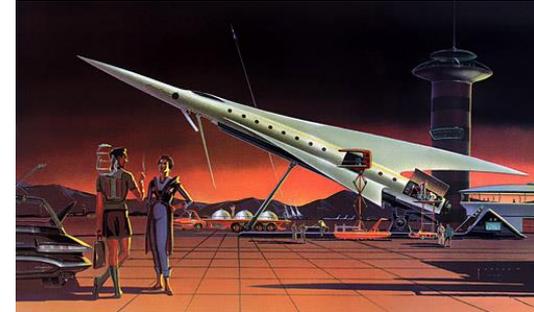


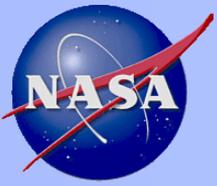


# Future Plans

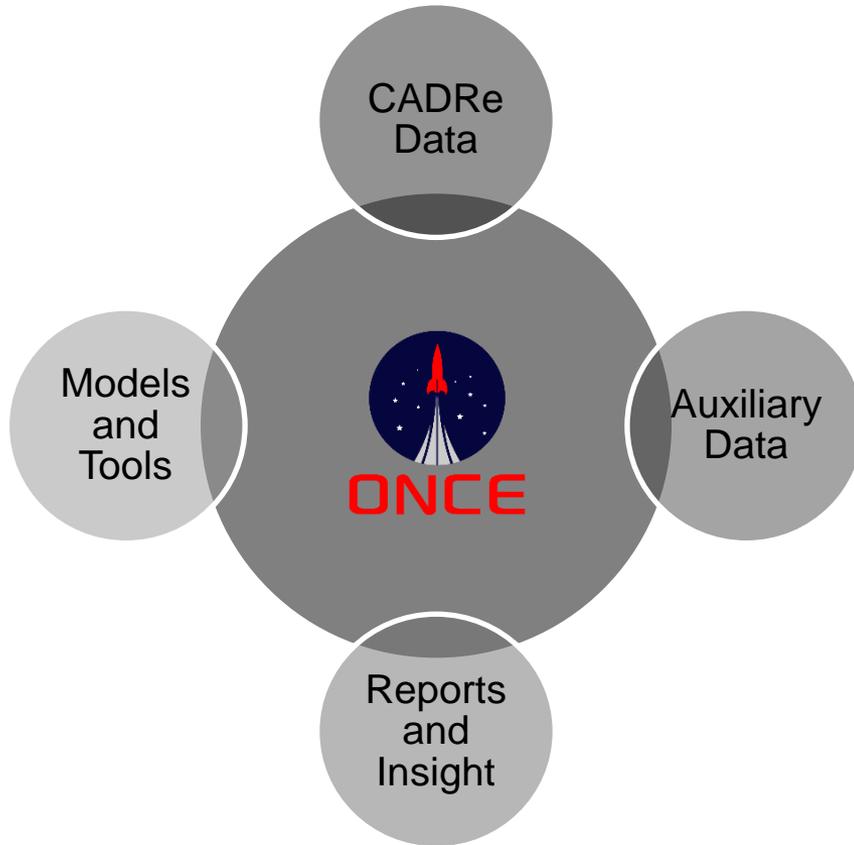
Cost  
Analysis  
Division

- **Continue improving the data**
  - Emphasis on quality and traceability
  - Continue adding and updating auxiliary datasets
  - Continue mapping and standardization
- **Continue improving the interface**
  - Emphasis on adding insight for the user
  - Continue improving report interface
  - Continue development of visual charts
- **Develop robust links to existing analysis efforts**
  - PCEC, CAD Research, etc
- **Implement simple data transformation**
  - Inflation handling, units normalization, etc.
- **Increase sharing of models and tools on the portal**
  - Add other models and tools for/from the community



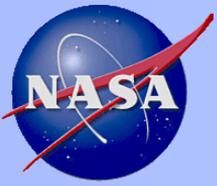


# Conclusion



- ONCE 2.0 is significant improvement and puts the database at the center of CAD’s efforts to build and improve the NASA community.
- ONCE is now the center of CAD’s efforts to empower analysts and improve cost estimating at NASA by providing access to:
  - **CADRe Data**
    - Active filtering for custom user reports
    - CADRe Library
  - **Auxiliary Data**
    - Normalized datasets
  - **Reports and Insight**
    - Dynamic graphical & tabular reports
    - Structured database reporting
  - **Models and Tools**
    - Model Portal sharing access across community

# BACKUP



# ONCE Breakout Agenda

Cost  
Analysis  
Division

- **Wednesday 2:15 – 3:15**
  - In Depth ONCE Discussion
    - Powerpoint Presentation
    - Live Demonstration of New User Reports and Dashboards
- **Wednesday 3:15 – 4:15**
  - ONCE Workshop
    - ONCE user feedback
    - CADRe developer feedback