Chief Knowledge Office
Communicating Success

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CKO

NASA Knowledge Community

…….Does GREAT Things!!!

JSC Semantics

The Semantic system at JSC (Taxonomy, Ontology and Term Metadata library), is an ever-evolving, iterative solution for refining search results.

Closely tied with entities across the Center, the relevancy of the semantic system continues to increase.

Langley Knowledge Strategy Plans

- Follow up to Knowledge Retention and Transfer Strategies workshop
- Key Suggestions
  - Data management and archive
  - Knowledge loss of experts – use retirees and fellows
  - Knowledge capture of facilities operations expertise
  - NESC Academy for short focused knowledge capture
  - Wikipedia or Twiki for knowledge capture
  - Formal mentoring program
  - Both Process knowledge and Technical knowledge are important
- Key Issues
  - Culture
  - Time
  - Resources and Priorities
- Next Steps
  - KM working group (Attendees and others)
  - Choose 2-3 focus areas and pilots
  - Knowledge Strategy

Examples of JPL KM Activities

- Examples of specific KM activities to close knowledge retention gaps:
  - Continue our robust lessons learned process
  - Improved access to archived project libraries
    - Entry, Descent, And Landing Repository (EDL-R)
    - Technology & Engineering Knowledge Repository (TEC-R)
  - Pause & Learn sessions for project managers
  - Lunch & Learn sessions for Project System Engineers
  - Mentoring and apprenticeship (e.g., Phaeton program)
  - Retiree outbriefing
  - Increased JPL participation in *JPL Wired* wiki
  - Expanded use of video capture of tacit knowledge and project technical decision making
- CKO serves mainly as a champion and a facilitator of KM
  - The line organization retains primary responsibility for preserving technical knowledge

MSFC Knowledge Suite

Marshall Road to Mission Success Workshop
- Case-study based learning communicates MSFC cultural expectations and provides a vision of the Center up, in, current, and future
- In collaboration with GSFC RTMS series

Case Study Practice

MSFC-authored Case Studies
Cross generational knowledge sharing

Pause and Learn

Reflective learning activity conducted after major milestones, events, and activities

MSFC Lessons Learned Distilling Team
- Cross organizational team that evaluates Lessons Learned for application and infusion

Integration

Identifying and communicating collaborative and complementary knowledge use or sharing developments

Knowledge Access

Enable access and search of information resources at MSFC

KSC Knowledge Sharing Inventory

The purpose is to develop a list of knowledge sharing tools used by each organization.

1. To show the Center how much knowledge sharing is already being done
2. For organizations to understand what is being done at the Center so they can share other organizations resources or do the same thing in their organization.
3. To identify what gaps may need to be filled

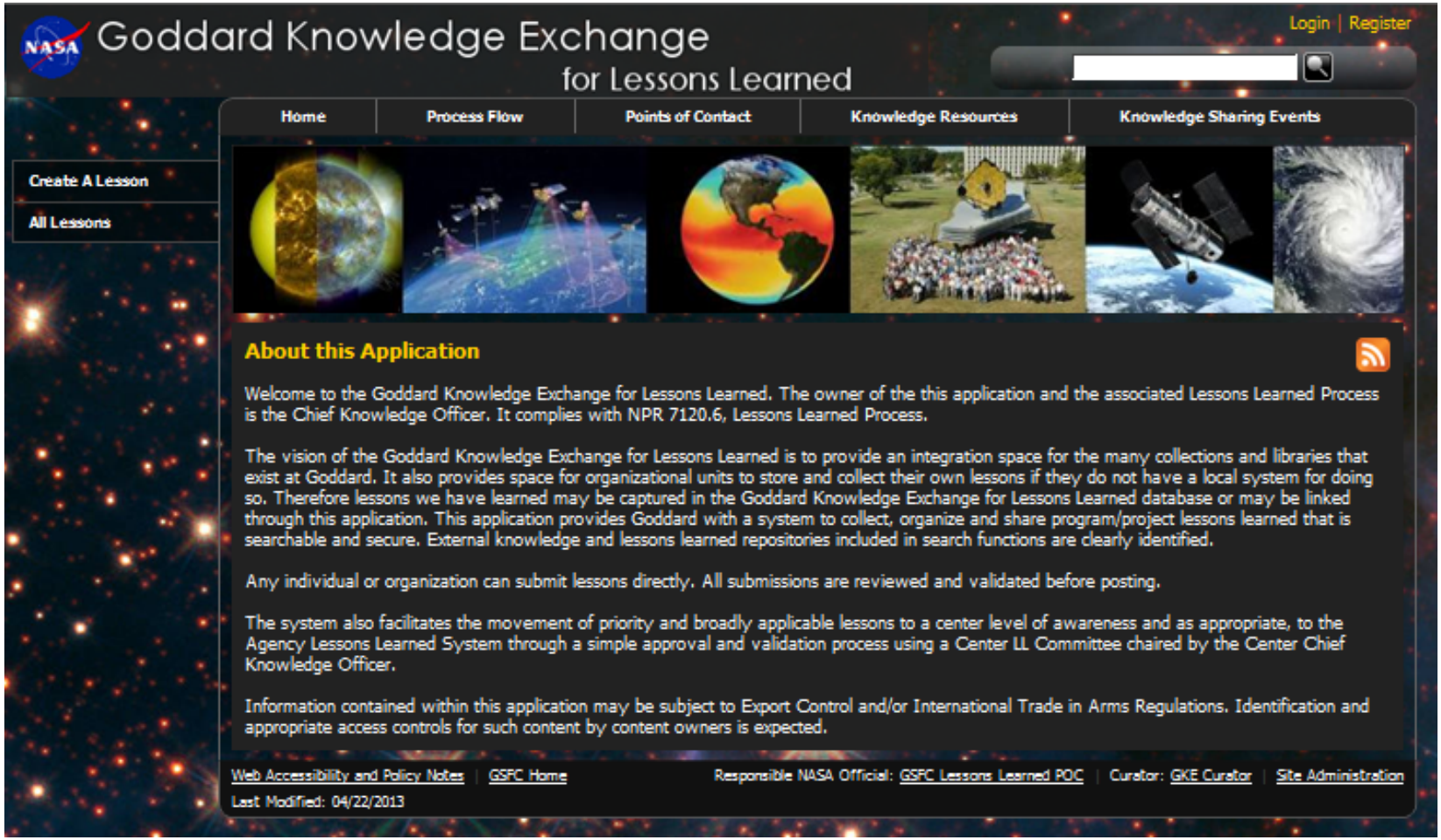
Activity	Content/ Description	URL or POC	Target Audience / Availability	Delivery Method	Used by
Lessons Learned Information System	Lessons learned entries	https://nen.nasa.gov/web/ll/ksc	All / available agency wide	Online System/ Publication 	
Tech-Doc	One-stop shop for documented process, policies, ect	http://techdoc/		Online System/ Publication 	
Kennedy Engineering Academy	Knowledge sharing sessions about a project success story with questions from the audience and discussion of challenges.	http://kea.ksc.nasa.gov/	NE / All KSC	Face to Face Forum 	
APPEL Case studies session				Classroom /Case Study Discussion 	
Spaceport Innovators	Meets monthly to serve as an incubator for innovative ideas, foster innovation and knowledge sharing		All KSC	Face to Face Forum 	
Mentor Match				Peer to Peer or Mentoring Network 	

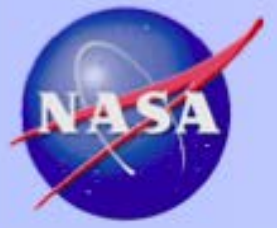
Current KM Activities at GRC

- Created a collaboration and data management tool (e-Room) for the KMAC activities

Goddard Knowledge Exchange for Lessons Learned

https://knowledge.gsfc.nasa.gov or https://gke.gsfc.nasa.gov





Knowledge Management (KM)
Community Forum, April 7, 2014
Donald Mendoza, Ph.D.

- **Where ARC is**
  - Assessing the Center's current lessons learned (LL) policy w/NPD 7120.6
  - Primarily executing a LL ***harvesting*** activity
    - Predominately engaging projects at their end
    - Reviewing mishap reports
  - Partnering with various Center communities of practice
    - Advocating for and explaining the KM process
    - Identifying various KM elements, tools, & needs
    - Sharing knowledge
- **Where ARC is going**
  - Fully NPD 7120.6 compliant KM process
  - End-to-end and fully integrated KM Process with the Center's projects and activities
- **Where ARC needs help**
  - Funding
  - Center specific and restricted element of LLIS and other online KM tools
  - Pull from the top (assess 7120.6 compliance at Key Decision Point reviews)

STMD Outline

- **STMD Knowledge Mapping**
  - Case Studies / Publications
  - Face-to-Face Knowledge Services
  - Online Tools
  - Knowledge Networks
  - Lessons Learned / Knowledge Processes
  - Search / Tag / Taxonomy Tools
- **Knowledge Capture Process Development**
- **STMD Knowledge Management Status**

NESC Video Academy

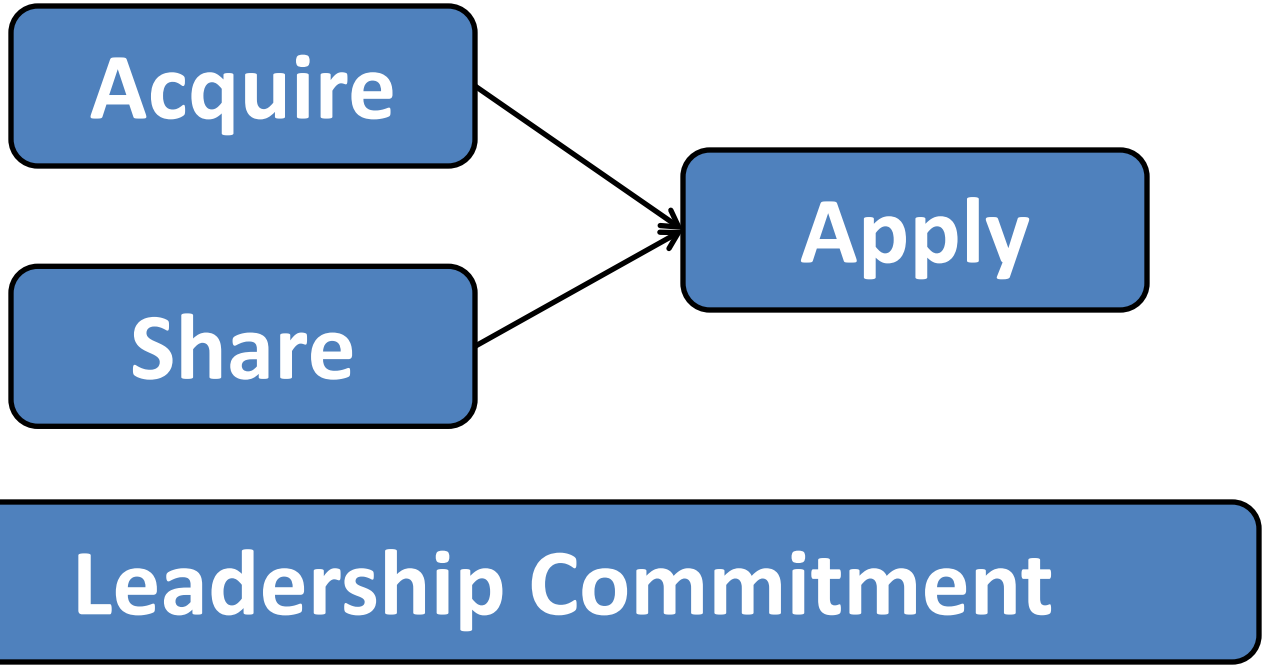
NSC
Safety and Mission Assurance

KM Strategic Objective

Create a continuous learning culture within Safety and Mission Assurance to support the successful execution of all NASA programs

1.Identify and facilitate knowledge sharing opportunities
2.Develop knowledge sharing tools and processes
3.Educate SMA practitioners
4.Embed knowledge management as an organizational strength

IV&V Learning Organization Concept



These are the key characteristics/behaviors we need as individuals and as an organization.

Armstrong Knowledge

- Lessons learned:
- After action reports
- Lessons Learned across several centers
- Mentoring activities
- System engineering activities to formalize processes

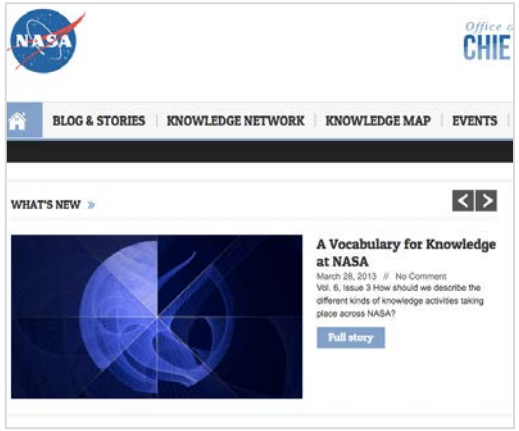
I. Top Accomplishments to Date

1. CKOs /POCs

2. Knowledge Policy

3. Knowledge Map

4. km.nasa.gov



The knowledge community has enabled all other accomplishments

Communicating Success

- Knowledge Policy
- Knowledge Map
- km.nasa.gov
  - Knowledge forums
  - JPL Newsletter
  - Shuttle Console
  - Federal KM Community

CKO/OCE Communications Communicating Success

- **Weekly** - Weekly activities for leadership communications.

- **Monthly** – OCE monthly meeting – Critical knowledge and activities for CKO and knowledge community from the centers and mission directorates.

http://www.youtube.com/v/38Xuz-r8Q5U

CKO/OCE Communications
Communicating Success

- **Quarterly** - APMC meeting presentations to include roll-ups of monthly data and ASAP progress

- **One-offs –** ASAP, IG, Internal NASA requests, external, center trip reports

CKO Monthly Update Request

Organization, CKO or Lead:

1. Goals and objectives
2. Activity, accomplishment, Status (critical knowledge)
3. Issuesand concerns
4. Plans for Next Quarter

- Current State:
  - First Fridays monthly
  - Email to CKO – Bell, Snyder
- Future State – Self-Service
- Two slides

Sample
JPL KM Accomplishments

Goals and Objectives

- Coordinate with the NASA KM program
- Obtain the support of JPL and NASA management, including resources needed for KM program implementation
- Attain JPL-wide understanding of our KM challenges and potential benefits and employee buy-in for investing labor and other resources in managing critical knowledge
- Provide a clear plan that defines the JPL KM needs and the steps necessary to meet objectives
- Baseline KM best practices, improve them, and communicate them across the Lab
- Elicit metrics or key performance indicators against which progress can be measured.

Accomplishments and Activities

- Supported a robust lessons learned process, featuring a JPL Lessons Learned Committee, closed-loop lessons learned infusion, and a *defacto* JPL Corrective Action Board function
- Supported quarterly installment of *JPL Stories* story telling activity
- Sponsored a Gravity Recovery and Climate Experiment (GRACE) crowdsourcing challenge at the re:Invent Hackathon in Las Vegas on 11/12/13.
- Continued benchmarking interviews with Aerospace industry partners (APL, Lincoln Lab, and Aerospace Corporation) to better gauge KM program's progress and to baseline best practices.

Issues/Concerns

- Fostering an appreciation for knowledge husbandry will require a change in the institutional culture
- Augmenting existing JPL KM-like activities with a systematic KM process will require meaningful metrics for measuring its impact

Plans for Next Quarter

- Planning 4 case studies with Ed Rogers, CKO of GSFC
- Brief JPL Strategic Management Council on KM program progress
- Demo emerging video capture technology
- Continue interviewing divisional chief engineers to identify KM priorities and gaps
- Plan a JPL Masters with Masters activity with the Agency CKO

Balanced Scorecard

KNOWLEDGE CAGTEGORY	MEASURE	AUDIENCE	CUSTOMER METRIC	ANECDOTAL DATA	STATUS Green, Yellow or Red
Case Studies/Publications	# of – planned vs. actual	% Participation by Center & Organization	Perceived learning & intention to use the skills acquired	Success Stories	
Face-to-Face Knowledge Services	# of sessions – planned vs. actual	% Participation by Center & Organization	% "I apply this knowledge to my current field"	Success Stories	
Online Tools	# of hits, entries, shares	% Participation by Center & Organization	% "I found what I needed,"	Success Stories	
Knowledge Networks	# of active communities	% Participation by Center & Organization	Perceived learning & intention to use the skills acquired	Success Stories	
Lessons Learned/Knowledge Processes	# of submitted entries – by program, project, Center	% Participation by Center & Organization # of database hits/ page views	% "I apply this knowledge to my current field" - star rating/ "likes" of entries	Success Stories	
Search/Tag/Taxonomy	# of search entries topic	% Participation by Center & Organization	% "I was able to find what I needed"	Success Stories