NASA Academy of Program/Project & Engineering Leadership (APPEL)

Developing the Technical Workforce

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APPEL Mission

To support NASA by providing individual and team support in program/project management and systems engineering.

- APPEL is NASA's internal resource for project management and systems engineering training.

APPEL Evolution

Program and Project Management Initiative (PPMI)

- **NASA**: Established PPMI in response to Space Shuttle Challenger disaster.
- **PPMI:** Training courses on fundamentals of PM knowledge.

Transition to APPEL

- **NASA**: Faster, Better, Cheaper.
- **PPMI/APPEL:** Further emphasis on project management curriculum.

APPEL Meets Expanded PM Needs

- **NASA**: PM shift from pure focus on mission success to increased range of responsibility.
- **APPEL:** Began focusing on systems engineering training, and introduced team support services and knowledge sharing activities.

APPEL Today

- **NASA**: Greater emphasis on speed, cost, innovation, partnerships, and sustainability.
- **APPEL:** Promotes individual and team learning through our advanced curriculum, hands-on development programs, and strategic communications.

Development Training

Based in the Office of the Chief Engineer

26 YEARS
of supporting the training and development goals of the NASA technical community.

CLOSELY ALIGNED
with the Chief Knowledge Officer to ensure PMs and SEs have the skills and knowledge they need to advance NASA's mission.

Goals

- Provide a common agency framework for NASA's technical workforce.
- Refine and enhance critical job skills.
- Support systems engineering, program, and project teams.
- Supplement and enhance your formal academic education.

Aligned with NASA's Mission

Curriculum created exclusively for developing NASA's technical workforce.

APPEL Project Management Development Framework	Aligned with NASA's mission and goals
APPEL Courses and Development Programs	Aligned with project management and systems engineering competencies
APPEL Offerings	Aligned with NASA internal requirements and external accreditation requirements
APPEL Course Content	Revised as NASA processes and procedural requirements evolve

Rigorous Standards Support Workforce Development

- **Accuracy**: Courses are reviewed, audited, and revised annually and/or as needed by NASA subject matter experts.
- **Alignment**: Content is aligned with NASA's missions.
- **Relevance**: APPEL partners with agency *practitioner communities* to ensure course content is relevant to the diverse needs of NASA's technical workforce.

Program/Project Management
Systems Engineering
Earned Value Management
Project Planning and Control
Software Engineering

Agency Training Resource

Over the past **5 YEARS**,
APPEL has trained **>14,500** participants
through **586** courses across **11** centers.

- Primary provider of PM&SE courses for the agency.
- APPEL coordinates with each center annually to identify training gaps and offer courses in support of center initiatives.
- Each center has an APPEL POC that practitioners can contact for information about APPEL courses and resources.

APPEL Points of Contact (POCs)

At each center, APPEL POCs are available to help practitioners interested in taking APPEL courses.

AFRC Bridgette Washington
bridgette.n.washington@nasa.gov

ARC Sarah Gillaudeu
sarah.s.guillaudeu@nasa.gov

GRC Kathy Clark
kathy.m.clark@nasa.gov

GSFC Richard Gudnitz
richard.a.gudnitz@nasa.gov

HQ Terri Mitchell
terri.j.mitchell@nasa.gov

JPL Tod Oliver
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Zeeaa Quadri
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Tim Pirlo
timothy.a.pirlo@nasa.gov **KSC**

Travis Millner
travis.l.millner@nasa.gov **LaRC**

Shelley Miller
shelley.t.miller@nasa.gov **MSFC**

Cassandra Clark
cassandra.j.clark@nasa.gov **NSSC**

Anita Douglas
anita.w.douglas@nasa.gov **SSC**

Agency Development Resource

The APPEL website features a broad range of practitioner development tools.

APPEL Website

APPEL's communication hub: provides information about APPEL courses, contacts, as well as links to the APPEL Catalog, PM&SE Competency Model, APPEL News, and other materials such as case studies.

APPEL Catalog

Interactive, one-stop resource for information on courses, curriculum, career resources, registration, and accreditations.

PM&SE Competency Model

Interactive model helps practitioners identify the competencies required for success in their roles at NASA.

Center Development Resource

APPEL CURRICULUM & SUPPORT

APPEL supports center-level development programs.

ARC	Ames Project Excellence Program (APEX)
GRC	Rocket University Space Mission Excellence Program (SMEP)
GSFC	Systems Engineering Education Development (SEED) Flight Projects Development Program (FPDP)
HQ	Presidential Management Fellows SELDP Project HOPE
KSC	Rocket University KSC Foundations of Leadership Systems Engineering Advanced Leadership Program (SEAL)
LaRC	Langley Project Management Development Program
MSFC	Marshall Systems Engineering Leadership Development Program (MSELDP) Program, Planning and Control Leadership Development Program

Hands-On Development Programs

APPEL supports a range of development programs:
Immersive learning experiences with tangible results.

Systems Engineering Leadership Development Program (SELDP)	Prepares select employees to spend a year at a different center to gain SE, communication and leaderships skills.
Rocket University	Offers critical hands-on training to develop NASA Young Professionals as they transition into higher-profile projects.
Project HOPE	Enables early-career practitioners to manage a real science project and gain the knowledge and skills necessary to manage NASA's future flight projects.

International Collaboration

APPEL actively works with NASA's international partners to expand learning opportunities.

In partnership with CKO, conducts the International Project Management course twice annually.

- Brings together NASA and international participants to develop international teaming skills and understand respective PM challenges.
- Includes presentations by senior PMs from Europe (ESA), Japan (JAXA), and other NASA partner agencies.

Accreditations and Affiliations

American Council on Education (ACE)

- Recommends graduate credit for 11 Academy courses.

Project Management Institute

- Registered provider of Professional Development Units (PDUs).
- NASA-certified PMs can sit for PMP exam without prerequisites.

International Association for Continuing Education & Training (IACET)

- Authorized provider.

Federal Acquisition Certification of Program/Project Managers (FAC-P/PM)

- Authorized provider of Continuous Learning Points (CLP).

National Aeronautics and Space Administration

Curriculum

APPEL Curriculum

The curriculum consists of core and in-depth courses.

- **Core**: Four courses spanning foundational to advanced topics.
- **In-depth**: Supplement the core curriculum by providing deeper knowledge and skills development.

Courses are offered using a variety of delivery methods.

- Live classroom
- Virtual classroom
- Online/self-paced

Courses are highly interactive.

- Include case study analyses, group discussions, individual exercises, and simulations.

APPEL Core Curriculum

- **Foundational framework.**
- **Builds NASA-specific expertise and capability**, making extensive use of NASA case studies.
- **Supplements academic and professional** work experience.

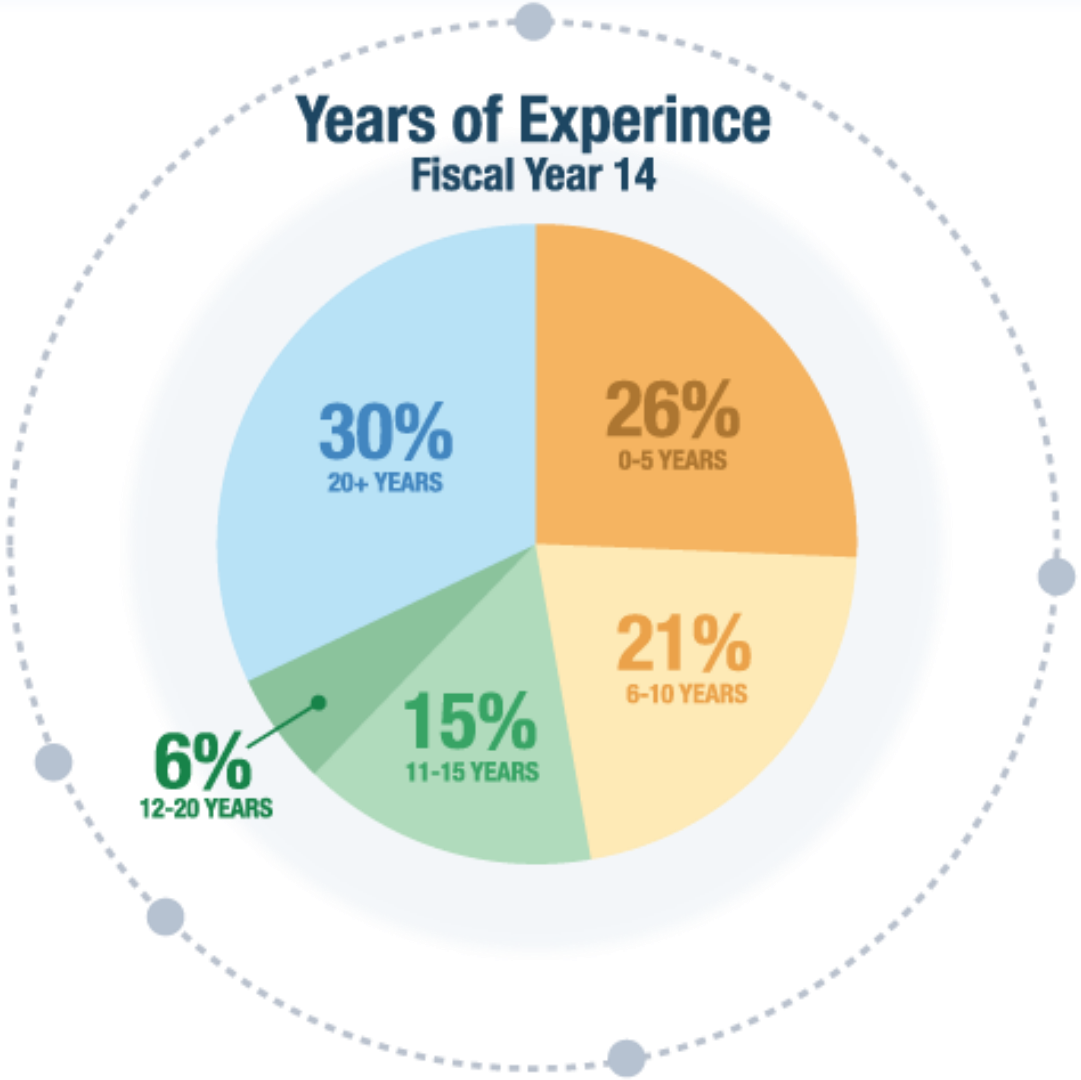
Foundations of Aerospace at NASA
Project Management and Systems Engineering
Advanced Project Management and Advanced Systems Engineering
International Project Management

APPEL In-Depth Curriculum

50 courses across a critical range of disciplines.

Program/project management
Systems engineering
Engineering
Earned value management
Communication and leadership
Mission and safety

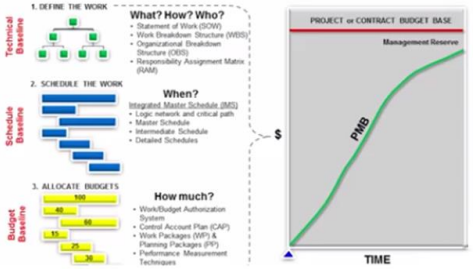
APPEL Courses Serve A Diverse Audience



Courses meet the development needs of practitioners at all stages of career growth.

APPEL Courses Instill Critical Skills

Course content is highly relevant to participants.



Advanced EVM

"The discussions on what to read into the data, when to take corrective actions, and things to look for to test the validity of the data will be very useful on future projects."

~ AEVM Participant

Project Management & Systems Engineering

"The class exercises allowed me to apply concepts, practices, and processes as they were presented in class. This enhanced my understanding and helped me learn how I would use the information in my real work responsibilities and assignments."

~ PM&SE Participant

International Project Management

"The most significant insight I gained is the importance of the fundamentals about the collaborative negotiation, cross-cultural understanding, ethics, and ITAR regulations."

~ IPM Participant

APPEL Courses Provide Value

The APPEL curriculum is specifically designed to support the NASA mission.

- Competency-based.
- Course evaluation surveys.
- Annual subject matter expert reviews.
- Alignment with NASA Procedural Requirements.

APPEL courses rate

4.21 out of 5

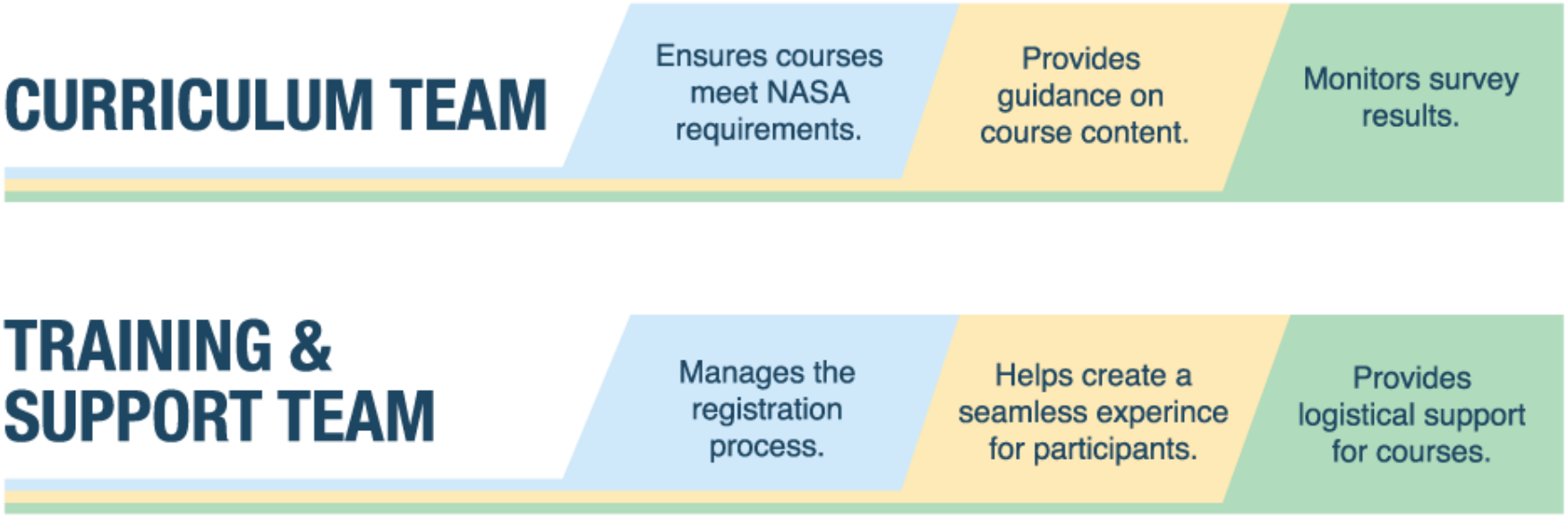
in terms of value to participants.

Measuring Success

Best practice	• APPEL training recognized as best practice by IACET.
External credit	• Courses qualify for PMI PDUs and IACET CEUs. • 11 courses eligible for graduate credit.
Center approved	• Centers recognize the value of APPEL courses: greater demand than APPEL can meet.
In demand	• External organizations regularly request to attend APPEL courses (FAA, NOAA, DHS, and more).
Voted best	• Recognized as “Best Academy in the World” in 2009 and 2012. • Awarded IACET Exemplar Award for Internal Training in August 2012.

APPEL Behind-the-Scenes Support

The APPEL Team facilitates course selection and registration for participants.



National Aeronautics and Space Administration

APPEL
Strategic Communications & Resources

appel.nasa.gov

aPPEL academy of program/project & engineering leadership

APPEL Strategic Communications

Singular information resource across multiple platforms.

APPEL Website

- **APPEL Catalog**: One-stop resource for course information, registration, and career development.
- **PM&SE Competency Model**: Interactive and in sync with APPEL Catalog; supports employee development.
- **APPEL communications resources:** Articles, case studies, presentations, and formal papers.

APPEL Announcements

- Targeted communications alert key stakeholders, training officers, APPEL POCs, and practitioners to course updates, special events, and other initiatives and activities.

APPEL Social Media

- Full range of digital channels keep APPEL accomplishments and news in the forefront.

APPEL News Digest

- Monthly digital publication spotlights APPEL news, articles, videos, and more.
- More than 80,000 subscribers.

APPEL Website Growth

Throughout 2014, the APPEL website has seen consistent expansion of user traffic.

Over **15,000** monthly page views in September.

- The high traffic on the APPEL website is largely attributable to its ease of use, relevant articles and information, and an intuitive presentation of information.

APPEL News Digest & Announcements

The *APPEL News Digest* delivers APPEL articles, interviews, videos, and other material to subscribers on a monthly basis.

More than **82,000** news subscribers.

- Throughout 2014, APPEL distribution has gained momentum.
- Both ASK Magazine and APPEL News are popular with colleges, universities, and other program management-based organizations as references for case studies, course work, and student learning.

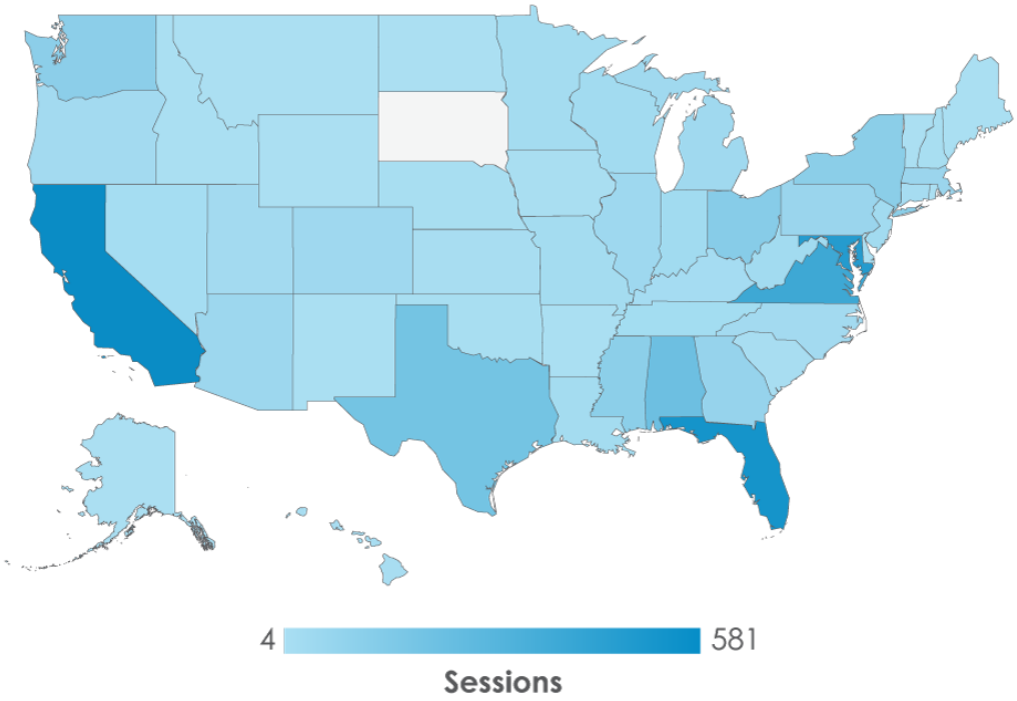
APPEL Communications Reach

Every month, the APPEL website reaches a wide audience.

- Users in 49 of 50 states.

Top States

1. California: **581 Sessions**
2. Florida: **525 Sessions**
3. Maryland: **474 Sessions**
4. Virginia: **381 Sessions**
5. Alabama: **222 Sessions**



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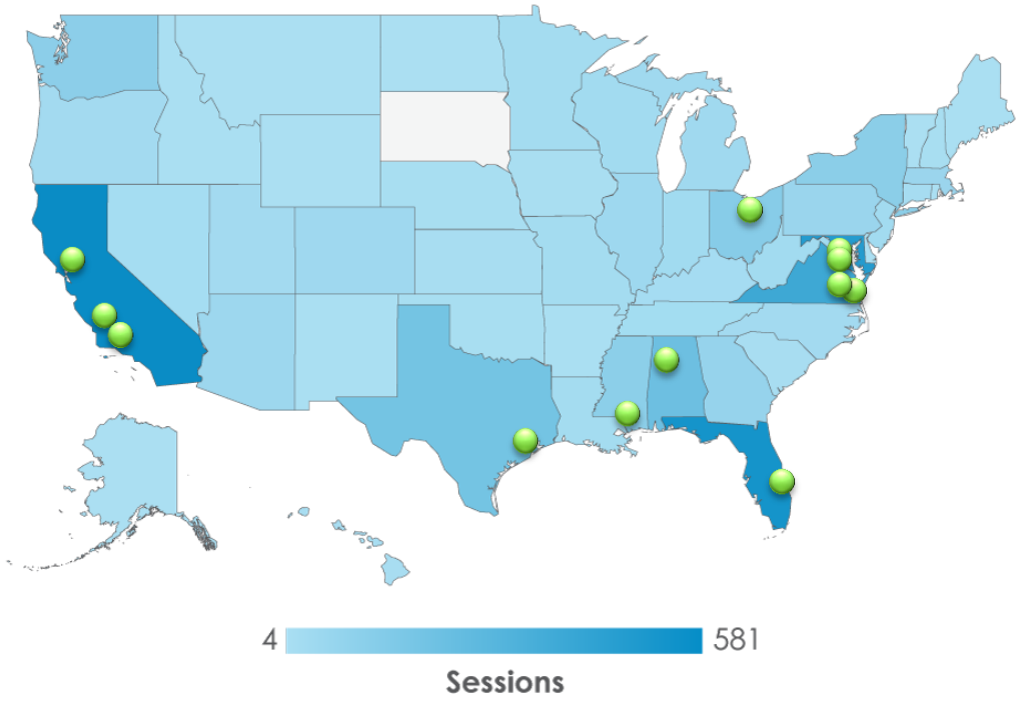

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- Concentrated use around NASA centers.
- Users in Europe, Canada, international space agencies, learning institutions.

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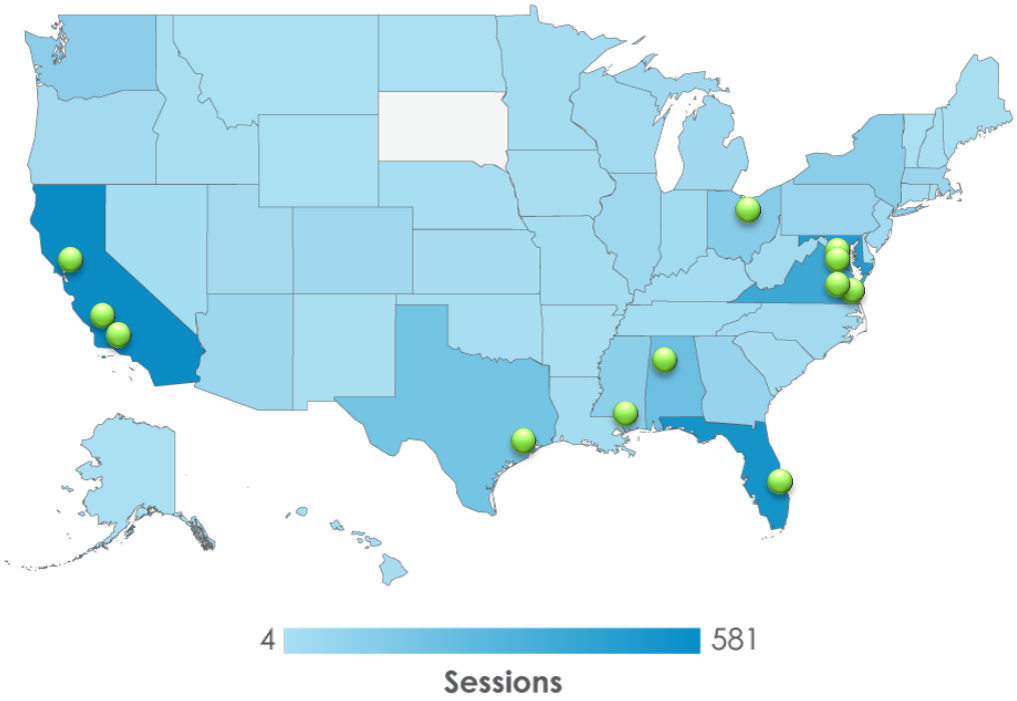
Top Countries

1. USA: **3,979 Sessions**
2. UK: **202 Sessions**
3. Canada: **199 Sessions**



APPEL Catalog

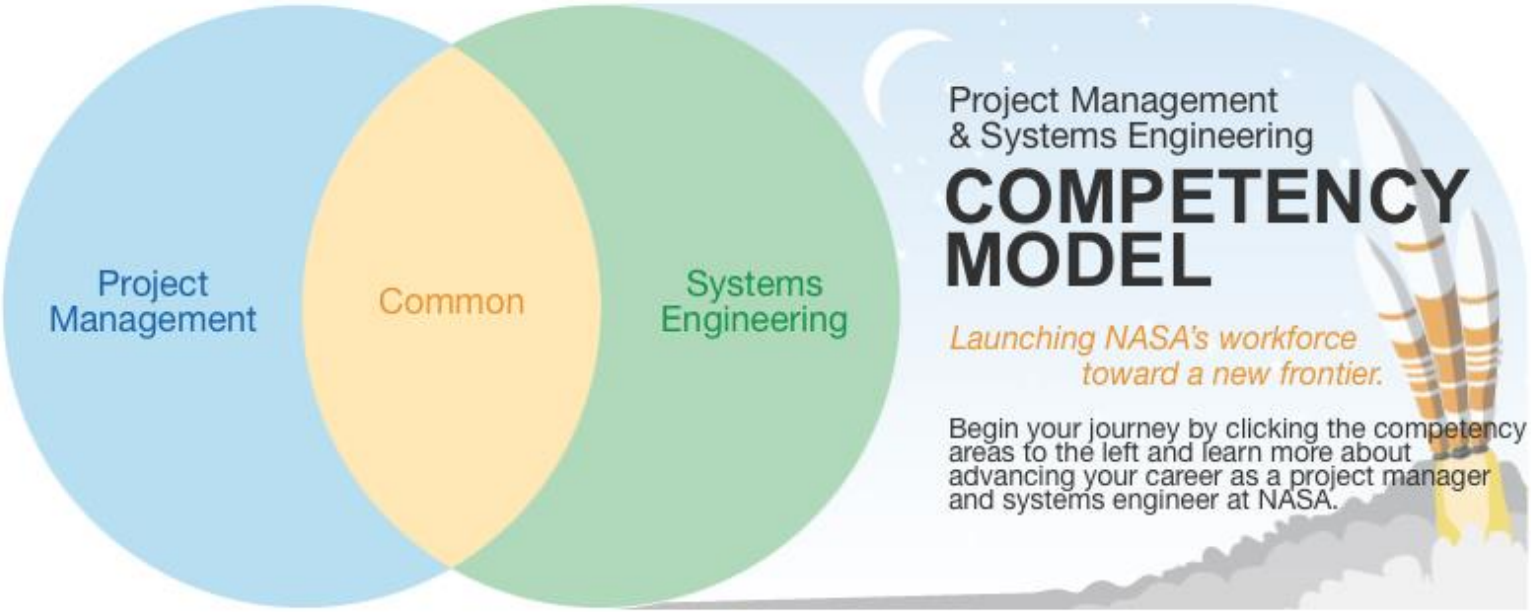
The FY15 catalog is interactive and entirely online.

One-stop resource for information on courses, curriculum, career resources, supplemental training, registration, and accreditations in support of the NASA technical workforce career development.

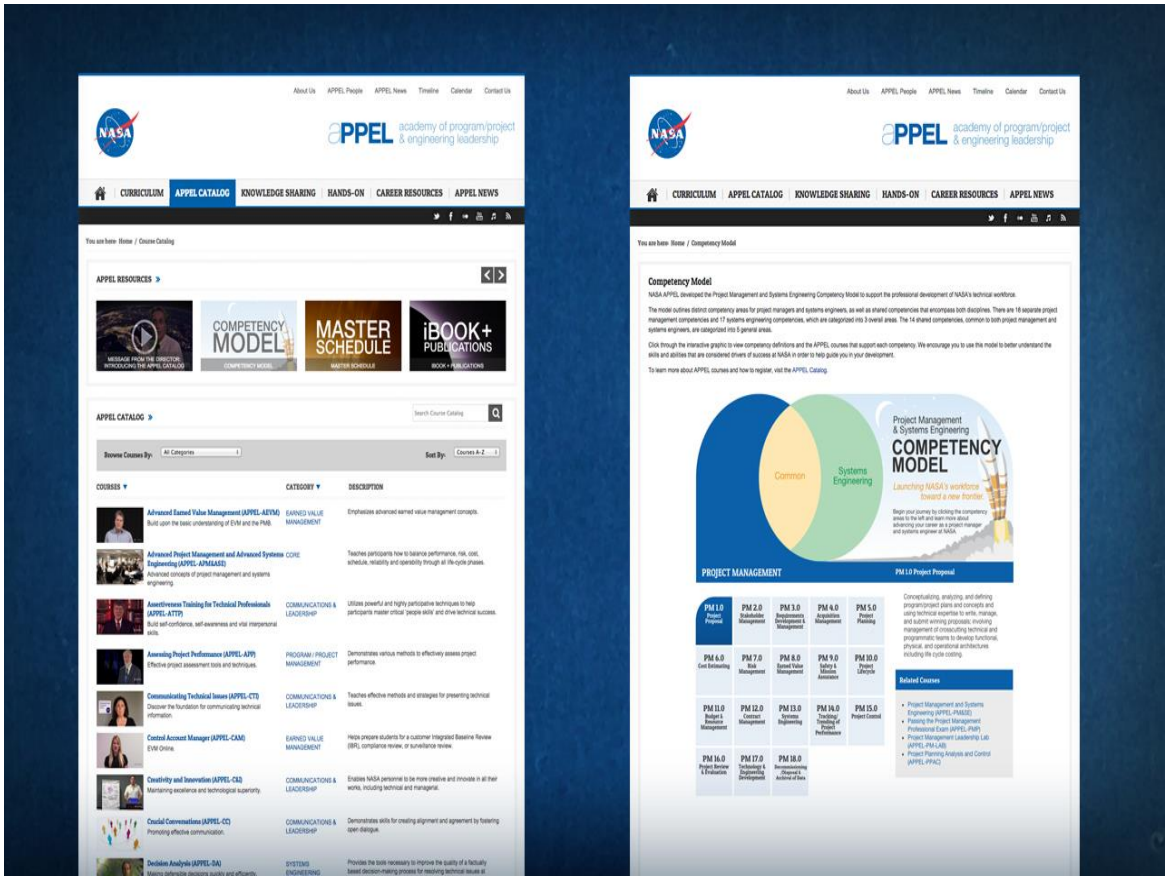
- **Participants can click directly from the catalog to register** for courses in SATERN.
- **Comprehensive web page for each course** provides information to help practitioners determine whether it will meet their career development needs.

PM&SE Competency Model

- Fully integrated with the APPEL Catalog.
- Highly interactive and synergistic.
- Connects competencies to individual career development goals.
- Hyperlinked to related courses.



APPEL Catalog and PM&SE Competency Model



APPEL Digital Media

Flickr

- APPEL highlights NASA's PM&SE stories in pictures.
- Nearly 385,000 lifetime views.

YouTube

- APPEL's video library includes development resources, lessons learned discussions, Masters with Masters forums, and much more.

Twitter

- APPEL invites NASA practitioners to share experiences in real time.
- Nearly 16,000 followers.

Facebook

- APPEL posts highlight PM&SE courses and activities.
- See what people are saying about APPEL programs.
- More than 14,000 likes.

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Thank you for attending today's webcast.

Any questions?