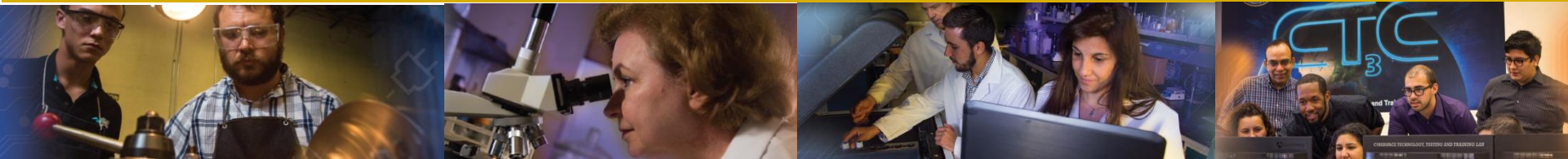




DOE EM - Knowledge Management System

Deactivation and Decommissioning Knowledge Management Information Tool (D&D KM-IT) for Nuclear Decommissioning

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Applied Research Center
Florida International University





KNOWLEDGE MANAGEMENT



- Knowledge management is a globally recognized discipline to acquire knowledge, retain it and make it available for the future.
- While gathering and sharing knowledge has long proved to be invaluable to civilization since the beginning of time, KM is a modern approach & discipline being used within EM to capture D&D knowledge.



SCOPE AND OBJECTIVES



To prevent the loss of D&D knowledge and expertise that has been gained over the years by employees and contractors of DOE



To collect, consolidate, and share this valuable information in a universally available and easily usable system



To provide single-point access into the collective knowledge-base of the D&D community within and outside of the U.S. Department of Energy



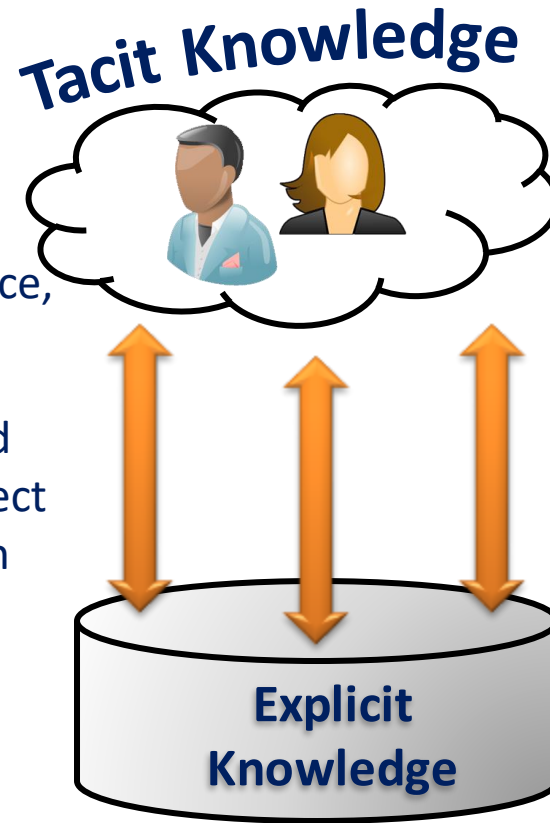
TACIT VS EXPLICIT KNOWLEDGE



- **Data** represents observations or facts without context.
- **Information** results from placing *data* within some meaningful context.
- **Knowledge** is that which we believe and value, based on the meaningfully organized accumulation of *information* through experience, communication or inference.

Tacit knowledge is subconsciously understood and applied, difficult to articulate, developed from direct experience and action, and usually shared through highly interactive conversation and shared experience - *“The storyteller.”*

Explicit knowledge can be more precisely and formally articulated. It can be more easily codified, documented, transferred or shared - *“The textbook.”*



Contextual
Mental
Processes
Difficult to
Transfer

Tangible
Systematic
Ease of
Transfer



KNOWLEDGE MANAGEMENT



- ***Knowledge management*** (KM) comprises activities to identify, represent, disseminate, and utilize knowledge (i.e., information and experiences).
- A ***knowledge management system*** (KMS), therefore, refers to a system for managing knowledge. Such a system supports the creation, capture, storage, and dissemination of information and enables users to have ready access to the base of facts, sources of information, and solutions represented by tacit & explicit knowledge.
- The collection of ***tacit*** and ***explicit*** knowledge helps to span the generational knowledge gap.



IMPORTANCE OF KM TO EM



- A significant portion of the EM workforce (including DOE and contractors) is nearing retirement age.
- KM aids in the retention of knowledge and experience when employees leave.
- KM provides a centralized location for data and information, improving time management of users.
- KM allows experiences to be captured and shared with Lessons Learned and Best Practices.
- KM reduces redundant work by helping users avoid re-inventing the wheel.
- KM allows the sharing of valuable information throughout the organization.



INTERNATIONAL INTEREST IN KM



International Atomic Energy Agency: Challenges and Approaches To Knowledge Management for Decommissioning and Environmental Remediation (draft)

- In 2002, IAEA adopted a resolution on Nuclear Knowledge that emphasized the critical importance of nuclear knowledge management.
- Nuclear knowledge management is now recognized as an important tool for the nuclear community.
- Given the long timescales of decommissioning and environmental remediation projects (many decades), the preservation of information and its transfer to future generations is a fundamental element of these industries.
- The importance of preservation of this information needs emphasis as it provides a basic linkage between successive generations and responsible organizations.
- The information must be preserved in a form that can be retrieved and understood over a long period of time, and that is suitable for transfer to appropriate media based on reliable and proven technology.



CORPORATE INTEREST IN KM



Reasons for instituting a knowledge management-intensive learning organization:

1. Increases employee satisfaction due to greater personal development/empowerment.
2. By keeping employees longer, reduces loss of intellectual capital.
3. Saves money by not reinventing the wheel for each new project.
4. Reduces costs by decreasing and achieving economies of scale in obtaining information from external providers.
5. Increases productivity by making knowledge available more quickly and easily.
6. Provides workers with a more democratic place to work by allowing everyone access to knowledge.
7. You can learn faster with KM. Learning faster means staying competitive.
8. KM software and technological infrastructures allow for global access to an organization's knowledge, at a keystroke.
9. An organization does not have to reinvent the wheel each time a new project comes along, and that saves time.



ENGAGEMENT WITH COMMUNITY OF PRACTICE



- **Collaboration with former ALARA Centers**
 - Publication of ALARA Center reports
 - Data mining of ALARA Center reports for technologies and problem sets
 - Early collaboration allowed for storage & retrieval of knowledge collection
- **Collaboration with former EFCOG D&D Working Group**
 - Identification and development of lessons learned / best practices documents
 - Publication of lessons learned / best practices on D&D KM-IT



KNOWLEDGE BASE FOR ENVIRONMENTAL MANAGEMENT



<https://www.kbem.org>



DND KM-IT
dndkm.org

WIMS
emwims.org

DOE FELLOWS
fellows.fiu.edu

DOE RESEARCH
doersearch.fiu.edu

Fixatives
Mobile App

Robotics KM-IT
rkmit.org





D&D KNOWLEDGE MANAGEMENT INFORMATION TOOL

[HTTPS://WWW.DNDKM.ORG](https://www.dndkm.org)
[HTTPS://M.DNDKM.ORG](https://m.dndkm.org)





D&D KM-IT GOAL



To attain long-term active use, operation, and continued growth of D&D knowledge and capture within the D&D KM-IT system resulting in:

- enhanced worker safety,
- improved operational efficiencies,
- improved communication & knowledge, and
- cross-generational transfer of D&D knowledge to the future workforce.



D&D KNOWLEDGE MANAGEMENT INFORMATION TOOL



[HTTPS://WWW.DNDKM.ORG](https://www.dndkm.org)

A web-based knowledge management information tool custom-built for the D&D user community by FIU-ARC in collaboration with DOE, EFCOG, and the former DOE ALARA Centers.



D&D KM-IT Desktop Modules



D&D KM-IT
Deactivation & Decommissioning Knowledge Management Information Tool

Mobile: m.dndkm.org Search the D&D KM-IT

Home Contribute About Contact Welcome Guest Login

Modules Powered by the Global D&D Community

Hotline	Technology	Web Crawler	Mobile System
Lessons Learned	Best Practices	Picture Video Library	Document Library
Specialist Directory	Vendors	D&D Research	Training

Please register to access all of the features of D&D KM-IT. U.S. Registration International Registration

Additional Features

D&D RESEARCH For DOE EM	Fixative Module See More	ITSR Module Innovative Technology Summary Report	Search SRS ISSC Reports Begin Searching	Prioritization Tool Prioritize Maintenance Expenditures
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Quick Links DOE EM D&D SRS ISSC ALARA Center EFCOG COGENTUS

Industry News

- Demolition Continues at Hanford's Plutonium Finishing Plant
- SRS Employees Further Safety, Create Efficiencies in Plutonium Downblending
- Oak Ridge Contractor Develops Next Generation of Cleanup Workers
- 800 People Attend DOE-Supported STEM Night at Oak Ridge School

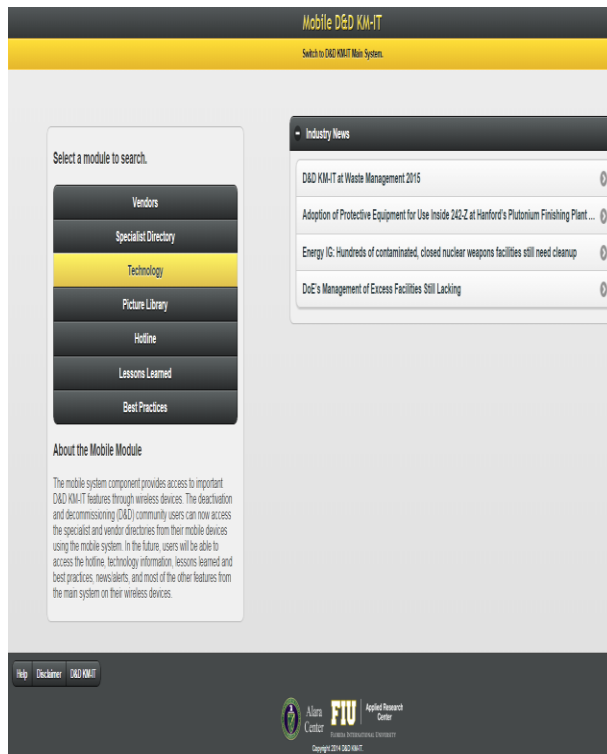
Contribute
Share your knowledge and experience through D&D KM-IT.

- Hotline
- Technology
- Web Crawler
- Mobile System
- Lessons Learned
- Best Practices
- Picture/Video Library
- Document Library
- Specialist Directory
- Vendor
- D&D Research
- Training

<https://www.dndkm.org>



D&D KM-IT Mobile Modules



- **Specialist Directory**
- **Vendor**
- **Technology**
- **Picture/Video Library**
- **Hotline**
- **Lessons Learned**
- **Best Practices**

<https://m.dndkm.org>



D&D KM-IT MODULES





D&D KM-IT - Hotline



- Hotline allows the D&D community to post problems in a specific D&D area and get solutions from the subject matter specialists.
- Users can also search for previously published problems and their solutions.

The screenshot shows the D&D KM-IT Hotline website. The header includes the title "D&D KM-IT" and the subtitle "Deactivation & Decommissioning Knowledge Management Information Tool". Navigation tabs include Home, Contribute, About, Contact, and More Modules. A search bar is located in the top right corner. The main content area features a "Hotline" section with a description: "Get expert answers to your D&D questions. The Hotline module allows interested users to post questions/problems related to a specific area of deactivation and decommissioning (D&D). The question/problem will be routed to the subject matter specialists (SMS) who, based on their experience, will provide a technical solution to the posted question/problem. The provided answer(s) will be posted on a web portal after content coordinator (CC) review." Below this text is a "Post a Problem Online" button. To the right, there is a "Search Hotline" section with a search bar and a "Start Your Search Now" button. Below the search bar, there are links for "View All Problems" and "Popular Problems & Solutions". The footer contains "Popular Links" (Technology: Search, Vendors: Search, Hotline: Search, Document Library: ITSR Archives), "RSS Feeds", "News" (Demolition Continues at Hanford's Plutonium Finishing Plant, SRS Employees Further Safety, Create Efficiencies in Plutonium Downblending, Oak Ridge Contractor Develops Next Generation of Cleanup Workers), and "Developed By:" information for the Applied Research Center at Florida International University with the Department of Energy Environmental Management.



D&D KM-IT - Technology



- Technology provides information on D&D related technologies and any associated demonstrations.
- It provides technology descriptions, benefits, limitations, and associated links and documents.
- It also provides vendor information, technology and demonstration fact sheets, and search capabilities.

The screenshot displays the D&D KM-IT Technology module interface. At the top, the title "D&D KM-IT" is prominently displayed, with the subtitle "Deactivation & Decommissioning Knowledge Management Information Tool". A navigation menu includes "Home", "Contribute", "About", "Contact", and "More Modules". A search bar is located in the top right corner, and a "Welcome Guest" message with a "Login" button is visible. The main content area is titled "Technology" and contains a detailed description of the module's purpose: to provide comprehensive information on D&D related technologies, including associated technology demonstrations and commercial vendors. It also includes a search section with options for "Search", "Advanced Search", and "Help". Below the description, there are sections for "Technology" and "Demonstration", each featuring a small image. A "Follow the technologies RSS feed" link is also present. On the right side, there are two "Search Technologies" sections, each with a "Start Your Search Now" button and links to "View Robotics Technologies" and "View All Technologies". A "Collaborators" section is also visible at the bottom right.



D&D KM-IT - Web Crawler

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- Custom D&D web crawler searches and retrieve information from D&D related websites.
- The crawler will provide the user with a list of the best-matching web pages, usually with a short summary containing the document's title or parts of the text.

D&D KM-IT
Deactivation & Decommissioning Knowledge Management Information Tool

Mobile: m.dndkm.org

Search the D&D KM-IT

Home Contribute About Contact **More Modules** Welcome Guest Login

Web Crawler Search D&D KM-IT Search WEB OSTI Search Help

Share page: [Icons]

Web Crawler

Search the web or the D&D KM-IT for all of your D&D needs.

D&D KM-IT features two types of search capabilities. The first integrates a Google-type web search process into D&D KM-IT, which allows the user to search the web in a manner similar to a Google search without leaving the D&D KM-IT system. The difference is that this type of search only retrieves information from predefined D&D websites which helps to reduce irrelevant results. The second type of search capability provides a search of the entire D&D KM-IT repository across all of the modules (ALARA Reports, Technology, Lessons Learned, Best Practices and more).

[Search D&D KM-IT](#)
[Search WEB](#)
[OSTI Search](#)

Search Indexes

Want to Show Up In Our Results? Contact us so that we may index your website for use with our crawler.

[Contact Us](#)

Popular Links

- Technology: Search
- Vendors: Search
- Hotline: Search
- Document Library: ITR Archives
- RSS Feeds

News

- Demolition Continues at Hanford's Plutonium Finishing Plant
- SRS Employees Further Safety, Create Efficiencies in Plutonium Downblending
- Oak Ridge Contractor Develops Next Generation of Cleanup Workers

Developed By:

Design and Development by Applied Research Center at Florida International University with Department of Energy Environmental Management



D&D KM-IT - Mobile System

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- Mobile system provides access to important D&D KM-IT features through mobile devices.
- The D&D community users have access to the hotline, technology information, specialist directory, lessons learned, best practices and vendor information on their mobile devices.

D&D KM-IT
Deactivation & Decommissioning Knowledge Management Information Tool

Mobile: m.dndkm.org

Search the D&D KM-IT

Home Contribute About Contact More Modules

Welcome Guest Login

KM-IT Mobile Visit m.dndkm.org Get FixativeApp for iOS Get FixativeApp for Android

Share page: [Social Media Icons]

D&D KM-IT Mobile System

The mobile system component provides access to important D&D KM-IT features through wireless devices. The D&D community users can access the following modules from their mobile devices: vendor directory, specialist directory, hotline, technology information, picture library, lessons learned and best practices, and the fixative module.

[Continue to D&D KM-IT Mobile System](#)

(For the best experience view on a mobile or tablet device.)

Features

You can now use your iPhone (3.1 and above), iPad, Blackberry (6.0 and above), Android (2.1 and above), or Windows (7 and above) smart devices to access the D&D KM-IT.

Modules

- Vendors
- Specialist Directory
- Technology
- Picture Library
- Hotline
- Lessons Learned
- Best Practices
- Fixative Module

Mobile QR

D&D KM-IT Fixative App

The D&D Fixatives module can assist in the selection of fixatives, strippable coatings, and decontamination gels for application during D&D activities.

GET IT ON
Google Play

Download on the
App Store

Videos

Mobile System introductory video



D&D KM-IT - Lessons Learned

- Lessons Learned provides a repository of documents published by the D&D community users.
- This allows them to share their experience with the community.

D&D KM-IT
 Deactivation & Decommissioning Knowledge Management Information Tool

Home | Contribute | About | Contact | More Modules

Lessons Learned | Search | Upload Lessons Learned | Help

Search the D&D KM-IT [Search] | Welcome Guest [Login]

Share page: [Facebook] [Twitter] [LinkedIn] [Email]

Lessons Learned

A Repository of Lessons Learned from the Deactivation and Decommissioning (D&D) Community

Lessons learned provides a repository of lessons learned documents from the D&D community. The purpose of lessons learned is to bring together insights gained during a project that can be usefully applied on future projects. Capturing lessons learned from projects is key for any organization.

By capturing lessons learned, the D&D community can achieve far greater long-term success than if the lessons are left undocumented once a project ends. Registered D&D community members are encouraged to contribute to this digital library of lessons learned.

The lessons learned module includes a search feature to allow the user to search the database and the full text of stored documents. The results will provide links to the documents which can then be viewed and saved by the user.

Project Management Lessons Learned

Developed by the Department of Energy, Office of Environmental Management (EM), Office of Project Management (EM-5.2.2)

The Environmental Management (EM) Office of Project Management (EM-5.2.2) is responsible for analysis and distribution of "[EM Project Management Lessons Learned](#)". In October 2013, EM-5.2.2 began distributing Project Management Lessons Learned Bulletins monthly to highlight specific lessons learned applicable to many projects and to solicit future lessons learned from project teams willing to share their experiences.

EM-5.2.2 created this content area in order to assist with archival and distribution of the lessons learned bulletins. Additional content will be added in the future, so please check back regularly. If you have any comments or suggestions for content, please contact Rodney Lehman, EM-5.2.2, Office Director (Acting).

Additional Lessons Learned Repository

DOE HSS Lessons Learned Database

The DOE Corporate Lessons Learned Database provides a central clearinghouse that allows ready access to and communication about collected information on a timely, unimpeded basis by all DOE elements. The database is used to collect and share lessons learned and best practices pertaining to all DOE activities. (Registration Required)

[DOE HSS Lessons Learned Database](#)

Search Lessons Learned

Start searching the Lessons Learned module.

[Start Your Search Now](#)

[View All Documents](#)

Popular Lessons Learned

- Defense Programs Beryllium Good Practice Guide
- DISMANTLING OF THE KARLSRUHE REPROCESSING PLANT WAK
- Management of Pit 9 - Highlights of Accomplishments and Lessons Learned to Date
- GUNITE AND ASSOCIATED TANKS (GAAT) REMEDIATION
- Beryllium Good Practice Guide



D&D KM-IT - Best Practices



- Best practices provides a repository of D&D best practices documents that the user community can upload to the system.

D&D KM-IT
Deactivation & Decommissioning Knowledge Management Information Tool

Home Contribute About Contact **More Modules**

Best Practices Search Upload Best Practices Help

Welcome Guest Login

Search the D&D KM-IT

Share page: [Icons]

Best Practices

A Repository of Best Practices from the Deactivation and Decommissioning (D&D) Community

Best practices provides a repository of best practices documents from the D&D community. The purpose of best practices is to share the processes, techniques, and methodologies that have been proven through experience to reliably lead to the desired project results.

By capturing best practices, the D&D community can find how success has been achieved on projects similar to their own. Registered D&D community members are encouraged to contribute to this digital library of best practices.

The best practices module includes a search feature to allow the user to search the database and the full text of stored documents. The results will provide links to the documents which can then be viewed and saved by the user.

[Read more about Best Practice Module](#)

Search Best Practices

Start searching the Best Practices module.

[Start Your Search Now](#)

[View All Documents](#)

Popular Best Practices

- Structural Code Guidance for Decontamination and Decommissioning Activities at DOE Facilities
- Benchmarking D&D Procurement Best Practices
- D&D Best Practices Demolition of a Research Facility Building 431
- LBNL Lessons Learned and Best Practices Program Manual
- The Use of Explosives to Demolish the 185-3K Cooling Tower

Popular Links

- Technology: Search
- Vendors: Search
- Hotline: Search
- Document Library: ITSR Archives

RSS Feeds

News

- Demolition Continues at Hanford's Plutonium Finishing Plant
- SRS Employees Further Safety, Create Efficiencies in Plutonium Downblending
- Oak Ridge Contractor Develops Next Generation of Cleanup Workers
- 800 People Attend DOE-Supported STEM Night at Oak Ridge School

Developed By:

Design and Development by Applied Research Center at Florida International University with Department of Energy Environmental Management



D&D KM-IT - Picture / Video Library

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- Video/picture library allows community users to upload D&D technology / demonstration videos and pictures to the D&D KM-IT system.
- The videos and pictures could then be viewed by the D&D community.

The screenshot shows the D&D KM-IT website interface. At the top, it displays the title "D&D KM-IT" and the subtitle "Deactivation & Decommissioning Knowledge Management Information Tool". There is a search bar and a "Search" button. Below the title, there are navigation tabs: "Home", "Contribute", "About", "Contact", and "More Modules". A "Picture Library" tab is highlighted. The main content area is titled "Picture & Video Library" and contains a description: "A repository of D&D related pictures and videos. The video/picture library provides a central location for D&D technology and demonstration videos/pictures as well as pictures and videos of past and present D&D projects. The module supports several common formats for videos and pictures and focuses on often-used image operations and its ease of use as well as providing a simple and unified way of loading and saving images/videos from or to files, databases and even URL'S. There is a wide range of viewing capabilities (e.g. resolution) on the web and the D&D KM-IT will be able to provide flexibility for the user to select how they wish to view the images/videos." To the right of the text is a small image of a computer monitor displaying the library interface. Below the text are three yellow buttons: "Start Your Search Now", "View All Pictures", and "View All Videos". At the bottom of the page, there are sections for "Popular Links" (Technology: Search, Vendors: Search, Hotline: Search, Document Library: ITSR Archives, RSS Feeds) and "News" (Demolition Continues at Hanford's Plutonium Finishing Plant, SRS Employees Further Safety, Create Efficiencies in Plutonium Downblending, Oak Ridge Contractor Develops Next Generation of Cleanup Workers, 800 People Attend DOE-Supported STEM Night at Oak Ridge School). On the right side, there is a "Developed By:" section with the FIU Applied Research Center logo and text: "Design and Development by Applied Research Center at Florida International University with Department of Energy Environmental Management".



D&D KM-IT – Document Library

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- This module contains weekly / monthly reports published by ISSC and ALARA Center, ITSRs, documents from international collaborators like Sellafield and links to external libraries.

D&D KM-IT
Deactivation & Decommissioning Knowledge Management Information Tool

Search the D&D KM-IT

Welcome Guest

Home

ISSC ALARA International Documents ITSRs External Library

Share page:

Document Library

A digital document archive for U.S. and international D&D related material.

The document library provides a digital archive for storing and retrieving D&D related documents. Documents currently included in the library are current and past Integrated Safety Solutions Center (ISSC) Activity reports from the Savannah River Site, archived activity reports from the Hanford ALARA Center, relevant reports from international D&D community, Applied Research Center's D&D Technical reports and factsheets, and D&D Knowledge Management Information Update Newsletters.

The user may search these documents using a basic text string search. The basic search allows the user to input a simple word or phrase to return documents containing the search term(s).

Additional documents will soon be added to the library. The Innovative Technology Summary Reports (Green Books) currently linked from the D&D KM-IT home page has moved to the document library. In addition, D&D relevant documents such as Hanford ALARA Center's fixative list has also been added. The contents of the document library will also increase in the future as registered users contribute to the digital library by uploading documents related to D&D. The documents will go through a custom approval process before being made available on the D&D KM-IT system.

Store Your Content Here

Contact us about storing your D&D related documentation here. Help further the mission of environmental clean up!

Popular Documents

- [The NITON XL-800 Series Multi-Element Spectrometry Analyzer \(Alloy Analyzer\) \(ITSRs\) Deactivation and Decommissioning Focus Area](#)
- [Membrane System for the Recovery of Volatile Organic Compounds from Remediation Off-Gases \(ITSRs\) Industry Programs and TRU and Mixed Waste Focus Area](#)
- [Excel Automatic Locking Scaffold \(ITSRs\) Deactivation and Decommissioning Focus Area](#)
- [Elite LOADER Technical Specifications Technology Module](#)
- [Schilling Robotics Titan 4 Manipulator System Position-Controlled, 4 Km Submersible Technology Module](#)

Popular Links

- [Technology: Search](#)
- [Vendors: Search](#)
- [Hotline: Search](#)
- [Document Library: ITSR Archives](#)

News

- [Demolition Continues at Hanford's Plutonium Finishing Plant](#)
- [SRS Employees Further Safety, Create Efficiencies in Plutonium Downblending](#)
- [Oak Ridge Contractor Develops Next Generation of Cleanup Workers](#)
- [800 People Attend DOE-Supported STEM Night at Oak Ridge School](#)

Developed By:

Design and Development by Applied Research Center at Florida International University with Department of Energy Environmental Management



D&D KM-IT – Specialist Directory



- The specialist directory module is an index of D&D experts.
- The directory stores the contact information of all the D&D community members who have registered as a D&D expert, along with their areas of expertise.
- D&D experts from the user community are encouraged to register as part of this specialist directory through the “expert registration” link.

The screenshot shows the website for the D&D KM-IT Specialist Directory. The header includes the title "D&D KM-IT" and the subtitle "Deactivation & Decommissioning Knowledge Management Information Tool". Navigation links include Home, Contribute, About, Contact, and More Modules. A search bar is present with a "Search" button. The main content area is titled "Specialist Directory" and contains a description: "A listing of D&D specialists with contact information. The specialist directory module is an index of D&D experts. The directory stores the contact information of all the D&D community members who have registered as a D&D expert, along with their areas of expertise. D&D experts from the user community are encouraged to register as part of this specialist directory through the 'expert registration' link. New registrations will be reviewed by the website administrator prior to approval." There is also a "DISCLAIMER" section. On the right side, there is a "Search Specialist Directory" section with a search bar and buttons for "Start Your Search Now" and "View All Specialists". Below that is a "Register as a Specialist" section with a button for "Expert Registration".



D&D KM-IT - Vendors



- Vendor management provides a directory of D&D vendors along with their contact information and link to technologies sold by them.

D&D KM-IT
Deactivation & Decommissioning Knowledge Management Information Tool

Home Contribute About Contact **More Modules** ▾

Vendors Search Help

Search the D&D KM-IT:

Welcome Guest

Share page:

Vendors

A listing of D&D vendors with contact information.

The vendor module provides a directory of commercial D&D vendors. Vendor management captures all the vendor related information, including vendor name, address, phone, fax, email, website and areas of expertise. Vendor information will be monitored and maintained by FIU.

The user may search for vendors using a basic text string search. The basic search allows the user to input a simple word or phrase (e.g., full or partial vendor name or area of expertise) to return the applicable vendors.

DISCLAIMER

The information provided in the vendor module is a sampling of the commercial vendors who provide D&D related technologies, supplies, and services, and, thus, is not intended to be a comprehensive directory of all D&D vendors in the marketplace. Vendors included in the vendor module may offer additional products and services and users are encouraged to contact the vendor directly for more information. In addition, the data provided is for informational purposes only and does not constitute an endorsement of any particular product, service, or vendor by FIU or the United States government (see full disclaimer here). See Full Disclaimer

Search Vendors

Start searching our vendor directory

Popular Vendors

- [AIL Systems Inc](#)
- [Special Technologies Laboratory](#)
- [AECOM](#)
- [Alaron Nuclear Services](#)
- [HTFx, Inc.](#)



D&D KM-IT - D&D Research

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- D&D Research for DOE EM highlights the recent, current, and ongoing research being performed by and for DOE EM as well as international D&D research to support the high priority D&D needs to bring the remaining cleanup projects to completion in support of site closure.
- This research includes activities at and through collaborations with academic universities, national laboratories, DOE contractor facilities, and other organizations.

D&D KM-IT

Deactivation & Decommissioning Knowledge Management Information Tool

Mobile: m.dndkm.org

Search the D&D KM-IT

Search

Home
Contribute
About
Contact
More Modules ▾

Welcome Guest

Login

Research for DOE EM

Fixatives Intumescent Coatings Fire Resiliency FX2 Fogging ICM Crawler Robotic Inspection Tools

Share page:


✉
📧
in
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f


D&D Research for DOE EM

EM's site cleanup program is one of the largest environmental cleanup efforts in world history and deactivation and decommissioning (D&D) work is a significant part of the overall effort to remediate the Cold War legacy. While existing and proven technologies continue to be used to achieve as much cleanup as practicable, many of the DOE facilities that are still awaiting D&D could present significant challenges to D&D with currently available technologies:

- ★ Potential hazards to workers and surrounding areas, including high levels of radiation, airborne contamination, chemical hazards, and industrial hazards;
- ★ Complex, crowded, and retrofitted equipment arrangements;
- ★ Incomplete history of operations and contamination in old facilities;

Many baseline D&D technologies are labor intensive, time consuming, expensive, include significant risks to workers and/or the environment, and generate problematic (in volume or content) secondary wastes. Completing the successful D&D of the remaining facilities may rely on the ability to provide new technologies that are significantly better than the available baseline technologies in terms of cost, speed, safety, or waste reduction.






Argonne National Laboratory, Image from energy.gov

D&D Research for DOE EM

D&D Research for DOE EM highlights the recent, current, and ongoing research being performed by and for DOE EM as well as international D&D research to support the high priority D&D needs to bring the remaining cleanup projects to completion in support of site closure. This research includes activities at and through collaborations with academic universities, national laboratories, DOE contractor facilities, and other organizations.



CH2MHill 100K D&D Demolition at the Hanford Site

Add to the D&D Research Highlights

To add information related to D&D research for DOE EM, please provide the information through the contact link below. D&D community driven content is valued.

Contact Us



D&D KM-IT - Training



- Training component provides training videos related to D&D work, ALARA Centers' training material and custom training for the D&D community.

D&D KM-IT
Deactivation & Decommissioning Knowledge Management Information Tool

Mobile: m.dndkm.org

Search the D&D KM-IT

Home Contribute About Contact **More Modules** Welcome Guest Login

Training Classroom Certification Videos Documents Conferences & Workshops D&D Dictionary Help

Share page: [Icons]

Deactivation and Decommissioning Training

A comprehensive listing of classes, certifications, documents, and a dictionary.

The Training module provides a central location for D&D related training as well as certification. The module provides various media forms of training: video instruction, documentation, and classroom scheduling. There are also outlines and certification information.

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Follow the Classrooms RSS feed

Follow the Events RSS feed

Classrooms

- Facility Decommissioning Training Course, ANL (November 13-16, 2017 Las Vegas)
- ORAU/ANL Decommissioning Certificate Program
- Facility Decommissioning Training Course, July 30 - August 2, 2018, Pusan, South Korea
- Facility Decommissioning Training Course, August 21-23, 2018, Newport News, VA
- Facility Decommissioning Training Course, November 5-8, 2018, Las Vegas, NV

More Classrooms

Conferences & Work...

- Decommissioning Strategy Forum
- IAEA Technical Meeting on Global Status of Decommissioning

More Conferences & Workshops

Popular Links

- Technology: Search
- Vendors: Search
- Hotline: Search
- Document Library: IISR Archives
- RSS Feeds

News

- Demolition Continues at Hanford's Plutonium Finishing Plant
- SRS Employees Further Safety, Create Efficiencies in Plutonium Downblending
- Oak Ridge Contractor Develops Next Generation of Cleanup Workers
- 800 People Attend DOE-Supported STEM Night at Oak Ridge School

Developed By:

Design and Development by Applied Research Center at Florida International University with Department of Energy Environmental Management



D&D Technology Module - Robotics



D&D KM-IT Mobile: m.dndkm.org
 Deactivation & Decommissioning Knowledge Management Information Tool


Home Contribute About Contact **More Modules**

Technology Search Advanced Search Help

Technology

A database of robotic technologies, originally developed by NuVision/Cogentus, has been integrated into the D&D KM-IT framework within the Technology module. All of the data from the original database and accompanying information (photos, documents, and videos, etc.) are being made available on D&D KM-IT. Simply use the Technology Advance Search feature and select "Robotics" from the "Group" pull-down menu to browse these new robotic technology entries.

Click the image below to view Robotics Technologies.



The AscTec Hummingbird

D&D KM-IT Mobile: m.dndkm.org
 Deactivation & Decommissioning Knowledge Management Information Tool

Home Contribute About Contact **More Modules** Search the D&D KM-IT Search

Technology Search Advanced Search Help Welcome Guest Login

Technology > Advanced Search

Technology Advanced Search

Search through deactivation & decommissioning related technologies, applications, and vendors.

Advanced Search Form

Search by: Technology Category Vendor

Keyword

Group Robotics

Category All Category

Subcategory All Subcategory

Advanced Search

397 Records found

Advance Search Results

<p>Cobra s350</p> <p>The Adept Cobra s350 SCARA robot (4-axis robot) is a high-performance SCARA robot system for mechanical assembly, material handling, packaging, machine tending, screw driving, and other applications L...</p> <p>Read More</p>	<p>Source : Robotics Database (DOE)</p> <p>Category : Robotics > Dismantling and Retrieval > Industrial Robot</p> <p>Vendor : Adept Technology, Inc.</p>
<p>A.F.A Exoskeleton Suit</p> <p>The A.F.A exoskeleton suit aims to increase firefighters' performance in walking, running and carrying while high-rise fire fighting. It boosts firefighter's strength and allow them to easily climb h...</p> <p>Read More</p>	<p>Source : Robotics Database (DOE)</p> <p>Category : Robotics > Dismantling and Retrieval > Leg-based System</p> <p>Vendor : Monash University</p>
<p>A1000 System</p> <p>The Walischmiller Engineering A1000 system is a power manipulator. It has a comfortable remote operation, efficient movements, it is radiation resistance and is designed as a self contained unit with ...</p> <p>Read More</p>	<p>Source : Robotics Database (DOE)</p> <p>Category : Robotics > Dismantling and Retrieval > Manipulator Arm</p> <p>Vendor : Walischmiller Engineering GmbH</p>



Robotics Technologies

Mighty Mouse (M2) by Sandia National Lab

A 600-pound, five-foot-long robot rolls on treads, maneuvers around obstacles, and has a long, multi-jointed gripper arm.



[https://www.dndkm.org/Technology/TechnologyFactSheet.aspx?TechnologyID=829&name=Mighty+Mouse+\(M2\)](https://www.dndkm.org/Technology/TechnologyFactSheet.aspx?TechnologyID=829&name=Mighty+Mouse+(M2))



Robotics Technologies

Robot Characterization System by Oak Ridge National Lab

A robotic characterization platform used at Hanford's 221-U facility. Uses a commercial Andros Mark VI and adds needed hardware.



<https://www.dndkm.org/Technology/TechnologyFactSheet.aspx?TechnologyID=837&name=Canyon+Disposition+Initiative+Remote+Characterization+System>



WEB ANALYTICS

Web analytics is the measurement, collection, analysis and reporting of internet data for purposes of understanding and optimizing web usage

Type of information gathered under web analytics

- How visitors locate and reach dndkm.org
- How visitors navigate through the system
- How to enhance visitors experience

Web analytics tracks various parameters

- # of visits, page views, pages/visit, bounce rate, time on site, new visit, unique visitors, traffic source, etc.
- Results of analysis is used to improve/enhance the D&D users experience with the system.



WEB ANALYTICS METHODOLOGY

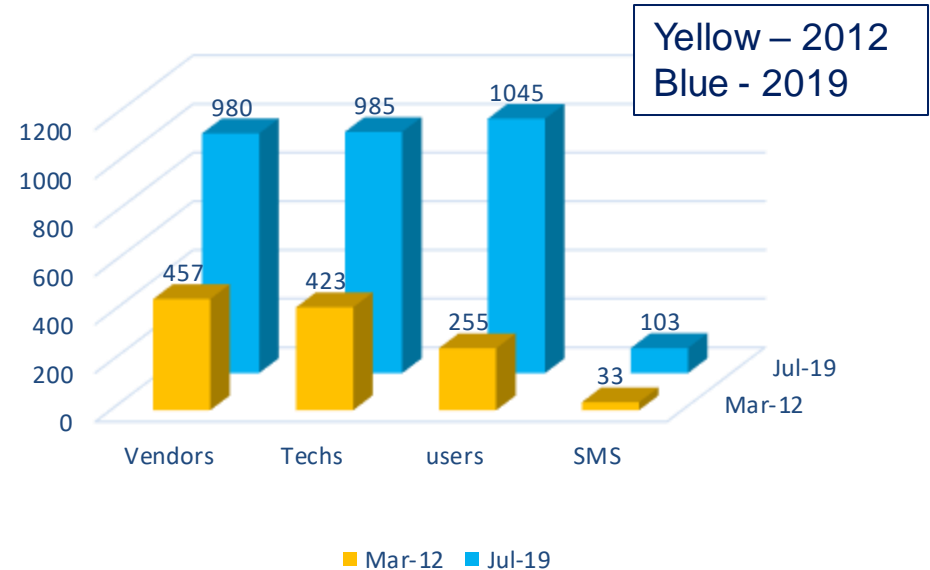




D&D KM-IT Statistics



- D&D KM-IT web analytics to track usage metrics.
- 985 D&D technologies
- 1045 registered users
- 980 D&D vendors
- 195 Hotline questions/solutions
- 103 subject matter specialists



Growth from March 2012 to July 2019

Fully searchable resources – Original sources no longer available

- 169 ALARA Center reports archived (Hanford and SRS)
- 231 Innovative Technology Summary Reports archived

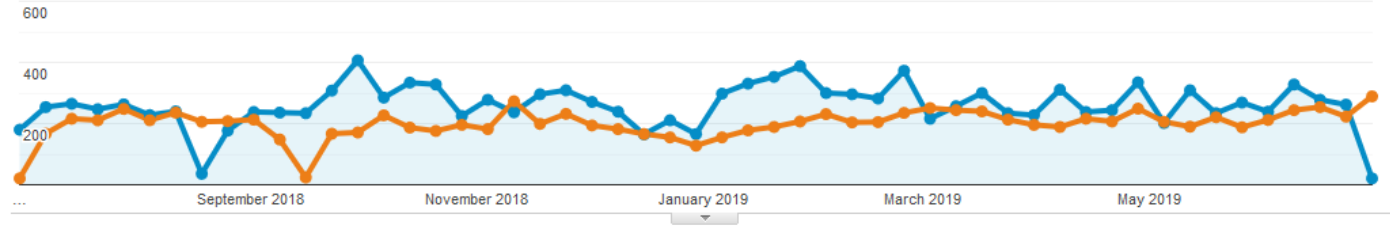


D&D KM-IT Statistics

- Year comparison activity on D&D KM-IT (2019 vs 2018)
- Double digit percentage increase on: Users, New users, Sessions and Pageviews
- Minor increase on: Pages per session and Avg. session duration
- Unchanged bounce rate

Jul 1, 2018 - Jun 30, 2019: ● Users

Jul 1, 2017 - Jun 30, 2018: ● Users



Users

33.06%
13,370 vs 10,048



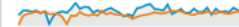
New Users

31.61%
13,175 vs 10,011



Sessions

24.50%
14,996 vs 12,045



Number of Sessions per User

-6.43%
1.12 vs 1.20



Pageviews

28.22%
34,049 vs 26,555



Pages / Session

2.99%
2.27 vs 2.20



Avg. Session Duration

2.09%
00:01:31 vs 00:01:29



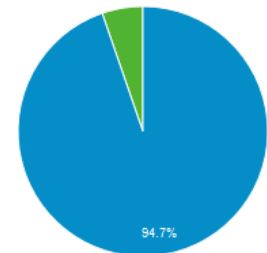
Bounce Rate

0.61%
79.07% vs 78.59%

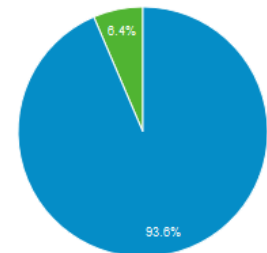


■ New Visitor ■ Returning Visitor

Jul 1, 2018 - Jun 30, 2019



Jul 1, 2017 - Jun 30, 2018





WEB ANALYTICS - CONCLUSION



- Web analytics provides base line measurements of metrics
- Developers can focus on improving weak metrics and enhancing strong metrics
- Allows project manager to follow up on feedback from visitors
- Increases return-on-investment (ROI) by focusing development on critical metrics that can only be identified with web analytics
- Web analytics implementation allows D&D KM-IT to measure its impact on the D&D community



D&D KM-IT STRATEGIC APPROACH



- Optimize search engine to increase site traffic
- Supplement original content from other sources
- Get linked and get more backlinks
- Use of social media
- Promote web presence w/ newsletters, updates, direct email
- Collaborate with Wikipedia, Powerpedia
- Engage user involvement via user advisory group and feedback loop on website
- Evaluate and incorporate information from web analytics
- Offer original and quality content



OUTREACH

- Primary goal of the system is to share and build knowledge through the active participation from the D&D community
- Increased contribution from international D&D community (UK, Japan, France, Germany etc.)
- Potential for active collaboration with Nuclear Decommissioning Authority (NDA)
- Development of a D&D KM-IT user charter group



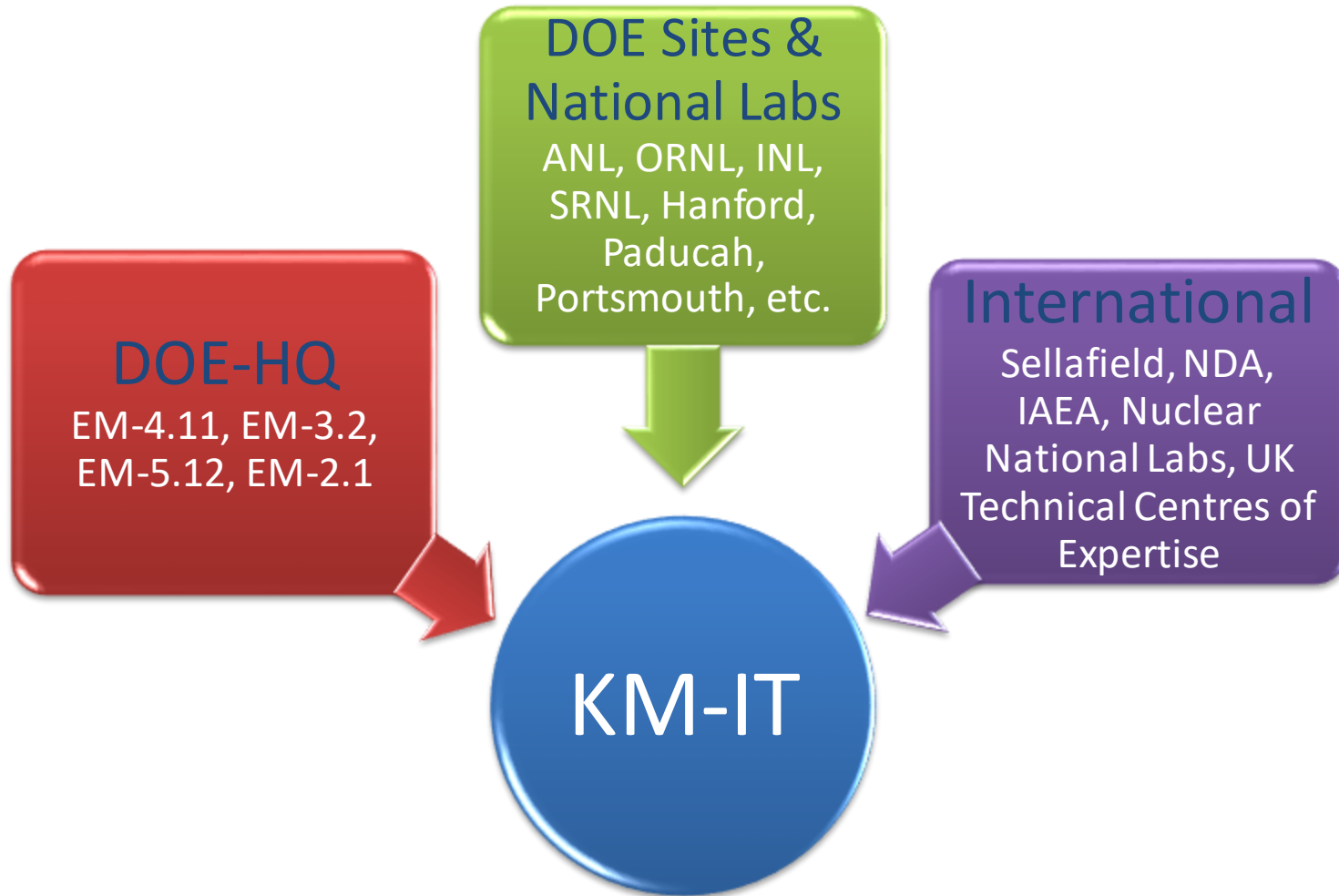
OUTREACH - PHYSICAL PRESENCE



- Waste Management Symposium, Phoenix, AZ
- ANS Utility Working Conference, Amelia Island, FL
- ANS Decommissioning and Remote Systems (D&RS) Conference
- International Conference of Environment and Waste Management
- D&D KM-IT workshops
- Initiate a D&D KM-IT User-Advisory Group



PLANNED D&D KM-IT USER ADVISORY GROUP





SYSTEM DEMO



D&D Knowledge Management Information Tool

<https://www.dndkm.org>



QUESTIONS AND DISCUSSION

