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Environmental Radiological Assistance Directory Web Conference

D&D Knowledge Management Information Tool

www.dndkm.org

June 27, 2012

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Research Scientist

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FIU Applied Research Center
Florida International University

In Collaboration with:
FCOG
ALARA Centers

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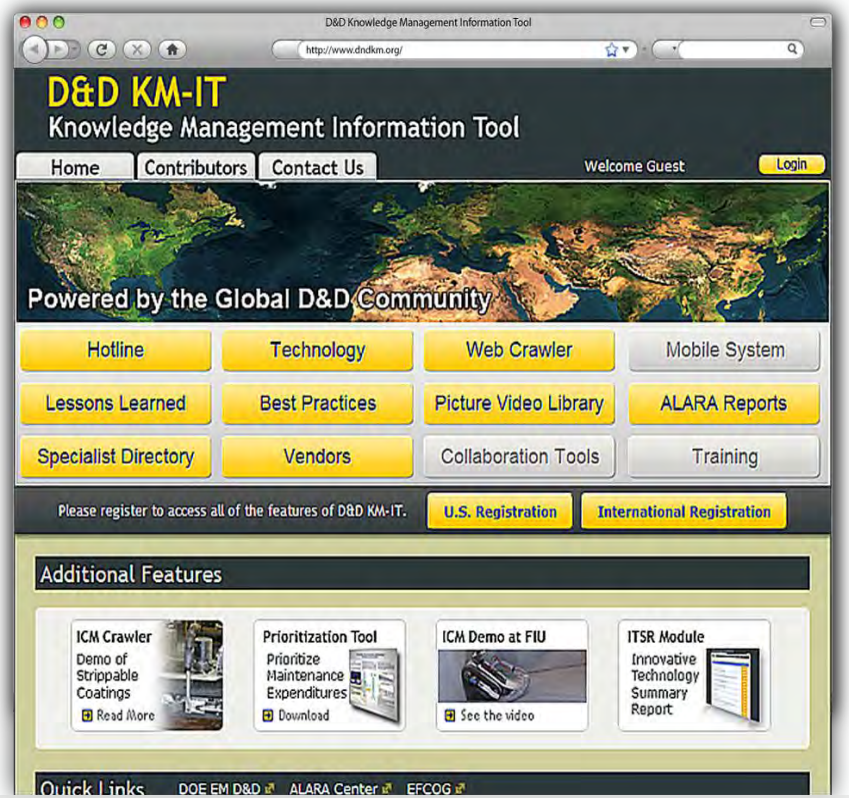
D&D KM-IT WWW.DNDKM.ORG



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 DOE ALARA Centers.

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Collaborators

- Applied Research Center at Florida International University (FIU)
- Department of Energy (DOE EM)
- ALARA Center (Savannah River)
- Energy Facility Contractor Group (EFCOG)

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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 for the future workforce.

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

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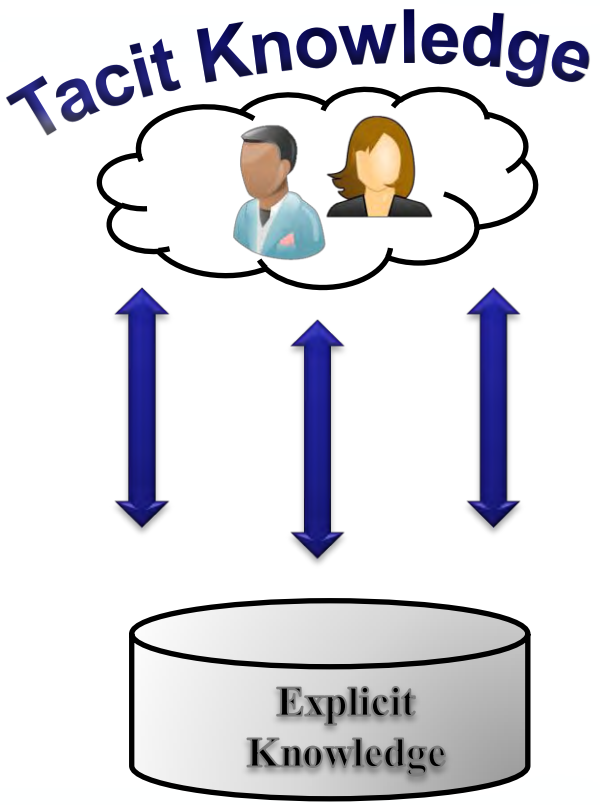
What is Knowledge?

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.

Explicit knowledge can be more precisely and formally articulated. It can be more easily codified, documented, transferred or shared.



Contextual
Mental
Processes
Difficult to
Transfer

Tangible
Systematic
Ease of
Transfer

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What is Knowledge Management?

- Knowledge Management comprises of activities to identify, represent, disseminate, and utilize knowledge (information and experience).
- Knowledge Management system, therefore, refers to a system of 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.

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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 providing cross-generational knowledge transfer to the future work force.
- KM provides a centralized location of 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.

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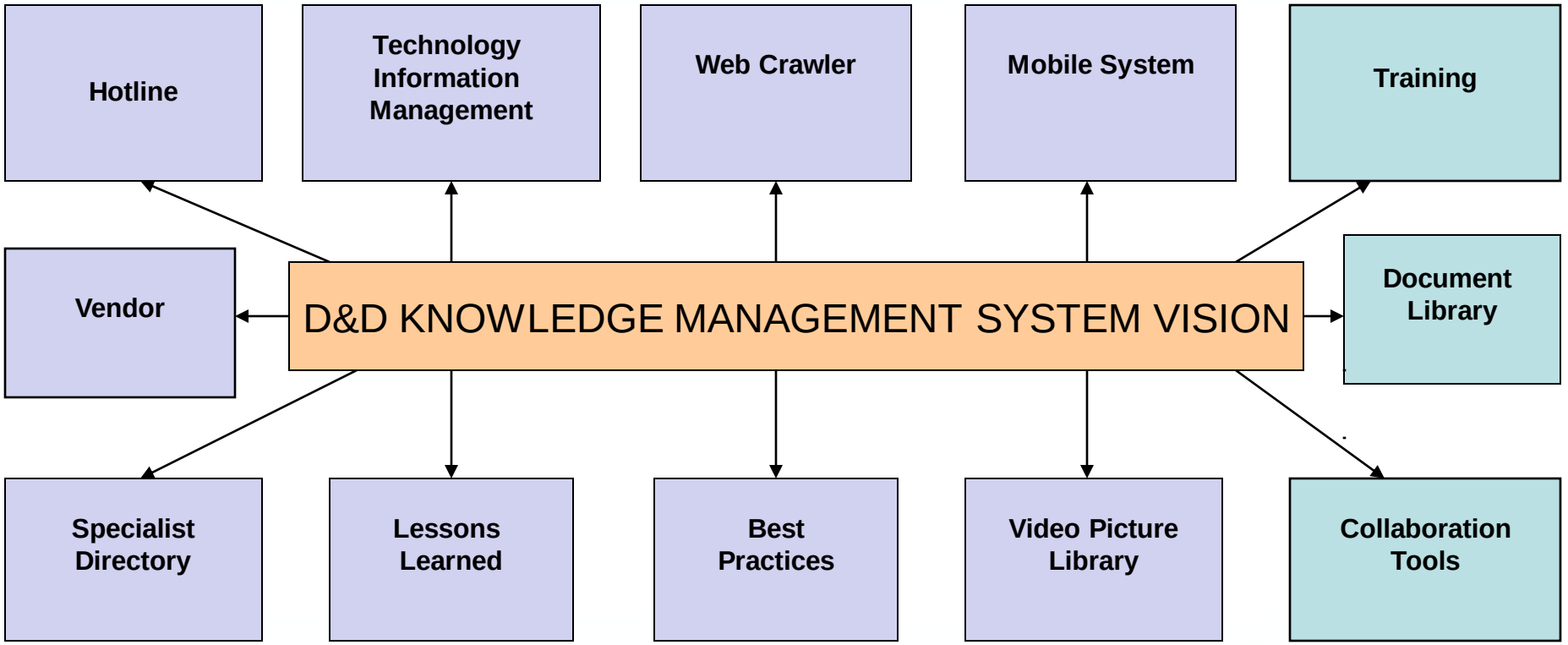
D&D Knowledge Management System Vision



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D&D KM-IT Features

D&D KM-IT is a web-based knowledge management information tool custom built with a modular approach for the D&D community. Various features of the system are as follows:

- **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.

- **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.

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D&D KM-IT Features

- **Web Crawler-** Custom D&D web crawler searches and retrieve information from D&D related websites. The crawler provides 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.

- **Mobile System-** Mobile system provides access to important D&D KM-IT features through wireless devices. The D&D community users will be able to access the hotline, technology information, specialist directory, lessons learned titles, news/alerts, announcements, events calendar, and vendor information on their wireless devices. This can be accessed from https://m.dndkm.org

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

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D&D KM-IT Features

- **Collaboration Tools** -Collaboration tools will provide information-sharing mechanisms such as D&D news, events calendars, links, message boards, and frequently asked questions (FAQs), wikis and blogs. This will allow the D&D community to interact with fellow members.

- **Specialist Directory-** Specialist Directory provides a directory of D&D specialist in different areas along with their contact information. The user can search the Specialist Directory by name or by area of interest.

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

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D&D KM-IT Features

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

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

- **Vendors** - Vendor management provides a directory of D&D vendors along with their contact information and area of expertise.

- **Document Library**-Weekly reports published by the ALARA center include the status of the D&D activities that have taken place at various centers. It includes the list of ALARA center activities for consecutive weeks. This feature makes the reports available to the entire D&D user community.

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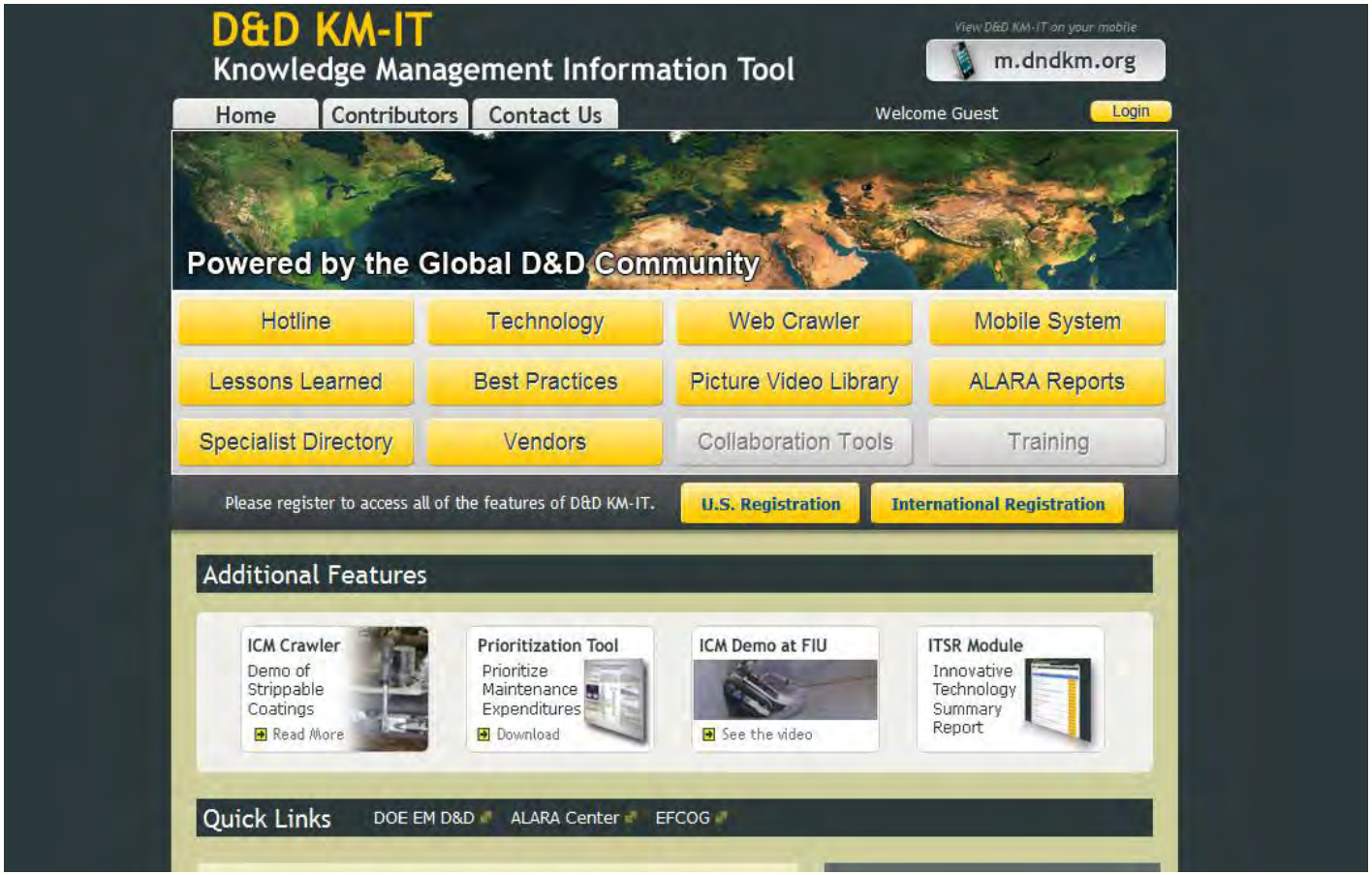
D&D KM-IT Home Page



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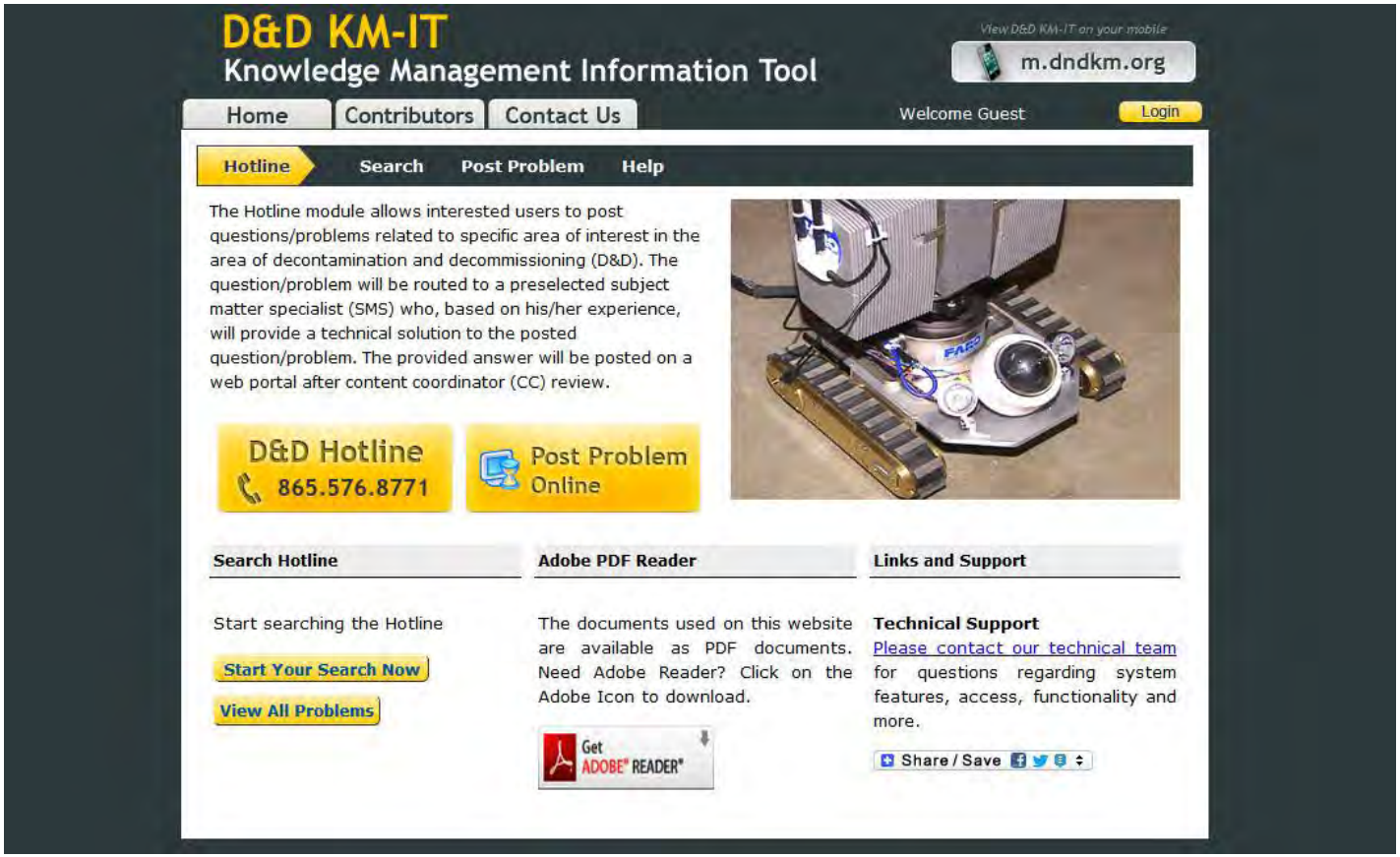
Hotline Home Page



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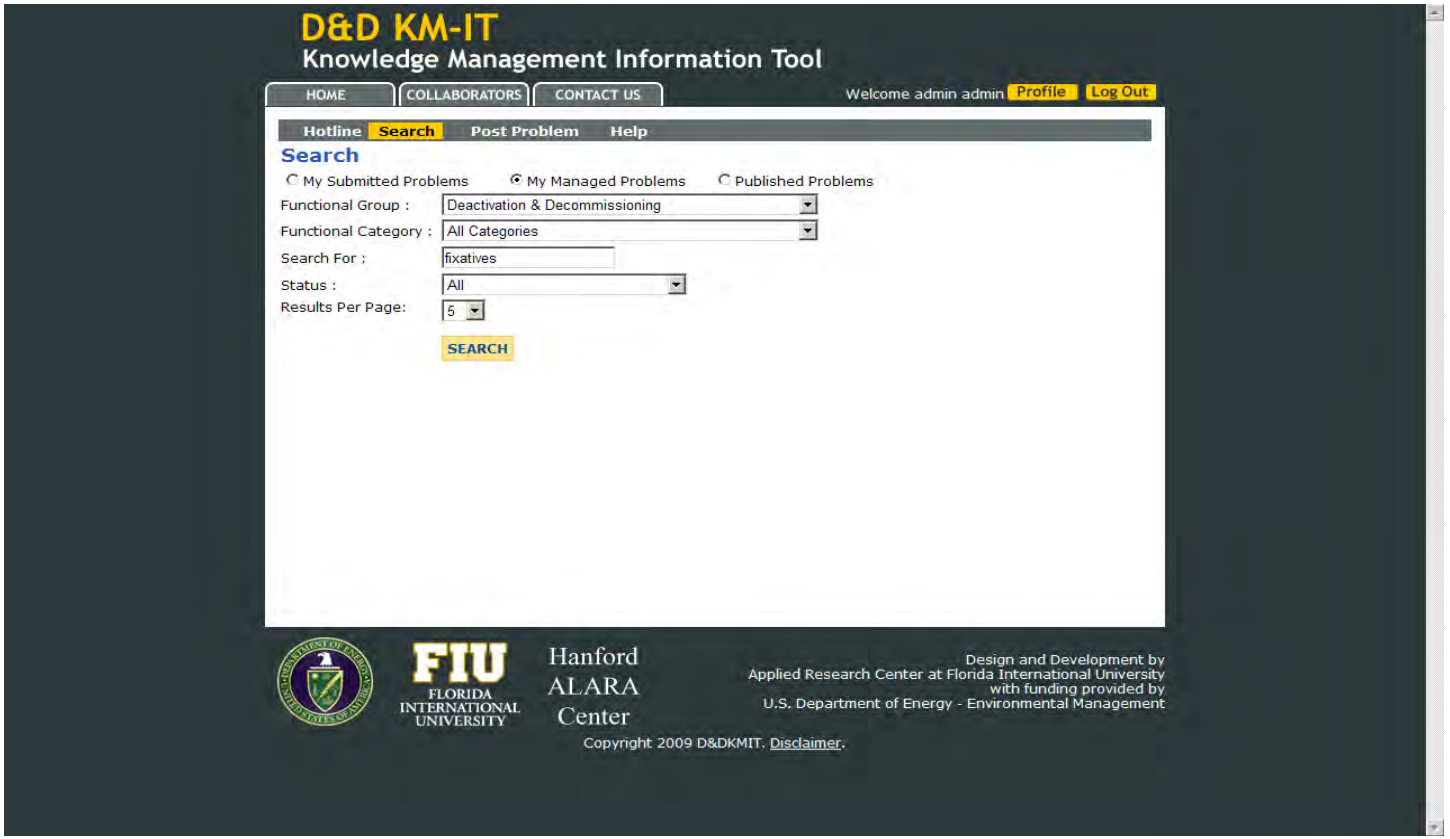
Hotline Search



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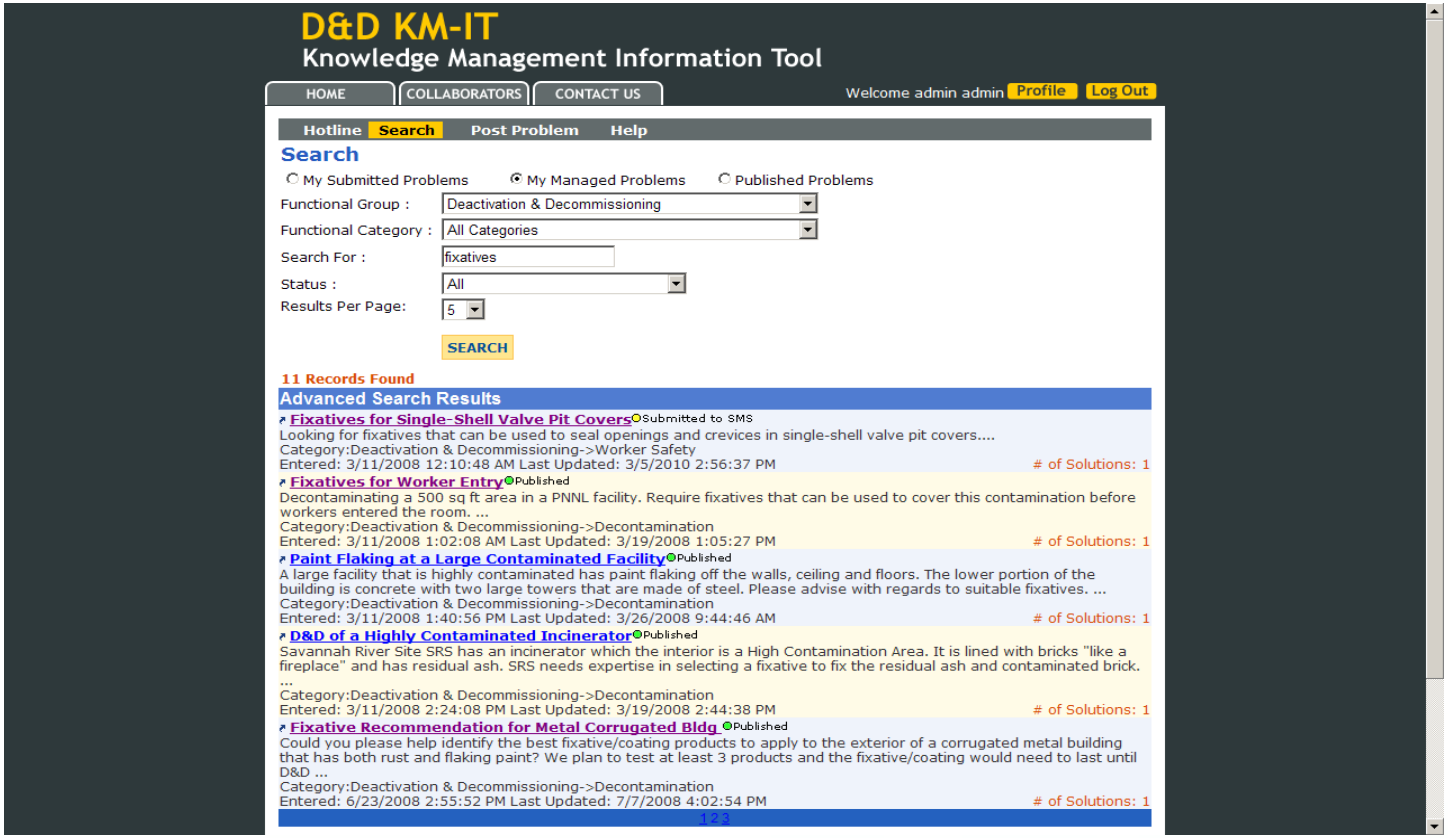
Hotline Search Results



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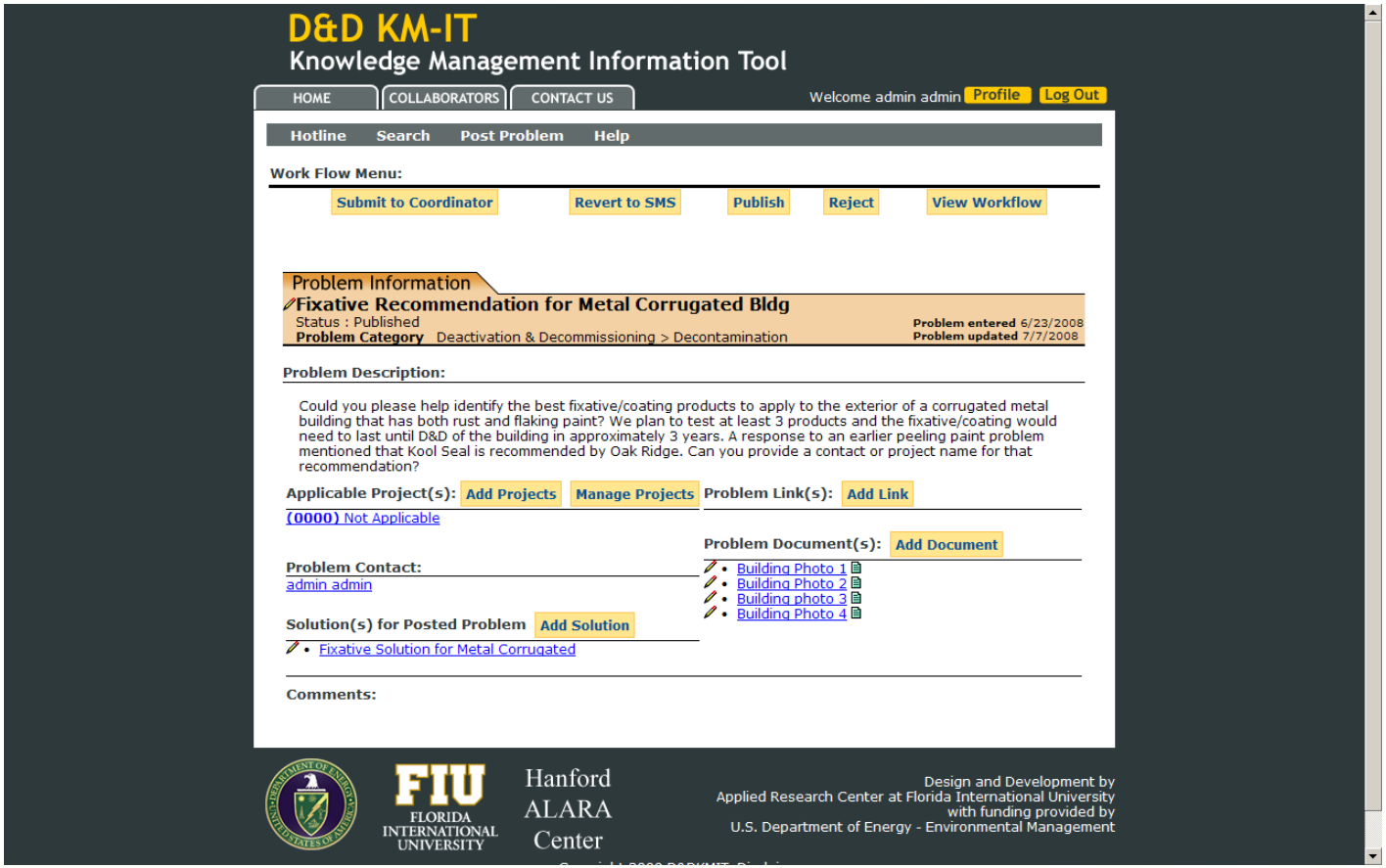
Hotline Problem Factsheet



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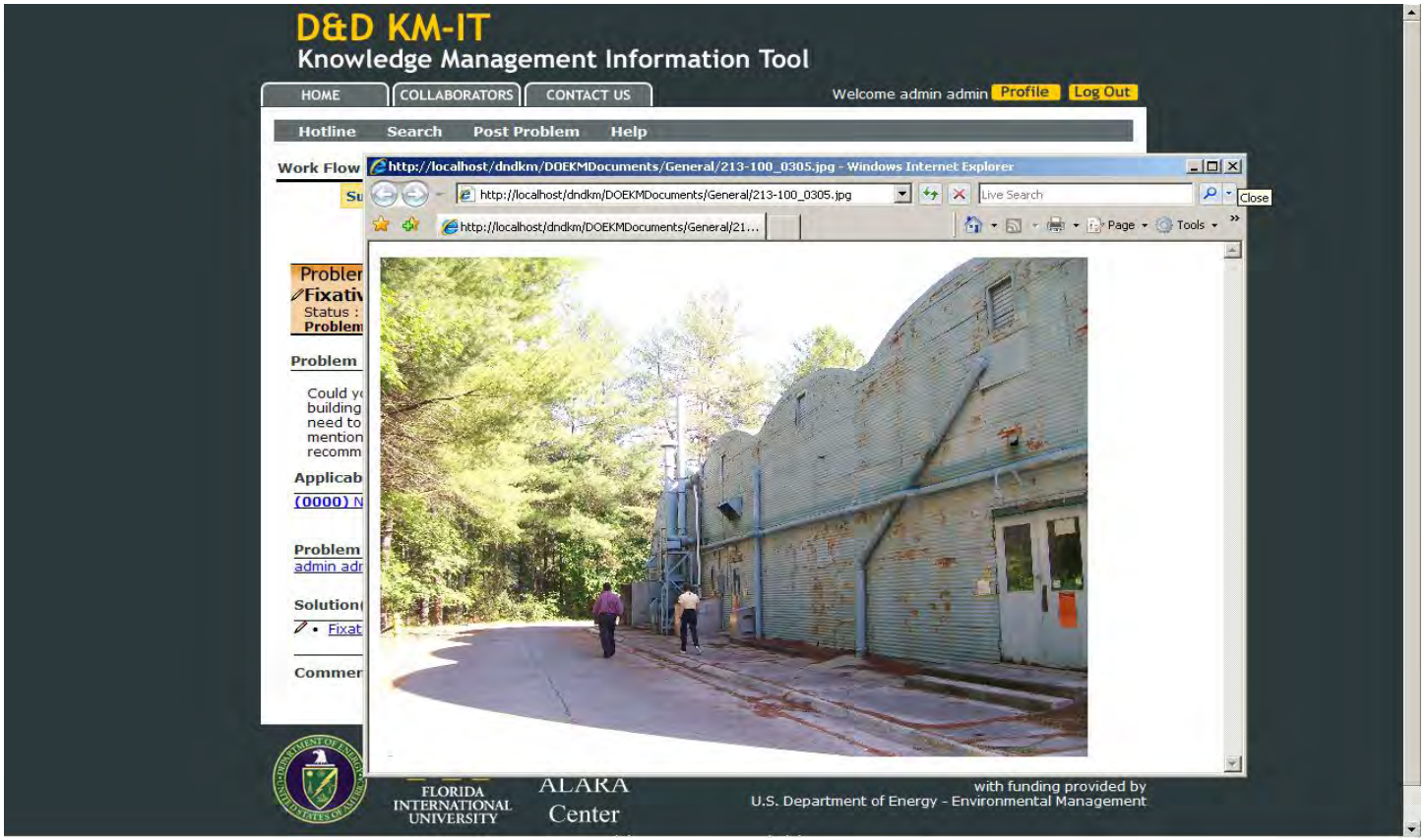
Hotline Problem Picture



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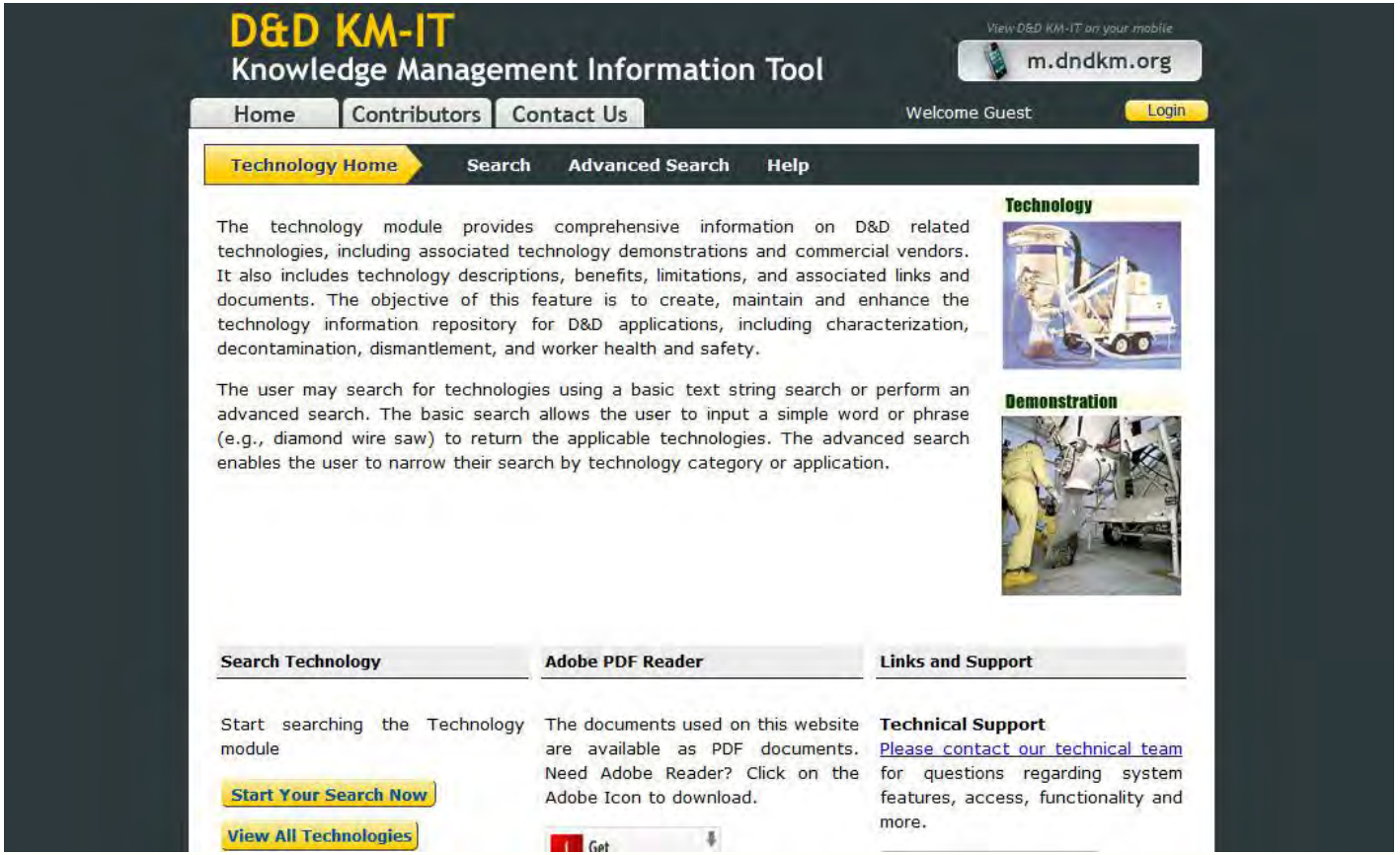
Technology Home Page



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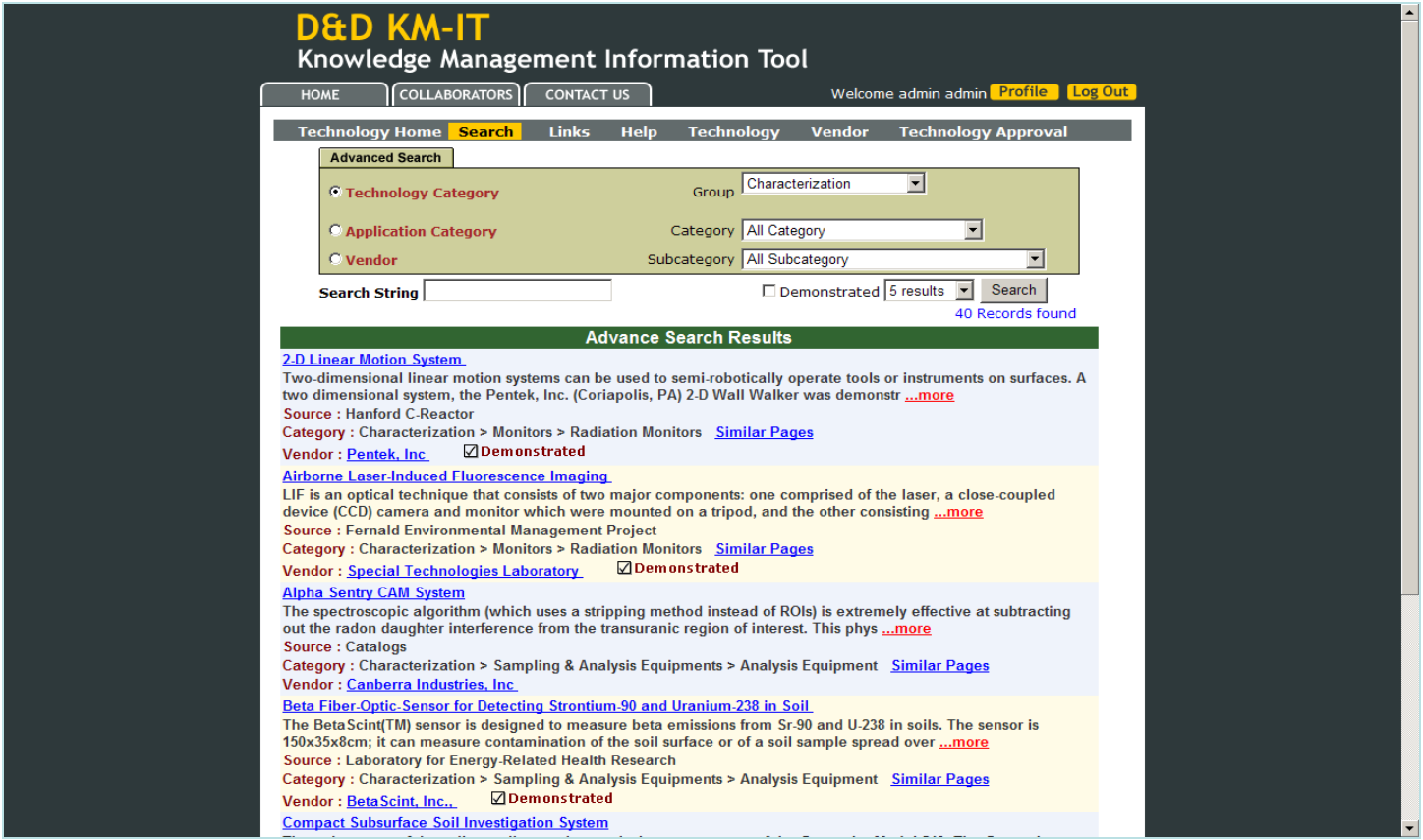
Technology Search



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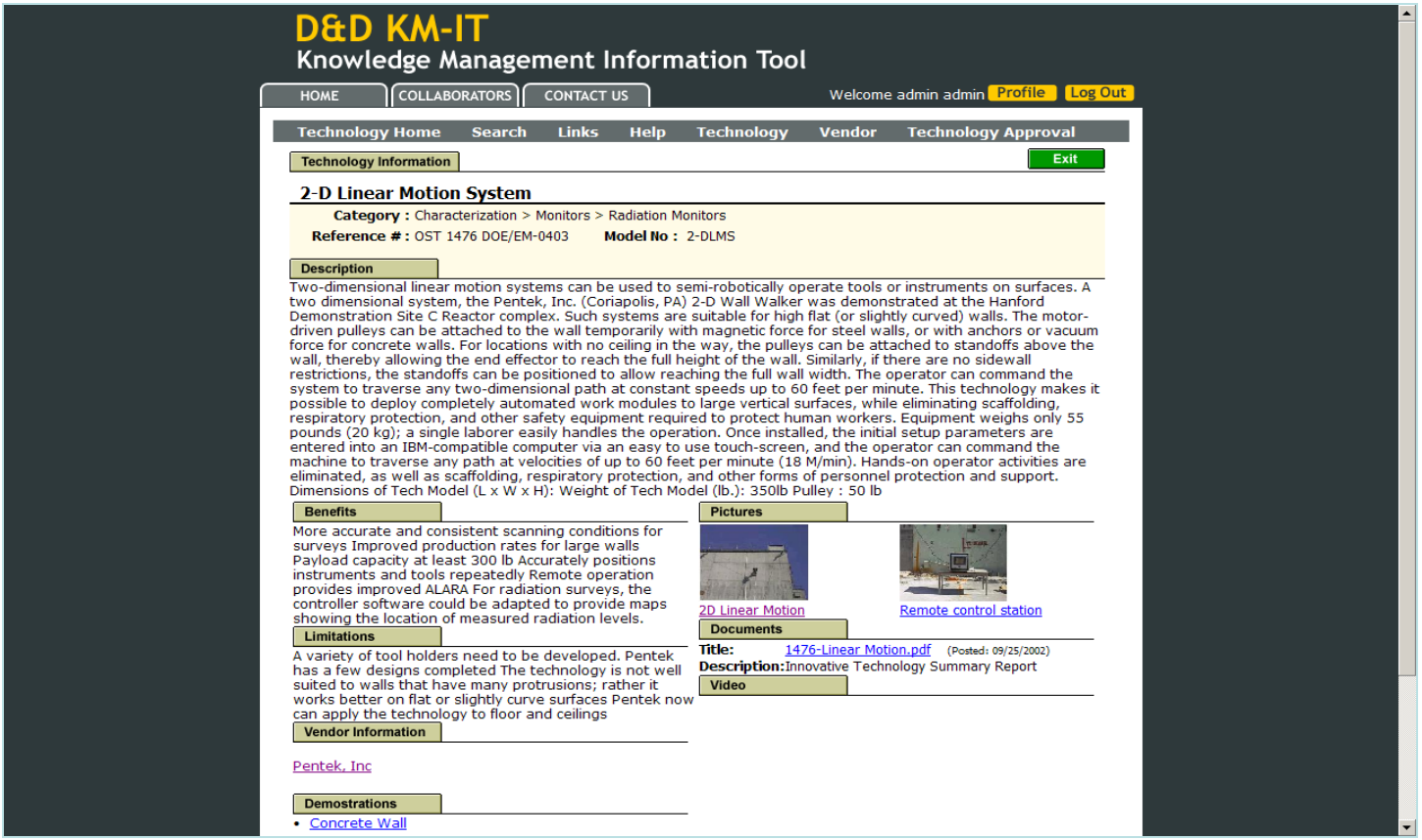
Technology Factsheet



D&D KM-IT

Knowledge Management Information Tool

HOME | COLLABORATORS | CONTACT US | Welcome admin admin | Profile | Log Out

Technology Home | Search | Links | Help | Technology | Vendor | Technology Approval

Technology Information | Exit

2-D Linear Motion System

Category : Characterization > Monitors > Radiation Monitors

Reference # : OST 1476 DOE/EM-0403 **Model No :** 2-DLMS

Description

Two-dimensional linear motion systems can be used to semi-robotically operate tools or instruments on surfaces. A two dimensional system, the Pentek, Inc. (Coriapolis, PA) 2-D Wall Walker was demonstrated at the Hanford Demonstration Site C Reactor complex. Such systems are suitable for high flat (or slightly curved) walls. The motor-driven pulleys can be attached to the wall temporarily with magnetic force for steel walls, or with anchors or vacuum force for concrete walls. For locations with no ceiling in the way, the pulleys can be attached to standoffs above the wall, thereby allowing the end effector to reach the full height of the wall. Similarly, if there are no sidewall restrictions, the standoffs can be positioned to allow reaching the full wall width. The operator can command the system to traverse any two-dimensional path at constant speeds up to 60 feet per minute. This technology makes it possible to deploy completely automated work modules to large vertical surfaces, while eliminating scaffolding, respiratory protection, and other safety equipment required to protect human workers. Equipment weighs only 55 pounds (20 kg); a single laborer easily handles the operation. Once installed, the initial setup parameters are entered into an IBM-compatible computer via an easy to use touch-screen, and the operator can command the machine to traverse any path at velocities of up to 60 feet per minute (18 M/min). Hands-on operator activities are eliminated, as well as scaffolding, respiratory protection, and other forms of personnel protection and support. Dimensions of Tech Model (L x W x H): Weight of Tech Model (lb.): 350lb Pulley : 50 lb

Benefits

More accurate and consistent scanning conditions for surveys Improved production rates for large walls Payload capacity at least 300 lb Accurately positions instruments and tools repeatedly Remote operation provides improved ALARA For radiation surveys, the controller software could be adapted to provide maps showing the location of measured radiation levels.

Limitations

A variety of tool holders need to be developed. Pentek has a few designs completed The technology is not well suited to walls that have many protrusions; rather it works better on flat or slightly curve surfaces Pentek now can apply the technology to floor and ceilings

Vendor Information

Pentek, Inc

Demostrations

- Concrete Wall

Pictures

2D Linear Motion

Remote control station

Documents

Title: 1476-Linear Motion.pdf (Posted: 09/25/2002)

Description: Innovative Technology Summary Report

Video

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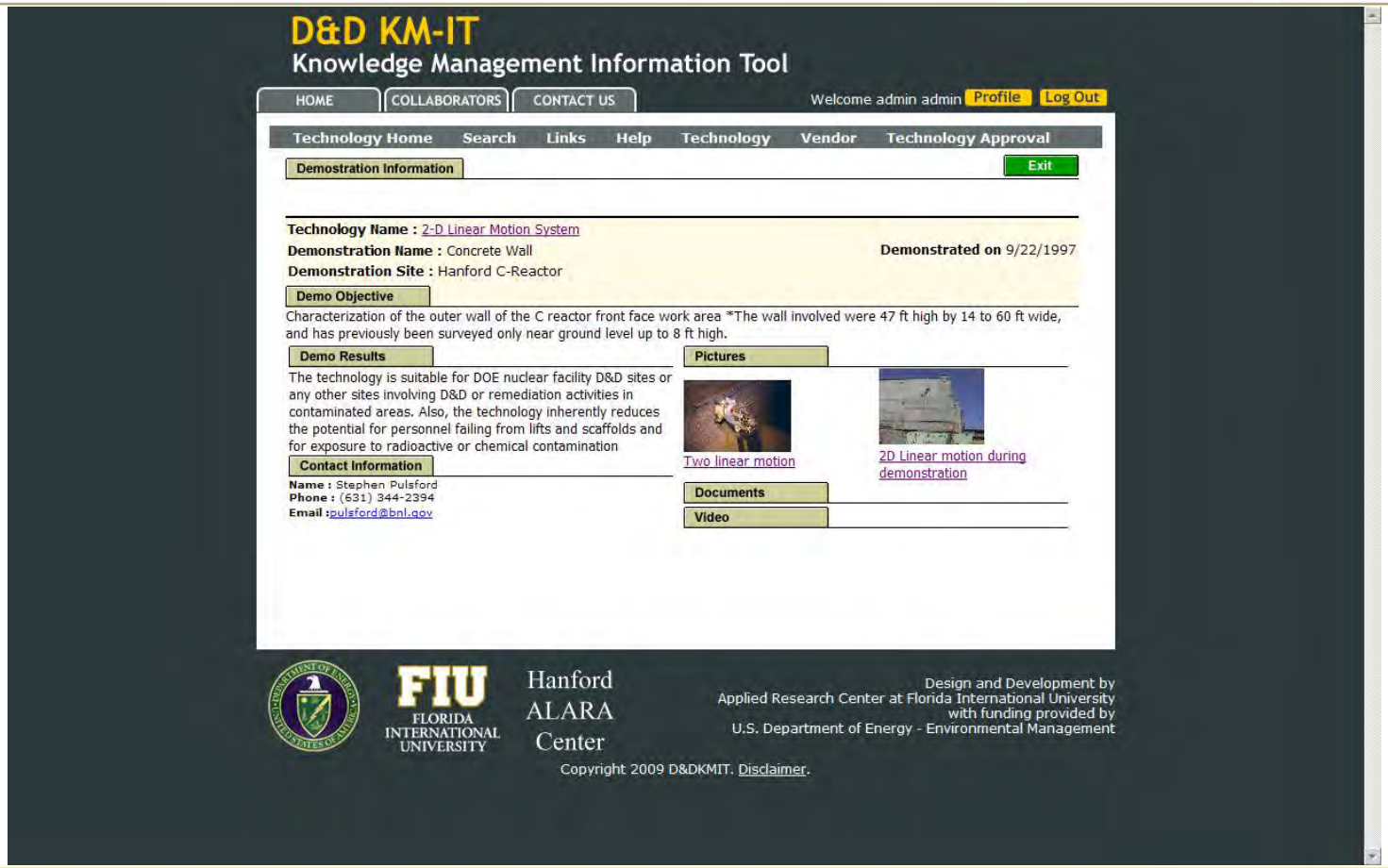
Demo Factsheet



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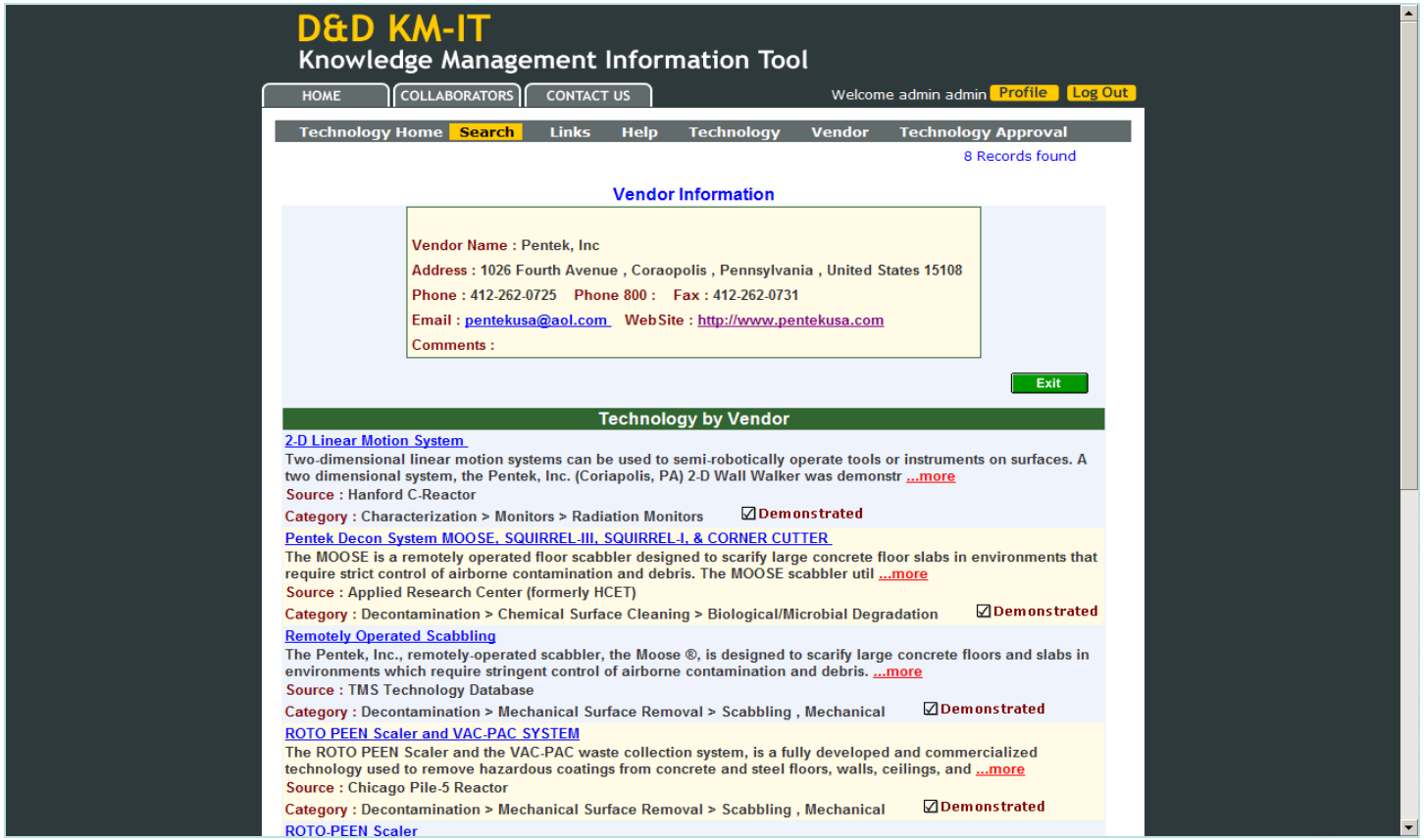

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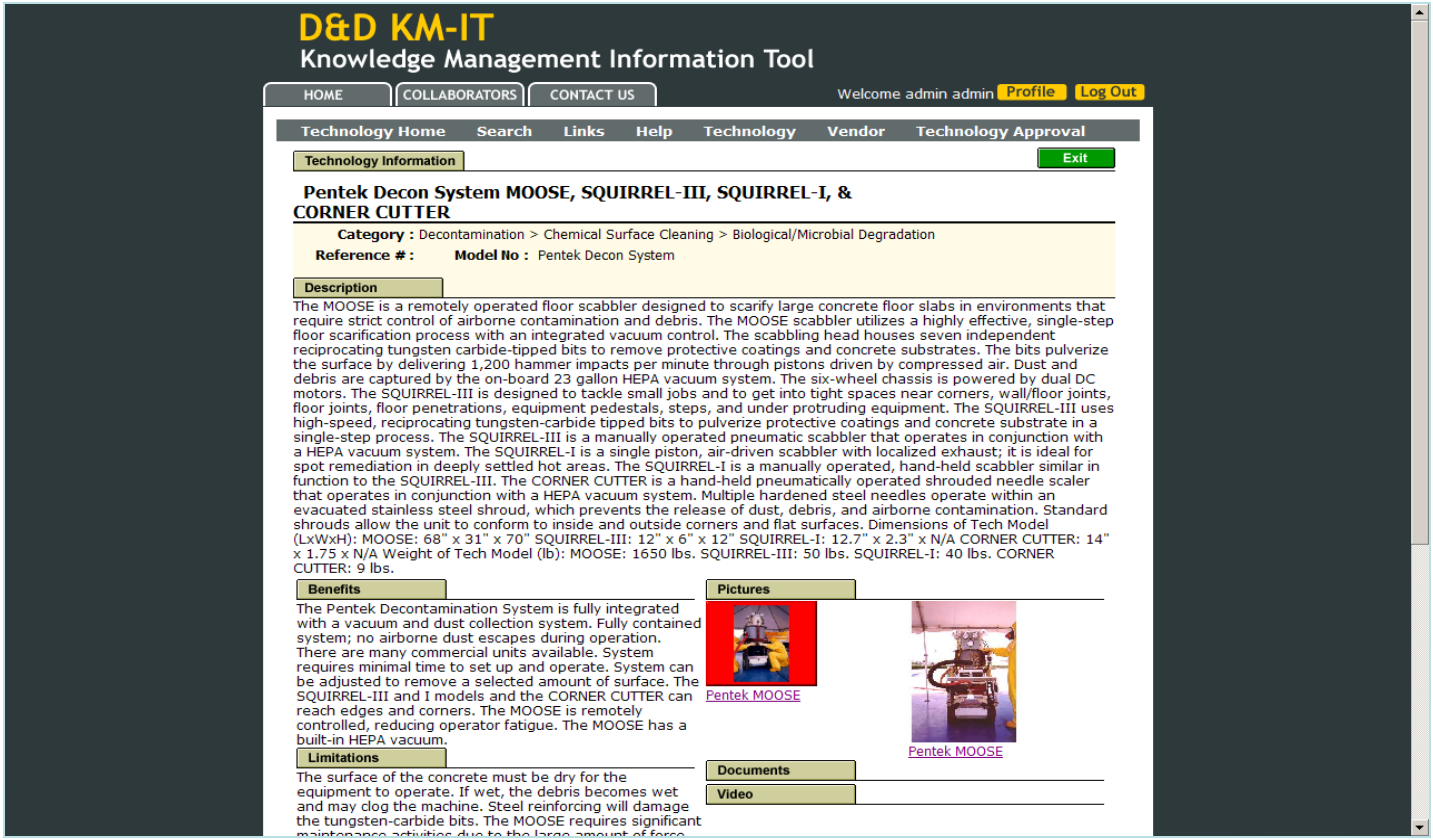

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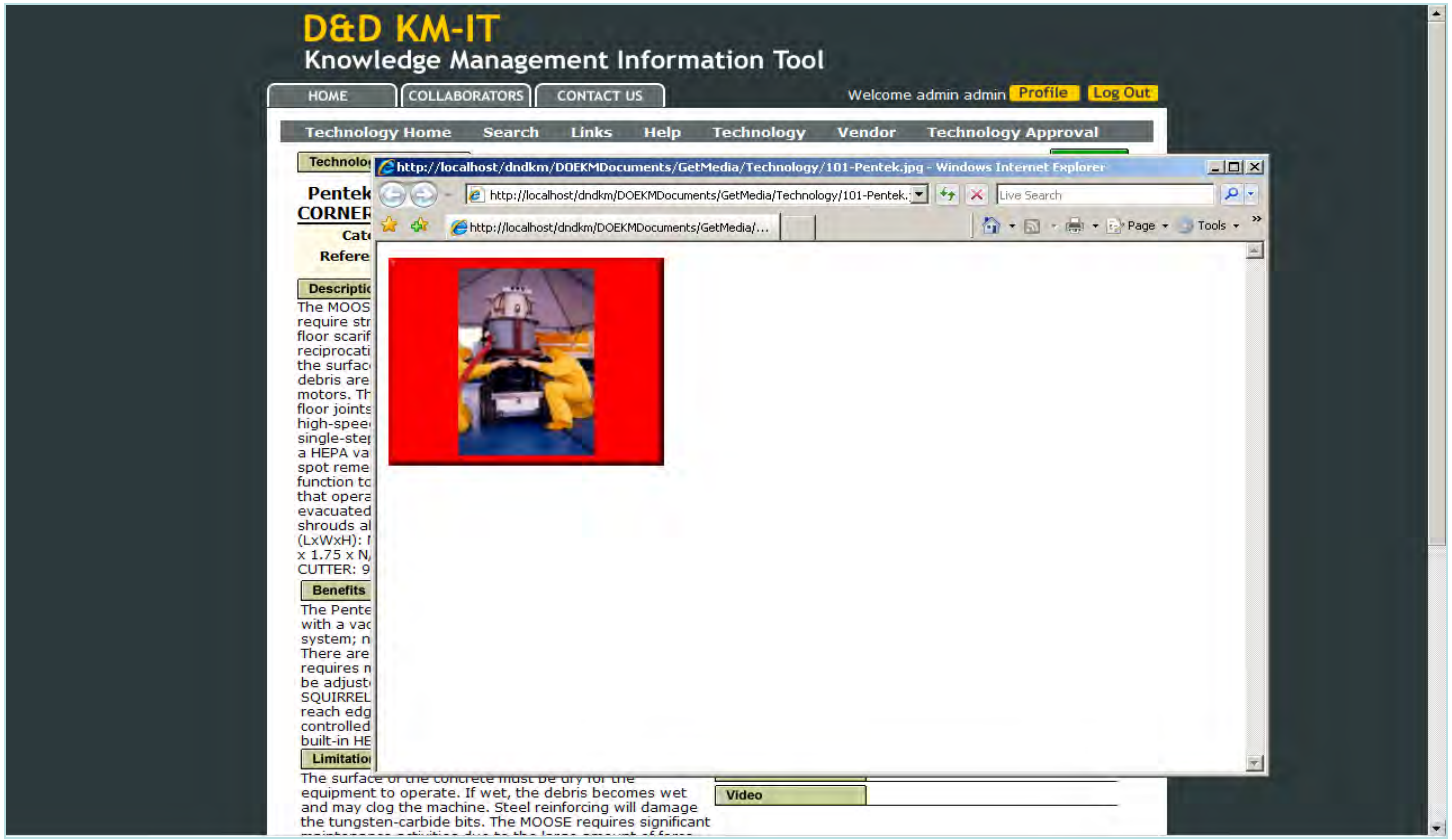
Technology Picture



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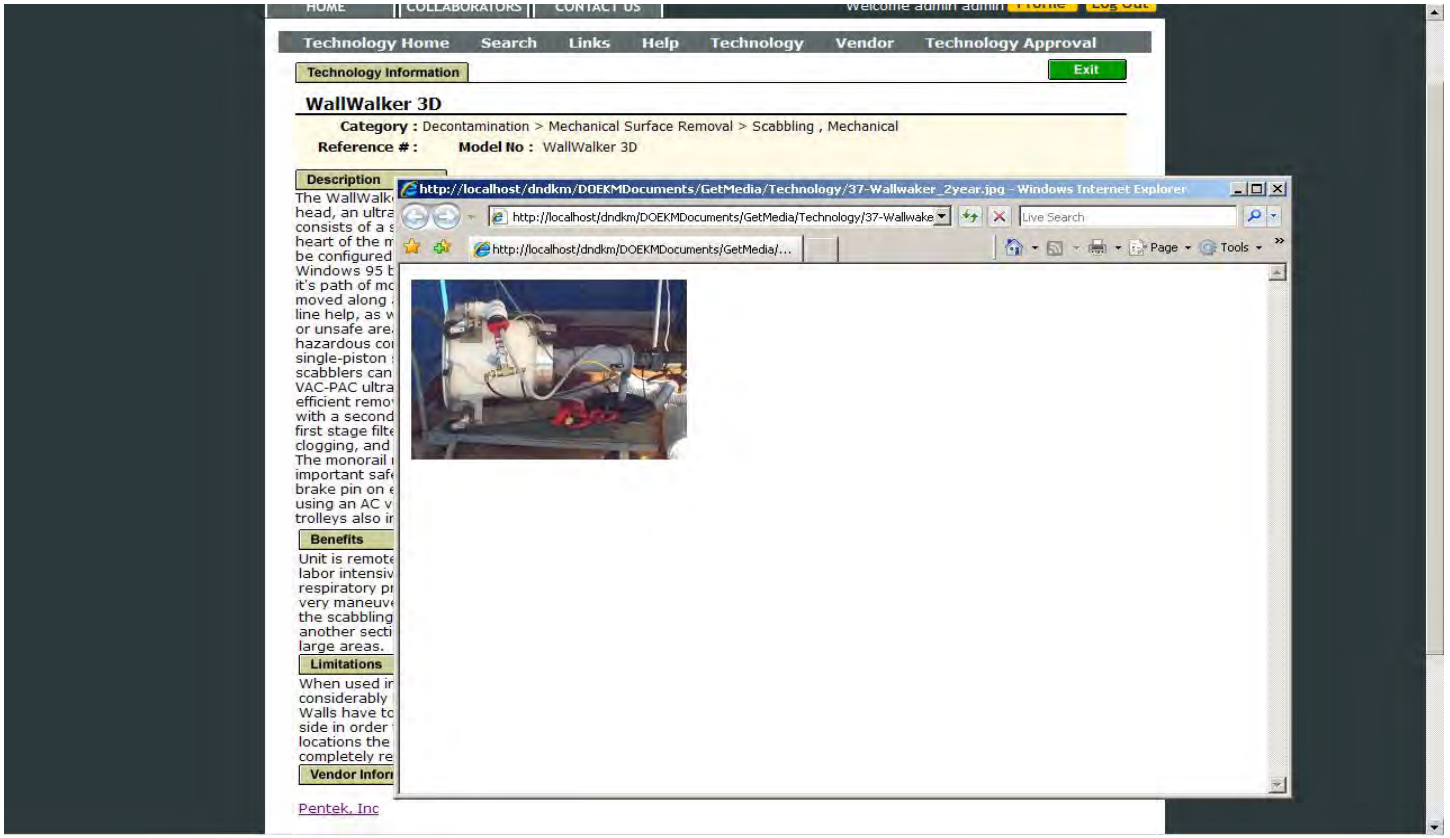

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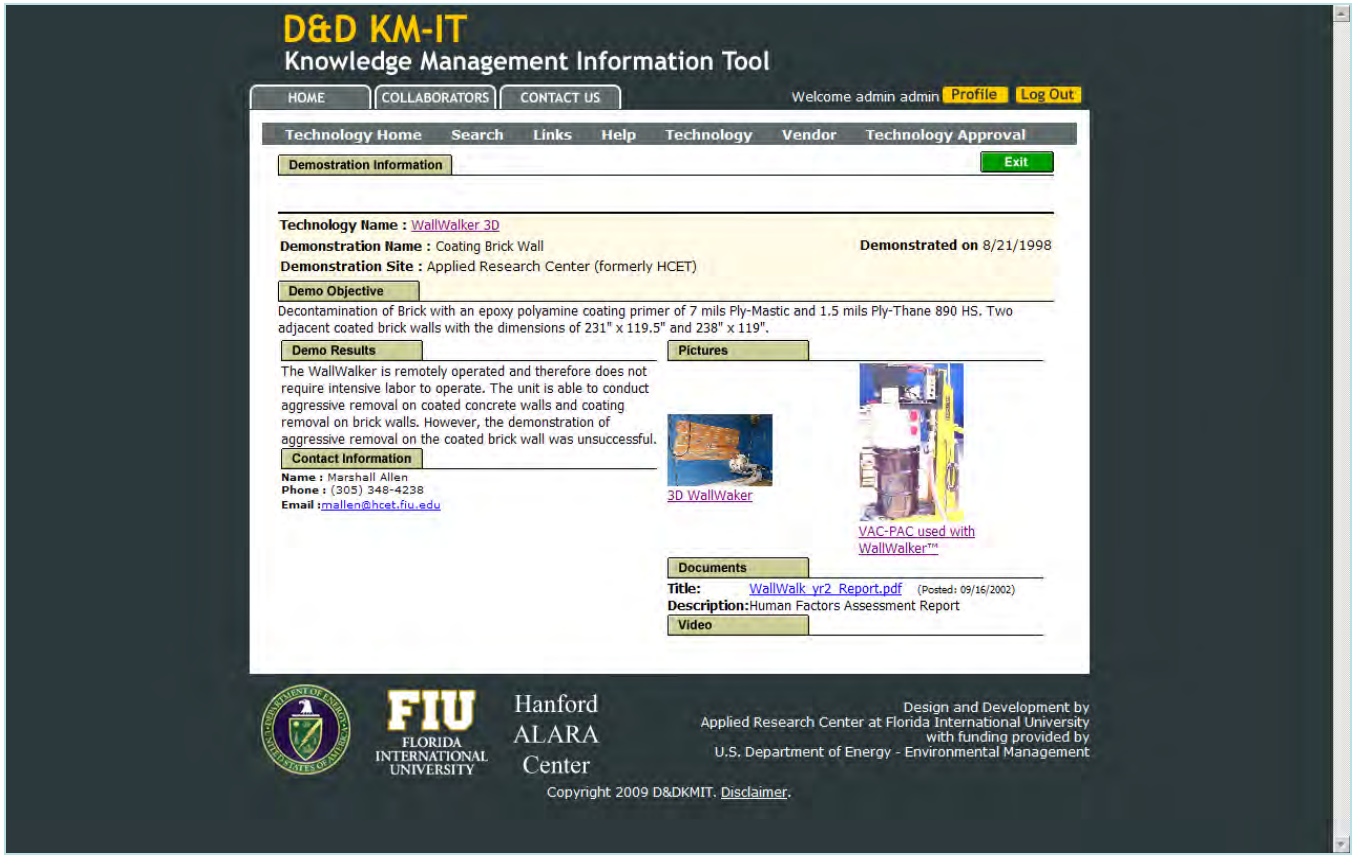

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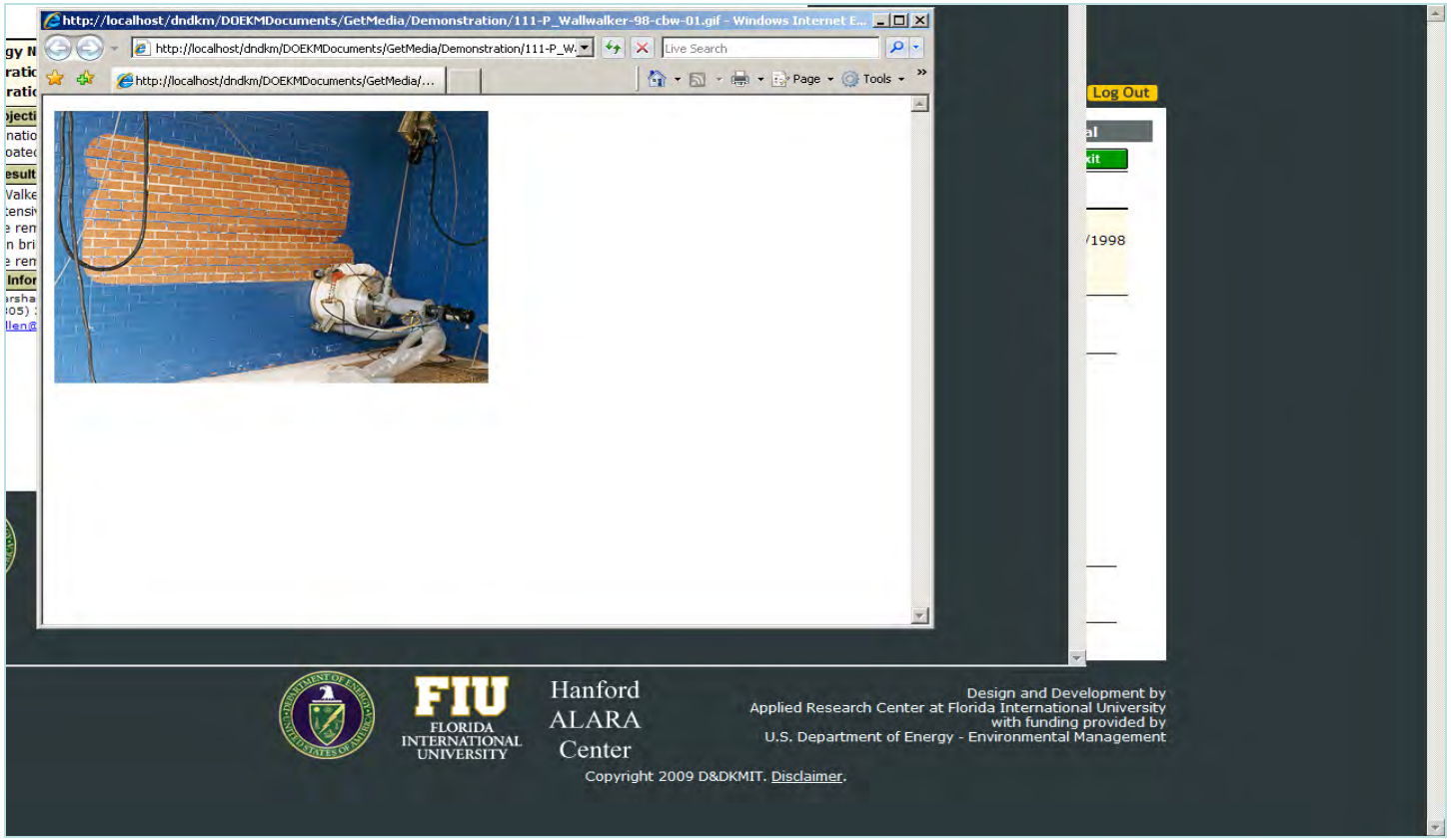

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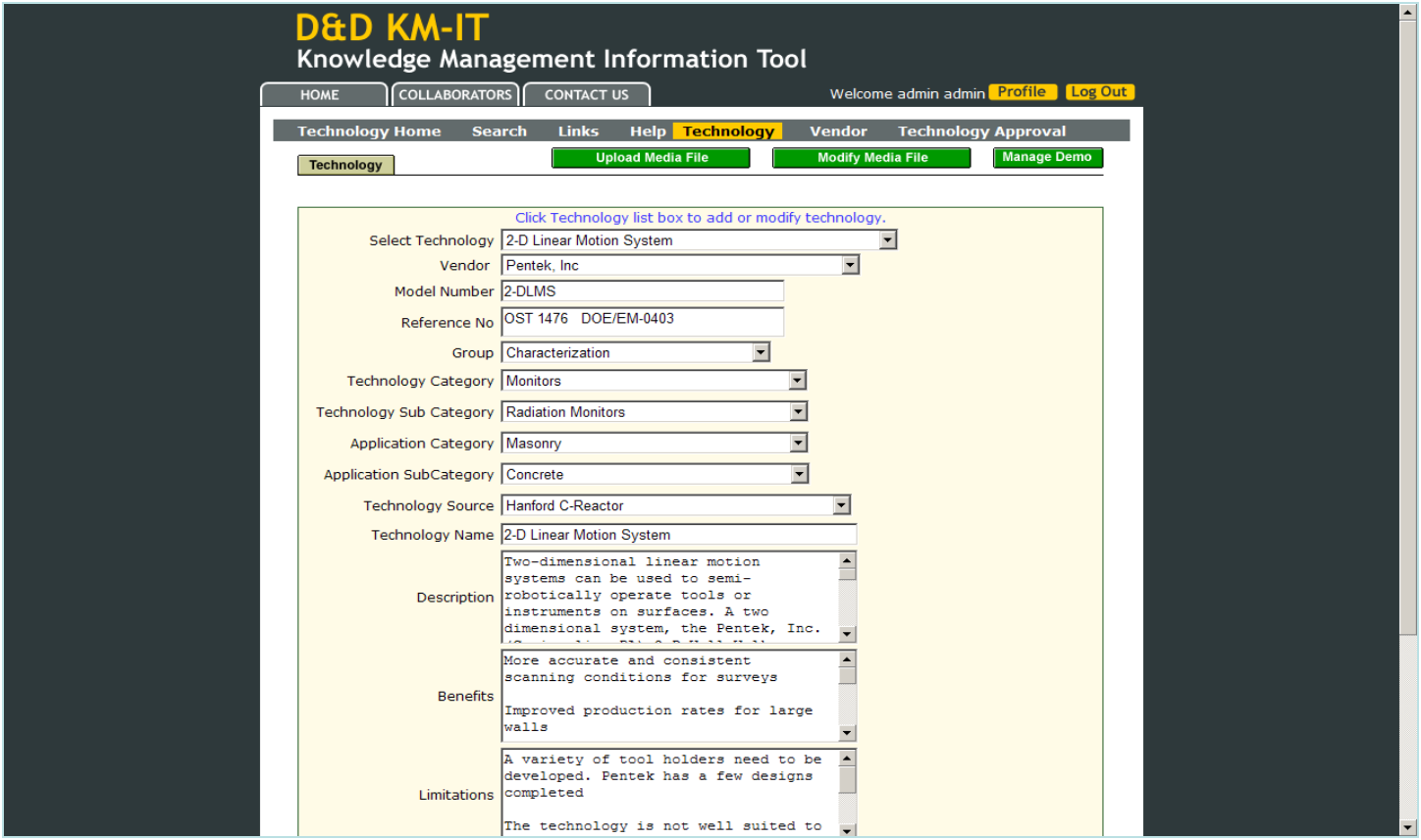
Technology Manager



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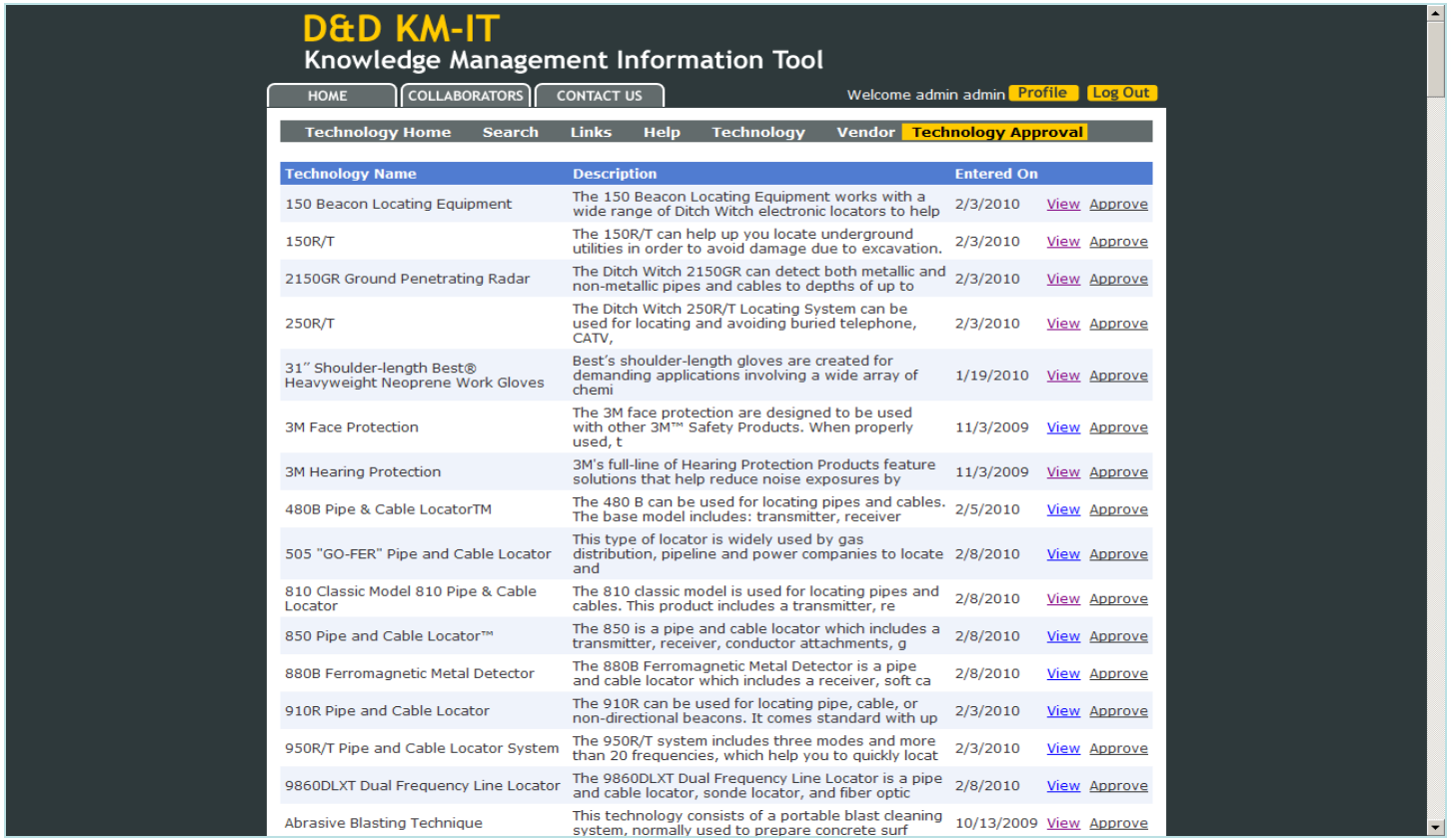
Technology Approval



Technology Name	Description	Entered On	
150 Beacon Locating Equipment	The 150 Beacon Locating Equipment works with a wide range of Ditch Witch electronic locators to help	2/3/2010	View Approve
150R/T	The 150R/T can help up you locate underground utilities in order to avoid damage due to excavation.	2/3/2010	View Approve
2150GR Ground Penetrating Radar	The Ditch Witch 2150GR can detect both metallic and non-metallic pipes and cables to depths of up to	2/3/2010	View Approve
250R/T	The Ditch Witch 250R/T Locating System can be used for locating and avoiding buried telephone, CATV,	2/3/2010	View Approve
31" Shoulder-length Best® Heavyweight Neoprene Work Gloves	Best's shoulder-length gloves are created for demanding applications involving a wide array of chemi	1/19/2010	View Approve
3M Face Protection	The 3M face protection are designed to be used with other 3M™ Safety Products. When properly used, t	11/3/2009	View Approve
3M Hearing Protection	3M's full-line of Hearing Protection Products feature solutions that help reduce noise exposures by	11/3/2009	View Approve
480B Pipe & Cable LocatorTM	The 480 B can be used for locating pipes and cables. The base model includes: transmitter, receiver	2/5/2010	View Approve
505 "GO-FER" Pipe and Cable Locator	This type of locator is widely used by gas distribution, pipeline and power companies to locate and	2/8/2010	View Approve
810 Classic Model 810 Pipe & Cable Locator	The 810 classic model is used for locating pipes and cables. This product includes a transmitter, re	2/8/2010	View Approve
850 Pipe and Cable Locator™	The 850 is a pipe and cable locator which includes a transmitter, receiver, conductor attachments, g	2/8/2010	View Approve
880B Ferromagnetic Metal Detector	The 880B Ferromagnetic Metal Detector is a pipe and cable locator which includes a receiver, soft ca	2/8/2010	View Approve
910R Pipe and Cable Locator	The 910R can be used for locating pipe, cable, or non-directional beacons. It comes standard with up	2/3/2010	View Approve
950R/T Pipe and Cable Locator System	The 950R/T system includes three modes and more than 20 frequencies, which help you to quickly locat	2/3/2010	View Approve
9860DLXT Dual Frequency Line Locator	The 9860DLXT Dual Frequency Line Locator is a pipe and cable locator, sonde locator, and fiber optic	2/8/2010	View Approve
Abrasive Blasting Technique	This technology consists of a portable blast cleaning system, normally used to prepare concrete surf	10/13/2009	View Approve

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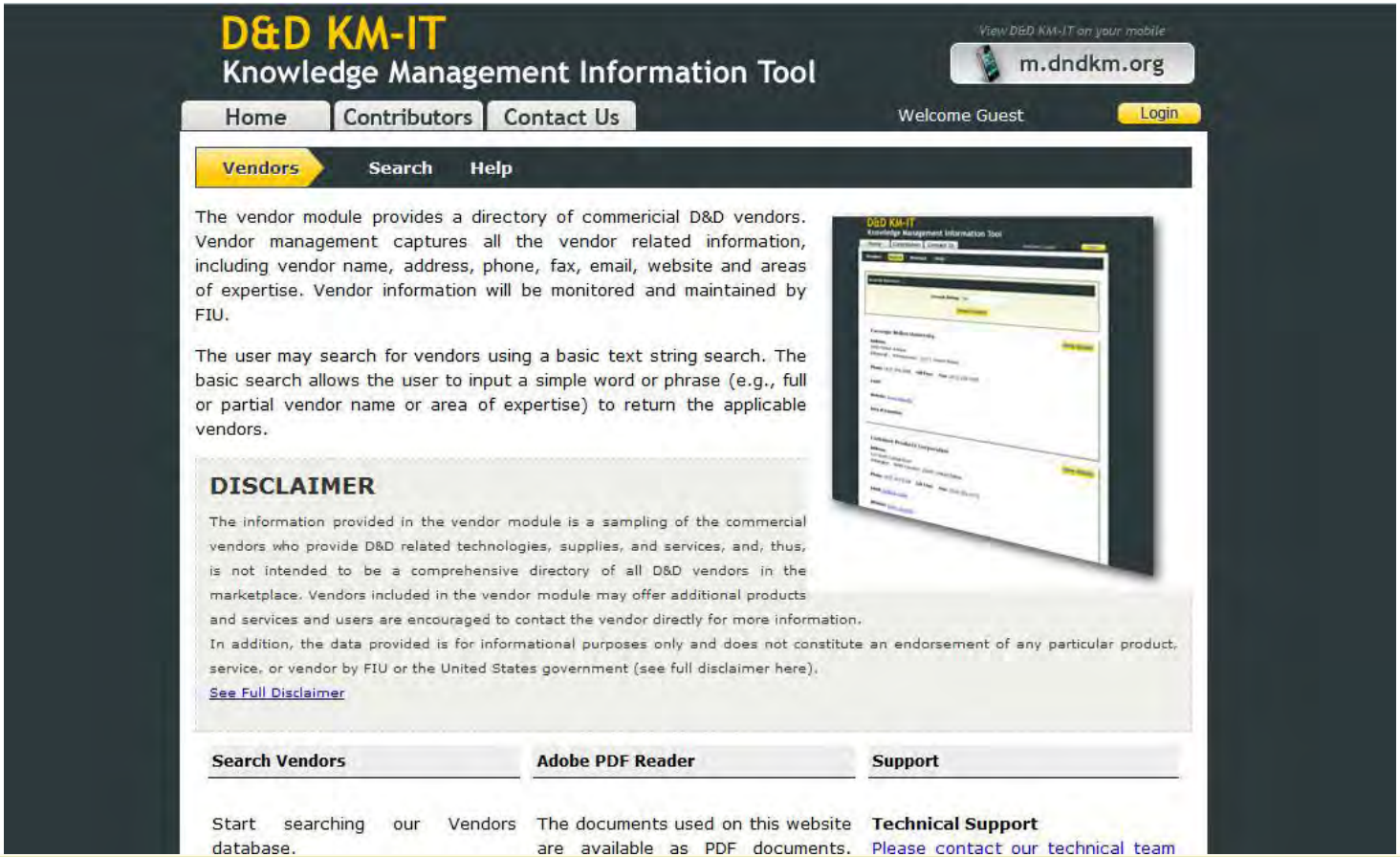
Vendor Home Page



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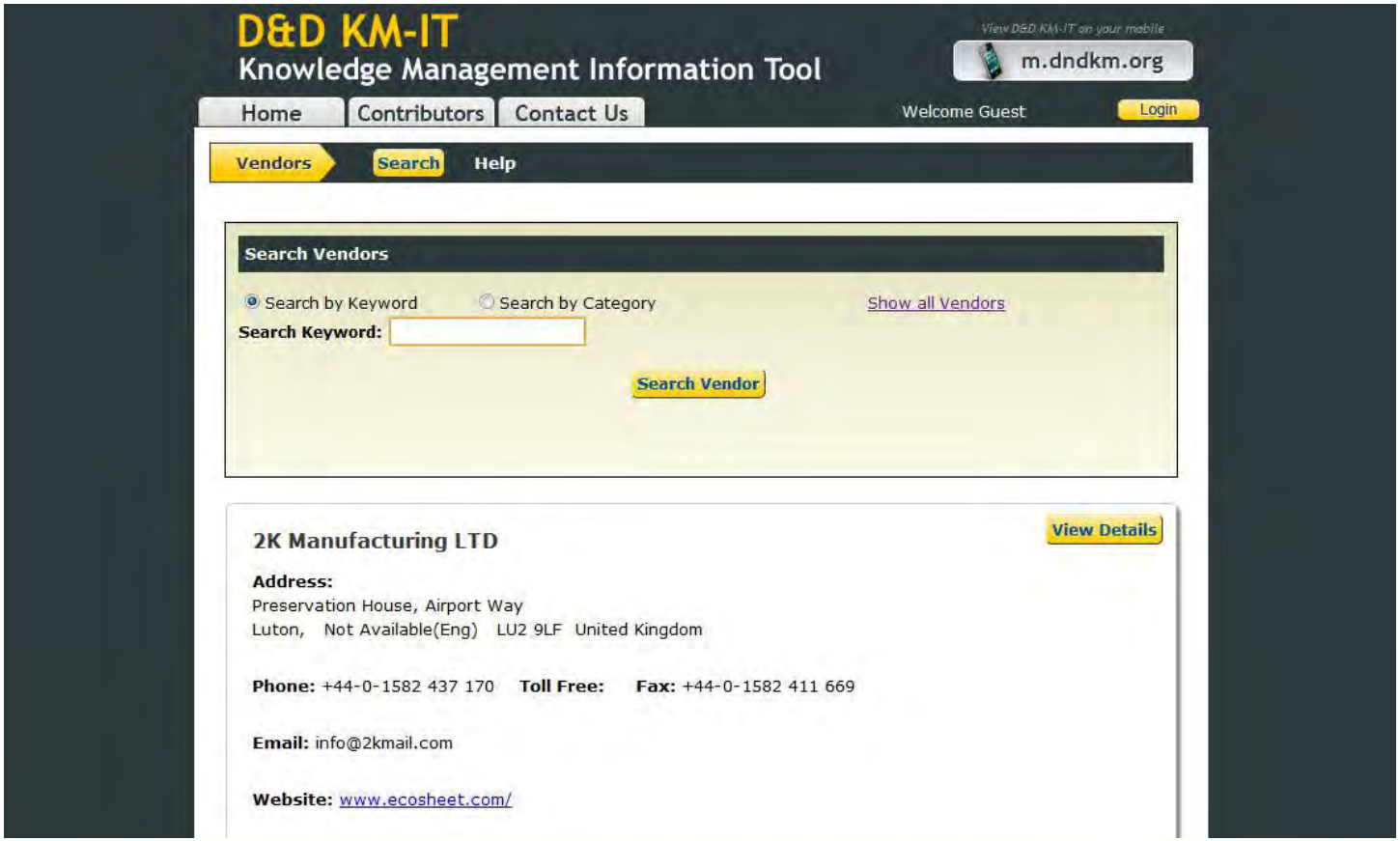
Vendor Search



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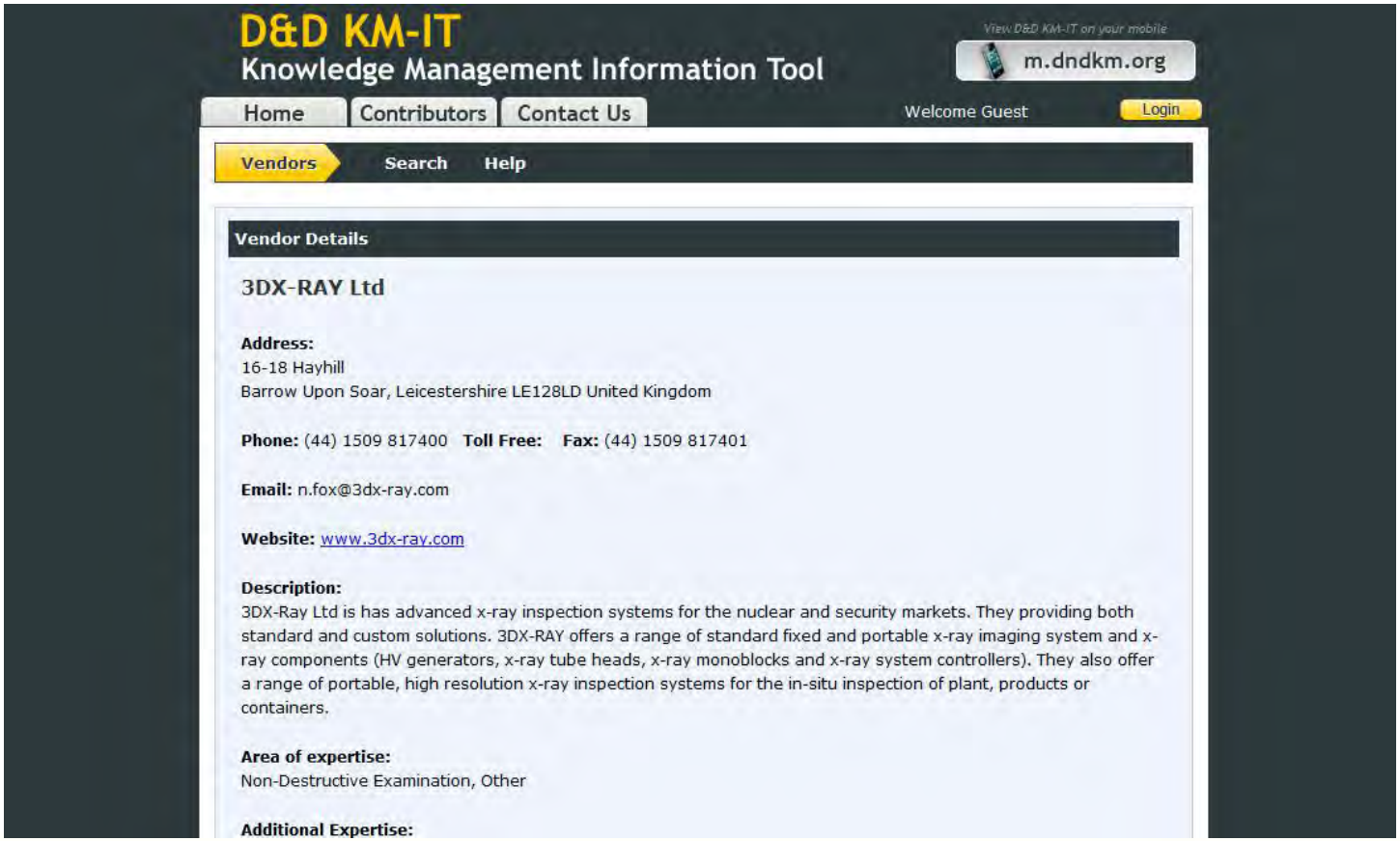

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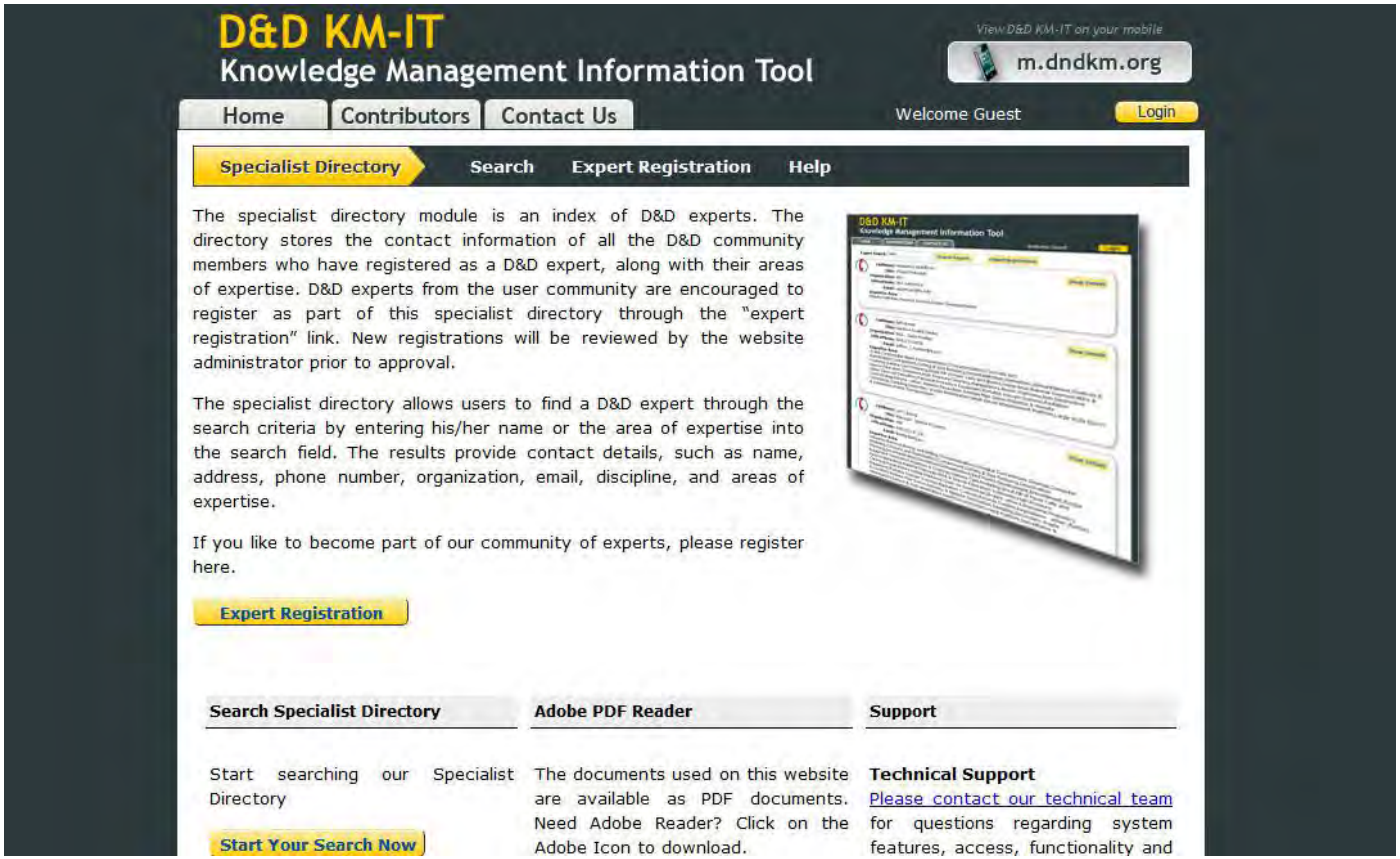
Specialist Directory Home



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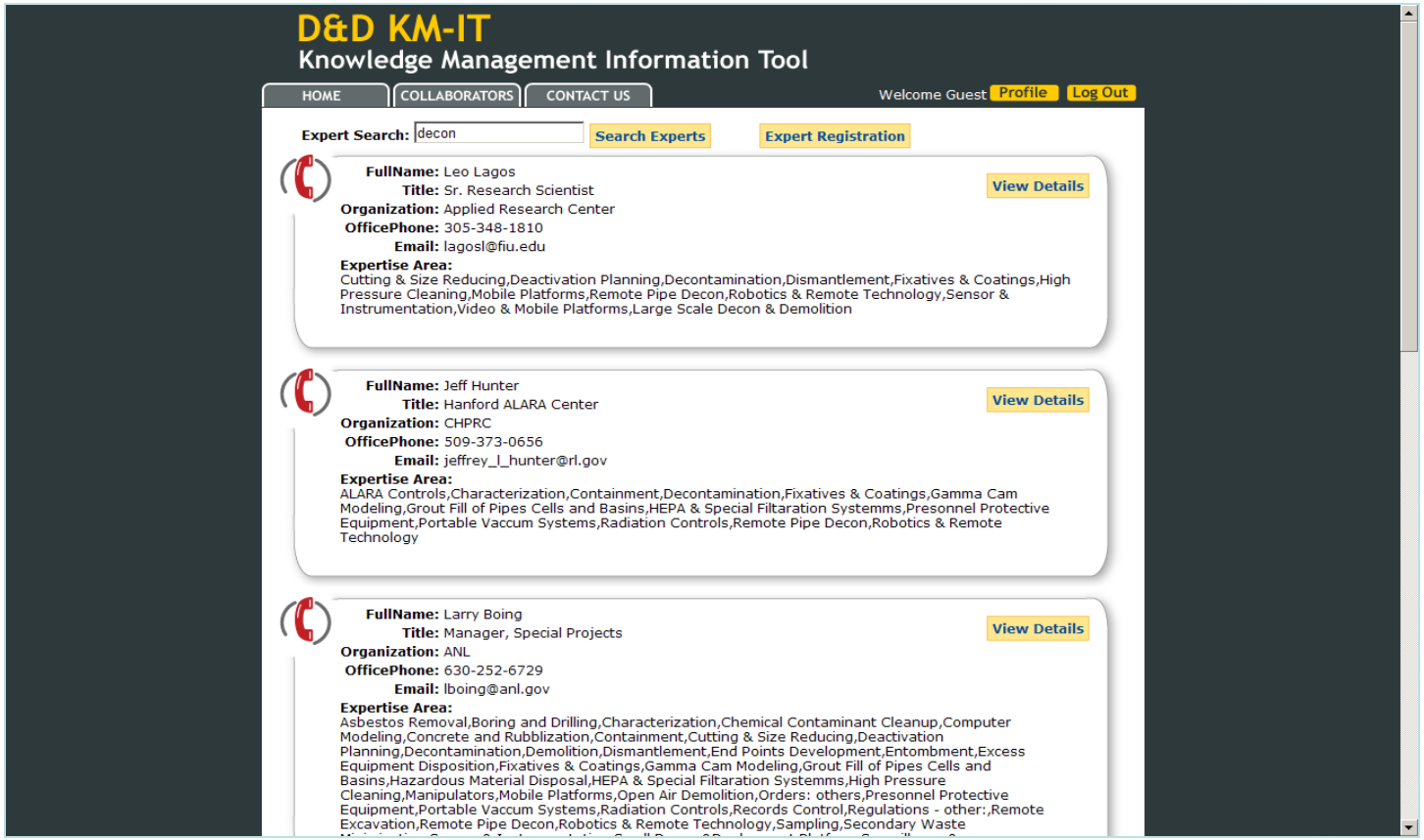
Specialist Directory Search



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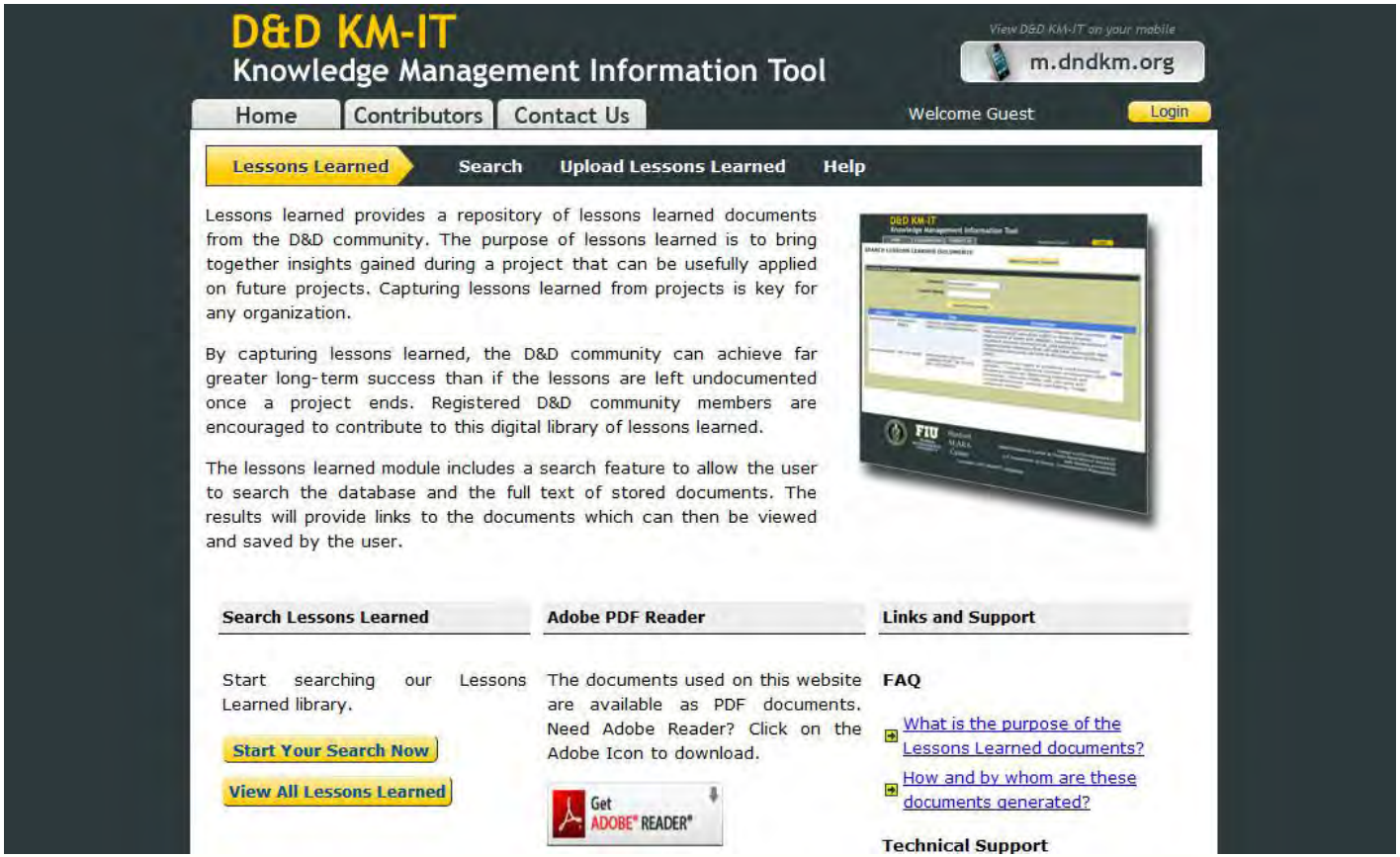
Lessons Learned Home Page



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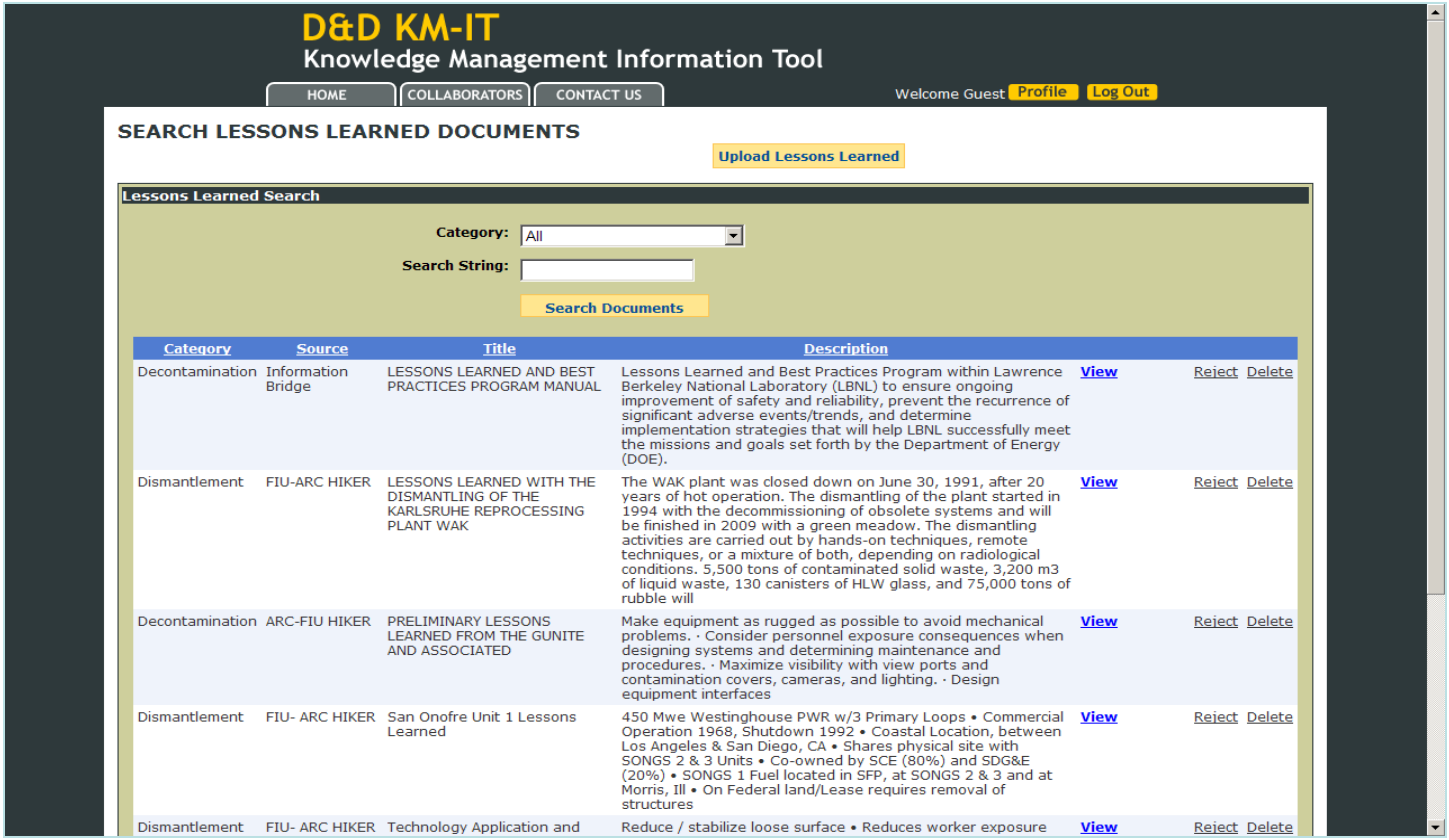
Search Lessons Learned



Category	Source	Title	Description		
Decontamination	Information Bridge	LESSONS LEARNED AND BEST PRACTICES PROGRAM MANUAL	Lessons Learned and Best Practices Program within Lawrence Berkeley National Laboratory (LBNL) to ensure ongoing improvement of safety and reliability, prevent the recurrence of significant adverse events/trends, and determine implementation strategies that will help LBNL successfully meet the missions and goals set forth by the Department of Energy (DOE).	View	Reject Delete
Dismantlement	FIU-ARC HIKER	LESSONS LEARNED WITH THE DISMANTLING OF THE KARLSRUHE REPROCESSING PLANT WAK	The WAK plant was closed down on June 30, 1991, after 20 years of hot operation. The dismantling of the plant started in 1994 with the decommissioning of obsolete systems and will be finished in 2009 with a green meadow. The dismantling activities are carried out by hands-on techniques, remote techniques, or a mixture of both, depending on radiological conditions. 5,500 tons of contaminated solid waste, 3,200 m3 of liquid waste, 130 canisters of HLW glass, and 75,000 tons of rubble will	View	Reject Delete
Decontamination	ARC-FIU HIKER	PRELIMINARY LESSONS LEARNED FROM THE GUNITE AND ASSOCIATED	Make equipment as rugged as possible to avoid mechanical problems. · Consider personnel exposure consequences when designing systems and determining maintenance and procedures. · Maximize visibility with view ports and contamination covers, cameras, and lighting. · Design equipment interfaces	View	Reject Delete
Dismantlement	FIU- ARC HIKER	San Onofre Unit 1 Lessons Learned	450 Mwe Westinghouse PWR w/3 Primary Loops • Commercial Operation 1968, Shutdown 1992 • Coastal Location, between Los Angeles & San Diego, CA • Shares physical site with SONGS 2 & 3 Units • Co-owned by SCE (80%) and SDG&E (20%) • SONGS 1 Fuel located in SFP, at SONGS 2 & 3 and at Morris, Ill • On Federal land/Lease requires removal of structures	View	Reject Delete
Dismantlement	FIU- ARC HIKER	Technology Application and	Reduce / stabilize loose surface • Reduces worker exposure	View	Reject Delete

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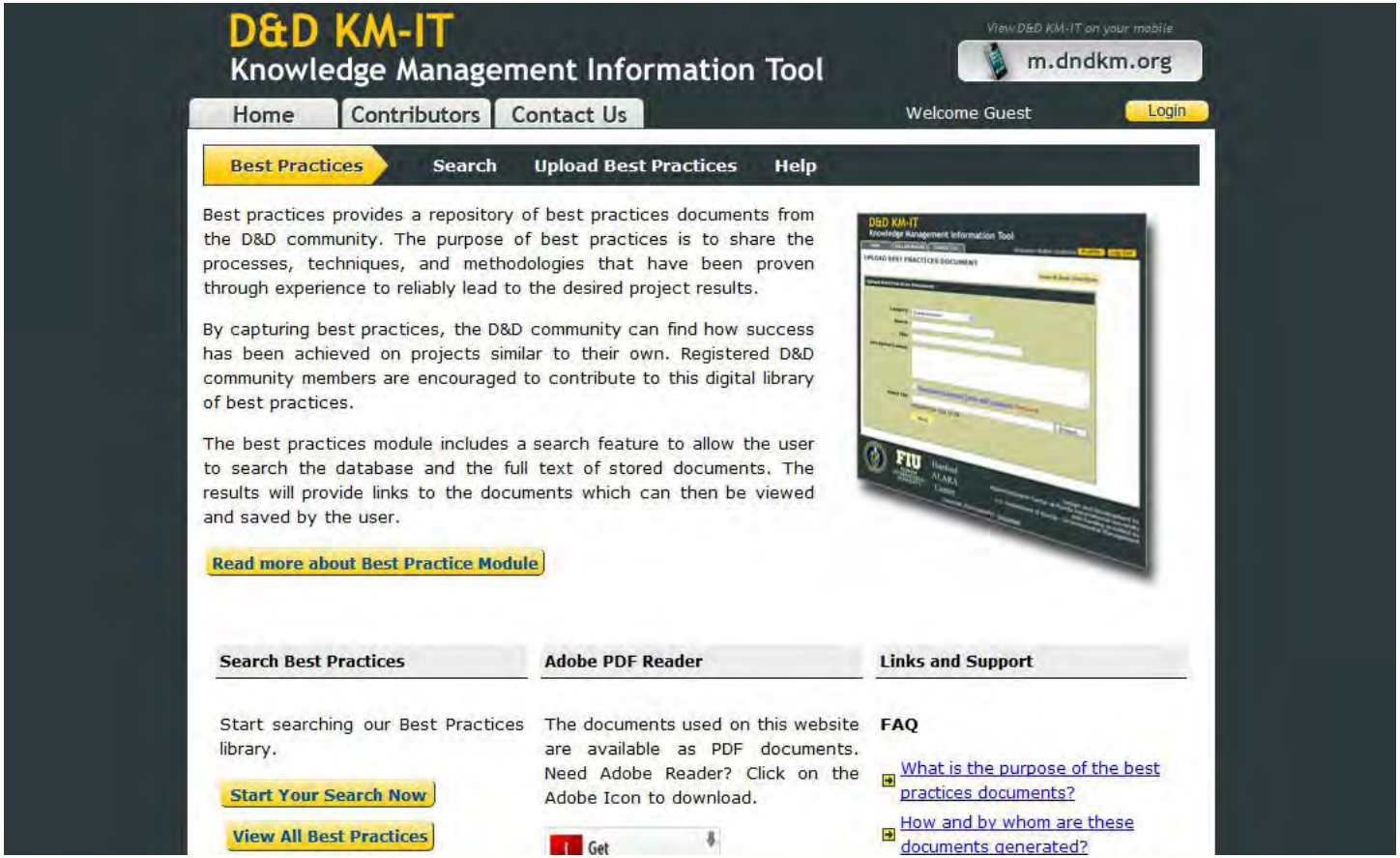

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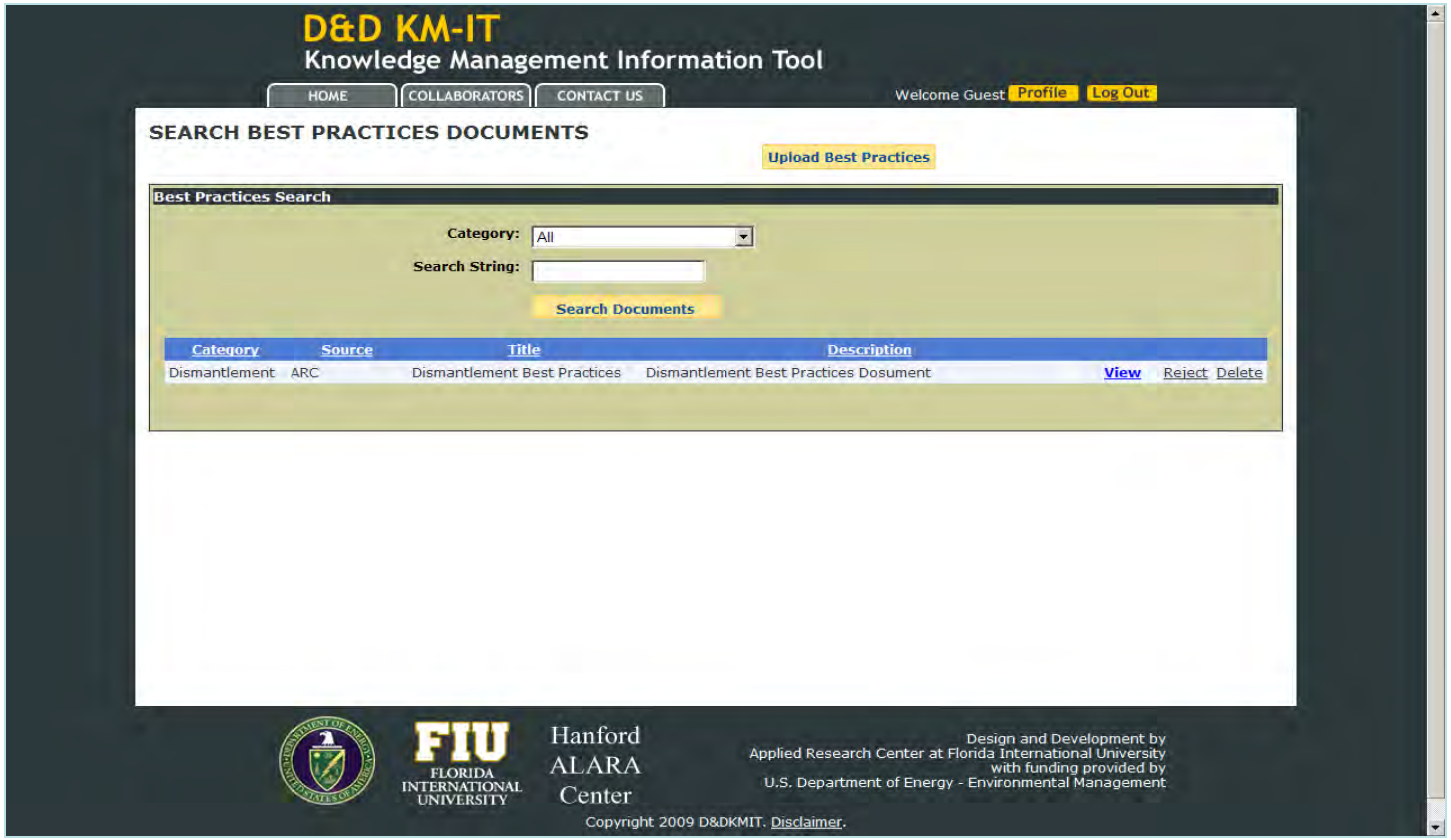

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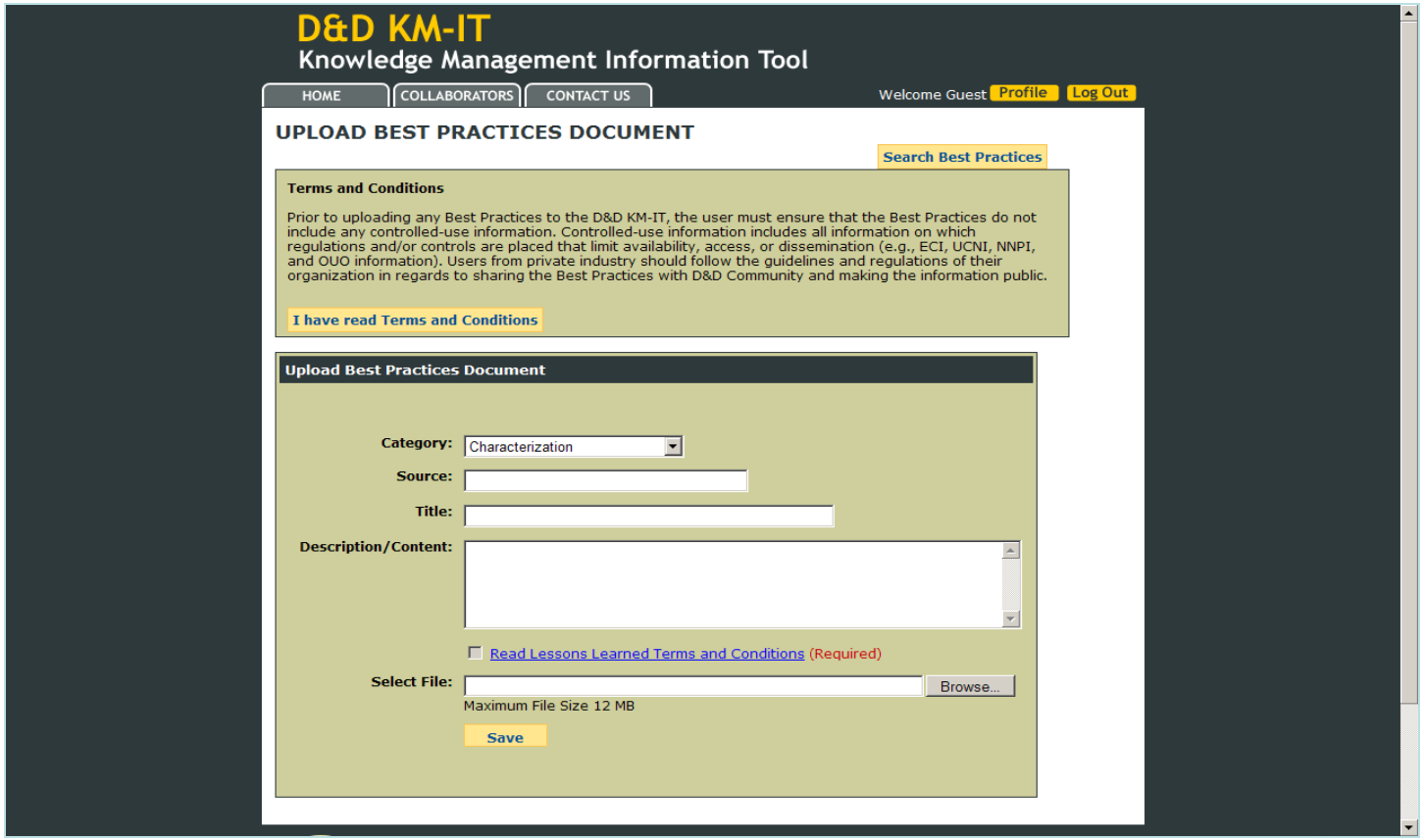

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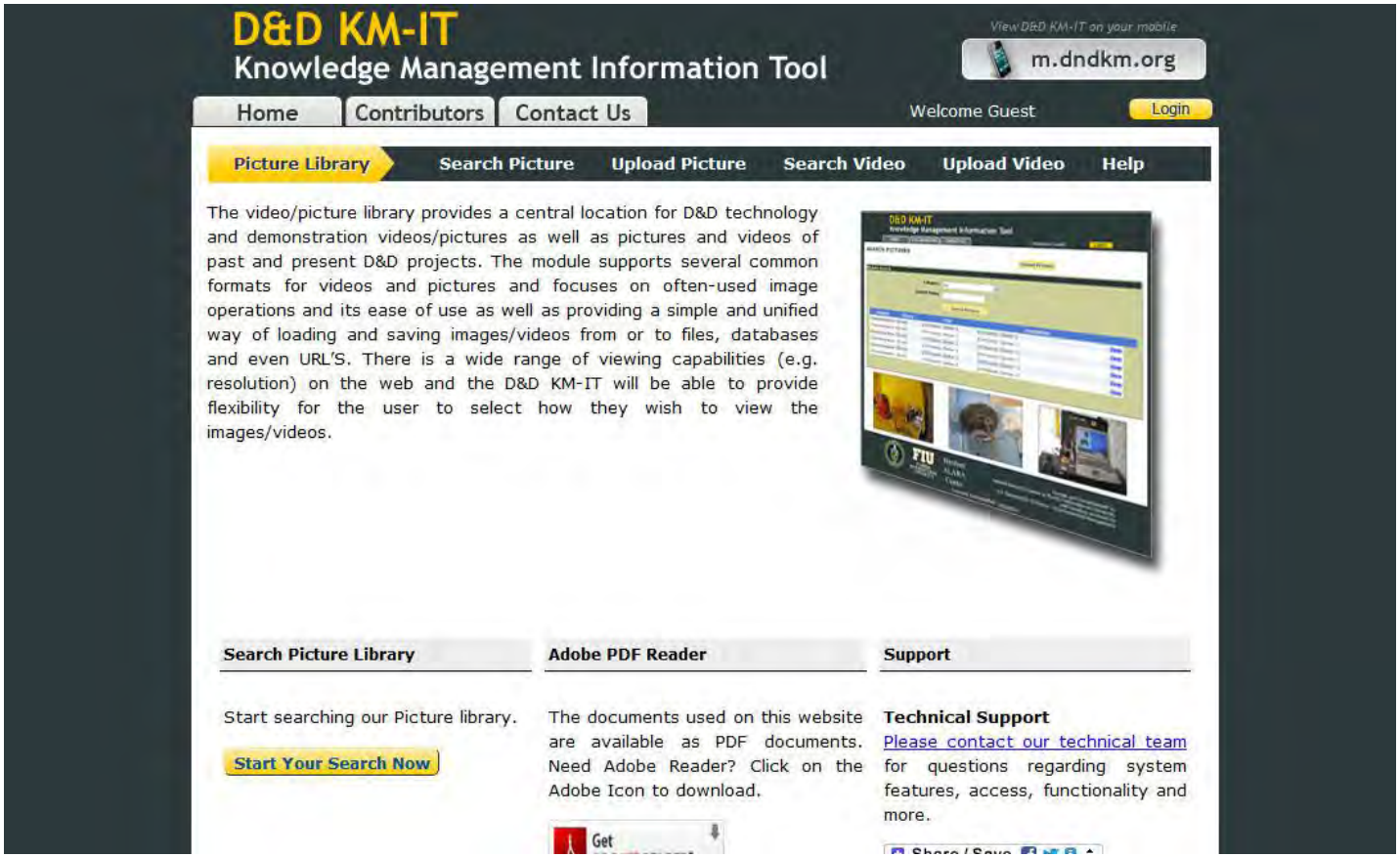

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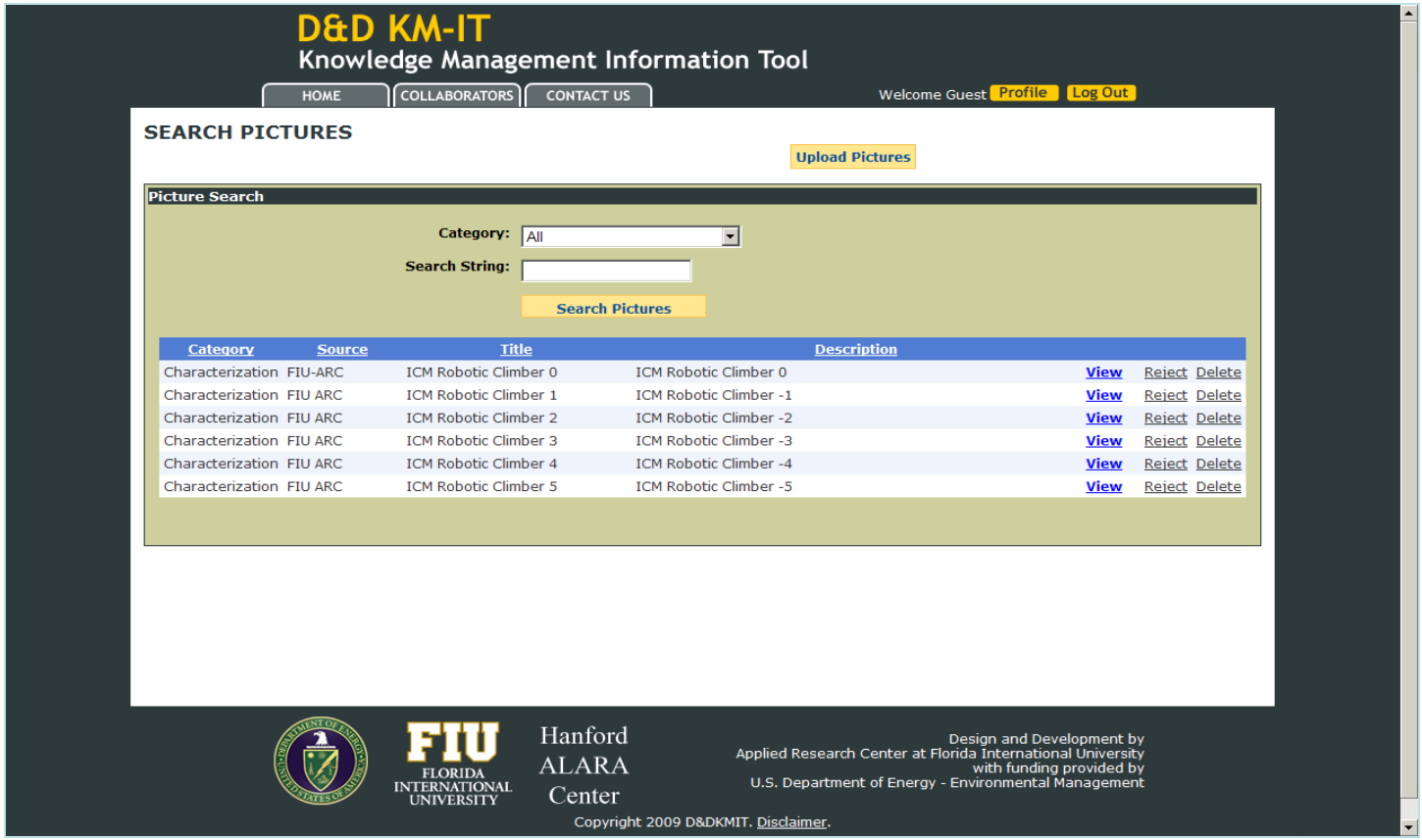

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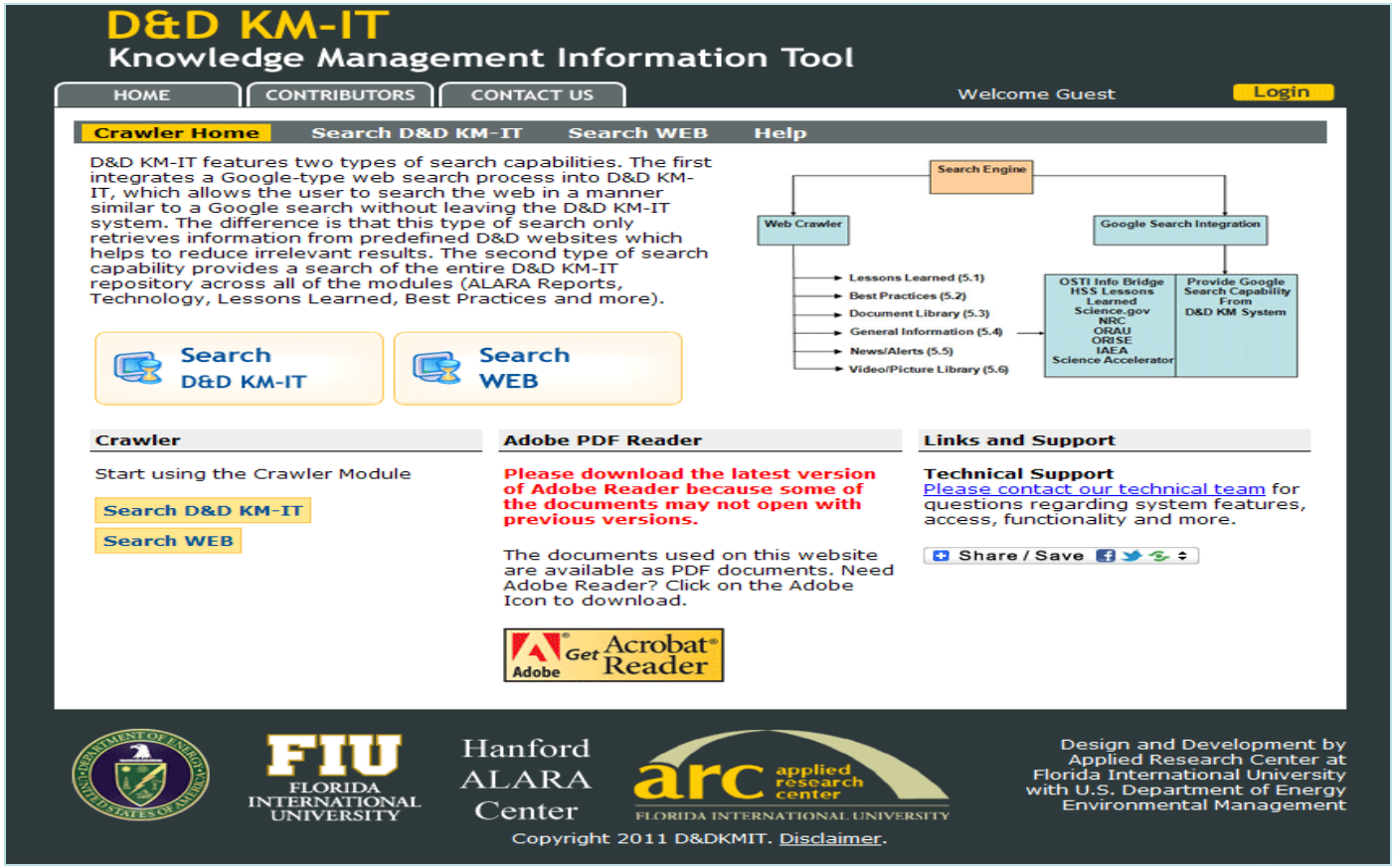

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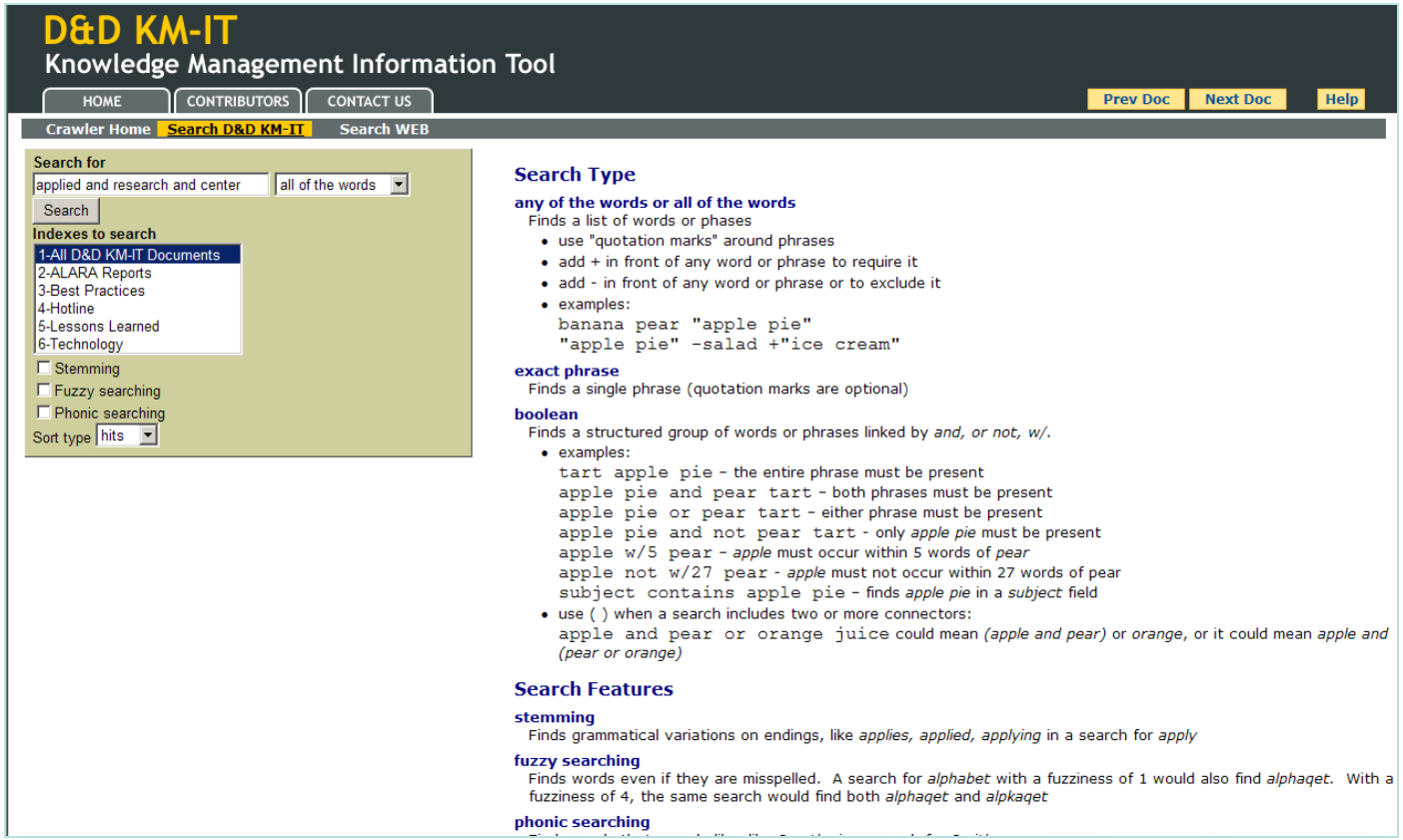

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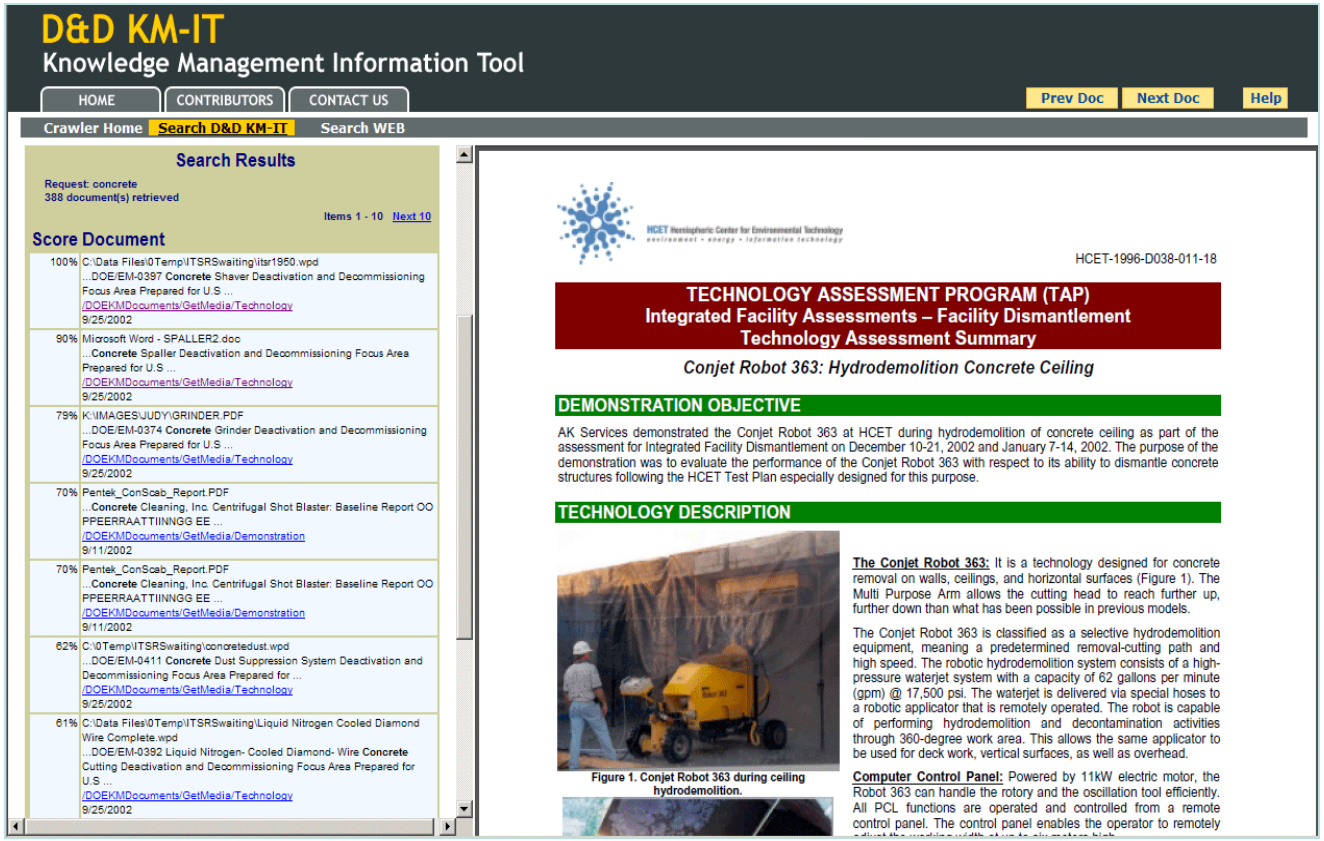

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