Do_IT - BRINGING INNOVATIVE DREDGING TECHNOLOGIES ONLINE IN THE CORPS TODAY

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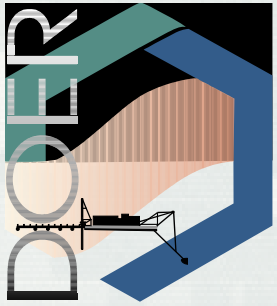
Outline

- Dredging Operations and Environmental Research (DOER) Program
- Operations Technologies Focus Area
- Diffusion of Innovative Technologies Work Unit (**Do_IT**)
- **Do_IT** Innovation Adoption Process (IAP)

DOER Program

Objective:

Support the Corps Navigation Program by balancing operational and environmental initiatives that meet complex economic, engineering, and ecological challenges.



DOER
- Focus Areas -

- Risk
- Environmental Resource Protection
- Dredged Material Management
- Operations Technologies

Operations Technologies Objectives

- Identify, or develop where necessary, technologies considered innovative, and/or maybe just too risky.
- Test these innovations in locations and situations suitable to evaluate performance in terms of defined metrics.
- Assist adoption of well-performing technologies into the dredging community of practice.

Operations Technologies Focus Area Work Units

- Commercially-available (mature) innovative technologies can be objectively evaluated relative to Corps applicability (**Do_IT** Work Unit),
- If the technology is not available or in a form suitable to meet a specific Corps need, it may be developed or modified to meet that need (Dredging Technologies and Operations Work Unit).

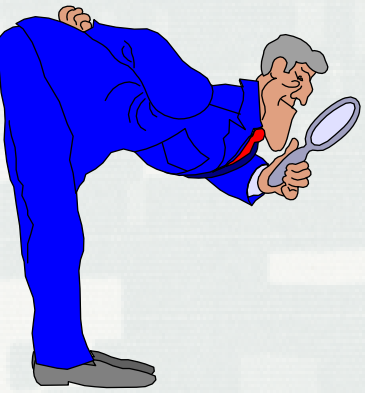
Diffusion of Innovative Technologies (Do_IT)
Work Unit

- Identify mature innovative technologies that exhibit Corps potential.
- Objectively demonstrate/evaluate these technologies.
- Conducts activities to foster their adoption.

WHY Do_IT?

- New technology continually developed
- Districts have fixed budget and can have low tolerance for risk
- Few objective evaluations
- Need clearing house
- Need objective evaluation on Corps projects
- Need technical transfer of information

Do_IT Role in Technology Demonstrations



- Identification
- Match Technology and Sponsor
- Assist in Demo Planning
- On-site Monitoring Funds
- Evaluation
- Technical Transfer

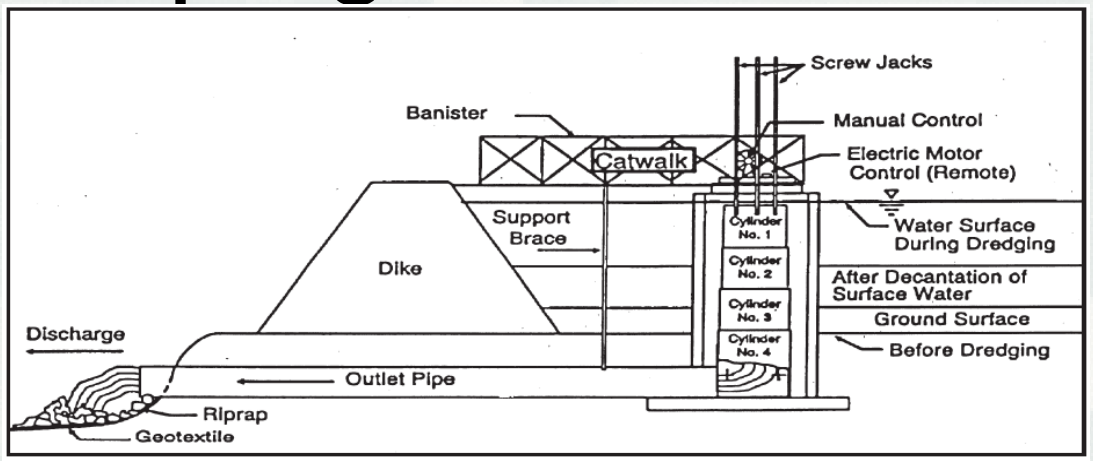
Do_IT Objective

Provide the “missing link” between the Corps and use of innovative technology

(Be a Catalyst for Innovation)

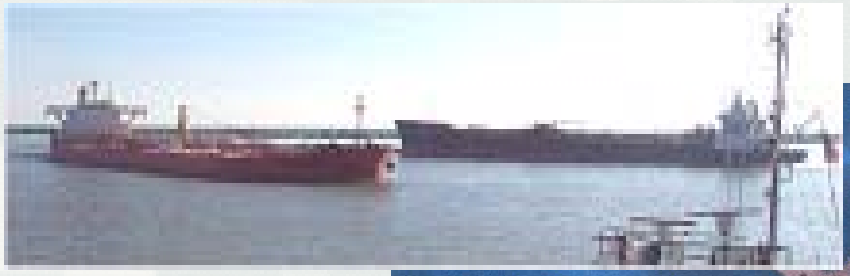
Past Projects

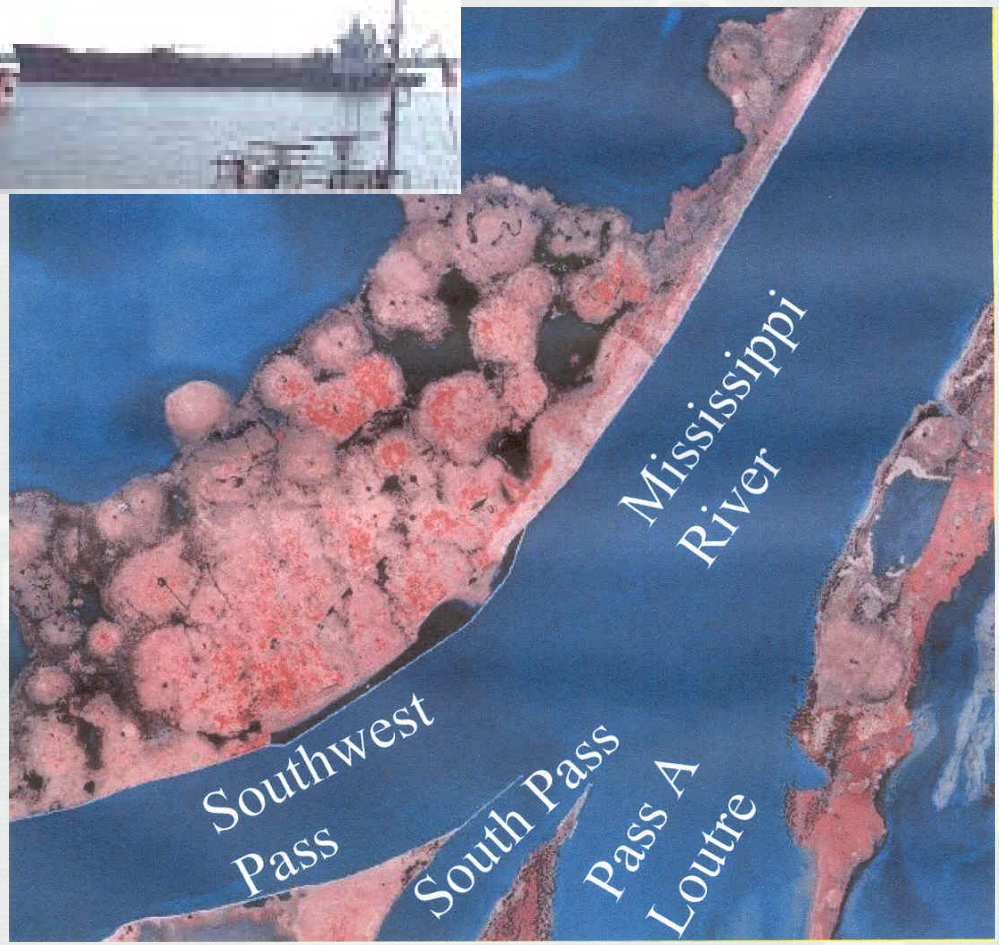
Telescoping Weir



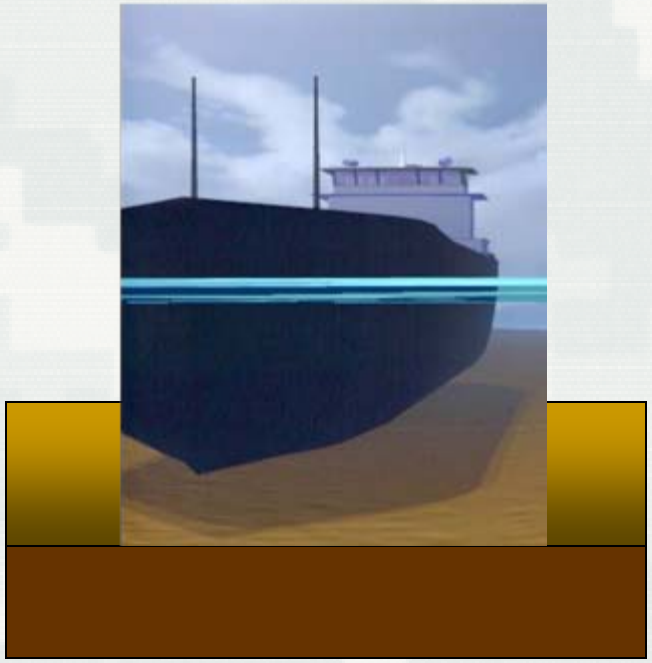
Past Projects

Flexible Discharge Dustpan Demo





Current Projects



Nautical Depth

Fluid Mud Density Profiler

Diesel Fuel Reduction

Long Distance Pumping

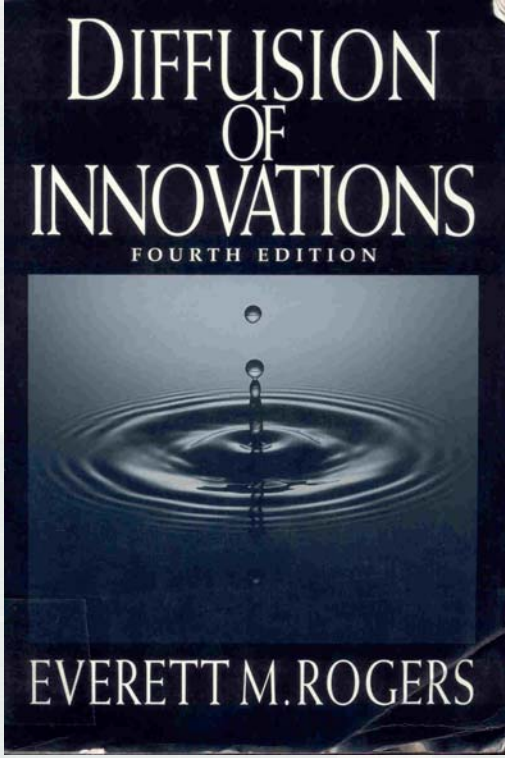
Do_IT

Diffusion

of

Innovative Technologies

Diffusion



Definition: The process by which an innovation is communicated over time through certain channels among members of a social system. (Rogers 1995)

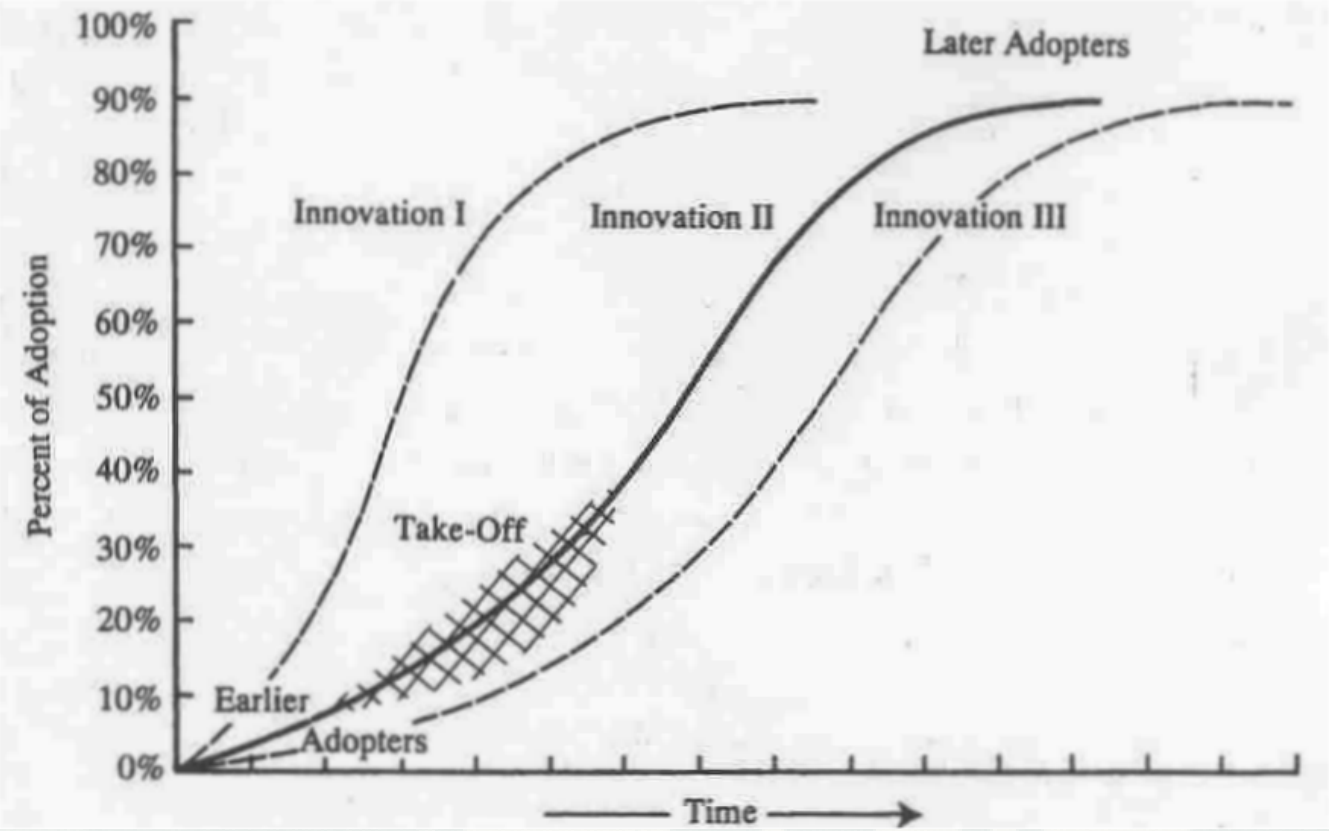
Innovations Do Not Sell Themselves

"English Navy and Scurvy"

- 1601 Capt Lancaster (a sea captain) gave lemon juice to crew in one of four ships going to India. ½ there 110 of 278 crew died from scurvy on those three ships. He had to transfer men off the lemon juice ship to man the others.
- Not until 1747 (approx 150 years later) did Dr. Lind, a Navy physician, do a conclusive study to show lemon juice healed men with scurvy.
- Not until 1795 (48 years later) English Navy finally implemented lemon juice to prevent scurvy.
- Took 194 years to implement. WHY?

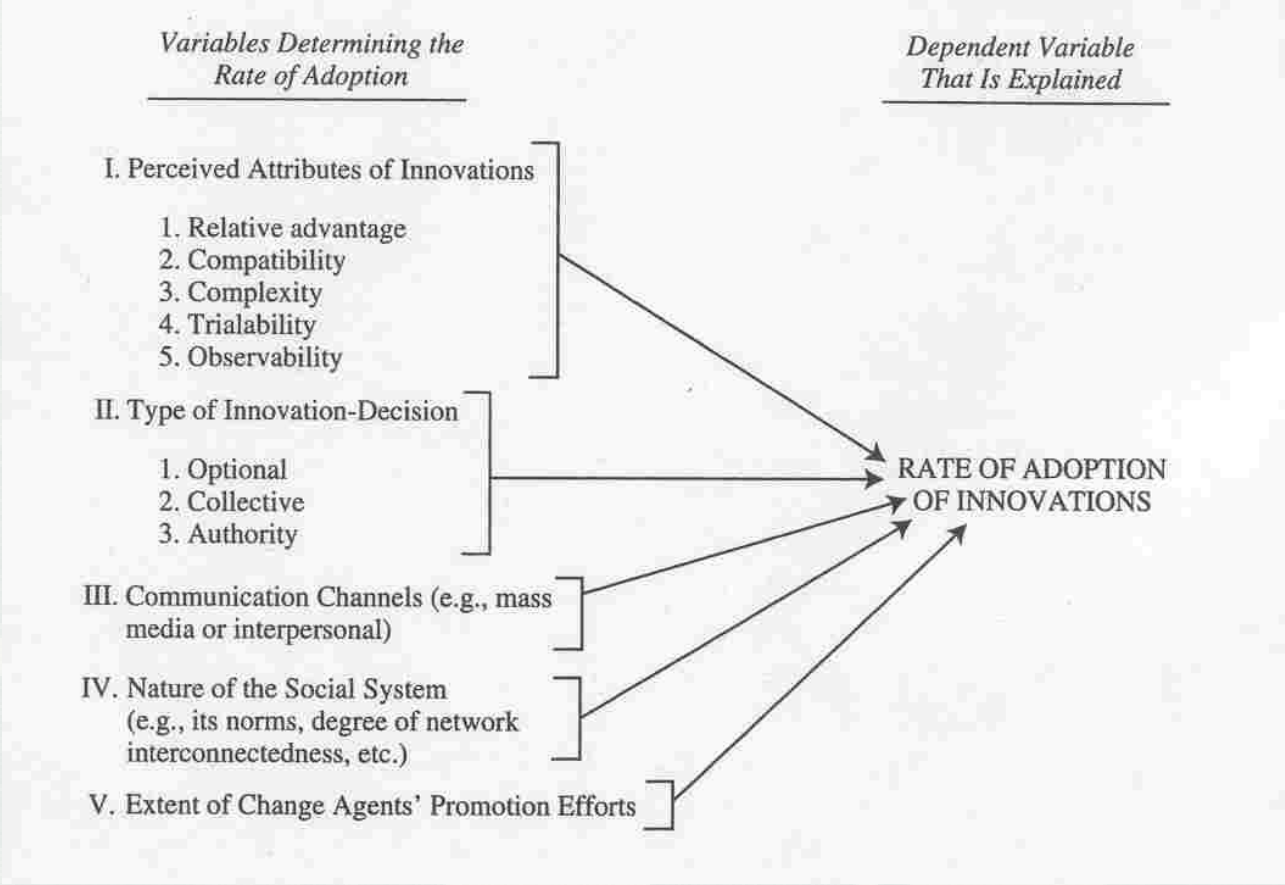
Example from Rogers, E., M., 1995. "Diffusion of Innovative Technologies," Simon and Schuster Inc. New York, NY

S-Shaped Diffusion Curve



Source: Rogers, E., M., 1995. “Diffusion of Innovative Technologies,” Simon and Schuster Inc. New York, NY

Variables Determining Rate of Adoption

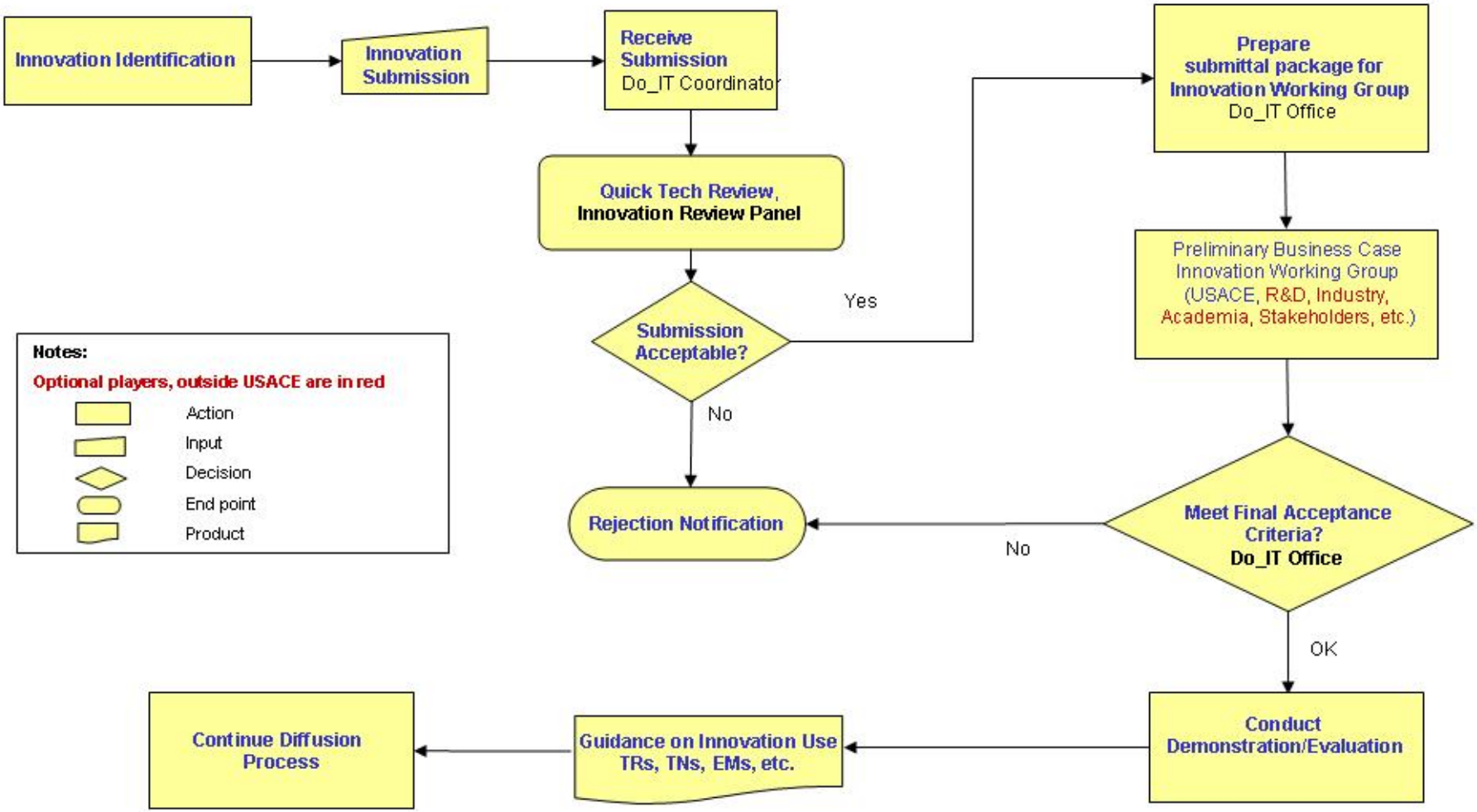


Source: Rogers, E., M., 1995. "Diffusion of Innovative Technologies," Simon and Schuster Inc. New York, NY

“Historically, there has been no programmatic or systematic approach to the demonstration, evaluation, and reporting of new or innovative applications of dredging technology in the Corps dredging program, and attempts to exploit innovations developed within and outside the United States have also been random and less than ideal.”

(McLellan and Hopman, 2000)

Do_IT Innovation Adoption Process (IAP)



Do_IT Website

Diffusion of Innovative Technologies (DoIT)

U.S. Army Corps of Engineers | Engineer Research and Development Center | Warning

- DoIt Home
- DoIT Innovation Submission Form

DoIT Information

- What is DoIT?
- How does DoIT Operate?
- What is IAP?
- Criteria
- Contact

What is the Diffusion of Innovative Technologies (DoIT) Work Unit?

Historically, there has been no programmatic or systematic approach to demonstrating, evaluating, and communicating information on new (innovative) dredging technology applications (diffusion) in the U.S. Army Corps of Engineers (USACE) dredging program. The Diffusion of Innovative Technologies (DoIT) work unit of the Dredging Operations and Environmental Research (DOER) program identifies mature innovative technologies that exhibit potential to improve the USACE capacity to achieve its **navigation dredging mission**, objectively demonstrates/evaluates these technologies, and conducts diffusion (technology transfer) activities to foster the successful implementation (adoption) of these technologies on a USACE-wide basis. These technologies cover a wide range of innovations that includes (but is not limited to) new types of dredging equipment, construction methods / techniques, software, surveying methods, tools, and contracting methods.

How Does DoIT Operate?

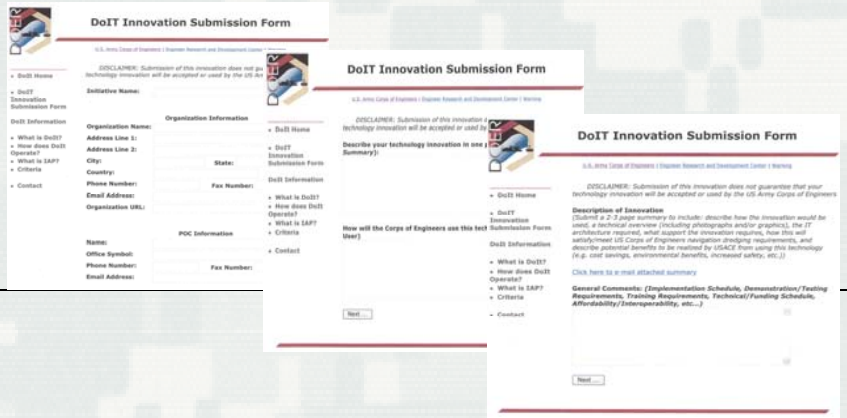
Innovation Identification:

There are several ways the DoIT work unit solicits innovation technologies; active and passive.

DoIT active steps for soliciting innovative technologies include:

1. Making contact with industry by holding "topic specific" as well as general forums for groups that have innovative dredging technologies
2. Contact other agencies (government and non-governmental) that have similar needs and, therefore, possibly similar innovative ideas that are being practiced by them or that have been submitted to them
3. A literature review is done periodically (at least two times per year) for appropriate technology

http://el.erdc.usace.army.mil/dots/doer/DoIT/doit.html



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