

X.11 Shared Technology Program*

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Subcontractors:

Houston Advanced Research Center, Houston, TX

NAVSEA-Carderock, Bethesda, MD

Start Date: February 2004

Projected End Date: October 1, 2006

**Congressionally directed project*

Objectives

- Catalogue 600 Navy unclassified patents into digestible technology clusters for the end user, industries.
- Certain of these patents which pertain to hydrogen issues will be highlighted as they are uncovered.
- The overarching goal of the Nicholls State University project is to establish a collaborative process with domestic industries for the purpose of sharing Navy-developed technology. The purpose is to educate private sector businesses to increase their awareness of the vast amount of technologies that are available, with an initial focus on technology applications that are related to the Hydrogen, Fuel Cells and Infrastructure Technologies (HFCIT) Program of the U.S. Department of Energy.
- Specifically, the project is working to increase the industry awareness of the vast technology resources available to them that have been developed with taxpayer funding. NAVSEA-Carderock and the Houston Advanced Research Center (HARC) are teaming with Nicholls State University to catalog NAVSEA-Carderock unclassified technologies, rating the level of readiness of the technologies and establish a web based catalog of the technologies. In particular, the catalog contains technology descriptions, including testing summaries and overviews of related presentations, an evaluation of the technology readiness, and other information on the following fields of interest related to hydrogen technologies.

Technical Barriers

- Not applicable

Approach

- Conversion of patents into digestible technology clusters

- Provide a technology readiness level (TRL) example of the type of activities that would characterize each TRL and the cost to achieve

Accomplishments

- A Technology Showcase was held September 14–16, 2004 with over 30 representatives from various energy industry companies. The showcase provided an overview of various technologies, knowledge and expertise available from NAVSEA-Carderock that could impact the progression of the development of technologies related to the advancement towards a hydrogen economy.
- Through partnership with South Central Industrial Association (SCIA), a full-fledge presentation of the technology transfer was made (April 19, 2005).
- Launched website for making technologies available with multiple gateways (SCIA, Nicholls State University, HARC).
- Published brochure for disseminating information
- Radio interviews for two programs with multiple broadcasts (details below)
- Published press release on project which went to several local newspapers

Future Directions

- Continue converting Navy technologies to user friendly documents and rating the level of technology readiness (levels 1-9-cf. www.nicholls.edu/sttp)
- Assist interested users in learning more of technologies; facilitating eventual licensing of Navy technologies by end users
- Make presentations to end users via trade association meeting and the media

Introduction

Over 600 Navy patents are available for technology transfer to several industries. Examples of particular interest to HFCIT include: hydrogen extraction from seawater (production), methane hydrate processing (production), carbon sequestration (production related), extremely high

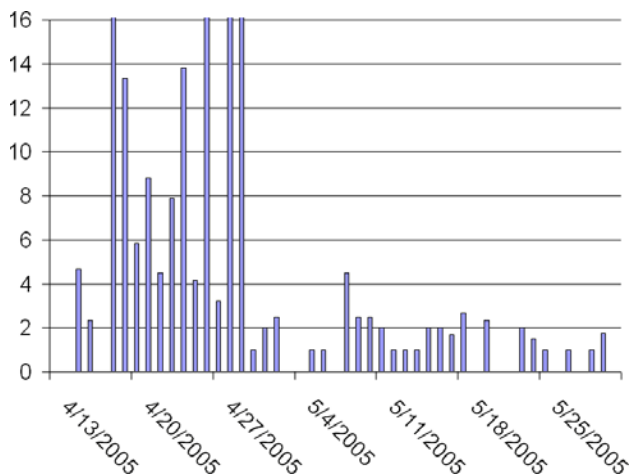


Figure 1. Visitors per Day for Period 4/13/05-5/30/05

pressure valves and seals (storage), sensors and monitoring systems (storage and/or safety), and advanced power sources such as fuel cells for marine application. Others that may be hydrogen related are yet to be identified.

Approach

The overarching goal of the Shared Technology Transfer Project (STTP) is to establish a collaborative process with domestic industries for the purpose of sharing Navy-developed technology. The purpose is to educate private business sectors to increase the awareness of these businesses to the vast amount of technologies that are available.

Over 600 Navy patents are available for technology transfer to several industries. Examples of particular interest to the Hydrogen Program include: hydrogen extraction from seawater (production), methane hydrate processing (production), carbon sequestration (production related), extremely high pressure valves and seals (storage), sensors, monitoring systems (storage and/

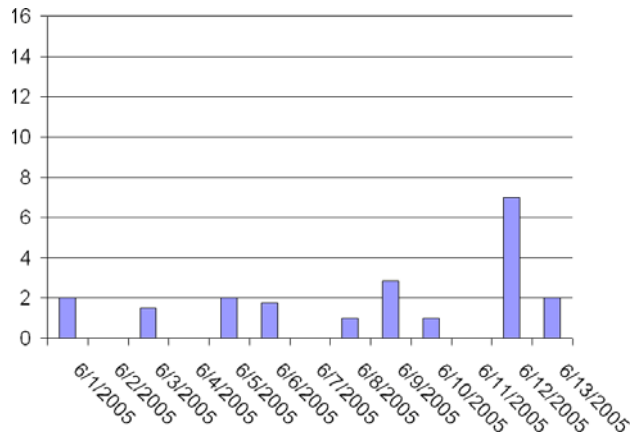


Figure 2. Visitors per Day for Period 5/1/05-6/13/05
(Website visited by an additional 44 visitors from May 1-July 13, 2005.)

or safety), and advanced power sources such as fuel cells for marine application. Others that may be hydrogen related are yet to be identified.

Primary organizations involved in the STTP include Nicholls State University, HARC, and the Naval Sea Systems Command Carderock Division.

FY 2005 Publications/Presentations

1. Publications of brochure and press releases
2. Technology showcase September 2004, Bethesda, MD
3. Professional organization presentation made April 19, 2005, Houma, LA
4. Presentations at DOE showcase Alexandria, VA, May 2005
5. Presented program to meeting of Gulf States Petroleum Exhibition & Conference (energy companies of New Orleans), April 21, 2005, New Orleans, LA.
6. Navsea demonstrated a technology May11-12, 2005
7. At the Oil Technology Conference, Houston, May 2-5, 2005, program information distributed at both the Navsea and DOE booths.
8. Made presentation and solicited interested at Texas A&M , March 31, 2005.