

“Strategic National Importance of DHS and Its University Programs”

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Outline: Two messages

- U.S. must maintain a strong DHS while working problems of unemployment, financial uncertainty and affordable health care.

Global and domestic factors related to intention and capability indicate risk and vulnerability for the foreseeable future.

- Suggestions for further enhancing DHS' competitive advantage, which is a highly committed, knowledgeable and innovative workforce supported by university partnerships.

Initiatives with modest cost.

September 11, 2001 Experience



Global Conditions/Settings Related to Hostile Intent

Geo Social: e.g. limited /religiously rooted education, government controlled media, and polarized news impacting perceptions and attitudes towards U.S.

Geo Economic: e.g. underemployment, unemployment and lack of opportunity impacting social unrest, anger and ease of exploitation.

Examples

Saudi Arabia (Wahhabism?) } religion is
N. Ireland (IRA/UFF?) } exploited

Central America – drug traffic; violent gangs penetrating
U.S.

Domestic Conditions/Settings Related to Vulnerability and Risk

- Openness of free society
- Challenging borders with Canada and Mexico
- Vast shorelines with exposure to Atlantic and Pacific
- Easy access to ports
- U.S. appetite for drugs
- Highest incarceration in world – mediocre K-12
- Phoenix, AZ is the U.S. kidnap capital (see Tim Gaynor, Reuters, October 8, 2008)
 - “We don’t have the violence they have in Mexico yet – the killing of police officers and the beheadings – but in terms of kidnappings and home invasions, it has come.” Phoenix Asst. Police Chief Andy Anderson, Newsweek, March 23, 2009.

Such global and domestic conditions establish the strategic national importance of DHS

➤ **Capabilities make the work of DHS very challenging**

- **sophisticated hacking**
- **self-propelled semi-submersible (SPSS) vessels**
- **next generation threat technologies**
- **cash from drug sales and sympathizers**
- **easy access to weapons**
- **?**

- **Current and future DHS challenges may be made more difficult because of**

Lack of systems approach in U.S. to foreign policy/aid, intelligence, security, trade, oil imports and ...

Examples:

Afghanistan/Taliban – first friend, then foe

China – concern for hacking and weapons sales, yet they hold our debt

Middle East -- dependency on oil, furnishing huge amounts of cash

Conditions for a Perfect Storm?

Scenario

- Many SPSS vessels arrive at a U.S. shoreline to attack a critical facility compromised through hacking.
- When called for assistance, avionics response team experiences mission failure.

Number of counterfeit electronic chips, chip sets and components

2005 --	3,397
2006 --	5,985
2007 --	5,747
2008 --	7,383

See Manufacturing & Technology News, November 17, 2008

Source: U.S. Department of Commerce Bureau of Security and Industry
Quote from BIS director “ ...dramatic impact from a cost and national security perspective.”

Best Practices?

Singapore's systems approach

(See – “Thinking about the Future: Strategic Anticipation and RAHS”, National Security Coordination Secretariat, 2008, edited by Tan Hong Ngoh and Hoo Tiang Boon)

RAHS = risk assessment and horizon scanning

Part II: Further enhancing -

DHS' competitive advantage – its committed, knowledgeable and innovative workforce supported by university programs

- **Focused, low cost initiatives to:**
 - **catalyze national awareness of DHS**
 - **cultivate employment interest**
 - **foster innovation in both R & D**
 - **create business and job growth from technologies that advance DHS' mission**

➤ **Begin Early – Grades 7-12**

Work with university partners to conduct regional pre-engineering and science programs based on competition.

Example: Underwater Robotic Vehicles Program in 36 socio-economically and academically diverse schools in New Jersey and New York City in Grades 7-12. NSF sponsored “Innovative Technology Experiences for Students and Teachers”

Use LEGO components, wire-guided switches, motors, etc. to design, construct and control robots to maneuver in 3-4 foot of water.

Goal: Catalyze national awareness of DHS’ mission and challenges in pre-college cohort.

➤ **Collegiate Level Initiative**

- **Begin CO-OP program with university partners
students spend 4 to 6 months, plus additional
summers, at DHS.**

**Goal: Cultivate DHS employment interest among
the undergraduate cohort with opportunity to
evaluate prospects.**

- **Innovation in R&D – for initial programs use university centers**
 - **Fund Fellowships for Innovation in Doctoral Research (post qualifying exam) to develop laboratory prototypes for technologies of interest.**
 - **Incentivize university-industry partnerships**
 - **Fast track HSARPA contracts to develop and test field prototypes of DHS interest.**
 - **Fast track procurement awards for qualified technologies.**
 - **Establish an Innovation Advisory Board**

Goal: Foster innovation in university R&D, with emphasis on the “D.”

- **Best Practices for Innovation in security technologies that lead to new businesses, job growth and broad opportunity.**
 - **Israel’s “Talpiot” (well built structure) Program.**
 - fostered an entrepreneurial ecosystem while meeting Israel’s defense/security needs.
 - (e.g. see Christopher Roads, WSJ, July 6, 2007)

Goal: Advance U.S. business and job growth while enhancing DHS capabilities.

Conclusions

- DHS is strategically essential to the U.S.
- With modest investments in its university programs, DHS can promote: wider national awareness of its strategic role, interest in employment, and innovation in R&D for tomorrow's homeland security technologies – staying ahead.

Thank you!