NATIONAL CENTER FOR MARITIME AND PORT SECURITY (NCMPS)

(A Research, Policy, Training, and Technology Consortium

Led by:

SRI International, St. Petersburg

In Strategic Partnership with

USF UNIVERSITY OF SOUTH FLORIDA

And

SPC St.Petersburg College
National Terrorism Preparedness Institute

SRI International

SRI International: Overview

- **Founded by Stanford University in 1946**
  - Independent nonprofit in 1970, and changed name to SRI International in 1977 from Stanford Research Institute
  - Acquired Sarnoff Corporation in 1987 (formerly RCA Laboratories)
- **Combined power of 2,000 staff members**
  - 1,000+ with advanced degrees
  - Consolidated annual revenues of $300 million
- **More than 20 offices worldwide**
  - Recently added 2 new offices: St. Petersburg Marine Technology Program and Harrisonburg Center for Advanced Drug Research




SRI International: Areas of Expertise

Pharmaceutical Discovery & Development

- Drug discovery
- Immunology
- Cancer biology
- Neurobiology
- Neuropharmacology
- Toxicology
- Pharmacokinetics & metabolism studies

Policy

- Science & Technology Evaluation
- Technology in learning
- Education & human services
- Health sciences
- Addiction
- Aging
- University & workforce
- Economic development

Information & Computing Sciences

- Artificial intelligence
- Speech recognition
- Human-computer interaction
- Network security
- Image & signal processing
- Bio-Computational Research

Physical Sciences

- Molecular physics
- Chemistry & chemical engineering
- Electrochemistry & polymers
- Energetic & advanced materials
- Structural failure
- Imaging Materials and Modalities
- Nanotechnology

Engineering & Systems

- Marine technology
- Penetrating radar
- Remote sensing
- Ionospheric & space sciences
- Bioengineering
- Diagnostics
- Trauma Pod

Information, Telecommunications and Automation

- Distributed information processing
- Mobile & wireless communications
- Command & control systems
- Network modeling
- Automation & robotics

SRI St. Pete Marine Technology Program
Core Capabilities

- Ocean Operations (UUVs & ROVs)
- Ocean Engineering
- General Engineering
- In-Situ Chem Bio Sensors
- In-Situ Mass Spectroscopy
- Optics
- Acoustics (U/W Anomaly Detection)
- Microelectromechanical Systems
- Maritime and Port Security

National Center for Maritime and Port Security: Background

- Homeland Security Act of 2002
  - Established University Based Centers of Excellence in DHS S&T
  - Port security in Congressional language
- USF founded NCMPS Consortium in 2004 with state and private funding
  - Initially a teaming arrangement to respond to anticipated BAA
- Seven centers established to date - DHS determined port security center we envision would be too applied
- Continued Consortium activities due to congressional encouragement and investment in USF ocean technology development
- Congressional plus up in FY-07 Defense Budget
  - "Comprehensive Maritime Domain Awareness"
- Comprehensive approach developed due to BAA teaming experience

National Center for Maritime and Port Security: Goals and Partners

- Center Goals:
  - Foremost experts in maritime domain awareness
  - A comprehensive center of excellence that brings together the nation's experts on detecting, preventing, responding to and recovering from terrorist events and disasters in ports and elsewhere in the maritime domain
  - Leaders in marine sensors, marine sensor data fusion, automated analysis and display of integrated anomalous information
  - A trusted agent to the maritime industry and the government
  - Do not impede commerce

- Consortium:
  - Academia, Industry, and Ports (Representative Listing)
    - University of South Florida (College of Marine Science)
    - St. Petersburg College (National Terrorism Preparedness Institute)
    - SSA Marine (Marine Terminal Operator)
    - Port of Tampa
    - SAIC (Networked Radar/Camera Systems)
    - STS International (Networked Port Security Systems)

*Expressed interest/signed MOU

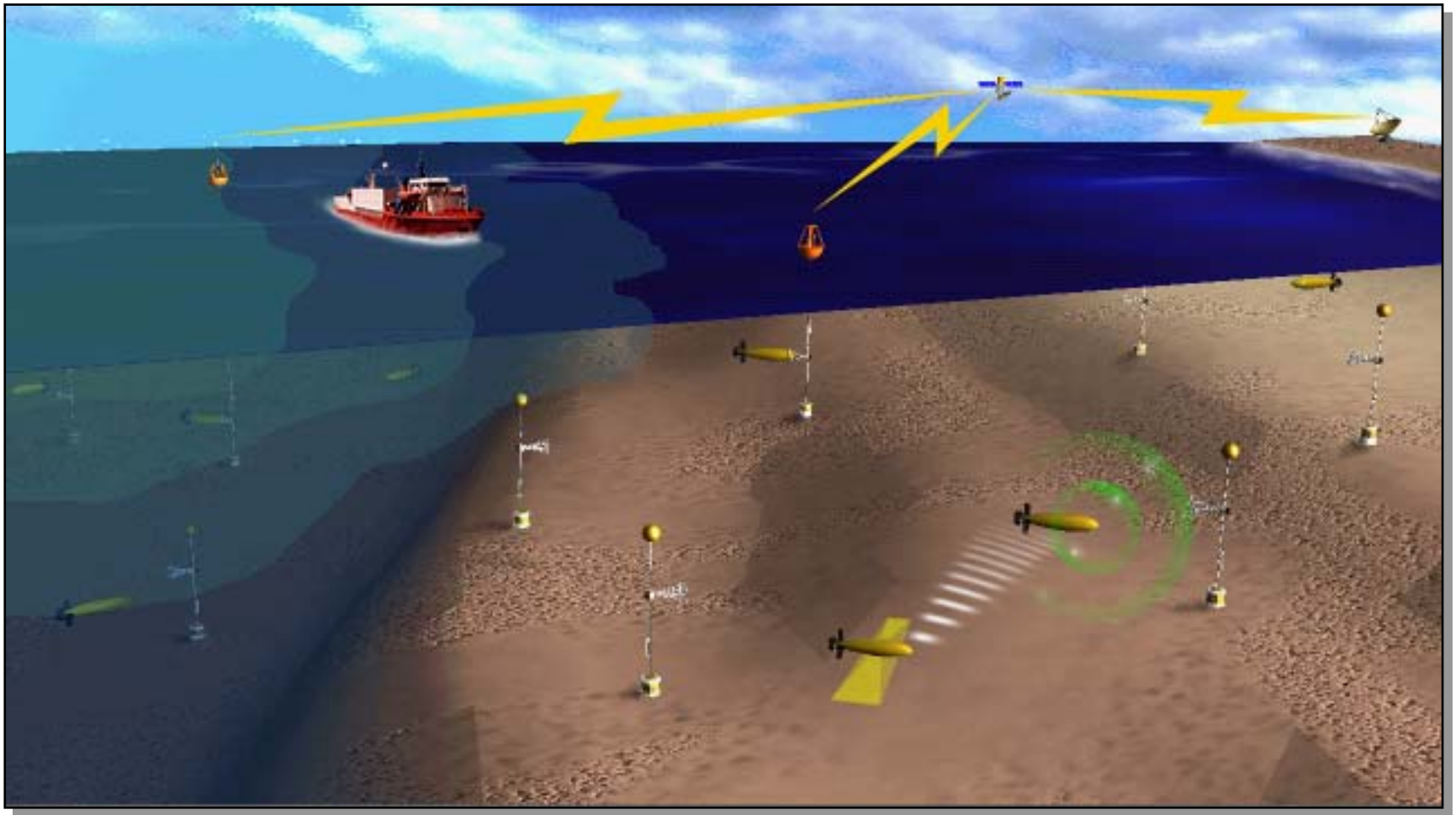
National Center for Maritime and Port Security: Focus is Maritime Domain Awareness

- Functional Areas Include:
  - Risk analysis and disaster response
    - (detect, deter, respond, recover)
  - Standards, policy and requirements
  - Access and security
  - Supply chain integrity
  - C^4ISR
  - Education and training
  - Environmental information
  - Marine sensor data integration
  - MDA Test Bed (Tampa Bay)

- Research, development and technology applied to functional areas to mitigate gaps in capability

Comprehensive Maritime Domain Awareness System (MDAS)

MDAS In-Water Focus



National Center for Maritime and Port Security:
Current Activities

- Funding for FY07 to initiate significant Center activities
  - Analyzing selected port vulnerability assessments/mitigation plans and conducting gap assessments
  - Identifying the best port security sensors information sources and training/education
  - Finalizing consortium and hiring staff

- Major Project: Comprehensive Maritime Domain Awareness System
  - Developing Maritime Domain Awareness System (MDAS) using Navy developed Area Security Operations Command and Control (ASOCC) and Framework for Anti-Terror Information Management) (FrAIM) Systems as a base to provide visualization in a common operating picture
  - SPAWAR New Orleans – ASOCC
    - Information sharing network to provide situational awareness
  - SPARWAR San Diego – FrAIM
    - Collects data from maritime sensors and uses algorithm to project anomalies
  - Integration of two systems for maritime/port environment accepted as project by SPAWAR New Orleans
    - Funded jointly with St. Petersburg College National Terrorism Preparedness Institute
  - Ultimate Goal – Multi-Sensor MDAS and real time automated activity/threat analysis

Major Activity
Tampa Bay MDAS Test Bed; Five Year Plan

- Year one
  - Needs and policy analysis, determine requirements, initiate integration of radar, sonar and optical/IR camera sensor data, begin training & education activities, landside IED detection, sensor system R&D
- Year two
  - FAA air picture, selected landside sensors, selected environmental sensors, establish modeling and simulation/data fusion facility, landside IED detection integrate commercial information, demo in stakeholders command centers
- Year three
  - UAV, UUV, environmental system, landside system, Instrumented Tng., buoy system, integrate government and open source information Demo, R&D
- Year four
  - Integrate new sensors/technology, exercises, Integrate classified information, commercial applications, waterside IED detection, technology transfer, in
- Year five
  - Continue operations, self sufficient

MDAS Test Bed; Tampa Bay
Organization

Project Supervisor
Larry Langebrake
Program Director, MTP

Project Advisor Group Leader
Bill Merlin

Principal Investigator
Gary Brown

Chief Systems Engineer
Dennis Holeman

Contracts
Lori Mazzei

Project Administration
Phil Kelley

Systems Integration
John Kamen

Test Bed Development
Mike Smith

Software Integration
Duane Bedell

Training & Education
Gary Abernathey

Demos & Field Tests
John Kloske

Commercial Applications
Dick Grenville

Risk Analysis Sensors Security
Bill Dewitt

Requirements Policy Standards
Jarvis Lynch

Environmental Applications
Mark Luther

National Center for Maritime and Port Security: Training and Education

- Conducting needs assessment (requirements) and surveying available programs
- Developing targeted academic relationships
- Working with St. Petersburg College to develop AA and baccalaureate degree programs and with University of South Florida to develop graduate programs in maritime security
- Working with Maritime Administration to develop standard course for facility and vessel security officers
- Determining certification courses to be conducted at NCMPS
- Developing Modeling and simulation capability for Coast Guard R&D Center

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