



2010 ONR Naval S&T Partnership Conference

Next Generation Technologies for Today's Warfighter



ONR Global Overview

**CAPT David Maynard
Commanding Officer**

O F F I C E O F N A V A L R E S E A R C H

ONR Global History



- **1946** – ONR Branch London Office created to survey, assess and report on European S&T Activities
- **1974** – ONR Tokyo Office opened to liaise and assess Asian S&T activities. OSD supports a consolidation of military service efforts at a European Tri-Service Office in Edison House, London, UK
- **2003** – ONR Global formed through the merger of the Naval Fleet/Force Technology Innovation Office and the International Field Office
- **2004** – ONR Global Americas established at US Embassy Santiago
- **2006** – ONR Global Commanding Officer's location moved to US Embassy Singapore
- **2010** – ONR Global Central / Eastern Europe established at US Embassy Prague

ONR Global Mission

To search the globe for promising, emerging scientific research and advanced technologies to enable the Office of Naval Research to effectively address current needs of the Fleet and Force and to investigate and assess revolutionary, high-payoff technologies for future Naval missions and capabilities.



ONR Global Mission: Key Objectives



Discovering the Best Science

- Innovative fundamental research
- Help shape Future Naval Investments and Strategies
- Leveraging great minds globally with positive engagement

Maintain Global Technical Awareness

- Support preventing technological surprise
- Fundamental research is most transparent
- Contributing open source data to Global Technology Awareness

Science & Technology Collaborations

- Advancement of mutual beneficial science
- PI's free to publish
- Work to leverage DoN research efforts to support great USG strategic engagement goals

World Class S&T Talent

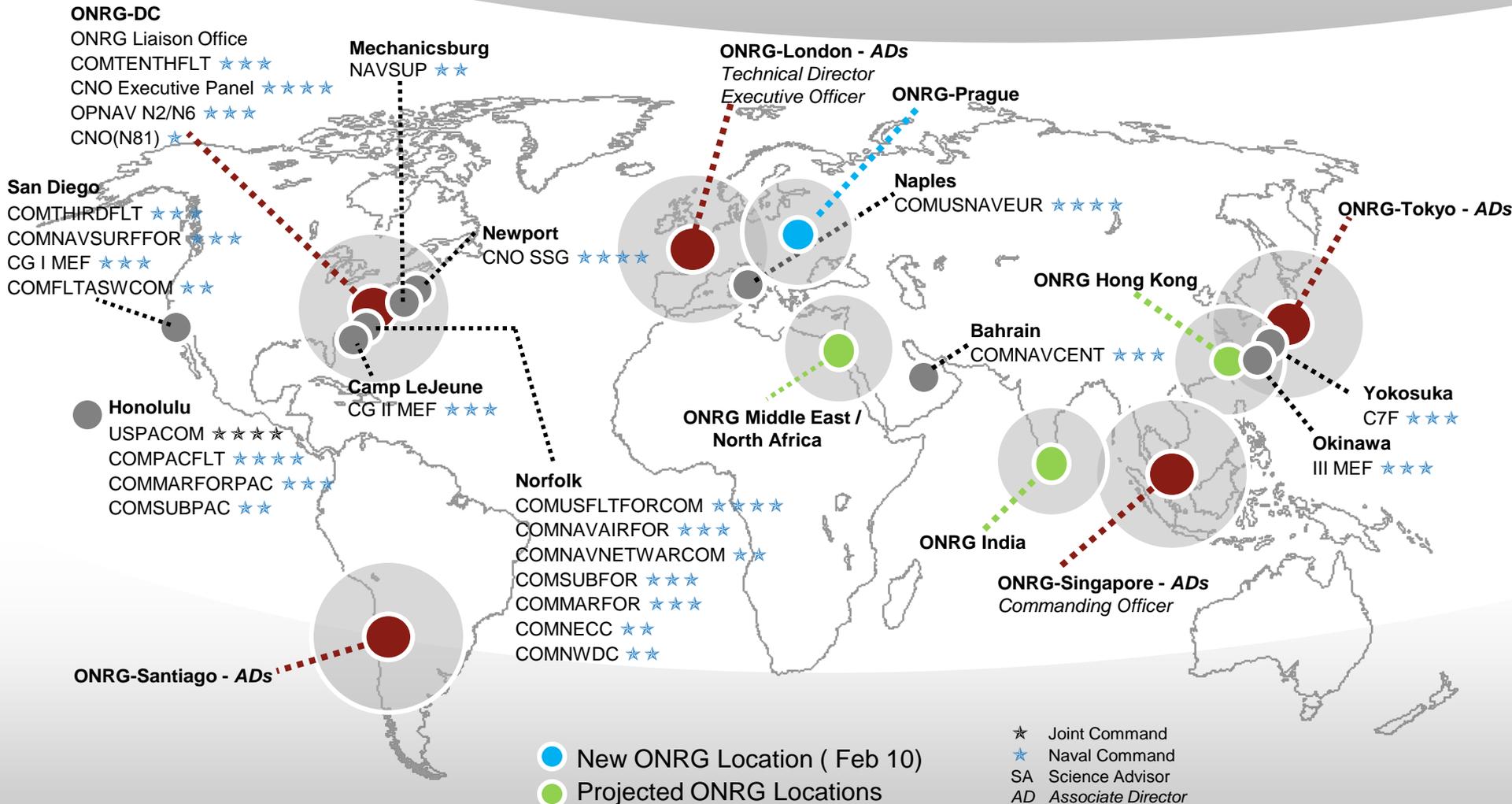


ONR Global personnel positioned across the Globe and the Naval Fleet/Force – PhD & Masters Level proven professionals

- Fleet/Forces Division (26 Science Advisors)
 - Assigned to Major GO/FO Commanders as S&T expert advisors
 - Chief of Naval Research's Ambassadors to the Fleet/Force
 - Predominantly Masters Level Engineering Scientists experienced with the Naval acquisition process
- International Science Program (26 Associate Directors)
 - Assigned to ONR Global's Regional Offices (Singapore, London, Prague, Tokyo, & Santiago)
 - Global Technology Scouts for the ONR / Naval Research Enterprise (NRE)
 - Predominantly PhD Level Scientists well versed in Basic & Applied Research

ONR Global Presence Today

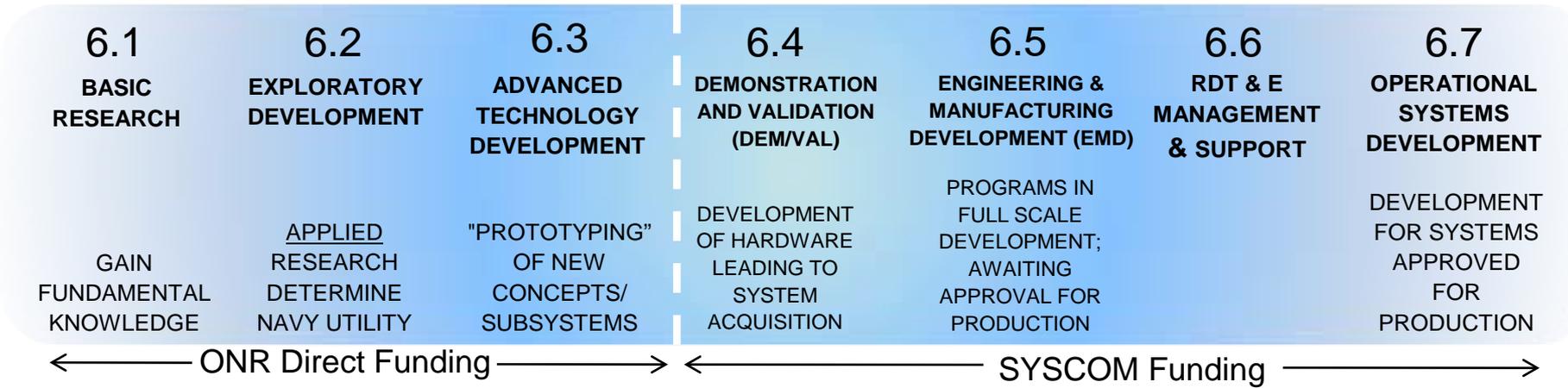
...with an eye on tomorrow



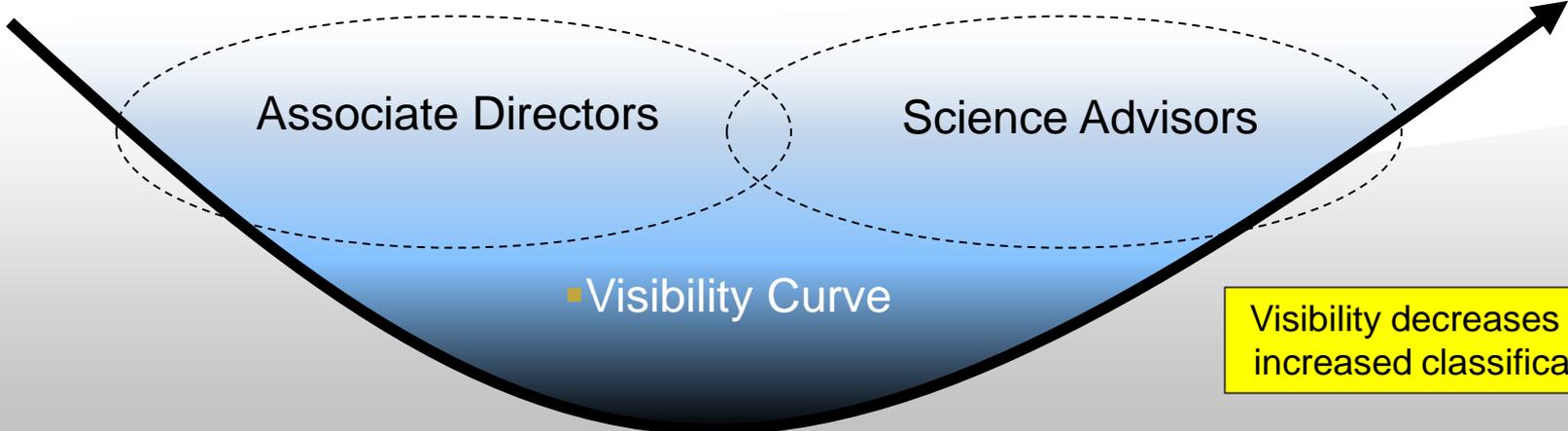
ONR Global Networking: *Roles & Areas of Interest*



Journey from Idea to Program of Record and the Fleet/Force



BASIC ← S&T Research → APPLIED



Bringing People Together with Science Tools



Conference Support Program (CSP)

- Support foreign or international workshops and conferences of Naval interest

Liaison Visits

- ONR-Global technical staff visit international institutions to develop access and discover cutting edge S&T

Visiting Scientist Program (VSP)

- Support travel of foreign scientists to the US to socialize new S&T ideas or findings with the NRE

Naval International Cooperative Opportunities Programs (NICOP)

- Support the insertion of innovative, international S&T into core ONR and NRE Programs



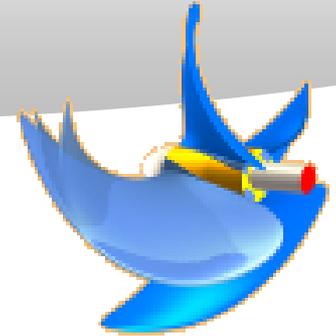
Small investments early lead to significant results

ADs Making a Difference (Examples)



Reducing Total Ownership Costs:

- Pitch-Adapting Propeller - Tip of composite propeller blade redesigned to deform as it rotates through non-uniform flow, resulting in improved efficiency, lower maintenance and life-cycle cost savings – partnered with German scientists.



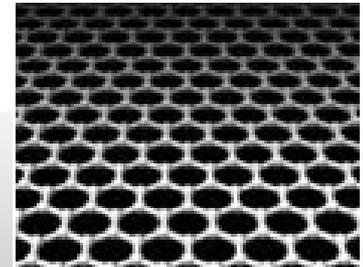
Waterway Security:

- Swimmer Detection - Multi-node swimmer detection sonar network
Multiple nodes reduce interference from scattering and reduces false targets – partner with Singapore.



Graphene:

- Graphene is a single-atom-thick sheet of carbon atoms arrayed in a honeycomb pattern and is considered the strongest material ever discovered that can also conduct electricity better than silicon – partner with UK's Dr. Geim, who won the Nobel Prize in Physics in 2010 for his research on graphene.



SAs Making a Difference (Examples)



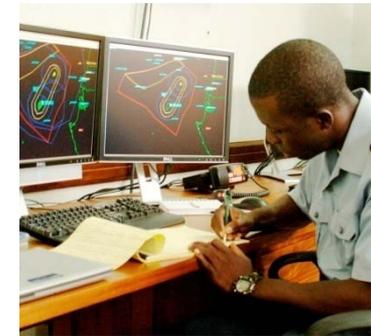
Riverine & Intercoastal Operations (RIO) JCTD:

- Real Time distributed surveillance and communications networks
- Persistent Joint and Coalition Warfighter riverine presence
- Jim Fowler, SA to NECC, participating in the demonstratoin
- NICOP funds used by COTECMAR Team to support the Colombian participation in RIO



Regional Maritime Awareness Capability (RMAC):

- Coastal surveillance program to provide awareness of sea traffic
- Concept established by SA to C6F, NAVEUR
- Gulf of Guinea
- Supported the Creation of the Sao Tomean Coast Guard



S&T Deployment to Afghanistan:

- Mr. Eric Evans, SA to I MEF went to theater to gain awareness and utility of S&T capabilities sent to theater
- Several key lessons learned
- Plans to return again this Fall



Customers & Connectivity



Making Global Connections



Global unity of the command fosters S&T networking across **Regions** and the Fleet/Force

Summary & Contacts



ONR Global

- Provides worldwide presence, ensuring technology awareness and access to global science and innovation for the Navy's Next Generation Technologies
- Embeds scientists/engineers in the Fleet Forces to coordinate the Commander's S&T interests and concerns back to the Naval Research Enterprise (NRE)
- Aids in delivering mature solutions to the Fleet Forces through ONR

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