

SNAME

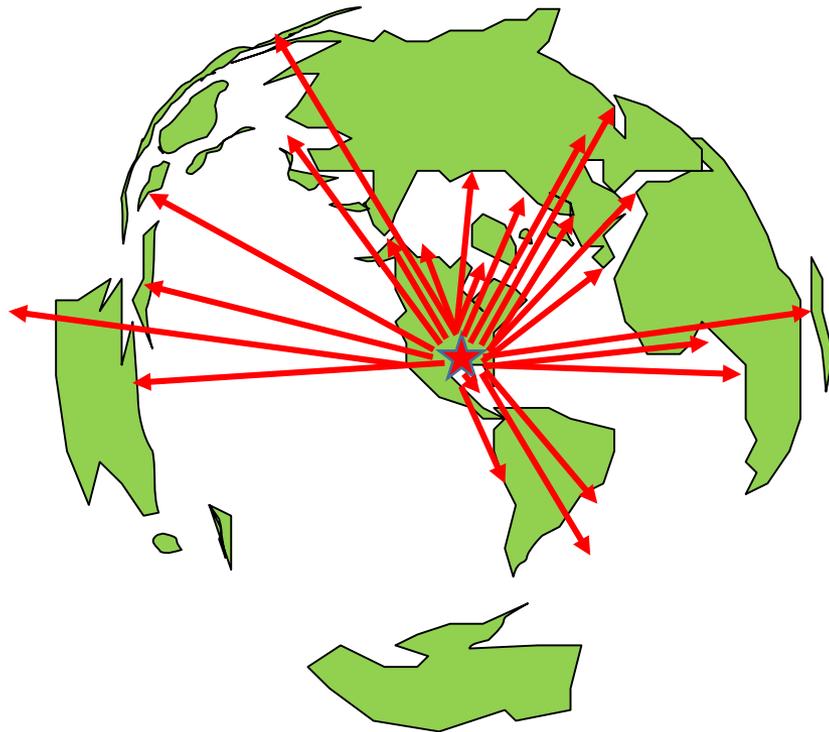
All over the World

Peter G. Noble

President, SNAME

Welcome to Houston, Texas

epicenter of a significant part of SNAME's professional activity



“We are everywhere, man!”

Alaska		Iraq
Algeria		Japan
Angola		Korea
Arctic		Kuwait
Brazil		Malaysia
Canada		Mexico
Caspian		Netherlands
China		Newfoundland
Columbia		Nigeria
Cyprus		Norway
Egypt		Peru
Fallands		Qatar
Finland		Saudi Arabia
France		Singapore
Ghana		Spain
Indonesia		Trinidad
Ireland		UAE
Italy		UK

Equidistant Azimuth Projection centered on Texas

Chair Elect Seminar – June 2014

Planet Ocean

- We live on a planet that we mistakenly call “Earth”, but I have it on good authority that Martians and other space aliens call it “Planet Ocean”

~ 70% of the earth’s surface is covered by water

~ 80% of the world’s population lives within 200 km of the coast

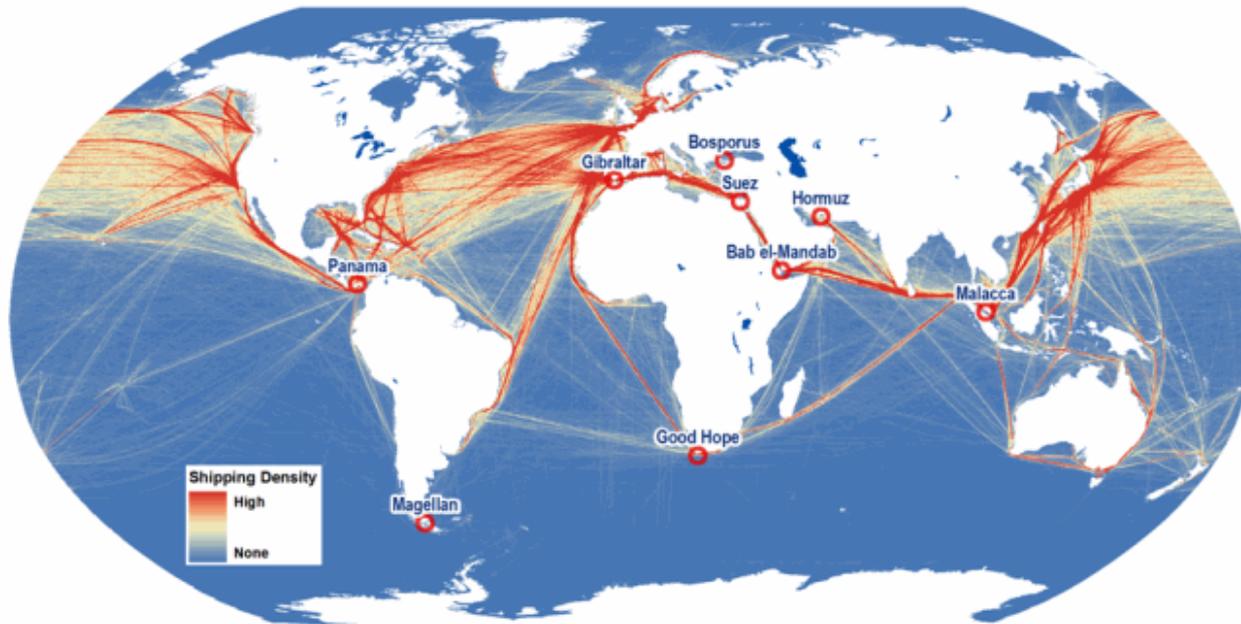
~ 90% of the world’s trade volume moves by sea

~ 100% of life as we know it depends on water



Oceans connecting People

- Some may think that the oceans separate us when in fact the Oceans connect us.



- And that's why we, as maritime and ocean professionals, are amongst the most important people on this planet.

SNAME Sections

- SNAME is first and foremost a forum for individual professionals to exchange ideas and knowledge. We are a people-centric organization
- Our volunteer-run Sections are critically important in fulfilling our Society's mission by
 - Providing regular meeting places for networking and the exchange of information and knowledge.
 - Producing papers and presentation which expand our SNAME database of useful knowledge
 - Being the principal avenue for recruiting of new members and retaining existing members
 - Being “engines of ingenuity” in developing new activities and opportunities for our members

Examples of Innovation at Section Level

- World Class **Chesapeake Sailing Yacht Symposia** and **Chesapeake Motorboat Symposia**, run by SNAME Chesapeake Section.
- Leading international symposium on ships and structures in ice, **IceTech** series, has been run by our smallest section (Arctic -29 members) for a quarter of a century.
- **Annual Offshore Symposium** – Texas Section
- **Mentor-for-a-Day** program developed by Texas Section and run at OTC each year.
- **STEM students** participating in our annual technical meetings – PNW and Texas Sections
- **Young Professional Groups** active in several Sections

The Biggest Challenge in our Profession is People

- We need to continue to attract new talent into our professional field.
- Today it is increasingly challenging to attract young people, even those who may have science, technology, engineering and mathematics, STEM, inclinations, into the “traditional” engineering versus work in robotics, nano-technology or outer space developments
- There is a misperception that there is little scope for creativity and innovation in the “old marine industries”.
- Nothing could be further from the truth in the marine and offshore world. Let me explain....

What the Oceans Mean to Us

- The oceans from the Tropics to the Arctic present opportunities to accommodate the ever-increasing needs of the world's population for new sources of -
 - Trade and Transportation
 - Energy
 - Food
 - Living Space

Continued Need for Creativity

*Scientists seek to **understand what is,***

*Engineers seek to **create what has not yet been.***



Theodore Von Karman
CalTech & Jet Propulsion Laboratory

The Philosophy of Engineering

*“**Design & Invention** cause things to come into existence from ideas; they **make the world conform to thought**; whereas **Science**, by deriving ideas from observation and analysis; **makes thought conform to existence.**”*



Carl Mitcham, Philosopher, Prof of Liberal Arts and International Studies, Colorado School of Mines

Ocean Space Technologies

- Development of our ocean space will produce more tangible benefits for humankind in a shorter time frame with less cost than outer space exploration – (Read Arthur C. Clarke's *The Deep Range* as well as his more famous *2001 A Space Odyssey*)
- Today, almost 250 years after James Watt perfected the steam engine which ignited the Industrial Age, we are in a position to develop new ocean technologies which will prove to be as game changing.
- These technologies include
 - Large Scale Robotic and Autonomous Systems
 - Information Systems which monitor the ocean space
 - Energy Harvest on, in and under the oceans
 - Advanced Materials development compatible with the ocean environment
 - Ocean Aquaculture and Ranching for Food and Pharmacology purposes

Frontier Offshore Activities - Deepwater and Arctic



Ocean Energy Extraction



Wind Powered Ships



Gas Ships



Multi-Hulls



Ocean Aqua-Culture



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Unmanned Ships



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Remote and Autonomous Machines to work on the Deep Ocean Floor



Autonomous Sea-Bed Drilling

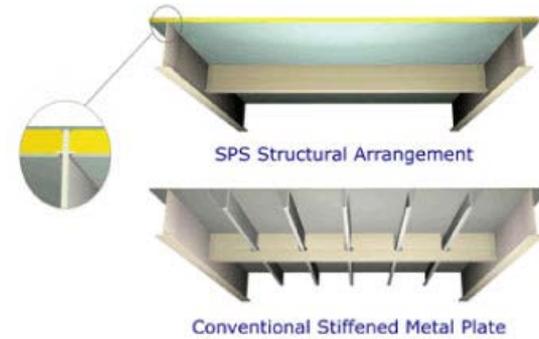


Sea floor Mining Tools

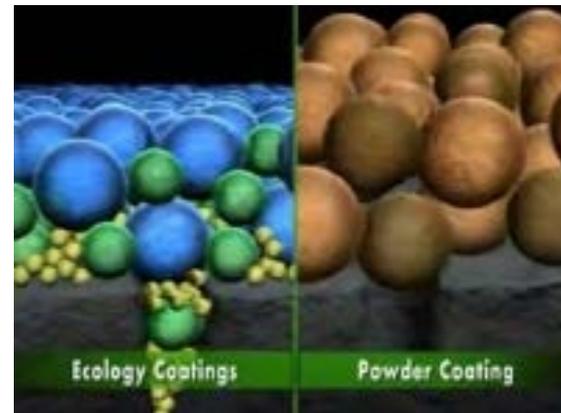
Materials Technology Developments



Carbon Fiber and Titanium Risers



Sandwich Plate Technology



Nano-technology Coatings

Underwater Vehicles



Ships that Fly



CONCLUSIONS

- There is a wealth of opportunity in Marine and Offshore sectors to create innovative solutions to develop our ocean resources in an efficient and responsible manner.
- The key to this will be to have well educated, enthusiastic and innovative professionals, who will be able to identify opportunities and develop sustainable solutions.
- SNAME can play an important part by expanding its membership both geographically and by professional sector and by providing through-career professional development and competence training and certification.

The Future starts Now



*So in the words of Captain Jean-Luc Picard
let us "Engage" & "Make it so."*