

# The Maritime Safety & Security Center:

## CYBER SECURITY RISK AND COMMERCIAL SHIPPING

*CCICADA Cyber Security Summit - March 2015*



MARITIME SAFETY  
& SECURITY CENTER

## Maritime Security Programs

What's the **CYBER RISK**?

We Really Don't Know for Sure ...

Modern Technology Changes with the Speed of Light ... So Does the Risk ...

Some of the Known Risks: GPS Spoofing; Control Systems Corruption ... OTHERS?



### **RULE OF THUMB:**

OLDER VESSELS are Less Cyber Vulnerable than NEW VESSELS –

Simpler Mechanical Control Systems vs Fully Integrated Electronic Control Suites ...

**SIMPLE/REDUNDANT/  
EASY TO FIX  
is STILL BEST**



**TREND IS TO 100%  
AUTOMATION:**

SHOULD WE  
REALLY BE  
CONSIDERING  
**ELIMINATION OF  
THE HUMAN  
ELEMENT** FROM  
ACTIVE  
ENGAGEMENT IN  
SHIPS SYSTEMS ?





**ARE WE MAKING IT HARDER  
... OR EASIER ???**



**WHAT'S COMING?** The **VALUE PROPOSITION** FOR INDUSTRY looks to **MAXIMIZE EFFICIENCY** and **REDUCE COST** – A FUNCTION OF **MANAGED RISK**  
... but to Manage Risk, We need to Know How to Describe and Define it ...



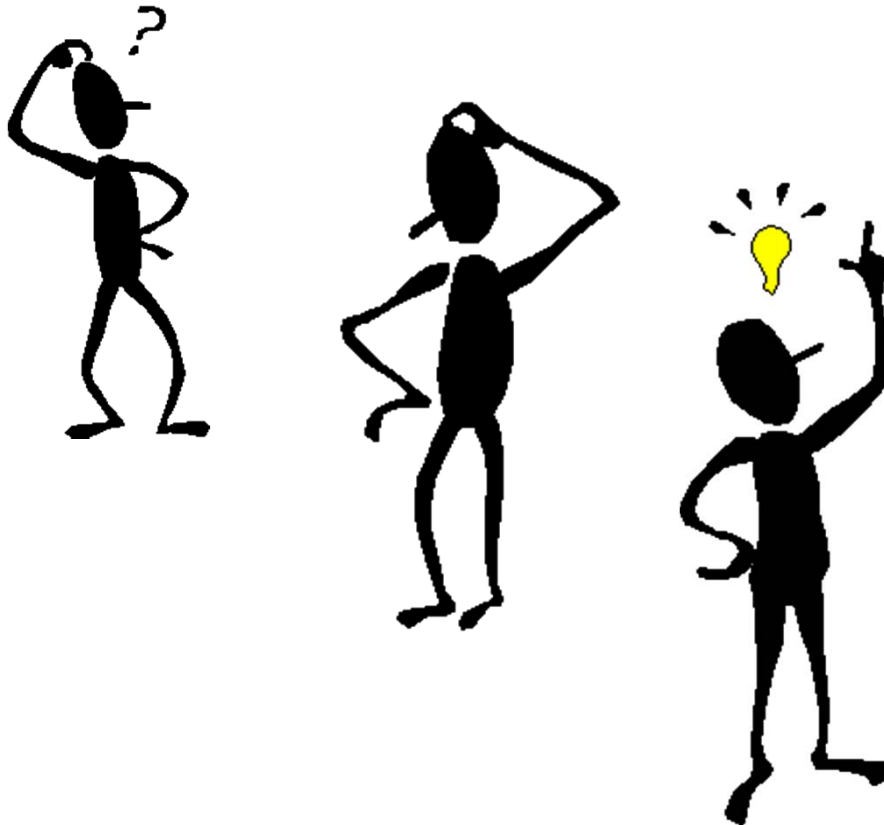
Industry makes Business Decisions by Balancing Risk vs. Return on Investment  
INDUSTRY WILL IMPLEMENT SOLUTIONS **MANDATED BY REGULATION** and **BASED ON DEMONSTRABLE RISK;** WITH TECHNOLOGY - THEY OFTEN FOLLOW THE LEAD OF THE MILITARY – i.e. DARPA, ONR, USCG R&D  
TO BE EFFECTIVE, REGULATION MUST BE GUIDED BY **EDUCATION & DETERMINATION OF FACTS** - AND A POLICY THAT INCLUDES INDUSTRY AS AN EQUAL PARTNER.

**MORE RESEARCH & TESTING NEEDED TO VALIDATE VULNERABILITY ASSUMPTIONS & DEFINE VALUE ADDED SOLUTIONS**



HOW ABOUT **PRACTICAL TESTING** ON MARITIME ACADEMY TRAINING SHIPS AND MSC VESSELS AS A NEXT STEP?

**THANK YOU !!!**  
**ANY QUESTIONS ???**



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