Maritime Security Challenges in the Global Maritime Commons
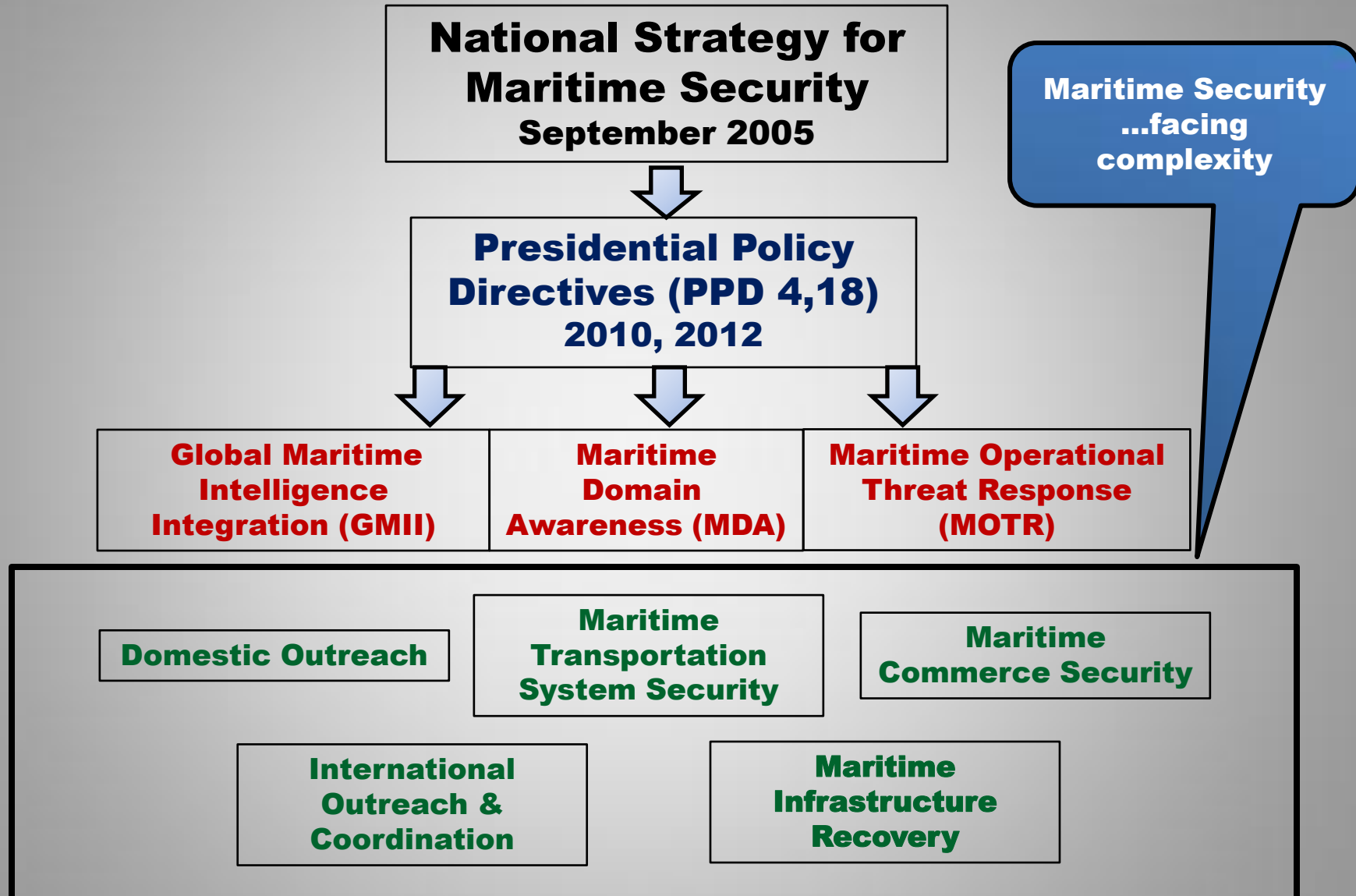
Critical infrastructure resilience amidst complexity and uncertainty
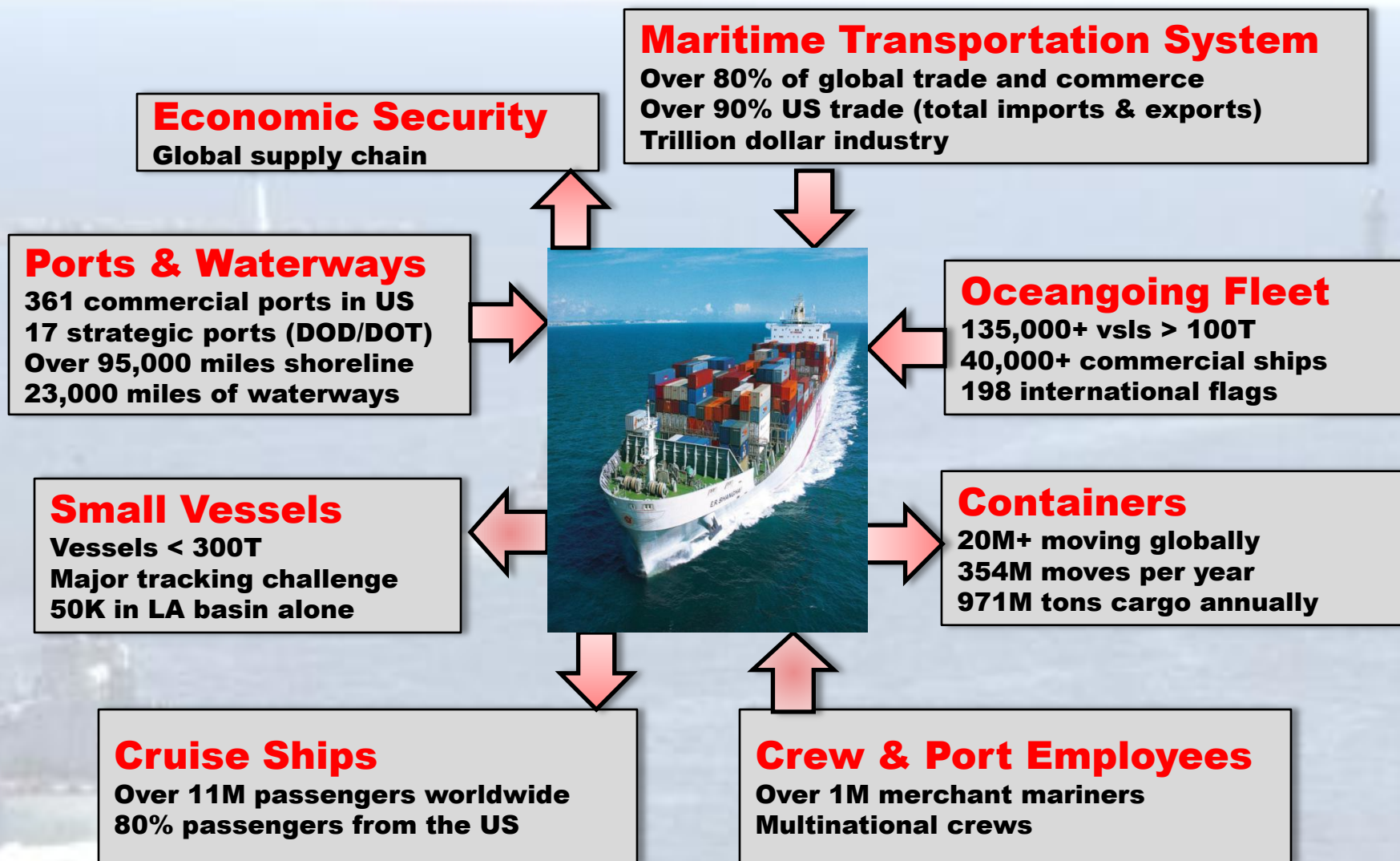

Dane S. Egli, PhD
Johns Hopkins University
November 2012

National-level Policy Implementation

National Strategy for Maritime Security
September 2005

Maritime Security ...facing complexity

Presidential Policy Directives (PPD 4,18)
2010, 2012

Global Maritime Intelligence Integration (GMII)

Maritime Domain Awareness (MDA)

Maritime Operational Threat Response (MOTR)

Domestic Outreach

Maritime Transportation System Security

Maritime Commerce Security

International Outreach & Coordination

Maritime Infrastructure Recovery

Highly complex global maritime transportation network of vessels, people, cargo, infrastructure

Maritime Transportation System
Over 80% of global trade and commerce
Over 90% US trade (total imports & exports)
Trillion dollar industry

Economic Security
Global supply chain

Ports & Waterways
361 commercial ports in US
17 strategic ports (DOD/DOT)
Over 95,000 miles shoreline
23,000 miles of waterways

Oceangoing Fleet
135,000+ vsls > 100T
40,000+ commercial ships
198 international flags

Small Vessels
Vessels < 300T
Major tracking challenge
50K in LA basin alone

Containers
20M+ moving globally
354M moves per year
971M tons cargo annually

Cruise Ships
Over 11M passengers worldwide
80% passengers from the US

Crew & Port Employees
Over 1M merchant mariners
Multinational crews

Complex system of interconnected, interdependent, intermodal, simultaneously operating cross-domain supply chains

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For example...
Port of New York/New Jersey

Crossroads of international commerce
NYC population over 8 million
PANJNY 2012 budget $7B
Nation's #2 container port
1,340 acres of port terminal

2,000 waterways
2 Foreign Trade Zones (FTZs)
3,500 longshore workforce
2011 TEU containers 5.3 million
80 tenants across business sectors

JFK International Airport
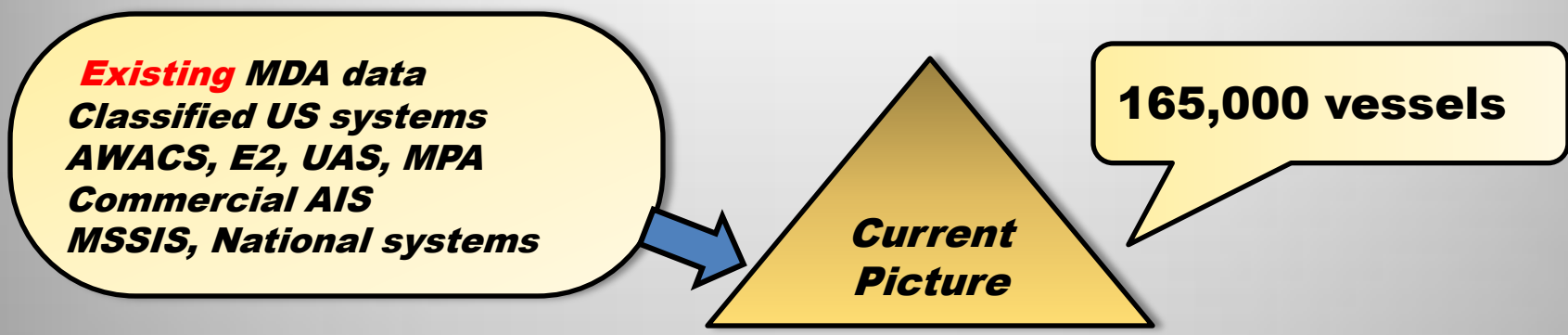## "Daniel Castillo walked in dripping wet…" 13 Aug 2012 USA Today

National-level Policy Implementation

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↓

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Maritime Security ...facing uncertainty

↓ ↓ ↓

Global Maritime Intelligence Integration (GMII) | **Maritime Domain Awareness (MDA)** | **Maritime Operational Threat Response (MOTR)**

Domestic Outreach

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UNCLASSIFIED
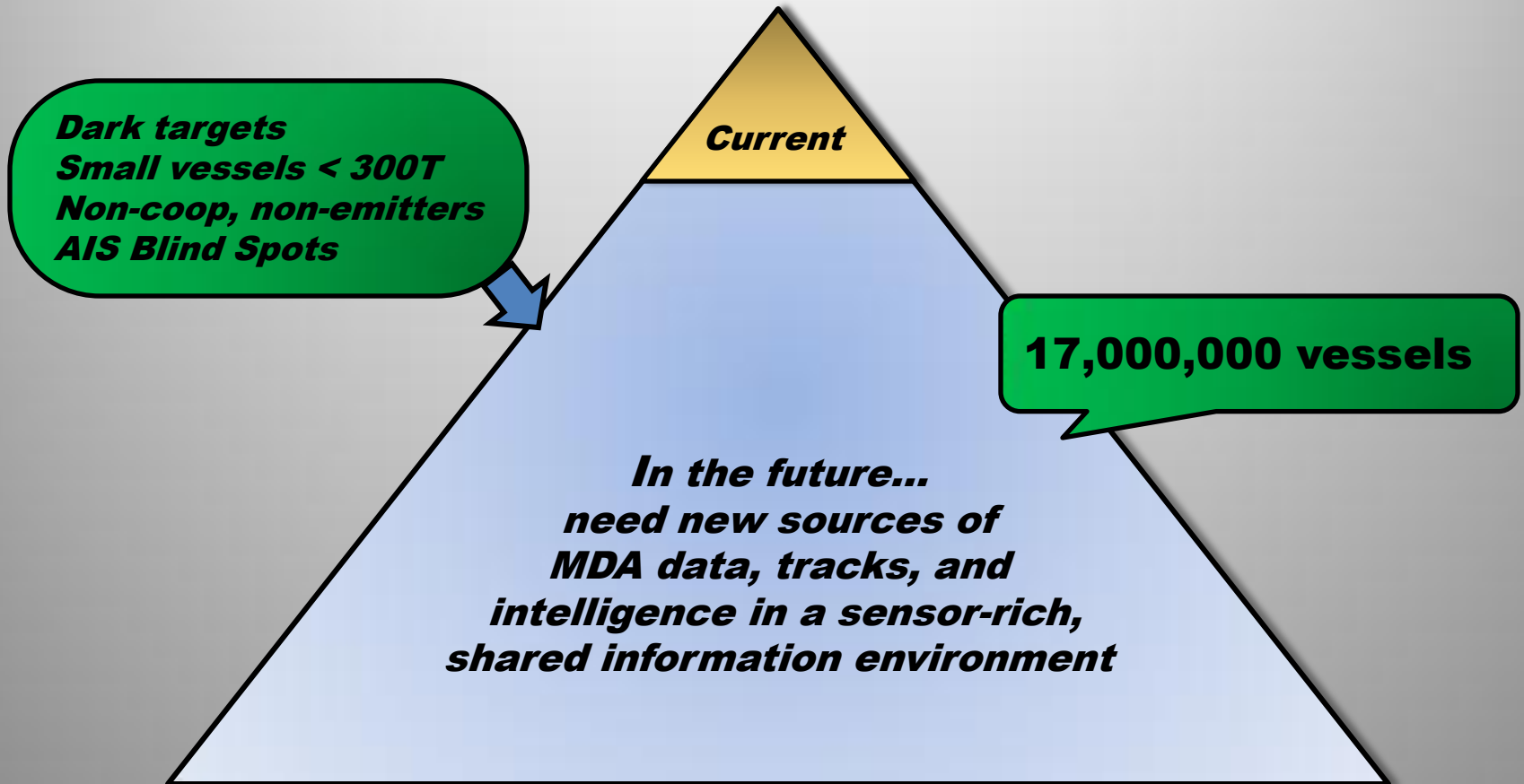
Global MDA Uncertainties

165,000 vessels

**Classified
Mostly US systems
Commercial AIS**

Current 1%

Capability Gap

Maritime Security Challenge 99%

17,000,000 global registered vessels

**12K > 65 ft
71K 40-65 ft
500K 26-40 ft
6M 16-26 ft
5M < 16 ft
11,900,000 US-registered
Not required to transmit AIS**
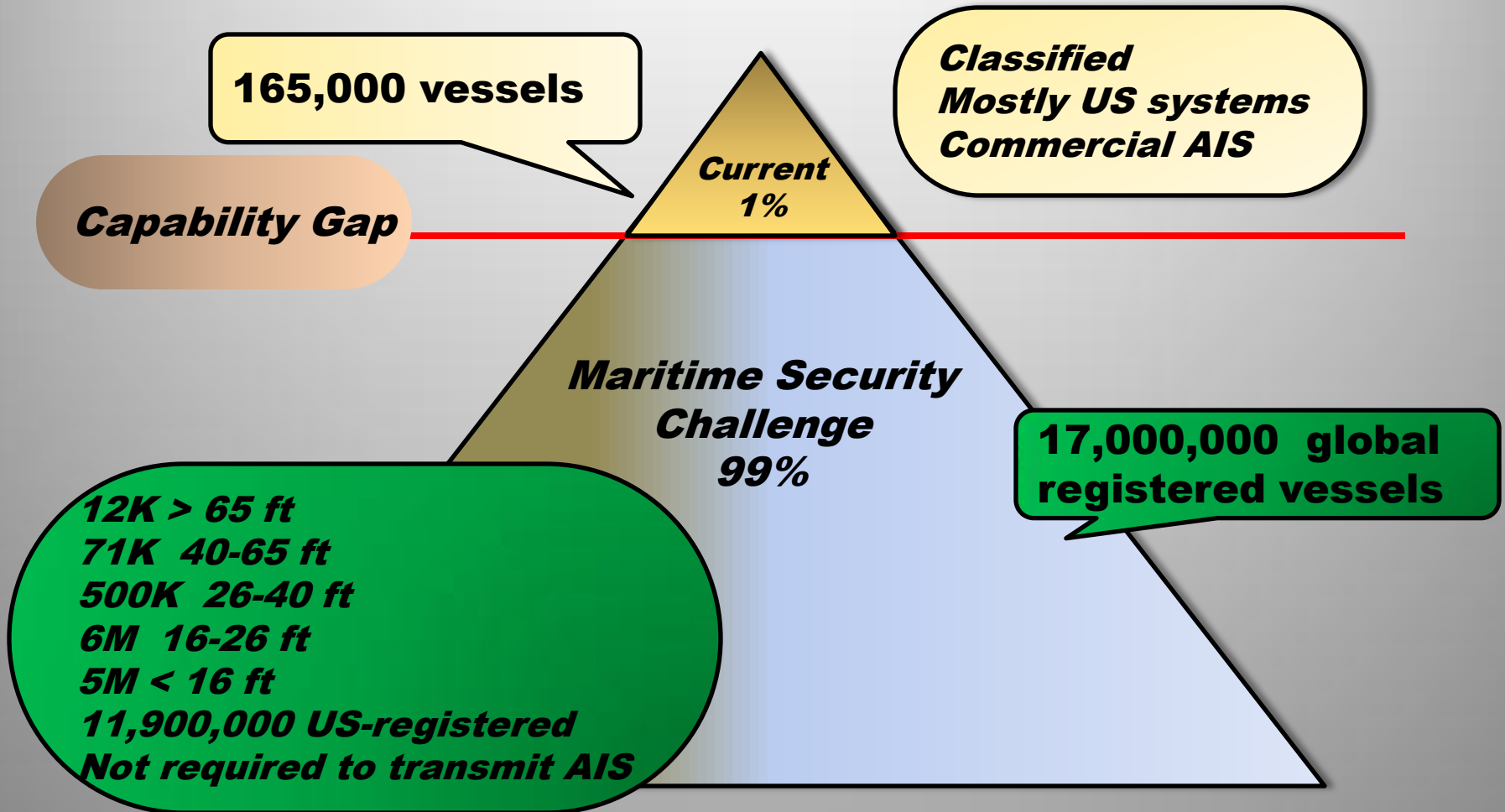
National Resilience Framework
All-hazards, cross-domain critical infrastructure resilience in the face of complex and uncertain risks

Resilience

An active virtue integrated into all operations and systems

Infrastructure Protection → **National Preparedness** ← **Functional Continuity**

Prevent	Protect	Mitigate	Respond	Recover

Land	Maritime	Air	Space	Cyber

UNCLASSIFIED