

Navy
Information
Dominance

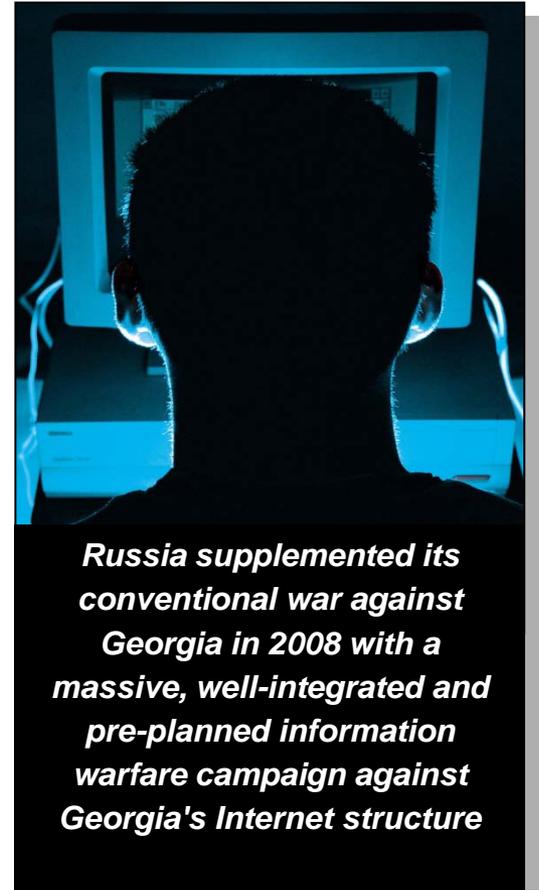


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Integration
OPNAV N2/N6F
8 NOVEMBER 2010



Today's Information Environment

- ❑ The World is Changing Dramatically...
 - Information technology is driving that change and leading to an explosion in the volume of information
- ❑ Altered Security Environment
 - Adversaries are beginning to erode the nation's information advantages
 - Defense and military networks already under constant probing and penetration
 - Legacy platform-centric approach to capability and force development increases risk in the information arena





The Challenge

- **Navy must abandon the status quo and adapt to the Information age in order to:**
 - Operate successfully in an increasingly information-intensive environment
 - Control the Electromagnetic Spectrum
 - Maintain speed, agility, and adaptability of our decision-making and C2 capabilities during conflict
 - **Maintain a decisive information advantage over future adversaries**





CNO's Vision

Information becomes a main battery of the U.S. Navy; this transition to an information-centric force represents a new vision of who we are as a seapower, as a Navy, and as warfare professionals



"We will seek out and embrace game-changers and innovative solutions to current and future challenges, especially at the left end of the kill chain"

CNO Guidance for 2009



2009 – Three Initial Actions

- ❑ Aligned N2 and N6 in OPNAV
 - Aligned information-centric programs and capabilities to N2/N6
 - ISR
 - Electronic Warfare
 - Information Warfare
 - Cyber
 - Maritime Domain Awareness
 - Networks
 - C4
 - Space
 - Unmanned Capabilities
 - Oceanographer of the Navy

- ❑ Commissioned FLTCYBERCOM/10th Fleet

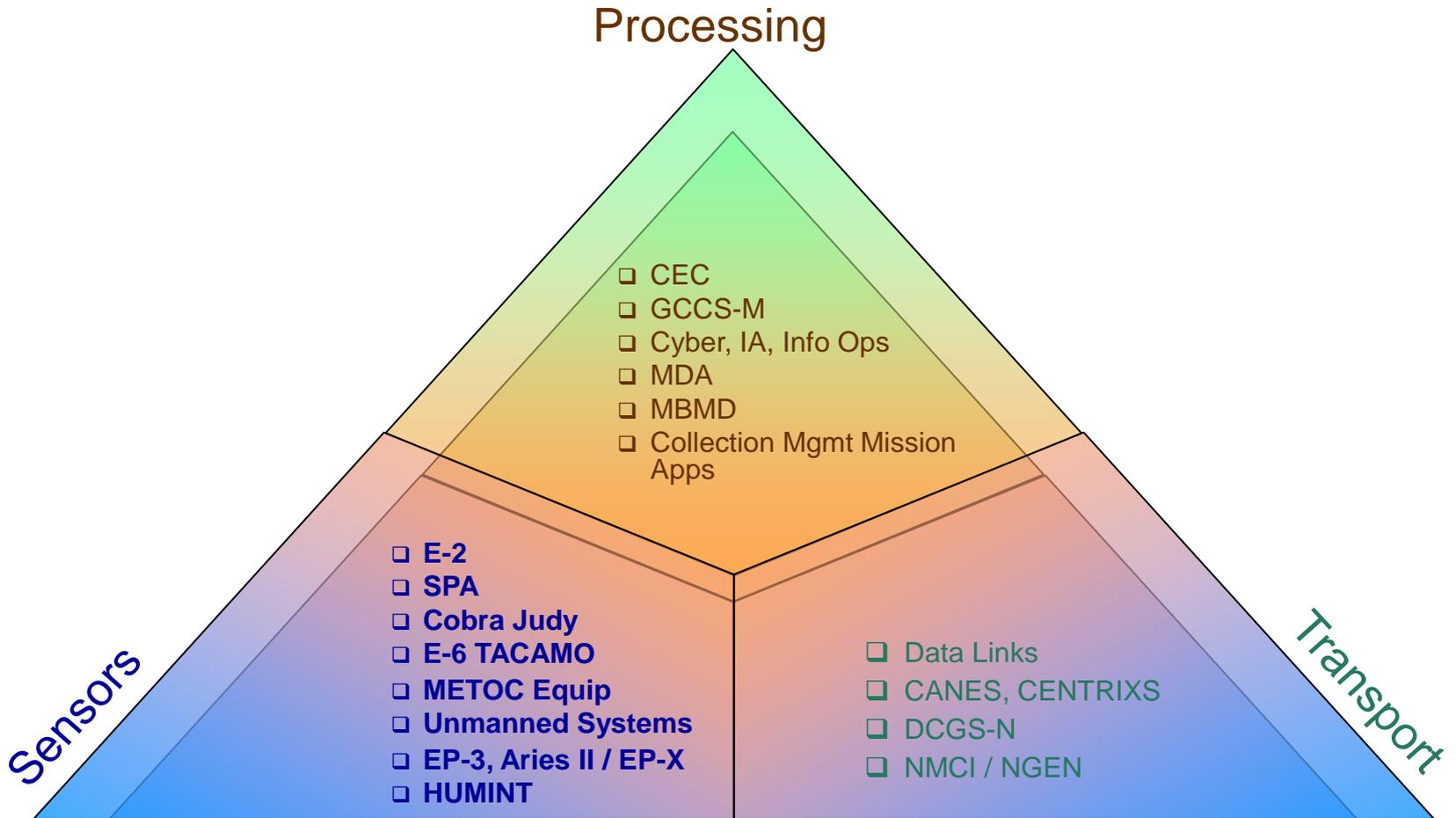


- ❑ Created Information Dominance Corps





Resource Alignment

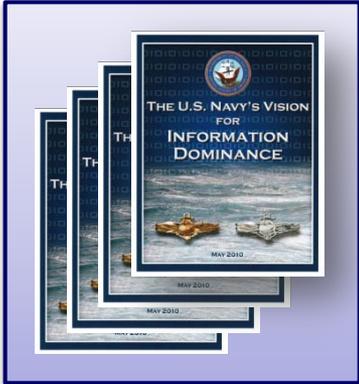


Aligning & Synchronizing Capabilities to Enable Information Dominance



2010 – We Got Busy Transforming the Navy

Information Dominance Roadmaps



Electronic Warfare Revitalization



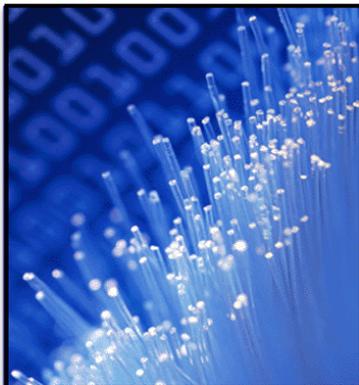
Unmanned Air Systems



Unmanned Undersea Vehicles



Network Stabilization



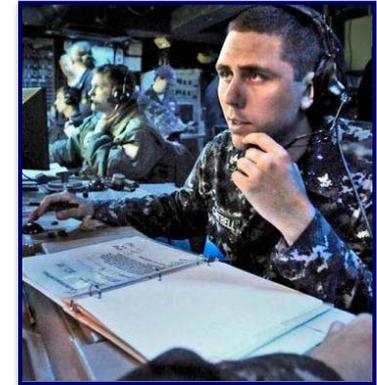
Maritime Domain Awareness



Oceanography & Climate Change



Information Dominance Corps





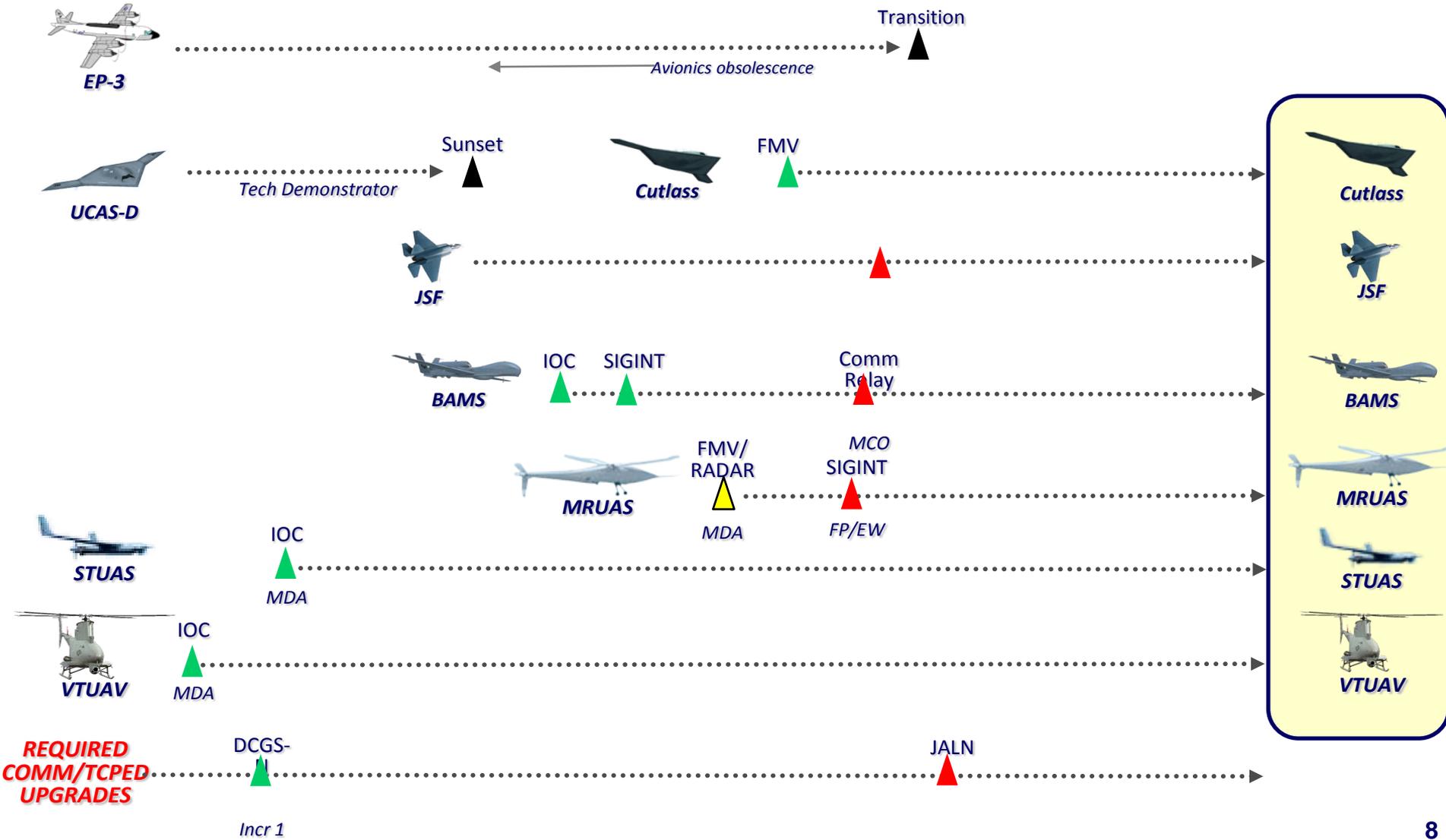
Airborne ISR Roadmap

2010

2015

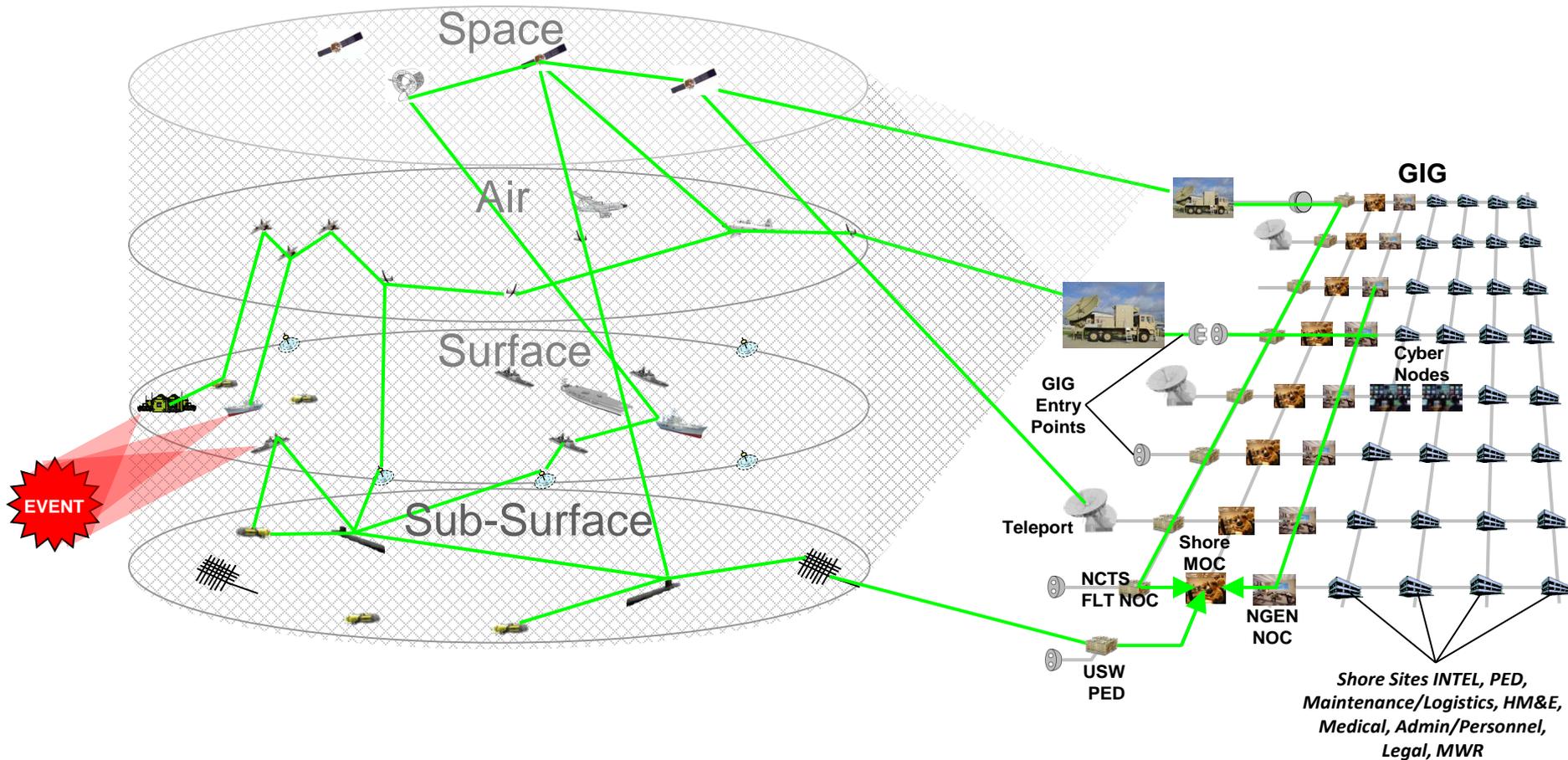
2020

2025





Transport Layer To-Be Vision, 2022



Every node connects to the Grid, every node supports the Grid



Our Professionals = Information Dominance Corps



□ 45,000 Professionals

□ Initiatives:

- Cross-Detailing
- Education Initiatives
- Warfare Qualification Program
- Milestone and Command Screening Board
- Corps-wide Flag Officer Selection and Assignment (FY13 Board)
- Cyber Engineers, Warrant Officers, Information Engineering Duty Officer





Thinking about The Kill Chain

I & W

Detect

ID

Track

Assign

Engage

Assess

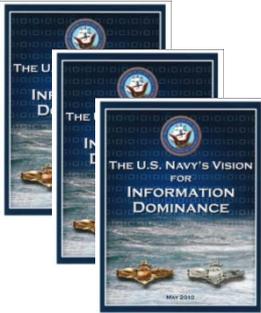


Non-kinetics as important as kinetics in the 21st Century

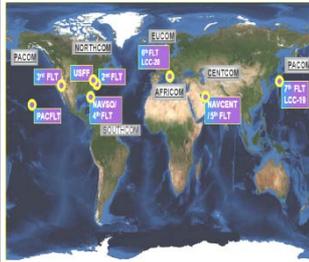


2011 – Accelerating the Transformation

Execute the Roadmaps!



Maritime Domain Awareness



UCAS-D UCLASS



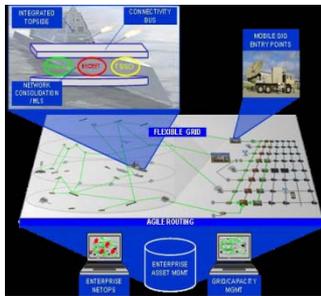
VTUAV



Maritime Ballistic Missile Defense



Assured Comms/PED



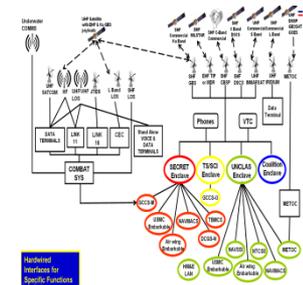
Cyber



Fleet Battle Management

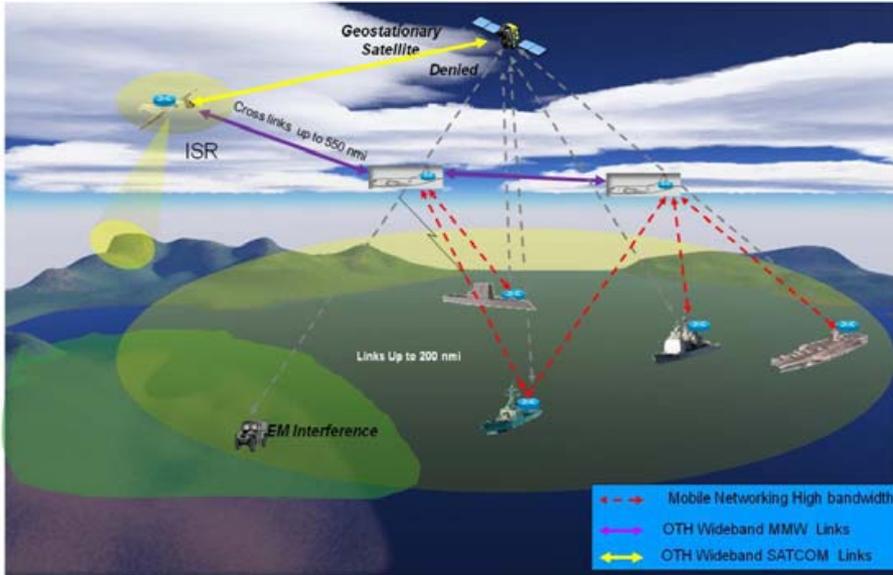


Convergence to a Single Network





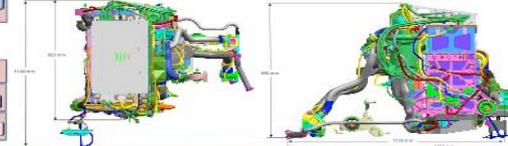
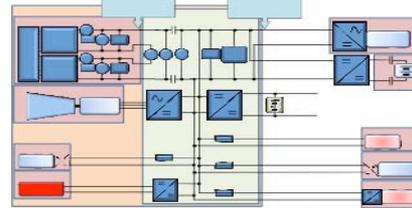
Partnering with ONR



GM Gen1 (P4) Technology Capability Fuel Cell Propulsion System for Potential UUV Application

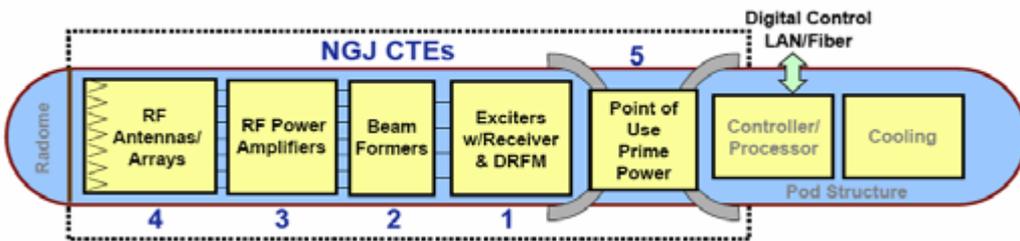


Power Range	0.6 – 93 kW (@ beginning of Life)
Coolant	DI water or Ethylene Glycol mix (<10uS/cm @190lpm)
Hydrogen Supply	500 – 680 kPa
Operating Temp	70C nominal; 86C maximum excursion
Cold Operation	Start from -15C to 100% Power in 5 min.
Mass	240 Kg
Volume	335l Largest Dimensions Below (1229mm x 893mm x 1144mm)
High Voltage Range	240-400V (180-450V max. range)
Low Voltage Range	9-16V



Gen 1 FCS needs a low voltage supply, a thermal isolation hex, & and a clean air supply.

GM Confidential



Continued efforts with ONR is essential for the Navy to achieve Information Dominance

Questions?





Tomorrow's Navy is here Today