

# **SPAWAR**





***Building The C4ISR/IT  
Foundation for  
FORCEnet***

**3<sup>rd</sup> Annual  
Naval –Industry Partnership Conference  
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We enable  
**KNOWLEDGE SUPERIORITY**  
to the warfighter  
through the

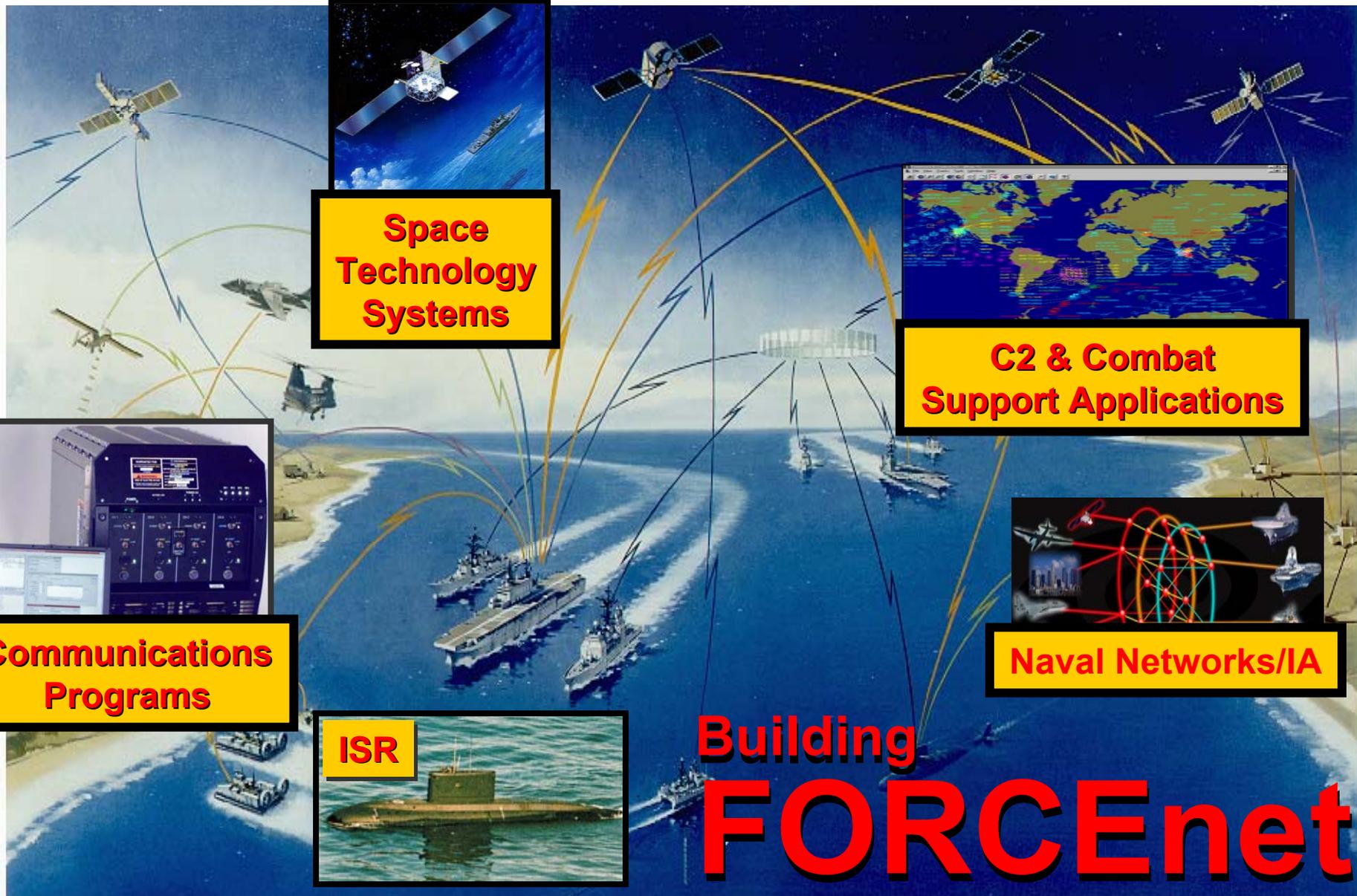
**DEVELOPMENT, ACQUISITION,**  
and

**LIFE CYCLE SUPPORT**

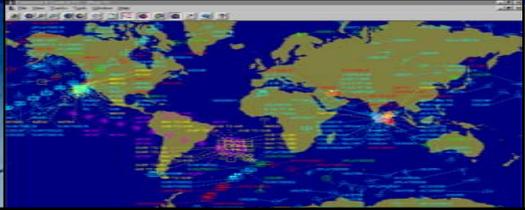
of effective, capable & integrated  
command, control communication, computer (C4),  
intelligence, surveillance & reconnaissance (ISR),  
information technology (IT), & **Space Systems.**



# Scope of Our Global Challenge



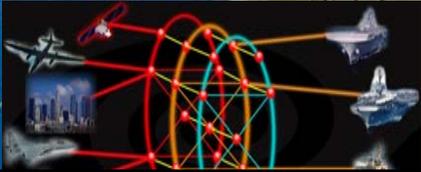
**Space  
Technology  
Systems**



**C2 & Combat  
Support Applications**



**Communications  
Programs**



**Naval Networks/IA**



**ISR**

**Building  
FORCEnet**

## **Network Centric Warfare (NCW)**

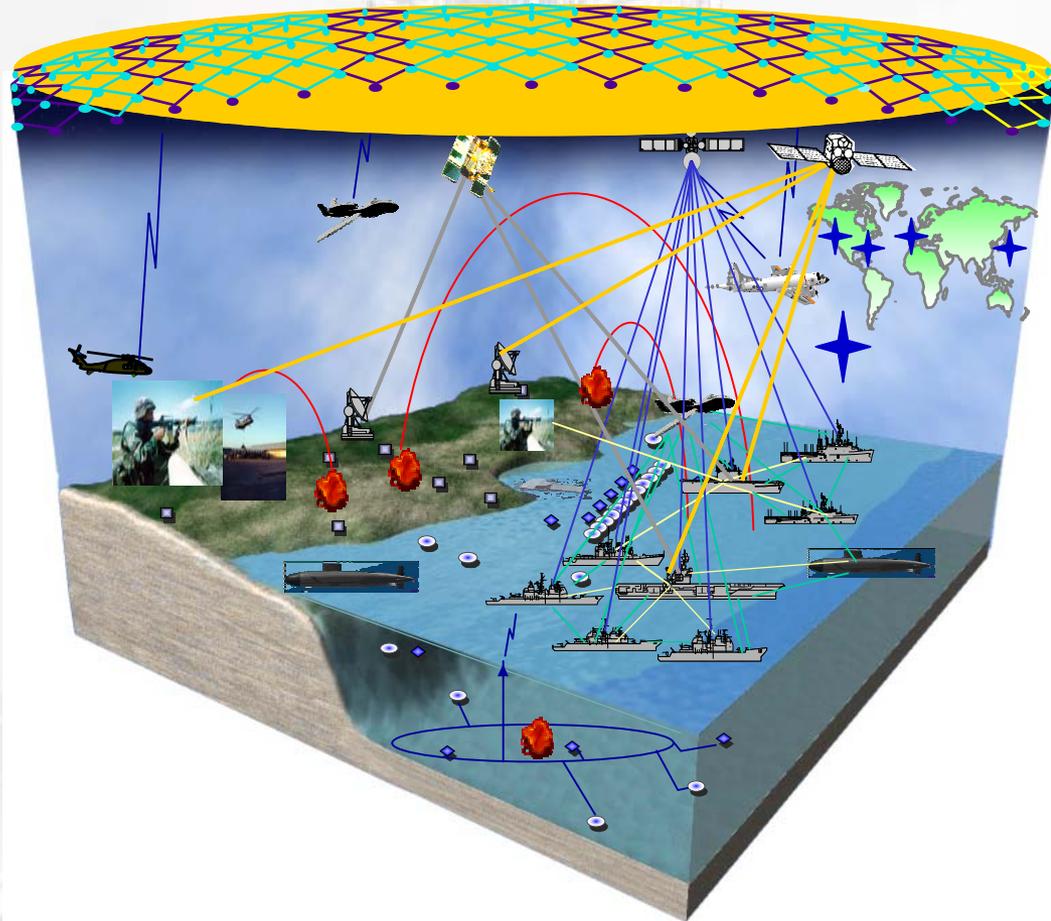
is the theory.

## **Network Centric Operations**

is the concept.

**FORCEnet** is “the architecture and building blocks of sensors, networks, decision aids, weapons, warriors and supporting systems integrated into a highly adaptive human-centric comprehensive system that operates from seabed to space and from sea to land.”

## Seamless Information Grid



# **SPAWAR Capability Needs**

**Improvements to:**

**(Unprioritized)**

- **Advanced Multifunction Apertures (Comms/EW/Radar)**
- **Advanced Space-based Radar Capabilities**
- **Combat Support Systems Applications**
- **Electronic Combat Surveillance**
- **Expanded Information Warfare**
- **Fixed Surveillance Systems**
- **Information Assurance**
- **Information Processing**
- **Integrated Infrastructure with Open Architecture**
- **Integration/Interoperability of Naval/Joint/Coalition/Allied Systems & Platforms**
- **Navigation / Position / Time**
- **Readiness (Supportability and CM for Timely Installation Response)**
- **RF Connectivity & Throughput for Secure & Unsecure Communications**
- **Timely Decision Making & Decision Support**
- **Tactical C4ISR Applications**
- **Tactical Data Links**
- **Training Methods**
- **UHF SATCOM**
- **Underwater & Coastal Surveillance**
- **Wired and Wireless Networks (Intra-Platform)**
- **Wireless Communications (Inter-Platform & Ashore)**



# Technology Focus Areas for Capability Needs

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- **Wired & Wireless Networks:**
  - Multi-Level Security (MLS) over a single common network
  - Mobile/Secure Wireless LANs
  - Convergence of IP data/voice/video
  - Affordable MLS Digital Communications Equipment
- **Timely Decision Making & Decision Support:**
  - Collaboration Technologies
  - Sensor Data Fusion
  - Fusion of Time & Spatially Disparate Data Sources to Create Daily Products
  - Data Fusion to Correlate Space/Air/Sea/Sub-surface Tracks and Identification of Friend/Foe



# Technology Focus Areas for Capability Needs

- **Information Assurance:**
  - **Network Protection & Attack Technologies**
  - **Intrusion Detection & Response**
  - **Smaller, programmable, multi-functional cryptographic equipment**
- **Fixed Surveillance Systems**
  - **Design improvements in hydrophone sensitivity (using state of the art optical or electro optical technology)**
  - **Ability to accurately and covertly deploy vertical as well as horizontal arrays in difficult environmental conditions and in denied access areas**



# Technology Focus Areas for Capability Needs

- **RF Connectivity and Throughput for Secure & Unsecure Communications:**
  - OTH Receive/Transmit of COP/CTP via Multiple Data Links to Joint/Allied/Coalition forces
  - Releasable communications security devices
  - Creative approaches for procuring bandwidth
  - Dynamic bandwidth allocation
  - Compression
  - LOS / BLOS networking to offload SATCOM
- **Advanced Multifunction Apertures:**
  - Antenna apertures that support multi-band, multi-function operations
  - Mast-mounted, small compact, multi-beam antenna
  - Antennas to cover UHF thru Q bands



# Technology Entry into SPAWAR

## *Technology Sources*

- Industry
- Academia
- ONR
- DARPA
- DOD RDT&E Labs
- **SPAWAR System Centers**

## *SPAWAR Chief Technology Office*

### **Technology Brokering**

#### **Technology Analysis**

#### **Capability Needs & Technology Matching**

#### **Transition Agreements & Opportunity Roadmapping**

#### **Operational Experimentation & Risk Assessment**

## *SPAWAR Program Offices*

### **SPAWAR C4ISR/IT Product Line**

# **SPAWAR**

