



**LOCKHEED MARTIN**   
*We never forget who we're working for™*

**SPY-1 Family of Radars**  
**Battle-Proven Naval Radar Performance**



# SPY-1 Radar Evolution

SPY-1 is the most widely fielded naval phased array radar in the world. It is the heart of the Lockheed Martin-developed Aegis Weapon System. It automatically detects and tracks hundreds of targets from the wave tops to the exoatmosphere.

SPY-1, available worldwide in various configurations, provides the U.S. and allied nations with the world's most advanced surveillance, anti-air warfare and missile defense capabilities. The newest AN/SPY-1D(V) offers new capabilities focused on littoral operations.

From the AN/SPY-1A/B/D/D(V) currently deployed or planned for deployment on more than 100 surface combatants, to the SPY-1F designed to provide robust performance with ESSM and SM-2 missile capability on frigate and corvette-sized ships, this family of radars is ready to meet the most advanced missions of U.S. and international navies.

## A True Symbol of Power, Performance, and Freedom

### *Continual SPY-1 Evolution to Pace the Threat*

#### **AN/SPY-1D(V)**

- Faster, smaller ASCM
- Enhanced operation in littoral environments
- BMD



#### **AN/SPY-1B/D**

- Increased ECM threat
- Area BMD



#### **AN/SPY-1A**

- Original Aegis threat



#### **SPY-1F/F(V)**

- Smaller, lighter version sized for frigates and amphibs

# SPY-1 . . .

## Developing Partnerships – Worldwide.

### **CG 47 USS Ticonderoga**

Twenty-seven Ticonderoga Cruisers have been deployed with the AN/SPY-1A, AN/SPY-1B, and AN/SPY-1B(V) Radar Systems. The Cruiser Modernization Program, a top national priority, is upgrading the Aegis Cruisers.

### **DDG 51 USS Arleigh Burke**

Sixty-two Arleigh Burke Destroyers have or will be outfitted with the AN/SPY-1D/D(V) Radar Systems.

### **KDX-III Multi-Mission Destroyer**

The SPY-1D(V) Radar System was selected for the next-generation Korean Destroyer KDX-III.

### **DDG 173 Kongo**

The first allied ship to carry the AN/SPY-1D/D(V) Radar System. Six Japanese Destroyers are fully operational.

### **Air Warfare Destroyer**

The Australian Hobart-Class Air Warfare Destroyer will field the AN/SPY-1D(V)

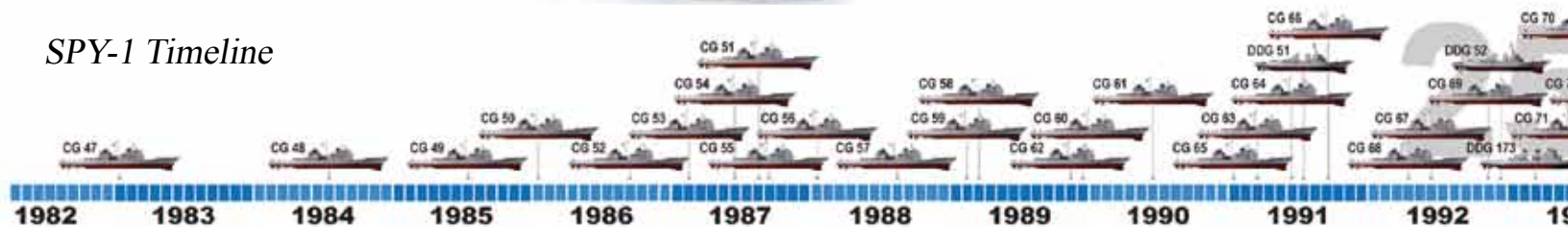
### **F-101 Alvaro de Bazan**

The Spanish F-100 Frigates field the AN/SPY-1D/D(V) Radar System. Four ships are at sea and one more is planned.

### **F-310 Fridtjof Nansen**

Five Norwegian New Frigates will mark the introduction of the SPY-1F Radar System. SPY-1F is a smaller, lighter version of the AN/SPY-1D Radar System, providing highly robust performance in a versatile package.

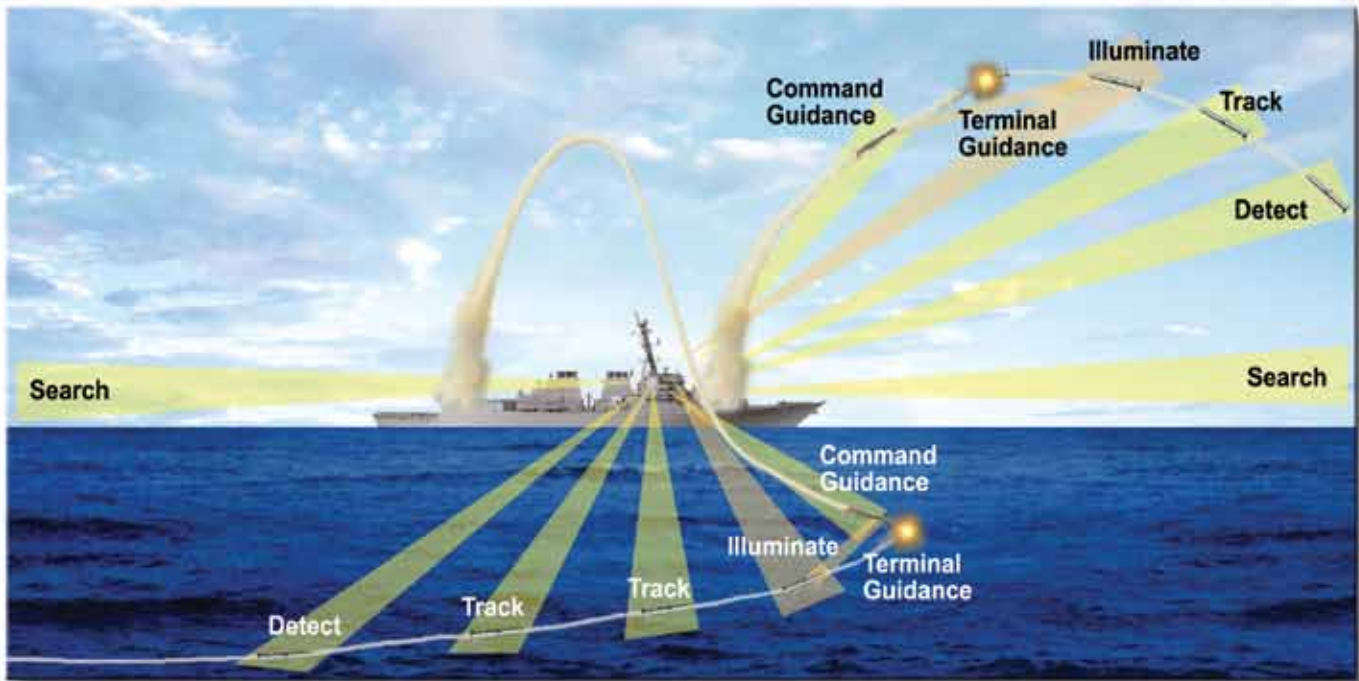
### SPY-1 Timeline



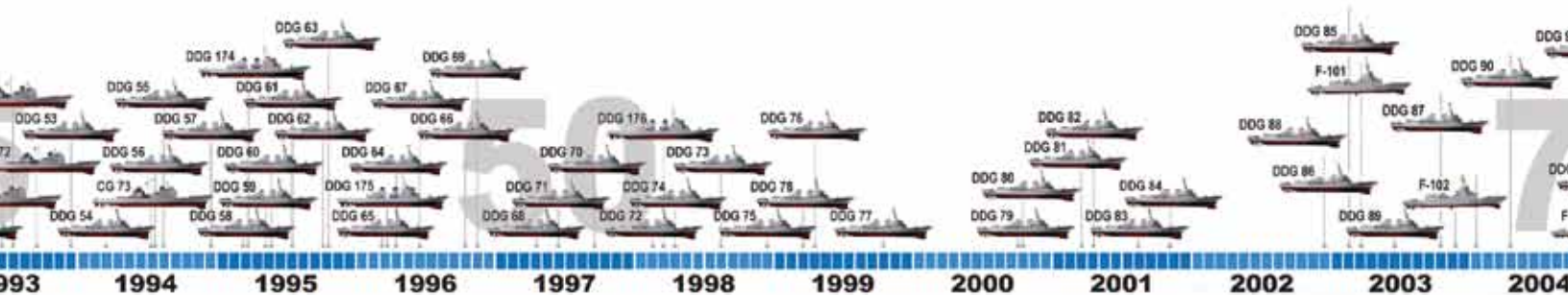
# Today's SPY-1 Family of Radars



Attribute	SPY-1B/D	SPY-1D(V)	SPY-1F	SPY-1F(V)
<b>Primary Ship Classes</b>	Destroyers Cruisers Frigates	Destroyers Cruisers Frigates	Frigates Destroyers Amphibs Carriers	Frigates Destroyers Amphibs Carriers
<b>Antenna Diameter</b>	12 ft. (3.7 m)	12 ft. (3.7 m)	8 ft. (2.4 m)	8 ft. (2.4 m)
<b>No. of Elements</b>	4,350	4,350	1,856	1,856
<b>SM-2 and ESSM Capable</b>	Yes	Yes	Yes	Yes
<b>All-Weather Performance</b>	Yes	Yes	Yes	Yes



*The SPY-1 Phased Array Radar can automatically track multiple targets while maintaining continuous surveillance of the sky, from the wavetops to the exo-atmosphere.*



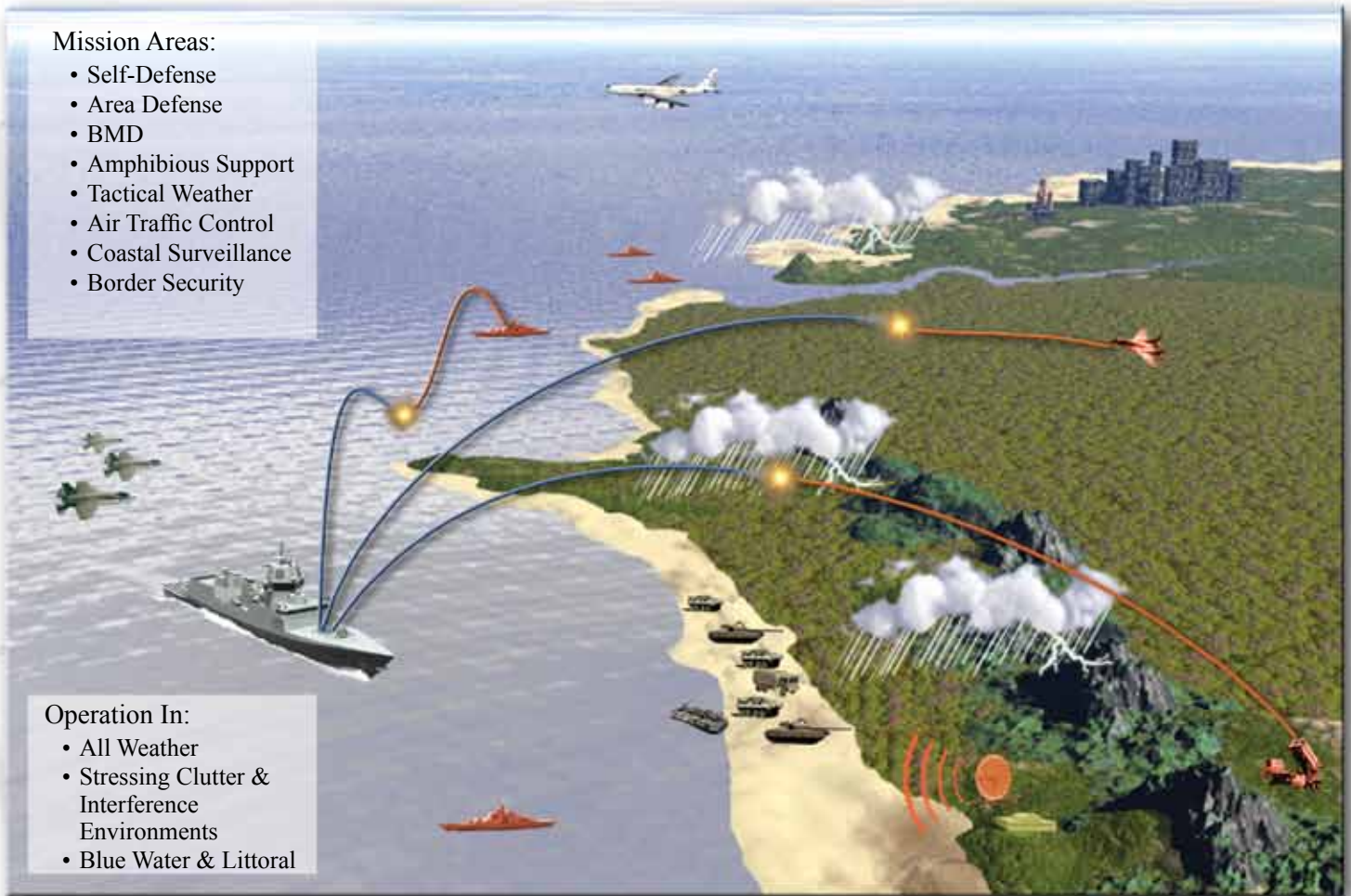
# Proven Multi-Mission Capability

## Mission Areas:

- Self-Defense
- Area Defense
- BMD
- Amphibious Support
- Tactical Weather
- Air Traffic Control
- Coastal Surveillance
- Border Security

## Operation In:

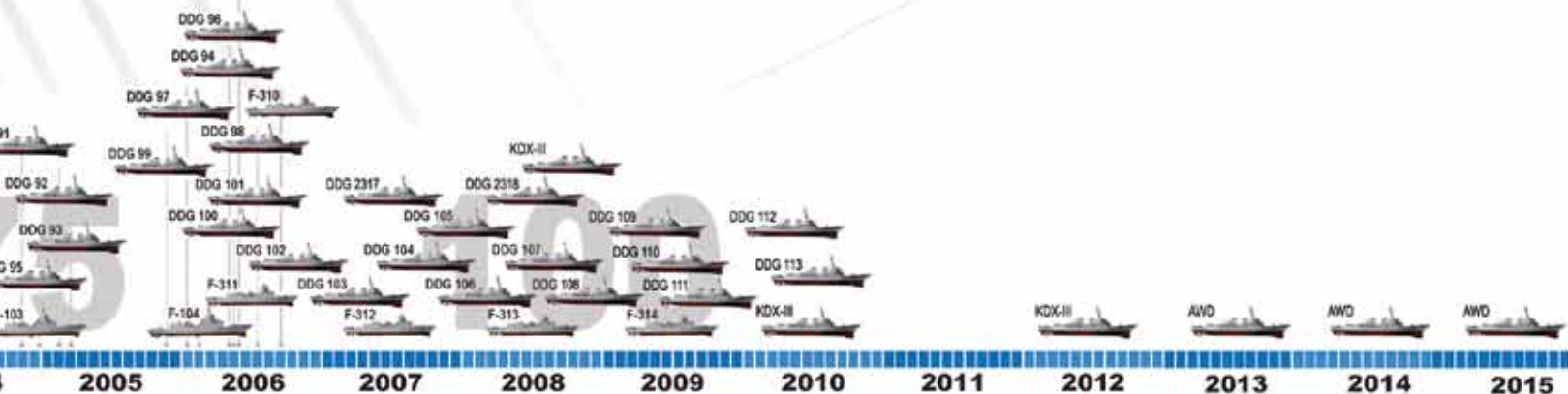
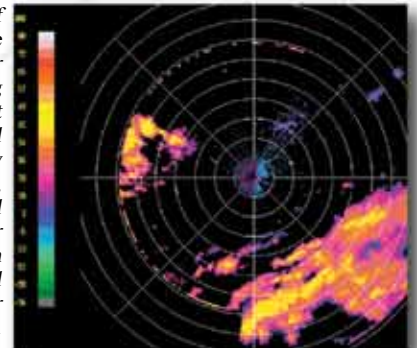
- All Weather
- Stressing Clutter & Interference Environments
- Blue Water & Littoral



The new SPY-1D(V) radar is designed for improved performance in demanding littoral environments. Employing lessons learned from real-life tactical operations, this system adds new sophisticated coded waveforms, Pulsed Doppler acquisition and track, and a new track initiation processor to substantially improve clutter rejection.



The SPY-1 family of radars can provide highly accurate weather information for aiding ship-to-shore movement and air traffic control operations. Already demonstrated at-sea, the SPY-1 with Tactical Environmental Processor (TEP) is the only high fidelity meteorological sensor available today for naval applications.



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