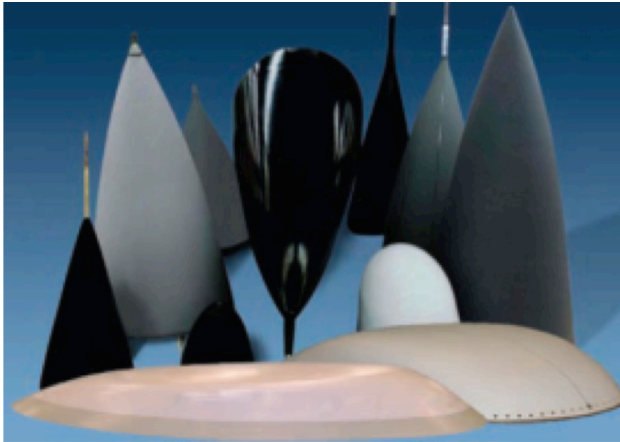


# Radomes

## *Military and Commercial High-Performance Composite Radomes*



Over 75 years of designing and producing radomes  
for military and commercial platforms

Standard applications to the most advanced  
technology including military wideband nose and  
commercial tri-band SATCOM radomes

### Overview

General Dynamics Mission Systems has over 75 years of experience designing and producing a wide array of radomes for both military and commercial platforms, including aircraft nose, wing, tail, fuselage and pods. Radome applications include fire control, weather, data link, SATCOM, electronic counter-measures, electronic warfare and other specialized uses.

General Dynamics Mission Systems designs and produces radomes, ranging from standard applications to the most advanced technology, including military wideband nose and commercial tri-band SATCOM radomes.

The basic purpose of a radome is to protect antennae systems from the environment with minimal impact to electronic performance. Radome requirements typically include aerodynamic profile, structural and environmental reliability, weight and electromagnetic functionality.

Using a balanced design approach, General Dynamics Mission Systems collaborates closely with the customer to choose the best design, process and materials to fit their needs for cost and performance. Our extensive experience allows us to apply real world knowledge to the design, qualification and manufacturing processes for successful overall system performance and minimal lifetime cost.

### Key Capabilities

- Electrical (RF) design/analysis
- Radar Cross Section (RCS) reduction/design/analysis
- Structural design/analysis
- Mechanical design
- Lightning direct effects protection
- Tool design
- Material and process engineering
- High Precision Machining
- Testing: RF, RCS, and non-destructive testing (NDT)
- Repair

# Radomes

## Facilities

- Approximately one million square feet of manufacturing space in Marion, Virginia
- Indoor and outdoor RF test ranges
- Large autoclaves (up to 11 feet in diameter and 50 feet in length)
- FAA Repair Station Certification Number VQBR980L

## Testing

Our qualification testing capabilities and experience include: RF, material allowables, static loads, mechanical shock and vibration, fatigue, lightning and environmental.

## Processes

Our Radomes are manufactured using either a hand lay-up or filament winding process. Construction types include solid laminate and sandwich structures with honeycomb or foam cores. Performance depends on the radome configuration and materials composition best suited for the particular application and RF frequency range.

Our stringent manufacturing processes and broad range of production test capabilities ensures each radome meets structural loading, RF transmission and other customer requirements.

## Platform/Radome Examples

### Fighter/Attack

- F-35
- F/A-18
- F-16
- F-15
- F-20
- F-14
- F-5
- F-4
- F-111
- AV-8B
- A-4
- Mirage III
- L-159

### Bomber

- B-1B

### Cargo

- C-130
- C-17
- C-5

### Electronic Warfare

- EA-18G
- EA-6B
- AN/ALQ-99 Jammer Pod
- AN/ALQ-249 Next Gen Jammer Pod

### Reconnaissance

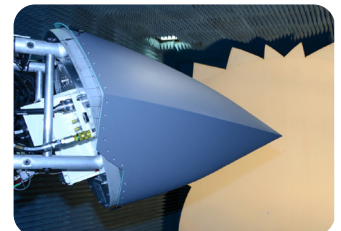
- SR-71
- RQ-4

### Battle Management Command and Control (BMC2)

- E-10

### Commercial/SatCom

- 737
- 747
- 757
- G500/600
- Thales Tri-band
- Boeing Ku
- Boeing Tri-band



## GENERAL DYNAMICS

### Mission Systems

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