



INTERSOFT
SERVICES



RADOME SERVICES

The importance of a well maintained radome

The cleanliness of a radome is a fundamental aspect of maintaining radar system efficiency, safety, durability, and compliance. Regular cleaning schedules and proper maintenance protocols should be an integral part of radar system operations to ensure these high-tech instruments continue to function effectively and reliably.



Optimal performance of radar systems

When dirt, grime, or other contaminants accumulate on the surface of a radome, they can scatter and absorb radar signals, leading to a significant reduction in signal clarity and strength.



Overall longevity and durability of the radar system

Contaminants like salt, industrial pollutants, and biological growths such as mold or algae can cause the radome material to deteriorate over time.



Safety

Ensuring that radar systems operate at peak efficiency is paramount for the safety of aircraft and passengers. Similarly, in maritime navigation, clean radomes are essential for the accurate detection of other vessels and obstacles, which helps prevent collisions and ensures safe passage.



Compliance

Regulatory bodies often have stringent standards for radar performance. Maintaining a clean radome is a key part of meeting these standards and avoiding potential fines or operational restrictions.



Economic benefits

By ensuring that radar systems operate efficiently, organizations can avoid the costs associated with equipment malfunction and downtime.

Challenges of radome cleaning

While radome cleaning presents several challenges, the use of drones carrying high-pressure cleaners offers a modern, efficient, and safe solution. This technology enhances the effectiveness of the cleaning process, reduces operational risks and costs, and ensures the continued optimal performance of radar systems.

Accessibility issues

Radomes are often located in hard-to-reach areas, such as on top of tall towers or buildings, at remote stations, or on ships.

- Drones can easily maneuver around the radome, accessing all areas without the need for cumbersome equipment while operators can control the drone remotely.

Safety concerns

Workers often need to operate at significant heights or in hazardous weather conditions, increasing the likelihood of accidents.

- Drones provide a safer alternative by eliminating the need for human workers to physically access difficult or dangerous locations.

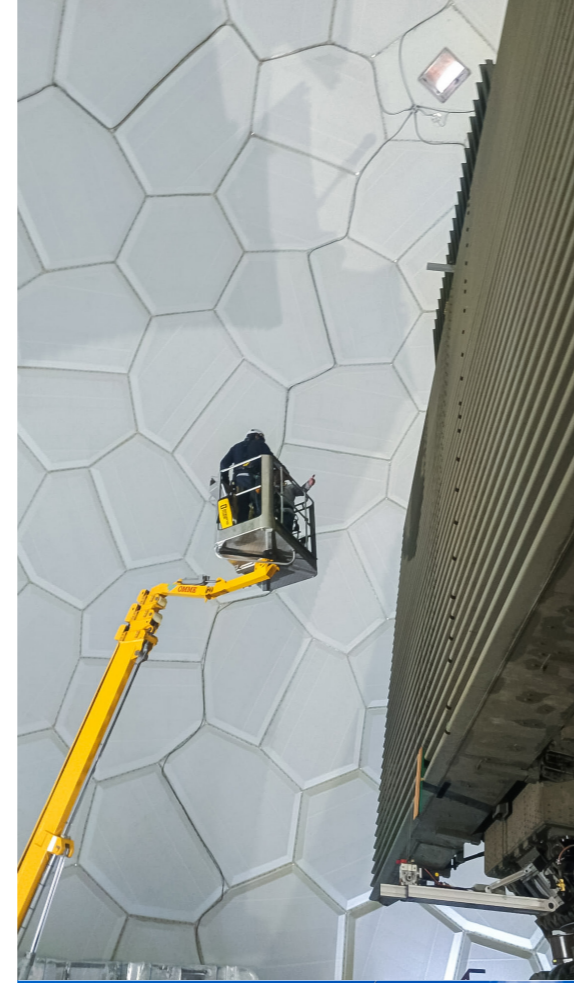
Operational downtime and expenses

Traditional cleaning methods can be time-consuming and labor-intensive, requiring scaffolding, ladders, or cranes to reach the radome, which can disrupt radar operations and increase operational costs.

- Using drones for radome cleaning can result in significant time and cost savings. Labor requirements are reduced, there's less need for expensive access equipment, and downtime is minimized.

Equipment limitations

- Furthermore, drones equipped with cameras and sensors can provide real-time monitoring and inspection during the cleaning process.



Intersoft's radome cleaning services

Intersoft's comprehensive radome cleaning services combine advanced drone technology, expert manual interventions, and protective treatments to maintain and enhance radar performance. The initial inspection, precise drone cleaning, meticulous filler replacement, and protective coating application, all validated by before-and-after VPD measurements, ensure that radomes are kept in peak condition, safeguarding the integrity and functionality of critical radar systems.



Initial assessment: thorough inspection to assess the outside and inside condition of the radome and identify any areas that may require special attention, also the lightning rods are checked

Drone-based cleaning: radome cleaning utilizing a drone equipped with a high-pressure cleaner

Manual repairs: replace any joint filler between panels that has deteriorated or become damaged

Protective coating application: apply a hydrophobic coating that reduces dirt adhesion

Validation: Vertical Antenna Pattern Diagram (VPD) measurements before and after cleaning

Benefits

Drone technology reduces the need for workers to access dangerous heights or operate in hazardous conditions. Drones can quickly and easily maneuver around radomes, accessing all areas without the need for time-consuming setup of traditional cleaning equipment. By reducing labor requirements and the need for expensive access equipment, drone-based cleaning results in significant cost savings for radome maintenance. Equipped with advanced cameras and sensors, drones provide real-time monitoring and ensure thorough, precise cleaning of all radome surfaces.

Enhanced safety

Improved efficiency

Cost-effective

Precision cleaning



Together we make the sky safe

Intersoft Electronics Services BV

www.intersoft-electronics.com
support@intersoft-electronics.com