



Bird Aircraft Strike Hazard Services & Technologies

Merlin TM AIRCRAFT BIRDSTRIKE AVOIDANCE RADARS



DeTect is the premier provider of Bird-Aircraft Strike Hazard (BASH) services and technologies in support of military and commercial aviation worldwide. The company's resources comprise the most experienced team of bird-aircraft strike hazard experts and includes a former Chief of the U.S. Air Force BASH Team and a former head of the USAF Europe Bird Control Unit. DeTect also offers a complete line of advanced Aircraft Bird-strike Avoidance Radars.

Birdstrikes to civilian and military aircraft worldwide cause over \$1 billion in damages annually ... over 400 lives have been lost

BASH Services & Technologies

DeTect, Inc., offers a full range of professional BASH services and technologies for commercial airports, military airfields, training ranges and routes, and other sites with bird hazard issues, including communication tower sites, wind turbine farms, landfills and mines. DeTect's experts have completed BASH projects at over 150 airports/airfields in 25 countries and are the most experienced team of specialists in remote sensing of birds and bats in the world. DeTect's staff have extensive experience in successfully resolving airport-bird conflicts and in developing management programs and supporting public hearings and legal proceedings.

DeTect also is the developer and manufacturer of the MERLINTM Aircraft Birdstrike Avoidance Radar system, the most advanced and proven technology available for real-time detection and tracking of hazardous bird activity. MERLIN provides air traffic controllers, airfield

operations and bird control unit staff with real-time bird activity and risk information to support aviation safety. MERLIN systems are in use at over 30 sites worldwide with documented results in reducing and preventing aircraft-bird strikes.

DeTect's BASH services and technologies are directed by a former Chief of the US Air Force BASH team, and include:

- ❖ Bird & wildlife hazard assessment
- ❖ BASH management plan development
- ❖ Regulatory permitting
- ❖ MERLIN Aircraft Birdstrike Avoidance Radars
- ❖ Bird & wildlife control
- ❖ BASH consulting
- ❖ Mishap investigation
- ❖ Expert testimony
- ❖ Public meetings
- ❖ Risk management
- ❖ Bird & wildlife control training
- ❖ General consultation



BIRD AIRCRAFT STRIKE HAZARD SERVICES

Bird and other wildlife strikes to aircraft result in an estimated \$1 billion in costs to military and commercial aviation annually worldwide according to recent studies. This estimate includes costs resulting from lost aircraft, damage to aircraft, flight delays, and lost opportunity costs when aircraft are out of service for inspection and repair. Furthermore, these bird-aircraft strikes put the lives of aircraft crew members and their passengers at risk - over 400 people have been killed as a result of bird strikes over the past 20 years.

Despite increased awareness of the issue, expanded regulation, and implementation of improved risk management practices, the risk remains high as more aircraft are flying, and as conservation programs increase bird populations.

DeTect, Inc., offers a full range of professional Bird Aircraft Strike Hazard (BASH) services to airports, landfills and other sites with bird hazard issues, including communication tower sites and wind turbine farms. Staff have completed BASH projects at over 150 airports in 25 countries and are the most experienced team of specialists in remote sensing of birds in the world. Bird control experience additionally includes over 100 solid waste landfills facilities located in Texas, New Mexico, Washington, Florida, New York, Pennsylvania, Georgia, Kentucky, Tennessee, Illinois,

Iowa, England, Ireland, and Panama. Staff have extensive background and experience in successfully resolving airport-landfill conflicts and in supporting public hearings and legal proceedings.

DeTect also has developed and manufactures a full line of advanced Aircraft Birdstrike Avoidance Radar systems that detect and track hazardous bird activity and provide air traffic controllers, airfield operations and bird control unit staff with real-time information to more effectively manage birdstrike risk.

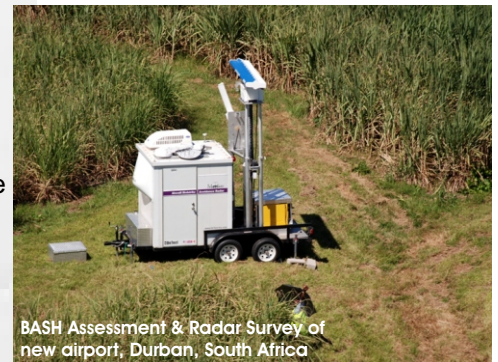
BASH services are directed by a former Chief of the US Air Force BASH team, and include:

- ❖ Wildlife & bird assessment
- ❖ BASH management plans
- ❖ Regulatory permitting
- ❖ Bird detection radars
- ❖ Bird & wildlife control
- ❖ BASH consulting
- ❖ Mishap investigation
- ❖ Expert testimony
- ❖ Public meetings
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- ❖ General consultation
- ❖ Bird & wildlife control training

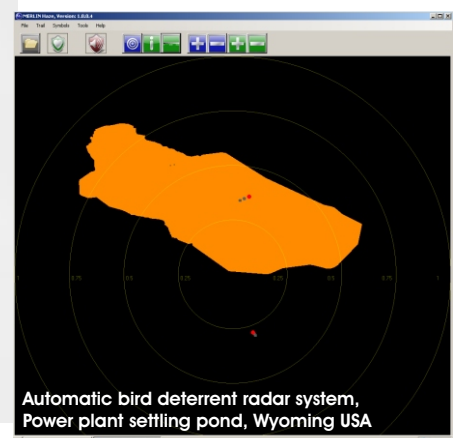


Bird control services, Outer Loop RDF/Louisville IAP, Kentucky, USA

DeTect's BASH services group is headed by a former Chief of the US Air Force BASH Team. Experience includes projects at over 150 airports in 25 countries.



BASH Assessment & Radar Survey of new airport, Durban, South Africa



Automatic bird deterrent radar system, Power plant settling pond, Wyoming USA



AIRCRAFT BIRDSTRIKE AVOIDANCE RADARS

THE MERLIN SYSTEM

DeTect's MERLIN Aircraft Birdstrike Avoidance Radar system is a dual radar sensor system designed to deliver cost-effective detection and tracking of bird activity that could be hazardous to aircraft at commercial and military airports/airfields, training ranges, and at landfills adjacent to airports.

MERLIN was originally developed to support the U.S. Air Force BASH program (seven systems purchased to date) and is used by the U.S. space agency, NASA, for space shuttle launch safety.

The current MERLIN system is production model technology with over 30 operating installations worldwide since 2003 with 24-7 operating experience. The system is a fully self-contained, engineered hardware and software system and includes dual radar sensors to provide

effective bird detection of the critical runway approach and departure corridors as well as the area 360 degrees around the airport with ranges out to 8 nm. Systems are available in mobile and fixed, multi-sensor installations and include all operating hardware and software; installation, start-up, user training; manuals; warranty; and, three years of telephone and internet support.

Systems are available with custom, site-specific features and configurations and DeTect supports each MERLIN system with its staff of top experts in BASH and aviation safety. A wide variety of features and options are also available to enhance system operations, utility and value that include:

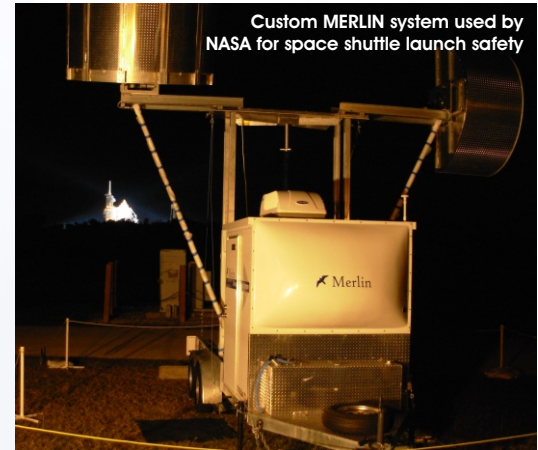
- ❖ Fully wired flightline data transmission and real-time display to fixed and mobile remote sites (ATC, bird control, airfield operations).
- ❖ Multi-sensor radar network configurations for large, multi-runway airport environments.
- ❖ Automated bird strike risk determination and notification for critical monitoring zones with MERLIN ATC (includes visual, audible, and cellular alert options).
- ❖ Complete CONOPs development and implementation support.
- ❖ Automated bird deterrence with the MERLIN detect & deter software
- ❖ Multi-radar functionality (bird detection, aircraft tracking, weather, intrusion detection and security).

MERLIN Advantages ...

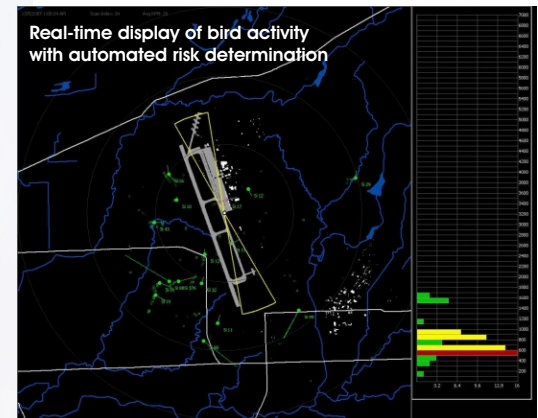
- Production model technology
- Technology proven in demanding military & space applications
- Proven in over 30 operating installations worldwide
- Developed specifically for aircraft birdstrike avoidance
- Detection & tracking software developed for the unique behavioral characteristics of birds
- Supported by the world's most experienced team in BASH & remote sensing of birds



The USAF has purchased seven MERLIN systems to date based on a record of reduced birdstrikes



Custom MERLIN system used by NASA for space shuttle launch safety



Integrated bird deterrent radar with Long Range Acoustic Device



COMPANY & CONTACT INFORMATION

DeTect specializes in development and deployment of advanced radar detection technologies for meteorology, aviation safety, force protection and environmental applications. DeTect's products are supported by highly experienced former U.S. Air Force and NOAA engineers, scientists, programmers, biologists, and planners who are experts in remote sensing, radar engineering, system integration and project management.

DeTect products include:

- ❖ *Aircraft Birdstrike Avoidance Radars*
- ❖ *Bird & Bat Survey & Monitoring Radars*
- ❖ *Airspace & Ground Perimeter Security Radars*
- ❖ *Aircraft Detection & Surveillance Radars*
- ❖ *Marine Surveillance Radar Networks*
- ❖ *NEXRAD Environmental Data Products*
- ❖ *Radar Wind Profilers, weather radars, visibility sensors, & lightning detectors*

DeTect services include:

- ❖ *Bird-Aircraft Strike Hazard (BASH) Management*
- ❖ *Airfield & Industrial Bird & Wildlife Control*
- ❖ *Wind Energy Project Wildlife (Bird & Bat) Impact Assessment*
- ❖ *Radar System Solutions Engineering, Design & Development*
- ❖ *Environmental Planning & Analysis (NEPA) support*
- ❖ *Avian Radar Survey & Risk Assessment*
- ❖ *Data Management & Geographical Information Systems (GIS)*

DeTect systems have been deployed at facilities and projects worldwide - including sites in the U.S., Canada, England, Europe, the Middle East, Asia and Africa - with a proven record of exceptional performance, reliability and operability. Customers include the U.S. Air Force, NASA, the USGS, the U.S. Army, and the governments of Canada and the UK.



DeTect, Inc.
US Corporate Headquarters
3160 Airport Road
Panama City, Florida 32405 USA
Tel: 850.763.7200
Fax: 850.763.0920
Email: DeTect@detect-inc.com

DeTect International
International Projects
5801 Lee Highway
Arlington, Virginia 22207 USA
Tel. 703-533-8555 ext 299
Fax. 703.533.3190
Email: DeTectIntl@detect-inc.com

