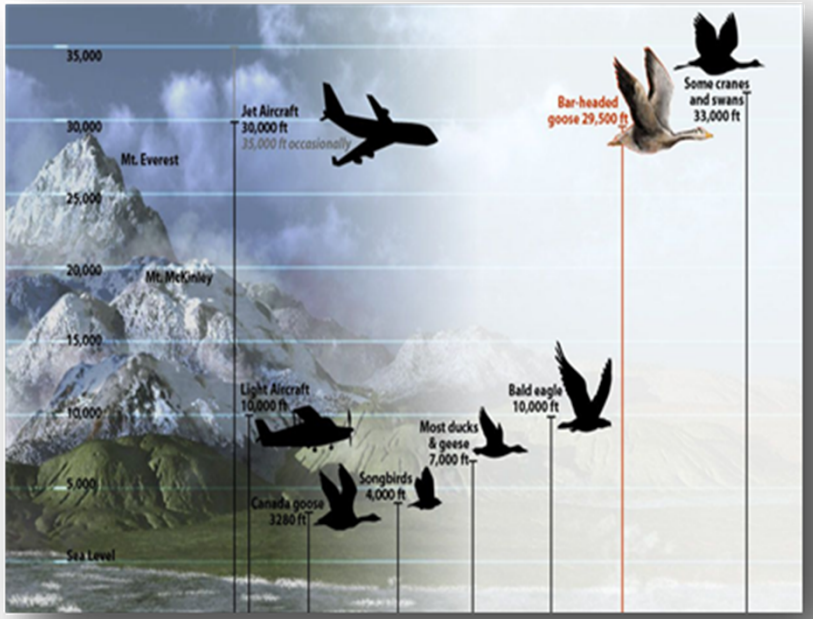
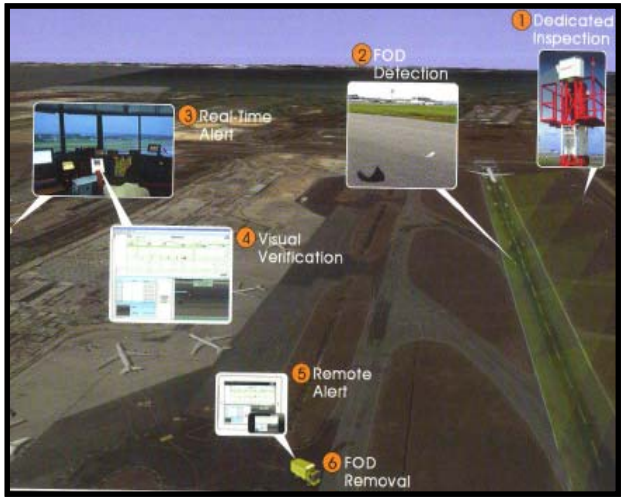
Technology

Session #6
Presentation #1

FOD & Wildlife Technologies





Available systems

Costs

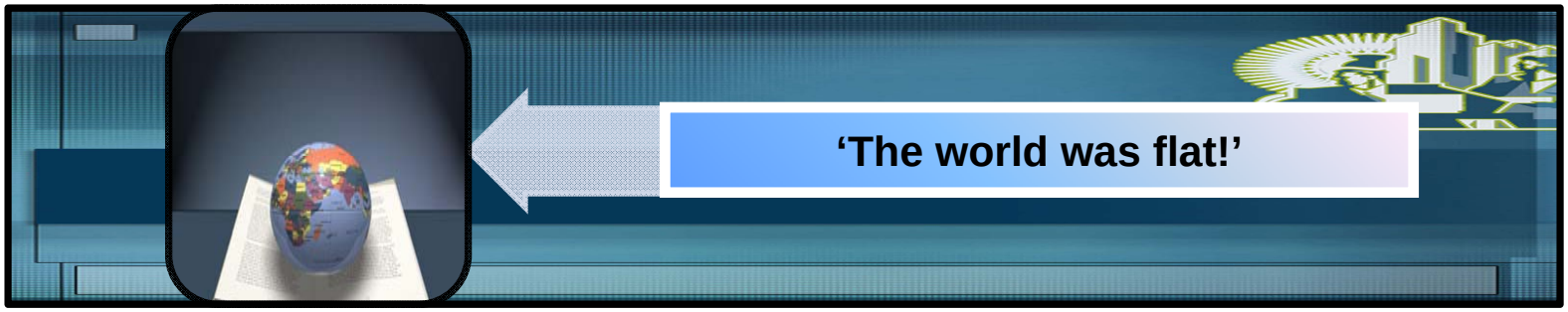
Benefits

http://aviation.globalincidentmap.com/

FOD & Wildlife Technologies - based on evidence

Statement

- At one time the greatest scientific minds of the world were convinced that…….?



‘The world was flat!’

What are we planning for: Strategic vision

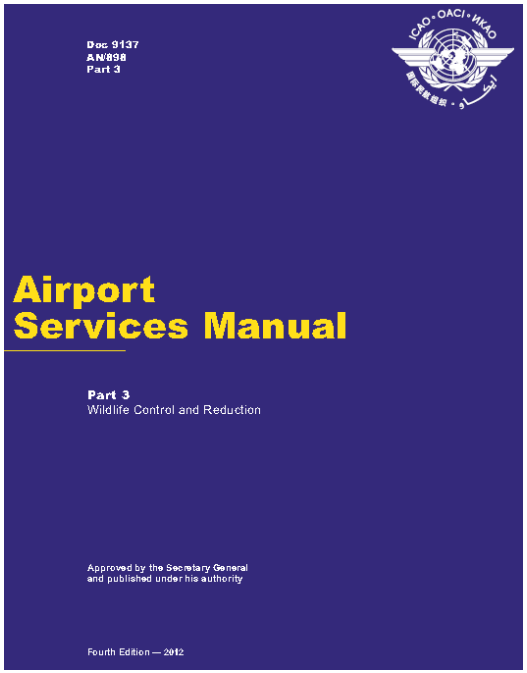
Informed vision:

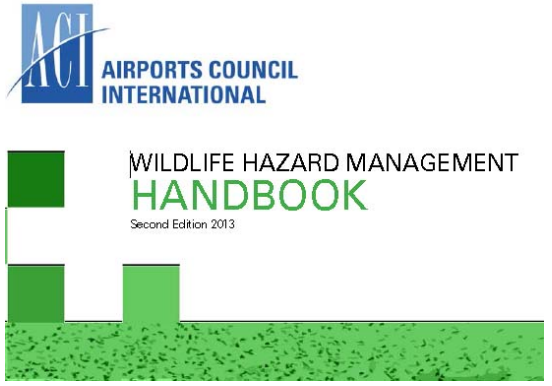
- Where will State/CAA/Airline/Aerodrome be in:
  - 2 years
  - 5 years
  - 10 years
  - 20 years

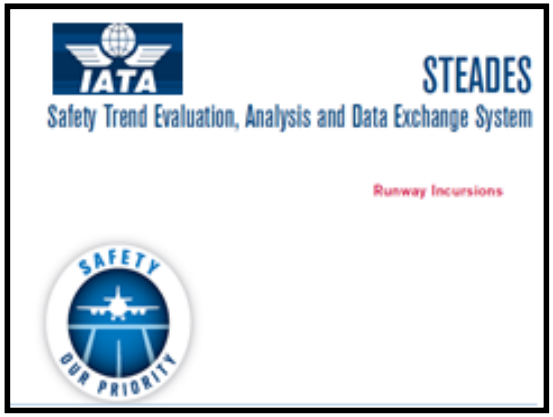
What factors shape the vision:

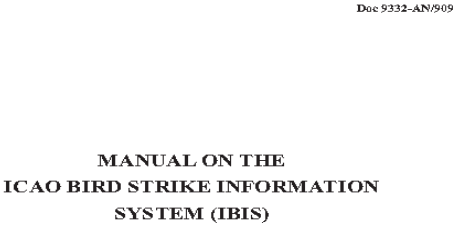
- Global factors
- Regional
- National
- social
- Environmental * Airport Carbon and Emissions Reporting Tool (ACERT)

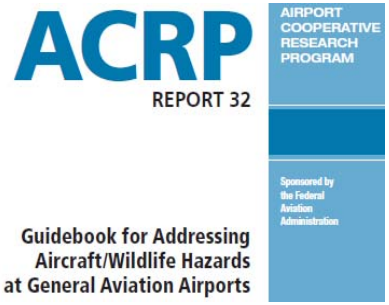
FOD Technologies based on evidence

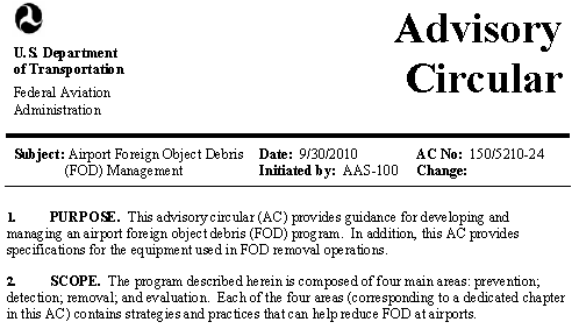












FOD & Wildlife Four Key Steps

- Evaluation
- Removal
- Detection
- Prevention

- **Currency of Programme is critical**

FOD Wildlife Technologies – What are you responsible for?

Amendment 10 to Annex 14, Volume I

- 9.4 **Wildlife** strike hazard reduction
- ***Note.—The presence of wildlife (birds and animals) on and in the aerodrome vicinity poses a serious threat to aircraft operational safety.***

- **59% below 100 feet (30 m)**
- **92% below 3,000 feet (900 m)**
- **Less than 2% above 10,000 feet (3000 m)**
- **Highest strike: 32,500 feet (10000 m)**

✈ **13 Kilometres from airport, particular attention to approach & Departures Route**

If it’s not documented, it’s not happening

- **Continuous Monitoring**
- If it’s not documented, it’s not happening
- Yearly review by responsible accountable person
- Approved by knowledgeable person

Aerodrome FOD Prevention

- Standard CCTV
- Low light cameras
- **R**adar with cameras mounted on pylons alongside runways
- Mobile radars mounted on vehicles
- Driven on the runways, taxiways, aprons and parking ramps
- Detectors mounted on the runway edge lights
- Radio frequency identification for tools

It must suit your Airports immediate problems & long term goals

QinetiQ

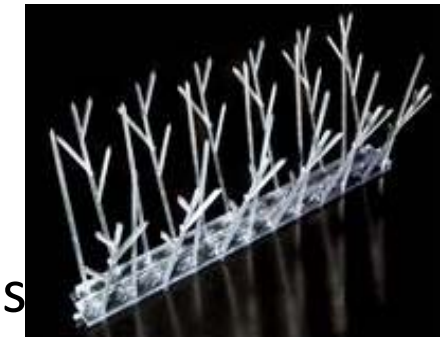
Trex Aviation Systems

Xsight Systems

Many providers

New Technologies/Equipment

Often Simple Technology is best:

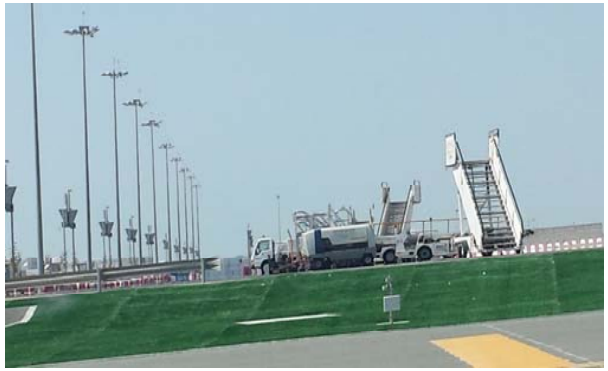


- **Good Housekeeping**
  - Related to baggage & Cargo
  - Covered ULD's & baggage carts with sides
  - Water bottles, coffee cups

In respect of Wildlife:

Good habitat management

- Strings
- Kites
- Hand held lasers
- Synthetic grass



New Technologies/Equipment

Pavement Cleaning

- FOD Amenesty
- Scheduled Deep Clean
- Ramp Sweeping for removing
- sand, rocks, metal parts, chipped concrete, asphalt

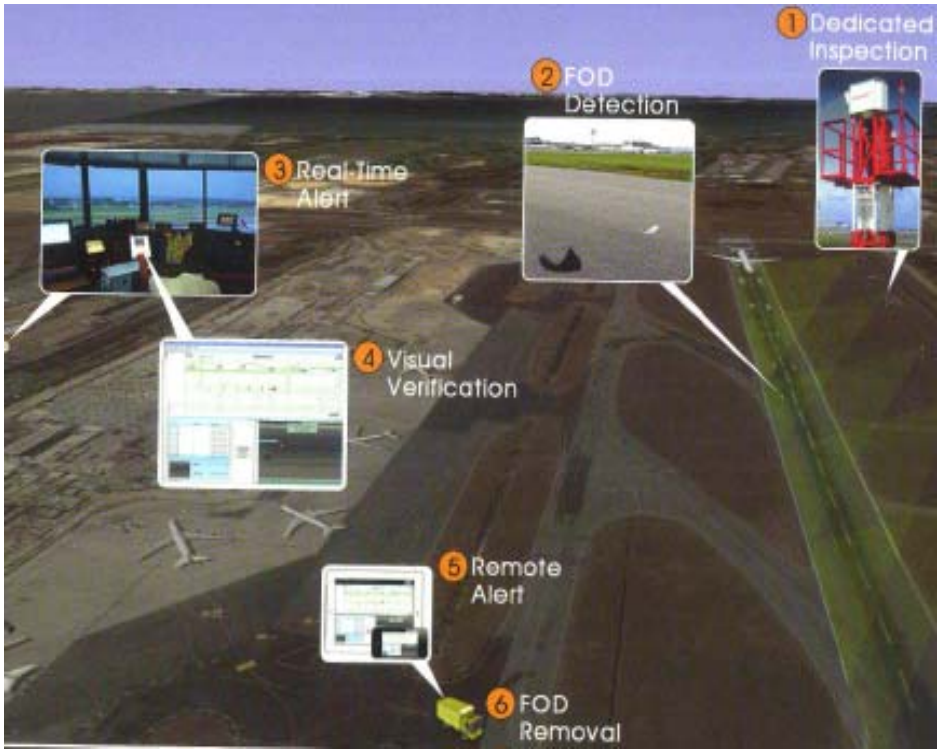
- Your FOD removal costs drop dramatically, attach to your vehicle and turn it into a powerful sweeping machine.
- Service lifespan over a decade

FOD Technologies based on evidence

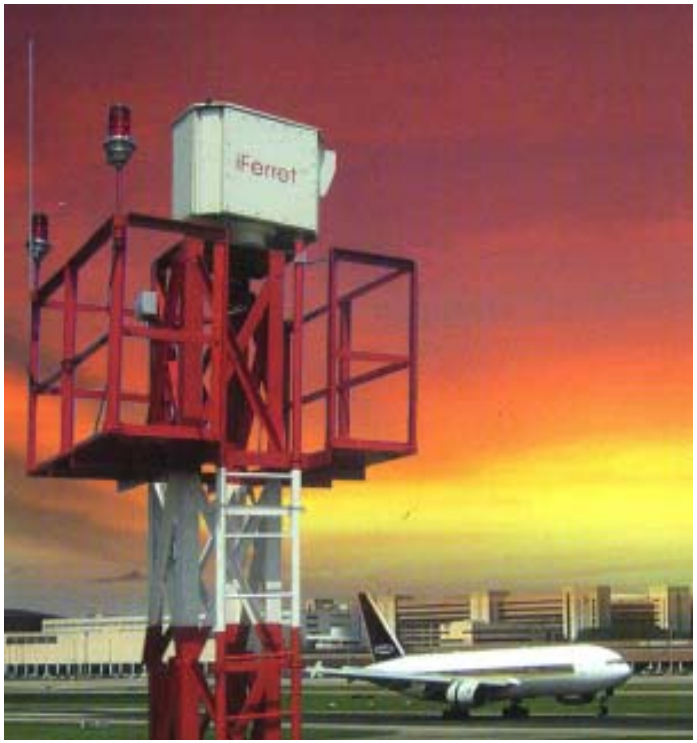
One vehicle-
Many Applications

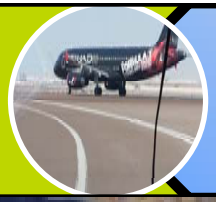
FOD Technologies

- Consider what airfield works are planned and apply new technologies at the same



Product Specifications	
Sensor	High resolution Electro-Optics (EO) Sensors
Number of Sensors	10 sensors per 3400m (11,155ft) runway
Position Accuracy	< 1m (3.2ft)
FOD Detection Size	Down to 2cm (0.8 inch)
Detection Rate	92% and above
Detection Time	Less than 1 minute for Day Detection and 2 minutes for Night Detection
Alert Types	Audio and visual, remote alert via mobile devices
Event Log	Date/Time stamp, location, classification and image
Video Playback	Continuous and event recording
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F), with optional environmental control
EMC/EMI	Zero interference with airport systems
Built-in Redundancy	Backup coverage by adjacent electro-optic sensors
Detection Coverage	Runways, taxiways, aprons, aircraft hangars and flight deck of aircraft carriers





In Conclusion

شكراً

Any Questions