CATS Program Evolution, Execution and Refreshment Activities

A Presentation to NDIA 50th Annual Targets, UAVs & Range Operations Symposium

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1 CATS History

- CATS is the basis of UK aerial targets capability.
- A fully contractor-owned, contractor-operated (COCO) service.
- To provide subsonic UAV targets to UK MOD anywhere in the world – the one-stop-shop.
- Subsumes all previous government and contractor operations.
- Contract signed on 14th December 2006, duration 20 years.
- Private Finance Initiative (PFI) style, formally a Public Private Partnership (PPP).
- QinetiQ is the prime contractor, currently supported by two principal subcontractors (Selex Galileo and Meggitt Defence Systems).

QinetiQ and predecessors delivering targets for in excess 50 years including:

- GAF Jindivik
- Short’s Stilleto {AQM 73}
- FRL Falconet
- Meggitt Banshee
- Rushton towed targets
- Meteor full scale target

AT trials in Cardigan Bay 1927
Defence Equipment and Support [DE&S] is the merged procurement and support organisation within the UK Ministry of Defence formed on 2 April 2007 with a mission to:

“To equip and support our armed forces for operations now and in the future”

TEST Project Team is a part of the Weapons cluster and manages CATS and the Long Term Partnering agreement.

QinetiQ is a British multinational defence technology company headquartered in Farnborough, United Kingdom. It was formed in 2001 as a result of a privatisation of a part of the government.

QinetiQ is listed on the London Stock Exchange and is a constituent of the FTSE 250 Index.

CATS is one of a number of contracts operated within the Managed Services sector of the company.

DE&S and QinetiQ operate CATS under a partnering arrangement.
2 What Does CATS Deliver?

- Aerial and Land targets worldwide
  - At Established Ranges
  - On Board Ship
- Mirach (based on Mirach 100/5)
- Voodoo
- Banshee
- Helicopter Pop Up
- Delivering in excess of 250 sorties per year
- Multiple Payloads including
  - MDI
  - IR enhancement by Flare and Hot nose
  - Radar Altimeter – to allow Sea Skimming
  - Radar Enhancements (Passive)
- Dual Targets on all types

Our Foundations

- Target Delivered on Time
- Right Target Delivered Snag Free
- Documentation on Time
- The Customers Extra

Right Target, On Time, Every Time
Mirach 100/5

- Currently operating with 43 different payload configurations
- Used for between 30 and 40 sorties per year of which 7-10 are “kill” flights
- Regularly switch between Aberporth and Hebrides in as short a time as 3 days
- In operation in QinetiQ in 2 variants for approximately 7 years
  - Radar tracking transponders
  - Diverless recovery system
  - Flight Termination receiver
  - Luneburg Lens 2 sizes – passive RCS enhancement
  - Wing tip Infra Red enhancement
  - Wing tip chaff and flare dispenser
  - Scalar Missed Distance Indicator
  - Radar Altimeter
  - Smoke
  - Identification Friend or Foe
  - Semi enhanced Radar tow [with or without MDI]
  - Infra Red enhanced Tow [with or without MDI]
  - Auxiliary tank x 2

- Alt – min 5m; max 39000ft
- Speed – min 178kts; max 510kts
- Range – 70Nm
- Endurance typically 45 minutes
- Can perform dual sorties
- Max manoeuvre – 7G
- Launched by JATO and recovered into the sea by parachute
Voodoo

- Evolved from just ground based air defence to Air to Air role for niche services
- Currently operating with 8 different payload configurations
- Launched by rail and recovered onto land by parachute
- In operation in QinetiQ for 2 years
  - Radar tracking transponders
  - Luneburg Lens – passive RCS enhancement
  - Wing tip chaff and flare dispenser
  - Scalar Missed Distance Indicator
  - Radar Altimeter
  - Smoke
  - IFF

- Alt – min 8m; max 30,000ft
- Speed – min 117kts; max 300kts
- Range – 54Nm
- Endurance typically 120 minutes
- Can perform dual sorties including with Banshee
- Max Manoeuvre – 5G [pull up]
Banshee

- Banshee used on 762 (83 kills) since service commences
- Currently operating it with 30 different payload configuration
- Available at QinetiQ Hebrides, Manorbier, Falklands and BATUS [Canada]
- In operation in QinetiQ for 4 years
  - Radar tracking transponders
  - Luneburg Lens – passive RCS enhancement
  - Wing tip chaff and flare dispenser
  - Scalar Missed Distance Indicator
  - Radar Altimeter
  - Smoke
  - Identification Friend or Foe
  - Laser pod [HVM Training]
- Alt – min 5m; max 16,400ft
- Speed – min 90kts; max 195kts
- Range – 54Nm
- Endurance typically 90 minutes
- Can perform dual sorties including with Voodoo
- Max Manoeuvre – 5G
- Launched by rail and recovered onto land by parachute
Helicopter Popup

- Currently operating with 8 different payload configuration
- Available for operation in QinetiQ for 4 years

- Passive RCS enhancement
- Chaff and flare dispenser
- Scalar Missed Distance Indicator
- Laser pod [HVM Training]
- Identification Friend or Foe

- Available at BATUS [Canada]
- Alt – max 40ft
- Range – 5.4Nm
- Endurance typically 8 hours
- Can perform dual sorties up to 3 lifters simultaneously
Anywhere worldwide (fully mobile service)
Everything fits into 20’ ISO containers (less PopUp)

**Firing venues**
- USA (McGregor, Camp Lejeune, China Lake, Point Mugu)
- **Falklands**
- Norway
- **BATUS Canada**
- Utska, Poland
- High seas (North Sea/Iceland/Worldwide)

**Tracking venues (training areas)**
- Salisbury Plain
- Otterburn
- Sennybridge
- Catterick and Faldom
- Stamford

MoD Hebrides
MoD Aberporth
ADR Manorbier
4 How will we measure success

- CATS is a KPI based contract:
  - Service Availability >97%
  - Target Availability
  - Target Reliability measured on sortie and payload performance
  - Safety and Approvals – on going and cumulative
- All impact on invoicing and we have high metrics for the entirety of the contract

- Partnership Charter
- Monthly & Annual Contract Report
- Regular Operational meetings
- Scheduled Executive Reviews
- Innovation Reviews to enhance the service

A QinetiQ Banshee in special configuration to support security training for the Olympic Games
Upgrading the portfolio for tomorrow’s missiles
“Courage is what it takes to stand up and speak; courage is also what it takes to sit down and listen.”
— Winston Churchill

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