



PRESENTED BY

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28 September
2007

Chemring Countermeasures Ltd

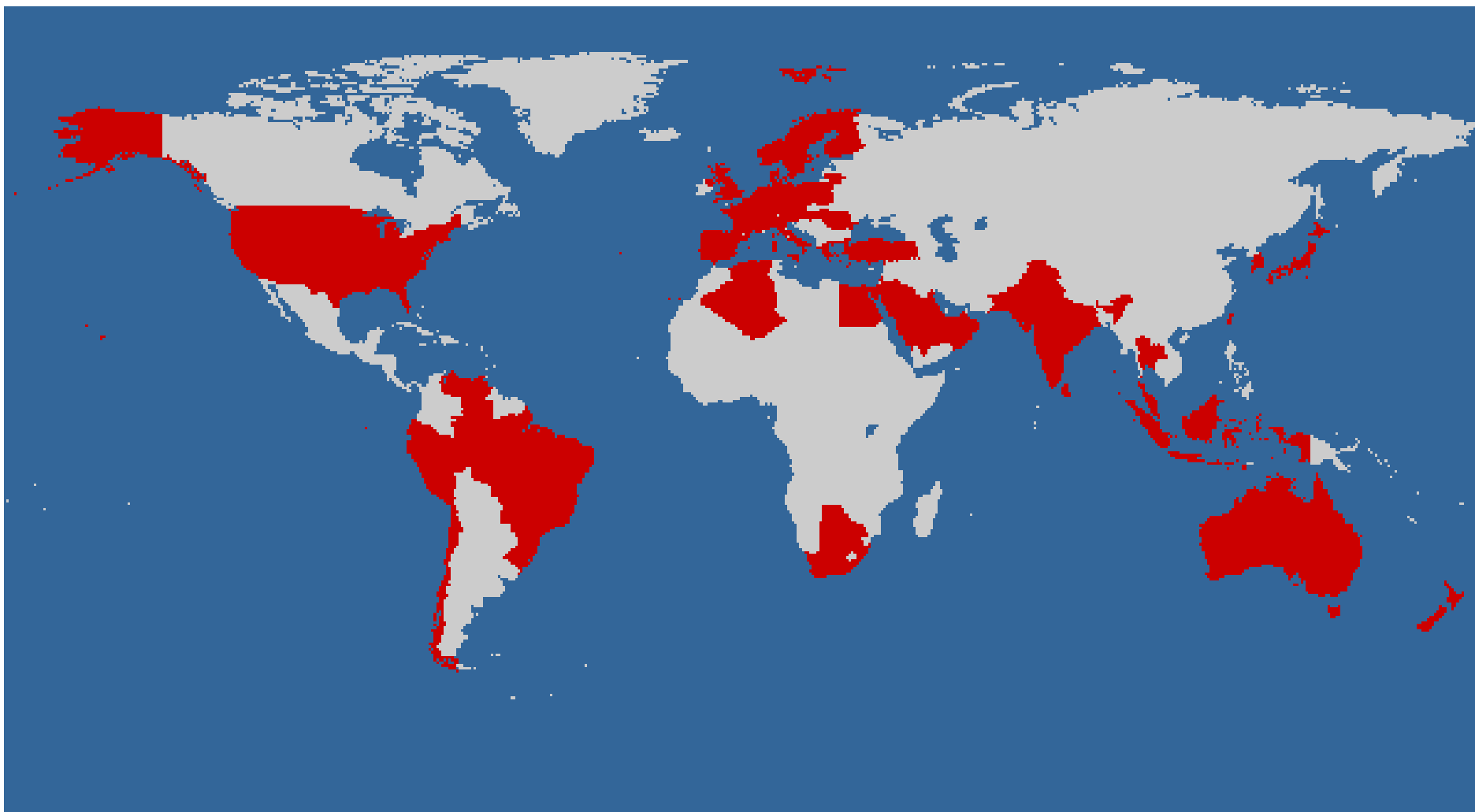
UK WAH-64 Apache Test Firing CCM Flares



Our Credentials

- Over 40 years Experience in RF & IR Decoy Design, development & manufacture for Air, Sea and Land applications.
- The UK Design Authority and Prime supplier for Air Chaff & Flare Decoys.
- The UK Prime supplier for All Expendable Naval Decoys including the new 216 Round for the Type 45's.
- The Design Authority & Supplier to NETMA for the Euro-Fighter Typhoon chaff and flare decoys.
- Suppliers of Air and Naval IR and RF Countermeasures to 51 countries world-wide.
- Extensive Teaming Arrangements with OEM's and Prime Contractors.
- Extensive R&D expertise backed up with Modelling capability
- Integrated EW Specialist Marketing Group supported by highly qualified Chemists and Engineers.

Products In Service in 51 Countries



UK Operation

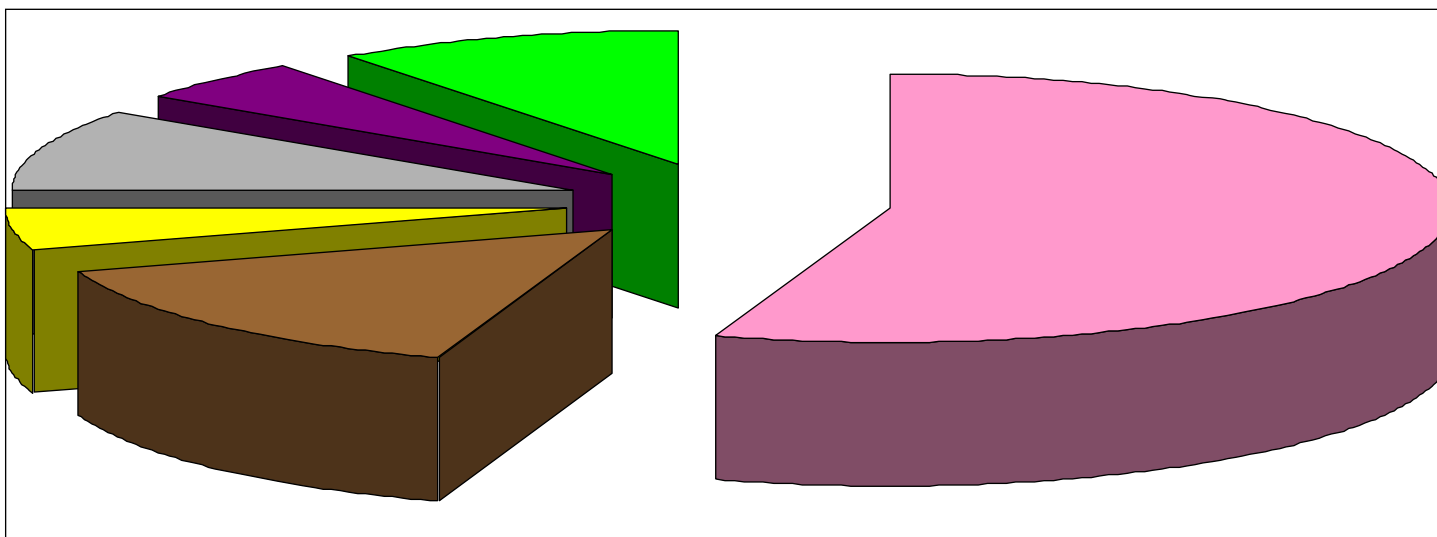
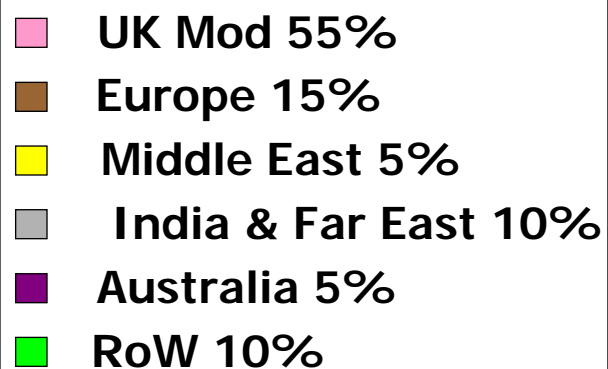


- High Post, Salisbury - 100 acre licensed explosive site.
- BS EN ISO 9001
- Leading Technology Centre – State of the art Testing facilities.
- Centrally Located to the MoD, DSTL, RAF, RN and Army.
- 400 Staff

Salisbury Site

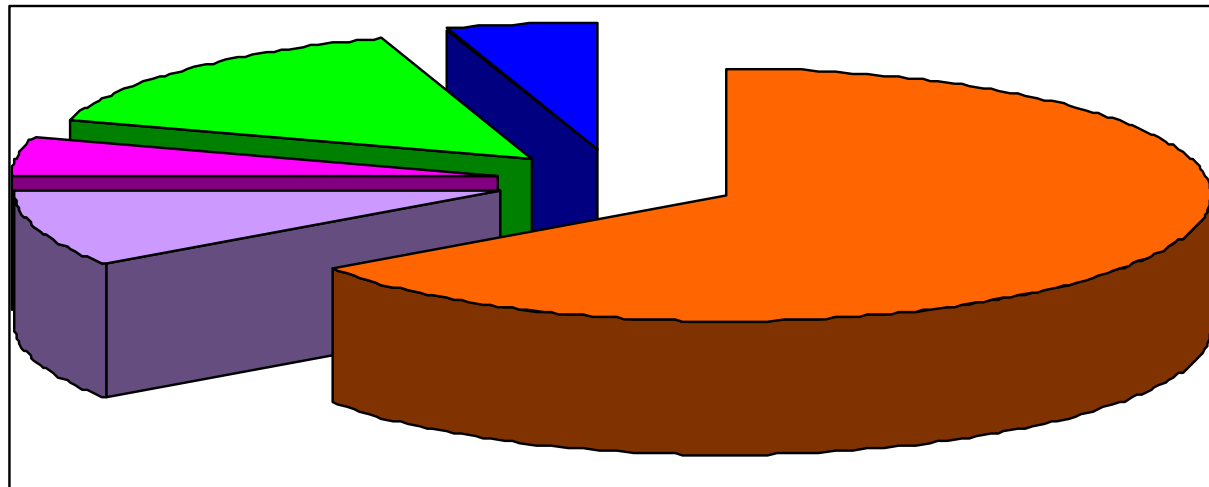


Market Split for Current Year



Product Turnover Split

■ IR Flares 65% ■ Air Chaff 10% ■ Naval Payloads 5% ■ Naval Rounds 15% ■ Technology 5%



The Threat



SA-7 Grail



SA-14 Gremlin



SA-16 Gimlet



SA-18 Grouse



Stinger



Mistral



SA-9 Gaskin



SA-13 Gopher



Maximum Ranges From **2.5** To **4.0** Nautical Miles. Maximum Altitude Up To **16,000** feet.

The “Fire & Forget” Threat



AIR COUNTERMEASURES - FLARE FORMATS



Rectangular Variants



Round Variants

Our Product Range covers Virtually All Types of Aircraft



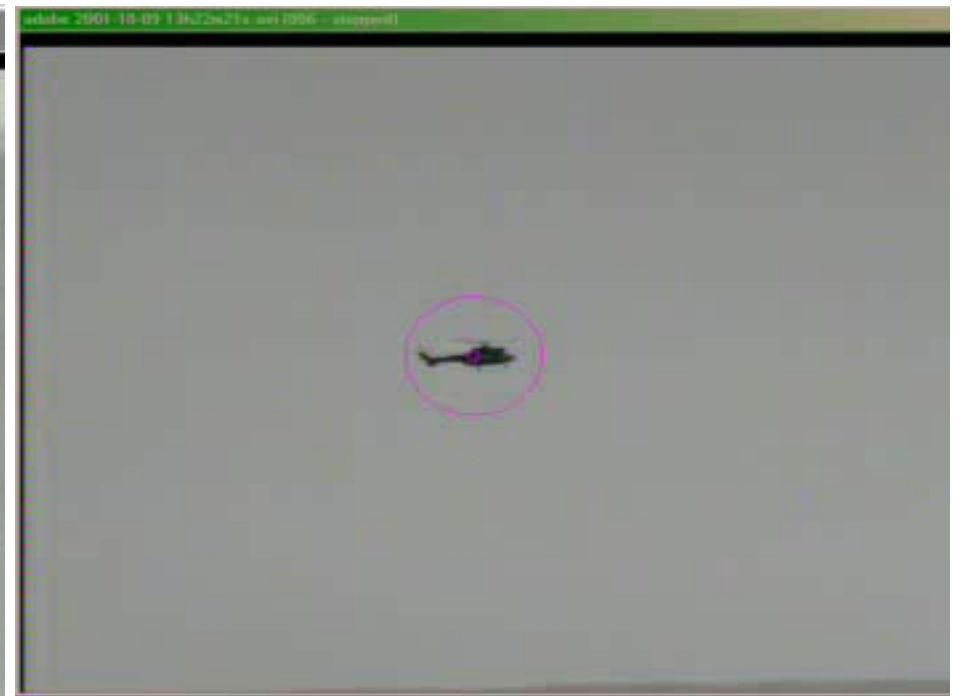
Our Product Range covers Virtually All Helicopter Types



New Generation Spectral Flares



**Latest Generation MANPAD
against Spectral Flare**



**Latest Generation MANPAD
against MTV Flare**

Types Of Spectral Flares

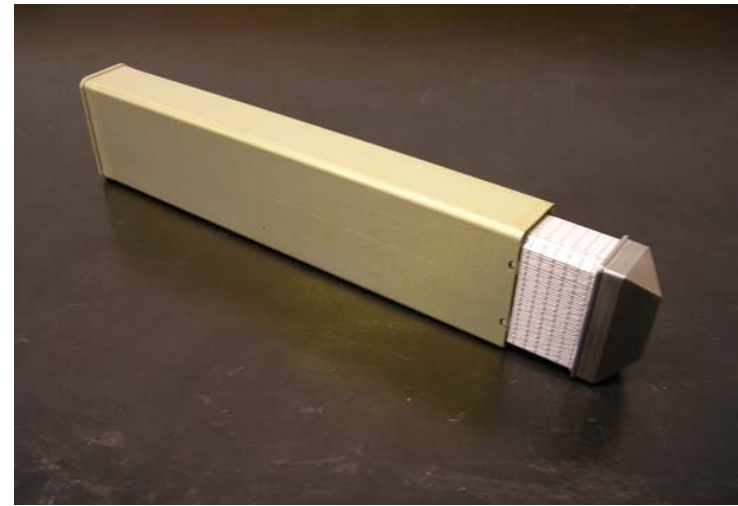
Currently In Service & Completing qualification

- DSTL39 1x1 format in service on all UK helicopters and NATO customers
- DSTL49 2x1 Variant selected by UK Mod, RAAF and other users for transport Aircraft protection such as C130, C27 etc.
- DSTL23 2x1 variant for Fast Jet Fighter Protection such as UK Harrier A/C and NATO F16 A/C
- DSTL51 Dual shot MTV/Spectral 55mm Variant for Tornado A/C protection. UK, Italy, Germany & Saudi Arabia
- DSTL53 55mm Typhoon variant for operational readiness deployment.
- Currently Manufacturing in excess of 260,000 flares per annum from new facility which was commissioned in April 2007

Aerodynamic Flares



DSTL 22 Aerodynamic Flare



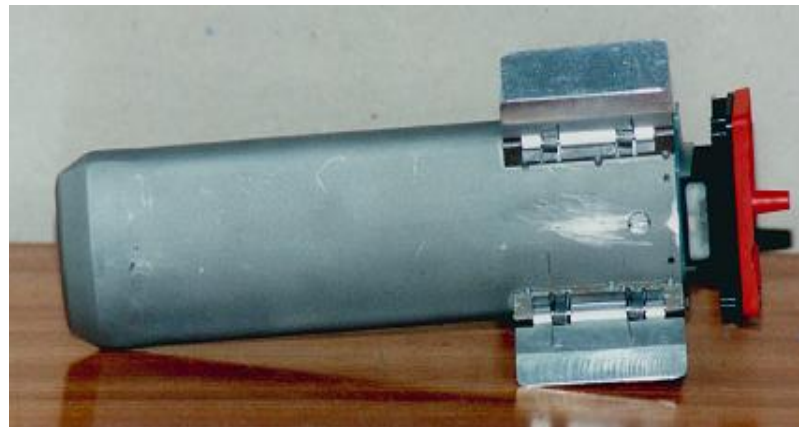
CCM 218 Aerodynamic Flare

- In Operation on ALL UK Helicopters
- Current Contracts for NATO and Australia

**For use on Helicopters and Transport Aircraft with Forward Firing Dispensers
For protection against Rate Biased Seeker Threats**

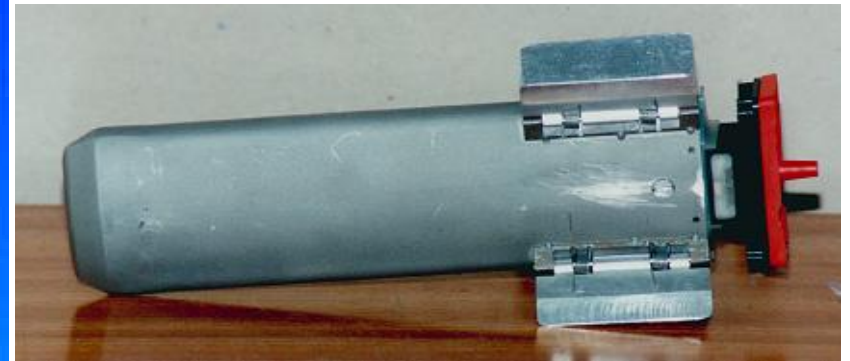
Thrusted Flares K7

- Fast Jet Protection against Rate Biased Seeker Threats
- Extensively tested on RCAF F16 Fighter
- In operational use on the IAF AMX Ground Attack Fighter



K7 Thrusted Flare on RNAF F16

Deployed at 450Knts



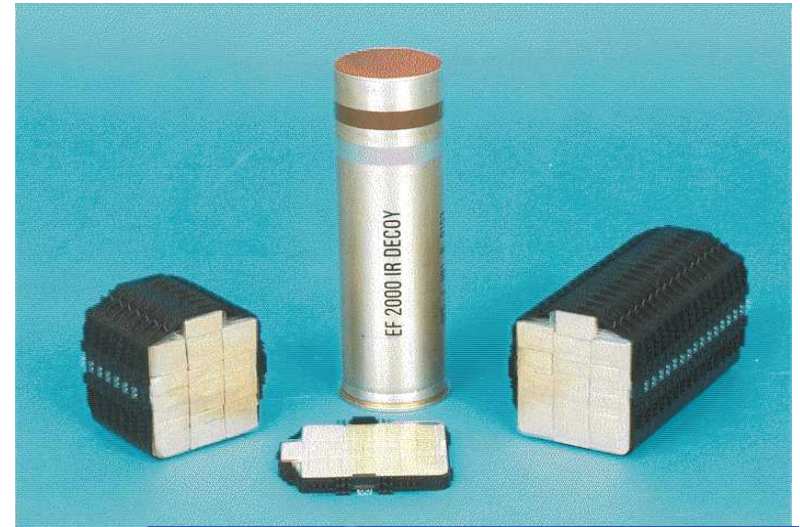
New Platforms with CCM Products Selected



Flare Exports for Typhoon

Opportunity

- 4 Nations – UK, Germany, Italy, Spain
- Exports – Saudi Arabia and Austria
- Over 600 A/C on Order
- Production orders received
- BOL Chaff



Russian built platforms

Mig-29, Su-30, Mi17, Mi24, Mi35

- Opportunity
 - Large aircraft fleet in India,
 - Malaysia, Algeria and Indonesia
- Status
 - New products being qualified
 - Contracts already received



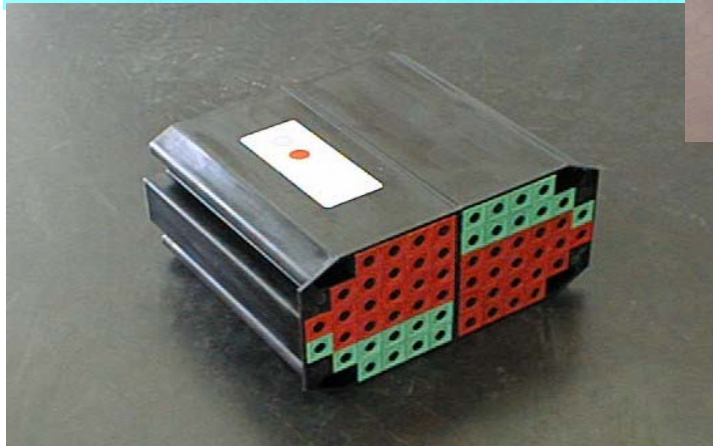
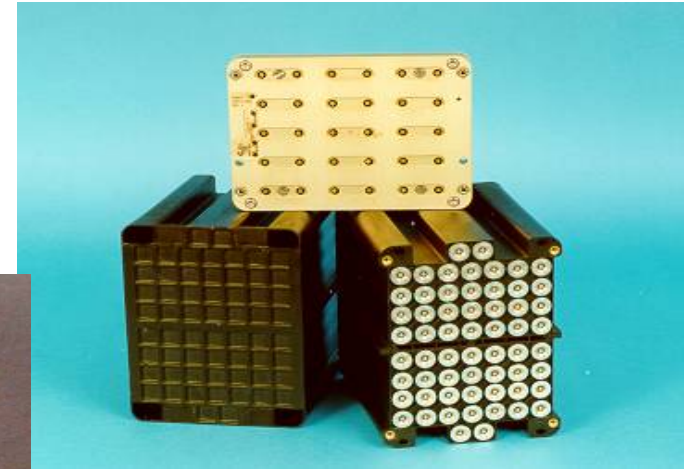
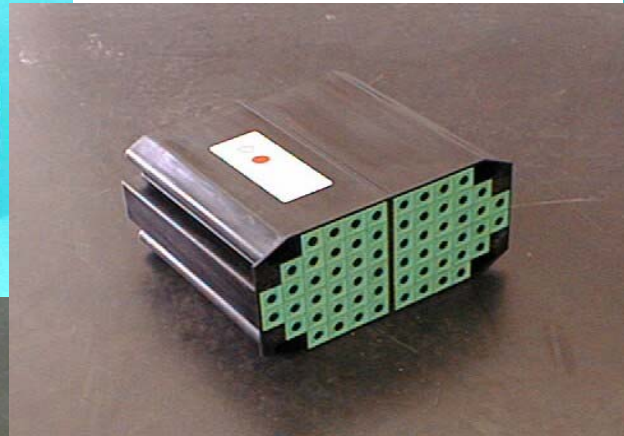
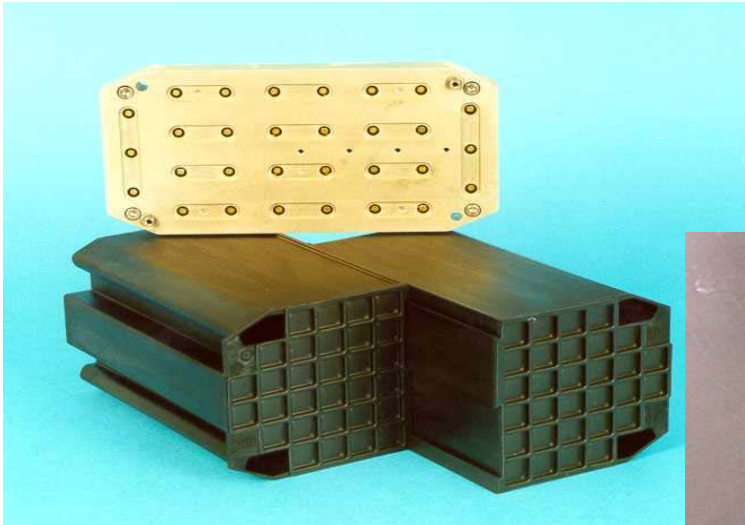
Growth in Helicopter Protection



- Development of helicopter Defensive Aids Suites (DAS) by major systems prime contractors
- Increasing threat to helicopter platforms
 - High profile target
 - Vulnerable to attack – low altitude, slow
- Growth in helicopter fleet fitted with countermeasures dispensers
 - New Helos – CMDS fitted as standard e.g. Apache, EH101, NH90 & Tiger
 - Existing helos being retrofitted with MAWs and CMDS

Modular Expendable Block

variants for Advanced Helicopter Protection



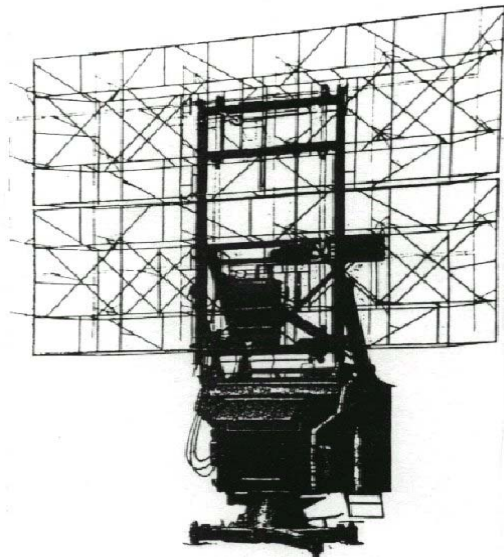
Current MEB Helicopter Fits

- Augusta A 109
- Sea King
- Lynx
- Chinook
- MI-24
- EH-101
- HH-3F
- Puma, Cougar, Oyrx
- A129 Mangusta
- Apache
- AB 412



AIR COUNTERMEASURES - CHAFF PRODUCTS

- First used in July 1943 against German Radars (Operation Gomorrah - first Hamburg raid)



Freya Early
Warning Radar



Giant Wurzburg Radar

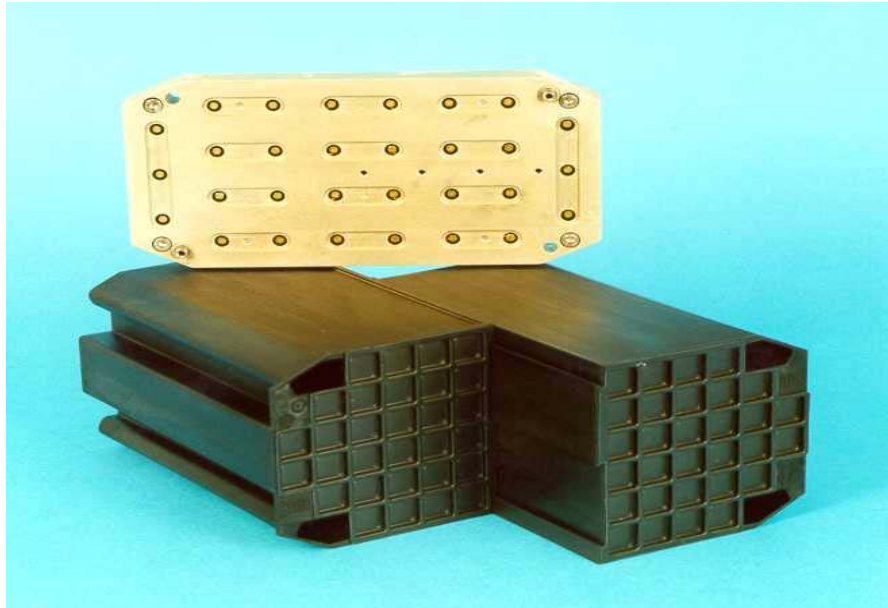
CHAFF MANUFACTURE



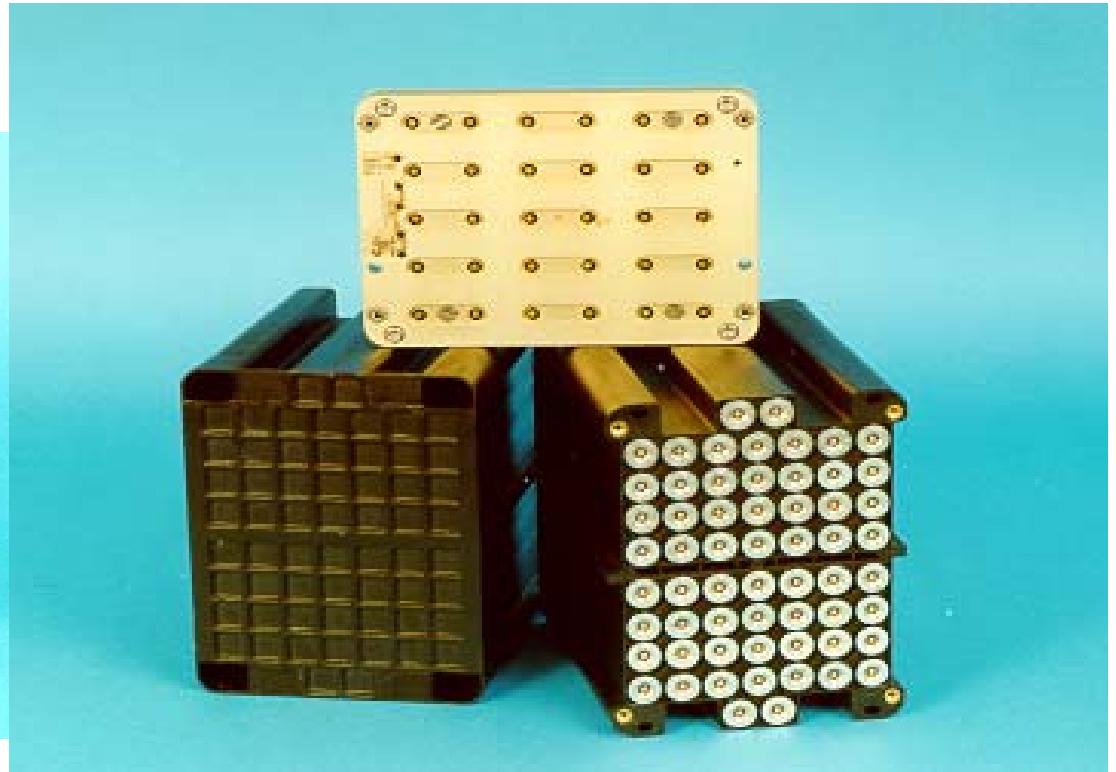
CHAFF PRODUCTS



Modular Expendable Block (MEB) For Ultimate RF Self- Protection



RF MEB 147-60 for Helicopters
In Combat Operation on All UK Helos

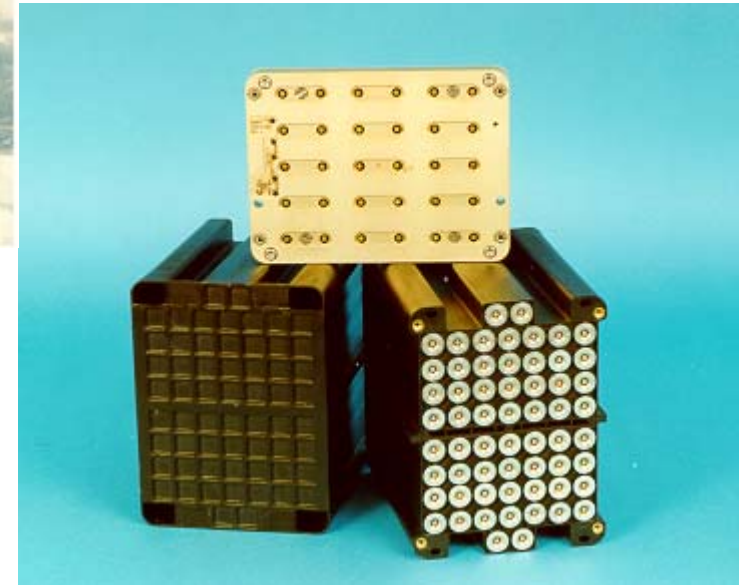


RF MEB 65-60 for Fighters & Transport A/C
In Combat Operation on UK C130's

RF 65/60 MEB on RDAF F16 PIDS



- Standard NATO Choice for F16 fighters and C130 Transport
- Selected for A400M Transport A/C



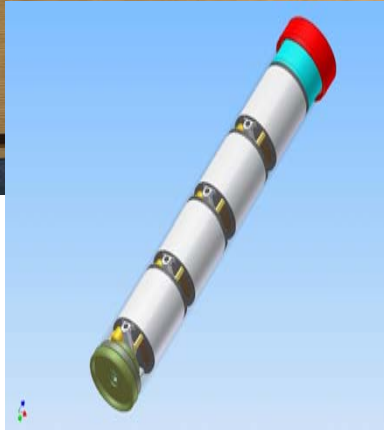
AIR COUNTERMEASURES - Civil Airline Missile Protection System (CAMPS)



NAVAL COUNTERMEASURES - THREAT



Naval Rounds and Payloads



Naval Round Product Portfolio

5 - INCH/130mm ROUNDS

- Seagnat - 214 RF Seduction mortar
 - 216 RF Distraction rocket
- New Seagnat 216 IM Round (Recently awarded £12m Contract from UK MoD)
- PW216 RF Distraction rocket
- PIRATE IR Seduction mortar
- TALOS IR Seduction mortar in development
- CHIMERA dual mode RF and IR Seduction mortar
- LEAD,LOKI and BABEL torpedo decoy rounds in development

112mm ROUNDS

- RF Seduction mortar
- IR Seduction mortar

Protecting Navies of the World

Suppliers to 27 Countries

Denmark
Germany
Italy
Norway
Netherlands
Poland
Portugal
Spain
Turkey
UK RN
Finland
Sweden
Australia
New Zealand

UAE
Israel
Egypt
Japan
South Africa
Malaysia
India
Pakistan
Chile
Brazil
Oman
Brunei



Naval Round Deployment



Pirate IR Round



Chimera Dual IR/RF Round



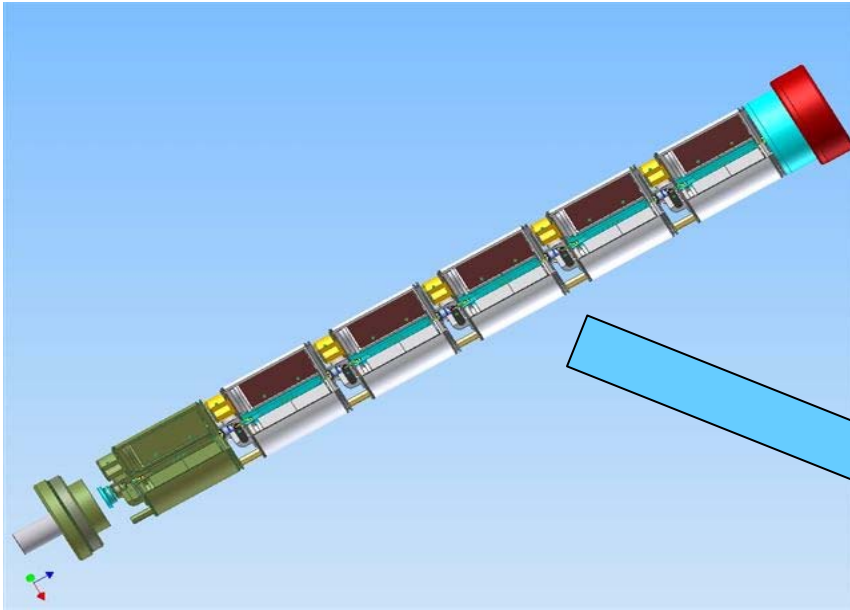
Chimera: Chaff & IR

Advanced Naval Countermeasures

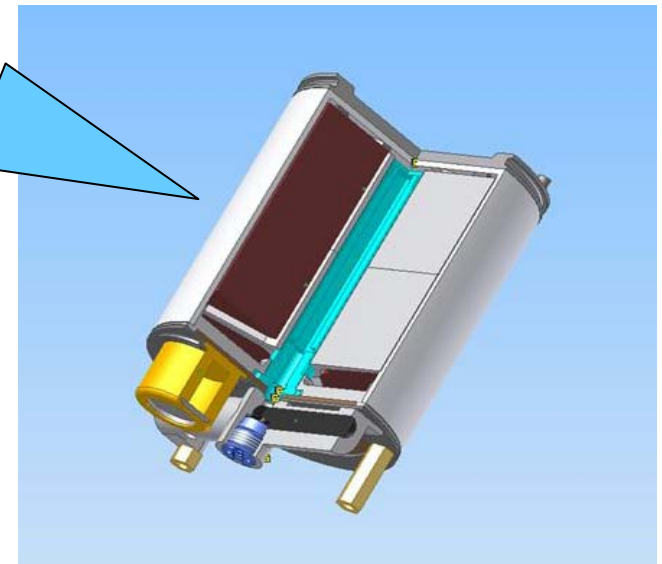
Corner Reflector



New Development Multi Range Rounds



Opportunity would be taken to refine spectral balance



Similar External Design for
RF Round

ASW Countermeasures Teamed with QinetiQ & JS Marine



**LOKI Torpedo Decoy
Sold to NATO**



BABEL Acoustic Noise Generator Decoy

**Thank You for Your Attention and Please Feel Free to Ask
ANY QUESTIONS?**

