

# MILITARY SYSTEMS

E T E C H N O L O G Y

**SPECIAL  
FEATURE  
EDITION**

**CBRN**

**AVON PROTECTION**

**CBRN Respiratory Protection at its Best**

**EMCEL FILTERS**

**Military Filters for CBRN Applications**

**PROENGIN**

**Biological and Chemical Detection  
Alarm with One Sensor: AP4C-VB**

**SCOTT SAFETY**

**Respiratory Protection Equipment**

**PLUS...**

**BREAKING NEWS FROM...**

**COBHAM**

**I-BODI**

**NORTHROP GRUMMAN**

**PELI PRODUCTS**

**TELEDYNE**

Image Courtesy of Scott Safety





## SURPLUS AND SHELF LIFE EXPIRED SMALL ARMS AMMUNITION IN OPERATIONAL THEATRES

In any conflict there is a large amount of Small Arms Ammunition (SAA) issued to the troops on the ground which when unpacked cannot be returned to stock. Other issues such as climate and age render the ammunition unfit for front line use and in some cases unfit for training.

This SAA takes valuable resources and manpower to look after it until it is transported from theatre or destroyed. The TRADS 20, built and supplied by EOD Solutions Ltd and Caldo Engineering, would solve these issues and be a cost-effective way of destroying SAA as it became available.

Container or Trailer-mounted, the TRADS 20, which has been proven in Afghanistan, can destroy up to one and a half tons per day and will need the minimum of resources as it is completely self-contained and meets the EU Waste Incinerator Directive for emissions to atmosphere.

The TRADS 20 requires only diesel to operate. Lime and Urea is supplied with the system and one 20-foot container can hold enough of these materials to work for up to one year. The trailer-mounted version can be pulled to FOB and other outstations and camps so it also reduces the need to transport SAA in theatre. The TRADS 20 is ahead of its rivals as it requires only two personnel to work it with a small number of personnel for unpacking and searching the scrap to ensure all the ammunition is destroyed. The system is currently working in Afghanistan and has proven to have a good reliability and production record. Average cost per day is approximately £200 plus labour. Daily and routine maintenance is elementary and can be undertaken by anyone with a rudimentary knowledge of engineering. Full training and first site commissioning is included in the cost of the system and a company technician will remain for the first two weeks to ensure the personnel who work the system are completely at home with the system.

EOD Solutions Ltd in conjunction with Caldo Engineering Also produce a TRADS 40 system (pictured right) for larger quantities of small arms ammunition destruction. This system will destroy approximately 750 Kgs of ammunition per hour and is a constant feed rotary kiln product. EOD Solutions Ltd is currently using this system in Afghanistan under contract to the UK Ministry of Defence as part of the drawdown from Camp Bastion. Both systems come complete with first installation and training.



### EOD Solutions Ltd

14 Victoria Road | Finedon Wellingborough  
Northants | NN9 5JD | United Kingdom

Telephone: +44 (0) 1536 518802

Email: [info@eodsonline.com](mailto:info@eodsonline.com)

[www.eodsonline.com](http://www.eodsonline.com)







## Welcome to this edition of the Military Systems & Technology newsletter.

As an established web portal for the International Defence & Aerospace Industry, we strive to provide a comprehensive and detailed listing of Military Equipment Suppliers, Products and Services. This newsletter is designed to keep you up-to-date with latest news and events within the Defence Industry's Governing Bodies, Organisations and Companies.

# CONTENTS

## SUPPLIER PROFILES

<b>Avon Protection</b>	<b>4</b>
CBRN Respiratory Protection at its Best	
<b>Proengin</b>	<b>6</b>
Biological and Chemical detection alarm with one sensor: AP4C-VB	
<b>Emcel Filters</b>	<b>8</b>
Military Filters for CBRN Applications	
<b>OWR</b>	<b>10</b>
Manufacturers of Outstanding Decontamination Equipment	
<b>Scott</b>	<b>12</b>
Scott Safety Respiratory Protection Equipment	
<b>Smiths Detection</b>	<b>14</b>
World leader in Products & Systems to Detect & Identify Threats to our Freedom	

## BREAKING NEWS

<b>COBHAM</b>	<b>18</b>
<b>I-BODI</b>	<b>20</b>
<b>NORTHROP GRUMMAN</b>	<b>22</b>
<b>PELI PRODUCTS</b>	<b>24</b>
<b>TELEDYNE</b>	<b>26</b>





# AVON PROTECTION — CBRN RESPIRATORY PROTECTION AT ITS BEST

Avon Protection is the recognized global market leader in respiratory protection system technology. An unrivalled 80 year pedigree in military mask design and manufacture has placed Avon Protection at the heart of numerous national defense and tactical Personal Protective Equipment (PPE) deployment strategies.

Avon Protection's expanding global client base now includes military forces, civil and first line defense troops, emergency service teams and industrial, marine, mineral and oil extraction site personnel. All put their trust in Avon's advanced respiratory protection solutions to shield them from every possible threat.

It has built up a unique capability in this area based on a range of advanced CBRN technologies in respirator design, filtration and compressed air breathing apparatus. With new conflicts and growing threat scenarios creating additional daily risks for individuals in military, law enforcement, first responder and emergency service applications, Avon maintains a global market leading position by investing in continual research and development to meet changing operational requirements.

also come in multiple sizes, are robust and easy to decontaminate and maintain. In terms of the respirators themselves, they include:

**50 Series of Military Mask/Respirators**  
The 50 series is the most comprehensive set of respiratory solutions on the market today. Through this range, Avon has introduced novel ground breaking technology to the industry with features such as a wide panoramic optically correct flexible polyurethane visor for maximum field of view and enhanced weapons compatibility.

## Military CBRN Respirators and Masks

Avon Protection offers a comprehensive range of CBRN Respirators/Masks that have been designed to cope with the fiercest challenges from specific CBRN situations that face today's military and first responders.

Each solution has been developed for the operational user when in a high risk environment. In terms of actual benefits, all of Avon's respirators are quick to don, comfortable to wear, provide the highest protection factor, enable the user to have a wide field of view and include a communications port compatible with all current specialist radio systems. They





Included in the 50 series are the FM50 (a military mask), the C50 and FM53.

## The C50 General Service Masks

The C50 General Service Mask was developed in line with the latest NATO requirements, and has achieved both CE and NIOSH CBRN certification. It gives the user unprecedented levels of protection, comfort and versatility in the most hostile of environments.

It offers full integration with helmets, CBRN protective clothing and communication systems. With the appropriate filter, the C50 can protect against a wide range of CBRN threats including chemical warfare agents, toxic industrial chemicals and materials, biological and radiological hazards and riot agents.

## The FM53 Respirator Mask

The CE approved FM53 is the only mask of its kind, offering users the highest levels of versatility, comfort and protection. It features a lever which allows the wearer to easily switch between negative (filter) and positive (SCBA) pressure with a simple operator movement. Its unique shape allows for the easy incorporation of a helmet interface, and it includes a superior communication interface allowing dual coms and VPU use, as well as an ability to be used with SCBA, PAPR and filters.

It also includes a drinking system that is capable of drawing half a litre of water in three minutes to rehydrate the specialist user during periods of high intensity workloads. With the added benefit of CE certification, users from both the military and civil sectors now have a multifunctional mask that they can use in any given CBRN situation without the need to change equipment.

## The ST53 Multi-role Respiratory System

The CE approved ST53™ is the most technically advanced respiratory system on the marketplace today, and is now available to civilian organizations such as police forces and emergency response teams. The ST53™ offers a selection of respiratory possibilities when in the heat of a threat scenario.

With the FM53 at its heart, and a choice of short (seven or 14 minutes) or long duration (up to approximately 60 minutes) compressed air cylinders, it is possible to enter a location on filter mode, assess the situation, and then



change to SCBA mode if the need arises without having to leave and change equipment. With a range of accessories available as well, it is the perfect versatile system for building and confined space entry where the threats are unknown.

## FM12 CBRN Respirator

The FM12 is one of Avon's legacy masks, and is probably the most widely used respirator across the world by military and law enforcement organizations. It provides high levels of respiratory protection against both classical chemical warfare agents and toxic industrial materials.

It has CE and NIOSH accreditation, and is the mask of choice for the Quick Don CBRN ensemble – a complete CBRN personal

protection equipment suit for the UK police that can be donned in five minutes.

## The NH15 Emergency Respirator Hood

The NIOSH approved NH15 is the smallest single use Emergency Hood on the market. It gives the wearer a high level of respiratory, eye and face protection against all airborne CBRN threats and liquid agent splashes for a minimum of 15 minutes, enabling users to evacuate from a contaminated area. The clear material it is manufactured from has been designed to aid the wearer with recognition of other people and objects as well as allow for superior visual communication. Finally, the NH15 is compact, easy to don and has the ability to be stored in a glove compartment, in desk drawers or worn on a utility belt, allowing easy access and therefore an effective response.



# PROENGIN

Chemical and biological detection systems

# BIOLOGICAL AND CHEMICAL DETECTION ALARM WITH ONE SENSOR: AP4C-VB

Proengin has developed biological and chemical warfare agents field detectors using flame spectrophotometry.

This technology consists in burning within a tiny hydrogen flame, gases or particles and analyzing the spectra of the light of the flame to determine what atoms are present in the burned gas or particles. This very simple and universal physical principle, used by chemical industry since decades, has been applied by Proengin to Chemical warfare agents detection on the field.

The well-known and world widely used AP2C and AP4C have proven the capacity of that technology to be the most reliable on the field with the lowest false alarm rate and the simplest ease of use.

Flame spectrophotometry technology has also been applied by Proengin to biological alarm detection.

Biological alarm detection consists in detecting in the atmosphere sudden changes in the concentration of bacteria or living particles. This sudden increase or the simple fact to reach a threshold in the living particles concentration might be the sign of an airborne biological attack.

Biological alarm detection technologies do not have the capacity to determine if the particles that have caused that alarm are really dangerous. However, such an alarm would lead to a sampling of air and particles and a further analysis will confirm the presence of lethal bacteria.

It is important therefore important that a Biological Alarm Detector will be differentiate biological particles from dust, pollens or any other particles.

Flame Spectrophotometry detectors developed by Proengin, such as MAB, use the content of potassium and sodium in, more particularly, the ratio Potassium/sodium concentration in each particle to discriminate living particles from others.

This technology is well adapted to field use as it is not affected by environmental conditions - humidity- or dust or diesel exhausts.

## **The first instrument developed by Proengin for biological detection is the MAB:**

MAB has the unique capacity of detecting and categorizing biological particles with a proven extremely low false alarm rate and the unique capacity to discriminate dangerous or suspicious biological particles such as Anthrax spores from natural background. It has been designed to be mounted on tracked vehicles.

MAB is now in service in more than 10 countries by armed forces.

As Proengin chemical detectors also use Flame spectrophotometry by detection the presence of phosphorus, sulfur, arsenic and HNO within







the molecules , it became therefore natural to combine those two types of detection within only one instrument: available in two versions AP4C-VB.and AP4C-FB.

AP4C-VB is not the combination of one chemical detector and one biological detector in one box.

Only one sensor is used and chemical and biological detection are simultaneously done; in the worst environmental conditions, AP4C-VB detects the presence of both chemical warfare agents and biological warfare agents with a high sensitivity and specificity.

Those detections are automatically done and do not require any technical skills for the user.

Besides its technical capacities, one of the main advantages of APC-VB is economical. Having the

two types of detection performed by only one sensor allows to significantly reduce the price of the complete biological-chemical detection function.

Moreover, flame spectrophotometry requires very few consumables and a minimal maintenance. No change filters is required.

With AP4C-VB, another version of the instrument has been specifically designed for 24/7 usage. In this configuration , hydrogen that is the fuel of the flame at the heart of flame spectrophotometry, is simply produced by the

electrolysis of water, and the only consumable of AP4C-FB is one liter of water per month.

Both instruments are field proven. For instance, AP4C-FB is now in service in several critical infrastructures at the highest level.

AP4C-VB and AP4C-FB represent a new generation of reliable instruments at an affordable price for a critical function of the field.



# Military Filters

## For CBRN

## Applications



**EMCEL Filters** design and manufacture CBRN filters to provide high level of protection required in Fighting Vehicles, Ships, Buildings and Protective Shelters.



Within our range of CBRN filters is the latest generation, NATO Radial manufactured in accordance with STANAG 4447 and the No. 1 Army Vehicle filter, both of which have been tested and pass the gas test performance requirements of AEP 54. TIC versions of these filters are also available. Dummy filters can be supplied so systems can be run when CBRN protection is not required. Other filters produced include a comprehensive range of Pre-Filters to suit most applications.

EMCEL design and manufacture combination HEPA/Carbon units for critical CBRN filtration in laboratories, government forensic departments, test facilities, experimental chambers and decontamination sites.

## EMCEL FILTERS LIMITED

Blatchford Road, Horsham, West Sussex, RH13 5RA, United Kingdom

Tel: (01403) 253215

E-mail: [info@emcelfilters.co.uk](mailto:info@emcelfilters.co.uk)

[www.emcelfilters.co.uk](http://www.emcelfilters.co.uk)



FM24138



# ***Military Filters***

## ***For HVAC***

### ***Applications***

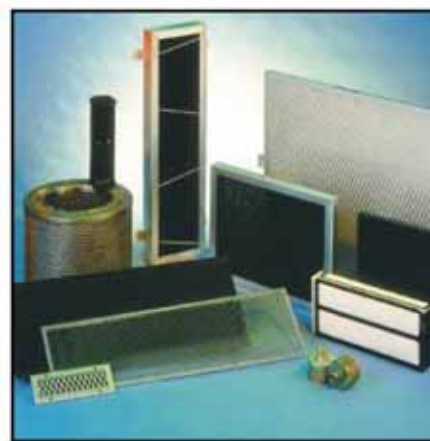


EMCEL's HVAC range is designed to suit application and provide high performance removal of gas, vapour, odour and particulate contaminants, whilst also meeting the very stringent criteria laid down by designers and specifiers.

Stipulations can include:

- Weight restrictions.
- Minimum service life requirements.
- Access and size limitations,
- Shock resistance
- Ensuring that only approved materials are employed in the filter construction.

These filters are frequently subjected to extreme climatic conditions



Solutions can be custom designed utilising our CAD/Design capabilities including 3D modelling with Inventor, photo realistic rendering or 2D Autocad drafting.

Inventor allows the import & export of industry standard file formats such as .STP, .SAT and .IGES to allow interaction with customer design programmes and planning..

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Blatchford Road, Horsham, West Sussex, RH13 5RA, United Kingdom

Tel: (01403) 253215

E-mail: [info@emcelfilters.co.uk](mailto:info@emcelfilters.co.uk)

**[www.emcelfilters.co.uk](http://www.emcelfilters.co.uk)**



**FM24138**



# MANUFACTURERS OF OUTSTANDING DECONTAMINATION EQUIPMENT



As a manufacturer of decontamination equipment, OWR has been setting the standards for CBRN defence and civil protection for more than 50 years. Using modern techniques and user-friendly application systems, OWR develops and builds efficient mobile decontamination solutions for its customers, offering them a complete service from product development to training and after sales service. With a full range of products ranging from small hand-held spray applicators such as the Cobra, to the containerised multi purpose decontamination systems such as the MPD 100i, OWR can offer a solution to fit the needs of the customer, and with a design team constantly developing

new and innovative products, OWR is setting the standards for the future of decontamination and helping to provide a safer and more certain future for the world.

## Compact Decontamination Equipment COBRA Decontamination Spray Unit

The COBRA is a 0.4 ltrs decontamination spray unit used for emergency decontamination or disinfection. Giving a

spray area of approximately 11m<sup>2</sup>, the COBRA can be filled with any liquid decontamination or disinfection solution and has been developed in close cooperation with both military and civil customers as part of their personal protective equipment for CBRN operations. The hand held unit contains a patented pressure pump system with which the operator can quickly create a pressure to allow the liquid to be sprayed. The COBRA has a metal stainless steel body and chemical resistant seals and requires no special preparation before use. The COBRA comes either as a stand alone unit supplied with a carrying bag which clips to a belt, or can be incorporated into kit supplied in a robust plastic carry case. Light, Transportable Thermal Fogging System - DECOFOG



The Decofog is a light, transportable thermal fogging system designed to apply decontamination solutions as a fog. It is simple to use, has no mechanical parts and can be set up for use in seconds. Based on "jet-engine technology" it uses hot air to vaporise a solution and turn it into a fog with particles of 1 to 4 microns. The Decofog is robust and been designed to be operator friendly with large grip handles. It is supplied standard with an operators



harness and metal travel case. Using chemically resistant parts it is suitable for use with aggressive chemicals and needs little maintenance. The Decofog is used by multiple NATO countries and has the NATO Stock Number NSN 4230-01-499-5612.

## Decontamination and Disinfection Fogging Device - FOGBOOSTER

The FOGBOOSTER is the new generation of decontamination and disinfection fogging devices. By using compressed air combined with an especially designed nozzle, decontamination or disinfection fluid is microscopically atomized to form particles on a micro-scale basis to produce a highly effective dry mist or fog. The FOGBOOSTER produces a micro-film mist which covers all surfaces and gets into all gaps and joints, detoxifying or decontaminating all surfaces. The Fogbooster is lightweight (approx 6 kg) quiet and highly mobile and can either use standard compressed air bottles or a compressor to run.

## Fast Response Mobile Decontamination System - SMGD RACCOON

The SMGD has been designed as a fast response mobile decontamination system. Completely self contained with its own generator, diesel and decontamination solution tanks, it is a compact decontamination unit for the application of water-free decontaminants when decontaminating vehicles, large equipment, infrastructure, roads and high-value equipment. The system is based on a low pressure spraying system and comes complete with decon spray lances and an independent high pressure cleaning unit for pre-cleaning.



The generator of the SMGD creates enough power to run the decontamination system and provide external power for the independent sprayer and lights. Designed to be transported to the decontamination site on a pick-up, once un-loaded it can be easily moved easily by one person whilst still running. The unit is ready to use within 1 minute and needs only to be switched on. Multi Purpose Decontamination System - DEDAS

The DEDAS is a universal mixing unit which can be programmed to mix all commercially known decontamination solutions. The patented low-pressure system allows the mixing of emulsions, foam and diluted solutions for decontamination purposes, in either small or large quantities. It has a capacity of up to 200l/min and can even be used with seawater. The DEDAS can be used as a stand-alone unit but is used as the heart of the OWR MPD 100 multi purpose decontamination system.

## SURF-EX Decontamination Unit

The SURF-Ex is a decontamination unit which uses industrial vacuuming technology combined with a spray-extraction system to clean and decontaminate surfaces of CBRN, HazMat and explosive material. The SURF-Ex can be used to vacuum all types of dry hazardous dust without danger to the operator due to its comprehensive filtering and dust collection system. It can also be used to clear up liquids and uses a spray-extraction system to decontaminate and clean surfaces of hazardous and dangerous chemicals. By using GD-6 with the spray extraction system, the surfaces of sensitive equipment can be decontaminated without risk. Using comprehensive selection of inter-changeable vacuuming and spray heads ensures that the SURF-EX can be used to tackle multiple decontamination tasks.

The SURF-EX was successfully demonstrated in Fukushima, Japan and was successfully used to clean vehicles, equipment and external surfaces of radiation.



## Multi Purpose Decontamination Units - MPD

The Multi Purpose Decontamination Unit or MPD is a complete decontamination system. Contained in a 20ft ISO container a standard unit can decontaminate 120 persons per hour, 20 light vehicles per hour, or 6000m<sup>2</sup> of terrain decontamination. Despite its large capacity, the MPD100 is a highly mobile unit containing 3000 ltrs of water and can be operated using 4 personnel.

**The MPD 100** has recently been upgraded to include the UAM (Universal Application Module). The MPD 100i can apply ready mixed decontamination solution using low pressure technology and offers an enhanced decontamination capacity.

### GD-6

The decontamination solution GD-6 is a ready to use patented decontamination solution which is used to decontaminate chemical warfare agents. It is especially effective when used with OWR low pressure application technology, but can be used with any spray unit and fogging units.







# SCOTT SAFETY RESPIRATORY PROTECTION EQUIPMENT

Scott are leaders in the design and manufacture of Respiratory Protection Equipment (RPE). Scott's range includes military and civil defence "gas masks" and filters, Powered Air Purifying Respirators (PAPR), Self-Contained Breathing Apparatus (SCBA) and Escape Sets (Emergency Egress Breathing Devices – EEBD).

Supplying military, CBRNe first responder and civil defence customers is an important part of Scott's business but they are also market-leaders in the provision of RPE to industrial and fire-fighting markets. This has proved invaluable during recent operations, where some Urgent Operational Requirements (UOR's) were met by utilising



technology from within Scott's "industrial market" portfolio.

The breadth and diversity of Scott's expertise frequently enables them to provide quick and often novel responses to respiratory protection requirements. They invest heavily in research and development for RPE employing dedicated engineering teams in centres of excellence globally.

Key products in the Scott portfolio include:-

## The General Service Respirator (GSR)

The new twin filter, single flexible lens CBRN respiratory protection ensemble developed to the exacting requirements of the UK MOD.



Offering unprecedented levels of respiratory protection, including Toxic Industrial Chemicals and ground breaking levels of particulate protection (against biological hazards, radiological dusts and viruses) GSR also combines a list of design features to offer significantly reduced physiological and psychological burden to the user, enhanced field of view and easier communication. GSR platform variants can now facilitate the use of positive pressure supplied air technologies meaning combination respirators for specialist users incorporating SCBA, PAPR and supplied airline in addition to negative pressure APR filters are possible.

## The "M" Range of CBRN Respirators and Filters

The M95 and M98 offer both military and civil defence solutions to CBRN respiratory protection. The M'95 is a conventional binocular mask with drinking facilities and is ideally suited to military and Civil Defence requirements where personal weapon sighting is part of the requirement. The M98 has an identical level of protection but with a large single visor offers a wider field of view and better facial recognition, a feature that can be important for crowd control and cordon duties.

Additionally Scott design and manufacture a range of filters to meet customer specified performance requirements.

## Self Contained Breathing Apparatus

World leaders in Self Contained Breathing Apparatus, Scott design and manufacture SCBA to both NIOSH and European CBRN standards. Scott also specialise in the provision of SCBA for damage control on ships and include amongst their customers The US Navy, The Royal Navy, The Swedish Navy and the Pakistan Navy.



## Powered Air Purifying Respirators

Scott have considerable long term experience in the design and manufacture of PAPR, indeed the first ever PAPR CE certified was produced at their Skelmersdale UK facility. This is further backed by their in house filter design and manufacturing capability making them an ideal partner to fill operational capability gaps.

## Emergency Egress Breathing Devices – EEBD

Compressed air, filtering and oxygen generating escape sets form part of the Scott range of escape hoods.

Scott also have significant capability in Thermal Imaging, Gas Detection, Air Compressors and Communications for fire fighting and related applications.

## Though Life Capability Management

Scott have also developed a full working understanding of TLMC and understand the importance of working across all the lines of development, with the unified customer, to develop the required capability.



[www.scottsafety.com](http://www.scottsafety.com)

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# smiths detection

bringing technology to life

## WORLD LEADER IN PRODUCTS & SYSTEMS TO DETECT & IDENTIFY THREATS TO OUR FREEDOM



Smiths Detection is a world leader in products and systems to detect and identify threats to our freedom, safeguarding society against terrorism and criminality and protecting our emergency responders and armed forces.

Its technologies detect chemical and biological warfare agents, explosives and narcotics, including powerful X-ray imaging technologies to identify weapons and illegal goods.

### Main Product Groups

#### Chemical Agent Detection

For military forces, the threat of chemical weapons has existed for decades and can radically affect operations, particularly on land and sea. That threat is increasingly

spreading to the civilian population. The ability to detect an attack by chemical agents or toxic industrial chemicals (TICs), rapidly, is therefore vital to protect those in the front line and the public at large.

Smiths Detection is acknowledged as a global leader in chemical agent detection, offering individual products and fully integrated systems with highly sensitive detection capabilities that are reliable, accurate and easy to use.

#### Chemical Identification Equipment

When called to deal with a potentially toxic incident, emergency response teams have to know what they are facing. Smiths Detection equips them with the most advanced technology, to face potential threats from unknown substances, with confidence.







Chemical identification equipment from Smiths Detection is trusted by emergency responders, HAZMAT teams, law enforcement, and federal & local government agencies around the world, putting laboratory power that requires minimal training into the hands of emergency responders.

## Explosives Trace Detection

Trace detection products from Smiths Detection are designed to detect the deadly threat from explosive substances, through the rapid analysis (in around 8 seconds) of samples taken on swabs.

Hand-held and table top equipment analyses trace particles on baggage or clothing.

## Biological Agent Detection

Protection of troops against attack by biological warfare agents has long been a focus for Smiths Detection, which has developed advanced bio detection suites for biological agent detection and now acts as systems integrators on major programmes, to defeat bioterrorism.

As the threat target has widened to the general public, the technology has been adapted and simplified to create field deployable instruments that offer laboratory standard identification of bio agents, on-the-spot, with minimum delay.

## X-ray Security Scanners

X-ray scanner technology is a central field of expertise within Smiths Detection. X-ray inspection equipment plays an integral part in scanning for explosives, weapons, narcotics and contraband such as

cigarettes and alcohol in baggage, mail and freight.

The wide range of equipment enables aviation security authorities, police professionals, customs experts and other private industry customers to optimise security measures, non-intrusively.

## More About Smiths Detection

The company is truly global with Research and Development in six countries and systems deployed from Alaska to New Zealand. These factors make Smiths Detection the perfect industry partner for governments in advancing technology to defeat the terrorist threat.

Smiths Detection takes science out of the laboratory and puts it in the hands of security professionals. Its technologies are built into products that safeguard those in the front line and the public at large; protecting buildings and transport systems; screening everything from a ticket to a truck.

The products and systems are designed for the real world and are based on a deep understanding of the real operational environment faced by security and military professionals. An increasing activity for Smiths Detection is taking individual products and integrating them to form complete security solutions, including networking, customised to individual requirements.

Among the major users of Smiths Detection equipment are armed forces and public service workers who need protection against the growing threat of chemical and biological agents; security professionals who ensure our safety on board aircraft or in public places; police



forces and customs officers combating a rising tide of illicit narcotics; and the emergency services who are confronted with unknown threats every time they attend an incident.

Some 220,000 chemical agent detectors have been supplied to international governments, principally for use in protecting military forces.

Smiths Detection has long been committed to eliminating threats at airports and on board aircraft, and provides security solutions for mass-transit systems and passenger terminals across the world. More than 75,000 X-ray systems have been sold worldwide and over 5,000 trace detectors for explosives are deployed in U.S. airports alone.

Smiths Detection systems provide similar levels of security in government buildings, public facilities, vital utilities and high-profile sporting events.

For customs and border protection Smiths Detection offers complete x-ray systems for cargo inspection that scan single parcels or fully loaded freight containers. Smiths Detection is one of five operating divisions of Smiths Group, a global technology company listed on the London Stock Exchange. Smiths employs more than 23,000 people in over 50 countries.



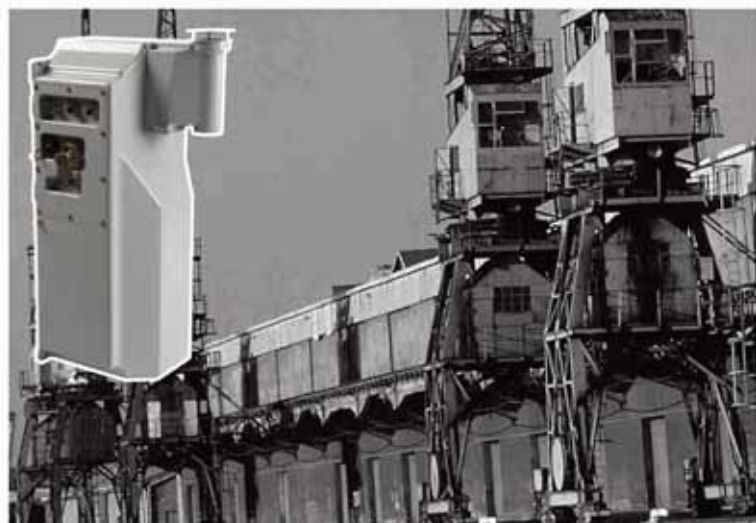


# PROENGIN

Chemical and biological detection systems



Scientifically and field-proven  
chemical and biological warfare  
agents detectors for soldiers,  
vehicles, buildings and  
naval ships



PROENGIN

1. Rue de l'industrie

78210 Saint Cyr l'Ecole, FRANCE

Tel: (33) 1 30 58 47 34 / Fax: (33) 1 30 58 93 51

E-mail: [contact@proengin.com](mailto:contact@proengin.com)

[www.proengin.com](http://www.proengin.com)



# DEMAND THE BEST

**PROTECTING 2 MILLION  
RESPONDERS IN 60 COUNTRIES\***



\* 2 million equates to all Avon customers

Visit Avon Protection at:

CBRNe Convergence Congress & Exhibition, 28-30 October 2014, Long Island, New York, USA, Stand 16  
Indo Defence, 05-08 November 2014, JI Expo Kemayoran, Jakarta, Indonesia, Stand DP105



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**AVON**  
PROTECTION





# Cobham Unmanned Systems – Successful performance at M-ELROB

Cobham Unmanned Systems has picked up to winner awards at the 5th Military European Land Robot Trial 2014 (M-ELROB). The event, which took place in Warsaw (Poland), is in-tended to provide the manufacturers of robotic systems with the opportunity to present their products in "... scenarios [which] have been developed in closest co-operation with the military users and [to] reflect the up-to-date requirements of the forces." [www.elrob.org].

The participants in these events are very familiar with the general tasks in the scenarios. However the exact setup and the conditions of the area are unknown to them. The circumstances they are in, when taking part in the event, can therefore be compared to a real mission. They know what they are expected to do, but they do not know what it is they will encounter.

In order to see what the robotic systems are capable of when really in a mission, one of the

rules is that the robots must be controlled without directly looking at the robot in the scenario. Being in an unknown area and having no direct line of sight probably is what makes the conditions so real and so different from the general laboratory setup or self-made scenarios. At the M-ELROB 2014 the EOD robot telemax was twice the winner of best scenario performance. It came first in the categories "Reconnaissance and surveillance in non-urban environment" and in "Reconnoitering of structures". Cobham Unmanned Systems is very proud to thus continue the long and successful tradition of telerob Gesellschaft für Fernhan tierungstechnik mbH, that is now doing business as Cobham Unmanned Systems, and achieved best scenario performances at the previous M-ELROB in the categories "Reconnaissance and surveillance – RSTA" (2010) and "Innovation Award(s)" (2010 and 2012).

However, these are not the only events



Cobham Unmanned Systems performed well at. The EURATHLON, the civilian equivalent to the M-ELROB, also aims at challenging robotic systems with real world scenarios. At this event, Cobham Unmanned Systems in 2013 performed best in "Mobile manipulation for handling hazardous material" and in "Search and rescue in a smoke filled underground structure". Altogether this perfectly shows the capabilities of Cobham Unmanned Systems robotic systems.

The M-ELROB also conducts non-public scenarios for EOD experts. This year the "Reconnaissance and disposal of bombs and explosive devices" scenario took place. The results are for obvious reasons not publically available but by looking at the performance in the scenarios mentioned above you can guess what Cobham Unmanned Systems has shown in these scenarios. If you can prove a professional interest and an expertise in the EOD area the results may be shown to you upon request.





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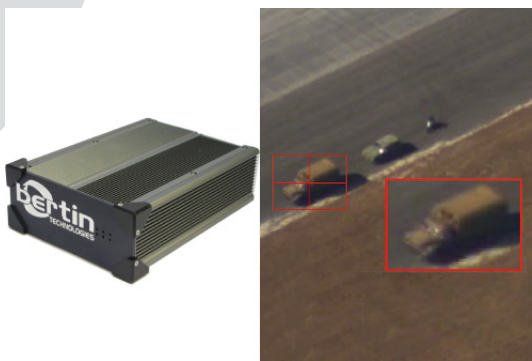
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# A New Recruit - PORTON MAN

Meet Porton Man, an articulated, robotic mannequin, designed and built by i-bodi Technology for Dstl to test chemical and biological (CB) protective suits and equipment for the UK's Armed Forces. It is the latest mannequin development for i-bodi Technology, a company with 10 years experience of designing and building military test equipment for various defence organisations such as DRDC (Canada), DSTO (Australia), DGA (France) and Dstl (UK).

Unique in its capabilities, Porton Man is designed to accurately represent the military user. Using state of the art technology, this computer controlled mannequin is able to walk, march, run, sit, kneel and lift its arms as if sighting a weapon. Jez Gibson Harris, CEO of i-bodi Technology said "Our brief was to produce a light-weight, robotic mannequin that had a wide range of movement, fitted the anthropometric data and was easy to handle". Porton Man was produced using chemically resistant, carbon composite body parts. Weighing only 14kg, the mannequin is far lighter than its predecessors which were less advanced and weighed 80kg. Dr Jaime Cummins from Dstl's Protective Clothing, Chemical and Biological Protection Department said that "we will be able to assess



and characterise protective clothing in ways which were not previously possible. We are immensely proud to have this mannequin as part of our capability to protect against the threat posed by chemical and biological agents". I-bodi Technology have designed this robotic mannequin to have body sensors that are able to record data during tests using live or simulant agents and carry out real-time analysis. This cutting edge technology will help design the next generation of protective suits and equipment enabling them to be tested in a realistic but secure environment.

The team at i-bodi Technology have a wealth of industry experience and specialise in providing intelligent solutions. Mike Franklin, chief Design Engineer at i-bodi Technology, was recently awarded the BEEA Design Engineer of the Year 2014 and is testimony to his innovative designs within strict commercial limits. Other projects include; the design and build of a computer controlled, sweating, heated head form (FARSS) to evaluate fogging and ice propagation in air crew, military and first responder respirators; the Respirator Testing Head Form; the CBplus Mannequin Technology System and FASTMAN, a Fully Articulated, Anthropometrically Correct, Sweating, Thermo-Regulated Mannequin. I-

bodi Technology are also specialists in Digital Breathing Machines, which can be used in conjunction with head forms or mannequins to simulate live participant breathing in respirator and head-wear evaluation studies and similar applications.

Philip Dunne, minister for defence equipment, support and technology, said, "This technology (Porton Man), designed by a British company is enabling the UK to lead the way in this important testing. Increased investment in science and technology by the MoD (Ministry of Defence) is not only enabling battle-winning and life-saving equipment to be developed but also helping innovative companies like i-bodi Technology to develop cutting edge capability".





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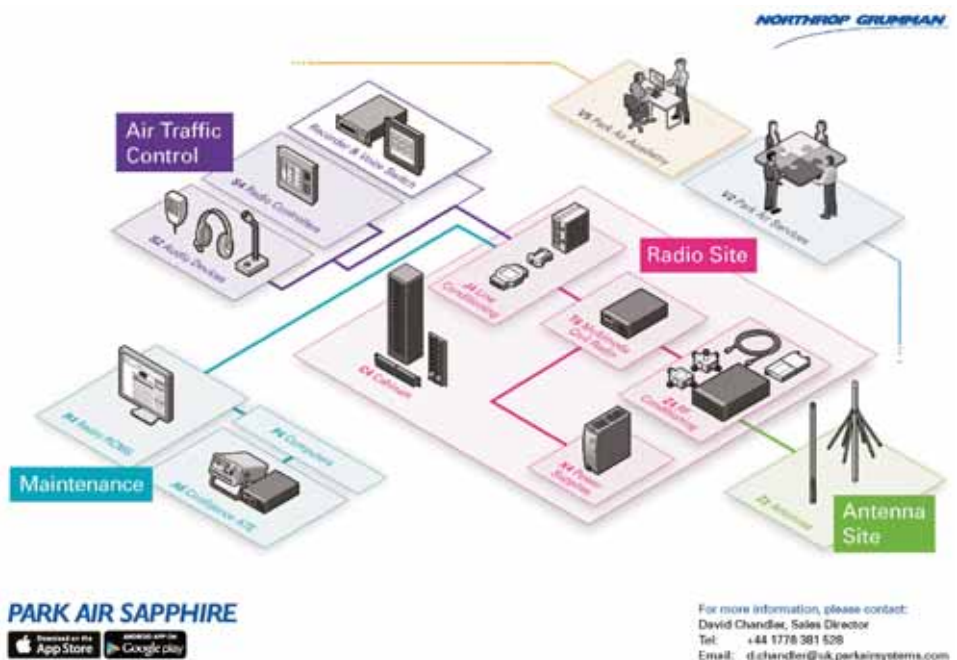


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# Peli Products Supports Competitors of the Invictus Games



Barcelona, Spain - September 2014— Peli Products announces their support of the recent Invictus Games (held in London, in September) with the donation of tough-as-nails Peli ProGear™ S145 Sport Backpacks to more than 400 participating competitors.

Over 400 competitors from 13 nations took part in the Invictus Games, an international sporting event for wounded, injured and sick Servicemen and women. The Games focused on the power of sport to inspire recovery, support rehabilitation, and generate a wider understanding and respect of those who serve their country. The event, championed by Prince Harry, was a celebration of resilience and passion. The Games shine a spotlight on Armed Forces personnel and veterans who have put their lives on the line for their country demonstrating how they and their families are valued, respected and supported. For competitors, it was a memorable, inspiring and energizing experience in their journey of recovery.



"Protecting the equipment of those that protect us has proudly been part of our core business for more than 40 years," said Lyndon Faulkner, President and CEO of Peli Products. "It is an especially great honor to be supplying our gear to the brave men and women who have sacrificed so much protecting all that we value."

Peli ProGear™ Sport Backpacks are built with the tough DNA of any Peli product, yet are offered in a range of colors (black, orange and green) and

lightweight styles. The collection features light rip-stop nylon and a wide range of tablet and laptop protection from Elite models with incorporated watertight, crushproof Peli cases to semi-rigid, water-resistant compartments. The Peli ProGear™ S145 Sport Backpack includes an impactprotected tablet sleeve with rigid front plate offering an additional storage option to the 21-liter main storage unit. It also features an ergonomic, fast-access/top-load design with deep-ventilated channel back panel.

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# Teledyne Coax Switches Announces New COAX SWITCH SERIES CCT-38 New Commercial Normally Open Multi-Throw CCT- 38 SP10T Coax Switch

Teledyne Coax Switches introduces its new Series CCT-38 Coax Switch. The CCT-38 is a broadband multi-throw, electromechanical coaxial switch designed to switch a microwave signal from a common input to any of 10 outputs. The CCT-38 Normally Open Switch covers frequencies from DC to 12GHz and is available with 12, 15, 24 and 28 coil voltages. Internal 50Ohm terminations make the CCT-38 switches suitable for applications where unused ports must be terminated to eliminate noise.

The expansion of the CCT-38 Series reduce switch count from 3 switches to achieve a SP10T (1 SPDT to 2 SP5T switches), thus being able to offer smaller, price competitive switching solutions. The CCT-38 measures 3.10 x 3.10 x 2.77 inches and have a maximum weight of 9oz. (255.2g).

Customers may download the datasheet at <http://www.teledynecoax.com/pdf/coaxialswitches/CCT-38S%20SP10T%20NORMALLY%20OPEN.pdf>

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