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## **Cre8 Associates Limited Capabilities Statement**

**Electrical, Electronic, EMC, Filters, Anti IED, RF and Field Support**

**by**

**Cre8 Associates Limited**

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**Commercial in Confidence**

## SUMMARY

Cre8 Associates Limited is an electrical and RF engineering company supplying unique high quality services in the UK and worldwide. Our customers require a highly motivated knowledgeable team to design, manufacture and integrate various systems into military and OEM platforms to provide you with reliable operations.

Mainly comprising ex-military personnel our focus is on platforms that are safe and robust and operate as designed in the harshest of environments. We work together with numerous other specialist teams to solve issues and advise on aspects of installations and operations.

Deployable worldwide at short notice staff have the ability to operate in a self-supporting role and perform many operations away from base in the UK. In 2016 Cre8 opened its UAE base to support clients in the middle east, allowing stock and engineering expertise to be readily available in the area.

In the UK our electrical engineering centre is rapidly developing into a full electrical design and manufacturing base with various vehicles being modified to meet our customers exacting needs.

UK – UAE – World Wide

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## 1 Corporate Profile

Cre8 Associates Limited was formed on 8 January 2004 by personnel from the Military, Aerospace and Automotive sectors, with a combined depth of knowledge and experience spanning some 90 man years. Its objectives are and will remain to be, to supply high quality services, products, systems and support to our customers in their relevant industries. The company has developed over the last 8 years to include manufacturing and specialist vehicle electrical integration work as well as its main consultancy and EMC/RF base. Growth and expansion enabled us to relocate to our current facility at Bruntingthorpe Proving Ground where we operate a fully equipped electrical workshop, EMC chambers, 30m OATS, electronics/electrical laboratories and manufacturing facilities for our systems and EMC filtration units. We make many products and wiring systems in the UK and ship for fitment in theatre and at customer premises around the world.

In 2016 Cre8 Associates opened its UAE office to support middle eastern clients with supply of vehicles, parts (specific stock is kept in the UAE) and engineering support for deployment and operations.

An electrical and electronic based engineering company with a wide range of expertise; we pride ourselves in our customer facing values and our close interaction with our clients. Our expertise is specifically in EMC, EMC Filters, Electrical and Electronics Engineering and RF Systems specifically aimed at vehicles in use by governments and agencies around the world in military, law enforcement, civilian and governmental duties. Although we specialise in certain areas our expertise and knowledge are extensive and our collaboration with both small and large companies allows us to propose complete turnkey systems, including project management, for many different areas. We have formed working arrangements with a number of bespoke companies including Vehicle Type Approval agents, MoD, prime contractors, specialist power management companies and OEM's, enabling us to offer a complete service in many areas. Our secure workshop location offers access to a functional airfield, 2.8 mile proving ground and off highway test tracks enabling vehicle integration work to be tested in all conditions day and night.

The company holds an ISO 9001:2008 accreditation for its operations and is constantly upgrading this to meet our increasing scope of activities.

Our technical personnel are all ex-military SNCO level (and SC cleared) and/or are from automotive backgrounds and are not only familiar with UK and overseas operations but have worked alongside and with other high technology suppliers often in hostile environments. A highly motivated and experienced workforce specialising in:

- **Program Management and Logistics** – *Our staff are PRINCE2 trained and operate within Def Stan and commercial guidelines for project management of specialised projects. This may be the management of installations, rectification or the writing of test plans and programmes for systems and vehicles*
- **Electromagnetic Compatibility (EMC)** – *Utilising in house test laboratories or external UKAS accredited facilities we can perform and manage complete development programmes to meet our customers' requirements at component and vehicle levels. Fully conversant with commercial, automotive and military standards our personnel have represented the UK on international panels for the development of test methods and their implementation. EMC testing and evaluation in Radiated and Conducted aspects to various military and civilian standards can be performed world-wide for in theatre assessments*
- **Communications and RF systems** – *Covering HF to Satellite frequencies including specific military installations we have operated around the world installing and training personnel on CODAN and V/UHF systems and satellite communications both in vehicles and fixed installations. We have fully mobile equipment and can fix and maintain most systems in use*
- **ECM** – *We have performed multiple projects in which we have either designed the integration, supplied the equipment, installed and calibrated, and trained the end users in ECM operation and maintenance. Our Field Service Personnel utilise latest technology to test systems in the field and produce a rugged installation in various vehicles and environments.*

- **Electrical and Power Distribution systems** – *The power requirements on vehicles is rapidly increasing and we have been designing, manufacturing and fitting enhanced power generators, distribution systems, harnesses and specialist electronics on many major platforms for the last 5 years, covering 12, 24 and specialist voltage systems*
- **Vehicle integration** – *The correct and seamless integration of systems to military and OEM vehicles ensures the platform continues to operate to the desired requirements without degradation over time or operating scenarios*
- **Vehicle Installations, Conversions and Maintenance** – *We have experience in converting vehicles for specialist roles both overt and covert including mechanical aspects. In addition we have installed many bespoke electrical systems procured from third parties to our customers' requirements*
- **Training** – *as part of our roles we provide full training in all the systems and vehicles we work on and install, and continue to keep our customers updated and informed on changes to their requirements and how they affect the products they have purchased. Bespoke training courses in EMC and Vehicle Electrical systems have been delivered to agencies around the world allowing them to service and maintain vehicles' and resolve issues when deployed.*
- **Fault finding and rectification** – *Covering world-wide activities our personnel offer a full fault finding and problem solving service to our clients covering electrical and RF activities*

Cre8 Associates Limited has been operational in many parts of the world from the USA to Afghanistan and as such have been Contractors ON Deployed Operations (CONDO) trained. Security clearance is available on selected personnel for projects as required. Deployment is rapid and self-supported in many situations.

Our Continuing Professional Development (CPD) training program is based on keeping our staff up to date with various activities both military and on OEM vehicles to allow us to support our customers no matter what the situation.

We offer our customers not only a secure and confidential service but one that is rapid, flexible and customer orientated to ensure you are supplied the best services and systems to meet your requirements, within budget and on time.

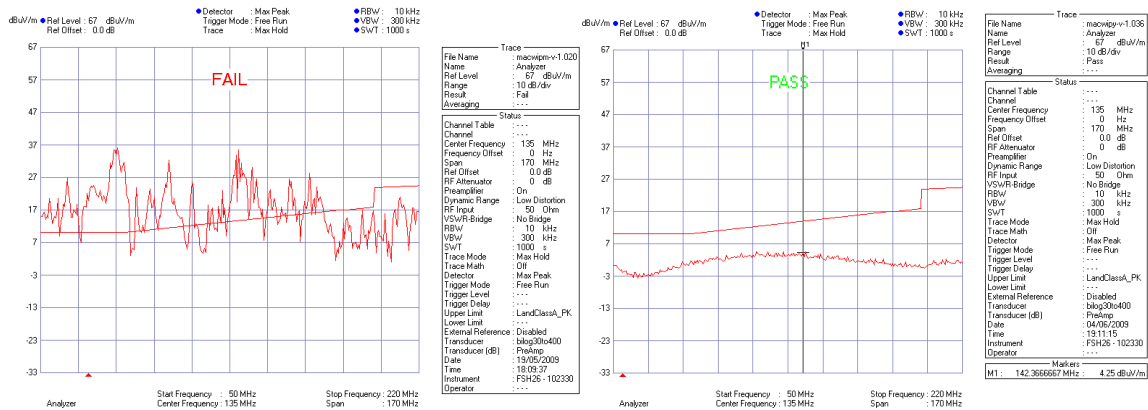
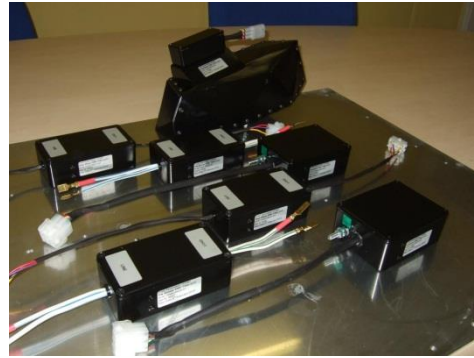
## 2 Scope of Activities

Cre8 Associates Limited personnel have extensive understanding and knowledge in many aspects of Vehicle Electrical, RF Communications and Anti IED systems.

### 2.1 Electromagnetic Compatibility (EMC)

Our facilities and staff cover many areas of this specialised activity. In many vehicles the requirement to meet stringent standards in radio emissions and to stop these systems being affected by transmissions is of paramount concern. We not only design, test and integrate our solutions but support throughout their lifespan. Our personnel and facilities cover:

- Vehicle EMC filters and electrical conditioning systems
- EMC Filter Design and manufacture
- EMC Component Chamber for EMC testing
- EMC Test Plan & Control Plan Compilation and Test Supervision
- In Theatre EMC assessments and surveys
- EMC Training for Managers, Mechanical and Electrical personnel
- Specialist work in
  - Mil Std 461
  - Mil Std1275
  - Def Std 59-411
  - Def Std 61-5
  - AES (NPJA)



EMC activities are also performed for military, commercial and automotive applications.

## 2.2 Vehicle Modifications and Integration

Our secure engineering centre allows us to work on all sizes of vehicles, meeting our customers' expectations. With specialist knowledge of Ford, Toyota, GM and many other vehicles we take the combined knowledge and integrate your requirements into the donor vehicle. Our experience of covert installations allows us to also provide you with confidential re-rolling of current vehicles and upgrading of current systems when required. Our services include:

- Vehicle based Electrical and Electronic Design, Engineering and Integration
- Specialist Vehicle conversions and installations
- Vehicle re-rolls and modifications
- Specialist CAN interrogation and decoding
- Covert Vehicle installations
- Specialist systems such as LC200 Start system override

Cre8 Associates also procure modify and supply full vehicle requirements in Europe and the Middle East so that you can place orders for fully fitted vehicles right from the start of your project and not

retrofit systems. Our vehicles are supplied from reputable armouring sources and are fully supported throughout the lifespan of the vehicles in service



Our integration activities are utilised in the UK and overseas with consultants on hand to design the systems to meet demanding needs.

## 2.3 Vehicle Electrical Systems

We design, install and maintain specialist power distribution and management systems for covert, military and OEM vehicles. These are backed up with wiring and architecture diagrams and full operating manuals and are all built to UK Def Stan guidelines for operations abroad, EMC aspects and user interfaces. Our skills include:

- Electrical harness design and production
- Power management systems
- Secondary Vehicle Electrical Distribution Systems (SVEDS)
- Light Blackout systems (LIMS)
- Secondary battery emergency start (Start Safe III)
- Specialist fusing
- Light Bars
- Intercom Systems
- Anti-Jamming Systems for vehicle ignitions



Many of these systems are now manufactured and shipped to the client for installation by themselves under our guidance and training allowing them to be fitted at the correct build stage of a vehicle program.



## 2.4 Radio Communications

Our staff are experienced in the installation and testing of Radio Communications equipment ranging from HF through V/UHF and Satellite frequencies for a number of suppliers of equipment. We use state of the art mobile test sets to ensure cabling and antennas are all functioning properly and that communications are maintained over 360° coverage. Issues can be solved in the field whenever possible and system training on select systems can be given.



Our personnel have special skills in:

- RF Communications integration, fit and test
- HF (CODAN and Barrett)
- U/UHF Systems from all major manufacturers
- Satellite Communications
- GPS and Tracking Systems
- TETRA and Mobile Man Portable Systems
- IVMS
- Specialist test procedures including VSWR and Through Power Measurements
- Installations in accordance with FCS 1362
- RF Cabling Manufacture and Testing
  - VSWR
  - Antenna Output testing and Polar Plotting
  - Transmission Loss Measurements
  - Reflectometry Measurements and Fault Location
- Radiation Hazard Assessments



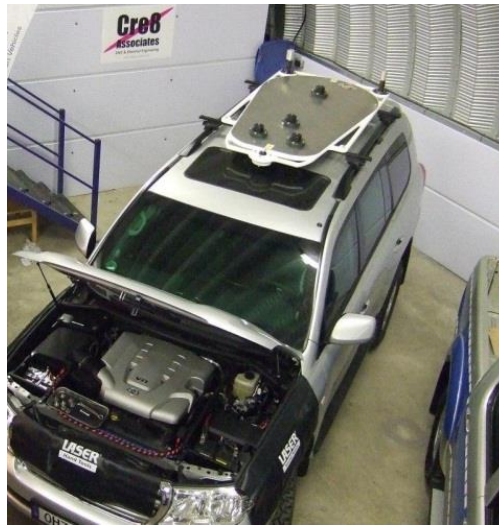
## 2.5 Anti IED & ECM

Cre8 Associates Limited have installed and tested Electronic Counter Measures (ECM) and Anti IED devices in the UK and in hostile overseas theatres of operation. Although we do not manufacture these devices our knowledge of ECM operation and how it relates to automotive and stationary facilities allows us to help select, procure, install and test systems meeting your requirements. ECM



interaction with vehicles and communications equipment causes major issues and our staff will integrate and maintain these systems in working order throughout their in service use.

Systems can be installed in the UK or overseas and fully tested with effective ranges and envelopes measured.

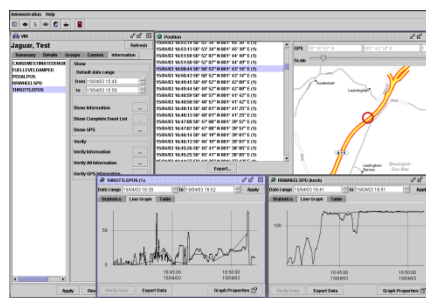


## 2.6 Tracking and Data Acquisition

Cre8 Associates Limited installs and operate data acquisition systems and tracking operations for various vehicles worldwide from the UK centre. These are normally to aid maintenance (Health and Usage Monitoring HUMS) and fleet management activities and also security of vehicles in various theatres. The systems are Thatcham Cat 5 tested and meet many different security protocols.

Our systems connect to vehicle CAN networks and collect information about the vehicles performance as well as position and other parameters to look at maintenance requirements and faults on the vehicles. Data is transferred by secure GSM, WiFi, Bluetooth or bespoke interface to secure laptops or servers depending on the application and are quick to install and use.

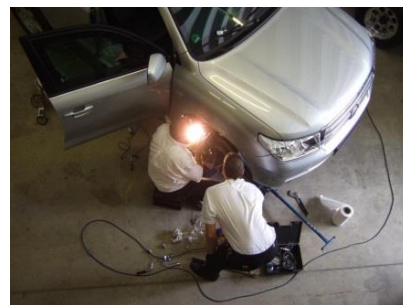
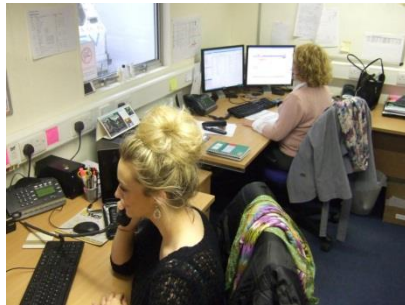
This system is designed for long term installation and is reprogrammed remotely. Many of our installations now perform In Vehicle IVMS, Tyre Pressure monitoring and engine data displays.



## 3 Operations

### 3.1 UK Based Electrical Engineering Centre

Situated at Bruntingthorpe Proving Ground near Leicester in the midlands the Engineering Centre is being developed as a full vehicle electrical system design, manufacture and integration facility serving our worldwide customer base. Our office staff controls fleet management (tracking and data acquisition) and overseas activities as well as UK operations, Security and Codification requirements. A highly secure facility comprising offices and workshops in 300 m<sup>2</sup>, this centre offers electrical engineering and training activities with access to the adjacent proving ground. An integrated EMC component test laboratory for in house and customer EMC testing of components and systems to Def Stan and Mil Std requirements allows us to verify product design before installation and commissioning. Electrical design laboratories use Electrical Software and CAD to design test, FMEA and manufacture bespoke electrical systems utilising plug-and-play techniques for specialist vehicles. The centre can supply kits or integrate directly onto our customers vehicles.



The engineering centre operates on a 24 / 7 basis when required and can work currently on up to 5 vehicles at any one time within the secure building. These facilities are based on a large proving ground complex allowing us to test vehicles in many scenarios and provide training and shake down testing in a secure environment on a variety of tracks and conditions.



### 3.2 Cre8 Associates FZE (UAE)

In 2016, Cre8 set up its operations in the UAE to help support our middle eastern clients in all aspects of our global work. The office and meeting rooms allow us to host our clients in a secure environment to discuss various aspects of our work. Various stock items that we supply are held in the UAE and samples and demonstration models of various systems and products are available for review. The UAE will rapidly become our storage and distribution centre for the middle east on all our products and partners' product lines. Our Field Service Personnel are based from here when not deployed.

In the future we will be expanding these operations to contain:

- Secure facilities for vehicle maintenance and storage, refurbishment of covert vehicles (mechanical and electrical) and rapid deployment

- Secure manufacturing and installation of electrical and electronic systems
- Training and periodic reviews of personnel in all electronics and electrical aspects
- FCS 1362 RF Installations and training
- EMC Testing Facilities and Support
- Radiation Hazard Assessments
- Road worthiness assessment of armoured vehicles

### 3.3 Field Service Representatives

We deploy staff to many areas of the world to support our customers in specific electrical, ECM and RF aspects of their operations. Our Field Service Representatives (FSR's) cover project management and fleet management activities (data acquisition) in theatre for large fleet installs, maintenance activities and all physical installations. Working out of your facilities or in a self-supporting role, our staff offer a confidential and effective solution to your issues and needs.

Fault finding and rectification activities tends to require special skills and our military training allows us to perform this in the harshest of environments and solve the issues efficiently.



## 4 Why Cre8 Associates Limited?

Our underlying purpose is to ensure that our products and services enhance and contribute to your operations and the safe working of your vehicles in any theatre of operation. Your personnel's safety is very much our concern and to that end we realise and strive to ensure that:

- Our products and services arrive on time
- Are on budget
- Program Management activities are maintained
- We are flexible in our approach
- We support you Worldwide in your operations
- Field service teams for rectification to full design and installation requirements
- We employ ex- Military, Aerospace and Automotive personnel giving us a unique mix of experiences and knowledge
- We are available for 24 Hour operations
- We have Security Cleared Personnel
- Secure electrical workshops are maintained and operated
- Access to Proving Ground and test facilities are available in UK
- Key Partnerships to specialist companies in complimentary activities allow more complex operations to be performed

## 5 Contact Details

Cre8 Associates Limited can be contacted 24 hours a day for current customers on our emergency hotline. Normal enquiries and contact can be made via our website or by email at any time. Our offices are normally open from 08:00 – 17:00 Monday to Friday GMT and we try to respond to all enquiries within 24 hours.

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