



Defence School of Communications and Information Systems

**DEFENCE SCHOOL OF COMMUNICATION INFORMATION SYSTEMS
(DSCIS)**

**STATEMENT OF REQUIREMENT
FOR
EW SIMULATOR**

**05 Jul 17
Version 3.0**

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LIST OF DEFINITIONS

Word	Definition
Assessment Specification (ASpec)	A specification describing the organisation, type of assessment, marking details, pass/fail criteria for the assessment of Training Objectives and the consequences of failure. It provides the practical details required to assess the achievement of the standards specified by an associated Training Objective.
Authority	Means the Secretary of State for Defence;
Blandford Camp	Means the Authority's Establishment called Blandford Camp.
Contractor	Means the person who, by the Contract, undertakes to supply the Articles, or perform the Service, or both for the Authority as is provided by the Contract. Where the Contractor is an individual or a partnership, the expression shall include the personal representatives of the individual or of the partners, as the case may be, and the expression shall also include any person to whom the benefit of the Contract may be assigned by the Contractor with the consent of the Authority.
Courseware	The product produced by the designer of the course that holds all the relevant information pertaining to the course
Defence	A collective term for the British military and its measures or resources for protecting the country.
Defence School of Communications and Information Systems (DSCIS)	Means the Authority's Defence School of Communications and Information Systems (DSCIS);
Defence Systems Approach to Training (DSAT).	<p>The DSAT QS has endorsed strategic principles, which underpin all training management functions. The DSAT QS provides:</p> <ul style="list-style-type: none"> a. A means of ensuring that individual training and education is delivered to meet the operational/ business requirements of the MOD. b. A framework against which a training organisation/school can develop and implement the Quality Management System that best meets their operational/business need. <p>A Defence-wide benchmark against which the management and provision of individual training and education can be evaluated and good practice identified and implemented across the MOD.</p>
E-Learning Application	Computer software designed to train the user on a particular system to perform specific tasks.
Establishment	Means an area or site under the management of the Authority that is within the scope of this Contract and shall be deemed to include any of Her Majesty's ships or vessels and service stations, RAF and Army Establishments or garrisons as appropriate;
External Gateway	Allows connectivity to the www from DII.

Service (EGS)	
Front Line Command	Any military unit employed to deliver a war fighting capability.
Green Fleet Equipment	Military procured, developed and owned equipment. The term 'green' refers to the ability of the equipment to be deployed into a robust military environment.
Information System	A collection of hardware, software, data, people and procedures that work together to produce quality information.
Instructor Led Training	The practice of training between an instructor and learners, either individuals or groups. ILT is an effective means of delivering information, as it allows for real-time feedback, questions and answers, manipulation and changeable delivery to suit the needs of learners in a real-time environment, and a learning environment can be created by the instructor's style.
Instructional Specifications (ISpecs)	ISpecs are produced from the products of Training Design and Development, Assessment Strategy and Method & Media selection processes. Each usually contain the details of an EO and associated KLPs, the relevant assessment/test, method and media selected, time allocated, resource requirements and essential references.
Media	Electronic based communication of information, for example video, emulation software, pictures, voice etc.
Media Based Training (MBT)	Means the use of Media to educate.
Media Developer	An individual who compiles and develops Media packages related to a specific topic for use in training and education.
Media Room	The room used to develop the Media
MOD	Is the British government department responsible for implementing the Defence policy set by Her Majesty's Government, and is the headquarters of the British Armed Forces.
Operating System	Is a collection of software that manages computer hardware resources and provides common services for computer programs. The operating system is an essential component of the system software in a computer system. Application programs usually require an operating system to function.
Restricted LAN Interconnect (RLi)	Is a Restricted interface allowing the connection of Restricted LANs across the Internet.
Server Room	Is a room that houses a collection of Servers.
Service Commencement Date	Means 1 Apr 16 being the date on which the Contractor becomes responsible for the delivery of the SST Services in accordance with this Contract
Standing Orders	Means any directive or instruction issued formally in writing by or on behalf of the Commanding Officer.
Steady State Training	The training required to maintain a capability.
Software	Software is a general term for the various kinds of programs used to operate computers and related devices. Application software executes processes that directly involved with as opposed to system software which tends to include operating systems and programs that support application software.
Simulation	Simulation is the imitation of the operation of a real-world process or system over time.
Defence Systems Approach to Training	A training philosophy that emphasises the interrelationships between training and other systems such as personnel management, supply, logistics, finance, and the interdependence of the component parts of a training system. In applying SAT, training is undertaken on a planned basis in a logical series of steps. The number and description of those steps tend to vary, but, in general terms, they cover such aspects as

	development of training objectives and plans, formulation of an assessment scheme, implementation of planned training, validation and evaluation. Fundamental to the philosophy is that these steps constitute cycle, with the evaluation bringing about a reassessment of needs and a consequent refinement of the training given. This is embodied for Defence as the Defence Systems Approach to Training Quality System (DSAT QS) in JSP 822.
Training Delivery Authority (TDA)	The TDA must be distinct from the TRA and is the organisation responsible for training delivery, but not always for the conduct of the actual training itself.
Training Requirements Authority (TRA)	The TRA represents the end-user of the trained output and is the ultimate authority for the derivation and maintenance of the Role Performance Statement (RPS). The TRA is responsible for the evaluation of the effect of the training in achieving the RPS wherever the training is delivered. The TRA often sits at the Service Command level and sets the requirement for a new training activity, or a variation of an existing one, as well as some aspects of the assurance of the training.
Training Equipment	The equipment whether White or Green Fleet used to deliver training.
Training Objectives (TO)	Training Objectives are precise statements of what a trainee should be able to do after training. A Training Objective is measurable and has three constituents: the performance required, the conditions under which the trainee must perform and the standard to which the trainee must perform.
Training Categories (iaw JSP 822, Pt 2)	<p>Category 1. By the end of the Training activity the trainees will have performed the whole task several times, to the full Role Standard, and under realistic scenarios and conditions in which the physical, functional and environmental fidelities were accurately reproduced. The trainee will be able to perform the task competently, immediately on arrival in the workplace.</p> <p>Category 2. By the end of the training activity the trainee will have performed the whole task at least once to full Role Standards, under realistic physical, functional and environmental conditions and in a realistic scenario. The trainee should be able to perform the task on arrival in the workplace.</p> <p>Category 3. By the end of the training activity the trainee will have performed the whole task in a training environment to a lesser Standard than required in the Role (safety Standards to be met in full).</p> <p>Category 4. By the end of the training activity the trainee will have demonstrated an adequate level of underpinning Knowledge and principles required but will not have applied it to develop the Skills required to perform the task.</p> <p>Category 5. All training delivered in, or under the auspices of, the workplace.</p> <p>Category 6. Trainees do not require any training</p>
Virtual Simulation	Virtual simulations represent a specific category of simulation that utilizes simulation equipment to create a simulated world for the user. Virtual simulations allow users to interact with a virtual world.

INTRODUCTION

Issue

1. The current Electronic Warfare (EW) Simulator housed in the EW Wing in Royal School of Signals (RSS) is unsupported, outdated and subject to an increasing failure rate. Replacement of this enduring requirement cannot be met through existing Defence channels, therefore a commercially available solution is sought to provide a capability that is better than the current solution until 2022.
2. The solution must be able to integrate within existing and proposed Defence network architecture. RSS infrastructure and hardware is due to undergo a significant refresh throughout Yr 18/19, accordingly a software / virtual solution is preferred over hardware, as this will complicate capability accreditation and incur additional maintenance costs.
3. This Statement of Requirement (SOR) will stipulate the EW Wing's requirements for a simulator.
4. The EW Wing is located at RSS, the network of choice (which is approved, accredited and MOD managed) already provides connectivity via the Restricted LAN Interconnect (RLi) across several UK sites. A solution capable of operating over the (RLi) is desirable to enable expansion to RSS franchised locations that deliver EW training.

Background

5. The ability to conduct EW as part of Cyber Electromagnetic Activity (CEMA) is a key Defence capability and has been proven to be a valuable force multiplier during recent Operations. EW skills are taught by EW Wing at the Royal School of Signals across a minimum of 17 course types. These courses include specialist training for EW Operators, Upgraders and Supervisors, including Royal Navy and Royal Marines personnel, as well as awareness training for other communications trades, All Arms EW Advisors and Regimental Signals Officers. In total EW Wing trains over 800 personnel annually in EW skills.
6. The EW wing uses a simulator which consists of a Local Area Network (LAN) and software that allows principles of EW to be taught. This software allows students to plan the deployment of EW sensors, analyse signals generated by target emitters and identify threats and targets for attack or exploitation. The capability was developed in conjunction with Cranfield University. The relevant department has since been disbanded and the option to provide support (at an annual cost of £12K) was not considered value for money. Over recent years the performance of the simulator has become increasingly intermittent and requires a disproportionate effort to achieve a minimum level of functionality. Training delivery has now regressed to use of table top simulations and achieves Training Category 3 instead of the required Category 2. Training Category 2 requires training to be delivered "under realistic physical, functional and environmental conditions and in a realistic scenario". Without the simulator it is not possible to deliver realistic functional conditions and scenarios. The simulator performance is intermittent forcing EW wing instructors to reduce contact time with students in order to prepare table top exercises that should not be required, increasing inefficiency.
7. The EW wing provides training for overseas students. Historically such courses were relatively small (averaging 6 personnel), but 16/17 has seen a course of 11 students. Possessing a capable and reliable training environment would benefit both the reputation of EW wing and bolster Defence engagement.

Service Dates

8. It is foreseen that a capability will be required to support Service needs until at least 2022 when future UK equipment programmes (EP) seek to deliver new EW capability. At this point it is anticipated that developments in EW equipment and tactics techniques and procedures (TTPs) will necessitate an update to the EW training solution. This SOR outlines the requirement until 2022. The Contract requirement for the delivery of the full service as described in this document is to commence no later than 01 Oct 17. The Contract is initially for a 5 year period starting from (01 Oct 17).

Intellectual Property Rights

9. The IPR for the solution shall reside with the Contractor.

10. The IPR for courseware and other produced training resources used in conjunction with the solution shall reside with the MoD.

Scope

11. This SOR addresses the requirement to replace the existing simulator to support EW training in Defence CIS Colleges and Schools so that military personnel are effectively trained in line with TRA mandated Training Objectives (TOs) contained in the course specific Formal Training Statement (FTS) as defined in the Role Performance Statement (RPS). The overall purpose of the SOR is to ensure that, in accordance with TRA direction, a simulator to support effective delivery of EW training across Defence is procured.

12. The requirement includes the creation and improvement, delivery and maintenance of a simulator to support Instructor Led Training (ILT) at the EW wing at RSS with potential to expand to other locations via the RLi. Future locations may include RAF Digby and tri-Service EW training locations.

13. The Authority is seeking for the Contractor to provide the solution using the existing and proposed facilities as listed in Annex A. Any additional equipment or hardware requirements or upgrades deemed necessary by the Contractor shall be provided by the Contractor.

14. The required categories of Cyber Electromagnetic Activity to be simulated are detailed at Annex B. The major functions to be simulated are:

- a. Electronic Surveillance (ES) planning.
- b. ES Execution.
- c. Electronic Attack (EA) Planning.
- d. EA Execution.
- e. ED Effects.
- f. Signal of Interest (SOI) Generation.
- g. Analyst / C2 Training.
- h. Scenario / Mission Management.
- i. Electronic Intelligence (ELINT).

15. **Priorities.** The requirements are listed in priority order at Annex B.

Process

16. The Contractor shall provide a 48 hour turnaround capability requiring critical safety or security changes to the solution.

17. The solution shall be compliant with JSP 822 (Defence Systems Approach to Training).

Service Requirement

18. In broad terms the requirement is to provide a service to support instructors delivering training under the direction of Army Info across a broad CEMA requirement

19. Technical direction shall be provided by the appropriate¹ MOD TRA who will provide access to technical data.

20. The solution provided must be capable of installing to a Microsoft Windows 64-bit architecture, either server or client OS. The application, must be able to leverage or use plug-ins that are either 32-bit or 64-bit. Any network traffic must use TCP/IP and adhere to all guidelines as set out within Authority JSPs.

Security

21. The solution will be used in a secured area at RSS and any locations covered in future expansion.

22. The Contractor shall acknowledge that the solution may be subject to MOD regulations.

23. The Contractor shall manage the security status of all their personnel engaged on the contract in accordance with the Contract.

Quality Standards

24. The solution shall ensure that training can be delivered in accordance with JSP 822, Front Line Command requirements and other relevant publications as identified in the references section of this document.

Acceptance Criteria

25. The following criteria shall apply:

a. The solution must be able to be at initial operating capability (IOC) no later than (NLT) Nov 17 and full operating capability (FOC) NLT Feb 18. IOC and FOC are defined as:

1. IOC: The solution is able to fully support training across all course types delivered at RSS.

2. FOC: The solution is able to fully support training across all course types delivered at DSCIS franchised locations.

¹ Appropriate to the specific courses to be taught. In the case of EW this is Directorate Info.

- b. The solution shall be provided to the quality standards highlighted in para 24 and shall be assessed by HQ DSCIS and the RSS EW Wing.

Safety and Environmental Provisions

26. When on site the Contractor shall comply with on site MoD Safety, Health and Environmental protection regulations and policy.

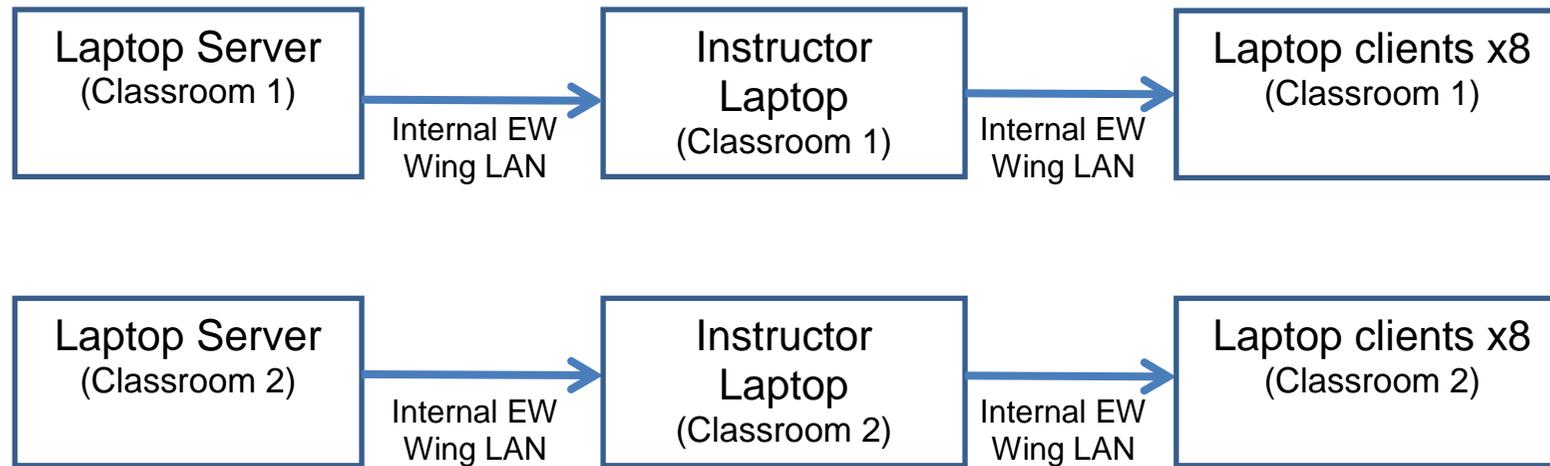
Security Responsibilities

27. The Contractor shall be responsible for ensuring that all information and data is controlled by adhering to JSP 440 and for ensuring:

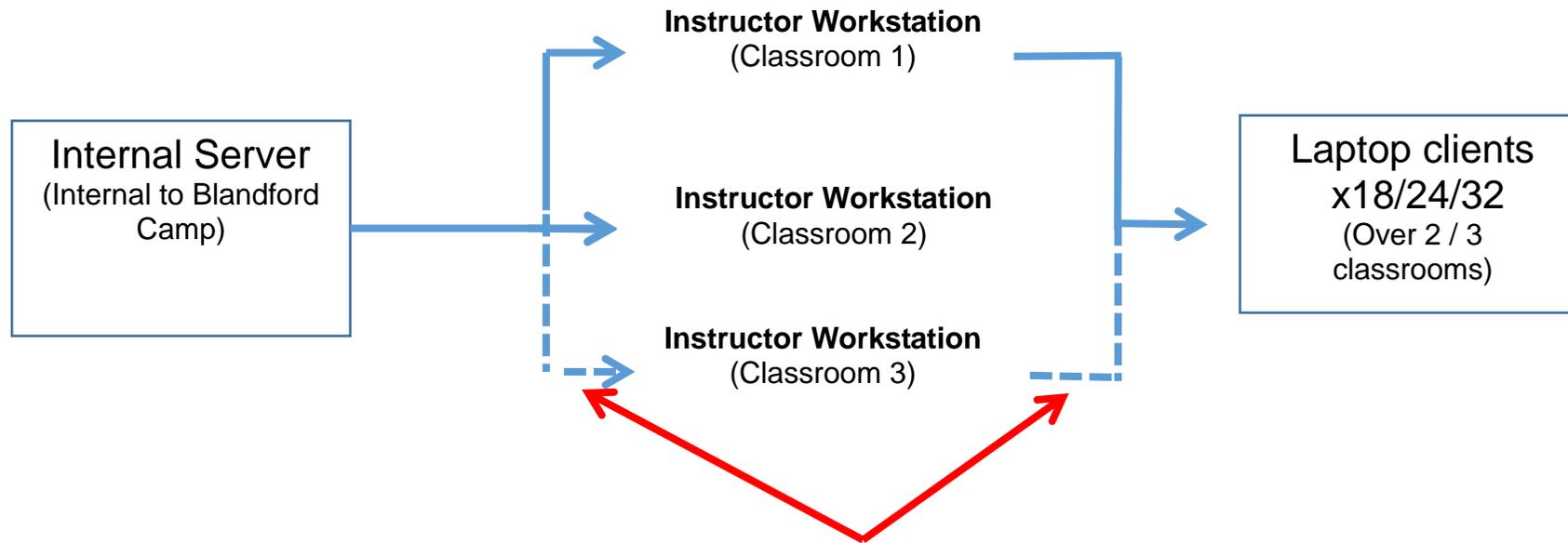
- a. All personnel involved with installation and upkeep of software shall be a minimum of SC Vetted.
- b. The maintenance of the Risk Management Accreditation Document Set (RMADS) as currently approved by Army HQ.

EW SIMULATOR TRAINING ENVIRONMENT – DESCRIPTION OF AREA.

Current EW Simulator configuration



Future envisaged EW Simulator configuration



Dotted lines indicates config should we meet with the requirements in Annex B, Para 3C.

SERVICE DELIVERABLES

General Requirements.

1. **Interoperability.** The replacement simulator is to be compatible with the requirements stipulated in Para 20. This will minimise additional costs of hardware and infrastructure.
2. **Reliability.** The solution must be reliable, with a desired reliability of 99%, based on the simulator being in use for 7 days a week over 50 weeks in any given year.
3. **Volume:** The solution must offer best value for money with consideration to number of users/instructors/administrators, detailed as follows:
 - a. **Essential:** 18 users, 2 instructors², 2 administrators at one location (RSS).
 - b. **Desirable:** As per para 3a, plus a further 8 users and one instructor at one additional location (to be determined). A total of 26 users, 3 instructors and 2 administrators
 - c. **Stretch:** As per para 3b, plus a further 8 users and one instructor at one further location (to be determined). A total of 34 users, 4 instructors and 2 administrators.
4. The solution should be able to operate via an enclosed network whilst also being able to access the RLi as new RSS franchised locations come online. Data is expected to be accessible to all from a central repository.
5. **Maintenance.** The solution is to be maintained over the period. Details of upkeep costs for the solution over the in service period are to be provided as part of the tender.

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