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**STATEMENT OF REQUIREMENT – THE PROCUREMENT OF LGV DRIVING SIMULATORS FOR THE DEFENCE SCHOOL OF TRANSPORT**

**Purpose**

1. The Defence School of Transport requires Large Goods Vehicle (LGV) simulators to inform the Driver Training Project (DTP25). The use and benefits of simulation have long been recognised in operator training for aviation and industrial handling equipment. LGV simulation in training is undeveloped but initial studies imply benefits in improved trained outcome, efficiency, and the provision of otherwise impossible training situations and reduce environmental impact. The introduction in LGV simulators in training would put DST at the cutting edge of Driver Training innovation on the international stage.

**Background**

2. DST delivers Driving Licence Acquisition training and subsequent General Service driver training to over 4500 trainees annually.  Licence Acquisition training follow a curriculum to deliver training to meet the DVSA standard practical driving test.  Training is conducted by either Military or Civil service instructors in MOD leased Minimum Test Vehicles (MTVs), or through one of 7 driver training contracts.  In either instance practical training is delivered at a maximum ratio of 2 trainees to 1 instructor in vehicles on public roads.  The use of simulators has been proven to reduce time spent in vehicles while adding flexibility and efficiency in introducing training scenarios while having the added advantage of having the capability to introduce potential risk to life situations such as mechanical breakdown and dangerous weather conditions in a safe environment.  Advances in artificial intelligence incorporated into simulator systems have the added benefit of reducing instructor contact and increasing trainee to instructor ratios.

While simulation in driver training is still in its infancy in the UK, internationally the benefits have been recognised and adopted and simulators have become smaller and, with the development of movement platforms, more realistic.

**Objectives**

3. The objective of the procurement is to utilise an authorised £0.5M (inc VAT) innovation fund to procure a simulator system to enhance Driver Licence Acquisition and General Service Driver training at the Defence School of Transport to maximise training resource and reduce environmental impact.  Once in place the benefits of the system will be fully assessed and will inform the LWC Driver Training Project 2025.

**Scope**

4. The existing approval for the innovation funding requires the procurement to be completed in FY 23/24 (By March 31st 2024).  The scope of the project must include the ability to deliver training Licence Acquisition training and General Service LGV training to Service Drivers.  The Defence School of Transport has orders to train c1500 to Category C and C+E driving test standard and a further c 3000 general service conversions annually.

The project must be able to provide both Driver and Vehicle Standards Authority Driving Test and General Service Driver outputs.

**Requirement**

5. The system must be scaled to deliver physical training to 4 trainees while providing an observational facility for up to 10 trainees remotely. Central control must be provided through an instructor station capable of supporting 4 simulators and observation facility. For the purposes of this document, I have split the requirement into hardware, software and control facility.

1. **Hardware.** The 4 LGV simulators must.

* + Simulate Right Hand Drive and Left-Hand Drive Vehicles
  + Provide at least 3 degrees of motion to provide accuracy in sensation and feedback, and simulate road feel, external forces and differing vehicle loads including liquid in tanks.
  + Provide feedback though the drivers controls, steering wheel and pedals.
  + Have a full range of vehicle controls.
  + Provide both manual and automating transmission options.
  + Give a high resolution, wide field of driver’s vision through screens including rear view mirrors.
  + Deliver real time drivers’ information such as speed, fuel and instrument gauges, driven distance and fuel consumption.
  + Have the ability to record drivers’ reactions in order to provide feedback.
  + Compatible/compliant with UK Power supply including UK fittings.

1. **Software**. The system must:
   * Simulate Cat C vehicles – 4,6 and 8 axle variants. Flatbed, curtain Sider, box body and liquid tanks.
   * Simulate cat C+E vehicles both truck and trailer and articulated variants. 2 and 3 axle tractor units with 1.2 and 3 axle trainers. Flatbed, curtain Sider, box body and liquid tanks.
   * Simulate MAN SV 6 and 9T all variants.
   * Provide a comprehensive virtual training environment comprising urban, extra urban, motorway, and countryside lanes including dirt tracks in mountains, plains and desert conditions.
   * Provide virtual manoeuvring areas including loading bays and exercises.
   * Simulate a full range of climatic conditions.
   * Simulate a full range of traffic conditions.
   * Simulate pedestrian activity.
   * Simulate a range of external factors such as obstacles and events to support tactical GS training.
   * Provide pedagogical exercise-based scenarios to assess trainees competence.
   * Provide individual feedback on driver performance.
   * Simulate a range of both vehicle and load faults.
   * Simulate and display both UK and European specifications for road markings and traffic signs.
2. **Control Facility.** The system must be able to be controlled centrally through an instructional control station which must:
   * Provide control and give oversight of 4 trainees concurrently.
   * Give the instructor full remote control of the simulators.
   * Allow the instructor to manage and supervise the trainees, monitor progress and enable de-briefing.

**Deliverables**

6. A panel of experts from the Defence School of Transport will be allowed to assess the operability and suitability of the system before delivery to assure the product meets the requirement for driver training. The suppliers must provide opportunities during development for visits. All hardware is to be developed, delivered and installed by the supplier. The supplier must also provide a training package for the simulator operating team and provide 24 months of warranty/support (within budget) including technical and administrative support.

**Acceptance**

7. Products/services will only be paid for if accepted by the Authority. The Authority have 30 days to either accept or dispute a good/service from delivery. The authority will only accept if the product/service complies with what is written within this SOR, or otherwise agreed in writing, and is not damaged or faulty. Should an item be accepted, payment will be made within 30 days of invoice. Should a product/service be disputed, a contract management meeting will be held between the Authority (project team and commercial) and the Supplier to discuss a way forward and try and solve any issues presented.

**Payment**

8. Payment is made on delivery and acceptance of products and installation within 30 days of invoice, unless disputed. This will be paid by CP&F/Exostar, if a supplier is not on this system, they should let the Authorities Commercial POC know as soon as possible. Service Plans/Warranty will be paid with the equipment delivered. Once the contract has been paid in full, the contract will close. The service plan and/or warranty will remain valid for the number of months/years stated in the tender, even after the contracts expiry.

**Delivery**

9. Delivery is to be Defence School of Transport located at: Defence School of Transport | Normandy Barracks | Leconfield | East Riding of Yorkshire | HU17 7LX

10. This will be confirmed on contract award.