

What is Human Factors?

Human Factors, also known as Ergonomics, is the systematic application of different methods, research, theories and analyses with the aim of **optimising** the **usability**, **operability** and **safety** as well as the **overall performance** and **efficiency** of a system or equipment.

The focus is on the users and how they interact with other elements of the system with the aim of creating the best possible tasks, jobs and working conditions for **improved performance, safety and wellbeing**.

By its nature, Human Factors is a broad discipline with input not only into system and equipment design but in a number of processes within the Supportability Engineering envelope including Training Needs Analysis (TNA), Logistic Support Analysis (LSA), Safety Analysis and Technical Publications.

Human Factors Integration (HFI) is the framework that ensures that Human Factors input is fed into other Supportability Engineering processes, and vice-versa, in the design and development of new equipment.



For More Information about our Human Factors services please **CONTACT US**. We will arrange for a Subject-Matter-Expert to talk to you.



About Aspire Human Factors

Aspire offers a range of Human Factors services. We provide Human Factors and Human Factors Integration services at all phases of a project's life cycle. They are conducted in accordance with the processes and principles detailed in relevant standards, including Defence Standard 00-25.

Aspire's Human Factors analysts have experience of procurement and development projects. They work together with other Aspire staff, within complimentary areas of expertise, which results in a unique understanding of the need for integration between the different Supportability Engineering processes within these projects as well as the associated issues.

Services provided include:

- Human Factors Integration Plan and Human Factors Engineering Plan
- Human Factors System Requirements
- Assessment and testing of prototype and candidate equipment and systems solutions with regard to Human Factors
- Operational Task Analysis and Human Factor Considerations in TNA
- Input to Maintenance Task Analysis (MTA)
- Analysis of organisational Human Factors

Aspire

Dismounted Counter Mine Capability (DCMC)

Aspire delivered Human Factors services on the DCMC Demonstration programme.

The DCMC programme will provide the British Army with hand and man portable anti-tank and anti-personnel mine detection and neutralisation capabilities. The programme encompasses two stages, the first of which encompasses hand held detectors, enhanced personal protection for the operators and a mine marking kit.

The selected equipment solution for Stage One of the DCMC programme is based on a Commercial-off-the-Shelf detector and bespoke Personal Protective Equipment.

The task involved assessing the detector, marking kit and Personal Protective Equipment for **usability, fit for purpose, anthropometric (size) fit, and operability** and to propose mitigating actions where needed.

The assessment of the equipment was carried out by studying the equipment, engineering drawings as well as through discussions and workshops with user representatives, trials and questionnaire feedback.



Future Rapid Effect System (FRES)

FRES is the UK MoD programme to provide the British Army with a family of medium-weight, network-enabled, air-deployable multi-role armoured vehicles.

Aspire provided Human Factors services for the Electronic Architecture Technical Demonstrator Programme (EA TDP). We produced the Human Factors Integration Plan (HFIP) through which all the Human Factors activities were controlled.

A Functional Hierarchical Task Analysis (HTA) was conducted. This identified safety risks and hazards, allocated functions between the operators and the equipment and identified the information and interaction between system operators.

For the trials phase, Aspire designed questionnaires, workload profiling sheets and a de-brief question set. The trials were designed to capture the crew's feedback on usability, workload and performance when operating the system at the driver, commander and rear crew operator positions within a mobile demonstrator platform.

Aspire proposed several design changes for the physical workspace for the vehicle rear crew that will result in real-world **operational benefits**.

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