



# Impact of Technology on Humans – Preparing for the Future?

Managing the human impact of Technology Insertion (TI) is essential in preventing operational problems and minimising cost for technology planning, development, insertion into service, and continued operation.

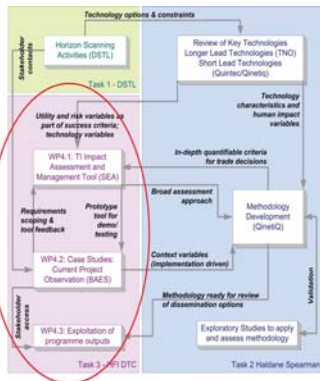


Fig. 1 Envisaged information exchanges between the HFI DTC, Haldane-Spearman Consortium and Dstl technical programmes.

Guidance is being developed to facilitate the consideration of human needs and constraints in technology selection and implementation. Hands-on project support will be provided in the form of a computer-based tool that facilitates impact and trade-off assessments, combined with resources for project planning and management. The guidance implemented through the tool will be informed through case studies of ongoing projects, eliciting practical perspectives on the needs for Human Factors Integration (HFI) support, while observing experiences of managing TI.

This work stream, conducted under the HFI DTC, has a specific focus on managing Technology Insertion, and benefits from close consultation with related work streams carried out by the Haldane-Spearman Consortium and Dstl who are addressing the themes of emerging technologies and assessment methods. Fig.1 shows the links between the work packages across the entire Impact of Technologies on Humans (ITH) programme.

The TI case studies aim to focus on one or two current MOD TI projects for in-depth longitudinal observational studies. Suitable candidate projects will be identified and selected during a preliminary triage process. The case studies will:

- Clarify specific tool requirements;
- Record stakeholder feedback before, during and after tool implementation;
- Make recommendations for additional non-tool based processes, and issues that would aid the TI Process (e.g. organisational changes).

The Excel-based TI Tool will:

- Implement a practical impact assessment with all key criteria and outputs collected in one place, enabling continuous and coherent project support using a layered approach and including data sharing and progress recording options.
- Enable practitioners without HFI training to rapidly assess HFI risks and benefits, to identify the need for involving human factors experts at the right time and for the right reasons.
- Draw on the TI Framework outlined during the previous work phase (see fig. 2). The tool will help determine the scope and focus of project-specific activity requirements enabling HFI, grounded in an assessment of HFI risk and people-related design choices across all Defence Lines of Development. A suitable set of design dependencies and risk variables reflecting HFI success criteria will be provided in an accessible format embedded in questions to generate impact ratings and record issues, risks, assumptions and requirements.

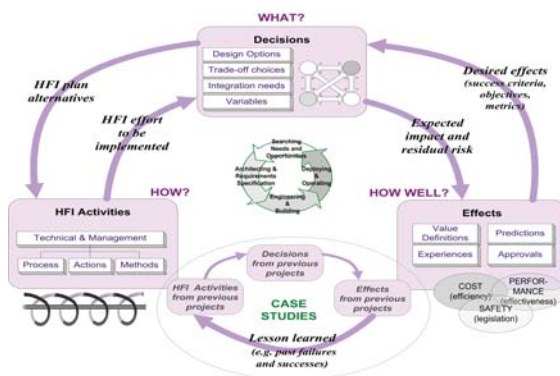


Fig. 2 The HFI influence cycle outlining the TI framework. The framework is grounded in the distinction of three notions underlying change projects: (1) The HFI activities to be planned, conducted, and monitored to support design changes; (2) Design options and impact areas of suggested changes – to specify requirements and make trade-off decisions; (3) Effects of design changes (desired; predicted; observed) – to determine objectives and enable assessment.

## Military Benefit:

The guidance developed will allow those involved in MoD's capability delivery to manage human related risks associated with Technology Insertion more effectively, leading to reduced acquisition costs and more effective/usable systems. The case studies will provide a more in-depth understanding of TI activities as well as key information requirements, variables and constraints.

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