

# Human Factors

Service Category: Cloud Migration Planning, Cloud Support Services

## About Our Service

Frazer-Nash's Human Factors team specialises in the application of a user-centred approach to systems engineering. Involving the application of relevant information about human capabilities, limitations, characteristics, behaviours and motivations to the design of the systems, technology and procedures people use. Equally applicable in the cloud as in more traditional environments.



## Service Features

**Optimising Human-Computer Interface design through iterative development and user participation**

**Human performance considerations relating to system cyber vulnerability and resilience**

**Identification/definition and analysis of human-related issues in cloud-based systems**

**Conduct usability and user experience (UX) testing**

**Training Needs Analysis**

**Management of human-related risks and issues in system design**

**Human performance analyses including workload, error, situational awareness and team-working**

**Procedural design and compliance assessment**

**Qualitative and quantitative social research methods**

**Optimising notification / alert / alarm functions to best match user needs**

## Service Benefits

Enhanced system  
usability and  
effectiveness

Lower overhead  
costs, through  
intuitive design and  
reduced training  
burden

Improved end-user  
satisfaction /  
acceptance of the  
system

Reduced risk of user  
error and violations

Reduced risk to  
system safety and  
integrity

Improved decision-  
making

Maximising users'  
comprehension and  
situational  
awareness

Improved team-  
working,  
coordination and  
cooperation

Management of  
physical and  
cognitive workload

Better productivity  
through maximised  
usability

## Detailed Service Definition

People, and the way they interact with an organisation's processes and technology, are an integral part of any organisation's resilience. They are also the most complex element. People allow an organisation to operate safely and securely, closer to the risk cliff-edge; the inherent flexibility and creativity of humans, coupled with good design, training and procedures, allows them to respond effectively to the unanticipated behaviours of both systems and humans.

## Detailed Service Definition (continued)

Our Human Factors team specialises in the application of a user-centred approach to system and application design. By applying expert knowledge about human capabilities, limitations, characteristics, behaviours and motivations to the design of systems, procedures and the environment in which people use them, we can integrate the human into a system to maximise the user experience and enhance system usability, resilience and effectiveness. We have considerable experience providing Human Factors (HF) input and assessment across a range of domains including aviation, defence, nuclear, healthcare, in projects spanning systems design, research, safety assessment, usability and training.

Considering the human early in the design process gives the highest level of human-system effectiveness alongside compliance to standards. A Human-Centred Design (HCD) approach places the user's needs at the centre of the project. When designing a system, we first develop an understanding of the users, identifying them and understanding their personas and associated needs. We capture the user-requirements, ideally working closely with a defined set of end-users who we continue to interface with throughout the life of the project. By identifying use cases we help to define those user requirements in a way that can be incorporated into the design.

We identify appropriate test and evaluation points throughout the design process that allow the end users to be exposed to different iterations of the design. This allows us to capture qualitative feedback from the user group and data on the design. As the system or product design matures, we develop guidance material that assists end users in operating the system; initially to be used as reference, it adds value by providing the basis of a training manual.

## Detailed Service Definition (continued)

We pride ourselves on using the right tool or techniques at the right time, dependent on the challenge. These include:

### **Ideation techniques**

Facilitating user engagement activities to capture, analyse and assess equipment design, system and process development.

### **Service design**

Conduct of HF integration activities including design review, gap analysis and regulatory requirements to improve design, reliability and safety acceptance on a wide range of equipment including synthetic environments and autonomous and automatic systems.

### **User needs analysis**

Conduct of workshops, focus groups and user trials to assess user needs on a range of HF issues including physical ergonomic, cognitive, behavioural, cultural and organisational functions.

### **User experience research**

Utilising user experience research techniques to assess and ensure usability of developing tools, linking in with user needs analysis by creating case studies and user personas.

## Detailed Service Definition (continued)

### **Qualitative and quantitative social research methods**

We have experience in gathering quantitative data through the use of developed and validated questionnaires and user surveys, analysing this data and blending it with the qualitative to give a full insight into the human centred aspects of product and process design and implementation.

### **Human factors**

We have a team of Human Factors Integration experts who have experience in a wide range of industries including aviation, energy and defence covering all HF disciplines from HF integration, through to Human Computer Interface, user research and user experience.

### **Training needs analysis**

Developing innovative training solutions to meet our client requirements, we can provide fully managed turnkey solutions that take our clients from initial identification of a training need through to training delivery and evaluation. Our approach is to work to the principles of a Systems Approach to Training (SAT).

## Why Frazer-Nash Consultancy?

Frazer-Nash Consultancy is an independent engineering and technology consultancy with over 35 years' experience delivering high-quality digital and cloud-enabled solutions. We support organisations operating in complex and regulated environments through our collaborative approach and deep expertise in digital engineering, software development and systems integration.

We are **solution and technology-agnostic**. We assess our clients' requirements and provide impartial advice and design solutions based solely on their needs. This independence enables us to select the most appropriate cloud technologies and architectures to deliver secure, resilient and value-for-money outcomes.

Our cloud solutions are informed by experience gained across multiple platforms, sectors and use cases. We combine proven engineering discipline with a strong understanding of integration and whole-system design to support and enable cloud adoption while managing risk and ensuring long-term sustainability.

## Our Commitment to Quality

Frazer-Nash is committed to delivering consistently high-quality services and outputs that **often exceed customer expectations**. Quality is embedded throughout our ways of working, from engagement and communication through to delivery and assurance.

We actively monitor progress using our robust, proportionate controls, ensuring key decisions are subject to appropriate challenge. Each project is allocated a dedicated Project Manager, a Project Supervisor who independently reviews and approves monthly reports, and a Project Auditor for ongoing quality assurance.

We ensure accuracy and suitability for purpose of all deliverables, with independent verification by two reviewers. Our Quality Management System is certified to **ISO 9001 and TickITplus** (for software development), providing customers with confidence that our quality standards are externally assured and continuously maintained.

## Our Security

Frazer-Nash operates robust security processes and controls suitable for handling sensitive and classified information **above OFFICIAL** up to and including **Top Secret**. Security is embedded across our people, processes and systems, ensuring information is protected throughout delivery.

We support sensitive and critical programmes across government and national infrastructure by applying strict information-segregation controls, including team separation to address security, or conflict-of-interest considerations

All 1500 staff hold **BPSS clearance as a minimum**, with the majority cleared to **SC** and over 225 consultants holding **DV clearance**.

Our IT systems are certified to **ISO 27001** and **Cyber Essentials Plus**, providing assurance that information security risks are proactively managed in line with recognised industry standards.

## Our Approach to Subcontracting

Frazer-Nash primarily delivers services through our large base of permanent staff, supplementing this capability where required with trusted partner organisations to provide additional flexibility, specialist expertise and scale while retaining full delivery control.

We are experienced in engaging and managing subcontractors across the full project lifecycle, ranging from sole traders to large multinational organisations. Our structured approach ensures the right supplier is selected for each requirement and integrated effectively into the delivery team.

Our subcontracting processes focus on robust supplier identification and assessment, clear definition of scope, appropriate flow-down of contractual terms and conditions, and proactive risk management. All subcontractors are subject to proportionate commercial and technical due diligence to ensure they meet our standards for security, quality and delivery, enabling us to deliver outcomes on time, within budget and to the required quality.



## Resourcing

Frazer-Nash employs over **1,500 technical specialists** across all grades, from **Follow to Set Strategy**, providing depth, continuity and scalability across a wide range of disciplines, backgrounds and experience levels.

To support agile and flexible delivery, our people are organised into defined **technical delivery areas** (including Information Systems, Cyber, Modelling and Software), which are deployed across multiple sectors such as central and local government, policing, health and energy. This structure, combined with strong portfolio, programme and project management (P3M), enables us to actively monitor demand and adapt resourcing throughout the project lifecycle.

We deliver complex requirements efficiently, consistently and at pace by forming tailored, multi-disciplinary teams led by a single accountable Project Manager.

Our consultants regularly work across different sectors, enabling us to cross-pollinate ideas, tools and best practice between domains. Drawing on in-house expertise, such as information security and human factors, we ensure effective and responsive delivery for every client.



## Our Commercial Approach

Frazer-Nash adopts a flexible and transparent commercial approach to ensure best value and a model that aligns to each client's specific requirements. We collaborate with customers to clearly define the scope of services and agree a commercial structure that is predictable, proportionate and aligned to your required outcomes and effective delivery.

Depending on the requirement, this may include a **fixed-price model for clearly defined scopes**, or **time and materials using agreed day rates** where flexibility is required to accommodate evolving needs.

For longer-term or ongoing service requirements, and where we have control over resource flexibility, we can also offer a **single blended day rate** covering a range of grades. This provides simplicity, transparency and ease of management while maintaining access to the appropriate skills at the right time.

## Next Steps

To discuss your requirements in more detail or request an order for services, please contact [ccs@fnc.co.uk](mailto:ccs@fnc.co.uk)

