FRAZER-NASH
CONSULTANCY
A KBR COMPANY

Futures Framework - Prospectus

SYSTEMS · ENGINEERING · TECHNOLOGY

Who we are

Frazer-Nash is a leading systems and engineering technology company. Our work makes a difference to things that matter in the world.

With over 1000 employees, Frazer-Nash works from a network of offices across the UK Australia.

Our consultants apply their expertise to develop, enhance and protect our clients' critical assets, systems and processes.

Our people use their combined strengths to deliver technical solutions to some of the most challenging problems out there.

SYSTEMS · ENGINEERING · TECHNOLOGY

FRAZER·NASH
CONSULTANCY
A KBR COMPANY

What we do

In an uncertain world, we contribute to national security in a huge number of ways.

We help make sure that power is generated and distributed to everyone who needs it. We support moving people and goods around and between the big cities of an increasingly urbanised society.

We work to make the world a more sustainable place. We ensure governments save time and money when public spending globally is under huge pressure.

And we help our clients wrestle with the challenges and opportunities of an ever-accelerating digital revolution.

SYSTEMS · ENGINEERING · TECHNOLOGY

FRAZER-NASH
CONSULTANCY
A KBR COMPANY

Our vision and guiding principles

We use our skills and talents to ensure
a sustainable future for society.

Our work helps deliver a safe and secure world,
where natural resources are conserved, and
clean energy is available to all.

We focus on actions to reduce climate change;
supporting rapid and far-reaching
transformations in the delivery of our energy,
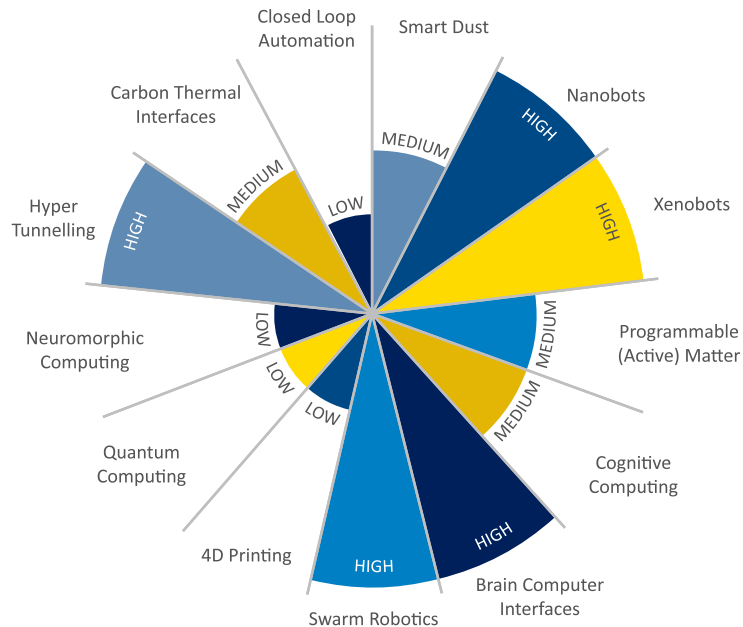security, industry
and transport.

FRAZER·NASH
CONSULTANCY
A KBR COMPANY

Case Studies

Nuclear Decommissioning Authority - Technology Intelligence

What was the challenge?

We were appointed by the NDA to undertake a number of horizon scanning activities awarded through the Futures Framework.

How did we approach it?

In conducting this work, we have delivered a number of horizon scanning reports, assessing the key characteristics of a diverse range of technologies, exploring their potential applications and existing research programmes before then assessing the applicability and relevance of the technology to the NDA mission and Grand Challenges. The key focus of this work was to seek out technologies both international and national which may come to fruition in the long-term horizon (10+ years away from commercialisation). Our work to date has covered a broad range of topics from nanobots and closed loop automation, to quantum computing and advanced sensing technologies such as smart dust.

What impact did we have?

Our work has been presented to a wide range of stakeholders from those with deep technical backgrounds to those not on the technical axis, promoting a new way of thinking and planning for the implementation and development of new technological solutions. We have identified potential opportunities and proposed recommendations of how NDA could collaborate more with industry and academia to aid or influence the development of the technology.

Defence Science & Technology Laboratory – Future of Novel Compute

What was the challenge?

The goal of this project was to enable the defence research client to understand the limitations, opportunities and threats arising for emerging novel computing paradigms within the Command, Control, Communication and Computers (C4ISR) space. This constitutes the initial exploratory phase of a cycle which will ultimately enable the exploitation of technology that may be commercially available in the 2030-40 timescale (or technologies that require a targeted approach to bridge the military delta in their application).

How did we approach it?

To meet DSTL's aims and objectives we:

- Defined an ontology and taxonomy to frame a baseline assessment of these concepts (such as quantum computing) with targeted use cases in a military context.
- Worked with leading academics to produce enhanced literature assessment and future forecasts of the technologies being considered.
- Scrutinised this work through a series of stakeholder workshops, subsequentially developing a set of concepts which can be considered testable and are accompanied by a hypotheses and research plan (detailing the enduring capability challenges associated with each concept and how to understand and overcome this).

What impact did we have?

A key output of this piece of work is the future demand surface of novel compute which summarises the relationship between macro trends, C4ISR challenged and proactive activities driving trends such that this horizon scan can be treated dynamically and endure over the specified timeframe.
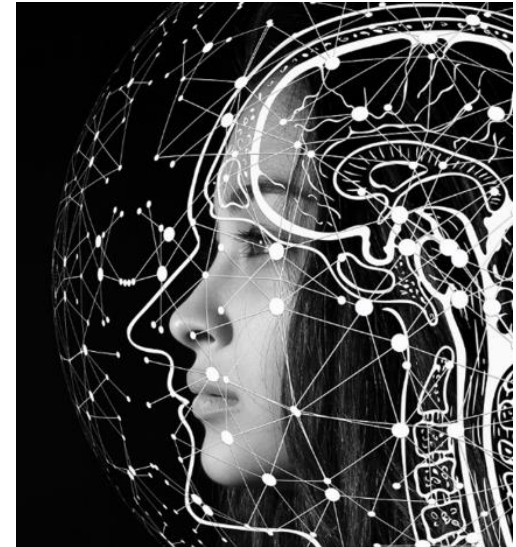
Government Office for Science – Consultancy

What was the challenge?

We delivered a short future thinking task for GO Science to develop novel tools and techniques for dealing with complex future risks across the GO Science project portfolio.

How did we approach it?

We worked together in a three-day 'hack-a-thon' approach, prototyping solutions to the risk description and characterisation difficulties that the Net-Zero Team have. We developed a problem statement: "Develop a template for the capture and characterisation of cross cutting risks so that they can be communicated effectively to senior stakeholders."

Innovating around the "Identify > Understand > Categorise > Manage" risk framework that stakeholders were familiar with, we identified techniques which would extend each step for a complex systems environment. Drawing from futures techniques, our capabilities in systems thinking and soft systems visualisation we created a risk management workflow to identify and compare risks which were difficult to record as a single risk register line.

What impact did we have?

We used futures techniques to develop a set of system architecture descriptions which could be used to structure the risk identification process, characterise 'messy' risks, and brief stakeholders, for complex systems environments.

Our Sectors

SYSTEMS · ENGINEERING · TECHNOLOGY

Aerospace and transport

Frazer-Nash uses its extensive engineering capability to support clients in aerospace and transport, taking an innovative approach to solve some of the toughest challenges in the aerospace, marine, rail and automotive sectors.

SYSTEMS · ENGINEERING · TECHNOLOGY

FRAZER-NASH
CONSULTANCY
A KBR COMPANY

Defence

Frazer-Nash has provided engineering systems expertise to the MOD and the defence industry for over four decades. We supply end-to-end capability from research and concept studies, through procurement and support, to disposal.

SYSTEMS · ENGINEERING · TECHNOLOGY

FRAZER-NASH
CONSULTANCY
A KBR COMPANY

Nuclear

With over three decades of industry experience, Frazer-Nash successfully helps clients meet the strict nuclear industry regulatory requirements throughout the life of their nuclear projects; from New Build through to decommissioning.

SYSTEMS · ENGINEERING · TECHNOLOGY

FRAZER-NASH
CONSULTANCY
A KBR COMPANY

Commerce and innovation

From concept to prototype development, Frazer-Nash provides invaluable insight and expertise in engineering to deliver cutting-edge designs and services in software development, expert witness and health.

Power and energy

Using its depth of knowledge from across the industry to drive power and energy projects forward, Frazer-Nash helps clients overcome the challenges to deliver their energy strategies more efficiently across the renewable, oil and gas, power generation, gas turbine and power, transmission and distribution sectors.

SYSTEMS · ENGINEERING · TECHNOLOGY

FRAZER-NASH
CONSULTANCY
A KBR COMPANY

Security and resilience

Frazer-Nash uses its business and technical expertise to help clients understand the risks associated with extreme weather and the impacts of climate change. We help them develop strategies to mitigate the potential effects on their supply chains, facilities and employees in an ever-changing environment.

SYSTEMS · ENGINEERING · TECHNOLOGY

FRAZER-NASH
CONSULTANCY
A KBR COMPANY

For more information on our services contact:
Andrew Spears – a.spears@fnc.co.uk
or: tenders@fnc.co.uk

SYSTEMS · ENGINEERING · TECHNOLOGY