Innovation and Technology Management Capability Statement

Recent Projects

Frazer-Nash has a broad experience on working with universities and SMEs to deliver technology based projects of relevance to CPC, and underpinned by strong relationships. This collaborative success, particularly with academics, is underpinned by the nominated project manager Brian Gribben's role at Frazer-Nash as Research & Innovation Manager – Brian facilitates the development of these collaborations and in so doing fosters Frazer-Nash's own innovation ecosystem.

One aspect of this ecosystem is our in-kind support to various university hosted institutes, centres of excellence and Centres for Doctoral Training. These include:

- Institute for Digital Futures (Bristol)
- Future Power Networks and Smart Grids CDT (Strathclyde)
- Materials for Demanding Environments CDT (Manchester)
- Earth Observation CDT (Edinburgh)
- Nuclear Futures CDT (Imperial, Cambridge, Open, Bangor, Bristol)
- Proposed HYSTEP project on green hydrogen (Newcastle, Strathclyde, Edinburgh)

Frazer-Nash also currents has three staff members who are currently Royal Academy of Engineering Visiting Professors – at Surrey, Strathclyde and Glasgow universities.

In Brian's pen profile above two relevant projects are described and are not repeated here. There follows a brief summary of a number of additional current and recent projects, which have involved academics, with subject matter of relevance to CPC.

Smart Air Quality at Stations – Bristol

Frazer-Nash is supporting Bristol-based start-up Atmo Technology Limited (Atmo), as it demonstrates how its novel monitoring technology could help the rail industry to improve air quality at stations and depots. As part of a £9 million 'First of a Kind' demonstrator initiative organised by the Small Business Research Initiative (SBRI), and funded by the Department for Transport (DfT), the project will deliver real-time air quality measurements at Bristol Temple Meads station and St Philip's Marsh railway depot, using data from wi-fi and GPS enabled sensors. This technology should help the rail industry to improve air quality at stations and depots. The University of Bristol are supporting this work by conducting some tests towards the development of the digital twin.

Hydrogen Fuelled Aircraft – Cranfield

Frazer-Nash is providing strategic engineering support and guidance to Cranfield Aerospace Solutions, a Cranfield University spin-out research organisation that are developing a twin-engine hydrogen fuel cell powered electric passenger aircraft. Our support includes advice on approaches to test, verification, and certification of the novel system architectures as well as advice around compliance to aerospace recommended practice where there is no existing mature acceptable means of compliance for new system architectures.

Find out more

To find out more about our work and how we can add value to your business visit our website.

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Marine Autonomy – Exeter

Frazer-Nash with Exeter University are developing proofs of concept for new systems to help unmanned autonomous vehicles to land on board moving ships in challenging sea states. This contract is for The Defence and Security Accelerator (DASA) as part of its Autonomy in a Dynamic World competition.

Smart Rail Logistics – Hull

In collaboration with the University of Hull's Logistics Institute, Frazer-Nash developed the Rapid Evaluation and Planning Analysis Infrastructure for Railways (REPAIR) tool set using data analytics and machine learning techniques to predict and mitigate the propagation of delays on the rail freight network. This project was awarded a Rail Industry Association award for innovation.

Assured Autonomy – Bristol and UWE

Frazer-Nash was contracted by Defence Science and Technology Laboratory (Dstl) to develop recommended practice for the assurance of autonomous component integration. Frazer-Nash delivered this work in conjunction with the University of the West of England and the University of Bristol. The objective of the project was to produce guidance to support the assurance of the integration of autonomous components into wider systems. The strategy for achieving this was to create a taxonomy of faults that may occur during the integration of autonomous components.

Green Ammonia – STFC

This is being led by the Science and Technology Facilities Council (part of UKRI) with Frazer-Nash being a 50:50 partner. Also includes Scottish Power, Engie, EDF Renewables, Brookfield Asset Management and Stornoway Council as non-funded partners.

Ammonia is currently almost entirely produced by the Harbor Bosch process using hydrogen extracted from natural gas. The Harbor Bosch process requires high temperatures, high pressures and is designed to operate 24/7. We will be investigating how this process can be made to operate more flexibly so that it can use green hydrogen produced from intermittent renewable energy powered electrolysis.

Nuclear energy to Hydrogen – NAMRC/Sheffield

This project will look at the feasibility of using future nuclear power (SMRs and AMRs) to produce hydrogen. Future nuclear is attractive for hydrogen production because the high temperatures can increase the efficiency of hydrogen production (either by electrolysis or thermochemical). The high availability of nuclear power can also bring down the levelised cost of hydrogen production. This is funded by BEIS and is a collaboration with the Nuclear Advanced Manufacturing Research Centre at the University of Sheffield.

Find out more

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