

ROLE TITLE: **Advanced Research Engineer**

Reports to: Engineering Capability Lead

Direct reports including contractors: None

Budget: None

Key relationships:

- Reports into, collaborates with and acts as a technical advisor to ECL
- Advises ECL and HoVs on technical strategy/ road-mapping
- Advises/influences S&BD
- Represents and advocates for NCC at technical forums
- Engages with Academia

ROLE PURPOSE:

- To solve and appraise technical engineering tasks in line with project requirements. This will be in a range of complex and non-complex contexts.

MAIN ACTIVITIES:

Technical

- Identify the need for a literature survey to be completed. You will review and assess completed surveys to provide technical direction utilising your advanced knowledge of NCC and industry best practice.
- Analyse and assess how an NCC engineering capability can be developed by strategically aligning technology development to the short and medium term technology roadmaps.
- Solve a range of complex and non-routine tasks to support project requirements by analysing and comparing mathematical and scientific theory and by assessing practical tasks.
- You will provide technical or specialist knowledge and guidance to RE's.
- Review and justify innovative approaches to direct and appraise technical solutions in a range of complex and non-routine contexts. You have substantial technical autonomy in your specialist area. This level of innovation is evolutionary and may include a new concept to replace the primary function of an existing process or capability and is medium-high risk.
- Review and appraise technical documents. Construct project proposals by integrating multi-disciplined technical activities for the statement of work.

Customer Interaction

- Ensure the appropriate capture and dissemination of technical information to internal and external customers to strengthen customer relationships.
- Build and develop collaborative working opportunities internally and externally at a national level. You will have a technical network and foster an environment that emphasises knowledge sharing and multi-disciplined and/or cross-functional participation.
- You will expand your sphere of influence to better position NCC's technical capability to create new collaborative opportunities.
- Provide advice and direction on the types of technical collaboration to pursue that will be of benefit to the NCC.

This Job Description is not an exclusive or exhaustive list of all activities that an individual in this position may be asked to perform. You may be required to undertake other responsibilities or activities, as requested by your line manager, to support your team or wider NCC activities.

PERSON SPECIFICATION

Essential	Desirable
■ Masters in Mechanical/ Materials Engineering or other relevant degree/qualification ■ Or significant engineering experience with non-composite materials	<u>Qualifications/Experience</u> ■ Significant composite engineering work experience ■ PhD in specialist area ■ CEng

<u>Behavioural Competencies</u>	<u>Behavioural Competencies</u>
■ Proven ability to analyse and review technical solutions and justify substantiated conclusions ■ Competently address engineering problems involving some uncertainty, and non-routine technical and non-technical factors ■ Demonstrable ability to justify alternative engineering approaches and compare potential outcomes against appropriate criteria to justify an optimal or new engineering concept ■ Understands and shows the value of alternative and multi-disciplined viewpoints, academic advice and the importance of professional networking ■ Awareness of broader fields of science, engineering and technology from which new ideas and interfaces may be drawn and readily engages with professionals from these fields to exchange ideas and exploit collaboration opportunities ■ Proven ability to seek out new developments in your engineering specialisation and apply advanced knowledge and systematic processes to analyse and assess potential	■ Understands the importance of being a member of a professional technical community, learning from its knowledge and standards and able to actively contribute to its advancement

Essential	Desirable
■ Able to prepare exemplary engineering documents and presentations pertinent to the audience ■ Able to represent the NCCs short/medium term strategic technical engineering position to the broader community ■ Able to express advanced and a range of complex technical information effectively and succinctly, issuing instruction, engaging in discussion, justifying arguments, debating and negotiating – to technical and non-technical audiences and using appropriate media best suited to the audience and context ■ Has professional gravitas, smart and confident as a technical ambassador of the NCC	

ROLE TITLE: **Principal Research Engineer**

Reports to: Engineering Capability Lead

Direct reports including contractors: None

Budget: None

Key relationships:

- Reports into, collaborates with and acts as a technical advisor/influencer to ECL
- Advises/ influences Head of Value Stream and CTO on technical strategy/ road-mapping
- Advises/influences Chief Engineers and Business Unit Directors
- Represents and advocates for NCC at technical forums
- Engages and collaborates with Academia and Industry

ROLE PURPOSE:

- To lead, review and establish technical engineering tasks in line with business requirements. You will take a strategic view and influence technical road-mapping activities.

MAIN ACTIVITIES:

Technical

- Revise and assess literature surveys to develop methods to meet varied complex novel technical requirements.
- You will appraise and revise proposals ensuring strategic alignment for short and long term roadmaps in collaboration with the ECL and Head of Value Stream.
- Integrate, advise and influence technical tasks; developing engineering outcomes which utilise state-of-the-art complex techniques. This may be across multiple-disciplines.
- You will provide technical specialist authority and guidance on projects and technical capability/strategy development.
- Revise, formulate and lead novel and innovative approaches to pioneer technical solutions, road-mapping and strategy. You will foster innovation in other and have technical autonomy in your specialist area. This level of innovation is revolutionary and may include establishing a new novel technical capability or process.
- Create and revise technical documents. Champion the capture and dissemination of technical information to internal and external customers and networks.
- Advocate the publishing of technical content. You will be an exemplar to others in technical report writing.

Customer Interaction

- Establish effective partnerships across boundaries both internally and externally. You will have broad technical networks nationally and/or internationally and be regarded as an expert in your specialist field.
- Represent the NCC in relevant technical forums and champion our technical strategy.
- Utilise your network of internal and external contacts to seek creative ways to develop and influence strategic collaborative partnerships e.g. bringing together teams of technical experts

on the grounds they have similar technical interests and may be able to collaborate in an innovative way to enhance NCCs technical capabilities.

This Job Description is not an exclusive or exhaustive list of all activities that an individual in this position may be asked to perform. You may be required to undertake other responsibilities or activities, as requested by your line manager, to support your team or wider NCC activities.

PERSON SPECIFICATION

Essential	Desirable
<u>Qualifications/Experience</u> ■ Masters in Engineering or other relevant degree/qualification ■ Substantial engineering experience with composite materials ■ Meets requirements of UK SPEC competencies for Chartered Engineer (or equivalent level)	<u>Qualifications/Experience</u> ■ PhD in specialist area ■ Chartered Fellow with a professional institute (IMechE, IOM3)
<u>Behavioural Competencies</u> ■ Understands the importance of being a member of a professional technical community, learning from its knowledge and standards and able to actively contribute to its advancement Proven ability to synthesise technical solutions and strategies and develop substantiated conclusions ■ Competently address engineering problems involving uncertainty, ambiguity, wide ranging and sometimes conflicting technical and non-technical factors ■ Demonstrable ability to conceptualise alternative engineering approaches and evaluates potential outcomes against appropriate criteria to justify an optimal or novel engineering solution ■ Demonstrates and champions the value of alternative and multi-disciplined viewpoints, academic advice and the importance of professional networking ■ Knowledge of broader fields of science, engineering and technology from which new ideas and interfaces may be drawn and readily engages with professionals	<u>Behavioural Competencies</u> ■

Essential	Desirable
from these fields to exchange ideas and exploit collaboration opportunities. ■ Proven ability to seek out novel developments in your engineering specialisation and apply specialist knowledge and systematic processes to evaluate and justify potential ■ Able to prepare exemplary engineering documents and presentations pertinent to the audience ■ Able to represent the NCCs short-long term strategic technical engineering position to the broader community ■ Able to express complex/specialist technical information effectively and succinctly, issuing instruction, engaging in discussion, formulating arguments and justification, debating and negotiating – to technical and non-technical audiences and using appropriate media best suited to the audience and context ■ Has professional gravitas, smart and confident as a technical ambassador of the NCC	