

## Research Engineer – Composite Manufacturing Processes

### Description

Fantastic challenges. Amazing opportunities.

GKN Aerospace is reimagining air travel: going further, faster and greener! Fuelled by great people whose expertise and creativity sets the standards in our industry, we're inspired by the opportunities to innovate and break boundaries. We're proud to play a part in protecting the world's democracies. And we're committed to putting sustainability at the centre of everything we do, opening up and protecting our planet. With over 16,000 employees across 33 manufacturing sites in 12 countries we serve over 90% of the world's aircraft and engine manufacturers and achieved sales of £3.35 bn.in 2023. There are no limits to where you can take your career.

### Hiring organization

Candidate-1st

### Employment Type

Full-time

### Beginning of employment

asap

### Job Location

Bristol, GB

### Working Hours

40

### Base Salary

euro GBP 93K - 194K \*

### Date posted

June 2, 2024

## Job Summary

Situated within our £32m state of the art Global Technology Centre (GTC) in Filton, Bristol, and as a result of continued growth across our programmes, a number of positions have arisen for Research Engineers with a background in advanced composite manufacturing process development to join us, and to help shape the future of flight. Our programmes are at various stages in terms of their progress from conception to first gate, and so we are encouraging candidates at either the very early stages of their career journey to well established within the industry to apply.

Whatever stage of your career you are at, you will be an integral member of the GTC technology team, working on developing advanced composite manufacturing processes for current and future aircraft wing applications. We are looking for people who want to make a difference, talented individuals with the skills and passion to become future leaders in what they do..

Whichever programme (or programmes) you are assigned to, as a Research Engineer you will draw on your broad general knowledge of engineering and the product lifecycle to work on a variety of research tasks in the TRL1-6 range. You will execute tasks according to plan, exhibiting a logical and methodical approach to problem solving. Your proactive nature will enable you to understand and adapt to new technology areas quickly. Your good communication skills shall enable you to confidently engage with a wide variety of internal stakeholders.

## The Programme

SUSustainable WING Solutions (SusWingS) is a 50% ATI funded, Airbus led programme following on from the Wing of Tomorrow. SusWingS bridges the gap to the Wing Accelerator project and beyond to ZEROe aircraft of the future.

The SusWingS project is targeting the development of technologies which facilitate a reduction in global emissions that result from commercial aircraft manufacture and in-service emissions. It is more important than ever to focus on the design of more efficient, lighter weight, lower emission aircraft, manufactured with a process that considers, and is conscious of the environmental impact.

SusWingS continues to develop many of the technologies from the Wing of Tomorrow Programme suite of projects, as well as new innovations. It works alongside other running projects to help prepare the UK aerospace industry, and the UK supply chain, for the future.

In SusWingS, Airbus are partnered by GKN Aerospace as the major part manufacturer, as well as Cranfield University and the University of Sheffield. Each partner brings their own unique skills and innovations to the project.

This project focuses on a variety of interlinked topics across the Wing design and manufacture process including technologies such as the one way assembly enabling single sided fasteners (as opposed to 2 piece fasteners), the latest carbon fibre composite material developments, as well as state of the art numerical analysis models to predict structural behaviour to then ultimately assessing how these and other technologies are combined in major components and assemblies, and the environmental impact monitoring of those assembly processes.

All aspects of this project are linked with the common aim of not only developing and maturing the technologies but also to understand the sustainability/environmental impacts of the technology (in terms of 'scope' emissions or the 'hy5' (VOC, CO<sub>2</sub>, Waste, Water and Energy)).

## **Job Responsibilities**

- You will seek to understand the strategic direction of the target products in your project(s).
- You may be responsible for a Work Package budget or small Work Stream budgets.
- You will contribute to multi-year planning and internal/external funding proposals as required.
- You will contribute to Technology Development Plans and Technology Business Cases within your project(s).
- You will ensure all planning documentation that are your responsibility are regularly updated, accurate, and delivery is on track.
- You will support or lead any necessary 'hands on' development test work and development trials that are required to meet your Work Package/Work Stream delivery objectives
- You will be responsible for accurately capturing and recording data and results from test work and development trials.
- You will be responsible for raising and issuing high quality and detailed technical documentation.
- You will suggest and explore exploitation routes, aligned with the guidance of the Work Stream Lead.

- You may support project stakeholder management with internal/external customers, and you may lead management of supply chain partners in some cases.
- You will ensure adherence to EH&S policies and procedures for your activities, and you will contribute to a proactive EH&S culture in the wider team.

## Job Qualifications

In order to be successful in this role you will bring the following experience and attributes:

### Essential

- Degree-qualified in Engineering (or equivalent i.e. Aerospace/Mechanical/ HND equivalent or Degree Apprenticeship)
- Knowledge and/or experience of composite manufacturing methods including Material cutting & kitting, Hand layup of a variety of CF textile material options, Bagging & preparation of composite components for cure, Resin preparation for injection/infusion and Tool preparation & cleaning.
- You will have a good general awareness of the product lifecycle including design, materials, manufacturing and end of life.
- You will have a general awareness of budget and schedule management.

### Desirable:

- Experience of programming of ovens / autoclaves, including thermocouple set-up and monitoring.
- Operation of resin mixing and injection equipment and of ply cutter / preform cutting tools.
- Experience with laser ply projection equipment (set-up and use) and automated composite processing; AFP, ATL, Pick and Place.
- Experience in the post-processing of cured composite structures; machining, hand finishing, drilling etc.
- Knowledge of standard metrology and part verification techniques and previous experience with manual NDT techniques.
- Familiarity with composite component / tooling design and manufacture processes.
- Experience of RTM, resin infusion and traditional prepreg techniques.
- Aerospace background preferred but relevant experience from other industries is welcomed.

## What We'll Offer:

Once you're on board you'll get the following perks and benefits:

- Competitive [salary](#)
- Industry Leading Pension Scheme = we'll match your contributions up to 8% on a 1 : 1.5 basis
- Life Assurance 8 x salary

- 25 days holiday + bank holidays
- Income protection
- Shopping discounts
- Cycle To Work Scheme
- Employee Assistance Programme
- A collaborative, dynamic working environment

As well as a competitive package we'll offer you a world of opportunity. We want to see your career fly! We'll support your career progression by providing you with learning and development opportunities. That's the beauty of being part of a global business, once you're on board you never know where your career journey may take you!

We'll offer you fantastic challenges and amazing opportunities. This is your chance to be part of an organisation that has proven itself to be at the cutting edge of our industry; and is committed to pushing the boundaries even further. And with some of the best training on offer in the industry, who knows how far you can go?

A Great Place to work needs a Great Way of Working

Everyone is welcome to apply to GKN. We believe that we can only achieve our ambitions through a coming together of diverse minds who enjoy collaborating in an inspirational environment. Through our commitment to diversity, inclusion and belonging and by living our five powerful principles we've created a culture where everyone feels welcome to contribute. It's a culture that won us 'The Best Workplace Culture Award'. By embracing and celebrating what makes us unique we encourage everyone to bring their full self to work.

We're also committed to providing an accessible recruitment process, so if you require reasonable adjustments at any stage during our recruitment process please get in touch and let us know.

We are the place where human dreams, plus human endeavour, shape the future of aerospace innovation and technology.

### **How the process will look like**

Your teammates will gather all requirements within our organization. Then, once priority has been discussed, you will decide as a team on the best solutions and architecture to meet these needs. In continuous increments and continuous communication between the team and stakeholders, you're part of making data play an even more important (and understood) part withing Brand New Day.

**Job Benefits**

GBP 93K – 194K \*