

Meet the team



“The most exciting nuclear project in the UK today” Ian Sainsbury, Core Design Manager

Ian Sainsbury joined Rolls-Royce in 2006, working in operational physics to develop and improve the company’s submarine fleet. He later moved into next generation nuclear plant design, and has since worked on the Neptune test reactor, a zero-energy reactor facility used to prototype the latest in naval nuclear design. In June 2020, Ian joined Rolls-Royce Small Modular Reactor (SMR), heading up the team overseeing the development of the UK’s first soluble, boron free power plant in 40 years, which is designed to generate electricity using more intelligent, low-carbon processes to power the UK’s future energy needs.

“Rolls-Royce SMR offers anyone with a background in science or passion for nuclear physics a really unique opportunity,” says Ian.

Having recently received a half a billion-pound investment from the Government, the Rolls-Royce SMR project is the first civil nuclear power station of its kind in the UK. This financial injection will enable the team to expand operations, getting the first fleet of reactors online. But just as the investment will enable the project to scale up, more talent will be required to ensure the venture’s ambitions come to fruition.

Ian said: “The next chapter in our journey is to complete step one of the ONR’s Generic Design Assessment with our preliminary concept definition, but we require a massively expanded workforce to achieve that. And from thereon, more and more roles are going to be required.”

“This is technically challenging work; we need to recruit at a significant pace to reach our target. As well as people experienced in the industry, we’ll be opening roles up to young talent and graduates.

“There’s an opportunity, as this project expands, for talented individuals to bring new ideas and concepts

to the table that could change how things are done for centuries to come.”

Long term goal

Though in the initial stages of development, Ian sees the long-term potential of Rolls-Royce SMR as truly pivotal to the way the UK – and the rest of the world – sources and uses power.

“There are currently three main Engineering teams within my area. There’s a core design team working on the core itself, which is the heart of the power station, a division managing the fuel handling activities and a group working to quantify any radiological effects and consequences to improve the design of shielding and reduce dose rates to levels that can be considered ALARP. But long-term outcomes of what we’re doing now will ultimately mean we can produce a fleet of reactors on a consistent basis, with controlled, cost-efficient processes, which will provide a quarter of the energy output at a tenth of the cost of any equivalent civil power station being built today.

“To help us get to that stage, we need people who have experience in nuclear core design and those who understand the requirements of radiation protection and shielding. But more than that, we want people who have a thirst for scientific knowledge – from physics to computer science – and a willingness to learn.

“Nuclear technology has advanced significantly, so just because something couldn’t work in the past, it doesn’t mean it can’t now. We need to remain pragmatic in our research and development and must still deliver this project in a timely manner, but we want people who love to experiment, who can see beyond the obvious and can tap into unlocked potential.

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We have a chance to steer the future of nuclear design and create better solutions across power generation and storage, radiation and shielding, and make this an even more innovative industry to work in.”

A diverse field

Designed to challenge the norms of nuclear power, Ian is keen to ensure the team behind Rolls-Royce SMR also shakes up misconceptions of the wider industry, with the aim of developing a truly diverse workforce that’s reflective of all who will come to benefit from it.

“If we work with a ‘one-style-fits-all’ approach, we aren’t going to get the results we want,” Ian said. “Yes, the industry hasn’t been diverse historically within the UK, but equality and inclusion is vital to Rolls-Royce SMR and we want to bring multiple different perceptions to the table. We’re a disruptor to the market, and we want people of all backgrounds, with all interests, to join the team for greater insight and creativity, so we have a project that is representative of society today.

“And more important than that, we’re committed to creating a culture where every single person in the team feels empowered to speak up if they think there is an alternative way of doing something, which hasn’t been considered before. We’re harvesting a collaborative environment and want to support all styles of learning and knowledge sharing to create the best results possible.”

A career for life

Ian foresees the development of Rolls-Royce SMR as being key to the UK’s 2050 carbon net zero campaign and to the increased use of alternative power supplies to create a more sustainable future. Anyone joining the team has the chance to help carve out that roadmap, he says, and attain a career

for life.

“There is so much potential in what we can do; Rolls-Royce SMR is a starting point. Through its use, we’ll better support hydrofication, the creation of synthetic aviation fuels and even district heating supplies. It’s a real sweet spot of energy production, when you consider the cost, size and overall impact on the environment.

“And though we’ve the Rolls-Royce brand in our name, at the end of the day, we are still a small new business looking to grow exponentially. There is an opportunity here for anyone with a can-do attitude and who has enthusiasm for doing something that will make a difference. We’re working with all kinds of partners, from Government to independent businesses who are keen to explore the project’s potential, because nothing like this has been done for more than 40 years.

“This is the most exciting nuclear project in the UK right now, and anyone joining the team has the chance to develop their role, integrate across different disciplines and carve a career for life. Joining us means your possibilities are endless.”

