

Fancy being a smart product engineer?

At Maddyness, we have recently launched our job board to connect the right people with the right roles. As part of our commitment to shed some light on what these roles mean, we're talking to professionals at the coalface. This week, we talked to Octopus Energy smart product engineer Derya Robinson.

For our ongoing series profiling the cutting edge of UK tech and startup roles, we've so far talked to *a chief of staff*, a *community manager*, a *D,E&I officer* - and a *legal designer*: all relatively new roles which are seeing rapidly increasing demand within the innovation economy.

But what about the roles that have always - and continue - to be important? Like engineers? Well, this week we've thrown it back and talked to an engineer - and not a software engineer either, but a good old fashioned electrical engineer: someone who makes physical things.

Given the pervasive energy crisis, we thought it would be worth talking to someone from a company actively involved in sorting it out. Octopus Energy is aiming to do just that: make energy fair, clean, and simple for all using technology. Currently powering almost 5M UK homes and businesses with its 100% green electricity, they're also trying to build the sustainable energy system of tomorrow. Last year they acquired Craigavon-based heat pump manufacturer RED, as one example.

I talked to Derya Robinson, a Smart Product Engineer at Octopus Energy who is involved with the technical aspect of designing and manufacturing their products. In a nutshell Derya supervises every aspect of product creation and ensures the entire process runs smoothly. She leads the hardware electronics developments, including the Octopus Home Mini, a small, palm-sized device that sends live readings from your smart meter to Octopus' cloud-based platform Kraken.

Product Engineering: an end-to-end journey

As an electrical engineer, Derya's domain is of course the electronics. She's a 'smart' product engineer because these products are smart: the Octopus Home Mini is their brand new device that makes understanding energy use easier than ever. Users simply plug in the little pink square in order to beam their smart meter's data straight to your Octopus Energy app, allowing them to see electricity use in near real time.

Each product such as this starts with what Derya calls a requirement specification. This – as you may expect – sets out what the product is required for. From here, issues such as cost and size are discussed, before a technical requirement specification is produced, which would include an understanding of what types of software will be integrated.

Derya explains she's very much involved 'end to end' in the process: she was responsible for the entire design of the Octopus Home Mini, for example, from the wifi module to the recycled ocean-plastic case. But she's equally plugged into the product's journey into the world: its testing, verification and certification all come under her remit. She even liaises with suppliers and manufacturers to ensure everything runs smoothly.

I ask if both this managerial aspect and stakeholder engagement are typical responsibilities for a product engineer, and Derya explains they naturally come with seniority. Product engineers go from working on an isolated part as a junior to running the delivery of the whole product as a more experienced engineer.

The evolution of the role

As someone with broad industry experience – Derya has also worked at Nokia and Hive – I'm keen to ask her how the role's changed. She points out that the role reflects the product itself: home products such as thermostats have become both more modular and integrated, in her words these modules are

now almost 'plug and play'; they aren't built manually and individually. In general, the tools and tech have developed to ensure the verification and testing is all done much quicker, for example, and everything has become noticeably smaller.

Where is the role heading now, I ask? Derya sees product engineers as eventually becoming less hands on: she predicts even less work will be needed to do verification and testing than they do now as the availability of oven-ready modular parts can be seamlessly integrated into design ideas. Ultimately, she says, the core of the role will be the same: coming up with the first idea of what to make, based on observing what people need; in Octopus' sustainable energy world that means building products around EVs, heat pumps, and solar panels.

What do you need?

So - beyond the degree and other hard skills - do you think you have the right soft skills to make it as a product engineer? Derya stresses the importance of anticipating each stage of the engineering process - she ensures she's always a few steps ahead. As ever, communication is central to this mission. She concludes 'communicate, plan and always be ahead', reflecting on how the team managed to go from idea to certified product with the Octopus Mini in six months.

Check out a range of live roles at our [comprehensive jobs board here](#) - which includes various product roles in the UK.