Senior Embedded Systems Engineer

We are a rapidly growing CleanTech business looking to disrupt the heating industry with a new kind of low-carbon boiler technology. Decarbonisation of domestic heating is the single biggest challenge facing the UK's goal to reach Net Zero. Heating represents over 17% of all carbon emissions in the UK.

Our product is a new type of low carbon heating technology which is becoming a game changer in the drive to decarbonise domestic heating. It's called a Zero Emission Boiler (ZEB)® and is a plug 'n' play replacement for a gas or oil boiler. It uses electricity to 'charge' ultra-high density thermal storage when energy prices and the carbon intensity of the grid are low. Our IoT technology and cloud-based algorithms automatically optimise the ZEB to minimise cost & carbon. The ZEB operates like a normal boiler for our customers, is easy to install and massively reduces the carbon emissions from heating.

We've been recognised as one of the fastest growing and most exciting CleanTech scale-ups in the UK and were recently featured on the [Everything Electric Show](.). There's more on our website at [tepeo.com.](.)

About the role

At tepeo, we are committed to creating a diverse and inclusive workplace where everyone feels welcome and valued. We are recruiting for a senior embedded systems engineer with a good understanding of real time system aspects, digital electronics, and some elements of analogue (sensing and control) electronics.

We are an inclusive team and committed to building a team that represents a variety of perspectives and experiences, and we believe that diversity makes us stronger.

The role

- **Full-time employee** to start at the earliest available date
- **Location:** Office (potentially hybrid)
- Designing, developing, and refining the ZEB firmware, in collaboration with other teams (especially with electronics & product design engineers, data scientists, cloud & mobile app developers).
- Supporting activities like the wakeup testing of new ZEB electronics, experiments & trials for future product features, automation of manufacturing & product testing.
- Supporting product certification and compliance testing. This support may involve the design & development of custom, even experimental, firmware versions to assist other tepeo teams (e.g. electronics, data science).

About you

Essential
- Ability to design, develop & test C source code for real time embedded systems, with version control and automated testing.
- Experience developing microcontroller software on 'bare metal' and in RTOS (ideally *FreeRTOS*) environments with limited processor resources.
- Experience in working with digital & analogue interfaces and peripherals in real time contexts (e.g. ADC/DAC, SPI, UART, DMA, timers, hardware interrupts, communication with external specialised ICs via custom protocols etc.).
- Excellent analytical and problem solving skills in the context of complex systems that span multiple disciplines.
- Excellent communication skills for effective interactions with often very different, technical and non-technical, teams.

Preferable
- Familiarity with ESP32 and Microchip PIC, or similar, microcontrollers and their internal hardware.
- Experience with some IoT & cloud computing concepts (ideally AWS IoT Core & SDK), especially the use of device shadows & remote actions (jobs).
- Familiarity with communication protocol standards such as OpenTherm, Modbus, TCP/IP.
- Understanding of some data science & control theory aspects (e.g. sensor data conversions, interpolation, adaptive algorithms, closed control loops).
- Understanding of some Energy Sector aspects (e.g. electricity metering, grid frequency monitoring & fast frequency response, grid independence).

Benefits

Salary £60,000 - £70,000
25 days holiday plus 8 bank holidays and 1 'birthday' holiday.
Life insurance, Private Medical Insurance, Optical and Dental Insurance, Income Protection, EV Car Scheme, Cycle to work scheme, Employee Assistance Programme, Holiday Purchase Options, Discounted ZEB for your home.
Collaborative, flexible, and friendly environment.
Be part of a growing technology scale-up and help shape the future of energy.

Getting in touch

If this sounds like it might be the job for you then drop us a line at careers@tepeo.com. Please include a copy of your CV and any supporting information you think we should have. We are considering applications on a rolling basis so do get in touch ASAP.