



Automotive Software Development Division – Advanced Software Department

Modern cars can contain as many as one hundred and fifty Electronic Control Units (ECUs) and tens of millions of lines of software code. Those numbers will only increase as traditional mechanical systems are replaced by electronics and software, with the trend towards electric and hybrid vehicles and with greater automation on the path towards driverless vehicles.

Supporting the Renesas Automotive Business, the Software Development Division (SWDD), comprises of departments that are responsible for all software activities (including software policy, software strategy, software development, and software infrastructure).

The Software Platform Department are responsible for middleware, security, and safety product development.

Within Europe, we have a diverse multi-cultural team, with members located in the UK and Germany. We work closely with our colleagues in Japan and Vietnam, developing software solutions for the Renesas R-Car Systemon-Chip (SoC) devices. Example User applications are: Smart camera (front camera, surround view), Electric parking brake assist, and battery management systems. Our team are currently responsible for software development of the following projects:

- Vision for Advanced Driver Assistance Systems (ADAS). We are developing embedded software to provide a basis for incorporating forward facing cameras and visual pattern analysis.
- Computer Vision components, including image system processing and image display algorithm.
- Modernizing the software development infrastructure (tooling & processes). Our focus here is on increasing development efficiencies, increasing the speed of development, increasing quality, and reducing rework. Such modernization also makes it feasible to support and maintain new and legacy products, using our test automation solutions.

Job Description.

We are offering an opportunity to work as a fully integrated member of our team, working with our engineers and within our software development process. We will train and support you to develop software work products and deliverables required by our various projects.

Key Activities: -

- Working with Clients to elicit, clarify and capture requirements in our Atlassian Confluence based requirements specifications.
- Writing Atlassian JIRA Task and Feature Tickets to cover requirements in our specifications, presenting them for Triage and submitting them for inclusion in Agile sprints at our Sprint Planning meetings.
- Designing software (including real-time behaviour) in Sparx Enterprise Architect and linking design artifacts to specifications and design documents.
- Developing embedded software in 'C' (possibly assembler and C++) language and software components of our development toolchain (including Python scripts and Java Components).
- Running Software Static Tests (currently using our QAC or Klocwork tools), analysing results and fixing code
- Developing and running Software Unit Tests (currently using Cantata++)
- Developing software Feature Integration and Component test in our Automated Test Framework and running these tests.
- Raising Software Issues (bugs) as JIRA Tickets.
- Documenting code to providing user manuals etc. and creating release packages and documentation.
- Taking an active part in our Sprint Retrospective activities to provide feedback and suggestions for improvement of our Agile process.

The role would suit an enthusiastic individual who is keen to obtain hands-on experience developing realtime embedded software under an agile process. As this is an embedded software role the candidate should have a good knowledge of digital and analogue hardware in addition to experience developing software in 'C' and ideally C++ and Java. Prior experience in hardware design and/or embedded software development would be an advantage as would a knowledge of agile software development, test driven development and continuous integration strategies.

