

Job title	Senior Research & Development Engineer		
Job family	Research & Development	Band	D

Job purpose

A Senior R&D Engineer is responsible for leading and conducting R&D activities and transferring results in order to identify and solve complex technical problems and carry out ground breaking research in relevant areas, deliver solutions for the BBC, inform the BBC's decisions, help create products, services, or contribute to global standards. Collaboration with third parties (such as manufacturers and universities) is required in order to achieve these goals.

- Key responsibilities and accountabilities**
- Apply creative thinking, analysis and good judgement to propose innovative solutions to technical problems which may involve a range of diverse approaches and resolving conflicting issues.
 - Produce and test prototype implementations of systems to help answer research questions.
 - Transfer results of work to the wider BBC and encourage others to do so in the form of systems for operational use or advice, or to wider industry via inputs to standards bodies, open source software, or licensing to manufacturers, in order to ensure that the work has an impact.
 - Evaluate technology through activities such as programme trials, lab tests and user tests to determine its suitability and effectiveness.
 - Document results for an audience within the department or wider BBC, including external-facing output such as conference papers and blog posts.
 - Provide advice and consultancy to help the BBC and its external partners make the best decisions within own field of expertise.
 - Use persuasion and facilitation skills to gain cooperation of groups across the BBC and externally, and negotiate agreements to advance collaborative projects.
 - Represent the BBC at events such as exhibitions and demonstrations to explain their work and help with recruitment.
 - Represent the BBC in international standards bodies and similar forums to create a smooth operating environment for the BBC.
 - Identify and follow up opportunities for learning and development to ensure skill set meets evolving requirements and stay at the forefront of relevant scientific and technology areas.
 - Manage a small team of engineers, participating in recruitment and contributing to appraisals when needed.

- Knowledge, skills, training and experience**
- Essential**
- A degree (or equivalent experience) in computer science, electronic engineering, maths, physics, psychology, human-computer interaction, data science or a similar relevant science, engineering or technical subject.
 - Experience in a role involving research, development and/or user testing of technology, including playing a key role in delivering a significant piece of R&D work in a field of relevance to the BBC, and leading others in the delivery of this work. Recognised as leading specialist in their field inside and/or outside the BBC.
 - Knowledge of current standards and practices in broadcast or software engineering, human-computer interaction and/or behavioural scientific research.

- Awareness of emerging trends and developments in relevant technologies.
- A record of demonstrating capability for original work and of originating and defining new areas of research, together with an enquiring mind with well-developed analytical and investigative skills.
- The judgement necessary to choose the best solution to a complex problem.
- Good written and spoken communication skills, able to promote ideas by logical argument and capable of presenting the results of a project in a clear and effective manner.
- Time and resource management skills and be able to lead, motivate and direct support staff and contractors contributing to the project.
- Self-motivated with the initiative to carry out projects according to plan, and the ability to quickly adapt in a fast-changing environment.
- Ability to rapidly acquire new skills and to work with new tools and technologies with little documentation or support.
- Ability to work as part of a multi-disciplinary team.
- Able to travel in UK and internationally on BBC business as required.

Job impact

Decision making

- Reports to Lead R&D Engineer (or similar role) or above.
- Responsible for planning own work and framing the problem within a broader work area and coordinating work with other professional engineers or support staff to meet specified project aims, based on a general approach set out by a Lead Engineer (or similar role) or above.
- Significant contribution to team discussions on problem solving and work planning.
- Impact of role is both with the department and directly to the wider BBC, or to third parties who build on or adopt our ideas.
- Most challenging parts of role include identifying new approaches to address future problems or opportunities the BBC may face and leading an internal team to solve them.
- Ability to summarise and explain key technical decisions to non-specialist colleagues in order to deliver best technical outcomes.

Scope

Finance: May be allocated responsibility for budget spend (usually less than £25k) within defined project area to meet specified project aims, with ability to make recommendations about larger spend.

Line management: Provide guidance and supervision to other professional engineers to meet specified project aims; provide line management and/or mentoring to individuals or teams typically up to 4 staff.

Ad-hoc teams: May include contributions to recruitment, training and appraisals. May lead small ad-hoc teams of around 6 people from other parts of their department or the wider BBC, Joint Venture Partners or BBC subsidiaries. May also lead a similar-sized team or work package in a collaborative project, involving staff from external companies or academia. May participate in larger ad-hoc teams of up to around 20 people with internal or external people.

Other information

For Reward team use only

Job Code	
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Definition:	Content / Content Support / Support
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This job description is a written statement of the essential characteristics of the job, with its principal accountabilities, incorporating a note of the skills, knowledge and experience required for a satisfactory level of performance. This is not intended to be a complete, detailed account of all aspects of the duties involved.