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| **Title** | **Systems Engineering – Principal Systems Engineer**  |
| **Band** | **Individual Contributor – Professional** |
| **Grade** | **P4** |
| Job Family | **Principal Systems Engineer** |
| Reporting To | **SE Capability Lead**   |
| Location | **South Wales - Oakdale**  |
| Date Written/Revised | **10-Mar-2025**  |

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| **Position Objective** |
| GDUK Engineering operates a matrix organisation, this role is within the Systems Engineering discipline. The purpose of the role is to make a significant contribution to the System Design of C4I Systems on GDUK programmes through application of world class Systems Engineering expertise.The role offers an opportunity to provide System Engineering effort on a variety of MoD development and delivery programmes, Customer Research and Development, and Internal Research and Development. The work will cover a variety of activities including:* Analysis of user and system level documentation (URD, SRD, CONOPs, Use Cases, Interface Requirements), significant input to SRR
* Producing system designs to satisfy User and System Requirements, significant input to SDR
* Engagement with specialty engineering teams (Safety, Security, Human Factors, ILS, Training) to ensure a complete System Solution
* Evaluating/Modelling system performance in support of design decisions and trade studies
* Analysis of third party applications to assess their suitability as part of the system solution
* Specification of Interfaces and system components
* Through-life management of the system design, including design reviews
* Engagement with development teams (Internal and External) as part of system design and component development
* Engagement with System Integration and Test teams on test features within the design, test and acceptance approach, fault finding
* Engagement with Stakeholders including: Users, DT technical advisors/assessors
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| **Generic Level Description** |
| General Accountabilities | First full level of specialization or project management; applies specific area(s) of expertise in own functional area. |
| Supervision Required or Provided to Others | Determines methods and procedures on new assignments. May lead a project or work team made up of senior technical and/or professional and support staff - focus is on task and resource management vs staff management. May provide advice and guidance in area of specialization. |
| Complexity | Works on complex issues where analysis of situations or data requires an in-depth evaluation of variable factors. Exercises judgment in selecting methods, techniques and evaluation criteria for obtaining results.  |
| Knowledge and Expertise | Acclaimed specialist in one area; demonstrates depth/breadth of knowledge/skills in own discipline. Applies knowledge/skills through handling complex problems and may coordinate work which may extend beyond own area of expertise; shares expertise with colleagues and other departments. |
| Problem Solving | Anticipates patterns and links; looks beyond the immediate problem to the wider implications; generates new solutions to complex problems. |
| Planning and Organizing | Manages own time, and maybe that of others; develops plans for work activities in own areas over the medium/long-term; supports strategic planning activities. |
| Project Management Accountabilities | Manages moderately complex to complex projects; accountable for quality of work delivered by external suppliers, as applicable; identifies researching issues within scope of work; coaches others in area of specialization. |
| Decision Making and Autonomy | Has decision-making authority and autonomy to deliver on goals of work or project team; influences others outside of team to ensure goals met and resolves conflicts in an effective manner. |
| Client/Business Orientation | Assists in the development and implementation of customer service enhancements in own functional area, including responses to customer feedback; plays a role and/or coaches others to ensure customer conflicts, concerns and issues are resolved. Anticipates client needs, investigates the underlying causes and identifies short- and long- term solutions. Anticipates client business issues and developments in own discipline; uses knowledge to focus work and drive improvements. May manages costs and profitability across more than one project/work activity. |
| Communication, Negotiation and Influencing | Explains/presents complex ideas; anticipates potential objections and prepares case accordingly; influences others. |
| Leadership Requirements | Coaches others on how to enhance communication, problem solving, teamwork and innovation; involves others in problem solving, decision-making and creative thinking. |
| Key Contacts | Seeks out new avenues for building internal and external relationships; maintains on-going contacts with existing relationships; coaches others on relationship management issues. |
| Physical Effort  | Little chance of injury. Little physical effort required. |
| Working Conditions | Standard office environment with little physical effort required. May be required to travel for extended periods of time and/or have overnight trips. Significant additional hours during peak and difficult business circumstances may be expected. |

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| **Discipline Description** |
| Responsibilities Include | 1. Requirements Elicitation and Development
2. Interface Definition
3. Design Analysis, including Functional and Physical Analysis, Alternative solution development and Trade Studies
4. Design for Technical Performance Measures
5. Sub-system or component specification
6. Engagement with Customer technical team.
7. Leading a multi-disciplined team in delivering major system reviews SRR and SDR.
8. Provide System Engineering input to other lifecycle reviews PDR, CDR, SIRR, STRR.
9. Baseline and Change Management of the System Design.
10. Technical Subcontract or supplier management
11. Support development teams
12. Support the development and delivery of System Integration and Test
13. Engage across a multi-disciplined team for Safety, Security, ILS and SI&T inputs into a coherent System Solution.
14. Providing SE inputs for System Acceptance, including leading acceptance of small projects.
15. Support Engineering and Programme Management through
	1. Planning and Estimating
	2. Monitoring, Control and progress reporting
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| **Knowledge, Skills & Abilities** |
| Required Skills & Abilities | **Essential*** Experience of leading system engineering teams to deliver System solutions.
* Experience of delivering across all phases of the engineering Lifecycle
* Broad competence in systems engineering.
* Experience in resolving design challenges.
* Experience in engaging specialist engineering disciplines (Human Factors. Safety, Security, ILS) to deliver a complete System solution.
* Experience with structured design methods.
* Must manage and work well in a team environment.
* Ability to create well-structured technical documents in accordance with a published schedule.
* Excellent written, verbal, presentation, and interpersonal communication skills. Proficient in use of Microsoft applications, including Word, Excel, PowerPoint, and Visio.
* Ability to present formally at progress reviews and contribute productively to meetings with all stakeholders.
* Experienced in the use of engineering tools for Requirement Management and System Design,
* Experience with Model-Based Systems Engineering and System Modelling Language (SysML).

**Desirable:*** Good understanding of the OSI model.
* Understanding of computer and network infrastructures.
* Understanding of Military Hardware
* Application of Open and Military Standards.
* Understanding of Safety, Security and ILS processes and their alignment with the Engineering Lifecycle
* Experience in representing a system of interest through The Open Group Architecture Framework (TOGAF) and/or the NATO Architecture Framework (NAF)
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| **Education & Experience** |
| Required Education & Experience | * Typically requires degree in a relevant Engineering, Computer Science, Mathematics, Physics or IT discipline or equivalent wide range of relevant experience.
* Experience in the application of practical systems engineering, integration, and test processes on development programmes.
* Must be a British Citizen or must have an existing right to work in the UK.
* Ability to commit to occasional travel.
* Ability to hold MOD clearance.
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