

Senior Radio Communications Systems Consultant Engineer



COMPANY: e2E SERVICES LTD.
JOB REF: RES.044
TYPE OF ROLE: PERMANENT
LOCATION: WELWYN GARDEN CITY, HERTFORDSHIRE & HAMPSHIRE (as required)



Our Company

We have been at the forefront of innovation in the satellite communications (Satcom) industry for over two decades, offering to stakeholders' premium expertise to design, develop, test and operate state-of-the-art solutions and systems, world-wide. Our portfolio of services and technology know-how covers the full spectrum of any satellite communication project, from market opportunity sizing and end-user requirements through space/ground network development, commissioning, into operations. For both commercial and defence related domain, we provide technical understanding and insight to enable a more robust and accessible use of satellite communication resources.

Innovation, quality, and ingenuity are the guiding principles of all that we do for our customers. Working as part of the e2E team requires dedication to the task, personal motivation, commitment, and the drive to continually seek to improve. The results our Group has consistently achieved over the years, at personal and team levels, is outstanding and demonstrates the productive working environment e2E offers to its staff.

Job Description

Our team is working on a range of resilient Satcom related programmes in areas that include requirement definition, system level design, testing and engineering assurance. This is mainly focused on next generation of satellite systems ranging from the "newspace" LEO constellations comprising small and nano satellites through to MEO/GEO High Throughput Satellites (HTS). We are also engaged in communication solutions that look towards making use of newer innovative platforms including Unmanned Aerial Systems (UAS) and High-Altitude Pseudo-satellites (HAPS). We are pioneering the use of open and flexible system architectures and standards that best integrate cutting-edge

Senior Radio Communications Systems Consultant Engineer



technology and innovations from other communications sectors including cellular (namely 5G), optical communications and revolutionary secure quantum key distribution. Our team apply Industry best practice as part of our approach. This leads to creative, responsive and agile solutions that best support our civilian and Governmental customers often operating in the most challenging of environments.

We are continually expanding our team capability and particularly in the area of Space Segment Engineering that includes next generation digital satellite payload technology. As such, we are seeking an experienced **Radio Systems Engineering Consultant** to assist with innovative radio subsystem design, radio subsystem modelling and validation/assurance of complete Satcom systems.

Key Responsibilities

- Carrying out system and sub-system level requirement decomposition, system analysis/modelling and system trade-offs for radio aspects of ground and satellite payload communications systems.
- Contributing to the development of associated service architectures for next generation LEO, MEO and GEO constellation space segments to meet specific service package requirements.
- Communications Air interface design including communications waveforms and underlying protocol stacks in secure and highly mobile environments and associated modelling using simulation.
- Capture and maintenance of system design using a Model Based Systems Engineering (MBSE) approach throughout the associated development lifecycle.
- Developing link budgets for space, ground, and user segments including environmental modelling (e.g., rainfall, cloud cover, etc).
- Undertaking top-level radio resource capacity planning, design and performance analysis taking account of the satellite communications payload(s), network design and services to be carried.
- Attend and contribute to technical meetings involving e2E team members, customers and potential partners and undertake other appropriate and related duties as directed by the e2E Delivery Manager(s).

Skills, Character and Experience

- Effective contribution when working as an integral part of a highly focused Systems Engineering team.
- Track record of taking responsibility for the design and delivery of critical Satcom radio subsystems.
- Evidence of being able to demonstrate innovative and efficient solution engineering to defined problems whilst also working within tight timescales and budgetary constraints.
- Evidence of being able to produce clear, concise, and unambiguous technical documentation conforming to applicable technical and quality standards.
- Good customer-facing and communication skills with an ability to produce and present clear, concise, and unambiguous presentations for senior managers and end customers.
- Confidence and ability to influence senior stakeholders and gain consensus to drive through ideas.

Senior Radio Communications Systems Consultant Engineer



Essential

- UK national (given potential UK defence work being carried out).
- UK security cleared (SC) or above, or readiness to seek clearance.
- Graduate with a good Honours or Masters Degree in a relevant subject (e.g., Electronics, communications, aerospace engineering). Equivalent qualifications and/or experience will be considered.
- 10+ years of Systems Engineering experience applying structured Systems Engineering approaches to complex space-related programmes.
- 5+ years' experience in carrying out system and sub-system level requirement decomposition, system analysis/modelling and system trade-offs for radio aspects of communications systems.
- 5+ years' experience in air interface design including the design of communications waveforms and underlying protocol stacks with particular emphasis on the physical, link and network layers.
- Experience in simulation and modelling of communications networks using MATLAB and Simulink or equivalent toolsets.
- Experience of designing multi-beam satellite payloads, associated radio resource planning and resource management approaches designed to deliver required services over the satellite payload(s) efficiently.
- Experience in design and assessment of software, firmware, and hardware solutions as part of the radio system design, encompassing transparent and regenerative payload operation.
- Awareness of security architectures, engineering and design principles when developing secure Satcom systems.

Desirable

- Chartered Engineer, or equivalent.
- Experience gained with satcom networks employing steerable beam payload technology.
- Experience of using STK to model communications coverage in multi-satellite scenarios.
- Experience in the development and maintenance of associated platform link budgets for space, ground, and user segments and environmental modelling (e.g., rainfall, cloud cover, etc).
- Experience in design and modelling of military radio systems for operating on high mobility platforms in secure environments.
- Experience in the specification and modelling of frequency hopping, 4G and 5G waveforms and technology.
- Experience in the specification of optical free-space links, inter-satellite link operation and satellite payload photonic circuits.
- Experience of Direct Radiating Array (DRA), multi-beam antenna technologies and satellite payload beamforming techniques.
- Experience of satcom design for HAPS or UAV platforms.

Senior Radio Communications Systems Consultant Engineer



Salary

- Attractive compensation package dependent on skills/experience.
- Growing list of Company benefits.
- By submitting your CV/application you are consenting to e2E Services Ltd using and storing information about you for monitoring purposes relating to your application of future employment. This information will only be used by the e2E Group.

e2E is committed to achieving workforce diversity and welcome all applications irrespective of social and cultural background, age, gender, disability, sexual orientation or religious belief.

