UK
TELECOMS
INNOVATION
NETWORK

FINDING THE RIGHT CAREER IN CONNECTIVITY FOR YOU

Are you interested in finding a career in connectivity? From Cyber Security Analysts to Fibre Engineers and even Project Managers, connectivity has something to offer almost everyone. Read on to learn more about the wide range of opportunities available, whether you're looking for a change, returning to the job market, leaving education or planning the next step in your education journey. Information includes required qualifications, potential career paths and salaries, helping you to fulfil your potential and achieve success.

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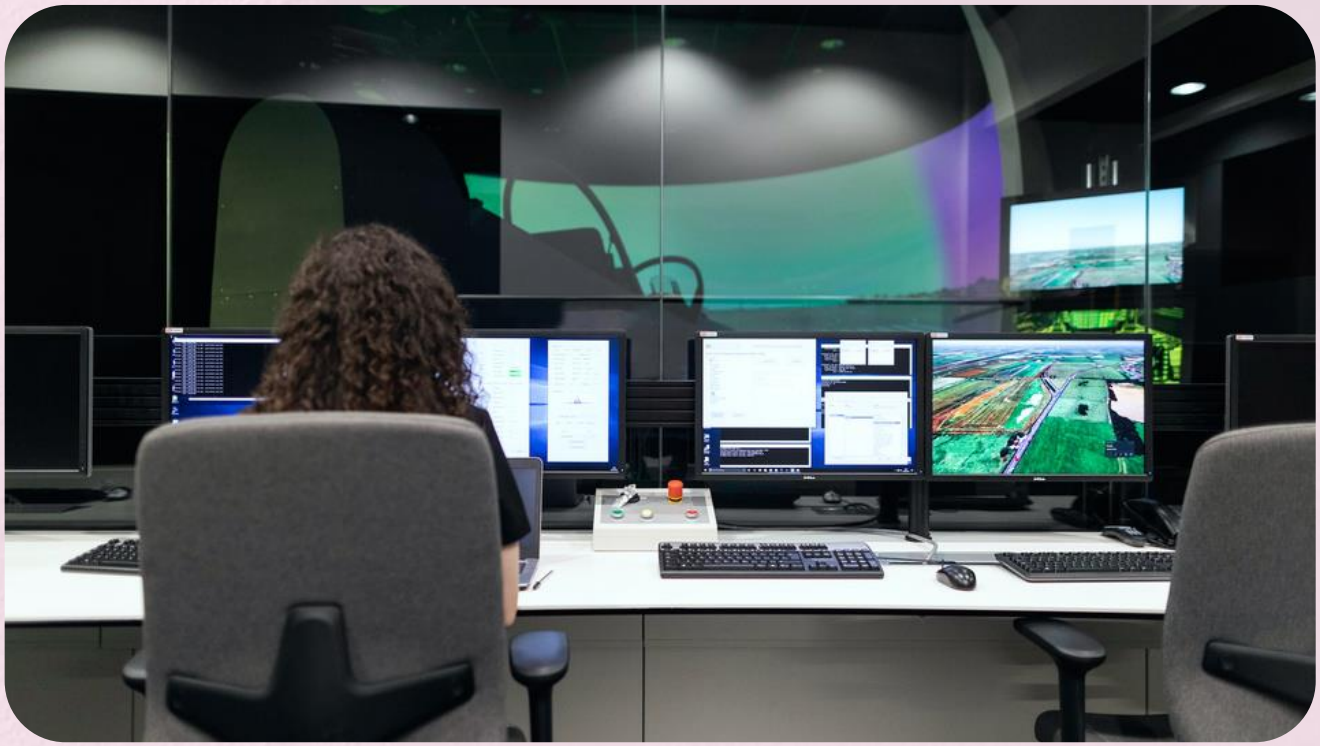
TELECOMS ENGINEER

A Telecommunications Engineer designs, develops, installs and manages systems that transmit communication information. They work with high-speed data networks, satellite communication, telephone services, radio and digital television.



ENTRY LEVEL QUALIFICATIONS

- Good GCSEs 9-4 (A-C) in maths, science, and English.
- A-levels or an equivalent level 3 qualification in maths or physics.
- BTEC diplomas in engineering are also acceptable.

CAREER PATH

- Begin as an apprentice or trainee telecom engineer with a company.
- After gaining experience, you can become a fully qualified telecom engineer.
- With further experience and possibly additional qualifications, you can progress to become a senior or lead engineer.
- In some companies, you could move into a management position, or into related areas like network design or telecoms project management.

1 APPRENTICESHIPS

- Intermediate apprenticeship (Level 2) as a Telecoms Field Operative.
- Advanced apprenticeship (Level 3) in Network Telecoms and Systems Engineering.
- More information: National Apprenticeship Service

2 DEGREES

- BEng or MEng in Telecommunications Engineering.
- BEng or MEng in Electronic Engineering.
- Some universities offer postgraduate courses in telecommunications or electronics.

- Trainee or apprentice telecoms engineers can expect to earn between £12,000 and £20,000 per year.
- Qualified telecoms engineers can expect to start on around £20,000 to £30,000 per year.
- With experience, this can rise to between £35,000 and £60,000 per year.
- Senior or management positions can earn up to £70,000 per year.

FIND OUT MORE

- The Institution of Engineering and Technology provides resources and support for telecoms engineers.
- Prospects.ac.uk provides information on careers in telecommunications engineering, including job profiles and case studies.

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NETWORK ENGINEER

A Telecommunications Network Engineer designs, installs, and maintains the physical and wireless networks of telecoms systems. They ensure seamless data transmission and efficient network performance, essential for organizations to function and communicate.

ENTRY LEVEL QUALIFICATIONS

- A-levels in subjects such as Physics, Maths, Computer Science, or Engineering.
- BTEC diploma in Engineering or IT-related fields can also be an entry route.
- Some employers may look for qualifications like a Cisco Certified Network Associate (CCNA) certification, though this can often be pursued on-the-job.

CAREER PATH

- Entry-level positions often involve supporting existing systems under the supervision of experienced engineers.
- With experience, network engineers may progress to roles like Lead Network Engineer, Network Manager, or Network Architect.
- Some engineers might specialize in specific types of networks or technologies, such as cloud networks or cybersecurity.

1 APPRENTICESHIPS

- Level 3 Advanced Apprenticeship in IT, Software, Web & Telecoms Professionals.
- Degree Apprenticeship in Digital and Technology Solutions.
- Both options provide on-the-job training while studying towards a qualification, typically taking between 12-48 months.

2 DEGREES

- Bachelor's degree in Telecommunications Engineering, Network Engineering, Computer Science, or related fields.
- Master's degree in Telecommunications or Network Engineering for more advanced positions.
- Certifications such as CCNA, CompTIA Network+, or Juniper Networks Certified Enterprise Routing and Switching Expert (JNCER) can be beneficial.

- Starting salary for Telecommunications Network Engineers in the UK typically ranges from £20,000 to £26,000 per year.
- With experience, salaries can rise to between £30,000 and £45,000.
- Senior Network Engineers can earn up to £60,000 or more.

FIND OUT MORE

- Learning and staying updated with the latest network technologies, regulations, and trends is crucial.
- Skills such as problem-solving, analytical thinking, teamwork, and good communication are highly valued in this role.
- The job can often involve irregular hours, including being on-call for emergencies.
- For further reading and resources about the career of a Telecommunications Network Engineer, you may refer to the Institution of Engineering and Technology (IET).

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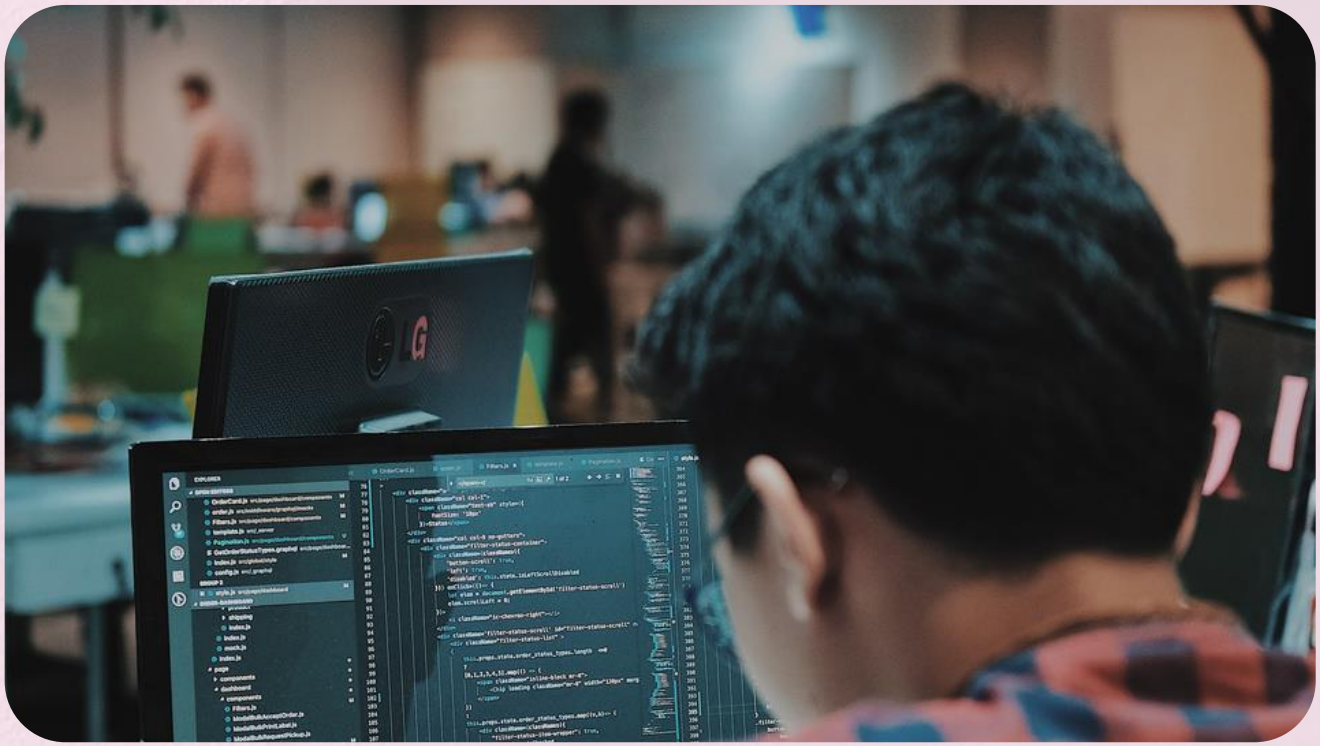
RF ENGINEER

A Telecommunications RF (Radio Frequency) Engineer is a professional who specializes in creating and maintaining systems that receive and transmit radio signals. These engineers play a crucial role in mobile, wireless, satellite, broadcast, and other RF-related technologies. Their responsibilities may include designing, implementing, optimizing, and troubleshooting wireless networks, as well as testing and improving equipment and technologies related to radio frequency transmission.



ENTRY LEVEL QUALIFICATIONS

- Generally, a degree in telecommunications, electrical engineering, or a related field is required.
- Strong foundation in physics, mathematics, and computer programming.
- Some roles may require knowledge of specific RF technologies or programming languages.
- Practical experience or internships in a relevant field can be beneficial.

CAREER PATH

- Many RF Engineers start their career as trainees or junior engineers, often gaining experience through internships or apprenticeships.
- After gaining experience, RF Engineers can progress to senior or lead roles, then onto project management or consultancy roles.
- Some RF Engineers may also choose to specialize further, focusing on areas like mobile communications, satellite technology, or broadcast engineering.

1 APPRENTICESHIPS

- Some companies offer apprenticeships in RF engineering, allowing individuals to gain practical experience while earning an academic qualification. This could be a BTEC, HND, or even a degree depending on the level of the apprenticeship.

2 DEGREES

- BSc or BEng in Electrical Engineering
- BSc or BEng in Telecommunications Engineering
- BSc or BEng in Electronics Engineering
- Postgraduate degrees in these fields can also be beneficial for more specialized roles.

- Starting salaries for RF Engineers in the UK typically range from £25,000 to £35,000 per year.
- With experience, salaries can rise to between £40,000 and £60,000 per year.
- Senior RF Engineers or consultants can earn upwards of £70,000 per year.

FIND OUT MORE

- RF Engineers need strong problem-solving skills and the ability to work under pressure.
- The role often involves teamwork, so strong communication skills are also essential.
- The field is rapidly evolving, so ongoing learning and adaptation to new technologies is a key part of the job.
- As an RF Engineer, there may be opportunities to work in various industries, from telecommunications and aerospace to defence and broadcasting.
- For further information, you can refer to the Engineering Council UK's website, which offers detailed resources and guidelines for those interested in a career in engineering.

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DATA ANALYST

A Telecommunications Data Analyst is a professional who collects, organises, and interprets data related to telecommunications networks. They help telecom companies make decisions by understanding data trends, improving network efficiency, identifying potential problems, and informing strategy with regard to network expansion, upgrades, and customer service.

ENTRY LEVEL QUALIFICATIONS

- A-Level in Mathematics, Computer Science, or a related field
- A foundation in IT skills such as databases, data structures, programming (Python, SQL, etc.)
- Familiarity with telecommunications industry is advantageous but not mandatory for entry-level positions
- Strong analytical and problem-solving skills
- Good communication and teamwork abilities

CAREER PATH

- You can enter this career through both apprenticeships and getting a degree.
- Following entry-level roles such as Junior Data Analyst or Telecoms Analyst, progression can be made to a Senior Data Analyst role, Data Science positions, or into managerial roles within the telecommunications industry.

1 APPRENTICESHIPS

- Apprenticeships in Data Analysis or Telecommunications can be a great start. For instance, a Level 4 Data Analyst apprenticeship or a Level 3 Telecoms Technician apprenticeship. To find an apprenticeship, visit the Institute for Apprenticeships.

2 DEGREES

- A Bachelor's degree in Data Science, Computer Science, Telecommunications, Statistics or a related field. Following this, a Master's degree in a more specialised field, such as Data Analytics or Telecommunications, can be beneficial.

- The starting salary for a Telecommunications Data Analyst in the UK typically ranges from £25,000 - £30,000.
- With experience, salaries can increase to between £40,000 and £60,000.
- Senior or specialist roles can command salaries above £70,000.

FIND OUT MORE

- Telecommunications Data Analysts work in a rapidly changing field, which requires continuous learning and adaptation.
- They can work for a range of companies, from telecom providers to consulting firms.
- The role often involves team collaboration and can also involve liaising with clients or stakeholders.
- Some roles may require security clearance, due to the sensitive nature of the data being handled.

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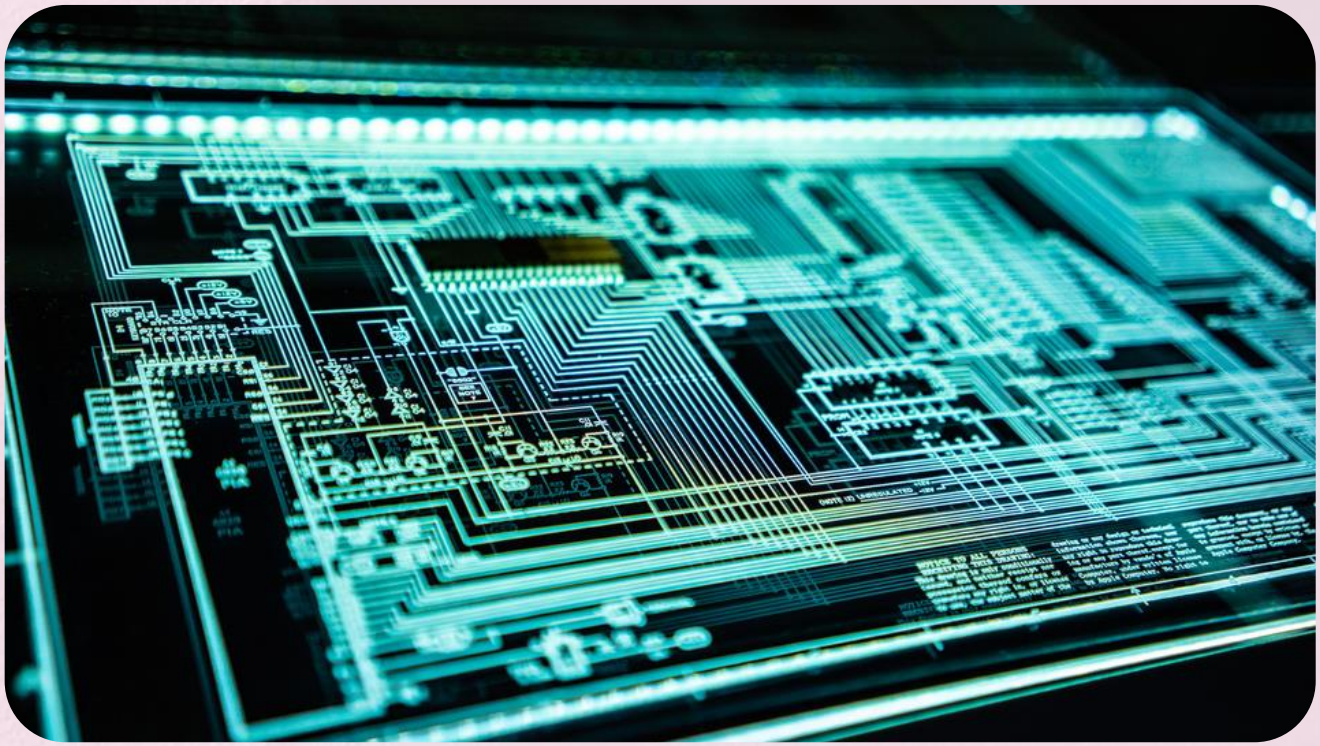
CYBERSECURITY ANALYST

Telecommunications Cyber Security Analysts are critical members of the IT team in telecommunications companies. They are responsible for monitoring, identifying, and resolving security threats to their organisation's telecommunications networks and systems.



ENTRY LEVEL QUALIFICATIONS

- A-Level in Computer Science or related subject can be beneficial.
- Many roles require a bachelor's degree in Cybersecurity, Computer Science, or a related field.
- Relevant certifications like CompTIA Security+, Certified Information Systems Security Professional (CISSP), or Certified Ethical Hacker (CEH) can be beneficial.

CAREER PATH

- Entry-level roles such as Cyber Security Analyst or IT Support Specialist.
- Mid-level roles such as Senior Cyber Security Analyst or Cyber Security Engineer.
- Senior-level roles such as Cyber Security Manager or Chief Information Security Officer (CISO).

1 APPRENTICESHIPS

- Telecommunications companies in the UK often offer apprenticeships in cyber security, which can be a good entry point.
- The Level 4 Cyber Security Technologist apprenticeship can provide practical experience and knowledge.

2 DEGREES

- Bachelor's degree in Cybersecurity, Computer Science, Information Technology, or related fields.
- Master's degree in Cybersecurity can provide advanced knowledge and skills, and may be preferred for more senior roles.

- Starting salary for a Telecommunications Cyber Security Analyst in the UK often ranges from £25,000 to £35,000.
- With experience, the salary can rise to between £45,000 and £60,000.
- Senior or lead roles can have salaries exceeding £70,000.

FIND OUT MORE

- Telecommunications Data Analysts work in a rapidly changing field, which requires continuous learning and adaptation.
- They can work for a range of companies, from telecom providers to consulting firms.
- The role often involves team collaboration and can also involve liaising with clients or stakeholders.
- Some roles may require security clearance, due to the sensitive nature of the data being handled.

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FIBRE ENGINEER

A Telecommunications Fibre Engineer is responsible for designing, installing, and maintaining telecommunications infrastructure such as fiber optic cables. This role is essential for ensuring seamless data transmission and communication.

ENTRY LEVEL QUALIFICATIONS

- High School Diploma or GED equivalent. This is the basic requirement for entry into most technician roles.
- Relevant entry-level certification or technical training (for example, a BTEC or City & Guilds certificate in telecommunications, IT, or a related field).
- Some employers may prefer a candidate with an apprenticeship in fibre optics or a similar field.

CAREER PATH

- You can enter this career through both apprenticeships and through completing a degree.
- Progression opportunities exist in specialist technical roles, project management, or operational management.

1 APPRENTICESHIPS

- Starting as a Telecommunications Technician Apprentice is a common route. The apprenticeship usually lasts between 12 to 24 months, allowing candidates to gain hands-on experience while studying towards a nationally recognised qualification.

2 DEGREES

- Some may choose to pursue a degree in a related field, such as Telecommunications Engineering, Electrical Engineering, or Computer Science. This may offer opportunities for higher-level positions and is often combined with work placements to gain practical experience.

- Starting salary for a Telecommunications Fibre Engineer in the UK generally ranges between £18,000 to £22,000 per year, depending on location and level of training.
- With experience, salary can increase to between £25,000 to £35,000.
- Senior or highly experienced engineers can earn between £40,000 to £60,000 or more, particularly if they move into management or specialist roles.

FIND OUT MORE

- Daily duties can include planning and installing cable routes, testing and resolving network issues, and managing records of equipment and infrastructure.
- Work environments can be varied, including both office-based work and site visits, often requiring travel.
- The role requires a combination of technical skills, problem-solving, and often, good customer service skills.
- For further information, you can visit the National Careers Service page on Telecommunications jobs.

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PROJECT MANAGER

A Telecommunications Project Manager is responsible for planning, executing, and finalising projects related to telecommunications systems.

ENTRY LEVEL QUALIFICATIONS

- A Level in Information Technology, Computer Science, or related field is beneficial.
- Higher National Diploma (HND) in telecommunications or related field.

CAREER PATH

- Entry-Level Telecommunications Technician: Begin by gaining hands-on experience working with telecommunications equipment and systems.
- Telecommunications Specialist or Engineer: Specialise in a particular aspect of telecommunications, such as network design or systems integration.
- Telecommunications Project Coordinator: Gain experience managing smaller projects or aspects of larger projects.
- Telecommunications Project Manager: With enough experience and potentially higher education, you can move into this role.

1 APPRENTICESHIPS

- Apprenticeships in Information Technology, Network Engineering or Telecommunications offer a hands-on approach to entering this career. These are usually level 3 or level 4 apprenticeships.
- Degree apprenticeships are also available and can be a stepping stone to roles in project management.

2 DEGREES

- A bachelor's degree in Telecommunications, Computer Science, Information Technology, or related field is commonly desired.
- A master's degree in Telecommunications or Project Management can be beneficial for career progression.

- Starting salaries for telecommunications project managers in the UK typically range from £30,000 to £40,000.
- With experience, salaries can rise to between £45,000 and £60,000.
- Senior project managers can earn up to £75,000 or more.

FIND OUT MORE

- Prospects.ac.uk offers a comprehensive guide on this career path, including key skills and competencies required.
- The Project Management Institute (PMI) offers certification and resources for project managers.
- The Institution of Engineering and Technology (IET) and British Computer Society (BCS) provide further resources and professional networking opportunities.

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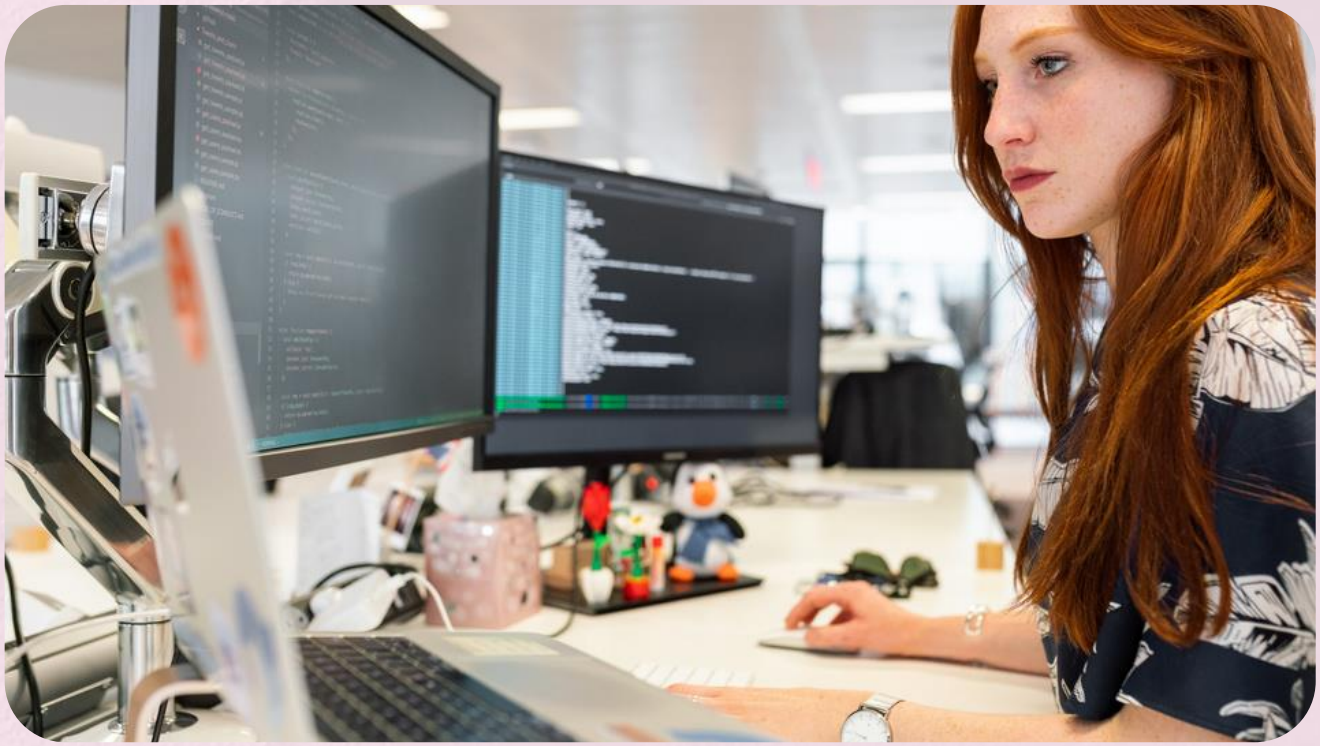
PRODUCT MANAGER

A Telecommunications Product Manager is responsible for overseeing the life cycle of telecommunications products. This includes conducting market research to identify customer needs, developing product requirements and specifications, working with engineering teams to ensure products meet these requirements, coordinating with marketing and sales teams to launch products, and monitoring product performance after launch.



ENTRY LEVEL QUALIFICATIONS

- Bachelor's degree in Business Administration, Marketing, Telecommunications, Engineering, or related field.
- Familiarity with product management concepts, as well as telecommunications technologies and services.
- Strong communication, project management, and analytical skills.

CAREER PATH

- Entry-level positions might include roles such as Product Coordinator or Junior Product Manager in technology or telecommunications companies.
- With experience, individuals might progress to roles like Senior Product Manager, Director of Product Management, or VP of Product.
- Some professionals may transition into broader roles within technology and business strategy, such as Chief Technology Officer (CTO) or Chief Operations Officer (COO).

1 APPRENTICESHIPS

- Degree Apprenticeships in Digital and Technology Solutions, Business Management or similar fields can provide a pathway into product management roles in telecommunications.
- Telecommunications companies may also offer specific Product Management Apprenticeships.

2 DEGREES

- Undergraduate degrees in fields like Business, Marketing, Telecommunications, or Engineering provide a solid foundation.
- Graduate degrees, such as an MBA or a Master's in Telecommunications, can be beneficial for advancing in the field.

- Starting salaries for Product Managers in telecommunications in the UK can vary, but they typically range from £30,000 to £40,000 per year.
- With experience, Product Managers can earn between £60,000 and £80,000 per year.
- Senior roles, such as Director of Product Management or VP of Product, can earn £100,000 per year or more.

FIND OUT MORE

- Institute of Telecommunications Professionals (ITP)
- Association of International Product Marketing and Management (AIPMM)
- Product Management Association (PMA)
- Mind the Product, a community for product managers

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SOFTWARE DEVELOPER

Telecommunications Software Developers work on software solutions that enable communication devices such as smartphones, computers, tablets, and other telecommunications equipment to function and communicate effectively. They design, create, and maintain software and systems that support network functions. This includes working on various telecommunications technologies like VoIP (Voice over IP), LTE (Long-Term Evolution), and GSM (Global System for Mobile communications).

ENTRY LEVEL QUALIFICATIONS

- A-Level Computer Science or related subject
- Apprenticeship in Software Development
- Degree in Computer Science, Software Engineering, Telecommunications, or related field
- Understanding of programming languages such as C++, Java, or Python
- Knowledge of telecommunication systems and protocols such as TCP/IP, VoIP, or LTE

CAREER PATH

- You can enter this career through both apprenticeships and a degree.
- As a telecom software developer, you can begin as a junior developer, gain experience, and move to more senior roles. Career progression may include roles such as Senior Developer, Team Leader, Project Manager, and ultimately to positions like Chief Technology Officer (CTO).

1 APPRENTICESHIPS

- An individual can start with a Level 3 or Level 4 apprenticeship in Software Development or Network Engineering. Examples include:
  - Software Development Technician (Level 3)
  - Network Engineer (Level 4)

2 DEGREES

- A Bachelor's degree in Computer Science, Software Engineering, or Telecommunications is another pathway. This can provide a deeper theoretical and practical understanding of the field.
- After undergraduate studies, one can opt for a Master's degree in a specialized field such as Telecommunications Engineering, Network Systems, or related areas.

- Starting Salary: An entry-level Telecommunications Software Developer can expect to earn around £25,000 - £30,000 per year in the UK.
- Experienced Salary: With experience and progression, this salary can rise to £45,000 - £65,000 per year.
- Senior Level Salary: In very senior roles, such as Chief Technology Officer, the salary can exceed £100,000.

FIND OUT MORE

- Telecommunications Software Developers must stay up-to-date with the latest trends in technology and programming languages.
- They often work in teams and need good communication and problem-solving skills.
- There are many opportunities for career progression, and specialising in a particular area can lead to increased salary potential.
- The demand for Telecommunications Software Developers is high, and it is a field that is expected to grow as technology continues to advance.

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CLOUD ENGINEER

A Telecommunications Cloud Engineer is responsible for managing cloud-based telecommunication systems. They work on designing, implementing, and maintaining telecommunications applications and services in a cloud environment, including VoIP, video conferencing, and other unified communication services. Their tasks involve managing cloud resources, performing system updates, securing data, and troubleshooting network issues. They also have to collaborate with various teams like network engineering, cybersecurity, and software development.

ENTRY LEVEL QUALIFICATIONS

- A-Level or equivalent in Maths, Physics, IT or similar subjects.
- An apprenticeship in a related field such as network engineering or cloud computing, which usually requires GCSEs in English and Maths.
- Many employers seek candidates with a bachelor's degree in computer science, telecommunications, electrical engineering, or a related field.
- Certifications like the AWS Certified Solutions Architect or Google Cloud Certified Professional Cloud Architect are often preferred.

1 APPRENTICESHIPS

- Start as an apprentice in network engineering or cloud computing, gain hands-on experience and potentially earn professional certifications. Progress to a junior role such as a Network Support Specialist or Junior Cloud Engineer.

2 DEGREES

- Begin by earning a bachelor's degree in a related field. Work in entry-level positions such as IT Support Specialist, Network Analyst, or Junior Cloud Engineer. As you gain experience, you can progress to the role of Telecommunications Cloud Engineer.
- With substantial experience and additional certifications, you could progress to senior roles like Cloud Solutions Architect, Cloud Infrastructure Director, or Telecommunications Manager.

- The starting salary for a Telecommunications Cloud Engineer in the UK is typically around £30,000 to £35,000 per annum.
- With experience, the salary can increase to between £50,000 and £70,000 per annum.
- In senior roles, such as a Cloud Infrastructure Director, the salary can exceed £100,000 per annum.

FIND OUT MORE

- Continued professional development is essential due to the rapidly changing nature of the technology industry.
- Telecommunications Cloud Engineers need to keep up-to-date with emerging trends and technologies, including various cloud services and architectures, network security methods, and telecommunication regulations.
- This role requires a mix of technical skills and soft skills. On the technical side, you will need a good understanding of cloud computing, networking, and telecommunications. On the soft side, problem-solving, communication, and project management skills are critical.
- For more information, check out this comprehensive guide from The Institution of Engineering and Technology (IET).