

5G Network Specialist

The 5G Network Specialist is responsible for planning, deploying, and optimising advanced 5G infrastructures within the automotive and mobility ecosystem. Main activities include configuring network hardware and software, managing data traffic, monitoring performance, and troubleshooting to ensure high-quality connectivity. They design and maintain architectures that deliver ultra-low latency, high reliability, and massive data throughput, enabling seamless integration of connected vehicles, industrial automation, and smart infrastructure.

Key responsibilities cover analysing protocol efficiency, applying innovative configuration methods, collaborating with engineers and developers, and ensuring compliance with regulatory and cybersecurity standards. Essential competences combine digital skills (5G protocols, network configuration, virtualisation), green skills (energy-efficient network infrastructures), sector-specific knowledge (telecommunications engineering, automotive connectivity), and transversal abilities (innovation, project management, regulatory compliance, attention to detail).

ESCO Mapping

<https://esco.ec.europa.eu/select-language?destination=/node/1>

ID	NAME	Concept URI

Context

EQF Level	5/6
Departments	IT & Digital

Green Competences

ID	Name	Type	Description	Level	ESCO
C020	Sustainable network infrastructures	Knowledge	Describe principles for designing and maintaining energy-efficient and low-emission 5G infrastructures. ▪ Explain practices to reduce energy consumption in telecom networks ▪ Assess carbon footprint of 5G deployments ▪ Align infrastructure with corporate sustainability targets ▪ Promote circular economy in network hardware lifecycle ▪ Monitor providers' sustainability performance	2	
C021	Optimise energy use in 5G networks	Skill	Configure and adapt 5G infrastructures to minimise energy consumption while maintaining performance. ▪ Monitor power usage effectiveness (PUE) in base stations ▪ Implement energy-saving protocols in network configuration ▪ Apply AI-based optimisation for energy efficiency ▪ Balance performance and sustainability trade-offs ▪ Support eco-innovation in telecom operations	3	

Digital Competences

ID	Name	Type	Description	Level	ESCO
C087	5G protocols	Knowledge	Understand the structure and function of key 5G communication protocols. ▪ Describe NR, RRC, and NAS protocols ▪ Analyse signalling flows to detect issues ▪ Evaluate performance indicators for efficiency ▪ Monitor compliance with 5G standards ▪ Stay updated on emerging protocol innovations	2	

ID	Name	Type	Description	Level	ESCO
C088	Configure 5G networks	Skill	Configure network hardware and software to ensure seamless integration of 5G components. ▪ Set up and manage network parameters for coverage and speed ▪ Adjust configurations based on performance analysis ▪ Troubleshoot issues to maintain stability ▪ Collaborate with cross-functional teams ▪ Implement secure configuration practices	2	

Soft Skills

ID	Name	Type	Description	Level	ESCO
C142	Innovate	Skill	Drive the development of new ideas and strategies to improve 5G networks. ▪ Design innovative solutions to optimise connectivity ▪ Experiment with emerging 5G technologies ▪ Collaborate on novel approaches to network challenges ▪ Anticipate future demands ▪ Introduce forward-looking improvements	2	Link
C130	Attention to detail	Knowledge	Describe the importance of precision and accuracy in 5G network configuration and monitoring. ▪ Explain validation and testing practices ▪ Identify subtle operational discrepancies ▪ Analyse metrics to detect early indicators of failure ▪ Review documentation for accuracy ▪ Ensure deployment precision	2	Link

ID	Name	Type	Description	Level	ESCO
C17 7	Manage projects	Skill	Plan, execute, and monitor 5G deployment projects across organisations. ▪ Define scope, budget, and timelines ▪ Apply Agile and DevOps practices ▪ Coordinate teams and suppliers ▪ Track milestones and risks ▪ Report outcomes to stakeholders	3	Link
C17 8	Ensure regulatory compliance	Skill	Apply data protection and telecom regulations to 5G deployments. ▪ Ensure GDPR and spectrum compliance ▪ Support certification processes ▪ Monitor evolving regulations ▪ Provide training on compliance ▪ Integrate compliance into design	3	

Sector Specific

ID	Name	Type	Description	Level	ESCO
C25 5	Telecommunications engineering	Knowledge	Understand principles of telecommunications engineering applied to 5G networks. ▪ Analyse and troubleshoot telecom systems ▪ Apply beamforming and MIMO for coverage ▪ Design architectures compliant with standards ▪ Integrate emerging technologies ▪ Ensure reliability and compatibility of infrastructures	2	Link
C25 6	Deploy 5G infrastructure	Skill	Implement and maintain 5G infrastructures in industrial and automotive contexts. ▪ Install and configure base stations and antennas ▪ Optimise coverage for automotive applications ▪ Integrate 5G with V2X communication systems	3	

ID	Name	Type	Description	Level	ESCO
			▪ Support predictive maintenance with 5G analytics ▪ Troubleshoot failures in deployed systems		