



MINISTRY OF HUMAN RESOURCES

HRDCORP
HUMAN RESOURCE DEVELOPMENT CORPORATION



IndSF | INDUSTRIAL SKILLS
FRAMEWORK

INDUSTRIAL SKILLS FRAMEWORK (IndSF)

TELECOMMUNICATIONS
(TRANSPORT)

Second Edition

IN COLLABORATION WITH:



Published by

HUMAN RESOURCE DEVELOPMENT CORPORATION (HRD CORP) (545143-D)

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HUMAN RESOURCE DEVELOPMENT CORPORATION (HRD CORP)

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▶ TABLE OF CONTENT

1. Preface	4
2. Acknowledgement	5
3. Foreword <ul style="list-style-type: none">• Chief Executive of HRD Corp• Chief Executive Officer of Maxis Broadband Sdn Bhd• Chief Strategy Officer of Digital Nasional Berhad (DNB)	6
4. Industrial Skills Framework (IndSF) Taskforce	9
4. Guidelines	10
5. About Industrial Skills Framework (IndSF)	11
6. Sectorial Information <ul style="list-style-type: none">• Business Outlook	12
7. Skills & Description of Competencies <ul style="list-style-type: none">• Malaysian Occupational Skills Qualification Framework (MOSQF) Level Descriptor• Required Competency Level (RCL)	14
8. Overview of Transport Engineering, Planning, Rollout, and Operation & Maintenance in Malaysia's Telecommunications Industry	17
9. Career Pathways	19
9. Focus Areas <ul style="list-style-type: none">• Areas Focus Area 1: Engineering & Planning Job Description (covers *certification & non-certification training programmes)• Focus Area 2: Rollout / Delivery Job Description (covers *certification & non-certification training programmes)• Focus Area 3: Operations & Maintenance Job Description (covers *certification & non-certification training programmes)	21
10. List of Sources	81

PREFACE



Malaysia's Telecommunications industry continues to grow rapidly, driving significant contributions to the national economy. In 2023, HRD Corp developed the first Industrial Skills Framework (IndSF) – Radio Network Facilities to address evolving talent development needs. IndSF Telecommunications was enhanced as a second edition in 2024 and focuses on the Transport segment, highlighting its critical role in ensuring seamless connectivity and network efficiency.

Building on the foundation of the first edition, this document incorporates updated insights and addresses new job roles and skills requirements shaped by the industry's dynamic landscape. Developed in collaboration with key industry players and enriched by subject matter experts (SMEs) through workshops conducted both physically and online, this framework serves as a comprehensive guide for advancing Malaysia's telecommunications workforce.

ACKNOWLEDGEMENT

The successful development of the second edition of IndSF Telecommunications would not have been possible without the collaboration and contributions of various stakeholders. We would like to extend our heartfelt gratitude to the STC Telecommunications members and the subject matter experts who provided invaluable insights and expertise throughout the process.

We are especially honoured to acknowledge our officially appointed collaborators whose expertise, guidance, and support have been instrumental in shaping this framework to meet the needs of the industry and stakeholders:

- **Telekom Malaysia Berhad**
- **Maxis Broadband Sdn. Bhd.**
- **Digital Nasional Berhad (DNB)**

We would also like to recognise and express our sincere appreciation to the subject matter experts for their active participation, valuable contributions and unwavering commitment to this initiative. Your insights have enriched the second edition of IndSF Telecommunications, ensuring it reflects the demands and aspirations of the telecommunications sector.

The organisations represented by these experts include:

- **Maxis**
- **Maxis Broadband Sdn. Bhd.**
- **Maxis Communications Berhad**
- **Telekom Malaysia Berhad**
- **Digital Nasional Berhad (DNB)**

Finally, we acknowledge the dedication of the team behind the framework's preparation and coordination, whose hard work and determination have been pivotal to its successful completion.

FOREWORD



DATUK WIRA SHAHUL DAWOOD
Chief Executive
HRD Corp | Human Resources
Development Corporation

2024 marks five years since the introduction of the Industrial Skills Framework (IndSF) by HRD Corp, an initiative aimed at developing key documents that will help individuals, businesses, and industry players bridge skills gaps in their respective fields. Thus, now is a great time to reflect on how far we have come, how many partners and collaborators we have worked with and how much impact the IndSF documents have made across numerous industries.

Since 2019, we have published 15 IndSF documents which are all available for free download on our portal. These documents are a testament to the strong support and continuous commitment from our industry collaborators, facilitated through Sectorial Training Committees (STCs), to empower the Malaysian workforce.

In 2024, we are placing greater emphasis on advanced technical competencies and certification programmes in our upcoming IndSF documents. This is to ensure that the workforce remains competitive in an everchanging global landscape. To achieve this, HRD Corp will continue to work closely with industry players to identify skill gaps and training programmes that will address these needs. This is especially crucial as industries increasingly embrace talent requirements in emerging sectors such as digital and green skills.

I would like to take this opportunity to extend my heartfelt appreciation to all industry collaborators and subject matter experts who have been instrumental in developing and enhancing the IndSF documents. We are also looking forward to publishing three (3) additional IndSF documents by the end of 2024, further expanding coverage to include more industries in Malaysia.

My sincere gratitude also goes to our collaborators and stakeholders for their unwavering support in realising this initiative. It has been a privilege to work with you as we address the nation's skills gap and empower talents and industry players with the right skills, knowledge and information to shape the needed workforce for their sectors, today and tomorrow.

As we move forward, HRD Corp remains committed to shaping and empowering local talent. We look forward to creating more IndSF documents for a wider range of industries while continuing to play a pivotal role in transforming Malaysia's human capital development landscape.

Together, let us make 2025 another remarkable year for workforce development in Malaysia.



GOH SEOW ENG
Chief Executive Officer
Maxis Broadband Sdn Bhd

The Telecommunications industry has undergone rapid growth and transformation, with the landscape continually reshaped by groundbreaking advances, notably in 5G development and AI.

The second edition of IndSF Telecommunications builds upon these advancements to ensure that our industry and workforce remain at the forefront of this transformation. It establishes a comprehensive standard for skills, certifications and career pathways within the industry, further strengthening its relevance and impact. This publication also marks the commencement of the Sectoral Training Committee's work for 2023-2024.

I would like to express my heartfelt thanks to the subject matter experts (SMEs), the Sectoral Training Committee members, the secretariats and HRD Corp for their invaluable contributions of time, ideas and effort in producing this updated Framework.

FOREWORD



DATUK AZMAN ISMAIL
Chief Strategy Officer
Digital Nasional Berhad

Since its establishment, the Sectorial Training Committees (STCs) have played a key role in enhancing HRD Corp's training initiatives to address the growing demands of mobile communication and digital technologies across diverse sectors.

As we embark on a new chapter in Malaysia's digital transformation journey, Digital Nasional Berhad (DNB) is proud to support the development of IndSF Telecommunications (Transport), which will play a crucial role in shaping the talent and skills landscape for our nation's dual-network 5G environment.

The transition to a dual-network model presents a unique opportunity for us to redefine the capabilities and expertise required to thrive in this dynamic industry. At DNB, we recognise that the success of this model hinges on the proficiency and adaptability of the workforce, not just within our organisation, but across the entire industry. Therefore, we are committed to fostering a culture of continuous learning and development, ensuring our talents are equipped with cutting-edge skills in critical fields such as network management, cybersecurity, data analytics, AI and project coordination.

Innovation is key to creating value and delivering the best customer experiences. By embracing innovative approaches and technologies, we can ensure that our 5G services are not only reliable and efficient but also transformative for our customers. This commitment to innovation will drive us to continuously improve and adapt to the evolving needs of the market.

By collaborating with HRD Corp, industry experts and leaders, as well as educational institutions and government bodies, we aim to create a robust ecosystem that nurtures talent and drives technological advancements. At the end of the day, this would help organisations across all sectors adopt digitalisation in their day-to-day operations, to improve efficiency, productivity and sustainability.

Together, we will pave the way for a future where Malaysia stands at the forefront of digital excellence.

INDUSTRIAL SKILLS FRAMEWORK (IndSF)

TASKFORCE



➔ **CHIEF STRATEGY OFFICER
(COVERING CHIEF EXECUTIVE)**

Dr. Rony Ambrose Gobilee



➔ **HEAD OF INDUSTRY INSIGHTS
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Norfatiha Sahira binti Sabrom

Muhammad Hafiz bin Mohd Zahrain

Vasanthaan A/L Ponniah

Suria binti Musa

Mohammad Asyraf bin Mohammad Nazir

GUIDELINES



This document serves as a guide for individuals, employers, and training providers on knowledge, experiences and skills mastery in the telecommunications industry.



The job matrix serves as a **REFERENCE** for career progression within the industry



The IndSF Telecommunications document will **FOCUS ON** Level 4 of the Malaysian Skill Certification (or its equivalent) and above



This document focuses on **JOB DESCRIPTIONS, SKILLS AND TRAINING NEEDED** in the Telecommunications Industry



It is a **COMPLEMENTARY DOCUMENT** to existing references developed by the National Occupational Skills Standard (NOSS) and Malaysian Qualifications Framework (MQF).



The Industrial Skills Framework document is **NOT EXHAUSTIVE** and may be **REVIEWED FROM TIME TO TIME** for continuous improvement in parallel with the latest industry changes.

ABOUT IndSF

Human Resource Development Corporation (HRD Corp) was established in 1993. As an agency under the Ministry of Human Resources (KESUMA), it is responsible for the collection of levy from key industries and the disbursement of training grants to registered employers through an internal mechanism known as the Human Resources Development Fund (HRDF). Today it has expanded its role to include training and development programmes for all Malaysian talents and employers, as well as providing income-generating opportunities to all communities in need.

HRD Corp developed the Industrial Skills Framework (IndSF) to support the industry in acquiring a skilled workforce that meets the competency levels and experience needed by the industry.

The development is supported by the participation of subject matter experts who represent industry associations and employers in their respective industries. This is done based on the underlying principles below:

1 ▶ **Focus on all levels of Malaysian Skills Certification or its equivalent and above.**

2 ▶ **Accommodate the needs of in-service workers**

3 ▶ **Built upon the National Occupational Skills Standard (NOSS)**

4 ▶ **Developed together with the industry and benchmarked against successful frameworks or models.**

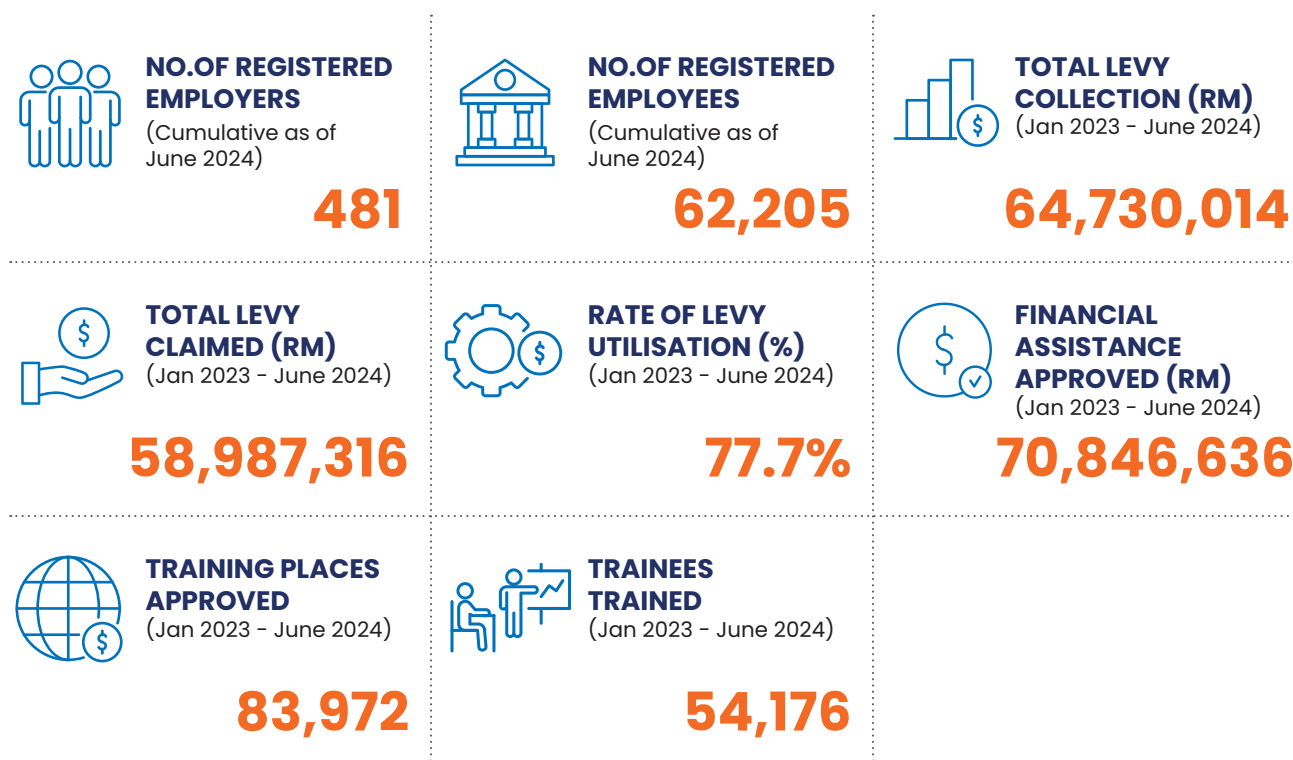
5 ▶ **Meet the competency requirements of sectors currently covered under the PSMB Act 2001.**

With IndSF, employees and employers have the opportunity to enhance their skills for career progression. The levy utilisation process also becomes more guided as employers can choose from a list of industry-relevant training programmes that can provide a greater return on investment for their company.

SECTORIAL INFORMATION

BUSINESS OUTLOOK

TRAINING SCENARIO IN THE TELECOMMUNICATIONS INDUSTRY

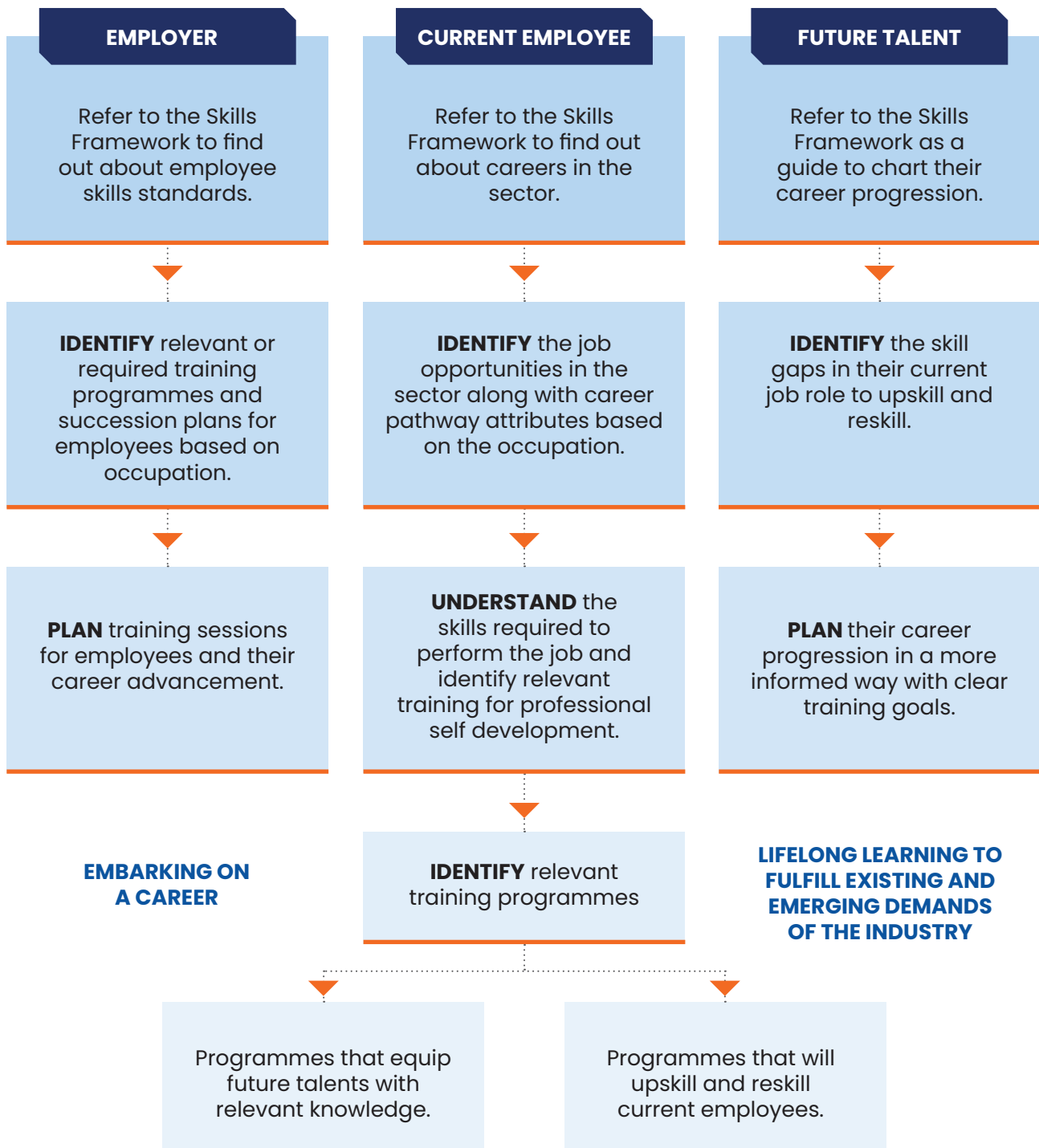


Source: HRD Corp Internal Data (Jan - June 2024)

TOP 5 TRAINED SKILLED AREAS IN CONSTRUCTION INDUSTRY



Source: HRD Corp Internal Data (November 2024)





SKILLS & DESCRIPTION OF COMPETENCIES

MALAYSIAN OCCUPATIONAL SKILLS QUALIFICATION FRAMEWORK (MOSQF)

For IndSF Telecommunications, job position levels from 1 to 8 are categorised according to the formal structure of the Malaysian Occupational Skills Qualification Framework (MOSQF), as defined below. This classification determines career progression and can be further explored in detail within the career pathways section of the document.

Level 1	Skilled at handling various routine tasks.
Level 2	Capable of handling a wide range of diverse tasks in different situations, including some non-routine activities that demand individual responsibility and autonomy.
Level 3	Skilled in carrying out a wide range of diverse and often complex work activities in different situations. Involves significant responsibility, autonomy and occasionally requires guiding or overseeing others.
Level 4	Skilled in handling diverse and complex technical or professional tasks independently, with significant personal responsibility. May involve overseeing others and managing resources. Demonstrates advanced technical skills.
Level 5	Skilled in applying fundamental principles and advanced techniques across diverse and unpredictable situations. Requires high personal autonomy, substantial responsibility for the work of others, resource allocation and personal accountability for various tasks. Specialisation in a specific technical skill area is expected.
Level 6	Capability to apply knowledge and skills to solve complex problems with unclear definitions. It involves taking charge of planning and implementing actions leading to significant changes or advancements, demonstrating autonomy and judgement. It also indicates an understanding of diverse perspectives, approaches, and underlying theories.
Level 7	Skillful to adapt and apply knowledge, methods and approaches to handle complex situations with multiple factors. It involves planning and implementing actions for significant change, demonstrating autonomy and judgement. It also shows an understanding of theoretical and methodological perspectives relevant to the specific area of study or work.
Level 8	Indicates the capability to expand knowledge or professional practices within a specific area. It involves addressing complex situations by initiating and conducting research, development or strategic activities. This achievement demonstrates broad autonomy, judgement and leadership in contributing to the development of a field or bringing about significant change. It also shows a critical understanding of relevant theoretical and methodological perspectives and their impact on the field of knowledge or work.

Source: Organisational Framework (OF), 2017

REQUIRED COMPETENCY LEVEL (RCL)



LEVEL	INDICATOR	DESCRIPTION
4	EXPERT	Denotes extensive knowledge, refined skills and prolonged experience in performing a defined competency at the highest standards.
3	ADVANCED	Denotes significant conceptual knowledge and practical experience in performing a competency to consistently high standards.
2	INTERMEDIATE	Denotes a solid conceptual understanding and some practical application.
1	BASIC	Denotes an understanding of fundamentals and some initial practical application.
0	NONE	Denotes a lack of competence in a specific area or topic.

FOCUS AREAS OVERVIEW



➔ TRANSPORT NETWORK IN MALAYSIA'S TELECOMMUNICATION INDUSTRY

The transport network is the backbone of Malaysia's telecommunications industry, enabling seamless connectivity and high-speed data transfer nationwide. It consists of fibre optic cables, microwave links, satellite systems and submarine cables that interconnect telecommunication towers, data centres and central offices. This infrastructure supports the increasing demand for broadband services and the implementation of 5G, driving advancements in digital transformation, smart cities and cloudbased applications.



➔ ENGINEERING & PLANNING

Engineering and planning are vital for designing and maintaining reliable transport networks to meet the growing need for high-speed connectivity. This involves the strategic deployment of fibre optics, microwave links and other transmission systems while optimising network topology for scalability and fault tolerance. Engineers consider geographical, environmental and technological factors, integrating advanced technologies like software-defined networking (SDN) to enhance efficiency. These efforts support digital initiatives such as 5G rollout, smart cities and nationwide broadband expansion.

Sources

1. Digital Inclusion: Bridging the Connectivity Divide in Malaysia:
(<https://www.mida.gov.my/digital-inclusion-bridging-the-connectivity-divide-in-malaysia/>)
2. Ministry of Challenges to Submarine Cable Connectivity in Southeast Asia and the Implications for Regional States:
(<https://www.mima.gov.my/sea-views/challenges-to-submarine-cableconnectivity-in-southeast-asia-and-the-implications-for-regional-states>)

FOCUS AREAS OVERVIEW



➔ ROLLOUT & DELIVERY

The rollout and delivery process focuses on implementing transport network infrastructure, including site acquisition, civil works and equipment installation. Effective project management ensures timely delivery, cost control and compliance with industry standards. Teams coordinate logistics, manage permits and conduct testing to validate performance before full-scale operations. As Malaysia accelerates 5G deployment, rollout efforts prioritise integrating advanced technologies, reducing deployment timelines and ensuring scalability for future demands.



➔ OPERATIONS & MAINTENANCE

Operations and maintenance (O&M) ensures the reliability and longevity of transport networks through routine monitoring, troubleshooting, and preventive maintenance of critical components like fibre optics and power systems. Advanced tools like network management systems (NMS) and predictive analytics enable proactive fault detection and service optimisation. O&M teams maintain regulatory compliance, manage SLAs and adapt to evolving demands with automation, remote monitoring and continuous skill development to support Malaysia's growing reliance on digital services and 5G infrastructure.

Sources

1. Telekom Malaysia Berhad Launches Fiber Optic Network Hub:
<https://techblog.comsoc.org/2023/04/01/telekom-malaysia-berhad-launches-fiber-opticnetwork-hub/>
2. Changes ahead for 5G rollout:
<https://www.thestar.com.my/business/businessnews/2023/05/04/changes-ahead-for-5g-rollout>

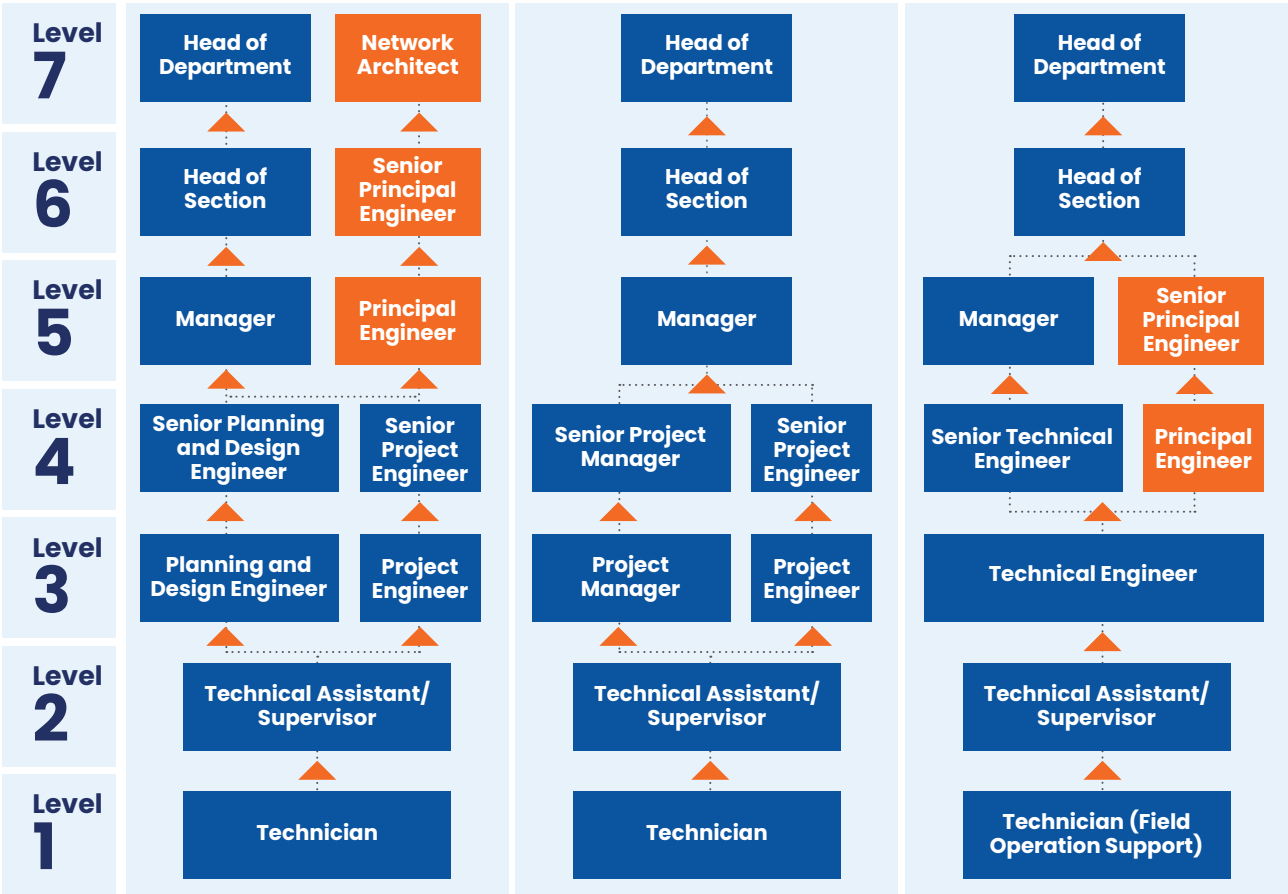


CAREER PATHWAYS



CAREER PATHWAYS
IndSF TRANSPORT

TOTAL: 30 JOB POSITION



Engineering & Planning

Rollout / Delivery

Operations & Maintenance

12 JOB POSITIONS

9 JOB POSITIONS

9 JOB POSITIONS





01

FOCUS AREA

TRANSPORT
ENGINEERING & PLANNING

Area: Engineering & Planning

Job Title: Technician

Level: 1

Job Description

A Technician supports the design and planning of telecommunications infrastructure, including fibre optics, wireless systems and related technologies. Their responsibility includes preparing network blueprints, schematics and layout plans. Additionally, they conduct site surveys to ensure project feasibility and accuracy.

Pre-Requisites

- Diploma in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Any relevant certificates in Optical Transport Network, IP Networking or Fibre Optics.

Soft Skills	Competency Level	Recommended Trainings
Communication	1	<ul style="list-style-type: none">• Communication at workplace
Teamwork	1	<ul style="list-style-type: none">• Collaboration• Team collaboration
Adaptability	1	<ul style="list-style-type: none">• Problem-solving
Time Management	1	<ul style="list-style-type: none">• Self-management

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	1	<ul style="list-style-type: none">• Basic Microsoft Office Training in Word and Excel*
Basic Email Composition	1	<ul style="list-style-type: none">• Basic email writing
Safety Training In Health, Safety, Security & Environment (HSSE)	1	<ul style="list-style-type: none">• Health, Safety, Security & Environment (HSSE)*
Transport Network Technology Fundamentals	1	<ul style="list-style-type: none">• Optical Transport Network*• IP Networking*• Fibre Optics*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning**Job Title: Technical Assistant / Supervisor****Level: 2****Job Description**

A Technical Assistant or Supervisor oversees technical designs to ensure they meet project specifications and industry standards, assisting in project planning, scheduling and budgeting, and ensuring regulatory compliance throughout project phases. This role also includes providing on-site technical support, troubleshooting issues as they arise, coordinating with cross-functional teams for seamless project alignment, and documenting project progress with regular reports for management review.

Pre-Requisites

- Diploma in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Any relevant certificates in Optical Transport Network, IP Networking, Fibre Optics, Project Management Certificate.
- Minimum two (2) years of experience in Engineering or Telecommunications works.

Soft Skills	Competency Level	Recommended Trainings
Communication	2	<ul style="list-style-type: none">• Communication skills• Communication at workplace
Teamwork	2	<ul style="list-style-type: none">• Collaboration• Team collaboration
Adaptability and problem-solving	2	<ul style="list-style-type: none">• Problem-solving• Critical thinking• Decision-making
Time management	2	<ul style="list-style-type: none">• Time management

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	2	<ul style="list-style-type: none"> • Advance Microsoft Office Training in Word, Excel and PowerPoint
Basic Email Composition	2	<ul style="list-style-type: none"> • Email writing training
Presentation skills	2	<ul style="list-style-type: none"> • Effective presentation skills
Basic networking knowledge	2	<ul style="list-style-type: none"> • Certified IP Associate (CIPA)* • Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Project management	2	<ul style="list-style-type: none"> • Project Management*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning

Job Title: Planning and Design Engineer

Level: 3

Job Description

The Planning and Design Engineer is responsible for the planning, design, budgeting and optimisation of telecommunications networks and infrastructure. This role involves working closely with project managers, network engineers, and other stakeholders to ensure that the network design meets the required standards, capacity and performance goals. The engineer will contribute to both the short-term and long-term network planning strategies, considering emerging technologies and industry best practices.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Minimum three (3) years of experience in Engineering or Telecommunications works.
- Relevant Technical Certificates as an added advantage – Data Engineer Certificate, Fibre Optic Certificate, Design Planning related certificate.

Soft Skills	Competency Level	Recommended Trainings
Communication	2	<ul style="list-style-type: none">• Communication skills• Communication at workplace
Teamwork	2	<ul style="list-style-type: none">• Collaboration• Team collaboration
Adaptability	2	<ul style="list-style-type: none">• Problem-solving• Critical thinking
Time management	2	<ul style="list-style-type: none">• Time management• Project scheduling
Problem-solving	2	<ul style="list-style-type: none">• Problem-solving• Decision-making
Critical thinking	2	<ul style="list-style-type: none">• Critical thinking• Analytical skills

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft office	3	<ul style="list-style-type: none"> Advanced Microsoft Office Training
Advance report writing skills	3	<ul style="list-style-type: none"> Advance report writing training
Presentation skills	3	<ul style="list-style-type: none"> Effective presentation skills
Advance fibre or networking knowledge	3	<ul style="list-style-type: none"> Certified IP Expert (CIPE)* Relevant product training example Cisco Certified Network (CCNA), Cisco Certified Design Associate (CCDA)*
Financial skills	2	<ul style="list-style-type: none"> Basic accounting
Project management	2	<ul style="list-style-type: none"> Certified Associate In Project Management (CAPM)* Project Management Professional*
Basic technical drawing knowledge	2	<ul style="list-style-type: none"> Basic Technical Drawing Training (AutoCAD, Visio)* Basic Artificial Intelligence (Ai) Training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning

Job Title: Project Engineer

Level: 3

Job Description

A Project Engineer in the Engineering and Planning Division of the Telecommunications Industry is responsible for overseeing and managing the technical aspects of telecommunications projects from inception through completion. A Project Engineer will collaborate with cross-functional teams to ensure projects are completed on time, within budget and to the required quality standards. This role involves extensive planning, design, implementation and troubleshooting of telecommunication systems and networks.

Pre-Requisites

- Bachelor's Degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Relevant Technical Certificates as an added advantage – Project Management Certifications, Data Engineer Certificate, Fibre Optic Certificate.
- Minimum three (3) years of experience in engineering or telecommunications.

Soft Skills	Competency Level	Recommended Trainings
Communication	2	<ul style="list-style-type: none">• Communication at workplace
Teamwork	2	<ul style="list-style-type: none">• Teamwork• Team building
Adaptability	2	<ul style="list-style-type: none">• Problem-solving• Critical thinking
Time management	2	<ul style="list-style-type: none">• Time management• Project scheduling
Problem-solving	2	<ul style="list-style-type: none">• Problem-solving• Decision-making
Critical thinking	2	<ul style="list-style-type: none">• Critical thinking• Analytical skills

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> • Advance Microsoft Office Training in Word, Excel and PowerPoint
Advance report writing skills	3	<ul style="list-style-type: none"> • Email writing training
Presentation skills	3	<ul style="list-style-type: none"> • Effective presentation skills
Advance fibre or networking knowledge	3	<ul style="list-style-type: none"> • Certified IP Expert (CIPE)* • Relevant product training example Cisco Certified Network Associate (CCNA)* • Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Financial skills	2	<ul style="list-style-type: none"> • Basic accounting
Project management	2	<ul style="list-style-type: none"> • Project Management Professional (PMP)*
Basic technical drawing knowledge	2	<ul style="list-style-type: none"> • Basic Technical Drawing Training (AutoCAD, Visio)* • Basic Artificial Intelligence (Ai) Training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning**Job Title: Senior Planning and Design Engineer****Level: 4****Job Description**

The Senior Planning and Design Engineer is responsible for leading the design, development and implementation of network infrastructure projects in the telecommunications industry. This role involves planning, designing and optimising telecom networks to ensure high performance, scalability and reliability. The ideal candidate will have extensive experience in network engineering, a deep understanding of telecommunications systems, and strong project management skills.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Minimum five (5) years of experience in engineering or telecommunications.

Soft Skills	Competency Level	Recommended Trainings
Communication	3	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	3	<ul style="list-style-type: none"> • Teamwork • Team building
Adaptability	3	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	3	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	3	<ul style="list-style-type: none"> • Critical thinking • Analytical skills • Strategic thinking
Decision-making	3	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Time management	3	<ul style="list-style-type: none"> • Time management • Project scheduling
Resourcefulness	3	<ul style="list-style-type: none"> • Resource management

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Advanced Microsoft Office Training
Advance writing skills	3	<ul style="list-style-type: none"> English and Malay language competency
Presentation skills	3	<ul style="list-style-type: none"> Effective presentation skills
Advance fibre or networking knowledge	3	<ul style="list-style-type: none"> Certified IP Expert (CIPE)* Relevant product training for example: Cisco Certified Network Associate (CCNA), Cisco Certified Design Associate (CCDA)* Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Financial skills	3	<ul style="list-style-type: none"> Basic accounting
Project management	3	<ul style="list-style-type: none"> Project Management Professional (PMP)*
Advance technical drawing knowledge	3	<ul style="list-style-type: none"> Basic Technical Drawing Training (AutoCAD, Visio)* Basic Artificial Intelligence (Ai) Training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning**Job Title: Senior Project Engineer****Level: 4****Job Description**

The Senior Project Engineer will play a pivotal role in managing and overseeing the planning, design of complex telecommunication projects. This role requires a deep understanding of telecommunications networks, project management and the ability to lead cross-functional teams to ensure that projects are planned as per requirement from all stakeholders.

Pre-Requisites

- Bachelor's Degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Minimum five (5) years of experience in engineering or telecommunications works.

Soft Skills	Competency Level	Recommended Trainings
Communication	3	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	3	<ul style="list-style-type: none"> • Teamwork • Team building
Adaptability	3	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	3	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	3	<ul style="list-style-type: none"> • Critical thinking • Analytical skills • Strategic thinking
Decision-making	3	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Resourcefulness	3	<ul style="list-style-type: none"> • Resource management

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Advanced Microsoft Office Training
Advance writing skills	3	<ul style="list-style-type: none"> English and Malay language competency
Presentation skills	3	<ul style="list-style-type: none"> Effective presentation skills
Advance fibre or networking knowledge	3	<ul style="list-style-type: none"> Certified IP Expert (CIPE)* Relevant product training example Cisco Certified Network Associate (CCNA)* Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Financial skills	3	<ul style="list-style-type: none"> Basic accounting
Project management	3	<ul style="list-style-type: none"> Project Management Professional (PMP)*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning (Managerial Track)

Job Title: Manager

Level: 5

Job Description

The Manager of Engineering and Planning will lead a team of engineers and planners in designing and developing telecommunications infrastructure. This role is responsible for overseeing the technical aspects of network design, capacity planning, and budgeting of telecommunications projects.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications, or equivalent.
- Master's in Business is an added advantage.
- Minimum 7 to 10 years of experience in Engineering or Telecommunications.
- At least two (2) years of managerial experience.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	4	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills • Strategic thinking
Decision making	4	<ul style="list-style-type: none"> • Problem-solving • Decision making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
People management skills	4	<ul style="list-style-type: none"> • Certified Associate In Project Management (CAPM)* • Project Management Professional* • Certified Associate In Project Management*
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> • Advance Microsoft Office Training
Advance report writing skills	4	<ul style="list-style-type: none"> • Advance report writing training
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> • Advance accounting
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict management and negotiation skills • Effective business negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> • Quality Management Systems (QMS) Training *

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning (Technical Track)

Job Title: Principal Engineer

Level: 5

Job Description

The Principal Engineer for the Engineering and Planning Division is responsible for the technical design and capacity guideline of complex telecommunications systems. This role involves working closely with stakeholders to understand business requirements, developing scalable and efficient architectural solutions, policy and guideline that align with the overall strategic objectives of the organisation.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Minimum 7 to 10 years of experience in engineering or telecommunications work.
- Experience in running procurement activities.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none">• Communication skills• Communication at workplace
Teamwork	4	<ul style="list-style-type: none">• Collaboration• Team collaboration
Adaptability	4	<ul style="list-style-type: none">• Problem-solving• Critical thinking
Problem solving	4	<ul style="list-style-type: none">• Problem-solving• Problem-solving and decision-making
Critical thinking	4	<ul style="list-style-type: none">• Critical thinking• Analytical skills• Strategic thinking
Decision-making	4	<ul style="list-style-type: none">• Problem-solving• Decision making
Resourcefulness	4	<ul style="list-style-type: none">• Resource management
Leadership skills	3	<ul style="list-style-type: none">• Leadership• Leadership and communication
Cross-functional skills	3	<ul style="list-style-type: none">• Effective communication• Strategic collaboration
Stakeholder engagement skills	3	<ul style="list-style-type: none">• Stakeholder engagement training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Advance Microsoft Office Training
Advance writing skills	3	<ul style="list-style-type: none"> English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> Effective presentation skills
Advance fibre or networking knowledge	4	<ul style="list-style-type: none"> Certified IP Expert (CIPE)* Relevant product training example Cisco Certified Network Professional (CCNP), Cisco Certified Design Professional (CCDP) * Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Financial skills	3	<ul style="list-style-type: none"> Basic accounting
Negotiation skills	4	<ul style="list-style-type: none"> Conflict management and negotiation skills Effective business negotiation

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning (Managerial Track)

Job Title: Head of Section

Level: 6

Job Description

The Head of Section for Engineering and Planning will lead and manage the engineering and planning activities within the telecommunication division. This role is pivotal in ensuring that network infrastructure is designed, planned, budgeted and optimise to meet organisational objectives and customer demands. The Head of Section will have a strong technical background, leadership experience and a strategic mindset to drive innovation and efficiency.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications, or equivalent.
- Minimum 10 years of experience in Engineering or Telecommunications works.
- At least three (3) years of managerial experience.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills • Strategic thinking
Decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Decision making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
People management skills	4	<ul style="list-style-type: none"> • Certified Associate In Project Management (CAPM)*
Project management skills	3	<ul style="list-style-type: none"> • Project Management Professional* • Certified Associate In Project Management*
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> Advance Microsoft Office Training
Advance report writing skills	4	<ul style="list-style-type: none"> English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> Advance accounting
Negotiation skills	4	<ul style="list-style-type: none"> Conflict management and negotiation skills Effective business negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> Quality Management System (QMS)*
ESG knowledge	2	<ul style="list-style-type: none"> ESG compliance and practices training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning (Technical Track)

Job Title: Senior Principal Engineer

Level: 6

Job Description

The Senior Principal Engineer for the Engineering and Planning Division is responsible for the technical design and capacity guideline of complex telecommunications systems on multiple technology platform. This role involves working closely with stakeholders to understand business requirements, developing scalable and efficient architectural solutions, policy and guideline that align with the overall strategic objectives of the organisation.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Master's in Business or engineering is an added advantage.
- Minimum 10 years of experience in engineering or telecommunications.
- Experienced in handling procurement activities.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem solving	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills • Strategic thinking
Decision making	4	<ul style="list-style-type: none"> • Problem-solving • Decision making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	3	<ul style="list-style-type: none"> • Leadership • Leadership and communication
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Advance Microsoft Office Training
Advance writing skills	3	<ul style="list-style-type: none"> English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> Effective presentation skills
Advance fibre or networking knowledge	4	<ul style="list-style-type: none"> Certified IP Expert (CIPE)* Relevant product training example Cisco Certified Network Professional (CCNP), Cisco Certified Design Professional (CCDP)*
Financial skills	3	<ul style="list-style-type: none"> Basic accounting
Negotiation skills	4	<ul style="list-style-type: none"> Conflict management and negotiation skills Effective business negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> QMS*
ESG knowledge	3	<ul style="list-style-type: none"> ESG compliance and practices training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning (Managerial Track)

Job Title: Head of Department

Level: 7

Job Description

The Head of Department of Engineering and Planning oversee the engineering and planning functions within the telecommunications division. This role involves strategic planning, project management, and engineering oversight to ensure the efficient and effective delivery of telecommunications services and infrastructure. The ideal candidate will have extensive experience in telecommunications engineering, leadership skills, and a deep understanding of industry trends and technologies.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or above.
- Master's in business or engineering is an added advantage.
- Minimum 15 years of experience in engineering or telecommunications.
- At least five (5) years of managerial experience.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills • Strategic thinking
Decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Decision making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> Advance Microsoft Office Training
Advance writing skills	4	<ul style="list-style-type: none"> English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> Advance accounting
Negotiation skills	4	<ul style="list-style-type: none"> Conflict management and negotiation skills Effective business negotiation
ESG knowledge	3	<ul style="list-style-type: none"> ESG compliance and practices training
Regulatory knowledge	3	<ul style="list-style-type: none"> QMS*
Project management skills	4	<ul style="list-style-type: none"> Certified Associate In Project Management* Certified Associate In Project Management (CAPM)* Project Management Professional (PMP)*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Engineering & Planning (Technical Track)

Job Title: Network Architect

Level: 7

Job Description

The Network Architect in Transport Engineering & Planning is responsible for designing and optimising transport network infrastructure to ensure high performance, scalability, and compliance with industry standards. This role involves developing multi-layer network architectures using technologies such as DWDM, IP/MPLS, and FTTx, focusing on efficient data transmission and future-proofing capacity. Key responsibilities include conducting capacity assessments, leading technology integration, optimising bandwidth and latency, and creating detailed transport network plans aligned with business objectives. The Network Architect also collaborates with engineering teams to standardise best practices, maintains up-to-date documentation, and ensures compliance with regulatory standards. This role requires a solid understanding of transport network technologies, strong analytical skills for capacity forecasting, and experience in network planning and project management to drive complex network initiatives effectively.

Pre-Requisites

- Bachelor's degree in IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Relevant technical certificates as an added advantage.
- Minimum 12 years of experience in engineering or telecommunications works.
- Experience in running procurement activities.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical Thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills • Strategic thinking
Decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Decision making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	3	<ul style="list-style-type: none"> • Leadership • Leadership and communication
Cross-functional skills	4	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> • Advance Microsoft Office Training
Advance writing skills	3	<ul style="list-style-type: none"> • English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Advance Fibre/Networking knowledge	4	<ul style="list-style-type: none"> • Certified IP Expert (CIPE)* • Relevant product training example Cisco Certified Network Professional (CCNP), Cisco Certified Design Professional (CCDP)*
Financial skills	3	<ul style="list-style-type: none"> • Basic accounting
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict management and negotiation skills • Effective business negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> • Regulatory compliance

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.



02

FOCUS AREA

TRANSPORT
ROLLOUT/DELIVERY

Area: Rollout/Delivery**Job Title: Technician****Level: 1****Job Description**

A Technician in Rollout and Implementation is responsible for the installation, configuration, and testing of telecommunication equipment and infrastructure. This role ensures that new telecommunications services are rolled out efficiently and effectively, meeting quality standards and timelines.

Pre-Requisites

- Diploma in Telecommunications Engineering, Electrical or Electronic Engineering, Information Technology, Networking, Computer Science, Information System, or equivalent.
- Relevant certificates are an added advantage.
- Minimum SPM with credits in Bahasa Melayu, Mathematics and Science.

Soft Skills	Competency Level	Recommended Trainings
Communication	1	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	1	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	1	<ul style="list-style-type: none"> • Problem-solving
Time management	1	<ul style="list-style-type: none"> • Time management

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	1	<ul style="list-style-type: none"> • Microsoft Office Training (Beginner)
Basic email composition	1	<ul style="list-style-type: none"> • Basic English and Malay
Safety skills	4	<ul style="list-style-type: none"> • CIDB/NIOSH Safety Passport* • Working at Height*
Fibre optic cable skills	4	<ul style="list-style-type: none"> • Fibre pulling, Fibre Splicing and Fibre testing training* • Fibre Competency Certificates (CA1C, CA2C)*
Product skills	4	<ul style="list-style-type: none"> • Fibre To The Home (FTTx) Product and Equipment Training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Technical Assistant/ Supervisor****Level: 2****Job Description**

The Technical Assistant or Supervisor in Rollout and Implementation manage the site survey and rollout of telecommunications projects, ensuring that installations, upgrades, and service deployments are executed efficiently and effectively. This role involves supervising technical teams, coordinating project activities, and maintaining high standards of quality and compliance.

Pre-Requisites

- Diploma in Telecommunications Engineering, Electrical or Electronic Engineering, IT or Networking, Computer Science, Information System or equivalent.
- Relevant certificates such as Optical Transport Network, IP Networking, Fibre Optics.
- Minimum two (2) years of experience in telecommunications, engineering or IT works.

Soft Skills	Competency Level	Recommended Trainings
Communication	2	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	3	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability and problem-solving	2	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Time management	2	<ul style="list-style-type: none"> • Time management

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	2	<ul style="list-style-type: none"> Microsoft Office Training (Intermediate)
Basic email composition	2	<ul style="list-style-type: none"> Basic English and Malay
Presentation skills	2	<ul style="list-style-type: none"> Effective presentation skills
Safety skills	4	<ul style="list-style-type: none"> CIDB/NIOSH Safety Passport* Working at Height*
Fibre optic cable skills	4	<ul style="list-style-type: none"> Fibre pulling, Fibre Splicing and Fibre testing training* Fibre Competency Certificates (CA1C, CA2C)*
Product skills	4	<ul style="list-style-type: none"> Fibre To The Home (FTTx) Product and Equipment Training*
Wireless transmission technology skills	4	<ul style="list-style-type: none"> Implementing MPL5* Implementing Metro Ethernet* Q05 and Traffic Engineering*
Project management	2	<ul style="list-style-type: none"> Project management training example PMP*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Project Manager****Level: 3****Job Description**

The Project Manager in Rollout and Implementation will lead and manage telecommunications projects from installation through completion. This role involves overseeing project implementation, resource management, and execution to ensure the successful rollout of telecommunication infrastructure and services. The Project Manager will work closely with internal teams, vendors, and clients to meet project objectives and deliver high-quality results.

Pre-Requisites

- Bachelor's degree in Telecommunications Engineering, Electrical or Electronic Engineering, IT or Networking, Computer Science, Information System or equivalent.
- Relevant certificates such as Optical Transport Network, IP Networking, Fibre Optics.
- Minimum three (3) years of experience in Telecommunications, Engineering or Information Technology.

Soft Skills	Competency Level	Recommended Trainings
Communication	3	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	3	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability and problem-solving	3	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Time management	3	<ul style="list-style-type: none"> • Time management • Project scheduling
Critical thinking	3	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Leadership skills	3	<ul style="list-style-type: none"> • Leadership skills training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Microsoft Office Training (Intermediate)
Email composition	3	<ul style="list-style-type: none"> Basic English and Malay
Presentation skills	3	<ul style="list-style-type: none"> Effective presentation skills
Safety skills	3	<ul style="list-style-type: none"> CIDB/NIOSH Safety Passport* Working at Height*
Fibre optic cable skills	3	<ul style="list-style-type: none"> Fibre pulling, Fibre Splicing and Fibre testing training* Fibre Competency Certificates (CA1C, CA2C)*
Product skills	3	<ul style="list-style-type: none"> Fibre To The Home (FTTx) Product and Equipment Training*
Wireless transmission technology skills	3	<ul style="list-style-type: none"> Implementing MPL5* Implementing Metro Ethernet* Q05 and Traffic Engineering*
Project management	3	<ul style="list-style-type: none"> Project management training example PMP*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Rollout Engineer****Level: 3****Job Description**

The Rollout Engineer will be responsible for the technical aspects of deploying telecommunications infrastructure and services. This role includes overseeing the installation, configuration, and testing of equipment, ensuring that all systems are operational and meet the required specifications. The Rollout Engineer will work closely with project managers, technicians, and other stakeholders to deliver high-quality implementations on time.

Pre-Requisites

- Degree in Telecommunications Engineering, Electrical or Electronic Engineering, Information Technology, Networking, Computer Science, Information System or equivalent.
- Relevant certificates such as Optical Transport Network, IP Networking or Fibre Optics as an added advantage.
- Minimum three (3) years of experience in Telecommunications, Engineering and IT.

Soft Skills	Competency Level	Recommended Trainings
Communication	3	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	3	<ul style="list-style-type: none"> • Teamwork • Team building
Adaptability and problem-solving	3	<ul style="list-style-type: none"> • Problem-solving
Time management	3	<ul style="list-style-type: none"> • Time management • Project scheduling
Critical thinking	3	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Leadership skills	3	<ul style="list-style-type: none"> • Leadership skills training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Microsoft Office Training (Intermediate)
Email composition	3	<ul style="list-style-type: none"> Basic English and Malay
Presentation skills	3	<ul style="list-style-type: none"> Effective presentation skills
Safety skills	3	<ul style="list-style-type: none"> CIDB/NIOSH Safety Passport* Working at Height*
Fibre optic cable skills	3	<ul style="list-style-type: none"> Fibre pulling, Fibre Splicing and Fibre testing training*
Product skills	3	<ul style="list-style-type: none"> Fibre To The Home (FTTx) Product and Equipment Training*
Wireless transmission technology skills	3	<ul style="list-style-type: none"> Implementing MPL5* Implementing Metro Ethernet* Q05 and Traffic Engineering*
Project management	3	<ul style="list-style-type: none"> Project management training example PMP*
Stakeholder management	2	<ul style="list-style-type: none"> Stakeholder management training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Senior Project Manager****Level: 4****Job Description**

The Senior Project Manager will lead and manage telecommunications rollout and implementation projects from installation to completion. This role requires strategic oversight, effective leadership, and in-depth knowledge of telecommunications systems. The Senior Project Manager will ensure that projects are delivered on time, within scope, and within budget while meeting quality standards and stakeholder expectations.

Pre-Requisites

- Degree in Telecommunications Engineering, Electrical or Electronic Engineering, IT or Networking, Computer Science, Information System or equivalent.
- Relevant Certificates such as Optical Transport Network, IP Networking, Fibre Optics is an added advantage.
- Minimum five (5) years of experience in telecommunications, engineering or IT.

Soft Skills	Competency Level	Recommended Trainings
Leadership	3	<ul style="list-style-type: none"> • Leadership • Leadership and communication
Teamwork	3	<ul style="list-style-type: none"> • Teamwork • Team building
Adaptability	3	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving and decision-making	3	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	3	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Resourcefulness	3	<ul style="list-style-type: none"> • Resource management

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Microsoft Office Training (Intermediate)
Email composition	3	<ul style="list-style-type: none"> Basic English and Malay
Presentation skills	3	<ul style="list-style-type: none"> Effective presentation skills
Fibre Optic Cable	3	<ul style="list-style-type: none"> Fibre Optic Training*
Product skills	3	<ul style="list-style-type: none"> Fibre To The Home (FTTx) Product and Equipment Training*
Wireless Transmission Technology Skills	3	<ul style="list-style-type: none"> Implementing MPL5* Implementing Metro Ethernet* Q05 and Traffic Engineering*
Safety knowledge	3	<ul style="list-style-type: none"> Safety Training*
Financial skills	3	<ul style="list-style-type: none"> Financial & Accounting
Project management	3	<ul style="list-style-type: none"> Project Management training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Senior Rollout Engineer****Level: 4****Job Description**

The Senior Rollout Engineer will lead and manage the technical implementation of telecommunications projects, including the deployment, configuration, and optimisation of network infrastructure. This role involves overseeing the installations, ensuring compliance with industry standards, and providing technical expertise and leadership to the rollout team.

Pre-Requisites

- Degree in Telecommunications Engineering, Electrical or Electronic Engineering, IT or Networking, Computer Science, Information System or equivalent.
- Relevant Certificates such as Optical Transport Network, IP Networking, Fibre Optics is an added advantage.
- Minimum five (5) years of experience in telecommunications, engineering or IT.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Teamwork • Team building
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving and decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> Microsoft Office Training (Intermediate)
Email composition	3	<ul style="list-style-type: none"> Basic English and Malay
Presentation skills	3	<ul style="list-style-type: none"> Effective presentation skills
Fibre optic cable	3	<ul style="list-style-type: none"> Fibre Optic Training*
Product Skills	3	<ul style="list-style-type: none"> Fibre To The Home (FTTx) Product and Equipment Training*
Wireless transmission technology skills	3	<ul style="list-style-type: none"> Implementing MPL5* Implementing Metro Ethernet* Q05 and Traffic Engineering*
Safety knowledge	3	<ul style="list-style-type: none"> Safety Training*
Financial skills	3	<ul style="list-style-type: none"> Financial & Accounting
Project management	3	<ul style="list-style-type: none"> Project Management training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Manager****Level: 5****Job Description**

The Manager of Rollout and Implementation will lead and oversee the deployment and implementation of telecommunications infrastructure projects. This role involves managing project teams, coordinating with stakeholders, ensuring compliance with industry standards, and driving successful project outcomes. The Manager will ensure that all projects are executed efficiently, within scope, and to the highest quality standards.

Pre-Requisites

- Degree in Telecommunications Engineering, Electrical or Electronic Engineering, IT or Networking, Computer Science, Information System or equivalent.
- Relevant certificates such as Optical Transport Network, IP Networking, Fibre Optics is an added advantage.
- Minimum 7-10 years of experience in Telecommunications, Engineering or IT.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving and decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Decision making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
People management skills	4	<ul style="list-style-type: none"> • Certified Associate In Project Management (CAPM)* • Project Management Professional* • Certified Associate In Project Management*
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Stakeholder management	4	<ul style="list-style-type: none"> Stakeholder management training
Security and risk management	4	<ul style="list-style-type: none"> Risk management training
Presentation skills	4	<ul style="list-style-type: none"> Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> Advance financial accounting
Negotiation skills	4	<ul style="list-style-type: none"> Conflict management and negotiation skills Effective business negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> Regulatory compliance
Safety knowledge	2	<ul style="list-style-type: none"> Safety Training*
Fibre optic cable	3	<ul style="list-style-type: none"> Fibre Optic Training*
Product skills	3	<ul style="list-style-type: none"> Fibre To The Home (FTTx) Product and Equipment Training*
Wireless transmission technology skills	3	<ul style="list-style-type: none"> Implementing MPL5* Implementing Metro Ethernet* Q05 and Traffic Engineering*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Head Of Section****Level: 6****Job Description**

The Head of Section for Rollout and Implementation will lead and manage the activities of a specific section within the rollout and implementation department. This role involves strategic planning, overseeing project execution, managing teams, and ensuring that all rollout activities align with organisational goals and industry standards. The Head of Section will be responsible for driving efficiency, quality, and innovation in the deployment of telecommunications infrastructure and services.

Pre-Requisites

- Degree in Telecommunications Engineering, Electrical or Electronic Engineering, IT or Networking, Computer Science, Information System or equivalent
- Relevant certificates are an added advantage.
- Minimum 10 years of experience in telecommunications, engineering or IT.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving and decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Decision making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
People management skills	4	<ul style="list-style-type: none"> • Certified Associate In Project Management (CAPM)* • Project Management Professional* • Certified Associate In Project Management*
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance writing skills	4	<ul style="list-style-type: none"> • Advance writing skills
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> • Advance financial accounting
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict management and negotiation skills • Effective business negotiation
Regulatory knowledge	4	<ul style="list-style-type: none"> • Regulatory compliance
Safety courses	2	<ul style="list-style-type: none"> • CIDB/NIOSH Safety Passport*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Rollout/Delivery**Job Title: Head of Department****Level: 7****Job Description**

The Head of Department for Rollout and Implementation will provide strategic leadership and oversight for the department responsible for deploying and implementing telecommunications projects. This role involves setting the vision and direction for the department, ensuring effective execution of projects, managing resources, and fostering relationships with stakeholders. The Head of Department will drive the department's performance, quality, and innovation to meet organisational objectives and industry standards.

Pre-Requisites

- Degree in Telecommunications Engineering, Electrical or Electronic Engineering, IT or Networking, Computer Science, Information System or equivalent.
- Relevant Certificates is an added advantage.
- Minimum 15 years of experience in Telecommunications, Engineering or IT.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem solving and decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
People management skills	4	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration
Cross-functional skills	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance writing skills	4	<ul style="list-style-type: none"> • Advance writing skills
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> • Advance financial accounting
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict management and negotiation skills • Effective business negotiation
Regulatory knowledge	4	<ul style="list-style-type: none"> • Regulatory compliance

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.



03

FOCUS AREA

TRANSPORT
OPERATION & MAINTENANCE

Area: Operation & Maintenance

Job Title: Technician (Field Operation Support)

Level: 1

Job Description

A Field Operation Support Technician is responsible for the installation, maintenance, and repair of telecommunication infrastructure, including cellular towers, base stations, and fibre optic networks. The role involves routine inspections, diagnostics, and troubleshooting of field equipment to ensure optimal network performance. Technicians often respond to on-site issues, perform scheduled maintenance, and assist with system upgrades. The job may involve working in various environments, including rural and urban locations, to support uninterrupted communication services.

Pre-Requisites

- Diploma IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications, or equivalent.
- Any relevant certificates in Optical Transport Network, IP Networking, or Fibre Optics.

Soft Skills	Competency Level	Recommended Trainings
Communication	1	<ul style="list-style-type: none">• Communication at workplace
Teamwork	1	<ul style="list-style-type: none">• Collaboration• Team collaboration
Adaptability	1	<ul style="list-style-type: none">• Problem-solving
Time management	1	<ul style="list-style-type: none">• Time management

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	1	<ul style="list-style-type: none">• Basic Microsoft Office Training in Word & Excel*
Basic email composition	1	<ul style="list-style-type: none">• Basic email writing programmes
Safety Training HSSE	3	<ul style="list-style-type: none">• CIDB Safety Passport*• NIOSH Safety Passport• EOSP Safety Passport*• Working at Height*
Transport Network Technology Fundamentals	1	<ul style="list-style-type: none">• Optical Transport network*• IP Networking*• Fibre Optics*
Fibre Optic Cable Skills	4	<ul style="list-style-type: none">• Fibre pulling, Fibre Splicing and Fibre testing training*
Product skills	4	<ul style="list-style-type: none">• Fibre To The Home (FTTx) Product and Equipment Training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance**Job Title: Technical Assistant / Supervisor****Level: 2****Job Description**

The Technical Assistant or Supervisor in Operations & Maintenance supports the troubleshooting and maintenance of telecommunication systems and networks. This role involves overseeing daily field operations, coordinating with teams to ensure smooth network performance, and managing the technical aspects of network repairs, upgrades, and routine maintenance. The Supervisor will ensure all procedures comply with industry standards and regulations, monitor equipment performance, and ensure minimal downtime. Supervisory responsibilities include team management, reporting, and quality control.

Pre-Requisites

- Diploma IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Any relevant certificates in Optical Transport Network, IP Networking, or Fibre Optics.
- Minimum 2 years of experience in Engineering, Telecommunications or IT.

Soft Skills	Competency Level	Recommended Trainings
Communication	2	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	2	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability and problem-solving	2	<ul style="list-style-type: none"> • Problem-solving • Critical thinking • Decision-making
Time management	2	<ul style="list-style-type: none"> • Time management
Leadership Skills	2	<ul style="list-style-type: none"> • Leadership training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	2	<ul style="list-style-type: none"> • Advance Microsoft Office Training (Word, Excel and PowerPoint)*
Basic email composition	2	<ul style="list-style-type: none"> • Email writing training
Presentation skills	2	<ul style="list-style-type: none"> • Effective presentation skills
Basic networking knowledge	2	<ul style="list-style-type: none"> • Certified IP Associate (CIPA)* • Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Project management skills	2	<ul style="list-style-type: none"> • Project Management example: PMP *
Safety skills	4	<ul style="list-style-type: none"> • CIDB Safety Passport* • NIOSH Safety Passport • EOSP Safety Passport* • Working at Height*
Product skills	4	<ul style="list-style-type: none"> • Fibre To The Home (FTTx) Product and Equipment Training*
Wireless transmission technology skills	4	<ul style="list-style-type: none"> • Implementing MPL5* • Implementing Metro Ethernet* • Q05 and Traffic Engineering*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance**Job Title: Technical Engineer****Level: 3****Job Description**

A Technical Engineer in Operations & Maintenance ensures the optimal performance of telecommunication networks and systems. The role involves monitoring, diagnosing, and resolving issues within the network infrastructure, performing preventive maintenance, and supporting field technicians in system repairs and upgrades. Engineers are also responsible for improving system reliability, managing equipment configurations, and ensuring compliance with industry standards. Their work ensures uninterrupted network service, critical to both consumers and business operations.

Pre-Requisites

- Degree IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications, or equivalent.
- Relevant Technical Certificates– Project Management certifications, Data Engineer certificate, Fibre Optic certificate.
- Minimum three (3) years of experience in Engineering or Telecommunications.

Soft Skills	Competency Level	Recommended Trainings
Communication	2	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	2	<ul style="list-style-type: none"> • Teamwork • Team building
Adaptability	2	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Time management	2	<ul style="list-style-type: none"> • Time management • Project scheduling
Problem-solving	2	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Critical thinking	2	<ul style="list-style-type: none"> • Critical thinking • Analytical skills

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Technical Skills	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance report writing skills	3	<ul style="list-style-type: none"> • Report writing skills training
Presentation skills	3	<ul style="list-style-type: none"> • Effective presentation skills
Advance fibre or networking knowledge	3	<ul style="list-style-type: none"> • Certified IP Expert (CIPE)* • Relevant product training example Cisco Certified Network Associate (CCNA)* • Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Financial skills	2	<ul style="list-style-type: none"> • Basic accounting
Project management	2	<ul style="list-style-type: none"> • Project Management Professional (PMP)*
Basic technical drawing knowledge	2	<ul style="list-style-type: none"> • Basic Technical Drawing Training (AutoCAD, Visio)*
Safety knowledge	2	<ul style="list-style-type: none"> • Safety Training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance (Managerial Track)

Job Title: Senior Technical Engineer

Level: 4

Job Description

As a Senior Technical Engineer in Operations & Maintenance, you will lead the technical efforts in maintaining and optimising telecommunication infrastructure, including mobile networks, fibre optics, and broadband systems. Your primary responsibilities include overseeing preventive and corrective maintenance tasks, analysing system performance, and ensuring minimal downtime. The Senior Technical Engineer will also manage a team of junior engineers, provide technical guidance and troubleshoot support for complex issues. The role requires collaboration with cross-functional teams to implement network upgrades, ensure compliance with industry standards, and integrate the latest technologies such as 5G and IoT.

Pre-Requisites

- Degree IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Advanced or Expert Certificates especially in IP Transport Cisco Certified Network Professional CCNP and Huawei Certified Datacom Professional HCDP.
- Minimum five (5) years of experience in Engineering or Telecommunications.

Soft Skills	Competency Level	Recommended Trainings
Communication	3	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	3	<ul style="list-style-type: none"> • Teamwork • Team building
Adaptability	3	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	3	<ul style="list-style-type: none"> • Problem-solving • Problem-solving and decision-making
Critical thinking	3	<ul style="list-style-type: none"> • Critical thinking • Analytical Skills
Decision making	3	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Resourcefulness	3	<ul style="list-style-type: none"> • Resource management
Leadership	2	<ul style="list-style-type: none"> • Leadership skills training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Basic Accounting	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance writing skills	3	<ul style="list-style-type: none"> • English and Malay language competency
Presentation skills	3	<ul style="list-style-type: none"> • Effective presentation skills
Advance fibre or networking knowledge	3	<ul style="list-style-type: none"> • Certified IP Expert (CIPE)* • Relevant product training example Cisco Certified Network Professional (CCNP)* • Advance Knowledge of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / Microwave Transmission*
Safety knowledge	2	<ul style="list-style-type: none"> • Safety Training*
Financial skills	3	<ul style="list-style-type: none"> • Basic Accounting
Project management	3	<ul style="list-style-type: none"> • Project Management Professional (PMP)*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance (Technical Track)

Job Title: Principal Engineer

Level: 4

Job Description

A Principal Engineer in Operations & Maintenance (O&M) oversees the strategic planning and technical direction of telecommunication infrastructure operations. This role involves ensuring the optimal performance, reliability, and efficiency of networks and systems, while leading teams to resolve complex technical issues, implement upgrades, and optimise operational processes. The Principal Engineer provides high-level engineering support, manages system failures, conducts root cause analyses, and liaises with cross-functional teams to ensure the smooth operation of the network. They play a key role in introducing new technologies, driving continuous improvement initiatives, and ensuring compliance with industry standards.

Pre-Requisites

- Degree IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Advanced or Expert Certificates especially in IP Transport Cisco Certified Network Expert CCNE and Huawei Certified Datacom Expert HCDE.
- Minimum five (5) years of experience in Engineering or Telecommunications.

Soft Skills	Competency Level	Recommended Trainings
Communication	3	<ul style="list-style-type: none">• Communication skills• Communication at workplace
Teamwork	3	<ul style="list-style-type: none">• Teamwork• Team building
Adaptability	3	<ul style="list-style-type: none">• Problem-solving• Critical thinking
Problem solving	3	<ul style="list-style-type: none">• Problem-solving• Problem-solving & Decision-making
Critical thinking	3	<ul style="list-style-type: none">• Critical thinking• Analytical skills
Decision-making	3	<ul style="list-style-type: none">• Problem-solving• Decision-making
Time management	3	<ul style="list-style-type: none">• Time management• Project scheduling
Resourcefulness	3	<ul style="list-style-type: none">• Resource management

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Basic Accounting	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance writing skills	3	<ul style="list-style-type: none"> • English and Malay language competency
Presentation skills	3	<ul style="list-style-type: none"> • Effective presentation skills
Advance fibre or networking knowledge	4	<ul style="list-style-type: none"> • Certified IP Expert (CIPE)* • Relevant product training example Cisco Certified Network Expert (CCNE), Cisco Certified Design Expert (CCDE)* • Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / Microwave Transmission*
Safety knowledge	2	<ul style="list-style-type: none"> • Safety Training*
Financial skills	3	<ul style="list-style-type: none"> • Basic Accounting
Project management	3	<ul style="list-style-type: none"> • Project Management Training example: Project Management Professional (PMP)*
Advance technical drawing knowledge	3	<ul style="list-style-type: none"> • Advance Technical Drawing Training (AutoCAD, Visio)*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance (Managerial Track)

Job Title: Manager

Level: 5

Job Description

The Operations & Maintenance Manager in the telecommunication industry oversees the maintenance and operational efficiency of network infrastructures and communication systems. This role involves planning and executing maintenance schedules, managing teams of engineers and technicians, troubleshooting network issues, and ensuring minimal downtime. The manager also ensures compliance with industry standards, optimises resource allocation, and collaborates with cross-functional teams to integrate new technologies and processes. A key focus is on maintaining service reliability and enhancing customer satisfaction.

Pre-Requisites

- Degree IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or equivalent.
- Master's in Business as an added advantage.
- Minimum 7 to 10 years of experience in Engineering or Telecommunications.
- At least two (2) years of managerial experience.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	4	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Decision making	4	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
People management skills	4	<ul style="list-style-type: none"> • Certified Associate In Project Management (CAPM)* • Project Management Professional* • Certified Associate In Project Management*
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Basic Accounting	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance report writing skills	4	<ul style="list-style-type: none"> • Advance report writing training
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> • Advance accounting
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict management and negotiation skills • Effective business negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> • Quality Management Systems (QMS) Training*
Safety knowledge	2	<ul style="list-style-type: none"> • Safety Training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance (Technical Track)

Job Title: Senior Principal Engineer

Level: 5

Job Description

The Senior Principal Engineer oversees the design, implementation, and optimisation of telecommunication systems and infrastructure. They are responsible for ensuring the reliability, efficiency, and scalability of network operations, addressing high-level technical challenges, and leading critical maintenance efforts. This role involves guiding teams of engineers, providing strategic direction for the integration of new technologies, and managing large-scale projects focused on network performance and service continuity. The Senior Principal Engineer also collaborates with cross-functional teams to resolve complex system issues, develop preventive maintenance strategies, and implement network upgrades.

Pre-Requisites

- Degree IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications, or equivalent.
- Minimum 7 to 10 years of experience in Engineering or Telecommunications works.
- Experience in running procurement activities.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none">• Communication skills• Communication at workplace
Teamwork	4	<ul style="list-style-type: none">• Collaboration• Team collaboration
Adaptability	4	<ul style="list-style-type: none">• Problem-solving• Critical thinking
Problem-solving	4	<ul style="list-style-type: none">• Problem-solving• Problem-solving & Decision-making
Critical thinking	4	<ul style="list-style-type: none">• Critical thinking• Analytical skills
Decision-making	4	<ul style="list-style-type: none">• Problem-solving• Decision-making
Resourcefulness	4	<ul style="list-style-type: none">• Resource management
Leadership skills	3	<ul style="list-style-type: none">• Leadership• Leadership and communication
Cross-functional skills	3	<ul style="list-style-type: none">• Effective communication• Strategic collaboration
Stakeholder engagement skills	3	<ul style="list-style-type: none">• Stakeholder engagement training

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Basic Accounting	Competency Level	Recommended Trainings
Microsoft Office	3	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance writing skills	3	<ul style="list-style-type: none"> • English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Advance fibre or networking knowledge	4	<ul style="list-style-type: none"> • Certified IP Expert (CIPE)* • Relevant product training example Cisco Certified Network Professional (CCNP), Cisco Certified Design Professional (CCDP)* • Fundamentals of Dense Wavelength Division Multiplexing (DWDM) / Fiber Optics / Fibre to the Home or Premise FTTx / *
Financial skills	3	<ul style="list-style-type: none"> • Basic accounting
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict management and negotiation skills • Effective business negotiation
Safety knowledge	2	<ul style="list-style-type: none"> • Safety Training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance (Managerial Track)

Job Title: Head of Section

Level: 6

Job Description

The Head of Section in Operations & Maintenance oversees the daily operations, maintenance, and optimisation of telecommunication infrastructure. This role involves leading a team of engineers and technicians to ensure the efficient performance of networks and systems, maintaining uptime, and managing upgrades or repairs. The Head of Section collaborates with internal and external stakeholders to drive process improvements and integrate new technologies such as 5G or IoT solutions, while adhering to regulatory standards and company objectives.

Pre-Requisites

- Degree IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or above.
- Minimum 10 years of experience in Engineering or Telecommunications.
- At least three (3) years of managerial experience.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving & Decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
People management skills	4	<ul style="list-style-type: none"> • Certified Associate In Project Management (CAPM)*
Project management skills	3	<ul style="list-style-type: none"> • Project Management Professional* • Executive Leadership Program • Certified Associate In Project Management*
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Basic Accounting	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance report writing skills	4	<ul style="list-style-type: none"> • English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> • Advance accounting • Basic profit and loss knowledge
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict management and negotiation skills • Effective business negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> • Quality Management System (QMS)*
ESG knowledge	2	<ul style="list-style-type: none"> • ESG Compliance & Practices Training
Safety knowledge	2	<ul style="list-style-type: none"> • Safety Training*

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Area: Operation & Maintenance (Managerial Track)

Job Title: Head of Department

Level: 7

Job Description

The Head of Department (Operations & Maintenance) is responsible for overseeing the planning, execution, and management of telecommunication networks' operations and maintenance. This role ensures optimal network performance, reliability, and availability by coordinating technical teams, implementing preventative maintenance schedules, and managing critical infrastructure upgrades. The individual is also tasked with establishing strategic goals, managing departmental budgets, and ensuring compliance with industry regulations and safety standards. They play a key role in driving innovation and implementing new technologies to improve operational efficiency.

Pre-Requisites

- Degree IT and Networking, Computer Science, Information System, Engineering in Electrical, Electronic, Telecommunications or above.
- Masters in Business or Engineering is an added advantage.
- Minimum 15 years of experience in Engineering or Telecommunications works.
- At least five (5) years of managerial experience.

Soft Skills	Competency Level	Recommended Trainings
Communication	4	<ul style="list-style-type: none"> • Communication skills • Communication at workplace
Teamwork	4	<ul style="list-style-type: none"> • Collaboration • Team collaboration
Adaptability	4	<ul style="list-style-type: none"> • Problem-solving • Critical thinking
Problem-solving	4	<ul style="list-style-type: none"> • Problem-solving • Problem-solving & Decision-making
Critical thinking	4	<ul style="list-style-type: none"> • Critical thinking • Analytical skills
Decision-making	4	<ul style="list-style-type: none"> • Problem-solving • Decision-making
Resourcefulness	4	<ul style="list-style-type: none"> • Resource management
Leadership skills	4	<ul style="list-style-type: none"> • Leadership • Leadership and communication
Cross-functional skills	3	<ul style="list-style-type: none"> • Effective communication • Strategic collaboration

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

Basic Accounting	Competency Level	Recommended Trainings
Microsoft Office	4	<ul style="list-style-type: none"> • Advance Microsoft Office Training*
Advance writing skills	4	<ul style="list-style-type: none"> • English and Malay language competency
Presentation skills	4	<ul style="list-style-type: none"> • Effective presentation skills
Financial skills	4	<ul style="list-style-type: none"> • Advance accounting
Negotiation skills	4	<ul style="list-style-type: none"> • Conflict Management and Negotiation Skills • Effective Business Negotiation
Regulatory knowledge	3	<ul style="list-style-type: none"> • Quality Management System (QMS)*
Project management skills	4	<ul style="list-style-type: none"> • Certified Associate In Project Management* • Certified Associate In Project Management (CAPM)* • Executive leadership Programme

Disclaimer: Courses marked with asterisk (*) are registered and industry-recommended. Details may change at the provider's discretion.

LIST OF SOURCES

- Digital Inclusion: Bridging the Connectivity Divide in Malaysia: <https://www.mida.gov.my/digital-inclusion-bridging-theconnectivity-divide-in-malaysia/>
- Challenges to Submarine Cable Connectivity in Southeast Asia and the Implications for Regional States: <https://www.mima.gov.my/sea-views/challenges-to-submarine-cable-connectivity-in-southeast-asia-and-the-implications-for-regional-states>
- Telekom Malaysia Berhad Launches Fiber Optic Network Hub: <https://techblog.comsoc.org/2023/04/01/telekom-malysiaberhad-launches-fiber-optic-network-hub/>
- Changes ahead for 5G rollout: <https://www.thestar.com.my/business/businessnews/2023/05/04/changes-ahead-for-5g-rollout>
- Human Resources Development Corporation (HRD Corp) InternalData (2024)



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Scan this QR code to access the digital version of the Industrial Skills Framework (IndSF) Telecommunications.

