MINISTRY OF HUMAN RESOURCES

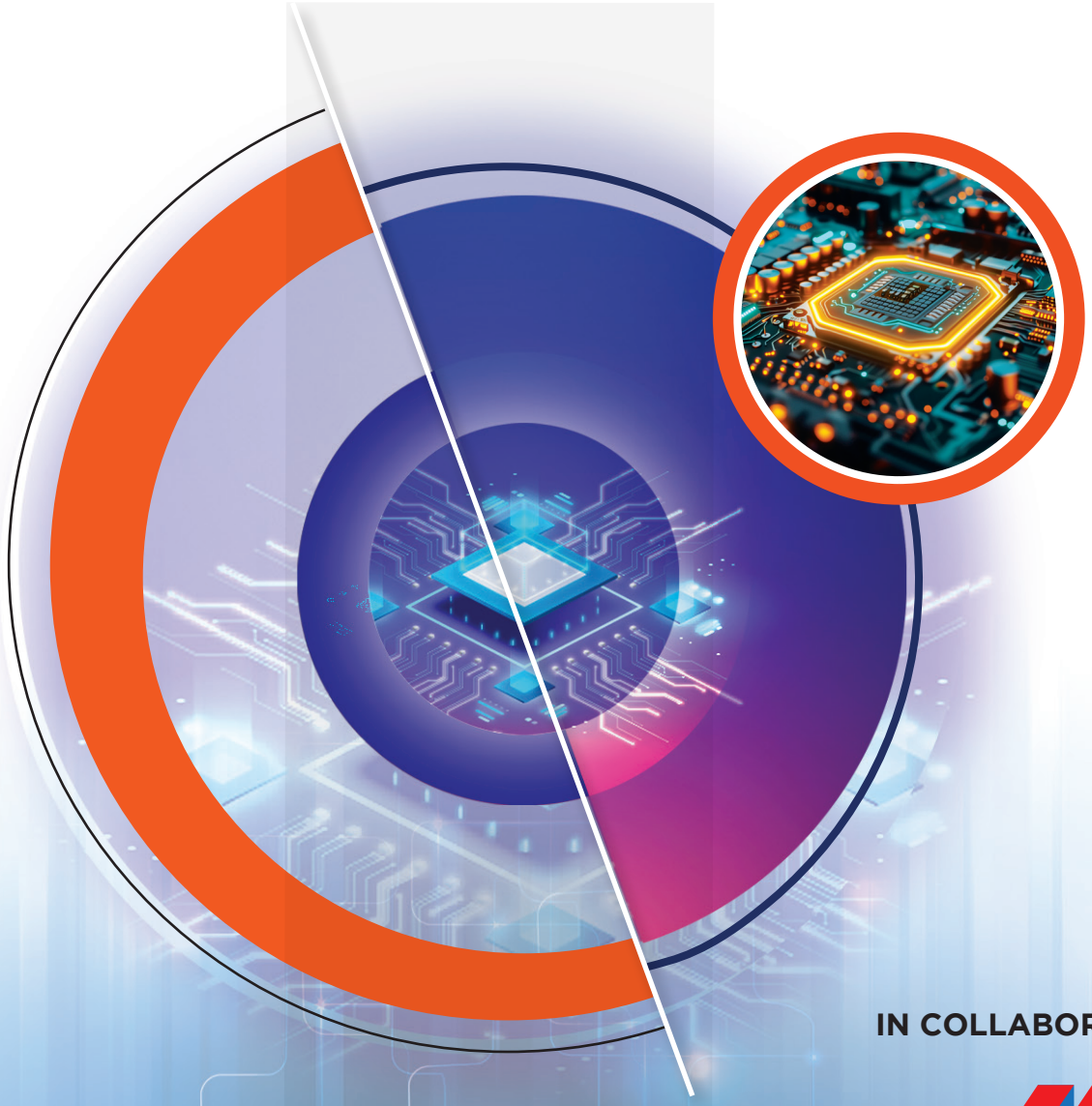
HRD CORP
HUMAN RESOURCE DEVELOPMENT CORPORATION

IndSF | INDUSTRIAL SKILLS FRAMEWORK

INDUSTRIAL SKILLS FRAMEWORK (IndSF)

SEMICONDUCTOR

First Edition



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PREFACE

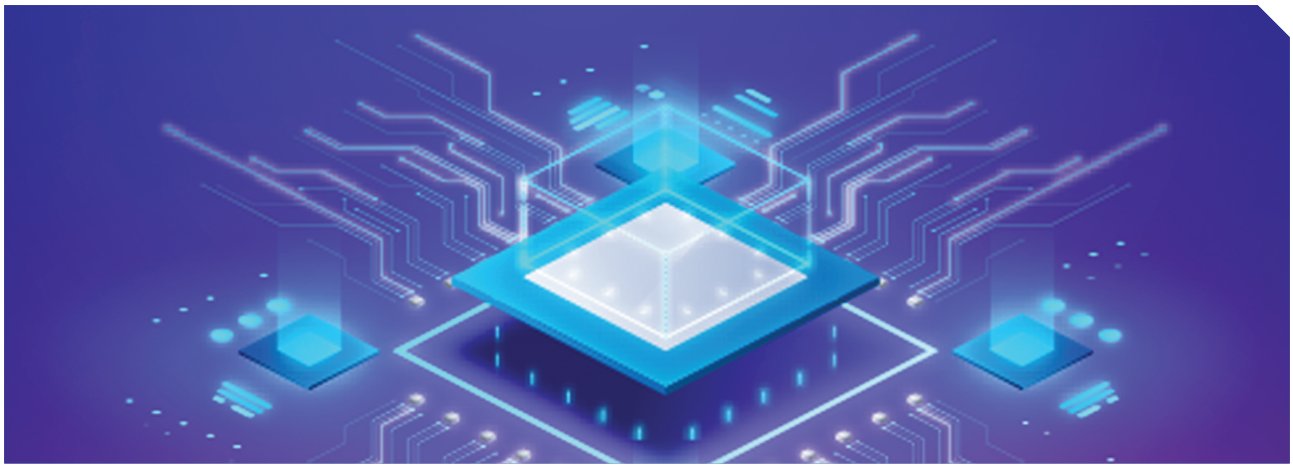
The Industrial Skills Framework (IndSF) document for the Semiconductor industry in Malaysia has been developed to address the evolving skill needs of this critical industry. Malaysia's semiconductor industry plays a pivotal role in the global supply chain, attracting increased attention as multinational companies seek to diversify operations amidst geopolitical uncertainties.

Supported by strategic policies and targeted investments, Malaysia is well-equipped to harness these shifts, capitalising on its strategic location, highly skilled talent pool, and investment-friendly environment[1].

To stay competitive amidst rapid technological advancements and growing global competition, Malaysia's workforce must be equipped with advanced technical skills. This framework provides employers, employees, and training providers with clear guidance on the competencies and training programmes necessary within the Semiconductor sector. With the emergence of Industry 4.0 and transformative technologies like artificial intelligence (AI), 5G, IoT, and electric vehicles (EVs), there is an increasing demand for skilled professionals to enhance productivity and innovation[2].

Workforce development is important when it comes to sustaining Malaysia's position as a global semiconductor hub. Talent development not only supports the transition towards high-value manufacturing but also ensures alignment with evolving global industry standards[3]. The IndSF document for Semiconductor is structured to address current skills gaps while anticipating future demands, enabling Malaysia to remain a leader in this competitive industry.

We would like to express our gratitude to all industry stakeholders, subject matter experts, and government agencies who have contributed to the development of this framework. We hope that this document serves as a valuable resource in shaping a future-ready workforce capable of supporting Malaysia's ambition to become a hub for high-value semiconductor manufacturing and innovation.



Sources:

1. Ministry of Investment, Trade and Industry: National Semiconductor Strategy, published 2024
2. Bank Negara Malaysia, Economic and Monetary Review 2023: Sectoral Contributions and Industry Trends, accessed November 2024
3. World Semiconductor Trade Statistics (WSTS), Global Semiconductor Outlook 2024, published November 2024

ACKNOWLEDGEMENTS

SUBJECT MATTER EXPERTS

We would like to thank all the Subject Matter Experts (SMEs) who have contributed to the development of IndSF Semiconductor.

ORGANISATION

INTEL TECHNOLOGY SDN. BHD.

ADVANCED ENERGY INDUSTRIES MALAYSIA SDN. BHD.

AT&S AUSTRIA TECHNOLOGIE & SYSTEMTECHNIK (M) SDN. BHD.

SMART MODULAR TECHNOLOGIES SDN BHD

MICRON MEMORY MALAYSIA SDN. BHD.

MICRON SEMICONDUCTOR MALAYSIA SDN. BHD.

FOREWORD

DATUK WIRA SHAHUL DAWOOD
Chief Executive,
HRD Corp

2024 marks five years since the introduction of the Industrial Skills Framework (IndSF) by HRD Corp, an initiative aimed at developing key documents that 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 ever-changing 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.

Dato' Seri Wong Siew Hai
President,
Malaysia Semiconductor
Industry Association (MSIA)

Malaysia's electrical and electronics (E&E) industry has long played a pivotal role in driving the nation's economic growth, establishing its position as a global hub for technology and innovation. As the industry continues to evolve, driven by advancements in semiconductor technology and digital transformation, it is crucial that we equip our workforce with the necessary skills and knowledge to remain competitive in this dynamic landscape.

The development of IndSF Semiconductor is a timely and strategic initiative. This framework not only addresses the current needs of the industry but also anticipates the future demands of a sector that is constantly innovating. The framework establishes a structured pathway for continuous upskilling and reskilling, ensuring our workforce remains agile and equipped to support Malaysia's aspirations of becoming a global semiconductor market leader.

At MSIA, we advocate for robust reskilling and upskilling initiatives to equip the workforce with future-ready skills, particularly in areas like Industry 4.0 technologies, AI and automation. Given the fast-evolving nature of the E&E sector, a proactive approach to workforce development is essential to ensure Malaysia remains at the forefront of global innovation and technological
leadership.

Fostering collaboration among training providers, higher education institutions and government agencies to align the curricula with evolving industry needs remains a top priority. Such partnerships are vital to ensure that our talent pipeline is prepared to meet the challenges and opportunities of the future. By aligning education and training programmes with industry requirements, we can build a resilient and adaptable workforce capable of driving sustainable growth.

I commend HRD Corp and all stakeholders involved in this initiative for their efforts in creating a framework that reflects the complexities and opportunities within the E&E industry. I am confident that IndSF will serve as a valuable resource for both employers and employees, helping to drive sustainable growth and innovation in Malaysia's E&E sector. This initiative stands as a testament to our shared commitment to advancing the industry and securing Malaysia's longterm position as a global leader in technology, innovation, and sustainable growth.

GUIDELINES

This document serves as a **GUIDE** for individuals, employers, and training providers on knowledge, experiences, and skills mastery required in the Consruction industry

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

The IndSF Semiconductor 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 Construction Industry

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

The IndSF document and training programmes recommended are not exhaustive and may be **REVIEWED PERIODICALLY** for continuous improvement, parallel with the latest changes within the industry.

ABOUT INDSF

Human Resource Development Corporation (HRD Corp) was established in 1993. As an agency under the Ministry of Human Resources, it is responsible for the collection of levy from key industries and the disbursement of training grants to registered employers through its internal mechanisms 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 level and experience required.

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

1. **Meet the competency requirements of sectors currently covered under the PSMB Act 2001**
2. **Accommodate the needs of in-service workers**
3. **Built upon the National Occupational Skills Standard (NOSS)**
4. **Focus mainly on Level 4 Malaysian Skill Certification or its equivalent and above**
5. **Developed together with the industry and benchmarked against successful framework model(s)**

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

Malaysia's Journey to Semiconductor Excellence

Malaysia's semiconductor industry began its transformative journey in 1972 when Intel established its first overseas production facility on a former paddy field with a USD 1.6 million investment. Despite its modest start, symbolised by future Intel CEO Andy Grove's car getting stuck in the mud during the monsoon, the move set the stage for an industry revolution. Intel's success attracted other multinational corporations like AMD, Hitachi, and Bosch, and later Micron and Infineon. Over time, Malaysia also nurtured its homegrown champions such as Inari, Vitrox and Pentamaster, evolving into a dynamic global and local semiconductor ecosystem.

Surging Demand for Semiconductors Driving Investment

Malaysia's strategic position in the global supply chain continues to attract significant investor confidence, driven by the surging demand for semiconductors powering technologies like AI, electric vehicles, and medical devices. In 2023, the semiconductor industry has led manufacturing investments with RM69.4 billion in approved projects, generating over 11,000 jobs, including high-skilled roles such as engineers and technicians.

However, the industry remains concentrated on back-end processes like outsourced semiconductor assembly and test (OSAT). To strengthen its position, Malaysia aims to move up the value chain by advancing into high-end manufacturing, semiconductor design, advanced OSAT and innovative semiconductor manufacturing equipment.

Approved investments in 2023

RM69.4 billion

Jobs created in 2023

11,000+

Sources:

1. Ministry of Investment, Trade and Industry (MITI). National Semiconductor Strategy 2024.

SECTORIAL INFORMATION

BUSINESS OUTLOOK

Malaysia's Focus on Energy Transition TechnologiesThese

Malaysia is dedicated to advancing its semiconductor industry while acknowledging the challenges of reaching the forefront of chip technology. It aims to emulate the steps of Taiwanese chip giant TSMC's planned capital expenditure of USD 28 to 32 billion for 2024. While it will take time for Malaysia to match such investments, the country is focusing on other areas of the semiconductor value chain, such as supplying power chips for the rapidly growing electric vehicle (EV) market. These chips are essential for energy transition and decarbonisation technologies.

To ensure Malaysia's continued growth in the global EV and semiconductor industries, the country has implemented several strategic initiatives. These initiatives are supported by strong policy frameworks that aim to foster innovation, sustainability and global competitiveness. Two notable initiatives include:

New Industrial Master Plan 2030 (NIMP 2030)

A long-term roadmap designed to transform Malaysia's industrial sector by emphasising innovation, technology adoption and economic diversification, targeting sustainable growth by 2030.

National Energy Transition Roadmap (NETR)

A key policy initiative that focuses on transitioning Malaysia's energy sector towards greener and more sustainable energy sources. NETR aligns with global efforts for decarbonisation and enhances Malaysia's capacity to be a leader in clean energy technologies.

These initiatives are designed to position Malaysia as a leading player in the global EV andsemiconductor markets, providing a conducive environment for growth and innovation inthese sectors.

Sources:

1. Ministry of Investment, Trade and Industry (MITI). National Semiconductor Strategy 2024.

SECTORIAL INFORMATION

BUSINESS OUTLOOK

Malaysia's Renewable Energy Targets and Transition Towards a Green Economy

The Malaysian government has set ambitious targets for renewable energy (RE), aiming for 40% of installed capacity to come from RE by 2035, with an increase to 70% by 2050. To reduce reliance on fossil fuels, Malaysia is exploring new technologies like green hydrogen, nuclear energy, and large-scale energy storage systems. These efforts are part of a broader strategy to transition to a high-value green economy, as outlined in the National Energy Transition Roadmap (NETR). This roadmap requires a collaborative approach from the federal and state governments, industry stakeholders, the general public and international partners.

Malaysia's Renewable Energy Targets and Transition Towards a Green Economy A key part of NETR includes the introduction of third-party access (TPA) to the national electricity grid, which will begin in September 2024. This programme will allow renewable energy developers to directly supply electricity to customers using existing transmission lines, reflecting a growing interest of foreign investors in Malaysia's energy sector.

The Semiconductor Ecosystem in Malaysia

ECOSYSTEM

- Malaysia is the 6th largest semiconductor exporter.
- More than 50 years in assembly, testing and packaging (ATP).
- MNCs has made Malaysia a base, further reinforcing the country's semiconductor ecosystem.

INCENTIVES

- Pioneer status
- Investment tax allowance
- Import duty exemption
- Incentives for strategic projects
- Reinvestment allowance

INFRASTRUCTURES

- Kulim Hi-Tech Park
- Bayan Lepas Industrial Zone
- Batu Kawan Industrial Zone
- World class international airports & seaports

TALENTS

- Highly educated and multilingual workforce.
- Strong pipeline of STEM graduates from top universities and TVET institutions.
- Skilled and adaptable workforce with expertise in semiconductor manufacturing, R&D and advanced packaging.

RESEARCH INSTITUTIONS & UNIVERSITIES

- Research Institutions: CREST, MIMOS, PSDC, MSIA
- Public Universities: UM, USM, UKM, UTM, UNIMAP

Sources:

1. Ministry of Investment, Trade and Industry (MITI). National Semiconductor Strategy 2024.

LEVY UTILISATION RATE

The figures presented illustrate the Levy Utilisation Rate for the semiconductor industry. These numbers provide insights into the amount of levy reimbursed and the volume of training conducted within this sector. They serve as a key indicator of how effectively levy funds are being utilised to support skill development and capacity building in the semiconductor industry.

	ELECTRICAL & ELECTRONICS	TOTAL
01	Registered Employers (Cumulative data up to June 2024)	1,523
02	Registered Employees (Cumulative data up to June 2024)	347,134
03	Total Levy Collection (Jan 2023 - June 2024)	229,257,853
04	Total Levy Claim (RM) (Jan 2023 - June 2024)	219,687,892
05	Levy Utilisation Rate (%) Average across all subsectors (Jan 2023 - June 2024)	65.16%
06	Financial Assistance Approved (RM) (Jan 2023 - June 2024)	258,475,678
07	Training Places Approved (Jan 2023 - June 2024)	365,716
08	Trainees Trained (Jan 2023 - June 2024)	134,012

Sources:

1. Source: HRD Corp Internal Data as of June 2024

TOP 5 SKILLS AREA

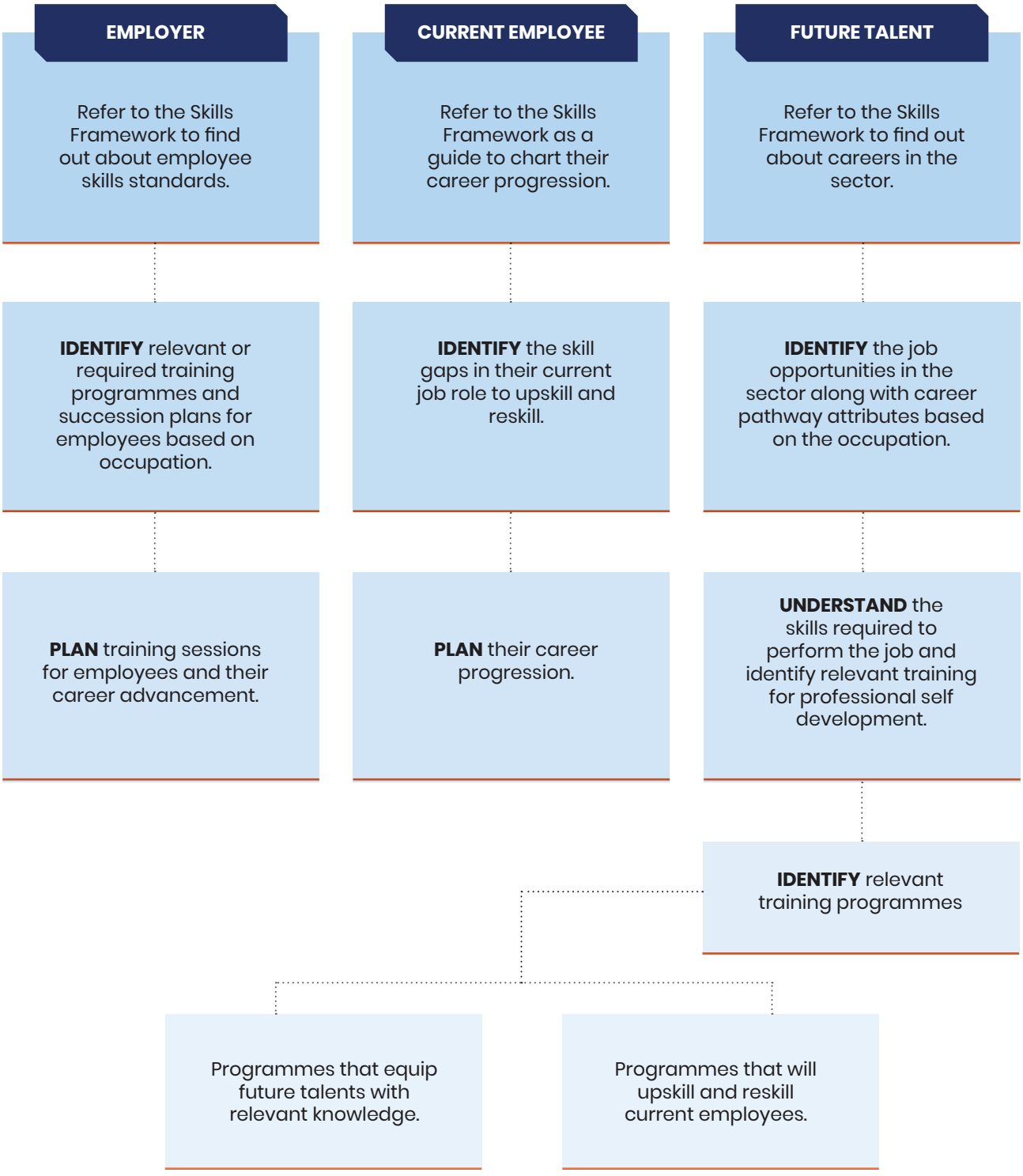
The top skills areas of training subscribed between 2021 and 2023 highlight key priorities within the semiconductor industry. Over these three years, Safety and Health consistently emerged as one of the most trained areas, reflecting the critical importance of maintaining a safe and compliant working environment in an industry that operates with complex processes and sensitive technologies. This trend underscores the industry's commitment to ensuring the well-being of its workforce while adhering to stringent safety standards, which are essential for sustaining operational efficiency and productivity.

Sources:

1. Source: HRD Corp Internal Data as of June 2024

WAY FORWARD

Take the next step to be a part of the Semiconductor Industry by leveraging the following Skills Framework:



Lifelong learning to fulfill existing and emerging demands of the industry.

MALAYSIAN OCCUPATIONAL SKILLS QUALIFICATION FRAMEWORK (MOSQF)
LEVEL DESCRIPTORS

01	Competent in performing a range of varied work activities, most of which are routine and predictable.
02	Competent in performing a significant range of varied work activities in diverse contexts. Activities may be non-routine and require individual responsibility and autonomy.
03	Competent in performing a broad range of varied work activities in diverse contexts, most of which are complex and non-routine. There is considerable responsibility and autonomy. Control or guidance of others is often required.
04	Competent in performing a broad range of complex technical or professional work activities in various contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and allocation of resources is often present. Should possess a higher level of technical skills.
05	Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Requires very substantial personal autonomy and significant responsibility for the work of others. Must be able to perform substantial resource allocation. Able to demonstrate personal accountability for analysis and diagnosis, design, planning, execution and evaluation. Requires specialisation in particular technical skills area.
06	Achievement at this level reflects the ability to refine and use relevant understanding, methods and skills to address complex problems with limited definitions. It includes taking responsibility for planning and developing courses of action that reflect substantial change or development, as well as exercising broad autonomy and judgment. It also reflects an understanding of different perspectives, approaches of schools of thought and the theories that underpin them.
07	Achievement at this level reflects the ability to reformulate and use relevant understanding, methodologies and approaches to address problematic situations that involve many interacting factors. It includes taking responsibility for planning and developing courses of action that reflect substantial change or development, as well as exercising broad autonomy and judgment. It also demonstrates an understanding of theoretical and relevant methodological perspectives and how they affect their sub-area of study or work.
08	Achievement at this level reflects the ability to develop original understanding, including within a sub-area of knowledge or professional practice. It reflects the ability to address problematic situations that involve many complexities and interacting factors through initiating, designing and undertaking research, development or strategic activities. It involves exercising broad autonomy, judgment, and leadership when it comes to sharing responsibilities during the development of a field of work or knowledge or when creating substantial professional or organisational change. Italso reflects a critical understanding of relevant theoretical and methodological perspectives and how they affect the field of knowledge or work.

REQUIRED COMPETENCY LEVEL (RCL)

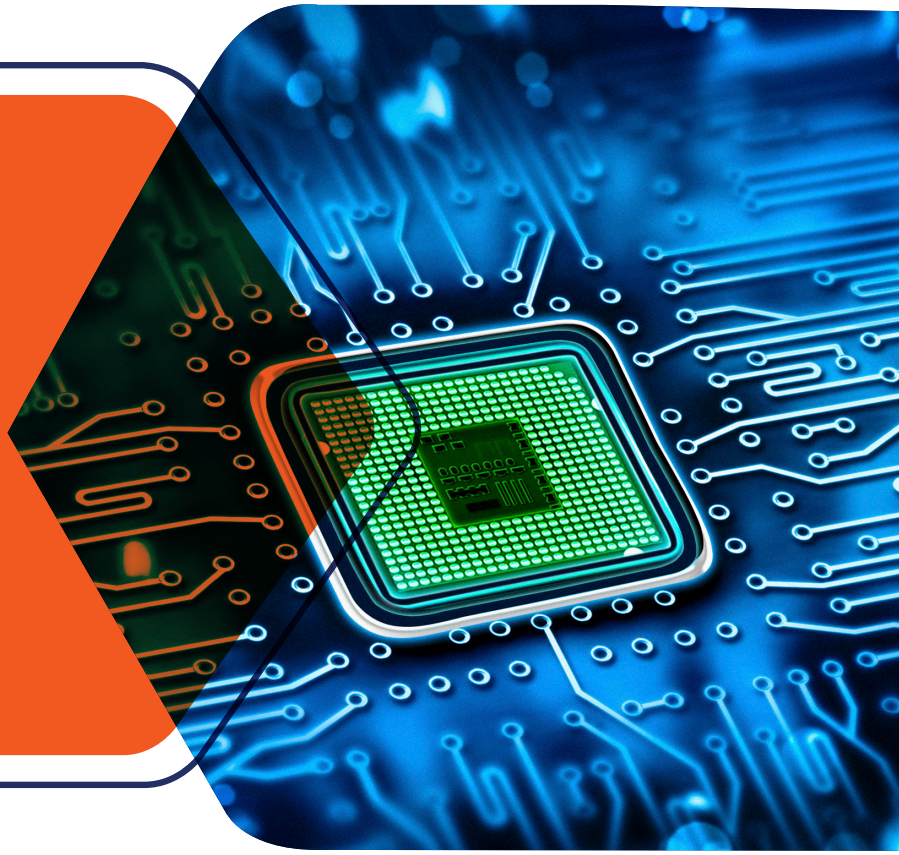
NONE	BASIC	INTER	ADVANCED	EXPERT
Conceptual Knowledge	Basic Level of Conceptual Knowledge	Intermediate Level of Conceptual Knowledge	Advanced Level of Conceptual Knowledge	Expert Knowledge in Conceptual Topic or Set of Topics
0	1	2	3	4
Applied Knowledge SKILLS	Basic Level of Applied Knowledge + Initial Practical Application	Intermediate Level of Conceptual Knowledge + Practical Application	Advanced Level of Conceptual Knowledge + Practical Application	Expert Level of Applied Knowledge + Practical Application + Repetition

Learning Divide

Time + Repetition Divide

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

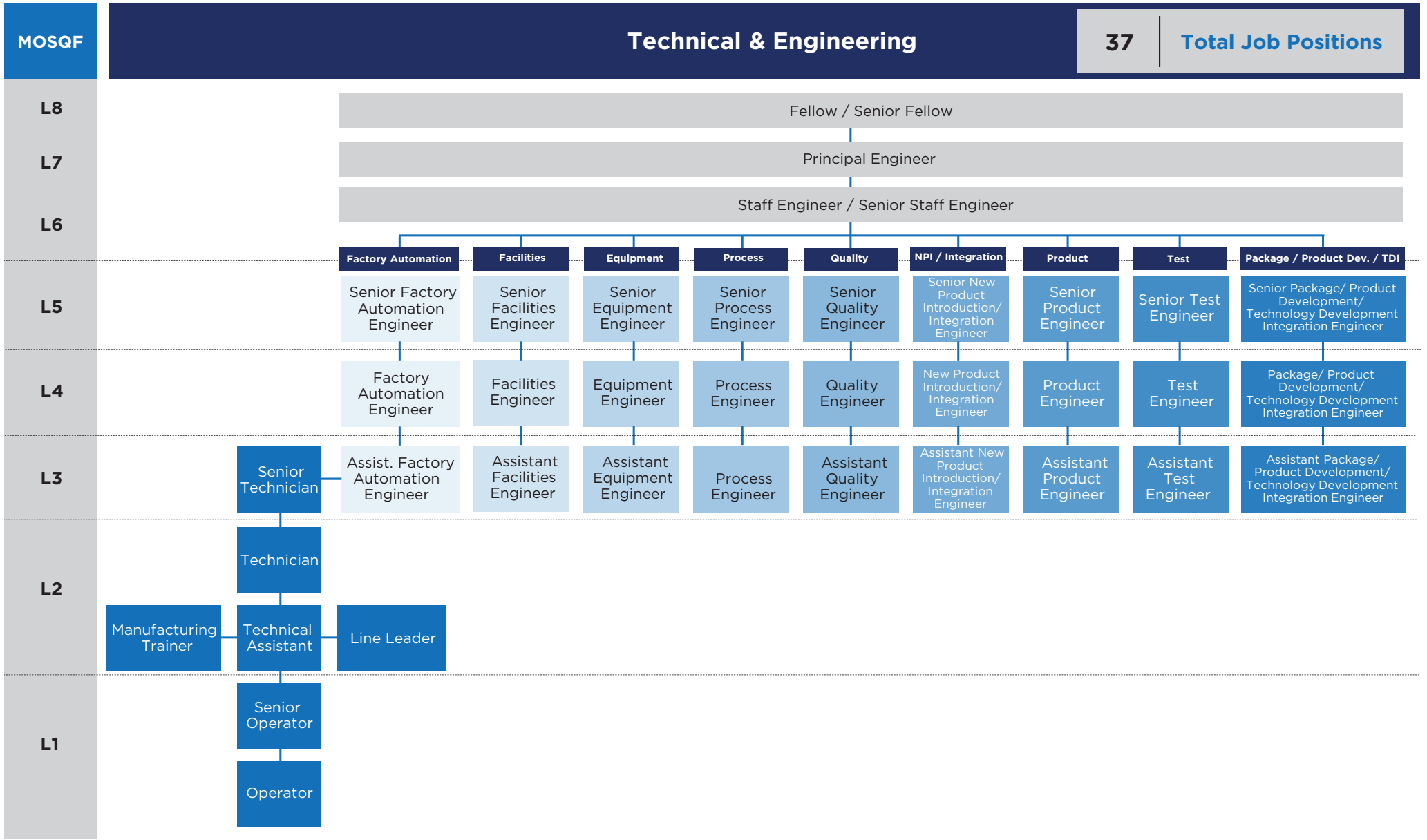


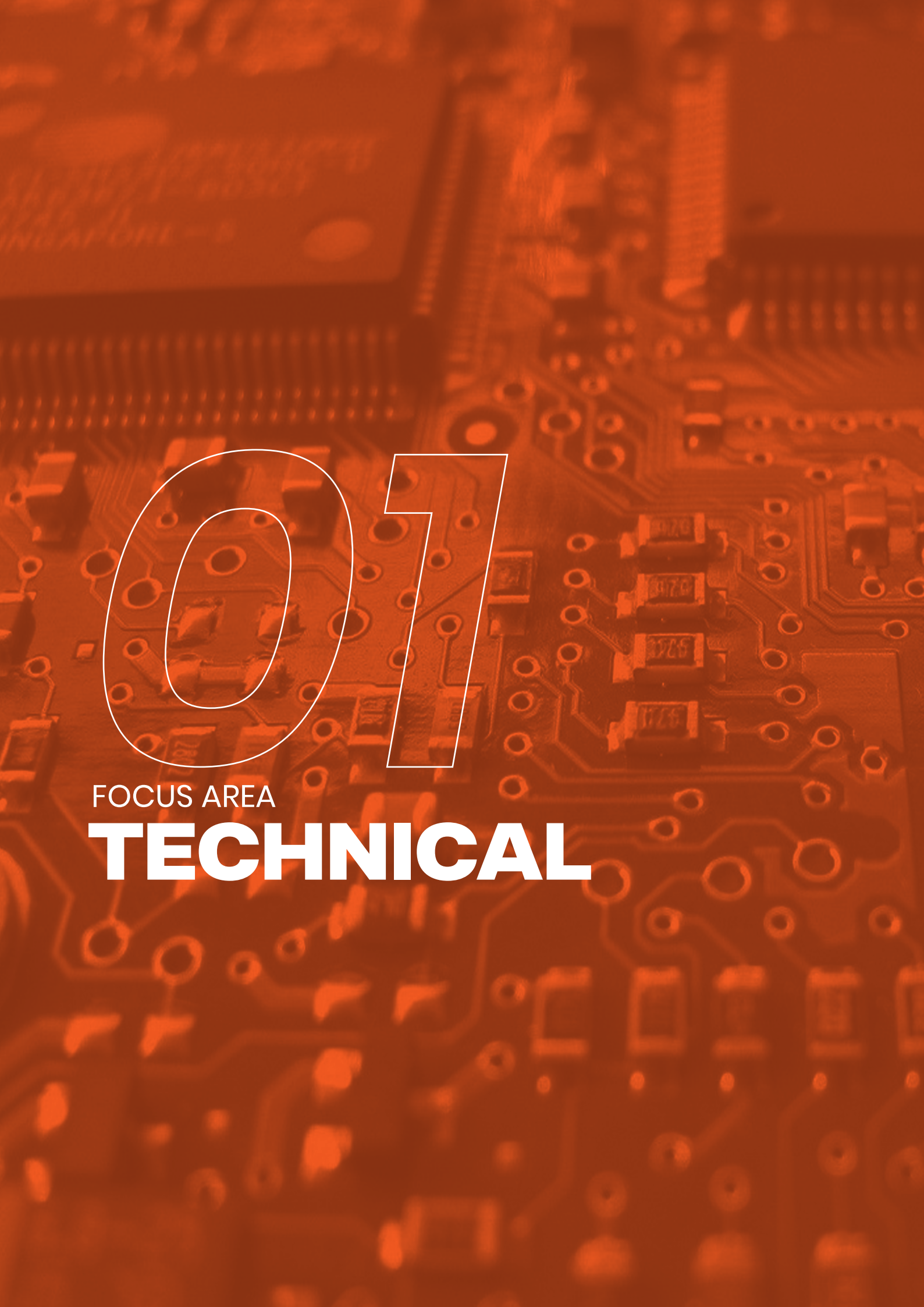
TECHNICAL

- 7 Job Positions
- 26 Skills (Soft & Technical)
- 39 Recommended Training

ENGINEERING

- 30 Job Positions
- 110 Skills (Soft & Technical)
- 175 Recommended Training


MOSQF
Technical & Engineering
37
Total Job Positions
L8
L7
L6
L5
L4
L3
L2
L1
Fellow / Senior Fellow
Principal Engineer
Staff Engineer / Senior Staff Engineer
Factory Automation
Facilities
Equipment
Process
Quality
NPI / Integration
Product
Test
Package / Product Dev. / TDI
Senior Factory Automation Engineer
Senior Facilities Engineer
Senior Equipment Engineer
Senior Process Engineer
Senior Quality Engineer
Senior New Product Introduction/ Integration Engineer
Senior Product Engineer
Senior Test Engineer
Senior Package/ Product Development/ Technology Development Integration Engineer
Factory Automation Engineer
Facilities Engineer
Equipment Engineer
Process Engineer
Quality Engineer
New Product Introduction/ Integration Engineer
Product Engineer
Test Engineer
Package/ Product Development/ Technology Development Integration Engineer
Senior Technician
Assist. Factory Automation Engineer
Assistant Facilities Engineer
Assistant Equipment Engineer
Process Engineer
Assistant Quality Engineer
Assistant New Product Introduction/ Integration Engineer
Assistant Product Engineer
Assistant Test Engineer
Assistant Package/ Product Development/ Technology Development Integration Engineer
Technician
Manufacturing Trainer
Technical Assistant
Line Leader
Senior Operator
Operator

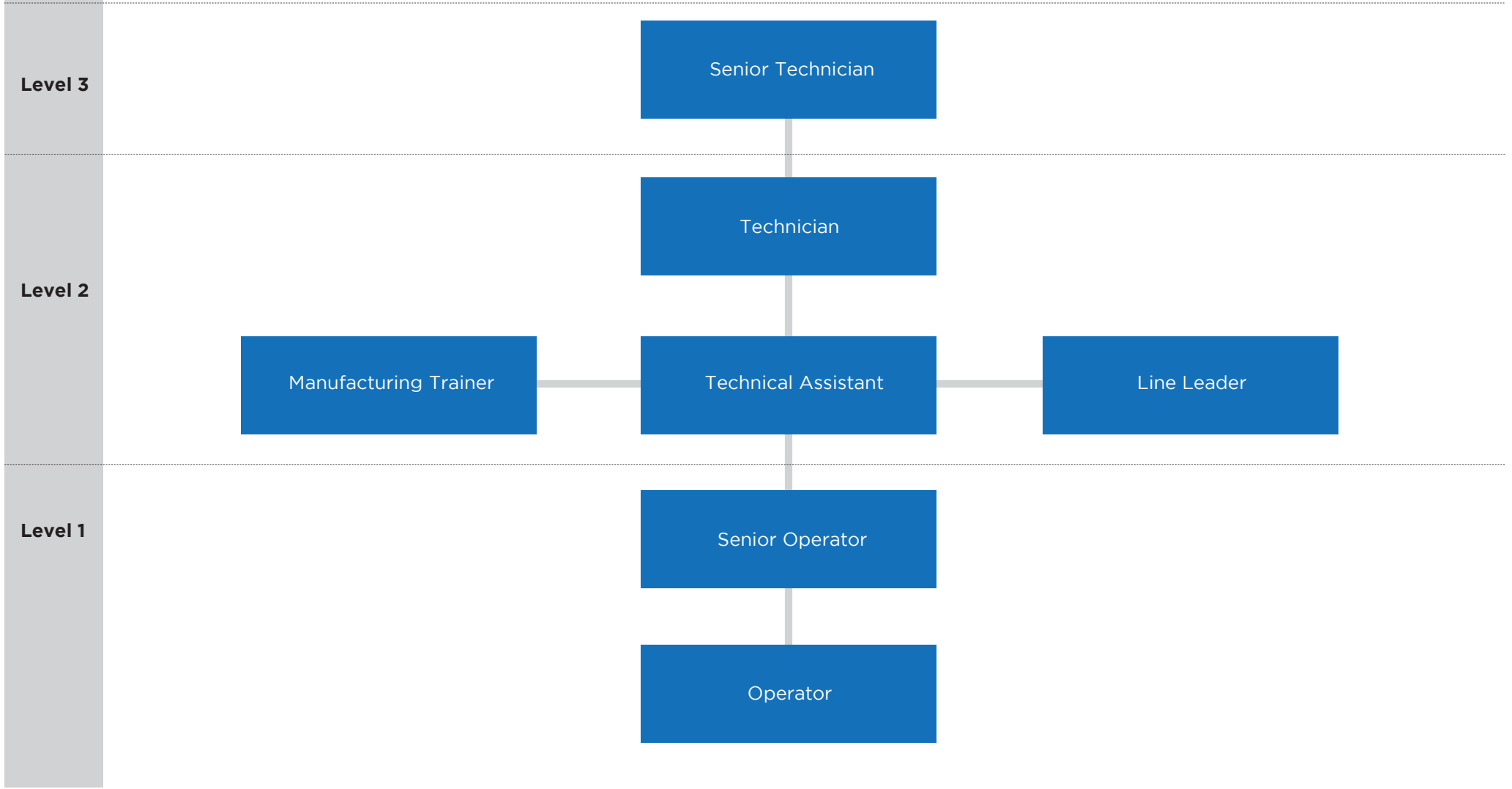


01

FOCUS AREA

TECHNICAL

MOSQF	Technical & Engineering	7	Total Job Positions



Focus Area: Technical	
Job Title: Operator	**Level (MOSQF) :1**

Job Description

The Operator manages machines and performs operational housekeeping work while adhering closely to standard work instructions and organisational procedures in a cleanroom environment. This role operates machines in accordance with operational procedures. The Operator conforms to management system requirements by ensuring that products and processes meet quality standards. The Operator contributes to productivity improvements and is responsible for taking the initiative to implement corrective action.

Responsibilities:
- Operate automated robots and system.
- Maintain cleanliness of machines during and after each shift.
- Operate network interface to monitor machines.
- Correct product or process to meet quality standards.
- Keep records of defective final products.
- Take initiative to seek opportunities for improvement and support the corrective action.

Pre-Requisites:
- Sijil Pelajaran Malaysia (SPM)
- Sijil Vokasional Malaysia (SVM)

Soft Skills	Competency Level (RCL)	Recommended Training
Communication	1	• Communication skills
Digital literacy	1	• Introduction of digital literacy
Lifelong learning	1	• Growth mindset
Problem solving	1	• Problem solving skills
Teamwork	1	• Team effectiveness

Technical Skills	Competency Level (RCL)	Recommended Trainings
Automated operation monitoring	1	• Safety and compliance operational standard operating procedures
Good manufacturing practices	1	• Do(s) and Don't(s) In Manufacturing (MFG)
5S or cleanroom practices / ESD	1	• Overview of 5S / cleanroom / ESD
Quality control and assurance	1	• Introduction of quality mindset
Health and safety knowledge	1	• Safety at workplace • OSHA
Machine programming	1	• Electronic programming

Focus Area: Technical	
Job Title: Senior Operator	**Level (MOSQF) : 1**

Job Description

The Senior Production Operator will be responsible for overseeing and managing the production processes in our semiconductor manufacturing facility. This role requires a deep understanding of semiconductor production, strong technical skills, and the ability to lead and train junior operators.

Responsibilities:

- Operate and monitor semiconductor production equipment to ensure optimal performance and output.
- Ensure compliance with health, safety and quality standards in all production activities.
- Train and mentor junior production operators, providing guidance and support.
- Adhere to manufacturing or cleanroom protocols and maintain a clean and organised work environment.
- Perform routine maintenance and troubleshooting on production machinery.

Pre-Requisite:

- Sijil Pelajaran Malaysia (SPM)
- Sijil Vokasional Malaysia (SVM)
- Minimum 1-2 years of experience.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Communication	2	• Communication skills
Digital literacy	1	• Introduction of digital literacy
Lifelong learning	1	• Growth mindset
Problem-solving	1	• Problem-solving skills
Teamwork	1	• Team effectiveness
Supervisory skills	1	• Basic supervisory

Technical Skills	Competency Level (RCL)	Recommended Trainings
Automated operation monitoring	1	• Safety and compliance • Operational Standard Operating Procedures
Good manufacturing practices	1	• Do(s) & Don't(s) in MFG
5S / Cleanroom Practices/ ESD	1	• Overview of 5S / Cleanroom / ESD
Quality control and assurance	1	• Introduction of quality mindset
Health and safety knowledge	1	• Safety at the workplace • OSHA
Machine programming	1	• Electronic programming

Focus Area: Technical	
Job Title: Line Leader	**Level (MOSQF) : 2**

Job Description

The Line Leader oversees the manufacturing process, ensuring that production goals are met efficiently and safely. This role responsible for coordinating a team of operators, managing schedules, maintaining equipment and ensure adherence to quality standards and may be involved in troubleshooting and resolving production issues.

Responsibilities:

- Raise manufacturing IT tickets and following up for closure.
- Report back to the supervisor for safety and quality escalation or issues.
- Ensure quality or SOP compliance and pass down relevant information when needed.
- Certified in multiple operations and provide technical assistance to process development and engineering personnel.
- Play a mentoring role to fellow team members and take up leadership or trainer roles as required.

Pre-Requisite:

- Sijil Pelajaran Malaysia (SPM) / Sijil Vokasional Malaysia (SVM) / STPM (and equivalent) / Diploma
- 3 - 5 years of experience and above.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Communication	2	• Communication skills
Digital literacy	2	• Introduction of digital literacy
Lifelong learning	1	• Growth mindset
Problem solving	1	• Problem-solving skills
Teamwork	1	• Team effectiveness
Supervisory skills	1	• Basic supervisory

Technical Skills	Competency Level (RCL)	Recommended Trainings
Automated operation monitoring	1	• Safety and Compliance • Operational Standard Operating Procedures
Good manufacturing practices	1	• Do(s) & Don't(s) In MFG
5S / Cleanroom Practices / ESD	1	• Overview of 5S / Cleanroom / ESD
Quality control and assurance	1	• Introduction of Quality Mindset • ISO9001 Basic Awareness
Health and safety knowledge	1	• Safety at workplace • OSHA
Machine programming	1	• Electronic programming

Focus Area: Technical	
Job Title: Technical Assistant	**Level (MOSQF) : 2**

Job Description

The Technical Assistant is responsible for supporting the engineering and manufacturing processes within the semiconductor industry. This role involves assisting in the setup and maintenance of semiconductor manufacturing equipment, ensuring quality control, and contributing to process improvements.

Responsibilities:

- Assist in the setup, calibration, and maintenance of semiconductor manufacturing equipment.
- Monitor and adjust production processes or equipment for quality and productivity.
- Prepare and maintain detailed documentation, including reports, logs, and records of equipment maintenance and repairs.
- Collaborate with engineers and other manufacturing staff to troubleshoot and resolve technical issues.
- Provide technical support for manufacturing operations, including tool and jig enhancement.

Pre-Requisite:

- Sijil Kemahiran Malaysia (SKM) / Sijil Vokasional Malaysia (SVM) / STPM (and equivalent) / Diploma in Engineering, Science, Physics or equivalent.
- Minimum 1 - 2 years of experience.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Communication	2	• Communication skills
Digital literacy	2	• Introduction of digital literacy
Lifelong learning	1	• Growth mindset
Problem solving	1	• Problem-solving skills
Teamwork	1	• Team effectiveness

Technical Skills	Competency Level (RCL)	Recommended Trainings
Automated operation monitoring	2	• Safety and compliance • Operational standard operating procedures
Continuous process improvement	2	• Lean manufacturing
Data synthesis	2	• Statistical process control / fault detection control • Basic Excel (Include Macro's) • Minitab or JMP
Equipment Maintenance	2	• Equipment standard operating procedures
Quality Control and Assurance	2	• Introduction of quality mindset • ISO9001 Basic Awareness
5S / Cleanroom Practices / ESD	2	• Overview of 5S / Cleanroom/ ESD
Health & Safety knowledge	2	• Safety at workplace • OSHA
Basic Pneumatics and Electrician	2	• Basic Pneumatics and Electrician Foundation

Focus Area: Technical	
Job Title: Manufacturing Trainer	**Level (MOSQF) : 2**

Job Description

The Manufacturing Trainer is responsible for developing and delivering training programs to enhance the skills and knowledge of our manufacturing staff. This role requires a deep understanding of semiconductor manufacturing processes and equipment, as well as excellent communication and teaching abilities.

Responsibilities:
- Develop and implement training programs.
- Facilitate classroom and hands-on training sessions to ensure employees are proficient in manufacturing processes and equipment operation.
- Keep accurate records of all training activities, including attendance, assessments, and certifications.
- Work closely with engineering, production, and quality teams to identify training needs and develop customised training solutions.

Pre-Requisite:
- Diploma in Engineering, Manufacturing, Science, Physics or equivalent.
- Minimum 5 years and above.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Communication	2	• Communication training
Presentation skills	2	• Presentation skills
Digital literacy	2	• Introduction of digital literacy
Lifelong learning	2	• Growth mindset
Problem solving	2	• Problem solving skills
Teamwork	2	• Team effectiveness

Technical Skills	Competency Level (RCL)	Recommended Trainings
Microsoft Office	2	• Microsoft Training • Basic Excel (Inclusive of Macro's)
Automated operation monitoring	1	• Safety and compliance • Operational standard operating procedures
Continuous process improvement	1	• Lean manufacturing
Data synthesis	1	• Statistical process control
Quality control and assurance	1	• Introduction of Quality Mindset • ISO9001 Basic Awareness
5S / Cleanroom practices / ESD	1	• Overview of 5S / Cleanroom / ESD
Health and safety knowledge	1	• Safety at workplace • OSHA

Focus Area: Technical	
Job Title: Technician	**Level (MOSQF) : 2**

Job Description

The Technician is responsible to performs routine maintenance work on the equipment and/or facilities and recommends equipment set-up improvements in accordance with work disposition records. This is responsible for controlling and monitoring maintenance processes for issues in accordance with organisational requirements. The Technician contributes to productivity improvements and is responsible for taking the initiative to implement corrective action.

Responsibilities:

- Perform maintenance work – routine preventive maintenance, troubleshooting and process control of automated systems. Conduct routine equipment cleaning and inspection activities.
- Control Maintenance Process and Manufacturing Issues - Interpret information provided by the network and/or dashboard for machine monitoring. Monitor process control automation to reduce process variations.
- Conform to Management System Requirements - Record equipment performance in assigned lines. Suggest improvements in equipment set-up.
- Contribute to Continuous Improvement - Keep records of defective final products. Take initiative to seek opportunities for improvements and implement corrective action.

Pre-Requisites:

- Diploma or Advanced/Higher/Graduate Diploma in Engineering (Mechanical), Engineering (Mechatronic/Electromechanical), Engineering (Electrical/Electronic) or equivalent

Soft Skills	Competency Level (RCL)	Recommended Trainings
Communication	2	• Communication skills
Digital literacy	2	• Introduction of digital literacy
Lifelong learning	2	• Growth mindset
Problem solving	2	• Problem solving skills
Teamwork	2	• Team effectiveness
Time management	2	• Time management skills

Technical Skills	Competency Level (RCL)	Recommended Trainings
Automated operation monitoring	2	• Safety and compliance • Operational Standard Operating Procedures
Continuous process improvement	2	• Lean manufacturing
Data synthesis	2	• Statistical process control
Microsoft office	2	• Basic Excel
Quality control and assurance	2	• Introduction of Quality Mindset • ISO9001 Basic Awareness
PLCs, motors, and control systems.	2	• Basic Process Logic Control (PLC) & Electrical & Electronic knowledge
5S / Cleanroom practices / ESD	2	• Overview of 5S / Cleanroom / ESD
Health and safety knowledge	2	• Safety at workplace • OSHA
Basic pneumatics and electrician	2	• Basic Pneumatics and Electrician foundation

Focus Area: Technical	
Job Title: Senior Technician	**Level (MOSQF) : 3**

Job Description

The Senior Technician must have a strong background in semiconductor manufacturing processes, equipment maintenance, and quality control. This role will oversee the installation, maintenance, and repair of complex electrical and electronic systems and equipment. This role requires strong technical expertise, leadership skills, and the ability to mentor junior technicians.

Responsibilities:

- Perform shift duties to support the running of production in the module and ensure equipment readiness and worthiness for production.
- Operate machines that fabricate and test semiconductor devices, inspect products for defects, and package finished products.
- Perform scheduled preventive maintenance (PM) and calibration on a timely basis.
- Assist engineers in the installation and hook-up of new equipment.
- Troubleshoot and resolve issues with semiconductor manufacturing equipment and processes.
- Lead the installation, maintenance, and repair of electrical and electronic systems and equipment.
- Provide technical guidance and mentorship to junior technicians.

Pre-Requisites:

- Diploma or Advanced/Higher/Graduate Diploma in Engineering (Mechanical), Engineering (Mechatronic/Electromechanical), Engineering (Electrical/Electronic) or equivalent
- Minimum 5 years of relevant working experience.

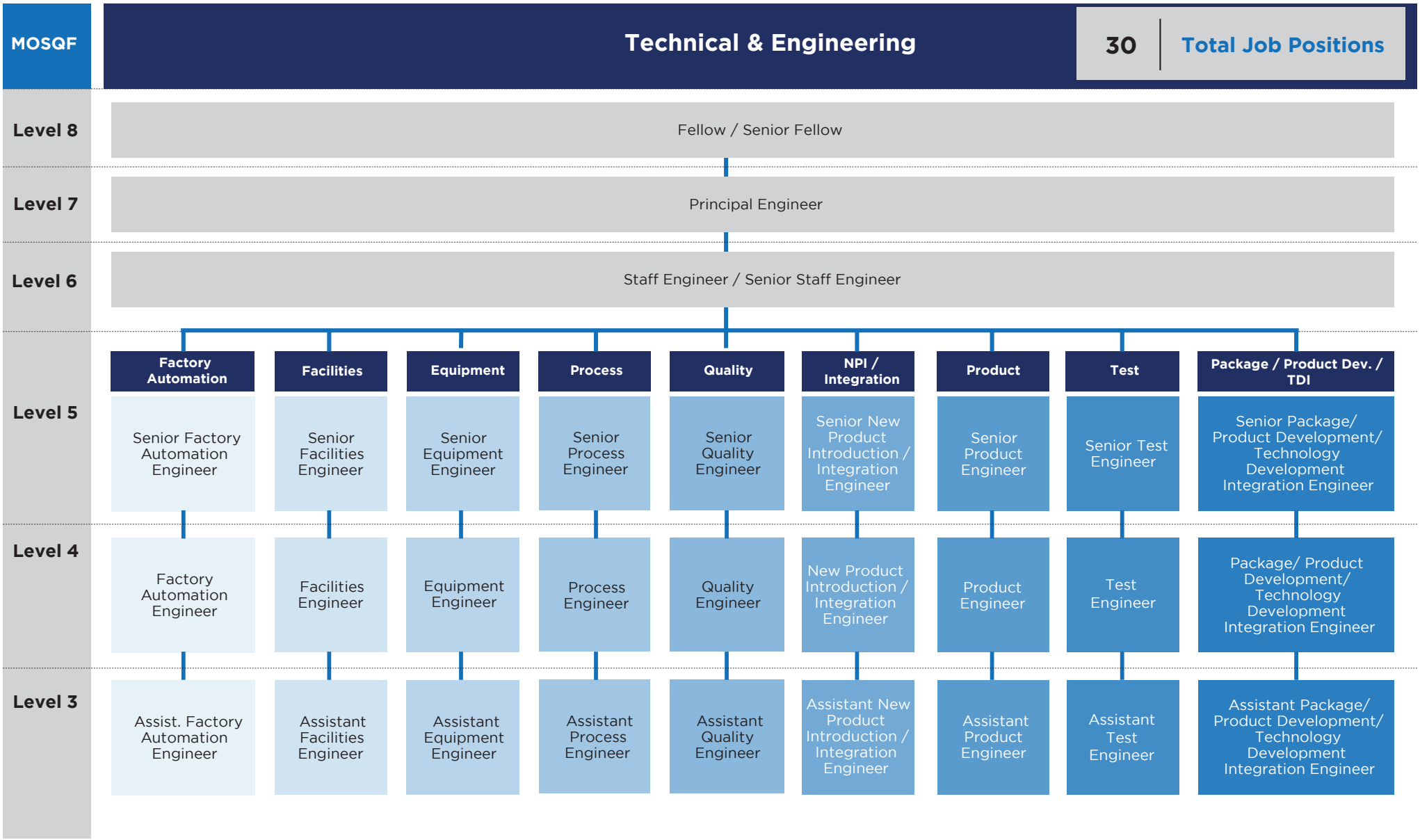
Soft Skills	Competency Level (RCL)	Recommended Trainings
Communication skills	2	• Communication skills • Microsoft training
Digital literacy	2	• Introduction of digital literacy
Lifelong learning	2	• Growth mindset
Problem solving	2	• Basic troubleshooting and problem-solving skills
Teamwork	2	• Team effectiveness
Leadership skills	2	• Leadership skills
Details orientated	2	• On-the-job training

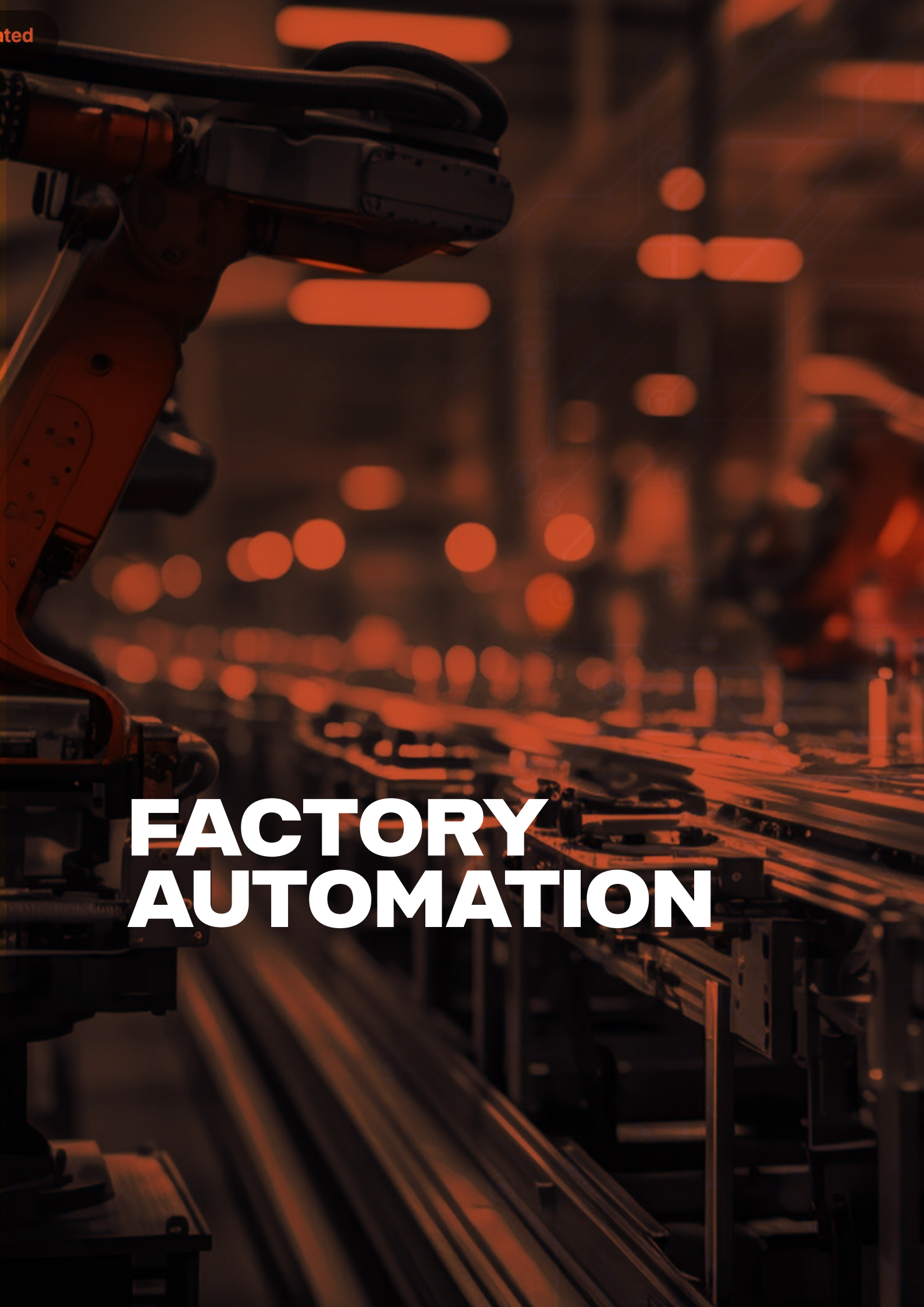
Technical Skills	Competency Level (RCL)	Recommended Trainings
Automated operation monitoring	2	• Safety and compliance • Operational Standard Operating Procedures
Continuous process improvement	2	• Lean manufacturing
Data synthesis	2	• Statistical process control
Microsoft office	2	• Basic Excel (Include Macro's)
Quality control and assurance	2	• Introduction of Quality Mindset • ISO9001 Basic Awareness
5S / Cleanroom practices / ESD	2	• Overview of 5S / Cleanroom / ESD
PLCs, motors, and control systems.	2	• Basic Process Logic Control (PLC) & Electrical & Electronic knowledge
Health and safety knowledge	2	• Safety at the workplace • OSHA
Troubleshooting or debugging	2	• Intermediate troubleshooting and debugging techniques for electrical systems

02

FOCUS AREA

ENGINEERING


MOSQF
Technical & Engineering
30
Total Job Positions
Level 8
Fellow / Senior Fellow
Level 7
Principal Engineer
Level 6
Staff Engineer / Senior Staff Engineer
Level 5
Level 4
Level 3
Factory Automation
Facilities
Equipment
Process
Quality
NPI / Integration
Product
Test
Package / Product Dev. / TDI
Senior Factory Automation Engineer
Senior Facilities Engineer
Senior Equipment Engineer
Senior Process Engineer
Senior Quality Engineer
Senior New Product Introduction / Integration Engineer
Senior Product Engineer
Senior Test Engineer
Senior Package/ Product Development/ Technology Development Integration Engineer
Factory Automation Engineer
Facilities Engineer
Equipment Engineer
Process Engineer
Quality Engineer
New Product Introduction / Integration Engineer
Product Engineer
Test Engineer
Package/ Product Development/ Technology Development Integration Engineer
Assist. Factory Automation Engineer
Assistant Facilities Engineer
Assistant Equipment Engineer
Assistant Process Engineer
Assistant Quality Engineer
Assistant New Product Introduction / Integration Engineer
Assistant Product Engineer
Assistant Test Engineer
Assistant Package/ Product Development/ Technology Development Integration Engineer


FACTORY
AUTOMATION

Focus Area: Engineering	Sub Focus Area: Factory Automation
Job Title: Assistant Factory Automation Engineer	Level (MOSQF) : 3

Job Description

The Assistant Factory Automation Engineer is responsible to support the design, implementation, and maintenance of automation systems within a manufacturing environment. This role involves working closely with engineers and senior engineers to enhance production efficiency, ensure the reliability of automation equipment, and contribute to continuous improvement initiatives. This role involves troubleshooting automation issues, safety, quality standards and ensuring the seamless integration of new technologies.

Responsibilities:

- Assist in the design and implementation of automation systems and solutions.
- Provide technical support to production staff for automation-related problems.
- Support the modification of Programmable Logic Controller (PLC) programs.
- Participate in R&D projects to develop innovative automation solutions.
- Assist in researching new automation tools and techniques to enhance manufacturing processes.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Problem-solving	2	• Effective problem-solving skills
Communication	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Adaptability	2	• Continuous learning • Change management
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Basic understanding programming knowledge	2	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB (Either basic or intermediate) • AES or MES • *Whichever applicable
Understanding testing instrumentation and methodologies	2	• Introduction to electrical & electronics testing techniques • Visual inspection and analysis
Safety awareness	2	• Safety at the workplace • 6S • HIRARC • LOTO
Understanding of the data	2	• Data analysis for Electrical & Electronic Engineers
Basic level troubleshooting	2	• Basic troubleshooting techniques for electrical systems
Documentation and reporting	2	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	2	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Knowledge on Quality Management System (QMS)	2	• Relevant ISO-related training
Electrostatic Discharge (ESD)	3	• Electrostatic discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Factory Automation
Job Title: Factory Automation Engineer	**Level (MOSQF) : 4**

Job Description

The Factory Automation Engineer is responsible in designing, implementing, and maintaining automated systems in manufacturing environments. This role optimises production processes through the integration of automated machinery, robotics, and control systems to improve efficiency, reduce downtime, and enhance overall productivity. This position requires a deep understanding of automation technologies, industrial control systems, and the ability to troubleshoot and innovate in a dynamic manufacturing setting.

Responsibilities:

- Develop and set up for automation process, test equipment, fixtures, and procedures.
- Conduct tests on components, subassemblies, or complete products according to automation plans.
- Analyse test data and observations and identifying trends or anomalies.
- Conduct troubleshooting of test failures and equipment issues.
- Prepare reports and documentation.
- Continuously expand knowledge of engineering principles and methodologies.
- Oversee multiple integration projects from initiation to completion, ensuring deadlines are met and solutions are delivered within scope and budget.

Pre-Requisites:

- Minimum degree in Engineering or Science, or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Microelectronic Engineering, Mechanical Engineering, or a related field.
- 0-5 years of experience in process engineering, manufacturing, or a related field.
- Proficiency in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace communication skills
Team collaboration	3	• Effective team communication and collaboration
Adaptability	3	• Continuous learning • Change management
Time management	3	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Programming knowledge	3	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable
AI software tools	3	• Power BI • Power Automate • Power Apps • UI Path
Knowledge of hardware automation	3	• Process and equipment
Safety awareness	3	• Safety at the workplace • 6S • HIRARC • LOTO
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Intermediate-level troubleshooting	3	• Intermediate troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	3	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Project management	3	• Fundamentals of project management
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Factory Automation
Job Title: Senior Factory Automation Engineer	**Level (MOSQF) : 5**

Job Description

The Senior Factory Automation Engineer leads the design, implementation, and continuous improvement of automated systems within manufacturing environments. This senior-level role will focus on developing strategic automation solutions to optimise production lines, ensuring integration of advanced robotics, control systems, and IoT technologies for maximum efficiency. This role provides technical leadership to mentor junior engineers and collaborate closely with cross-functional teams to drive innovation, reduce operational downtime, and improve overall productivity.

Responsibilities:

- Lead the design, programming, and integration of complex automated machinery and robotics, ensuring seamless communication between control systems and equipment.
- Diagnose complex issues in automated systems and implement sustainable solutions to minimise production disruptions.
- Oversee automation projects from conception to completion, including budgeting, resource allocation, and timeline management, while ensuring adherence to safety and quality standards.
- Ensure all automated systems comply with industry regulations and safety standards, conducting regular audits and risk assessments.
- Utilise data analytics and IoT-based monitoring to optimise machine performance, reduce downtime, and enhance overall system efficiency.
- Drive multiple integration projects from initiation to completion, ensuring deadlines are met and solutions are delivered within scope and budget.

Pre-Requisites:

- Minimum Degree or equivalent in Electrical & Engineering, Mechatronics Engineering, Mechanical Engineering, or a related field.
- 5-10 years of experience in process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving	4	• Effective problem-solving skills
Communication	4	• Effective workplace communication skills • Business communication
Team collaboration	4	• Effective team communication and collaboration

Soft Skills	Competency Level (RCL)	Recommended Trainings
Adaptability	4	• Continuous learning • Change management
Time management	4	• Managing time at the workplace
Presentation skills	4	• Presentation skills training
Conflict resolution	4	• Conflict management and resolution
Project management	4	• Project management training • PMP/PMI
Leadership skills	4	• Self-mastery • Leadership training • Leading a team
Coaching skills	4	• Coaching a team
Influencing skills	4	• Effective persuasion techniques • Negotiation skills

Technical Skills	Competency Level (RCL)	Recommended Trainings
Programming skills	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable
AI software tools	4	• Power BI • Power Automate • Power Apps • UI Path
Hardware automation skills	4	• Process and equipment
Safety awareness	4	• Safety at the workplace • 6S • HIRARC • LOTO

Technical Skills	Competency Level (RCL)	Recommended Trainings
Data analytics	4	• Data visualisation • Tools and software • Statistical analysis
Advanced-level troubleshooting	4	• Advance troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	4	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	4	• Microsoft Office (Word, Power Point, Excel)
CAD software proficiency	4	• AutoCAD training
Supplier management	4	• Vendor supplier training including ESG Standards
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training
Embedded Manufacturing System (Micro Controller, IoT)	4	• Field-Programmable Gate Array (FPGA) Tools - Hardware & Software

FACILITIES

Focus Area: Engineering	Sub Focus Area: Facilities
Job Title: Assistant Facilities Engineer	**Level (MOSQF) : 3**

Job Description

The Assistant Facilities Engineer supports the facilities division in maintaining and improving infrastructure, utilities and systems within a manufacturing or corporate environment. This role involves assisting with the planning, design, implementation, and maintenance of facilities, utilities and systems, ensuring they operate efficiently and meet safety and regulatory standards. This role work closely with engineers, maintenance staff, and other departments to ensure a well-functioning and safe working environment.

Responsibilities:

- Perform routine inspections and preventive maintenance tasks to ensure facilities, utilities and systems are in good working condition.
- Aid in the planning, design, and implementation of facility improvement projects.
- Monitor the performance of facilities equipment, utilities and systems, ensuring optimal operation and escalate to engineers as needed.
- Participate in safety audits and inspections, identifying and addressing potential hazards.
- Ensure that vendors adhere to company standards and project requirements.
- Assist in conducting routine inspections and preventive maintenance of building systems, including HVAC, electrical, plumbing, and mechanical systems.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronics Engineering, Electrical Engineering, Mechatronics Engineering, Civil Engineering, Safety Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, Environment Engineering or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Problem-solving	2	• Effective problem-solving skills
Communication	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Adaptability	2	• Continuous learning • Change management
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Maintenance	2	• Building infrastructure maintenance • Heating Ventilation and Air Conditioning (HVAC) • Plant Utilities Treatment (PUT)
Safety awareness	2	• Safety at the workplace • 6S • HIRARC • LOTO • OSHA • RPO
Understanding of the data	2	• Data analysis for Electrical & Electronic Engineers
Maintenance procedure	2	• Facilities and maintenance procedure
Documentation and reporting	2	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	2	• Relevant ISO-related training
Understanding of building floor plan	2	• AutoCAD training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Facilities
Job Title: Facilities Engineer	**Level (MOSQF) : 4**

Job Description

The Facilities Engineer is responsible for overseeing the efficient operation, maintenance, and improvement of all building systems, infrastructure and utilities within a manufacturing or corporate environment. This role involves planning and executing preventive maintenance programs, managing facility upgrades, and ensuring that all mechanical, electrical, and safety systems comply with regulatory standards. This role work closely with various departments, contractors, and vendors to ensure facilities are safe, functional, and cost-effective.

Responsibilities:

- Develop detailed specifications, layouts, and cost estimates for new installations and renovations.
- Troubleshoot and resolve complex issues with facility systems and equipment.
- Ensure all facilities operations comply with safety regulations and industry standards.
- Prepare technical reports, documentation, and presentations for management.
- Vendor and contractor management.
- Liaise with local authorities and municipality.

Pre-Requisites:

- Minimum degree or equivalent in Electrical Engineering, Mechatronics Engineering, Civil Engineering, Safety Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, Environment Engineering or a related field.
- 0-5 years of experience in process engineering, manufacturing, or a related field.
- roficient English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace Communication skills
Team collaboration	3	• Effective team communication and collaboration
Adaptability	3	• Continuous learning • Change management
Time management	3	• Managing time at the workplace
Conflict resolution	3	• Conflict management and resolution
Supervisory skills	3	• Supervisory skills training
Presentation skills	3	• Presentation skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Safety standard and compliance	3	• Electrical safety • Hazard Communication Standard by OSHA • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Facilities maintenance procedure	3	• Facilities maintenance and repair procedure • Building infrastructure maintenance • Heating Ventilation and Air Conditioning (HVAC) • Plant Utilities Treatment (PUT)
Technical documentation and reporting	3	• Incident Reporting and Analysis Technique (NIOSH)
CAD software proficiency	3	• CAD Training
Supplier management	3	• Supplier management training
Application of Environment, Sustainable and Governance	3	• ESG-related training
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	3	• Relevant ISO-related training
Design building floor plan	3	• AutoCAD training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Facilities
Job Title: Senior Facilities Engineer	**Level (MOSQF) : 5**

Job Description

The Senior Facilities Engineer is responsible for leading the efficient operation, maintenance, and improvement of all building systems, infrastructure and utilities within a manufacturing or corporate environment. This role involves planning and executing preventive maintenance programs, managing facility upgrades, and ensuring that all mechanical, electrical, and safety systems comply with regulatory standards. This role work closely with various departments, contractors, and vendors to ensure facilities are safe, functional, and cost-effective.

Responsibilities:

- Lead the design, implementation, and oversight of advanced building systems, including HVAC, electrical, plumbing, and mechanical systems.
- Develop and implement comprehensive preventive maintenance programs for all building systems and infrastructure.
- Plan, coordinate, and manage facilities, site security, large-scale facilities projects, including upgrades, renovations, and new installations.
- Monitor and analyse energy, identifying opportunities for energy conservation and cost savings.
- Coordinate interaction with the vendor and contractor, local authorities and municipality.

Pre-Requisites:

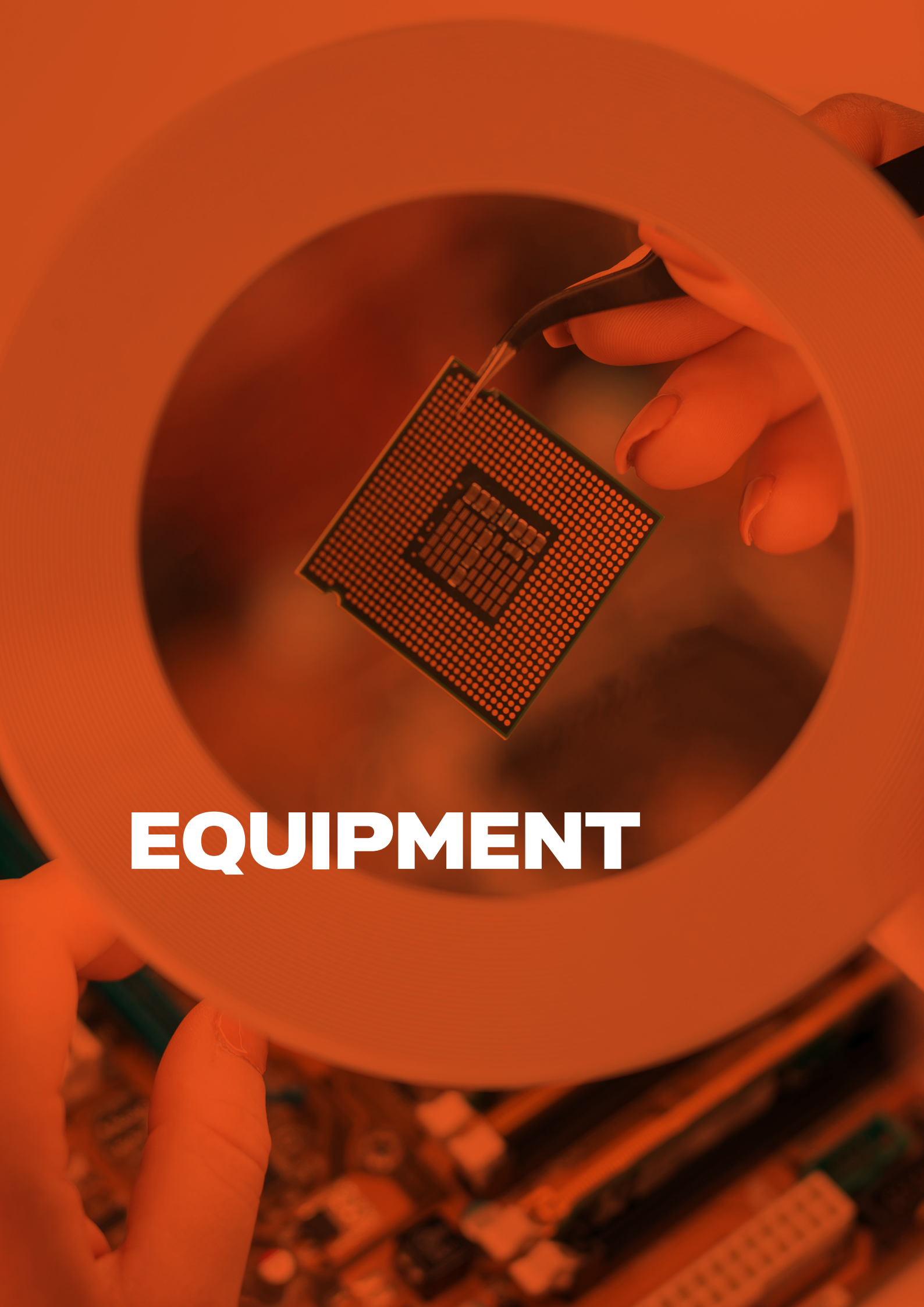
- Minimum degree or equivalent in Electrical Engineering, Mechatronics Engineering, Civil Engineering, Safety Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, Environment Engineering or a related field.
- 5-10 years of experience in process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving	4	• Effective problem-solving skills
Communication	4	• Effective workplace communication skills
Team collaboration	4	• Effective team communication and collaboration
Adaptability	4	• Continuous learning • Change management
Time management	4	• Managing time at the workplace

Soft Skills	Competency Level (RCL)	Recommended Trainings
Conflict resolution	4	• Conflict management and resolution
Supervisory skills	4	• Supervisory skills training
Presentation skills	4	• Presentation skills training
Stakeholder management (customers, government and authorities)	4	• Building trust and rapport

Technical Skills	Competency Level (RCL)	Recommended Trainings
Safety standard and compliance	4	• Electrical safety • Hazard Communication Standard by OSHA • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Facilities maintenance procedure	4	• Facilities maintenance and repair procedure • Building infrastructure maintenance • Heating Ventilation and Air Conditioning (HVAC) • Plant Utilities Treatment (PUT)
Technical documentation and reporting	4	• Incident Reporting and Analysis Technique (NIOSH)
CAD software proficiency	4	• CAD Training
Supplier management	4	• Supplier management training
Application of Environment, Sustainable and Governance skills	4	• ESG-related training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Data analytics	4	• Data visualisation • Tools and software • Statistical analysis
Microsoft Office skills	4	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	4	• Relevant ISO-related training
Design and review building floor plan	4	• AutoCAD training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training



EQUIPMENT

Focus Area: Engineering	Sub Focus Area: Equipment
Job Title: Assistant Equipment Engineer	**Level (MOSQF) : 3**

Job Description

The Assistant Equipment Engineer is responsible to support the design, maintenance, and optimisation of manufacturing equipment and systems. This role involves assisting with equipment installation, troubleshooting, and repair, as well as participating in continuous improvement initiatives to enhance equipment performance and reliability. This role works under the guidance of engineers and senior engineers, requiring close collaboration with the production and maintenance divisions to ensure the smooth operation of manufacturing processes.

Responsibilities:

- Assist in the installation and commissioning of new manufacturing equipment.
- Perform routine maintenance tasks on manufacturing equipment to ensure optimal performance.
- Assist in the analysing equipment performance data and identifying opportunities for improvement.
- Provide technical support to production and maintenance teams regarding equipment operation and maintenance.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Mechanical Engineering, or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Problem-solving	2	• Effective problem-solving skills
Communication	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Adaptability	2	• Continuous learning • Change management
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Basic understanding programming knowledge	2	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable

Technical Skills	Competency Level (RCL)	Recommended Trainings
Knowledge on project management	2	• Project management
Experimental design	2	• Design On Experiment (DOE)
AI software tools	2	• Power BI • Power Automate • Power Apps • UI Path
Understanding testing instrumentation and methodologies	2	• Process and equipment
Safety standard and compliance	2	• Safety at the workplace • 6S • HIRARC • LOTO
Data analytics	2	• Data visualisation • Tools and software • Statistical analysis
Basic level troubleshooting	2	• Basic troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	2	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	2	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Preventive maintenance	2	• Equipment preventive maintenance
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Equipment
Job Title: Equipment Engineer	**Level (MOSQF) : 4**

Job Description

The Equipment Engineer is responsible to design, maintain, and optimise manufacturing equipment and systems. This role involves installing equipment, troubleshooting, and repair, as well as participating in continuous improvement initiatives to enhance equipment performance and reliability. This role collaborates closely with the production and maintenance divisions to ensure the smooth operation of manufacturing processes.

Responsibilities:

- Install and commission new manufacturing equipment.
- Supervise routine maintenance tasks performed by assistant equipment engineer on manufacturing equipment to ensure optimal performance.
- Analyse equipment performance data (OEE) and identifying opportunities for improvement.
- Provide technical support to production and maintenance teams regarding equipment operation and maintenance.
- Liaise with suppliers for technical support, spare parts, process equipment fabrication and equipment maintenance.

Pre-Requisite:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Mechanical Engineering, or a related field.
- 0-5 years of experience in process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace communication skills
Team collaboration	3	• Effective team communication and collaboration
Adaptability	3	• Continuous learning • Change management
Time management	3	• Managing time at the workplace
Conflict resolution	3	• Conflict management and resolution
Project management	3	• Project Management Professional (PMP) Certification
Presentation skills	3	• Presentation skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Understanding programming knowledge	3	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable
Understanding testing instrumentation and methodologies	3	• Process and equipment • Visual inspection and analysis
Safety standard and compliance	3	• Safety at the workplace • 6S • HIRARC • LOTO
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Troubleshooting and debugging	3	• Intermediate troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	3	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Embedded manufacturing system (Micro Controller, IoT)	3	• Embedded manufacturing system training • FPGA tools (Hardware & Software)
Supplier or vendor management	3	• Supplier or vendor management training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Equipment
Job Title: Senior Equipment Engineer	Level (MOSQF) : 5

Job Description

The Senior Equipment Engineer is responsible to lead the design, maintain, and optimise manufacturing equipment and systems. This role involves managing equipment installation, troubleshooting, and repair, as well as participating in continuous improvement initiatives to enhance equipment performance and reliability. This role collaborates closely with the production and maintenance divisions to ensure the smooth operation of manufacturing processes, mentors junior engineers, and contributes to the strategic goals of the organisation.

Responsibilities:

- Manage installation and commissioning new manufacturing equipment.
- Organise and plan routine maintenance tasks performed by team on manufacturing equipment to ensure optimal performance.
- Oversee equipment performance data (OEE) analysis and identify opportunities for improvement.
- Provide technical guidance to production and maintenance teams regarding equipment operation and maintenance.
- Liaise with suppliers for technical support, spare parts and process equipment fabrication, equipment maintenance.

Pre-Requisites:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Mechanical Engineering, or a related field.
- 5-10 years of experience in process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving	4	• Effective problem-solving skills
Communication	4	• Effective workplace communication skills
Team collaboration	4	• Effective team communication and collaboration
Adaptability	4	• Continuous learning • Change management
Time management	4	• Managing time at the workplace
Conflict resolution	4	• Conflict management and resolution
Project management	4	• Project Management Professional (PMP) Certification
Leadership skills	4	• Leadership training
Stakeholder management	4	• Stakeholder management training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Understanding programming Knowledge	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable
Understanding testing instrumentation and methodologies	4	• Process and equipment • Visual inspection and analysis
Safety standard and compliance	4	• Safety at the workplace • 6S • HIRARC • LOTO
Data analytics	4	• Data visualisation • Tools and software • Statistical analysis
Troubleshooting and debugging	4	• Intermediate troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	4	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	4	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Embedded Manufacturing System (Micro Controller, IoT)	4	• Embedded manufacturing system training • FPGA Tools (hardware and software)
Process improvement	4	• KAIZEN • Lean manufacturing
Supplier or vendor management	4	• Supplier or vendor management training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training


PROCESS

Focus Area: Engineering	Sub Focus Area: Process
Job Title: Assistant Process Engineer	**Level (MOSQF) : 3**

Job Description

The Assistant Process Engineer will assist in monitoring and optimising the manufacturing processes to ensure the smooth, efficient, and cost-effective operation of production lines. This role work closely with the Process Engineer to implement improvements, troubleshoot issues, and ensure compliance with safety and quality standards.

Responsibilities:

- Use statistical methods and software tools to generate reports.
- Assist in implementation methods for processes improvement and implementing changes to enhance efficiency, quality, and productivity.
- Support troubleshooting of process-related issues and work with senior engineers to resolve problems.
- Assist in coordinating with external vendors and suppliers for process equipment and materials.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Communication skills	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Adaptability	2	• Continuous learning • Change management
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Safety standard and compliance	2	• Safety at the workplace • 6S • HIRARC • LOTO • OSHA • RPO
Data analysis	2	• Data analysis for Electrical & Electronic Engineers
Lean manufacturing	2	• Kaizen
Documentation and reporting	2	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	2	• Relevant ISO-related training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Process
Job Title: Process Engineer	Level (MOSQF) : 4

Job Description

The Process Engineer is responsible for designing, developing, and optimising manufacturing processes to improve efficiency, quality, and productivity. This role involves analysing process data, troubleshooting issues, implementing improvements, and ensuring compliance with safety and quality standards. This role collaborates closely with cross-functional teams to enhance manufacturing operations and drive continuous improvement initiatives.

Responsibilities:

- Design, develop and implement new or modifications manufacturing processes.
- Collect and analyse process data to identify trends, anomalies, and areas for improvement.
- Troubleshoot process-related issues and implement effective solutions.
- Adhere to safety protocols and guidelines to maintain a safe working environment.
- Provide ongoing technical support to manufacturing teams to ensure smooth process execution.

Pre-Requisites:

- Minimum degree or equivalent Engineering/Science or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 0-5 years of experience in process engineering, manufacturing, or a related field.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace communication skills
Team collaboration	3	• Effective team communication and collaboration
Adaptability	3	• Continuous learning • Change management
Time management	3	• Managing time at the workplace • Stress management
Conflict resolution	3	• Conflict management and resolution
Supervisory skills	3	• Supervisory skills training
Presentation skills	3	• Presentation skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Safety standard and compliance	3	• Electrical safety • Hazard Communication Standard by OSHA • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Process operating skills	3	• Standard operating procedure and process flow management
Data analysis	3	• Data visualisation • Tools and software • Statistical analysis
Technical documentation and reporting	3	• Yield report • Cost and waste report • Process optimisation
Knowledge of project management	3	• Project management
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
Programming knowledge	3	• Python • SQL • *Whichever applicable
ISO standard and compliance	3	• ISO 9001 • ISO 14001 • ISO 45001 • ISO 27000 • ISO 50000
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Experimental design	3	• Design on Experiment (DOE)
Lean manufacturing	3	• Kaizen
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Process
Job Title: Senior Process Engineer	Level (MOSQF) : 5

Job Description

The Senior Process Engineer is responsible for leading the design, development, optimisation, and implementation of manufacturing processes. This role involves managing complex projects, driving continuous improvement initiatives, and ensuring processes meet high standards of efficiency, quality, and safety. It also requires collaboration with cross-functional teams to solve technical challenges, mentoring junior engineers, and contributing to the strategic goals of the organisation.

Responsibilities:

- Lead the team to analyse existing processes to pinpoint areas for improvement in areas like efficiency, yield, quality and safety.
- Design and implement new processes or modifications to existing ones, considering factors like cost, safety, and regulatory compliance.
- Conduct root cause analysis and implement corrective and preventive actions (CAPA) to prevent recurrence of issues.
- Maintain accurate and up-to-date process documentation, including work instructions and process specifications.
- Provide ongoing technical support and coaching to ensure smooth process execution.

Pre-Requisites:

- Minimum degree or equivalent Engineering/ Science or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 5-10 years of experience in process engineering, manufacturing, or a related field.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving	4	• Effective problem-solving skills
Communication	4	• Effective workplace communication skills • Business communication
Team collaboration	4	• Effective team communication and collaboration
Adaptability	4	• Continuous learning • Change management • Agile
Time management	4	• Managing time at the workplace
Conflict resolution	4	• Conflict management and resolution

Soft Skills	Competency Level (RCL)	Recommended Trainings
Project management	4	• Project Management Professional (PMP) Certification
Leadership skills	4	• Leadership training
Decision-making	4	• Decision-making skills
Emotional intelligence	4	• Emotional intelligence at the workplace • Emotional intelligence for high-performance team
Stakeholder management	4	• Stakeholder management training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Safety standard and compliance	4	• Electrical safety • Hazard Communication Standard by OSHA • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Data analysis	4	• Data visualisation • Tools and software • Statistical analysis
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis), • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Programming knowledge	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable

Technical Skills	Competency Level (RCL)	Recommended Trainings
ISO standard and compliance	4	• Quality Management System (QMS) • ISO 9001 • ISO 14001 • ISO 45001 • ISO 27000 • ISO 50000
Technical documentation and reporting	4	• Yield report • Cost and waste report • Process optimisation
Microsoft Office skills	4	• Microsoft Office (Word, Power Point, Excel)
Lean manufacturing	4	• Kaizen
Experimental design	4	• Design on Experiment (DOE)
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training


QUALITY

Focus Area: Engineering	Sub Focus Area: Quality
Job Title: Assistant Quality Engineer	**Level (MOSQF) : 3**

Job Description

The Assistant Quality Engineer supports the quality assurance and quality control functions within a manufacturing or production environment. This role involves assisting in the implementation of quality standards, conducting inspections and tests, analysing data, and ensuring compliance with regulatory requirements. It also requires collaboration with cross-functional teams to maintain and improve product quality and process efficiency.

Responsibilities:

- Assist in performing inspections and tests on incoming materials, in-process products, and finished goods.
- Collect and record quality data from production processes.
- Support continuous improvement initiatives such as lean manufacturing and Six Sigma projects.
- Support products and processes by complying with industry standards and regulatory requirements.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 0-2 years of experience in quality, process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Communication	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Adaptability	2	• Continuous learning • Change management • Agile
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Basic understanding of quality control and assurance or risk management	2	• Assessment of potential impact and risk in case of product and process deviation • Containment action • Corrective action
Understanding of reject criteria	2	• Institute for Printed Circuits (IPC) Standard Awareness
Safety standard and compliance	2	• Safety at the workplace • 6S • HIRARC • LOTO • OSHA • RPO
Understanding of the data	2	• Data analysis for Quality Engineers
Documentation and reporting	2	• Technical documentation for Quality Engineers
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	2	• Relevant ISO-related training • ISO 9001 • ISO 14001 • ISO 45001 • ISO 27000 • ISO 50000
5 Core Quality Tools	2	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Quality
Job Title: Quality Engineer	**Level (MOSQF) : 4**

Job Description

The Quality Engineer lead the quality assurance and quality control functions within a manufacturing or production environment. This role involves implementing the quality standards, conducting inspections and tests, analysing data, and ensuring compliance with regulatory requirements. Collaborate with cross-functional teams to maintain and improve product quality and process efficiency.

Responsibilities:

- Performs inspections and tests on incoming materials, in-process products, and finished goods.
- Analyse quality data from production processes.
- Provide continuous improvement initiatives such as lean manufacturing and Six Sigma projects.
- Ensure products and processes comply with industry standards and regulatory requirements.
- Comply industry standards and regulations such as IEC, ISO and local standards.
- Mentor training production staff on quality standards and procedures.

Pre-Requisites:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Material Engineering, Applied Science Physics or a related field.
- 0-5 years of experience in quality, process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Communication	3	• Effective workplace communication skills
Team collaboration	3	• Effective team communication and collaboration
Adaptability	3	• Continuous learning • Change management • Agile
Time management	3	• Managing time at the workplace
Stakeholder management (Customers)	3	• Building trust and rapport
Conflict resolution	3	• Conflict management and resolution
Emotional intelligence	3	• Emotional intelligence at the workplace • Emotional intelligence for high-performance teams
Interpersonal skills	3	• Interpersonal skills training
Leadership skills	3	• Leadership training
Presentation skills	3	• Presentation skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Knowledge of quality control and assurance or risk management	3	• Assessment of potential impact or risk in case of product and process deviation • Containment action • Corrective action
Identification of reject criteria	3	• Institute for Printed Circuits (IPC) Standard awareness
Safety standard and compliance	3	• Electrical Safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Technical documentation and reporting	3	• Technical documentation for Quality Engineers
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	3	• Relevant ISO-related training
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Auditing skills	3	• Internal auditing training
Inspection methodology	3	• Effective inspection, testing and sampling methods training
Process improvement	3	• Lean manufacturing • KAIZEN
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Quality
Job Title: Senior Quality Engineer	Level (MOSQF) : 5

Job Description

The Senior Quality Engineer drives the quality assurance and quality control functions within a manufacturing or production environment. This role involves driving the quality standards, conducting inspections and tests, analysing data, and ensuring compliance with regulatory requirements. Collaborate with cross-functional teams to maintain and improve product quality and process efficiency. Mentor junior engineers and contribute to the strategic goals of the organisation.

Responsibilities:

- Oversee inspections and tests on incoming materials, in-process products, and finished goods.
- Review quality data analysis from production processes.
- Provide continuous improvement initiatives such as lean manufacturing and Six Sigma projects.
- Drive products and processes compliance with industry standards and regulatory requirements.
- Competent in compliance knowledge of industry standards and regulations such as SIRIM, ISO and local standards.

Pre-Requisites:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Material Engineering, Applied Science Physics or a related field.
- 5-10 years of experience in quality, process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Training
Attention to detail	4	• Analytical skills
Problem-solving and decision-making skills	4	• Effective problem solving and decision-making skills
Communication	4	• Effective workplace communication skills
Team collaboration	4	• Effective team communication and collaboration
Adaptability	4	• Continuous learning • Change management • Agile
Time management	4	• Managing time at the workplace
Stakeholder management (Customers, Government and Authorities)	4	• Building trust and rapport
Conflict resolution	4	• Conflict management and resolution

Soft Skills	Competency Level (RCL)	Recommended Training
Emotional intelligence	4	• Emotional intelligence at the workplace • Emotional intelligence for high-performance teams
Leadership skills	4	• Leadership training
Presentation skills	4	• Presentation skills training
Influencing skills	4	• Influencing skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Competent in quality control and assurance	4	• Assessment of Potential Impact/Risk in case of product and process deviation • Containment action • Corrective action
Certification on reject criteria	4	• Institute for Printed Circuits (IPC) Standard Awareness
Safety standard and compliance	4	• Electrical safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Data analytics	4	• Data visualisation • Tools and software • Statistical analysis
Technical documentation and reporting	4	• Technical documentation for Quality Engineers
Microsoft office skills	4	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	4	• Relevant ISO-related training
Regulatory body or institution knowledge	4	• International regulatory body training (e.g. SIRIM)

Technical Skills	Competency Level (RCL)	Recommended Trainings
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Competent in auditing skills	4	• Internal auditing training • Lead auditor training
Project management	4	• Project Management Program (PMP)
Inspection methodology	4	• Effective inspection, testing and sampling methods training
Process improvement	4	• Lean manufacturing • KAIZEN
Electrostatic Discharge (ESD)	4	• Electrostatic Discharge (ESD) Training

NEW PRODUCT INTRODUCTION & INTEGRATION

Focus Area: Engineering	Sub Focus Area: NPI / Integration
Job Title: Assistant New Product Introduction / Integration Engineer	**Level (MOSQF) : 3**

Job Description

The Assistant New Product Introduction / Integration Engineer supports the integration, testing, troubleshooting of system integration solutions across various platforms and technologies. This role involves assisting engineers in the integration of software, hardware, and networking systems to ensure seamless communication and functionality between components.

Responsibilities:

- Assist in the configuration, process, assembly, testing, and deployment of integrated systems, ensuring proper communication and functionality between software, hardware, and network components.
- Provide hands-on support in identifying and resolving integration-related issues, working closely with engineers to ensure minimal disruptions to operations.
- Assist in compilation and collecting documentation of integration processes, configurations, and any modifications made to systems to support future troubleshooting and system updates.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Communication skills	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Time management	2	• Managing time at the workplace
Adaptability	2	• Continuous learning • Change management

Technical Skills	Competency Level (RCL)	Recommended Training
Safety standard and compliance	2	• Safety at the workplace • 6S • HIRARC • LOTO • OSHA • RPO
Data analysis	2	• Data visualisation • Tools and software • Statistical analysis
Process improvement	2	• Kaizen • Lean manufacturing
Documentation and reporting	2	• Technical documentation
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	2	• Relevant ISO-related training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: NPI / Integration
Job Title: New Product Introduction / Integration Engineer	**Level (MOSQF) : 4**

Job Description

The Integration Engineer is responsible for planning and organising, designing, implementing, managing, and troubleshooting integration issues and solutions. The engineer will need to conduct system tests and maintaining the stability and scalability of integrated systems. This role involves working closely with cross-functional teams to develop integration solutions that enhance system performance and operational efficiency.

Responsibilities:

- Plan and organise the design of new process and product introduction.
- Develop the configuration, process, assembly, testing, and deployment of integrated systems and solutions.
- Meet functional and performance requirements, identifying and resolving any issues that arise.
- Work with respective stakeholder to gather requirements and deliver integration systems and solutions that align with the organisation's needs and objectives.
- Maintain detailed documentation of integration processes, system configurations, and any modifications or updates required for future troubleshooting and system optimisation.
- Monitor the integrated systems and analysing data to ensure they are functioning efficiently and identifying areas for improvement.
- Manage multiple integration projects from initiation to completion, ensuring deadlines are met and solutions are delivered within scope and budget.

Pre-Requisites:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Mechanical Engineering or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace communication skills
Team collaboration	3	• Effective team communication and collaboration
Adaptability	3	• Continuous learning • Change management
Time management	3	• Managing time at the workplace • Stress management
Project management	3	• Project management training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Programming knowledge	3	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable
Understanding testing instrumentation and methodologies	3	• Process and equipment
Safety standard and compliance	3	• Electrical safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Intermediate-level troubleshooting	3	• Intermediate troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	3	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	3	• Relevant ISO-related training
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
CAD Software proficiency	3	• AutoCAD training
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) training

Focus Area: Engineering	Sub Focus Area: NPI / Integration
Job Title: Senior New Product Introduction / Integration Engineer	**Level (MOSQF) : 5**

Job Description

The Senior Integration Engineer drives the design, implementation, and management of complex integration systems and solutions across diverse platforms and technologies. This role involves overseeing the end-to-end integration process, ensuring seamless communication between software, hardware, and networking systems while maintaining high levels of system performance, stability, and scalability. As a senior member of the team, the Senior Integration Engineer provides technical leadership, mentors engineers, and collaborates with cross-functional teams to develop innovative solutions that enhance operational efficiency.

Responsibilities:

- Drive the design of new process and product introduction team, ensuring alignment with organisational goals and technical requirements.
- Diagnose and resolve complex integration issues, leveraging deep technical knowledge to minimise system disruptions and ensure seamless system functionality.
- Ensure that integration systems are scalable, stable, and optimised for peak performance, continuously improving processes and workflows to meet evolving organisation's needs and objectives.
- Oversee the development and execution of entire system and solutions to validate that integration solutions meet performance, functionality, and security standards.
- Ensure comprehensive documentation of integration processes, architectures, and modifications, and share knowledge across teams to promote operational excellence.
- Oversee multiple integration projects from initiation to completion, ensuring deadlines are met and solutions are delivered within scope and budget.

Pre-Requisites:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Mechanical Engineering, or a related field.
- 5-10 years of experience in process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving	4	• Effective problem-solving skills
Communication	4	• Effective workplace communication skills
Team collaboration	4	• Effective team communication and collaboration
Adaptability	4	• Continuous learning • Change management
Time management	4	• Managing time at the workplace • Stress management
Conflict resolution	4	• Conflict management and resolution
Project management	4	• Project management training
Leadership skills	4	• Leadership training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Programming skills	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable
Understanding testing instrumentation and methodologies	3	• Process and equipment
Safety standard and compliance	4	• Electrical safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Advanced-level troubleshooting	4	• Advance troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	4	• Technical documentation for Electrical & Electronics Engineers
Microsoft Office skills	4	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
CAD software	4	• AutoCAD training
Supplier management	4	• Vendor supplier training including ESG standards
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

PRODUCT

Focus Area: Engineering	Sub Focus Area: Product
Job Title: Assistant Product Engineer	**Level (MOSQF) : 3**

Job Description

The Assistant Product Engineer supports the product operation activities. The role involves assisting in the testing of electrical systems and components, which requires a solid foundation in electrical engineering. This role will support the product manufacturing process, ensuring that products are produced efficiently, meet quality standards, and comply with customer specifications.

Responsibilities:

- Support analysis on existing manufacturing processes and identify opportunities for efficiency improvement, cost reduction, and quality enhancement.
- Assist to execute lean manufacturing principles to streamline production and reduce waste.
- Basic troubleshooting for product yield issues.
- Support engineers to diagnose and resolve issues related to product performance, production quality, and manufacturing processes.
- Assist in investigating and implementing solutions for product failures or defects during manufacturing.
- Oversee product testing procedures to ensure that products meet quality, safety, and performance standards.
- Help to validate product functionality and reliability in various operating conditions and documenting results.
- Gather data on production performance, product quality, and process efficiency.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Problem-solving	2	• Effective problem-solving skills
Communication	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Engineering awareness	2	• Fundamentals of Engineering Theory and Practice
Basic understanding programming knowledge	2	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • AES / MES • AutoCAD • SolidWorks • CATIA • *Whichever applicable
Fabrication	2	• 3D Printing
Testing and validation (Hardware and Software)	2	• Reliability testing • Safety testing
Data analytics	2	• Data visualisation • Tools and software • Statistical analysis
Basic-level troubleshooting	2	• Basic troubleshooting techniques for electrical systems
Documentation and reporting	2	• Technical documentation
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	2	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Product
Job Title: Product Engineer	**Level (MOSQF) : 4**

Job Description

The Product Engineer drives the product operation activities. The role involves conducting testing of electrical systems and components, requiring a solid foundation in electrical and electronic engineering. This role will develop and execute the product manufacturing process, ensuring that products are produced efficiently, meet quality standards, and comply with customer specifications.

Responsibilities:

- Conduct analysis on existing manufacturing processes and identify opportunities for efficiency improvement, cost reduction, and quality enhancement.
- Execute lean manufacturing principles to streamline production and reduce waste.
- Troubleshoot for product yield issues.
- Diagnose and resolve issues related to product performance, production quality, and manufacturing processes.
- Investigate and implement solutions for product failures or defects during manufacturing.
- Execute product testing procedures to ensure that products meet quality, safety, and performance standards.
- Validate product functionality and reliability in various operating conditions, documenting results and any required design modifications.
- Prepare and maintain detailed documentation for product specifications, manufacturing instructions, and quality standards.
- Generate reports on production performance, product quality, and process efficiency.
- Work closely with production, quality assurance, procurement, and supply chain teams to ensure seamless product launches and consistent production performance.
- Monitor product performance throughout its lifecycle, suggesting improvements or modifications based on feedback from production and field data.
- Provide engineering change process (ECP) for design modifications and production enhancements.

Pre-Requisites:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, or a related field.
- 0-5 years of experience in process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace communication skills
Teamwork collaboration	3	• Team-building activities
Time management	3	• Productivity training
Presentation skills	3	• Presentation skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Programming knowledge	3	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • AutoCAD • SolidWorks • CATIA • *Whichever applicable
Testing and validation (Hardware and Software)	4	• Reliability testing • Safety testing
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Intermediate-level troubleshooting	4	• Intermediate troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and Reporting	3	• Technical documentation
Microsoft Office Skills	3	• Microsoft Office (Word, Power Point, Excel)
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Project management	3	• Fundamental of project management
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training
Tester knowledge	4	• Tester training

Focus Area: Engineering	Sub Focus Area: Product
Job Title: Senior Product Engineer	**Level (MOSQF) : 5**

Job Description

The Senior Product Engineer drives the product operation activities. The role involves managing testing of electrical systems and components, requiring a solid foundation in electrical and electronic engineering. This role will develop and manage the product manufacturing process, ensuring that products are produced efficiently, meet quality standards, and comply with customer specifications. A Senior Product Engineer will have to mentor junior engineers and contribute to the strategic goals of the organisation.

Responsibilities:

- Drive the analysis on existing manufacturing processes and identify opportunities for efficiency improvement, cost reduction, and quality enhancement.
- Manage lean manufacturing principles to streamline production and reduce waste.
- Drive troubleshooting for product yield issues.
- Drive diagnosis and resolve issues related to product performance, production quality, and manufacturing processes.
- Coordinate investigation and implement solutions for product failures or defects during manufacturing.
- Oversee product testing procedures to ensure that products meet quality, safety, and performance standards.
- Monitor validation of product functionality and reliability in various operating conditions, documenting results and any required design modifications.
- Manage and maintain detailed documentation for product specifications, manufacturing instructions, and quality standards.
- Review reports on production performance, product quality, and process efficiency.
- Work closely with production, quality assurance, procurement, and supply chain teams to ensure seamless product launches and consistent production performance.
- Monitor product performance throughout its lifecycle, suggesting improvements or modifications based on feedback from production and field data.
- Provide engineering change process (ECP) for design modifications and production enhancements.

Pre-Requisites:

- Minimum degree or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, or a related field.
- 5-10 years of experience in process engineering, manufacturing, or a related field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving	4	• Effective problem-solving skills
Communication	4	• Communication skills training • Public speaking courses
Teamwork collaboration	4	• Team-building activities
Time management	4	• Productivity training
Leadership skills	4	• Leadership training
Project management	4	• Project management training • PMP/PMI

Technical Skills	Competency Level (RCL)	Recommended Trainings
Competent on product lifecycle	4	• Advance product lifecycle
Testing and validation (Hardware and Software)	4	• Reliability testing • Safety testing
Data analytics	4	• Data visualisation • Data interpretation • Tools and software • Statistical analysis
Programming skills	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable
Documentation and reporting	4	• Technical documentation for Electrical & Electronics Engineers
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training
Tester knowledge	4	• Tester training


TEST

Focus Area: Engineering	Sub Focus Area: Test
Job Title: Assistant Test Engineer	Level (MOSQF) : 3

Job Description

Assistant Test Engineer will support the development, validation, and testing of products and systems. Working closely with engineers, they assist in ensuring product quality, safety, and performance by conducting tests on hardware and electronic components and circuits.

Responsibilities:

- Assist in developing and setting up test equipment, fixtures, and procedures.
- Conduct tests on components, subassemblies, or complete products according to test plans.
- Record accurately the test data and observations.
- Assist in analysing test results and identifying trends or anomalies.
- Support troubleshooting of test failures and equipment issues.
- Contribute to test reports and documentation.

Pre-Requisites:

- Diploma or equivalent in Electrical & Electronic Engineering, Mechatronics Engineering or a related field.
- 0-2 years of experience in process engineering, manufacturing, or a related field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Problem-solving	2	• Effective problem-solving skills
Communication	2	• Effective workplace communication skills
Team collaboration	2	• Effective team communication and collaboration
Adaptability	2	• Continuous learning • Change management
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Training
Programming knowledge	2	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system • *Whichever applicable

Technical Skills	Competency Level (RCL)	Recommended Training
Understanding testing instrumentation and methodologies	2	• ISTQB Foundation Level Training • Process and equipment
Safety standard and compliance	2	• Electrical safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO • JIRA • TestRail • HP ALM
Data analytics	2	• Data visualisation • Tools and software • Statistical analysis
Basic-level troubleshooting	2	• Basic troubleshooting techniques for electrical systems
Documentation and reporting	2	• Technical documentation
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	2	• Relevant ISO-related training
5 Core Quality Tools	2	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Test
Job Title: Test Engineer	Level (MOSQF) : 4

Job Description

The Test Engineer will lead design, develop and validate, testing of products and systems. Ensure product quality, reliability, safety, and performance by conducting tests on hardware and electronic components and circuits. This role involves analysing process data, troubleshooting issues, implementing improvements, and ensuring compliance with safety and quality standards. Collaborate closely with cross-functional teams to enhance test manufacturing operations and drive continuous improvement initiatives.

Responsibilities:

- Develop and set up test equipment, fixtures, and procedures.
- Conduct tests on components, subassemblies, or complete products according to test plans.
- Analyse test data and observations and identifying trends or anomalies
- Conduct troubleshooting of test failures and equipment issues.
- Prepare to test reports and documentation.

Pre-Requisites:

- Minimum degree in Engineering/Science or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Microelectronic Engineering or a related field.
- 0-5 years of experience.
- Proficiency in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace communication skills
Team collaboration	3	• Effective team communication and collaboration
Adaptability	3	• Continuous learning • Change management
Time management	3	• Managing time at the workplace • Stress management
Project management	3	• Project management training • PMP/PMI
Presentation skills	3	• Presentation skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Programming knowledge	3	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system *Whichever applicable
Testing instrumentation and methodologies	4	• Process and equipment
Safety standard and compliance	3	• Electrical Safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO • JIRA • TestRail • HP ALM
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Intermediate-level troubleshooting	4	• Intermediate troubleshooting techniques for electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	3	• Technical documentation
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	3	• Relevant ISO-related training
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Test
Job Title: Senior Test Engineer	**Level (MOSQF) : 5**

Job Description

The Senior Test Engineer will drive designing, developing and validating the testing of products and systems. Ensuring product quality, reliability, safety, and performance by overseeing tests on hardware and electronic components and circuits. This role involves analysing process data, troubleshooting test issues, implementing improvements, and ensuring compliance with safety and quality standards. Collaborate with cross-functional teams to solve technical challenges, mentor junior engineers and contribute to the strategic goals of the organisation.

Responsibilities:

- Manage to set up test equipment, fixtures, and procedures.
- Lead the team to analyse existing test processes and troubleshooting areas for improvement in areas like efficiency, yield, quality and safety.
- Drive test process optimisation on components, subassemblies, or complete products according to test plans.
- Ensure test data accuracy and identifying trends or anomalies.
- Review test reports and documentation.

Pre-Requisites:

- Minimum degree in Engineering/Science or equivalent in Electrical & Electronics Engineering, Mechatronics Engineering, Microelectronic Engineering or a related field.
- 5-10 years of experience.
- Proficiency in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving and decision-making	4	• Effective problem-solving and decision-making skills
Communication skills	4	• Effective workplace communication skills • Business communication
Team collaboration	4	• Effective team communication and collaboration
Adaptability	4	• Continuous learning • Change management • Agile
Leadership skills	4	• Leadership training
Conflict resolution	4	• Conflict management and resolution
Emotional intelligence	4	• Emotional intelligence at the workplace • Emotional intelligence for high-performance Teams
Presentation skills	4	• Presentation skills training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Programming skills	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation execution system • Manufacturing execution system *Whichever applicable
Testing instrumentation and methodologies	4	• Process and equipment
Safety standard and compliance	4	• Electrical Safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO • Environment, Safety and Health (EHS) • JIRA • TestRail • HP ALM
Data analytics	4	• Data visualisation • Tools and software • Statistical analysis
Advanced-level troubleshooting	4	• Advance troubleshooting techniques for electrical systems • Diagnostic Tools (e.g. Logs Monitoring System
Documentation and reporting	4	• Technical documentation
Microsoft Office skills	4	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	4	• Relevant ISO-related training

Technical Skills	Competency Level (RCL)	Recommended Trainings
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Project management	4	• PMP PMI
Data evaluation and experimental design	4	• Design on Experiment (DOE) from process
Knowledge on Quality Management System (QMS)	4	• Relevant ISO-related training • ISO 9001 • ISO 14001 • ISO 45001 • ISO 27000 • ISO 50000
Knowledge of quality control and assurance or risk management	4	• Assessment of potential impact or risk in case of product and process deviation • Containment action • Corrective action
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

PACKAGE, PRODUCT DEVELOPMENT & TECHNOLOGY DEVELOPMENT INTEGRATION (TDI)

Focus Area: Engineering	Sub Focus Area: Package / Product Development / Technology Development Integration (TDI)
Job Title: Assistant Package / Product Development / Technology Development Integration (TDI) Engineer	**Level (MOSQF) : 3**

Job Description

The Assistant Package / Product Development / Technology Development Integration (TDI) Engineer typically supports the Packaging Engineer in developing, testing, yield improvement, quality control, and implement packaging solutions and equipment for products. This role involves a combination of technical skills and problem-solving abilities to ensure that products are protected during product lifecycle while meeting cost and sustainability goals.

Responsibilities:

- Help engineers to collaborate with cross-functional teams to understand product specifications and requirements.
- Assist engineers to conduct thorough analyses of assembly packaging materials and components to ensure optimal product protection.
- Support and execute test packaging prototypes and collect data for evaluation performance.

Pre-Requisites:

- Diploma or equivalent in Material Science, Chemical Engineering or a related field.
- 0-2 years of experience in related engineering field.
- Basic English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	2	• Analytical skills
Problem-solving	2	• Effective problem-solving skills
Communication	2	• Public speaking and presentation skills • Active listening courses
Team collaboration	2	• Effective team communication and collaboration
Adaptability	2	• Continuous learning • Change management
Time management	2	• Managing time at the workplace

Technical Skills	Competency Level (RCL)	Recommended Trainings
Basic knowledge of packaging materials	2	• Packaging materials course
Knowledge of packaging standards and regulation	2	• Packaging law and compliance training
Safety standard and compliance	2	• Safety at the workplace • 6S • HIRARC • LOTO • OSHA • RPO
Data analysis	2	• Data visualisation • Tools and software • Statistical analysis
Documentation and reporting	2	• Technical documentation
Microsoft Office skills	2	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	2	• Relevant ISO-related training
5 Core Quality Tools	2	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Experimental design	2	• Design on Experiment (DOE)
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training

Focus Area: Engineering	Sub Focus Area: Package / Product Development / Technology Development Integration (TDI)
Job Title: Package / Product Development / Technology Development Integration (TDI) Engineer	Level (MOSQF) : 4

Job Description

The Package / Product Development / Technology Development Integration (TDI) Engineer leads the development, testing, yield improvement, quality control, and implementation of packaging solutions and equipment for products. This role involves a combination of technical skills and problem-solving abilities to ensure that products are protected during product lifecycle while meeting cost and sustainability goals.

Responsibilities:

- Collaborate with cross-functional teams to understand product specifications and requirements.
- Conduct thorough analyses of assembly packaging materials or process, and components to ensure optimal product protection.
- Conduct test packaging prototypes, evaluate performance, and identify areas for improvement.
- Optimise packaging designs for efficiency, cost-effectiveness, and sustainability.
- Maintain detailed documentation of packaging specifications, test results, and project timelines.

Pre-Requisites:

- Minimum degree or equivalent in Material Science, Chemical Engineering, Mechanical Engineering or a related field.
- 0-5 years of experience in related engineering field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	3	• Analytical skills
Problem-solving	3	• Effective problem-solving skills
Communication	3	• Effective workplace communication skills
Adaptability	3	• Continuous learning • Change management • Agile
Stakeholder management skills	3	• Building trust and rapport
Presentation skills	3	• Presentation skills training
Research skills	3	• Research techniques

Technical Skills	Competency Level (RCL)	Recommended Trainings
Knowledge of packaging materials	4	• Packaging materials course
Knowledge of packaging standards and regulation	4	• Packaging law and compliance training
Testing knowledge	4	• Testing knowledge training
Safety standard and compliance	3	• Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Data analytics	3	• Data visualisation • Tools and software • Statistical analysis
Technical documentation and reporting	3	• Technical documentation
Microsoft Office skills	3	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	3	• Relevant ISO-related training
5 Core Quality Tools	3	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Supplier management	3	• Supplier management training
Package reliability knowledge	4	• Reliability Engineer Certification (CRE-ASQ)
Programming skills	3	• Minitab • JMP Software
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training
Equipment operation	4	• Process and equipment

Focus Area: Engineering	Sub Focus Area: Package / Product Development / Technology Development Integration (TDI)
Job Title: Senior Package / Product Development / Technology Development Integration (TDI) Engineer	**Level (MOSQF) : 5**

Job Description

The Senior Package / Product Development / Technology Development Integration (TDI) Engineer drives development testing, yield improvement, ensures quality control, and implement packaging solutions and equipment for products. This role involves a combination of technical skills and problem-solving abilities to ensure that products are protected during product lifecycle while meeting cost and sustainability goals. Mentor junior engineers and collaborates closely with cross-functional teams to drive continuous improvement and innovation.

Responsibilities:

- Drive collaboration with cross-functional teams to understand product specifications and requirements.
- Lead engineers to conduct thorough analyses of assembly packaging materials or process, and components to ensure optimal product protection.
- Coordinate test packaging prototypes, evaluate performance, and identify areas for improvement.
- Manage packaging designs for efficiency and optimisation, cost-effectiveness, and sustainability.
- Manage detailed documentation of packaging specifications, test results, and project timelines.

Pre-Requisites:

- Minimum degree, master's degree and PHD or equivalent in Material Science, Chemical Engineering, or a related field.
- 5-10 years of experience in related engineering field.
- Proficient in English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Trainings
Attention to detail	4	• Analytical skills
Problem-solving	4	• Effective problem-solving skills
Communication	4	• Effective workplace communication skills • Business communication
Adaptability	4	• Continuous learning • Change management • Agile
Negotiation skills	4	• Negotiation skills training
Presentation skills	4	• Presentation skills training
Research skills	4	• Research techniques

Technical Skills	Competency Level (RCL)	Recommended Trainings
Knowledge of packaging materials	4	• Packaging materials course
Knowledge of packaging standards and regulation	4	• Packaging law and compliance training
Testing knowledge	4	• Testing knowledge training
Safety standard and compliance	4	• Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the workplace • 6S • HIRARC • OSHA • RPO
Data analytics	4	• Data visualisation • Tools and software • Statistical analysis
Advanced-level troubleshooting	4	• Advance troubleshooting in electrical systems • Diagnostic tools (e.g. Logs Monitoring System
Documentation and reporting	4	• Technical documentation
Microsoft Office skills	4	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	4	• Relevant ISO-related training
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis) • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Supplier management	4	• Supplier management training

Technical Skills	Competency Level (RCL)	Recommended Trainings
Package reliability knowledge	4	• Reliability Engineer Certification (CRE-ASQ)
Programming skills	4	• Minitab • JMP Software
Electrostatic Discharge (ESD)	3	• Electrostatic Discharge (ESD) Training
Equipment operation	4	• Process and equipment

STAFF ENGINEER, PRINCIPAL & FELLOW

Focus Area : Engineering	
Job Title : Staff Engineer / Senior Staff Engineer	**Level (MOSQF) : 6**

Job Description

The Staff Engineer / Senior Staff Engineer focuses on designing, developing, testing, and implementing advanced electrical and electronic components and systems in manufacturing. This role requires a strong technical background, leadership abilities, and in-depth expertise to drive product innovation and process improvement. This position involves close collaboration with cross-functional teams to ensure high-quality design/manufacturing and compliance with industry standards.

Responsibilities may include:

- Lead the technical team for manufacturing of electronic circuits, PCBs, and embedded systems for various E&E products.
- Oversee project timelines, resources, and deliverables, ensuring that projects are completed on time and within budget.
- Coordinate with internal teams (Quality Assurance & Manufacturing) and external suppliers to drive project success.
- Ensure compliance with regulatory standards and safety guidelines.
- Propose and implement process improvements to enhance product quality and efficiency.
- Publish white papers, patents, and technical reports to establish the technical expertise in the field.

Pre-Requisite:

- Bachelor's / Master's Degree / PhD (or equivalent) in Electrical & Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 8+ years of experience in process engineering, manufacturing, or research PhD in a related field.
- Professional certification (e.g., PE, CEng) is an added advantage.
- Proven track record in manufacturing and solving complex technical issue.
- Proficiency English and/or other languages.

Soft Skills	Competency Level (RCL)	Recommended Training
Attention to Detail	4	• Analytical Skills
Problem-Solving	4	• Effective Problem-Solving Skills
Communication	4	• Effective Workplace Communication Skills
Team Collaboration	4	• Effective Team Communication and Collaboration
Adaptability	4	• Continuous Learning • Change Management
Time Management	4	• Managing Time at the Workplace
Technical Leadership Skills	4	• Technical Leadership Training (Managing Technical Team)
Conflict Resolution	4	• Conflict Management & Resolution

Soft Skills	Competency Level (RCL)	Recommended Training
Emotional Intelligence	4	• Emotional Intelligence at the Workplace • Emotional Intelligence for High-Performance Teams
Presentation Skills	4	• Presentation Skills Training
Coaching Skills	4	• Coaching a Team
Influencing Skills	4	• Effective Persuasion Techniques • Negotiation Skills

Technical Skills	Competency Level (RCL)	Recommended Training (Whichever Applicable)
Programming Skills	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation Execution System • Manufacturing Execution System
Testing Instrumentation & Methodologies	4	• Process and Equipment
Safety Standard & Compliance	4	• Electrical Safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the Workplace • 6S • HIRARC • OSHA • RPO • Environment, Safety and Health (EHS) • JIRA • TestRail • HP ALM
Data Analytics	4	• Data Visualisation • Tools and Software • Statistical Analysis
Advance Level Troubleshooting	4	• Advance Troubleshooting Techniques for Manufacturing Systems • Diagnostic Tools (e.g. Logs Monitoring System)

Technical Skills	Competency Level (RCL)	Recommended Training (Whichever Applicable)
Documentation and Reporting	4	• Technical Documentation
Microsoft Office Skills	4	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	4	• Relevant ISO related Training
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis), • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Project Management	4	• PMP PMI
Data Evaluation and Experimental design	4	• Design on Experiment (DOE) from Process
Knowledge on Quality Management System (QMS)	4	• Relevant ISO related Training • ISO 9001 • ISO 14001 • ISO 45001 • ISO 27000 • ISO 50000
Knowledge of Quality Control & Assurance or Risk Management	4	• Assessment of Potential Impact/Risk in case of Product and Process Deviation • Containment Action • Corrective Action
Electrostatic Discharge (ESD)	4	• Electrostatic Discharge (ESD) Training
Filling Patent Skills	3	• Patent Filling Training

Focus Area : Engineering	
Job Title : Principal Engineer	**Level (MOSQF) : 7**

Job Description

The Principal Engineer is responsible for leading complex projects, providing strategic direction, and driving innovation across product development, manufacturing and engineering processes. This role involves technical leadership, mentorship, and collaboration with cross-functional teams, as well as engaging with external stakeholders, including customers, suppliers, and industry partners, to achieve business objectives and ensure high standards of quality and compliance.

Responsibilities may include:

- Provide expert guidance on complex engineering challenges and lead technical decision-making.
- Oversee the development, validation and manufacturing of advanced electrical and electronic systems.
- Lead multi-disciplinary projects from concept to completion, ensuring timely delivery and adherence to budget.
- Communicate project updates and technical solutions to stakeholders, including executive management.
- Collaborate with the R&D team to develop prototypes, conduct feasibility studies, and assess manufacturing risks.
- Establish and enforce engineering standards, best practices, and compliance with industry regulations.
- Work closely with project management, manufacturing, and quality teams to ensure project specifications are met.
- Publish white papers, patents, and technical reports to establish the company as a leader in the field.

Pre-Requisite:

- Bachelor's / Master's Degree / PhD (or equivalent) in Electrical & Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 15+ years of experience in process engineering, manufacturing, or PhD research in a related field.
- Professional certifications (e.g., PE, CEng) are an advantage.
- Proven experience in managing complex projects and leading cross-functional teams.
- Proficiency English and/or other languages

Soft Skills	Competency Level (RCL)	Recommended Training
Attention to Detail	4	• Analytical Skills
Problem-Solving	4	• Effective Problem-Solving Skills
Communication	4	• Effective Workplace Communication Skills
Team Collaboration	4	• Effective Team Communication and Collaboration
Adaptability	4	• Continuous Learning • Change Management
Time Management	4	• Managing Time at the Workplace

Soft Skills	Competency Level (RCL)	Recommended Training
Technical Leadership Skills	4	• Technical Leadership Training (Managing Technical Team)
Conflict Resolution	4	• Conflict Management & Resolution
Emotional Intelligence	4	• Emotional Intelligence at the Workplace • Emotional Intelligence for High-Performance Teams
Presentation Skills	4	• Presentation Skills Training
Coaching Skills	4	• Coaching a Team
Influencing Skills	4	• Effective Persuasion Techniques • Negotiation Skills

Technical Skills	Competency Level (RCL)	Recommended Training (Whichever Applicable)
Programming Skills	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation Execution System • Manufacturing Execution System
Testing instrumentation & Methodologies	4	• Process and Equipment
Safety Standard & Compliance	4	• Electrical Safety • Hazard Communication Standard (OSHA) • LOTO • UBBL • Emergency Response Plan (ERP) • Safety at the Workplace • 6S • HIRARC • OSHA • RPO • Environment, Safety and Health (EHS) • JIRA • TestRail • HP ALM

Technical Skills	Competency Level (RCL)	Recommended Training (Whichever Applicable)
Data Analytics	4	• Data Visualisation • Tools and Software • Statistical Analysis
Advance Level Troubleshooting	4	• Advance Troubleshooting Techniques for Electrical Systems • Diagnostic Tools (e.g. Logs Monitoring System)
Documentation and Reporting	4	• Technical Documentation
Microsoft Office Skills	4	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	4	• Relevant ISO related Training
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis), • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Project Management	4	• PMP PMI
Data Evaluation and Experimental Design	4	• Design on Experiment (DOE) from Process
Knowledge on Quality Management System (QMS)	4	• Relevant ISO related Training • ISO 9001 • ISO 14001 • ISO 45001 • ISO 27000 • ISO 50000
Knowledge of Quality Control & Assurance or Risk Management	4	• Assessment of Potential Impact/Risk in case of Product and Process Deviation • Containment Action • Corrective Action
Electrostatic Discharge (ESD)	4	• Electrostatic Discharge (ESD) Training
Filling Patent Skills	4	• Patent Filling Training
Trainer Skills	4	• Train-the-Trainer (TTT)

Focus Area	: Engineering		
Job Title	**: Fellow / Senior Fellow**	**Level (MOSQF)**	**: 8**

Job Description

The Fellow / Senior Fellow is the highest-level technical expert in the Electrical & Electronics (E&E) industry, providing strategic direction, thought leadership, and pioneering innovations. This role requires an exceptional depth of expertise and experience, influencing the company's technical vision and driving advancements in product development, research, manufacturing and industry standards. This role involves partners with executive management, technical leadership, mentorship, and collaboration with cross-functional teams, as well as engaging with external stakeholders, including customers, suppliers, and industry partners, to achieve business objectives and ensure high standards of quality and compliance.

Responsibilities may include:

- Define and guide the company's long-term technical strategy and vision.
- Lead high-impact, complex projects involving new technology exploration in manufacturing and product development.
- Drive cutting-edge research and development initiatives, focusing on emerging technologies and trends in the E&E industry.
- Publish white papers, patents, and technical reports to establish the company as a leader in the field.
- Develop and implement training programs and workshops to elevate the skills of the engineering workforce.
- Build strong relationships with industry partners, academia, and research institutions to drive collaborative projects.
- Lead root cause analysis for critical issues and implement strategic corrective actions.
- Set high standards for engineering quality, safety, and regulatory compliance.

Pre-Requisite:

- PhD or Master's Degree (or equivalent) in Electrical & Engineering, Mechatronics Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, or a related field.
- 20+ years of experience in engineering roles, with a minimum of 8 years in senior leadership or advanced technical positions.
- Professional certifications (e.g., PE, CEng, IEEE Senior Member) are highly preferred.
- A strong track record of patents, publications, or technical achievements in the E&E industry.
- Recognized industry expert with proven influence on product development, manufacturing and technological advancements.
- Proficiency English and/or other languages

Soft Skills	Competency Level (RCL)	Recommended Training
Attention to Detail	4	• Analytical Skills
Problem-Solving	4	• Problem-solving Courses
Communication	4	• Effective Workplace Communication Skills
Team Collaboration	4	• Effective Team Communication and Collaboration

Soft Skills	Competency Level (RCL)	Recommended Training
Adaptability	4	• Continuous Learning • Change Management
Time Management	4	• Managing Time at the Workplace
Technical Leadership Skills	4	• Technical Leadership Training (Managing Technical Team)
Conflict Resolution	4	• Conflict Management & Resolution
Emotional Intelligence	4	• Emotional Intelligence at the Workplace • Emotional Intelligence for High-Performance Teams
Presentation Skills	4	• Presentation Skills Training
Coaching Skills	4	• Coaching a Team
Influencing Skills	4	• Effective Persuasion Techniques • Negotiation Skills

Technical Skills	Competency Level (RCL)	Recommended Training (Whichever Applicable)
Programming Skills	4	• Python • C++ • Ladder Logic • VBA • SQL • MATLAB • Automation Execution System • Manufacturing Execution System
Testing Instrumentation & Methodologies	4	• Process and Equipment
Safety Standard & Compliance	4	• Electrical Safety • Hazard Communication Standard (OSHA) • LOTO
Data Analytics	4	• Data Visualisation • Tools and Software • Statistical Analysis

Technical Skills	Competency Level (RCL)	Recommended Training (Whichever Applicable)
Advance Level Troubleshooting	4	• Advance Troubleshooting Techniques for Electrical Systems • Diagnostic Tools (e.g. Logs Monitoring System
Documentation and Reporting	4	• Technical Documentation
Microsoft Office Skills	4	• Microsoft Office (Word, Power Point, Excel)
Knowledge on Quality Management System (QMS)	4	• Relevant ISO related Training
5 Core Quality Tools	4	• APQP (Advanced Product Quality Planning) • PPAP (Production Part Approval Process) • FMEA (Failure Mode and Effects Analysis), • MSA (Measurement Systems Analysis) • SPC (Statistical Process Control)
Project Management	4	• PMP PMI
Data Evaluation and Experimental design	4	• DOE from Process
Knowledge on Quality Management System (QMS)	4	• Relevant ISO related Training • ISO 9001 • ISO 14001 • ISO 45001 • ISO 27000 • ISO 50000
Knowledge of Quality Control & Assurance or Risk Management	4	• Assessment of Potential Impact/Risk in case of Product and Process Deviation • Containment Action • Corrective Action
Electrostatic Discharge (ESD)	4	• Electrostatic Discharge (ESD) Training
Filling Patent Skills	4	• Patent Filling Training
Trainer Skills	4	• Train-the-Trainer (TTT)

ABBREVIATIONS

AES	Advanced Encryption Standard
AI	Artificial Intelligence
APQP	Advanced Product Quality Planning
CAD Software	Computer-Aided Design Software
CATIA	Computer Aided Three-Dimensional Interactive Application
CRE-ASQ	Certified Reliability Engineer - American Society for Quality
DOE	Design On Experiment
EHS	Environment, Health and Safety
ERP	Emergency Response Plan
ESD	Electrostatic Discharge
ESG	Environmental, Social, and Governance
FMEA	Failure Mode and Effects Analysis
FPGA	Field-Programmable Gate Array
HIRARC	Hazard Identification, Risk Assessment, and Risk Control
HP ALM	Hewlett-Packard Application Lifecycle Management
HVAC	Heating Ventilation and Air Conditioning
IoT	Internet of Things
IPC	Institute for Printed Circuits

ABBREVIATIONS

ISTQB	International Software Testing Qualifications Board
JMP	JMP Statistical Software
LOTO	Lockout/Tagout
MATLAB	Matrix Laboratory
MES	Manufacturing Execution System
MFG	Manufacturing
MSA	Measurement Systems Analysis
OSHA	Occupational Safety and Health Administration
PLCs	Programmable Logic Controllers
PMI	Project Management Institute
PMP	Project Management Programme
Power BI	Microsoft Power BI Software
PPAP	Production Part Approval Process
PUT	Plant Utilities Treatment
QMS	Quality Management System
RPO	Recruitment Process Outsourcing
SPC	Statistical Process Control
SQL	Structured Query Language
TTT	Train-the-Trainer
UBBL	Uniform Building By-Laws
VBA	Visual Basic for Applications

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