








Trends impacting this role

 Sustainability			
 AI	 Data Analytics	 IoT	

In the next **1 - 3 years...**



**MEDIUM** degree of change in tasks

**The job will potentially require**  
**MODERATE JOB REDESIGN**

*A fair proportion of the job tasks will be substituted by technology, with human intervention required for high value-adding tasks as against routine, repetitive tasks*

Responsibilities of the role today

The Senior Engineer / Assistant Manager is responsible for **developing the operations and maintenance plans** and schedules for the **continuous operations of equipment and systems**. He/She ensures **resourcing needs of engineering projects are met** based on developed plans and resourcing requirements. He **ensures compliance** of work activities to **regulatory and statutory policies**, procedures and regulations, performing root cause analysis to manage safety lapses.

Responsibilities of the role in the future

**Moving forward**, this role is still required for developing and executing operations and maintenance plans, ensuring compliance with organisation’s policies and other regulatory or statutory policies. The job holder is required to **utilise technologies in tracking department and team performance and leading root cause analysis of issues**, proposing solutions to mitigate existing and potential challenges. The job holder is also required to possess **strong interpersonal skills** to **coordinate with internal and external stakeholders**, as well as **coach and drive team performance**.

Critical Work Function	Job tasks today	Job tasks within the next 3 years
Maintain equipment and systems	Develop maintenance plans and schedules for inspection, testing, repair and predictive maintenance of equipment and systems, as well as review and verify the implementation of recommended repair works and solutions	<ul style="list-style-type: none"><li>• A <b>combination of Internet of Things (IoT) smart sensors, Advanced Analytics, and AI-enabled dashboards</b> allow for the <b>real-time tracking of equipment and systems performance</b> and <b>facilitate the development of predictive maintenance plans</b>.</li><li>• The job holder will still be required to review and verify the implementation of recommended repair works and solutions.</li></ul>
	Lead root cause analysis of equipment and system failures and underperformance and develop reports, as well as review testing, maintenance and repair records to identify and evaluate trends and inform potential solutions	<ul style="list-style-type: none"><li>• A <b>combination of Internet of Things (IoT) smart sensors and AI-enabled dashboards</b> support the <b>root-cause analysis of equipment and system failures</b> and allow the job holder to accurately diagnose issues, although human judgement is still required to recommend relevant and appropriate solutions.</li><li>• <b>Data analytics and visualisation tools</b> support the <b>analysis of historical testing, maintenance, and repair data</b> to better inform solutions.</li></ul>
	Review housekeeping procedures and standards and oversee test runs of new processes involving automated equipment, systems and controls	<ul style="list-style-type: none"><li>• Review housekeeping procedures and standards and oversee test runs of new processes involving automated equipment, systems and controls.</li></ul>
Manage responses to emergencies and crises	Evaluate the severity of emergency situations and propose emergency technical and recovery activities based on the crisis management frameworks	<ul style="list-style-type: none"><li>• Evaluate the severity of emergency situations and propose emergency technical and recovery activities based on the crisis management frameworks.</li></ul>



Critical Work Function	Job tasks today		Job tasks within the next 3 years
Conduct operations	Review methods of application for emerging technologies, operational plans and Standard Operating Procedures (SOPs) to support equipment, systems, and improve performance monitoring and process troubleshooting		<ul style="list-style-type: none"> <li>Review methods of application for emerging technologies, operational plans and Standard Operating Procedures (SOPs) to improve performance monitoring and process troubleshooting.</li> </ul>
	Evaluate feasibility of identified resourcing requirements to achieve operational state and review operational plans and SOPs		<ul style="list-style-type: none"> <li>Evaluate feasibility of identified resourcing requirements to achieve operational state and review operational plans and SOPs.</li> </ul>
Manage health, safety and environment	Ensure team, vendor, and contractor compliance with WSH policies and EMS, and the proper closure of accident and incident investigations, including notification to relevant authorities		<ul style="list-style-type: none"> <li>Ensure team, vendor, and contractor compliance with WSH policies and EMS, and the proper closure of accident and incident investigations, including notification to relevant authorities.</li> </ul>
	Ensure implementation of sustainable engineering procedures and guidelines		<ul style="list-style-type: none"> <li>Ensure implementation of sustainable engineering procedures and guidelines.</li> </ul>
Manage people and organisational function	Acquire and allocate resources to support operations, analyse financial implications of business strategies, and analyse viability of proposed continuous improvement initiatives and drive change management		<ul style="list-style-type: none"> <li>Acquire and allocate resources to support operations.</li> <li><b>Data analytics and visualisation tools</b> support the <b>analysis of multiple operations scenarios</b> and allow the job holder to better evaluate the financial implications of business strategies to daily operations.</li> <li>Analyse viability of proposed continuous improvement initiatives and drive change management.</li> </ul>
	Drive team performance to achieve department goals and identify recruitment needs and areas for technical and business management training and development		<ul style="list-style-type: none"> <li><b>Internet of Things (IoT)-based applications</b> enable <b>real-time tracking</b> and <b>monitoring of labour productivity</b> and allow the job holder to better coach and manage team performance.</li> </ul>
	Develop risk management plans and risk controls in alignment with organisation's risk management framework		<ul style="list-style-type: none"> <li>Develop risk management plans and risk controls in alignment with organisation's risk management framework.</li> </ul>





### Redesign possibilities

#### Vertical stacking


- Stacked with *Principal Engineer / Manager* and enlarged to become **Engineering Manager**.



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In addition to the Skills and Competencies identified in the [Skills Framework for Engineering Services](#), the following additional TSCs and CCSs have been identified as relevant for the job role going forward:

Additional Technical Skills and Competencies (TSCs)		
Data Analytics	Environmental Sustainability Management*	Green Facilities Management*
Internet of Things Management	Technology Scanning*	

Additional Critical Core Skills (CCSs)		
Adaptability	Learning Agility	

- Skills denoted by an asterisk (\*) are not available in Skills Framework (SFw) for Hotel and Accommodation Services (HAS) but available in other SFw.
- Skills not marked are available in SFw for HAS but are not currently tagged to this job role in the function.