## SKILLS FRAMEWORK FOR ENGINEERING SERVICES
### SKILLS MAP – DIRECTOR (ENGINEERING)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Engineering Services</th>
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<tbody>
<tr>
<td>Track</td>
<td>Engineering</td>
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<tr>
<td>Occupation</td>
<td>Engineering Professional</td>
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<tr>
<td>Job Role</td>
<td>Director (Engineering)</td>
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### Job Role Description

The Director (Engineering) is responsible for spearheading the strategic planning, design and implementation of complex engineering solutions to meet customers’ requirements. He/She drives direction and strategy for the development and execution of engineering projects, and ensures alignment to the organisational strategy, vision and mission. He formulates strategies and frameworks to drive workplace health, safety, risk and environmental management in accordance with local and international regulations. He develops the organisation’s technology roadmap and drives continuous improvement strategies. In addition, he leverages his deep technical expertise and industry experience to develop technical capabilities and domain expertise for the organisation. He is a professional engineer, specialising in mechanical, electrical, control and instrumentation, civil, structural or geotechnical engineering disciplines.

He is the organisation’s technical expert who advises senior management and business partners on complex engineering matters. He maintains and builds strong links with the external engineering community and establishes best practises in the implementation of engineering standards and design. He is a strategic and creative thinker, demonstrates exceptional leadership and problem-solving skills, and establishes strategic partnerships.

### Critical Work Functions and Key Tasks / Performance Expectations

<table>
<thead>
<tr>
<th>Critical Work Functions</th>
<th>Key Tasks</th>
<th>Performance Expectations* (For legislated / regulated occupations)</th>
</tr>
</thead>
</table>
| Manage execution of engineering projects | Drive direction and strategies for engineering projects in line with organisational strategies and plans | In accordance with:  
  • Professional Engineers Act and Rules;  
  • Workplace Safety and Health (WSH) Act;  
  • Building Control Act |
<p>|                         | Formulate strategies to ensure operational excellence and effectiveness across the engineering value chain | |
|                         | Establish workflows to ensure effectiveness of Front-End Engineering and Design (FEED) for engineering projects | |
|                         | Endorse feasibility and process safety reviews for engineering projects | |
|                         | Establish strategies to drive compliance with regulatory and legislative requirements | |</p>
<table>
<thead>
<tr>
<th>Role</th>
<th>Tasks</th>
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<tr>
<td>Deploy new technologies</td>
<td>Establish communication protocols and conflict and dispute resolution mechanisms for strengthening industrial relations</td>
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<td>Lead innovation in new technologies for engineering processes and systems</td>
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<td></td>
<td>Evaluate benefits, trade-offs and impact of new technologies</td>
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<td>Build business case for implementing new technologies in the organisation</td>
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<tr>
<td>Employ advanced analytics and big data</td>
<td>Drive the organisation's commitment to efficient and effective analyses of large data sets</td>
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<td></td>
<td>Lead innovation in advanced analytics through adoption of new methodologies and identification of new datasets</td>
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<td></td>
<td>Evaluate the benefits and trade-offs of implementing advanced analytics within strategic decision-making</td>
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<td></td>
<td>Develop organisational advanced analytics application strategy</td>
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<td>Prepare business case for implementing advanced analytical methods in new areas</td>
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<tr>
<td>Manage health, safety and environment</td>
<td>Formulate strategies and frameworks to drive a culture of workplace safety, health and environmental management at organisational level</td>
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<td>Establish strategies and frameworks to drive compliance with Workplace Safety and Health (WSH) policies and Environmental Management Systems (EMS)</td>
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<td>Formulate proactive strategies to mitigate WSH and EMS accidents and incidents</td>
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<td></td>
<td>Establish the organisation’s sustainable engineering strategy, procedures and guidelines</td>
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<tr>
<td>Manage people and organisational function</td>
<td>Establish long-term objectives for the department in alignment with organisation's strategy, vision and mission</td>
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<td>Establish the operating and resourcing structure for the department to support business objectives</td>
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</tbody>
</table>
Establish department-wide performance indicators to ensure achievement of organisational goals

Formulate talent recruitment and development strategies in alignment with organisation’s vision, mission and values

Drive sourcing and allocation of budgets for the department’s activities

Contribute to the development of the organisation’s risk management framework

Drive continuous improvement strategies and change management initiatives at organisation level

Drive strategic partnerships with internal and external stakeholders

*Performance Expectations are non-exhaustive and subject to prevailing regulations

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<thead>
<tr>
<th>Skills &amp; Competencies</th>
<th>Technical Skills &amp; Competencies</th>
<th>Generic Skills &amp; Competencies (Top 5)</th>
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<tr>
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<td>Artificial Intelligence Application</td>
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<td>Budgeting</td>
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<td>Building Information Modelling Application</td>
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<td>Business Negotiation</td>
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<td>Business Performance Management</td>
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<td>Change Management</td>
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<td></td>
<td>Commissioning and Start-Up Management</td>
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<td>Conflict Resolution</td>
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<td>Continuous Improvement Management</td>
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<td>Contract Development and Management</td>
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<td>Cost Management</td>
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<td>Data and Statistical Analytics</td>
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<td>Design for Safety</td>
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<td></td>
<td>Electrical Engineering Management</td>
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<td>Course Title</td>
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<tr>
<td>Engineering Drawing Interpretation and Management</td>
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<td>Engineering Safety Standards Interpretation</td>
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<tr>
<td>Environmental Management System Framework Development and Implementation</td>
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<td>Front-End Engineering and Design</td>
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<td>Geotechnical Engineering Management</td>
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<td>Instrumentation and Control Design Engineering Management</td>
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<td>Internet of Things Management</td>
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<td>Learning and Development</td>
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<td>Manpower Planning</td>
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<td>Market Research</td>
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<td>Mechanical Engineering Management</td>
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<td>Organisational Risk Management</td>
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<td>Procurement Coordination and Policy Development</td>
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<td>Programme Management</td>
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<td>Project Feasibility Assessment</td>
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<td>Project Risk Management</td>
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<td>Stakeholder Management</td>
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<td>Strategy Development</td>
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<td>Technology Road Mapping</td>
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<td>Workplace Safety and Health Culture Development</td>
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<td>Workplace Safety and Health Framework Development and Implementation</td>
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For a list of Training Programmes available for the Engineering Services sector, please visit: www.skillsfuture.sg/skills-framework/engineeringservices

The information contained in this document serves as a guide.