

| SKILLS FRAMEWORK FOR AEROSPACE   |   |   |  |              |
|--|---|---|--|--------------|
| SKILLS MAP - Senior NDT Level 3 Engineer (Aircraft Engine / Component Maintenance) |   |   |  |              |
| Sector   | Aerospace   |   |  |              |
| Track  | Aircraft Engine / Component Maintenance   |   |  |              |
| Occupation   | Quality Control/Assurance Engineer  |   |  |              |
| Job Role   | Senior NDT Level 3 Engineer (Aircraft Engine / Component Maintenance)   |   |  |              |
| Job Role Description   | <p>The Senior NDT Level 3 Engineer (Aircraft Engine / Component Maintenance) manages non-destructive testing (NDT) for assessing the quality of aircraft engines and components. He/She establishes new NDT techniques and qualify new procedures. He drives compliance of all NDT inspections with the requirements of customers, original equipment manufacturer (OEM) and EN 4179, NAS 410, National Aerospace and Defense Contractors Accreditation Program (NADCAP) as appropriate. He drives collaboration with workshops and engineering teams for failure investigations and recommends engineering solutions for structural flaws and defects. He develops special process control plans and manages equipment maintenance and operator certification programmes. He also monitors results of NDT for trends and corrective actions, and leads quality audits to ensure compliance with relevant standards and NDT requirements.</p> <p>He reviews compliance with airworthiness and legislative requirements, while proposing enhancements to the organisation's standard operating procedures (SOPs), and safety, health and quality systems. He proactively contributes to the development of lean and sustainability practices, and conducts research and digital innovation in NDT for continuous process improvements. As a team leader, he appraises staff performance and conducts coaching and training for level 1 and level 2 NDT personnel.</p> <p>He is able to work cross-functionally, employing critical reasoning, analytical thinking and problem-solving skills to identify deviations and mitigate potential quality risks in maintenance processes.</p> |   |  |              |
| Critical Work Functions and Key Tasks / Performance Expectations                   | Critical Work Functions   | Key Tasks   | Performance Expectations (For legislated / regulated occupations)*   |              |
|  | Perform non-destructive testing (NDT)   | Establish new NDT techniques for testing of aircraft engine and components  | In accordance with: <ul style="list-style-type: none"> <li>International Civil Aviation Organisation (ICAO) legislation</li> <li>Air Navigation Order (ANO)</li> <li>Singapore Airworthiness Requirements (SAR)</li> <li>Workplace Safety and Health (WSH) Act</li> <li>Environmental standards</li> <li>Aerospace quality management system standards</li> <li>NDT standards</li> <li>Special process standards</li> </ul> *Performance Expectations are non-exhaustive and subject to prevailing regulations |              |
|  |   | Qualify new NDT procedures for testing of aircraft engine and components  |  |              |
|  |   | Lead technical audits to ensure compliance with relevant standards and NDT requirements                                 |  |              |
|  | Contribute to engine and component maintenance, repair and overhaul (MRO)   | Review NDT documentation for compliance with regulatory and organisational requirements                                 |  |              |
|  |   | Manage collaboration with maintenance and engineering teams to detect and evaluate flaws in engine parts and components |  |              |
|  | Conform to management system requirements   | Optimise engineering solutions for structural flaws, defects and damages in engine and components                       |  |              |
|  |   | Propose enhancements to standard operating procedures (SOPs) for NDT operations   |  |              |
|  |   | Review compliance with corporate governance policies and legislative requirements                                       |  |              |
|  |   | Recommend improvements to environment, safety and health systems, policies and procedures                               |  |              |
| Contribute to continuous improvement   | Contribute to the development of organisational quality and risk management systems   |   |  |              |
|  | Contribute to the development of sustainability practices for engine and component maintenance  |   |  |              |
|  | Evaluate opportunities for continuous improvement projects  |   |  |              |
|  | Contribute to the development of lean practices for engine and component maintenance  |   |  |              |
| Manage people and organisational development                                       | Conduct research on market trends and technology applications to drive innovation   |   |  |              |
|  | Liaise with other teams and customers to ensure smooth operations   |   |  |              |
|  | Leverage data analytics to enhance operational and business decision-making   |   |  |              |
| Skills & Competencies  | Technical Skills and Competencies   |   | Generic Skills and Competencies  |              |
|  | Artificial Intelligence Application   | Level 3   | Problem Solving  | Intermediate |
|  | Aviation Legislation Compliance   | Level 3   | Sense-Making   | Advanced     |
|  | Big Data Analytics  | Level 3   | Decision Making  | Intermediate |
|  | Business Continuity Planning  | Level 3   | Service Orientation  | Intermediate |
|  | Business Negotiation  | Level 4   | Computational Thinking   | Intermediate |
|  | Business Performance Management   | Level 3   |  |              |
|  | Carbon Footprint Management   | Level 4   |  |              |
|  | Change Management   | Level 3   |  |              |
|  | Continuous Process Improvement  | Level 3   |  |              |
|  | Engineering Drawing Interpretation and Management   | Level 4   |  |              |
|  | Engineering Problem Solving   | Level 4   |  |              |
|  | Green Manufacturing Design and Implementation   | Level 3   |  |              |
| Human Factors Application and Error Management                                     | Level 3   |   |  |              |

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|--------------------------|--|---------|--|--|
|                          | Innovation Management  | Level 3 |  |  |
|                          | Internet of Things Implementation  | Level 3 |  |  |
|                          | Knowledge Management   | Level 3 |  |  |
|                          | Lean Manufacturing   | Level 3 |  |  |
|                          | Mathematical Concepts Application  | Level 3 |  |  |
|                          | Non-destructive Testing Management   | Level 4 |  |  |
|                          | Physics Concepts Application   | Level 3 |  |  |
|                          | Project Management   | Level 3 |  |  |
|                          | Quality System Management  | Level 3 |  |  |
|                          | Robotics and Automation Application  | Level 3 |  |  |
|                          | Stakeholder Management   | Level 3 |  |  |
|                          | Workplace Safety and Health Framework Development and Implementation   | Level 3 |  |  |
| <b>Programme Listing</b> | For a list of training programmes available for the Aerospace sector, please visit < <a href="https://www.skillsfuture.sg/skills-framework/aero">https://www.skillsfuture.sg/skills-framework/aero</a> > |         |  |  |

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