## TSC Category
Product Development and Testing

### TSC Description
Support new production by validating build plan to achieve cost-effective production and assembly as well as meeting design specifications

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<th>TSC Proficiency Description</th>
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<td><strong>Knowledge</strong></td>
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<td><strong>Abilities</strong></td>
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- Principles of electronics engineering
- Product specifications and production requirements
- Types of manufacturing processes
- Design for Assembly (DFA)
- Principles of risk assessment
- Organisational and legislative requirements
- Confirm trial objectives as a basis for comparison
- Review engineering components build plan for structural integrity and Design for Manufacturing and Assembly (DFMA)
- Evaluate materials selection in accordance with DFMA principles
- Evaluate machining plan in accordance with DFMA principles
- Evaluate assembly plan in accordance with DFMA principles
- Formulate and propose an engineering solution in dealing with complex and/or vaguely defined design tasks

- Review production trial results to achieve requisite product quality and production requirements
- Principles of electronics engineering
- Types of manufacturing processes
- Component and/or part design
- Principle of design rules
- Product and Process Design for Easy Assembly
- Design for Easy Assembly
- Design of Assembly Systems

- Guide new product introduction by evaluating build plan for the manufacture and assembly of a new product design using a systematic approach to design and evaluating the practicality of design
- Principles of electronics engineering
- Types of manufacturing processes
- Component and/or part design
- Principle of design rules
- Product and Process Design for Easy Assembly
- Design for Easy Assembly
- Design of Assembly Systems

- Develop build plan for the manufacture and assembly of a new product designs using a systematic approach to design
- Principles of electronics engineering
- Product and equipment specifications used in manufacturing and assembly processes
- Types of design constraints
- Different types of build plans
- Principles and techniques of Design for Manufacture (DFM)
- Principles and techniques of Design for Assembly (DFA)
- Principles and techniques of Process Failure Mode and Effects Analysis (PFMEA)
- Principles of risk assessment
- Organisational and legislative requirements
- Perform analysis of product requirements and determine suitable manufacturing and assembly process
- Perform analysis and determine design, manufacturing and assembly constraints
- Develop a build plan for the manufacture and assembly of the new product
- Determine feasibility of achieving desired build plan
- Record details of build plan, consultation, evaluation process
- Present build plan to seek endorsement
- Evaluate materials selection in accordance with DFMA principles
- Evaluate machining plan in accordance with DFMA principles
- Evaluate assembly plan in accordance with DFMA principles
- Formulate and propose an engineering solution in dealing with complex and/or vaguely defined design tasks

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| | | • Monitor and track implementation of build plan  
• Evaluate the build plan against DFM and DFA criteria | • Submit a full evaluation report on whether the engineering design meets functional requirements |