

Specification of Competency Standards
for the Manufacturing Technology
Unit of Competency

Functional Area - Business Intelligence and Information Technology

Title	Formulate company's "Industry 4.0" development strategy, plan and improve the implementation of innovative digital business models
Code	111558L6
Range	This unit of competency is applicable to the business intelligence and information technology departments, as well as supply chain management departments of companies in the manufacturing technology companies. Practitioners should be capable to formulate long-term, medium-term, and short-term goals and strategies based on the development of "Industry 4.0" and their own company's maturity, thus develop into smart enterprise
Level	6
Credit	6
Competency	Performance Requirements - Understand the relevant knowledge of company's "Industry 4.0" development strategy - Understand the development history and latest evolution of the global industrial revolution - Understand policies and implementation details of the fourth industrial revolution in advanced regions around the world - Understand concept, definition, purpose, motivation, challenges, and opportunities for businesses in the future of Industry 4.0 - Understand market trends, include globalisation, personalised product design, and aging society - Understand technology trends, include big data, digitalisation, artificial intelligence, the Internet of Things, and their cutting-edge developments - Understand "Industry 4.0" intelligent maturity standards, as well as definitions, intelligent operation characteristics, and requirements of each level - Understand cutting-edge developments that enable Industry 4.0, include various sensors, networks, data, and human-machine interfaces (HMIs) - Understand autonomous operation processes concept - Establish "Industry 4.0" development strategy - Able to integrate application scope of the "Industry 4.0" core architecture, include smart solutions, smart innovation, smart logistics, and smart manufacturing into the company culture - Able to integrate the core architecture of "Industry 4.0" into product and operational process design - Able to identify suitable human resources and standardise the required skills of personnel at all levels to promote the implementation of "Industry 4.0" - Able to leverage data, combined with company's core competencies and market and technology trends, formulate blueprint for developing innovative digital business models - Able to standardise technical solutions required for implementing innovative digital business models, include sensors, data connectivity, data transmission, data management, data analysis, data security, and data visualisation, and monitor effectiveness of solutions, continuously optimise solutions, and develop new specifications - Able to assess and predict adverse and unexpected impacts of key business operations, research and plan various related backup security strategies and solutions

	3. Professional handling to establish “Industry 4.0” development strategy • Able to ensure overall long-term interests of the company’s sustainable development • Able to prevent any abuse of power or fraudulent activities through the formulation of corporate “Industry 4.0” development policies
Assessment Criteria	The integrated outcome requirements of this unit of competency are: • Able to deeply analyse definition and origin of “Industry 4.0” , study market and technology trends, and establish corresponding standards for enterprises to achieve future intelligentisation • Able to leverage data to identify company’s core competencies, thereby research and standardise the implementation of innovative digital business models, plan and create intelligent products and / or services and / or solutions for company • Able to assess company’s core capabilities according to “Industry 4.0” intelligent maturity standard and formulate company’s “Industry 4.0” development strategy
Remark	Industry 4.0 maturity standards: Connectivity (0i): Data integration of systems such as APS, ERP, MES Visualisation (1i): Enhanced data availability Transparency (2i): Enhanced data interpretability Predictability (3i): Improved predictability by established patterns and simulated reality Adaptability (4i): Decision-making based on smart data Individuals who possess the above knowledge and competency are able to support the enterprise to achieve the Industry 4.0 digital maturity level of transparency (2i) to predictability (3i)