

TSC Category	Data Analytics					
TSC	Data Analytics System Design					
TSC Description	Integrate the use of data analytics within the manufacturing environment for identification of bottlenecks and opportunities for process improvement					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
			ECM-DAT-3001-1.1	ECM-DAT-4001-1.1	ECM-DAT-5001-1.1	
			Interpret data requirements for big data analytics to cleanse and transform data to support data analytics projects	Review requirements of statistical models to ensure alignment with business needs and deploy models to the manufacturing environment for operational use	Formulate hypotheses for business problems to select big data technologies and tools for implementation in the organisation, based on data requirements	
Knowledge			<ul style="list-style-type: none"> Tools and programming languages for ingesting, transforming and cleansing big data Nature, and sources, of data to be prepared Organisation's data collection processes Concepts of data quality Data modelling 	<ul style="list-style-type: none"> Key considerations of analytics architectures Analytical tools Data warehousing 	<ul style="list-style-type: none"> Tools and techniques for hypothesis formulation Components of different big data technologies and tools Pros and cons of different big data technologies and tools Big data framework types Data requirements required for analytics Data analytics plans 	
Abilities			<ul style="list-style-type: none"> Review data requirements required for analytics projects Ingest data from different sources into analytics platforms, using tools and/or programming language Cleanse and transform data, according to data requirements to support analytics projects Resolve and follow up with issues arising from data preparation 	<ul style="list-style-type: none"> Select runtime environments for statistical models to be deployed and user requirements with relevant stakeholders Define analytics architecture requirements with the Information Technology (IT) team to deploy statistical models Develop processes to support statistical model operations with relevant stakeholders 	<ul style="list-style-type: none"> Define business problems with business stakeholders Formulate hypotheses based on defined business problems Evaluate and select appropriate big data technologies and tools Design and drive solutions, based on business problems and hypotheses 	

SKILLS FRAMEWORK FOR ENERGY AND CHEMICALS
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT

				<ul style="list-style-type: none">• Monitor and tune deployed statistical models to ensure delivery of expected outcomes and alignment with business changes		
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