CC5. Cyber-Physical Manufacturing Enterprises

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TC Name	Keywords
5.1. Manufacturing Plant Control	Additive manufacturing
	Advanced manufacturing
	Advanced planning and scheduling
	Assembly and disassembly
	Bio-inspired manufacturing systems and self-organization
	Cyber-physical production systems
	Dependable manufacturing systems control
	Digital twins for manufacturing
	Discrete event systems in manufacturing
	Flexible and reconfigurable manufacturing systems
	Holonic manufacturing systems
	Human-centric manufacturing
	Intelligent maintenance systems
	Intelligent manufacturing systems
	Life-cycle control
	Maintenance engineering and management
	Maintenance models and services
	Manufacturing plant control
	Multi-agent systems applied to industrial systems
	Prognostics
	Smart assembly
	Smart factory
	Smart manufacturing
	e-Manufacturing technologies and facilities
5.2. Management and Control in Manufacturing and Logistics	Facility planning and materials handling
	Human-automation integration
	Industry 4.0
	Inventory control
	Job and activity scheduling
	Logistics in manufacturing
	Modeling of assembly units
	Modeling of manufacturing operations
	Operations research
	Procedures for process planning
	Process supervision
	Production activity control
	Production planning and control
	Quality assurance and maintenance
	Risk management
	Smart manufacturing systems
	Supply chain management
	Supply chains and networks
	Sustainable Manufacturing
5.3. Integration and Interoperability of Enterprise Systems	AI-based enterprise systems
	Business process management systems
	Collaborative networked organizations principles
	Cyber physical system
	Cyber-physical-social systems
	Decentralized information systems
	Digital enterprise
	Digital transformation
	Enterprise Reference Models and Their Verification, Validation, and Accreditation
	Enterprise integration
	Enterprise interoperability
	Enterprise modelling and BPM
	Enterprise networks design and implementation
	Internet of services and service science
	Internet-of-Things and sensing enterprise
	Interoperability standards
	Model-driven systems engineering
	Protocols and information communication
	Systems interoperability

5.4. Large Scale Complex Systems	Complex logistic systems
	Decentralized and distributed control
	Distributed navigation and control of unmanned autonomous vehicles
	Efficient strategies for large scale complex systems
	Hierarchical multilevel and multilayer control
	Identification and model reduction
	Integrated monitoring, control and security for critical infrastructure systems
	Intelligent decision support systems in manufacturing
	Intelligent system techniques and applications
	Knowledge discover (data mining)
	Methodologies and tools for analysis of complexity
	Modelling and control of hybrid and discrete event systems
	Modelling and decision making in complex systems
	Monitoring and control of spatially distributed systems
	Multiagent systems
	Optimization and control of large-scale network systems
	Water supply and distribution systems