openETCS Competence Matrix Record Template

The scale for the skill or knowledge level ranges from 0 (no competence) to 3 (advanced level of competence) and includes the years of experience in this competence. E.g. "(3,10)" representing an advanced level of competence with 10 years of experience in this field.

Personnel		**Company**					
Areas of expertise			Participant_1	Participant_2		Participant_n	
Application of CENELEC Standards EN 50126							
EN 50129							
EN 50128							
... **Application of TSI-CCS Standards** TSI-CCS							
Subset-026							
Subset-027							
Other Subsets of the TSI-CCS **Application of of railway regulations** French national regulations							
German national regulations							
Netherland national regulations							
Other european national regulations							
Experience in Application Domain ERTMS/ETCS Train Development							
Track Development							

Personnel		**Company**				
Areas of expertise			Participant_1	Participant_2		Participant_n	
Control and Signalling System Development							
Operations **Experience in Application Domain safety attributes of ERTMS/ETCS** **Hazard and risk analysis of safety-related railway systems** FTA							
FMEA							
FMECA							
HAZOP							
... **Requirements engineering** System requirement techniques							
Software requirement techniques							
Formal methods							
Structured methodology							
Requirements Modelling							
Tool: Doors							
Tool: ProR							
Development of safety-related systems System architecture techniques							
System design approach: V - Modell Development							
System design approach: Agile Development							
System safety design principles							
Model based system design: SysML							

Personnel		**Company**				
Areas of expertise			Participant_1	Participant_2	Participant_n	
Model based system design: Event-B						
Model based system design: Petri nets						
Model based system design: SCADE						
Model based system design: GSN (Goal Structure Notation)						
Development of software for safety-related systems Software Configuration Management						
Software architecture techniques						
Open Source Software Development principles						
Software design techniques: V-Model Software Development						
Software design techniques: Agile Software Development						
Software design techniques: Compiler						
Software design techniques: Data Converter						
Model based interface specification: XML						
Model based interface specification: XML						
Model based software design: UML						
Model based software design: SysML						
Model based software design: VDM						
Model based software design: z-, B-Method						
Model based software design: System C						
Model based software design: Java (Eclipse)						
Model based software design: SCADE						

Personnel		**Company**				
Areas of expertise			Participant_1	Participant_2		Participant_n	
Model based metamodel design: ECORE (EMF)							
Model based database design: ERD							
Model based software design: other formal methods							
Language ADA and coding standards							
Language C, C+ and coding standards							
Distributed revision control: GIT							
Tool: Papyrus							
Testing, verification and validation of safety-related systems ERTMS/ETCS Test Specifications							
Safety related system test execution techniques (verification & validation)							
Safety related system test evaluation techniques (verification & validation)							
Subset-076 testing							
Logic checking of requirements							
Method: Conformance analysis							
Method: Coverage analysis							
Safety related system test evaluation techniques (verification & validation)							
Software in the Loop test techniques							
Model based system test techniques							
Formal verification techniques							
Formal validation techniques							

Personnel		**Company**				
Areas of expertise			Participant_1	Participant_2		Participant_n	
Testing, verification and validation of software for safety-critical systems Functional Software verification and validation techniques							
Software performance verification and validation techniques							
Safety related software verification and validation techniques							
Model based software test techniques							
Interface testing							
Implementation testing							
Assessment of safety-related railway systems and software ERTMS/ETCS system context assessment							
Safety related system assessment techniques							
Safety related software assessment techniques							
Process assessment							
Tool assessment							
Acceptance/licence from recognised safety authority							