BEM content (for all partners)	Title/name of the credential	Data Warehouse (DWH) - Design, Integration and Data Management		
	Function of the micro-credentials / purpose	The focus of this microcredential is to equip learners with foundational knowledge for creating and implementing effective DWH solutions, using Entity - Relationship (ER), dimensional model (Star and Snowflake schemas) and advanced data integration techniques. Learners will also gain expertise in data integration using Structured Query Language (SQL) Server Integration Services (SSIS) for incremental data loads. With this course, participants will be able to manage complex DWH systems supporting business intelligence and analytic processes.		
	Possible target groups	Individuals of all backgrounds and ages with prior knowledge in SQL		
	Branch/sector of application	Information Technologies Data Engineering Business Intelligence		
	Fields of application / work environment	IT Infrastructure and Database Management Data Warehouse Teams Business Intelligence and Analytics		
	Typical work/professional tasks	Designing DWH architecture and optimising its processes Structuring databases using Star and Snowflake schemas Executing data integration processes (ETL - Extract, Transform and Load) including incremental data load using SSIS Ensuring proper data integration, it's consistency and accuracy for analysis, decision-making and other business intelligence operations		
		Knowledge	Skills	Competences

	Learning outcomes (personal and job related)	**Knowledge:** In-depth understanding of core principles and usage of DWH design and architectures, and all its elements. Knowledge of database structuring of Star and Snowflake schemas, their differences and application Comprehensive understanding of data integration techniques and the role of SSIS in managing data loads. Understanding the importance of diligently managing multidimensional data, to ensure consistency and accuracy. **Skills:** Ability to: - Design and implement DWH database using Star and Snowflake schemas; - Execute data integration and ETL processes using SSIS for incremental data loads; - Manage multidimensional data for data consistency and reliability ; - Optimise DWH performance for business intelligence purposes. *Learning outcomes should be formulated in commonly accepted way, see the link:https://eurspace.eu/ecvet/pedagogicalkit/framework-for-defining-learning-outcomes-knowledge-skills-competence/* *Can be used the formulation format of National Qualification Framework descriptors, adjusting and applying that format for relevant job.*	
	Validation	criteria	procedures

		Validation will be conducted through a practical assignment. **Procedure:** Students will need to complete a final project consisting of database design, data integration and ETL processes. Database design will be checked through their ability to design and implement a DWH database focusing on Star and Snowflake schemas, while data integration will be tested on their proficiency in executing incremental data loads and managing multidimensional data. **Criteria:** Successful delivery of a project that demonstrates ability to create a working DWH database and successfully perform incremental data loads with SSIS.
	Recognised/accepted (documented by MoU)	Name of companies Target Group
	Provider(s)	Private EduTech companies, Vocational-Educational schools
Additional information (if needed)	Entry level / prerequisites	Advanced knowledge of Structured Query Language.
	Possible duration (recommendation)	20 hours (10 theoretical + 10 practical)
Specific content (national) (if needed)	Position in the chain of educational programmes	Standalone micro credential
	Reference to NQF	
	Credits	