# ITINERAY DIGITALIZATION IN LOGISTICS

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Future logistics, from global to urban, will be based on an open global system of systems that allows assets and resources to be interconnected in logistics networks, facilitating their use at maximum capacity and productivity, while increasing the agility and resilience of supply chains. We call this vision the physical internet (IP) and it will support the affordable transition of assets to zero-emission logistics.

To design the training itinerary of the DIGinLOGS project, six research areas are used.
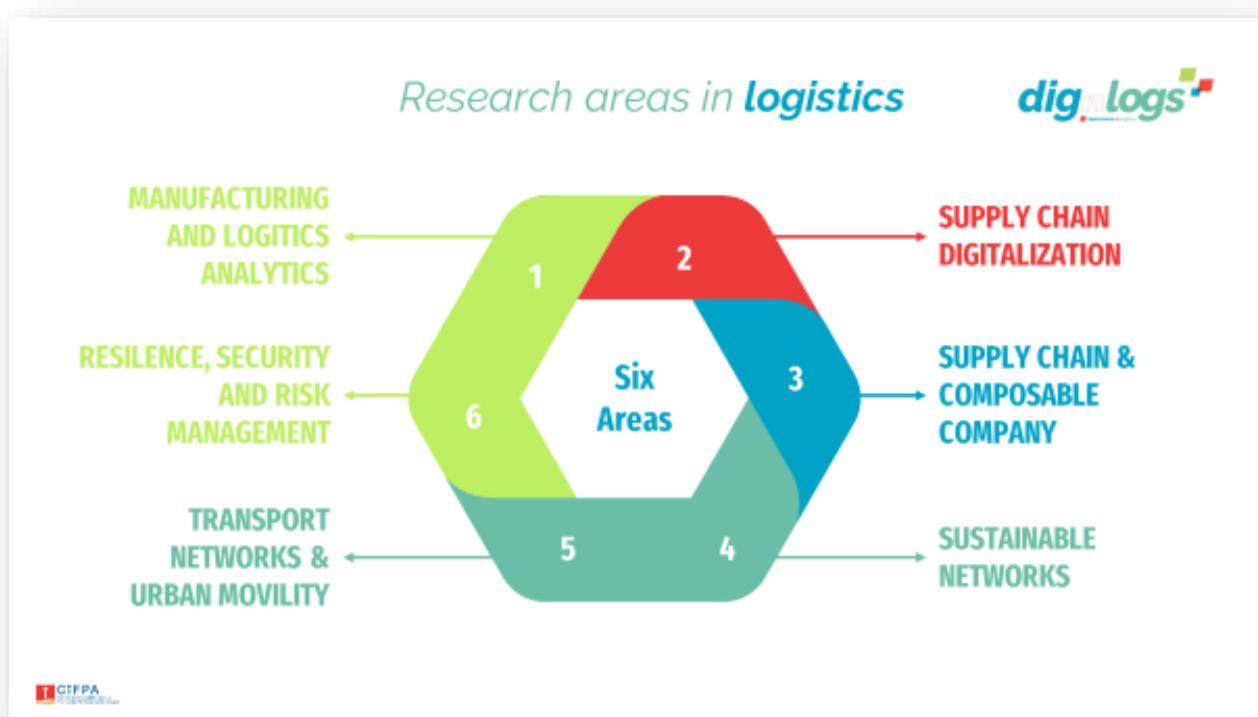
1. *Manufacturing And Logistics Analytics*

This area of research focuses on addressing operational decision-making issues focused on examining plant control management technologies to improve operational performance. The application of business analytical tools to understand and leverage empirical and formal connections between business drivers in the supply chain provides opportunities to create new insights to examine the effects of new supply chain enablers, as well as generate new theories that explain these connections. The application of quantitative tools in production environments seeks to bridge the gap between problems in the use of information technology in the supply chain, for example, real-time data management to improve the performance of pull, push and hybrid production systems.

2. *Resilience, Security and Risk Control*

In recent years, supply chains have become more globalized and therefore more vulnerable. It was after 9/11 that governments and practitioners became more aware of the fact that supply chains could be compromised by security risks, such as theft, counterfeiting, as well as risks related to terrorism or natural hazards. There are different methodologies for risk management, a risk-based approach to supply chain management, and supply chain models that integrate security risks and controls as well as supply chain disruptions and resilience

3. *Digitalization of the supply chain*

The digitization of information and the application of advanced innovative technologies present the opportunity to drive business value across the supply chain; Companies need to move from linear, sequential supply chains to an interconnected and open system of supply operations.

Companies will need to break down their organizational silos to move to interconnected digital networks.

4. *Sustainable Networks*

Progress is being made towards a truly integrated transport system as the vision to achieve significant progress in terms of efficiency, effectiveness and sustainability of freight transport and logistics, creating value and adding competitiveness to all manufacturing and retail sectors in Europe.

The ambition is to achieve commodal transport services across the EU within a well-synchronised, smart and seamless network, supported by corridors and hubs, providing optimal support to supply chains. It involves a radical change from the current system, towards the definitive vision of the physical Internet, by synchronizing intermodal services between modes and with chargers with different speeds and delivery times (called Synchronodality), aligning equipment and services in corridors and centers and integrating them into networks. (https://www.etp-logistics.eu/roadmaps-3-2/corridors-hubs-and-synchromodality-2/)

5. *Supply Chain and composable company*

The composable business idea operates on four basic principles: more speed through discovery; greater agility through modularity, better leadership through orchestration; Resilience through autonomy

6. *Transport Networks and urban mobility*

Urban mobility is always under pressure. Future challenges ahead include the growth of urban populations, how to build and maintain infrastructure,

the economic and environmental costs of congestion, demands for greater accessibility and safety, and the question of how to improve air quality. Based on a comprehensive analysis, eight social and urban mobility challenges are addressed: Achieving sustainable urban growth; decongesting our transport networks; growth of interdisciplinary talent; Eco-efficient and safe transport of people and goods, including waste: data exploitation; Boosting the competitiveness of the mobility industry); shaping the framework for regulatory and behavioural change and Urban governance. (https://www.eiturbanmobility.eu/about-us/
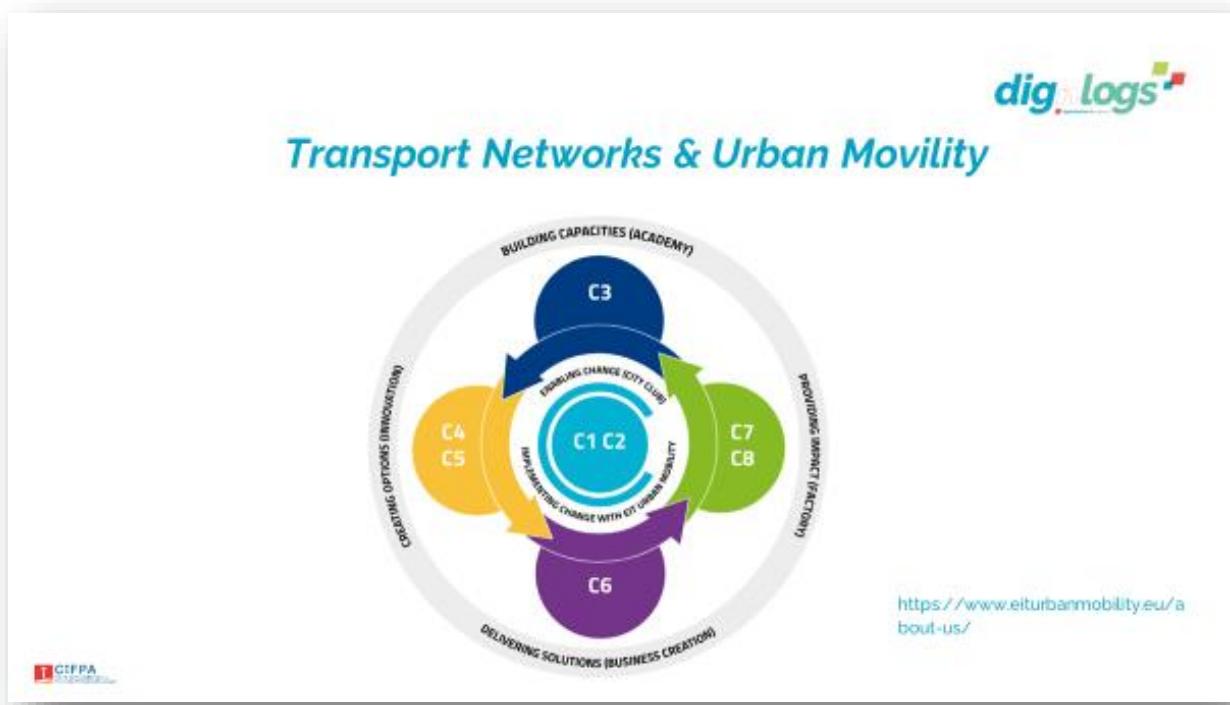
Of these six areas, defined by the needs that arise in the European environment, the following training itinerary is defined by consensus of the four partners.

Module D1	**Company Management** • Digital Transformation & StrategyComposable Company (Modular)Now. Sustainable Networks2Supply Chain Disruptions	
Module D2	**Physical Internet** • Definition & TopicsHorizontal CollaborationSystems and Technologies for Interconnected LogisticsGlobal Supply Network Coordination & Collaboration	
Module D3	**Supply Chain digitalization** • Management and optimization of information flows. • Tools Used in Logistics Operations • Towards a New Economy (Interconnected Supply Chain) • Evolution and complexity	
Module D4	**Analytics. Global, Manufacturing and Logistics KPIs** • Big Data . All data is our dataData managementBI tools KPIs. Definition and design	