Do you want to become a research partner? Contact Carolina Ciprés, Director of Research Programs:

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ZLC International Research Partner
TALENT HUB FOR SUPPLY CHAIN
Zaragoza Logistics Center, ZLC is a research and education center affiliated to the MIT (Massachusetts Institute of Technology). ZLC's research programs are aligned to ZLC's mission of focusing on enhancing economic growth and competitiveness through innovation. Aragon's regional university and government, and industry partners, serve as an exclusive model of closer cooperation between industry, public administration and academia in funding research and using the knowledge transfer accumulated to rapidly reap commercial rewards.

Our research partners:

INTERNATIONAL RESEARCH PARTNER

“...signing of our Collaboration Agreement is built on the recognition of an already fruitful relationship and is meant to facilitate an even closer cooperation in the future.”

Sergio Barbarino
Research Fellow, Supply Network Innovation Center at Procter & Gamble
Chair, ALICE ETP on Logistics

ZLC promoted the European Technology Platform in Logistics ALICE that provides support to the European Commission for the implementation of the EU program for research (Horizon 2020). ALICE is a result of the European project “WINN – European Platform Driving Knowledge to Innovations in Freight Logistics” coordinated by ZLC through CNC-LOGISTICA (Nacional Centre of Excellence in Logistics).

ZLC has representation in the Steering Group and coordination/collaboration in four different Working Groups.

Key Figures

1ST 325+
100+ 90+
10+ 20+

Countries of origin in our researchers and faculty body
Partners in research projects
European Union-funded projects
Referred publications and books (or chapters)
R&D collaborative projects
Entity in number of European research projects on logistics in Spain

ADVANCED INVENTORY MANAGEMENT
HEALTHCARE OPERATIONS
PURCHASING & SUPPLY CHAIN MANAGEMENT
SUPPLY CHAIN & FINANCE
SUSTAINABLE NETWORKS
COLLABORATIVE VALUE NETWORKS
MANUFACTURING & LOGISTICS ANALYTICS
RESILIENCE, SC SECURITY & RISK MANAGEMENT
SUPPLY CHAIN DIGITALIZATION
TRANSPORT NETWORKS & URBAN MOBILITY
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“We have been partnering with ZLC for a few years now on different projects and capacities exchanging knowledge and challenges for mutual benefit. The signing of our Collaboration Agreement is built on the recognition of an already fruitful relationship and is meant to facilitate an even closer cooperation in the future”.

Sergio Barbarino
Research Fellow, Supply Network Innovation Center at Procter & Gamble
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ADVANCED INVENTORY MANAGEMENT

Developing inventory management strategies and models to increase supply chain value, particularly using stochastic inventory models where randomness could originate from either demand or supply.

- MAIN ACHIEVEMENTS:

CLARIANT

Research project: Inventory Optimization as a Business Advantage, sponsored by the global chemical company Clariant, on how the implementation of dynamic inventory policies can contribute to free up valuable working capital.

PURCHASING & SUPPLY CHAIN MANAGEMENT

Purchasing strategy, process and organization; Buyer-supplier relationships; Supply base management and performance management; Public procurement.

- MAIN ACHIEVEMENTS:

International Purchasing Survey (IPS) project focusing on purchasing strategies, practices, and performance of companies in the manufacturing and service sector.

Supply chain performance measurement systems (SCPMS) project analyzing business cases and dyadic survey data on the design and adoption of performance measurement systems across the supply chain.

Innovation network project focusing on how companies can identify and exploit innovation opportunities generated by the acquisition of unfamiliar complementary assets through the reconfiguration of their network of relationships and the establishment of double loop learning mechanisms.

MANUFACTURING & LOGISTICS ANALYTICS

Addressing operational decision-making problems focused on examining shop floor control management technologies to improve operational performance.

- MAIN ACHIEVEMENTS:

COLLABORATIVE VALUE NETWORKS

Providing a comprehensive methodology to develop, analyze and discuss the boundary spanning processes of partner companies in the supply chains, both vertically and horizontally. Identification of collaborative mechanisms to create value and competitive advantage through the network.

- MAIN ACHIEVEMENTS:

Project to integrate strategies in DHL-Carrefour collaboration relationships.

INSPIRE

INSPIRE project: Towards growth for business by flexible processing in customer-driven value chains, on developing innovative business models to increase the competitiveness of European manufacturing and thus promote more local production in Europe.

CO3 project: Collaboration Concepts for Comodality, on improving transport efficiency (achieving higher load factors) and sustainability through horizontal collaboration.
RESILIENCE, SC SECURITY & RISK MANAGEMENT

Methodologies for risk management; Risk based approach to SCM; supply chain models integrating risks and security controls; supply chain disruptions and resilience.

• MAIN ACHIEVEMENTS:

CORE project: Consistently Optimized Resilient Secure Global Supply-Chains, demonstrating how an ecosystem integrating interoperability, security, resilience and real-time optimization can produce cost effective, fast and robust solutions, all implemented on several business demonstrators. ZLC is coordinating three of these demonstrators together with leading companies in manufacturing and distribution: BSH, DHL and Procter & Gamble.

B/S/H/

The goals of these demonstrators are several: 1) improve ETAs forecasts in intercontinental shipments, 2) facilitate customs transit declarations, 3) show how reduced lead time uncertainty can lead to overall improvement of inventory policies, 4) improve security in inland transport and 5) improve cold chain transport by means of innovative chilling technologies.

SAFEPOST project: Re-use and development of Security Knowledge assets for International Postal Supply Chains, raising the level of postal security by integrating screening solutions with operational processes and customs intelligence work. A tool was developed in order to assess the feasibility of additional security in postal chains. The tool is currently being used in risk management courses, in order to raise awareness of the impact of security countermeasures on supply chain performance.

CASSANDRA project: Common assessment and analysis of risk in global supply, reducing costs and improving security through risk assessment and data-sharing. The project is aimed at defining and developing a data pipeline in order to enhance both B2B and B2G information sharing. The data pipeline is expected to improve supply chain security, by improving monitoring, customs risk management, supply chain risk management as well as system based auditing procedures.
TRANSPORT NETWORKS & URBAN MOBILITY

Promoting multimodality, the creation of transport networks and the improvement of logistics parks as fundamental nodes for the development of the supply chain. Developing new business models for urban mobility and SUMP’s.

- MAIN ACHIEVEMENTS:
  
  **SMART RAIL**
  
  **SmartRail project: Smart Supply Chain Oriented Rail Freight Services**, improving the freight rail services offered to the shippers, focusing on the five key performance indicators: reliability, lead time, cost, flexibility and visibility.


**SOLUTIONS project: Sharing Opportunities for Low Carbon Urban Transportation**, supporting the uptake of innovative sustainable urban mobility solutions in Europe and other regions in the world, in particular in Asia, Latin America and the Mediterranean.
SUPPLY CHAIN & FINANCE

Studying operational decision-making problems in the presence of financial frictions; investigating the trade-off between operational and financial flexibility; evaluating the impact of supply chain finance schemes in SME performance.

• MAIN ACHIEVEMENTS:

Rolling tires, Inc. game: Development of a simulation game that reflects the impact of operational decisions on a firm’s working capital. The game addresses the challenges faced by a firm that is in the process of expansion and modernization. Teams are asked to select among different operational actions which may increase the firm’s profitability, but also affect its working capital. Each team’s goal is to make the appropriate decisions to improve the performance of the firm, as measured by three KPIs in its scorecard, namely: (1) Sales Growth; (2) Net Margin; and (3) Fill Rate.

SUPPLY CHAIN DIGITALIZATION

How digitalization will enable organizations to transform their existing supply chain structures into more flexible, open, agile, and collaborative digital models, saving time, money and resources.

• MAIN ACHIEVEMENTS:

SELIS project: Towards a Shared European Logistics Intelligent Information Space, proposing a network of logistic communities’ spaces termed SELIS Community Nodes (SCN), providing a ‘lightweight ICT structure’ to enable information sharing for collaborative sustainable logistics for all at strategic and operational levels. ZLC is working on the development and implementation in selected Living Labs of tools related to improvement of green logistics, supply chain optimization and supply chain finance.

SUSTAINABLE NETWORKS

How environmental concerns could be integrated into operational decision making throughout the supply chain.

• MAIN ACHIEVEMENTS:

AGROinLOG project: Demonstration of innovative integrated biomass logistics centers for the Agro-industry sector in Europe, enhancing the accuracy of the business models and contributing towards seasonality avoidance, rural development and bio-economy goals.

HEALTHCARE OPERATIONS

Demand management and pharmaceutical supply chain network optimization; investigating segmentation and advanced lean system approaches to support humanitarian recovery.

• MAIN ACHIEVEMENTS:

Development of a model that takes a novel approach to the rebuilding of storm-ravaged neighborhoods by framing the process as a supply chain challenge.

LEARN project: Logistics Emission Accounting and Reduction Network, establishing coordinated networks of industry, government and civil society stakeholders to drive consistent and transparent emissions measurement and reporting across the global supply chain.
Our research partners:

Core Research Areas

ADVANCED INVENTORY MANAGEMENT
HEALTHCARE OPERATIONS
PURCHASING & SUPPLY CHAIN MANAGEMENT
SUPPLY CHAIN & FINANCE
SUSTAINABLE NETWORKS

COLLABORATIVE VALUE NETWORKS
MANUFACTURING & LOGISTICS ANALYTICS
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