



# PROJECT OVERVIEW

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- About LOGISTAR
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- Work packages structure
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# About LOGISTAR

Consortium of **15 partners**, coordinated by the University of Deusto (Spain)

- Budget:
- Duration: **36 months** (Started June 2018)

Project managed by INEA agency - Innovation and Networks Executive Agency (European Commission)

Project funded by H2020:

- Work programme: **Smart, green and integrated transport**
- Call: MG-5.2-2017: **Innovative ICT solutions for future logistics operations**

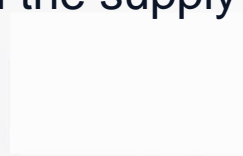
# LOGISTAR overall concept

LOGISTAR aims to: allow **effective planning and optimization of transport operations**

- By taking advantage of **horizontal collaboration** and relying on the increasingly **real time available data** gathered

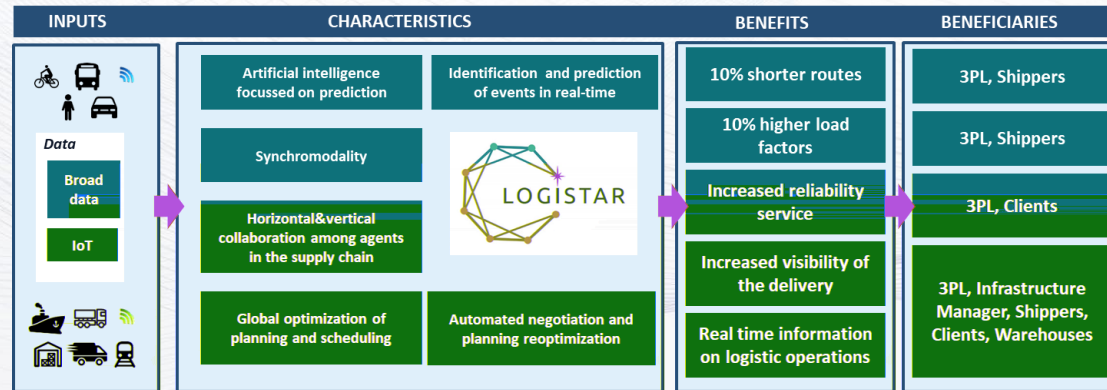
Development of a **real-time decision making tool** and a **real-time visualization tool** of freight transport

- With the **purpose of delivering information and services** to the various agents involved in the supply chain





# LOGISTAR overall concept

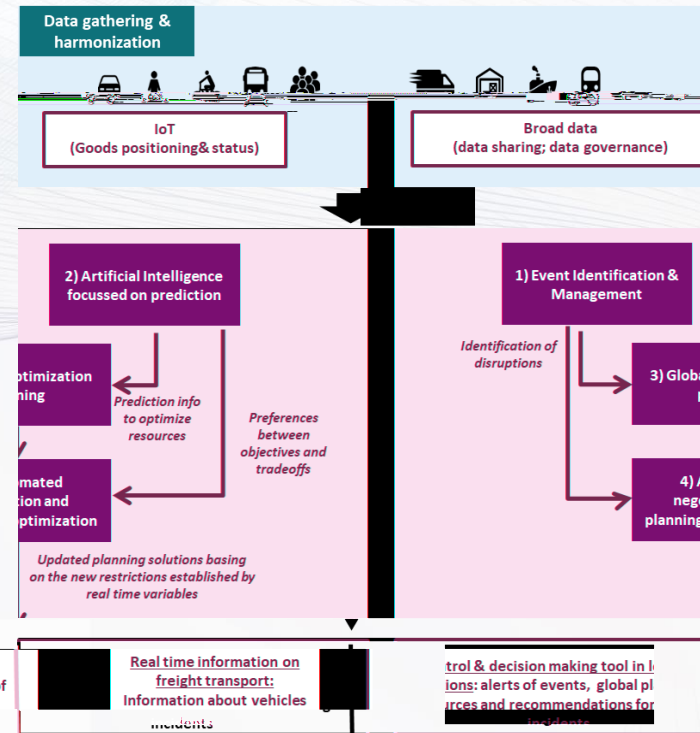


- ✓ **Increasing by 10% the load factors of freight vehicles:** optimization techniques
- ✓ **Shortening by 10% the delivery routes** by relying on synchromodality
- ✓ **Increasing the reliability and efficiency of services:** predicting events and incidents.
- ✓ **Facilitating the management of logistic operations:** providing dashboards and showing alerts or recommendations.
- ✓ **Increasing the visibility of the delivery** derived from the use of sensors to monitor the goods shipped and boosting data sharing

- Identify **logistic open data sources** and **harmonize** this with the closed sources
- **Increase accuracy planning of operations** by applying **artificial intelligence**:
  - Timing predictions
  - Learning preferences of logistic chain participants
- Identify potential **disrupting events** and take relevant actions with **machine learning**
- Make the **best use of resources**
  - Provide possibilities for horizontal collaboration
  - Provide **optimization methods to transshipment planning and scheduling** in hubs and freight transport networks
- **Allow the negotiation among different agents** involved in the supply chain **considering any constraints arisen in real-time**

# LOGISTAR overall concept

- To **leverage the available data**, to process it and **to deliver services**
  - Data will be retrieved and harmonized
  - Sensors will be **connected to a cloud IoT platform**
- Information used by **smart algorithms for**
  - Predictions
  - Learning the preferences
  - Optimization of the planning of operations
  - Automated negotiation and re-optimization
- Real-time dashboards** which will provide an overview to managers of what is happening



# Key innovation aspects

- **Artificial Intelligence focused on prediction**
  - Inference based on event detection and probabilistic programming frameworks
- **Global optimization planning**
  - Realistic optimization models based on Robust and Multi-Objective Optimization.
  - Hybrid metaheuristics based on paradigms of parallel computing
- **Automated negotiation and planning re-optimization**
  - Constraint satisfaction problem solving techniques
- **Event Identification Rules**
  - A new application domain for the processing of complex events and their aggregation
- **Service layer Decision making tool**
  - Increased data gathering, cleansing and structuring
- **Data gathering techniques**
  - ETL tools for Linked Data. Scraping and transforming





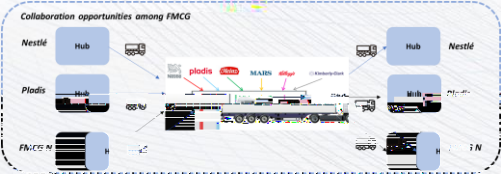
## CONTROL AND DECISION-MAKING TOOL

Integral visibility and planning of resources

Planning of dynamic routing

Optimized

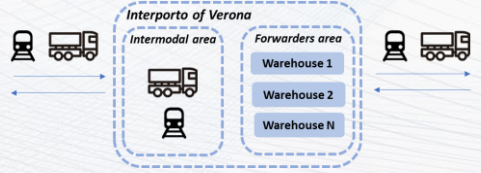
REAL-TIME INFORMATION ON FREIGHT  
TRANSPORT



## Backhauling and Co-loading

To improve backhauling management

Overall overview of the status of the operations



## Synchromodality

Real time re-planning due to disrupting events

Planning of synchromodal routes

Dynamic assignation of freight transport networks

Real time monitoring



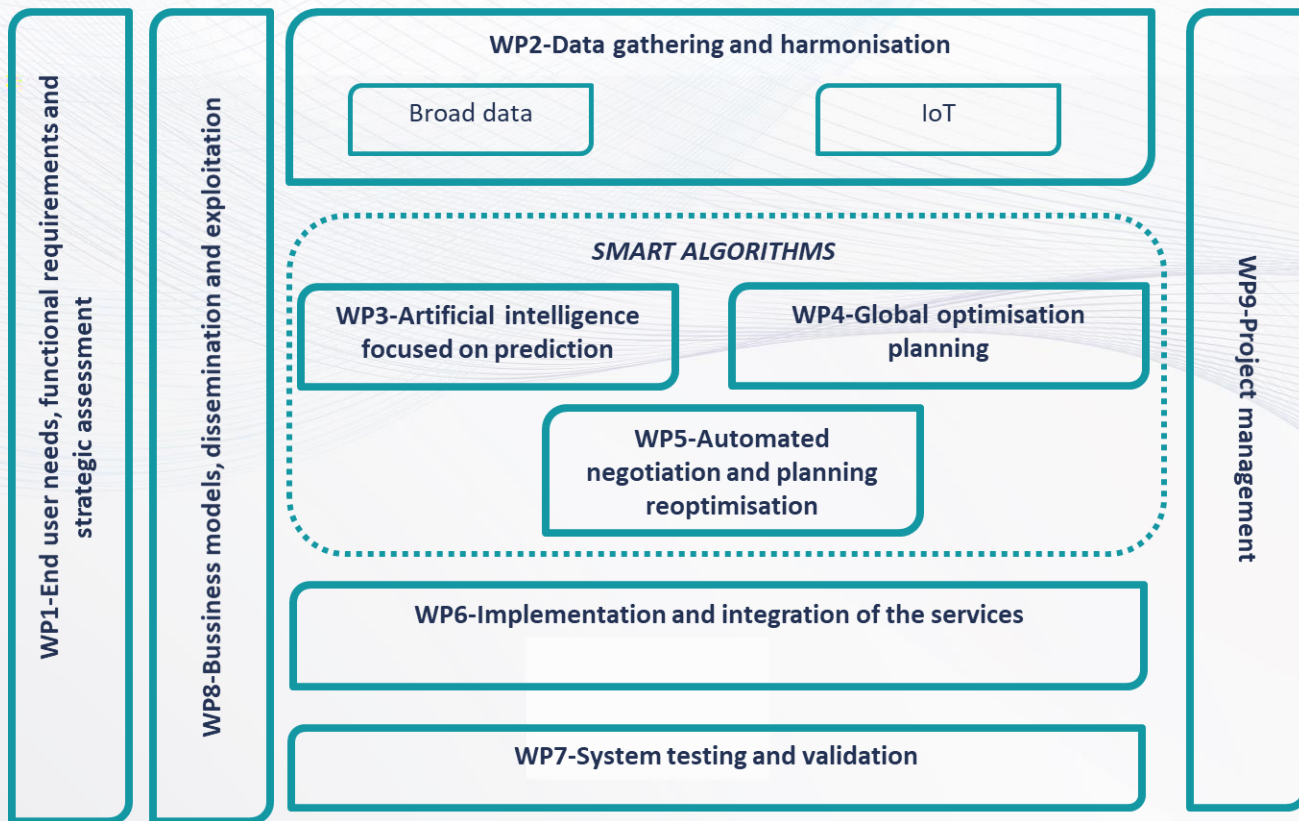
## Reduction of empty kms

















Real-time optimization of the transport network

Improve trips combinations



# Work packages structure



 	Project Coordinator Global optimization planning techniques	 dbh Logistics IT AG	Implementation and integration of services
	Artificial Intelligence techniques focused on prediction		Geo-special oriented software solutions
	Automated negotiation algorithms		Testing and validation – Real time logistics in chemical industries use case
	Cloud IoT data		Testing and validation – Synchromodality use case Dissemination activities
	Data gathering and harmonization		Testing and validation – Backhauling and co-loading use case
	End-users engagement		Testing and validation – Backhauling and co-loading use case
	New and emerging business models assessment		Testing and validation – Synchromodality use case
	Predictive analysis and processing of real-time data		





# Contact details



[www.logistar-project.eu](http://www.logistar-project.eu)



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