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Sustainable Organisation between Clusters of Optimised Logistics @ Europe

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International Conference
10 October 2013
Mersin

DINALOG Dutch Institute for Advanced Logistics
HOLM HOUSE OF LOGISTICS AND MOBILITY
Alia Asociación Logística Innovadora de Aragón
LUND UNIVERSITY
MTSO

Logistics and supply chain concept

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- Key enabling sector for the European economy
  - in terms of value added or GDP (~14% via logistics industry)
- Substantial impact on the quality of the EU manufacturing sector
  - determining the competitiveness of Europe vis-à-vis other world regions
- Towards cheaper, more customised and more responsive services
  - supported by a full integration and synchronisation of manufacturing, inventory and transport chains (i.e. supply chain integration)
- Logistics sector provides service to industries and customers
  - essential to develop proper support for R&D in this field

Logistics and supply chain concept

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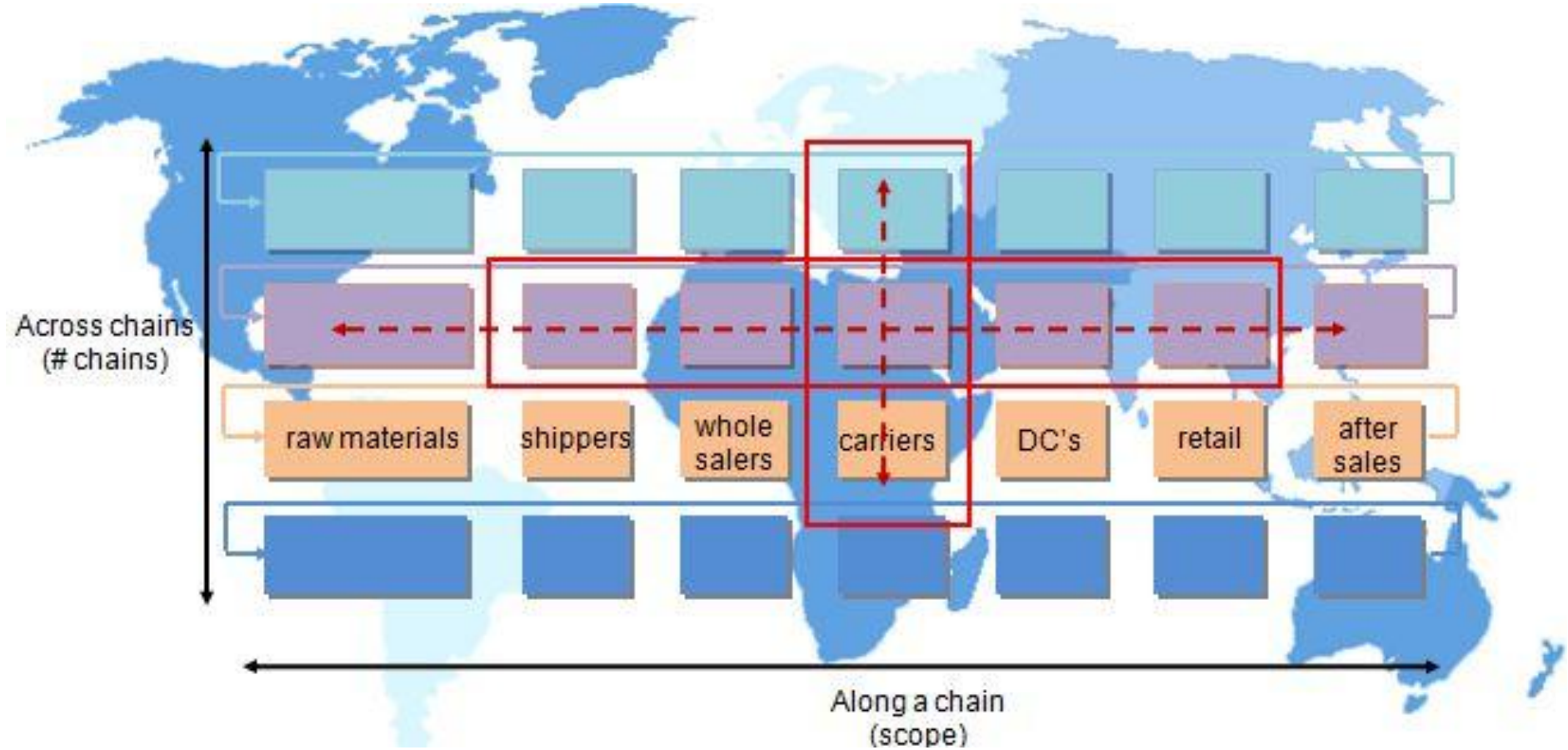

SoCool@EU scope

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WHAT

To create an open European platform of excellence in the area of supply chain management and logistics in connection with hubs and gateways

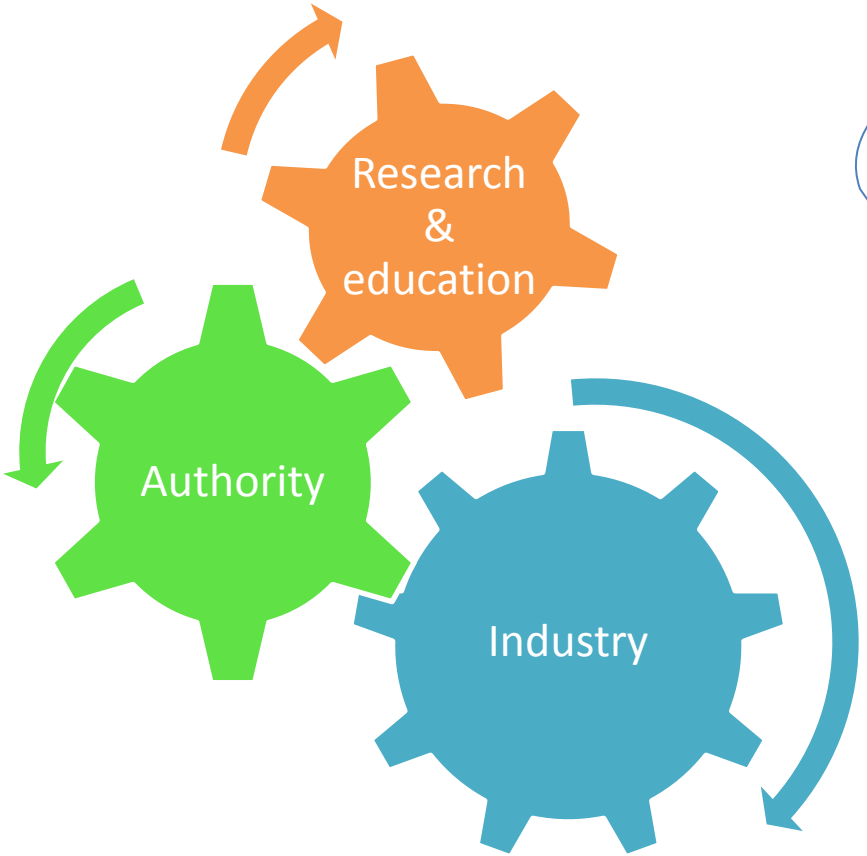
HOW

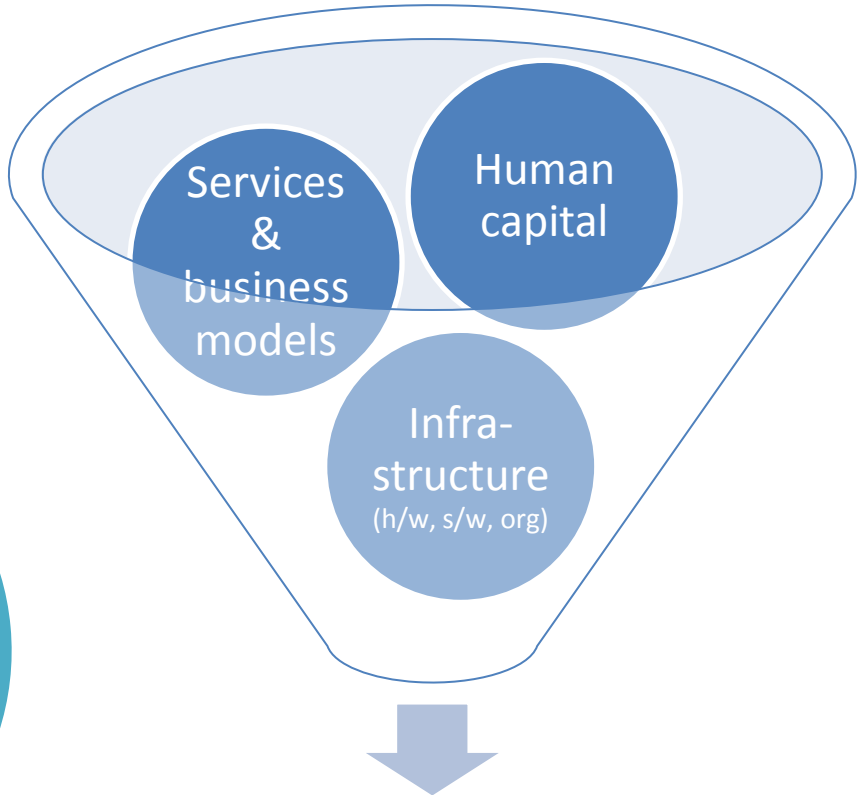
Enabling research-driven regional clusters throughout Europe to collaborate and exchange experiences

WHY

To increase sustainability and competitiveness of logistical services and (intermodal) transport operations

Logistics clusters





Sustainable logistics

Project general information

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- Project aim
  - to enable research-driven clusters to collaborate and exchange experiences for increasing sustainability and competitiveness of logistics services and transport operation
- Project duration: 01-01-2012 / 31-12-2014
- Funding scheme: CSA-CA
- Project type: FP7-REGIONS-2011-1
- EC contribution: ~ EUR 2.5 mil.
- Consortium (five clusters)
  deep-sea hubs, airports, land-hubs, short-sea

Consortium partners & participating third parties

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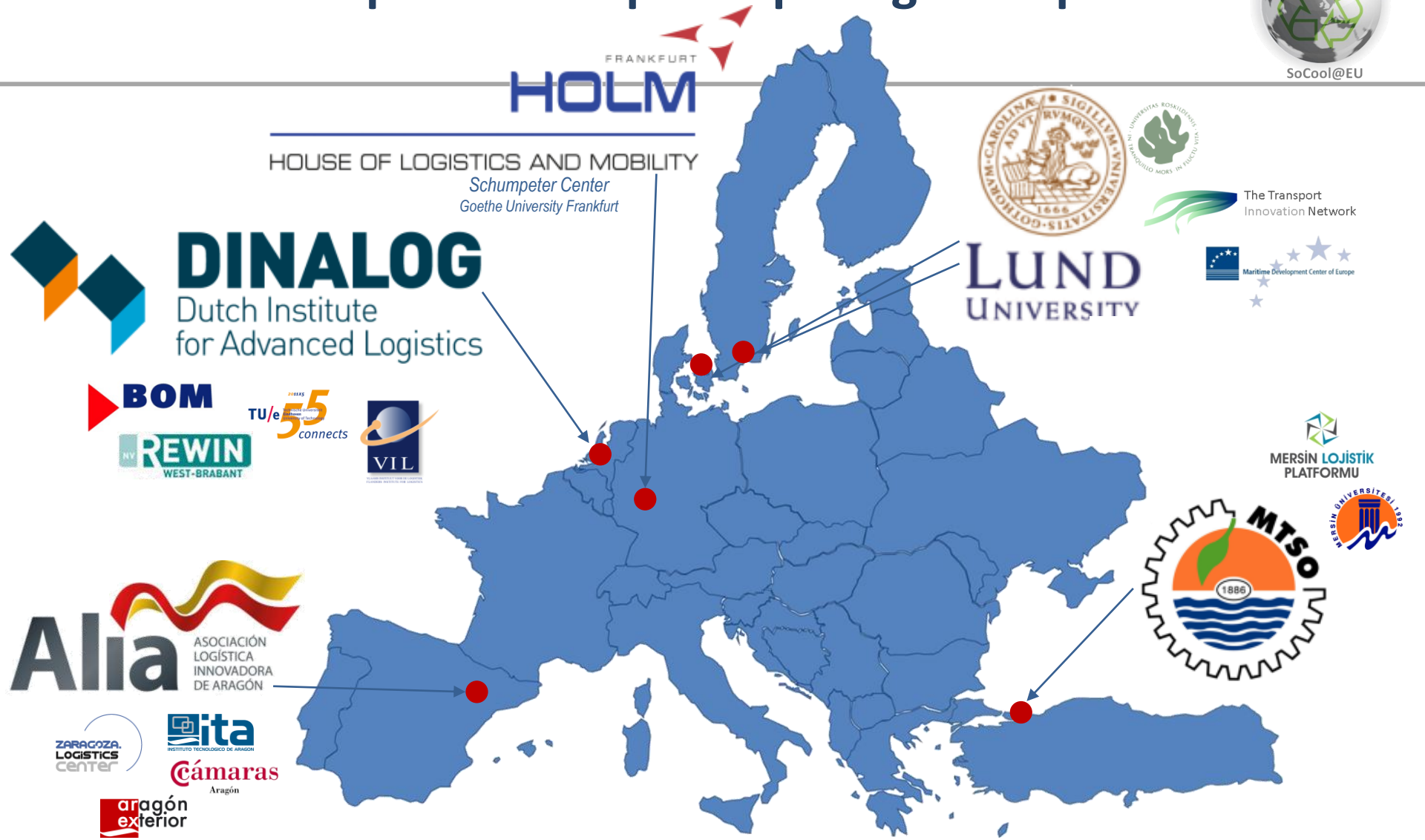

SoCool@EU main tasks

Analysis / integration research agendas	▪ Statistical analysis state of play ▪ Construction of an online-questionnaire ▪ Open cluster expert interviews ▪ Meta analysis ▪ Interpretation and verification of collected data
Definition of a JAP	▪ Cluster conference and discussion panels ▪ Development of a JAP ▪ Business plan
Measures towards the implementation of a JAP	▪ Breaking down the JAP into an operable project planning system ▪ Definition of a platform concept through knowledge exchange
Support activities relating to mentoring	▪ Identify the strengths and weaknesses of the mentoring region ▪ Initiatives to implement mentoring actions ▪ Set up platform and disseminate best practices ▪ Company audits to identify problems and develop policies ▪ Set up awareness-raising sustainable logistics activities

SoCool@EU method, inputs, outcome

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Logistics cluster analysis → Joint Action Plan and Business Plan

- Public statistics
- Company survey
- Expert interviews
- Meta Analysis

Regional workshops
Expert-driven discussion of mapping results and identification of fields for action within each cluster

Definition of Joint Action Plan
Identification and specification of common fields for action across all clusters (common requirements definition)

Partner workshop
Suggestion, discussion and selection of specific projects from the identified fields for action for implementation

Definition of Business Plan
Collaborative specification of selected projects in regard to objectives, activities, partners funding, benefits and risks

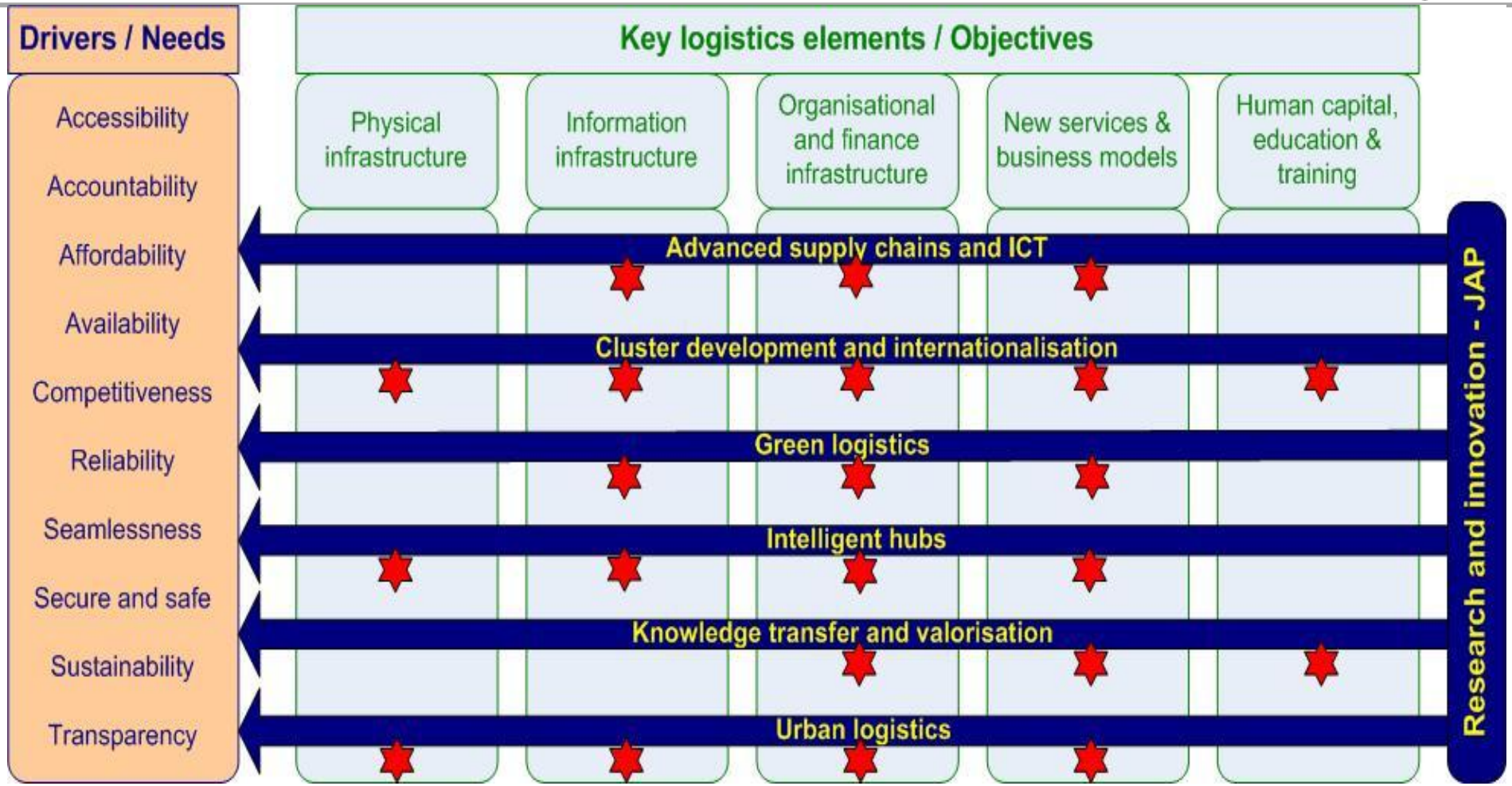
Additional input from external stakeholders and partners

Step-wise and successive feedback & mentoring loop

SoCool@EU six JAP fields

- Advanced supply chains and ICT
- Cluster development and internationalisation
- Green logistics
- Intelligent hubs
- Knowledge transfer & valorisation
- Urban logistics

SoCool@EU six JAP fields



Establishment of sustainable logistics in Mersin

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SWOT analysis

Strengths

- Many logistics companies that are located to the region are members of MTSO
- Turkey's largest seaport is located in the region and it assures the strong position of Mersin
- There is a political willingness to support the logistics sector
- A logistics platform already exists
- Several research institutions in the region is focusing on transport and logistics

Weaknesses

- "Research gap" between the business sector and the academic sector
- Problems with traffic congestion, environment call for increased cooperation
- The existing logistics platform is only a voluntary organisation
- Headquarters of the large scale companies are often in İstanbul or other countries
- The need for collaboration is diversified at companies

Opportunities

- Opportunities for increased cooperation
- Increased international cooperation and knowledge-sharing on for instance "green" initiatives
- Cluster members could contribute to development of instructional programs
- Local businessmen are highly interested in regional projects
- Short termed cooperation between business and research could be fruitful

Threats

- Many small scale logistics operators hamper the possibilities to initiate R&D activities
- Growth in traffic has negative effect on the economic and environmental position
- Mersin logistics cluster is not represented by any institution or body
- Turkish legislation do not allow public institutions to be members of any association
- Associations will not be interested in innovation or international cooperation
- No clear funding strategy for Cluster Platform

Three dimensions of sustainability

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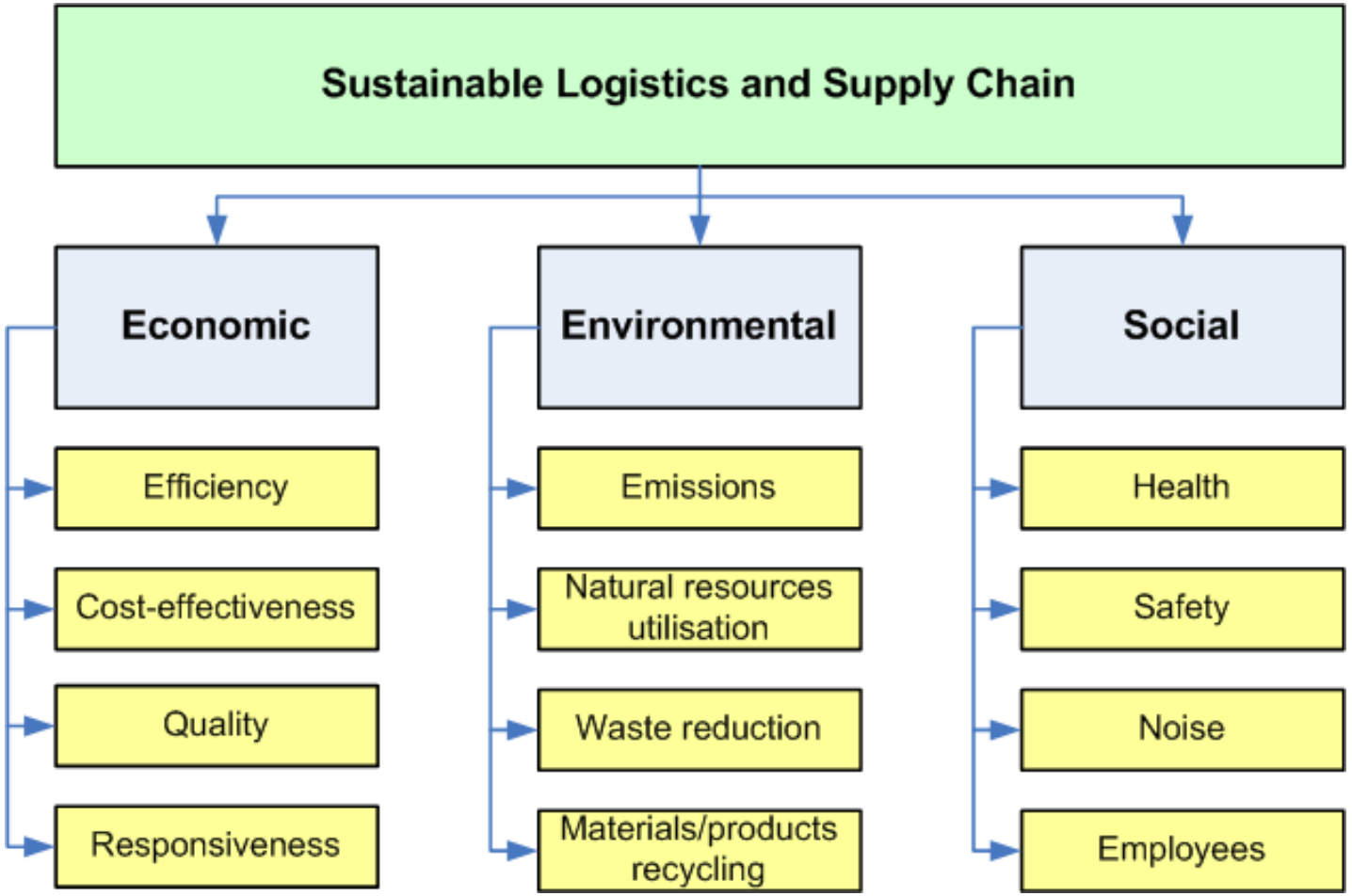

Mersin Logistics Cluster actions

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Theme	Action
Policy strategy	Mapping development and flows of goods for the next 20 years Prioritisinf & development of green corridors, smart hubs, transit points Trade off framework for new investments in multi-model transport/infrastructure Adjusting legislation for fast decision making and to increase network capacity
Governance, management and finance	Instruments to align government, companies, internationalisation Development of new business models, trade off frameworks, regulation Generating opportunities for new financing models Standardisation of information flows, e.g. e-freight documentation
Infrastructure	Development robust physical infrastructure (road, rail, waterborne, air) Development of efficient traffic management systems for goods/passengers Development and standardisation of information infrastructure Better use and increasing flexibility of physical and information infrastructure
Supporting systems & services	Integrated co-modal information and management services Supply chain engineering, planning and control New services & business models Human capital, education and training

Overview of evaluation methods

- Economics based methods
  - ✓ CBA and its special cases like CEA, CUA, environmental impact reviews, profitability assessment and fiscal impact analysis
  - ✓ PBS (Planning Balance Sheet)
  - ✓ GAM (Goals Achievement Matrix)
- Normalisation based methods
  - ✓ AHP (Analytical Hierarchy Process)
  - ✓ SAW (Simple Additive Weighting)
  - ✓ TOPSIS (Technique for Order Preference by Similarity to Ideal Solution)
  - ✓ ELECTRE (ELimination Et Choix Traduisant la RÉalité method)
  - ✓ PROMETHEE (Preference Ranking Organization METHod for Enrichment Evaluations)
  - ✓ fuzzy evaluation
  - ✓ grey evaluation

SEVENTH FRAMEWORK PROGRAMME
Project funded under the Regions of Knowledge
European Commission

Roadmap towards an innovative logistics cluster

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Focus	Theme	Action	rank	Timeline 2012–2023	Feature F	R	D	M	Target 2023
Sustainable Transport and Logistics	Policy strategy	Mapping development and flows of goods for the next 20 years	2		x	x			develop multi-modal strategy; prioritise connections
		Prioritising & development of green corridors / smart hubs / transit points	4		x	x	x	x	
		Trade off framework for new investments in multi-model transport and infrastructure	1			x	x	x	
		Adjusting legislation for fast decision making and to increase network capacity	3				x	x	
	Governance, management and finance	Instruments to align (national, regional) government, companies, internationalisation	1		x	x		x	create control possibilities
		Development of new business models, trade off frameworks and regulation	2		x	x	x	x	
		Generating opportunities for new financing models	3			x	x		
		Standardisation of information flows, e.g. e-freight documentation	4		x	x			
	Infrastructure	Development robust physical infrastructure (road, rail, waterborne, air)	1		x	x	x	x	develop sustainable infrastructure
		Development of efficient traffic management systems for goods and passengers	3			x	x		
		Development and standardisation of information infrastructure	4		x				
		Better use and increasing flaxibility of phisical and information infrastructure	2		x				
	Supporting systems & services	Integrated synchromodal information and management services	3		x				create seamless logistics
		Supply chain engineering, planning and control	4		x	x	x	x	
		New services & business models	2		x	x	x	x	
		Human capital, education and training	1				x	x	

Holistic view on sustainable logistics & supply chain

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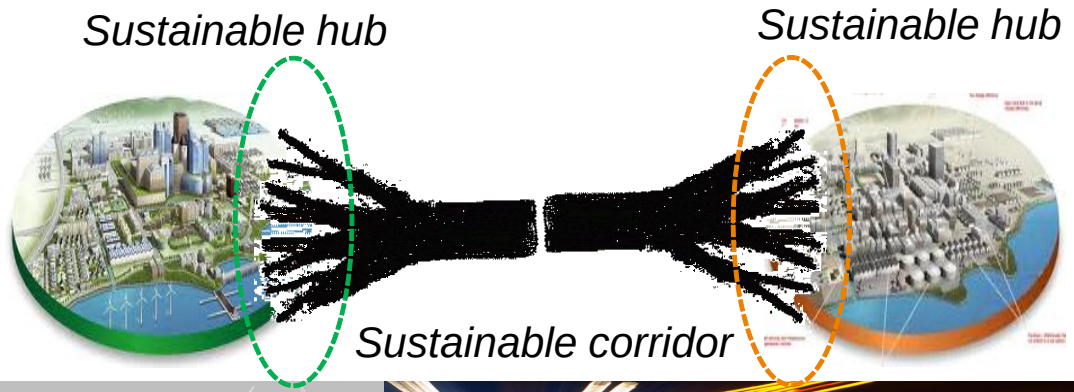
- Policy, awareness and incentives
- Advanced information and physical infrastructure
- Technological development
  - ✓ ICT and ITS
  - ✓ (un)load unit
  - ✓ transhipment
  - ✓ vehicle technology
  - ✓ 3D printing
- Supply chain management



Conclusions

- Mersin provides a good example for establishing a logistics cluster with substantial focus on innovation and sustainability
- Due to physical and operational capacity constraints, companies are facing time loss
- Emphasise implementation of both physical and informaton infrastructure in order to improve accessibility of the region
- Advanced technologies have yet a low level of penetration; companies are more interested in reducing initial costs

Infrastructure

Innovation

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