Clustering Smart Logistics Infrastructure in Regions: The Case of Apulia Region

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1. Introduction (1/2)

- Last months the European Commission developed the EU transport policy with:
  2. The proposal of regulation on “Union guidelines for the development of the trans-European transport network”
- Both documents abandon the sustainability concept in favour of the efficiency one, as well as aim at defining strategies to which all transport stakeholders are called to contribute.
- How efficiency can produce positive effects, by reducing oil dependency and CO$_2$ emissions, always keeping pace with mounting global competition, is the main question of the WP-related initiatives
- For developing the WP visioning, new TEN-T guidelines establish a dual-layer network structure: the comprehensive and the core networks.
1. Introduction (2/2)

- Efficiency is one of the travel three components, together with volume and distance.
- As these last two are combined for measuring performance, efficiency is related to modes, travel time and price, use of resources, technology and organisational factors.
- Increasing efficiency often brings to increase volume/distances travelled, that is, transport intensity.
- In transport, sustainability is a pragmatic framework that attempts to maintain/increase the output from transport and to reduce the energy inputs, particularly in terms of the use of non-renewable resources.
- For matching efficiency and sustainability, initiatives must reduce intensity (reducing travel distance and consumption of fossil fuel, increasing load factors).
- Transport decisions are made by millions of consumers, and day-to-day operation of the main modes of transport is in the hand of private companies and individuals.
- Decisions on building infrastructure are mainly public.
2. White Paper on Transport (March ‘11)... (1/2)

- New Transport patterns for reducing intensity
  - Large volumes of freight are carried to their destination by the most efficient (combination of) modes.
  - Road transport is preferably used for the final miles of the journey and performed with clean vehicles
  - Information technology provides for simpler and most reliable transfers
  - Users pay for the full costs of transport in exchange for less congestion, more information, better service and more safety

- Developments rely on a number of strands:
  - Improving energy efficiency of vehicles across all modes
  - Developing sustainable fuels
  - Optimising multimodal logistic chain performance
  - Using improved traffic management and information systems
2. White Paper on Transport (March ‘11)… (2/2)

- Need to act at European Level on the three main transport segments:
  - Long distances
  - Medium distances
  - Urban transport
- For each segment EU transport policy will rely on many actors, such as EU, MSs, regions, cities, industry, social partners, citizens
- For longer distances and urban transport technologies and modal choices are better defined, according the WP is on the intermediate distances where EU actions has to have the most immediate impact
- In particular, freight shipments over short and medium distances (below 300 km) for more than 75% are moved by road
- At that scale – mainly regional – is important to encourage alternative transport solutions, as well as to implement logistics fleet efficiency (by promote new engines and cleaner fuels, intelligent transport systems and measures to enhance market mechanisms).

• The proposal aims at achieving one of the 10 WP goals:
  ✓ A fully functional and EU-wide multimodal TEN-T ‘core network’ by 2030, with a high quality and capacity network by 2050 and a corresponding set of information services

• Together with the comprehensive network – which remains the basis for the identification of TEN-T projects of common interest – the core networks incorporates those elements with the highest strategic importance for achieving the objectives of the trans-European transport network policy, and in particular:
  ✓ shall contribute to coping with increasing mobility and to the development of a low-carbon transport system
  ✓ shall be interconnected in nodes and provide for connections with neighbouring countries' transport infrastructure network

• ‘Core network corridors’ are an instrument to facilitate the coordinated implementation of the core network

• The idea of ‘core network corridors’ come out from the WP:

  ✓ Europe needs a core network of corridors, carrying large and consolidated volume of freight and passengers traffic with high efficiency and low emissions, thanks to the extensive use of more efficient modes in multimodal combinations and the wide application of advanced technologies and supply infrastructure for clean fuels.

• The Guidelines define that:

  ✓ Core network corridors:

    ✓ shall be based on modal integration, interoperability, as well as on a coordinated development and management of infrastructure, in order to lead to resource-efficient multimodal transport.

    ✓ shall provide for a coordinated approach with regard to infrastructure use and investments, so as to manage capacities in the most efficient way.

    ✓ shall support the comprehensive deployment of interoperable traffic management systems

    ✓ Multimodal infrastructure within core network corridors shall be built and coordinated, wherever needed, in a way that optimises the use of each transport mode and their cooperation.

• To support this operational tool, the guidelines make a relevant effort in defining rules for:
  ✓ Selecting the corridors
  ✓ Facilitate the coordinated implementation of the corridors (EU Coordinators)
  ✓ Corridor Governance (each MS concerned establishes a corridor platform responsible)
  ✓ Corridor Development plan (including a multimodal transport market study, an implementation plan, an investment plan, to be upgrade regularly...)

• Nevertheless, the ‘Core network corridors’ are not dynamic once defined, at the difference of the comprehensive network which can be modified in a dynamic way, by:
  ✓ including (or excluding) logistic platforms, freight terminals, inland ports, maritime ports and airports, if it is demonstrated that the latest two-year average of their traffic volume exceeds the relevant threshold (over the last six years is below the relevant threshold);
  ✓ adjusting the maps for road, railway and inland waterway infrastructure so as to reflect progress in completing the network.
4. From ‘long distances’ corridors to ..... 

- Clearly the Core Network Corridors, established at EU level by agreement at the MS, aims at covering the transport segment of the long distances in a very challenging way.

- Their European dimension can help to promote the deployment of information technology tools in order to simplify administrative procedures, provide for cargo tracking and tracing, and optimise schedules and traffic flows (e-Freight).

- They can contribute to minimise the impact on the environment.

- They aim at ensuring efficient multimodal links between the EU capitals and other main cities, ports, airports, and key land border crossings.

- At regional level, corridors will be defined by nodes (urban nodes, including their ports and airports; maritime ports; border crossing points to neighbouring countries), which will interconnect intermediate distance and urban transport with the longer distance travelling.

- But they don’t provide solution to the intermediate distance transport segment, in addition they risk, absence of compensating measure, to increase the gap between regions.
5. … ‘intermediate distances’ clusters

- The WP suggests that:
  - The interface between long-distance and last-mile freight transport should be organised more efficiently. The aim is to limit individual deliveries, the most inefficient part of the journey, to the shortest possible route.
  - The use of intelligent transport systems contributes to real-time traffic management, reducing delivery times and congestion for last-mile distribution.
  - Last-mile delivery could be performed with low-emission urban trucks.

- For the principle of subsidiary ‘Intermediate distance’ policies should be managed at Regional level:
  - But at regional level, the concept of corridor is far less actual than the ‘cluster’ concept.
  - Should regions be considered as sub-systems of the TEN-T networks?
  - How can they enter in the deployment of the Core Network Corridors?
  - Should the approach be ‘top-down’ or is it possible ‘bottom-up’ by defining pilot-regions and developing best practices?
6. Apulia Region smart logistic clustering (1/7)

- Apulia region has a very environmental attitude, as is demonstrated by its leadership in Italy for the production of renewable energies (27.1% of Italian wind power, 13.4% of photovoltaic energy and 13.4% of energy from biomass, biodegradable urban waste, bio-gases and bio-liquids).

- For developing the operational tools of the Regional Transport Plan (RTP), the Regional bodies started a consultation with all main public and private stakeholders.

- At the same time, transport logistics is considered one of the regional priorities for economic development. In addition, the region established a logistics district, composed of over 120 logistics sector operators.

- The region applied to the TEN-T 2010 call for developing a regional cluster of smart and sustainable logistics, and thus covering the segment of the intermediate distance transport
6. Apulia Region smart logistic clustering (2/7)
6. Apulia Region smart logistic clustering (3/7)

• The proposal aimed at steering the strategies contained in the RTP in a sustainable direction, by implementing a coordinated strategic action plan for the creation of a regional logistics cluster.

• **Cluster** because the proposal was designed to produce common regional practices among sectoral stakeholder, based on participatory modalities, that is:
  - exchange of information and knowledge,
  - diffusion of best practices
  - continuous training (life-long learning) of staff and potentially employable workforce,
  - definition of highly innovative and sustainable common strategies.

• **Smart** because the Action aimed at providing interactive computerised support (e-freight) in order to enable decisions to be made in the light of all possible available alternatives, as well as their environmental, social and financial impacts.
6. Apulia Region smart logistic clustering (4/7)

- **Sustainable**, finally, because the proposal was designed to:
  - help to reduce unnecessary transport operations,
  - easing the integration of modes of transport and choosing the most environmentally-friendly
  - promoting the use of renewable energies (especially through innovation in vehicle and machine propulsion)
  - defining quality criteria – also in the field of environmental awareness – to guide the decisions of regional logistics services.

- The proposal focused predominantly on the freight transport as a key element of sustainability, by favouring the creation of hubs, the efficient use of existing infrastructures and the application of intelligent transport systems.
  - For example, it analyse the possibility of establishing infrastructures dedicated to shifting goods, via freight transport corridors or “smart” prioritization, and logistics solutions that make the most of the synergies between maritime and rail transport.
6. Apulia Region smart logistic clustering (5/7)

- The proposal aimed to:
  - steer the Apulia Region’s Freight and Logistics Plan strategies towards practices that will favour the use of renewable energies (particularly innovation in vehicle and machinery propulsion) and improving transport modality integration
  - underpin the Apulia logistics sector’s energy transition, by trialling innovative technologies in the field of intelligent transport services (ITS), propulsion, vehicle size and intermodality
  - develop regional governance for promoting a stable, flexible and long-lasting interaction of the various strands of the transport and logistics infrastructural system with local financial actors (SMEs and multinationals) and sectoral operators (local and international).
  - cut the technological risk to the sector both by tailoring provision of life-long learning to employees and increasing the potential employable workforce and by providing dedicated financial instruments.
  - run a pilot project extending the “green corridor” concept to an entire “regional cluster” to be run in tandem with the European Commission’s Freight Transport Logistics Action (COM(2007)607
6. Apulia Region smart logistic clustering (6/7)

• Main planned results are operational tools that can be applied directly to improve the regional logistics platform as an integrated and sustainable territorial system (see. 2.1). In particular:
  ✓ the Strategic Action Plans
  ✓ The Performance Protocols

• They could inform the completion of the Freight and Logistics Plan (RFP referred to in regional laws no. 18/2002, 32/2007, and 16/2008). At the same time, they were able to check the consistency of the many planned initiatives, which tend to be increasingly independent and fragmented

• The two pilot projects coordinated by Apulia Region, the Interporto Regionale di Puglia and Brindisi Port Authority, were a way also to measure the level of cultural and operational effectiveness of the strategic action plan.
6. Apulia Region smart logistic clustering (7/7)

- The criteria and guidelines, collected in performance protocols, aimed at containing regional rules and standards directly applicable as part of the Regional Plan for Freight and Logistics. A number of specific and concrete planning actions could also emerge from the pilot actions, such as:
  - introducing a logistics certification system;
  - introducing centres for the promotion of multimodal transport;
  - improving regional programs for continuous training (life-long learning) and environmental awareness of professionals in the sector;
  - introducing a financial instrument geared to sustainable and intelligent logistics, offering incentives and tax breaks for vehicle fleet renewal and the use of intermodality.

- THE PROPOSAL WAS NOT FUNDED BY TEN-T AND POSTPONED IN THE REGIONAL AGENDA IN FAVOUR OF A INFRASTRUCTURE COMPLETION PROGRAMME

- MAYBE, IT CAN BE RE-ORGANISED ON THE BASIS OF THE LAST CHALLENGES PROPOSED BY THE EU POLICY