

An innovative simulation agent-based model for the combined road-sea transport

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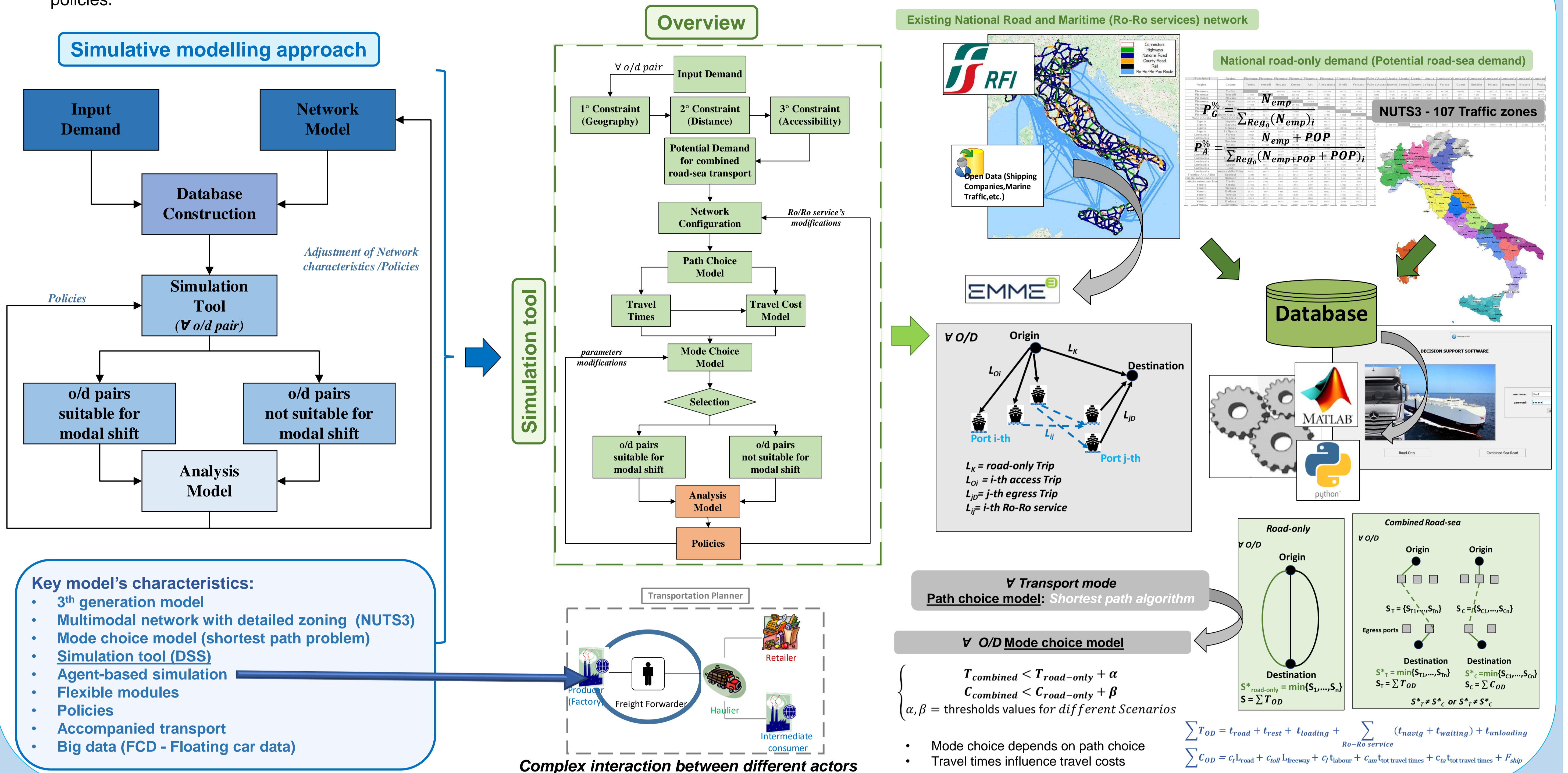
Introduction: Starting from the promotion of the Motorways of the Sea (MoS) in the White Paper 2001 on European Transport Policy, Short Sea Shipping (SSS) represents a key aspect of supporting the integration of transport modes, permitting the development of alternative and more sustainable transport solutions. Roll-on Roll-off (Ro-Ro) transport is one of the main options European policy is focusing on to develop intermodal transport and MoS policies. Ro-Ro transport offers some advantages about overall transport costs, especially for unaccompanied transport, and an important reduction of environmental and social costs produced by road transport of freight. Indeed, SSS acts stimulating new services and introducing new promotion policies, thus taking advantages by using intermodality.



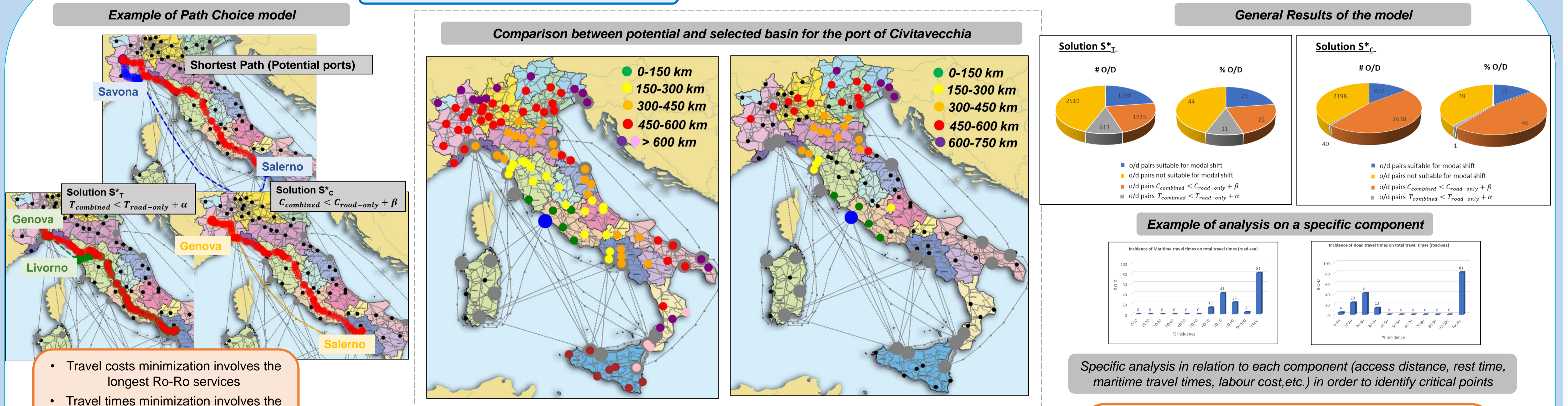
However, despite the EU efforts in promoting actions to encourage SSS, the combined sea-road mode has not yet reached a significant market share compared to land. In fact, the previous experiences (projects and policies) clearly show the lack of satisfactory results in analyzing and forecasting correctly the system evolution. It seems necessary to adopt another approach capable of considering and better modelling the complexity due to the number of actors involved, their relationships and the real needs of all stakeholders.



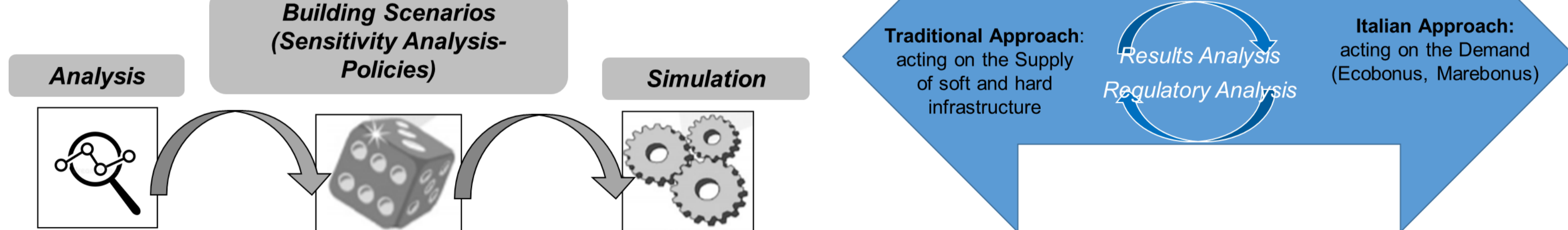
Main objectives: Development of an innovative methodology to simulate the real choice process of the stakeholders (Freight Forwarder) of freight transport system at national level. Moreover, the model has the capability to quantify the potential demand for the combined road-sea transport in order to support Transportation Planners' decision, introducing new suitable policies.



Outputs of Current Scenario



How to boost intermodality?



- Further steps:**
- Formalization of «Analysis» module
 - Sensitivity analysis
 - Implementation of policies
 - Development of «Policy» module
 - Modelling unaccompanied transport
 - Validation of the model through FCD
 - Integration in the mode choice model of other elements (freight type, reliability, scheduled time, frequency, etc.) analysing FCD's trips

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