



Press release regarding the launch of the ADVANCE project on 1 October 2010

Start of the European STREP project ADVANCE: Advanced Predictive-Analysis-Based Decision-Support Engine for Logistics

ADVANCE is a three year project co-financed by the European Commission's Seventh Research Framework Programme under the Intelligent Information Management objective.

Logistics networks create over 1 billion items of information every month, which all need analysing if instant and strategic decision making are to be properly integrated. Every minute of every day, lorries transport thousands of pallets on hundreds of trailers for any number of a million or more customers scattered across hundreds of thousands of postcodes, each with multiple different service requirements. Customers are placing orders by the minute in any of these postcodes with information being generated about what they want to transport, where it will be coming from, where it will be going, and who requires the orders. An order in one location has transport obligations for a completely independent company in a location that could be hundreds or even thousands of miles away. All the orders provide data that can help predict potential consumer behaviour elsewhere in the network and orders always necessitate plans for carrying the pallets associated with them. The best plans for pallet distribution require knowledge about where trailers and pallets are at any moment of the day, what spare capacity there may be on them, and how best to divert them to pick up orders as they arrive. Relevant GPS and other data coming online throughout the trailer journey include latitude and longitude, direction of travel, speed, engine status, mileage, and so on, all of which needs linking to real-time traffic reports and routing information.

The trillions of potential relationships and dependencies in the data items are subject to combinatorial explosion and are absolutely not amenable to systematic number crunching: new, rapid, and focussed intelligence is required, guided top-down by the human decision-making experts and bottom up by the data-mining approaches.

The main objective of the project is to provide collaborative communities or networked enterprises, primarily logistics networks, with a solution platform which enables them to improve their operations through analysis of operational data, decision support and network-wide sharing of otherwise locally constrained information.

This is to be realized by collecting and filtering the large amounts of structured but still low-level operational information, and detection of patterns, assembly of verifiable process models and issuing forecasts, reports, and suggested decisions with the help of an expert system. The output of the system will be generated in accordance with cognitive models of preferences, expectations and perspectives of human operators to allow them a direct interpretation and assessment of the automatically generated output, also providing thereby important feedback for further refinement of the machine-generated process models.

The project was launched on 1st of October 2010 and had its kick-off meeting at Aston University premises in Birmingham, followed by the first user workshop in Lichfield hosted by the logistics company Palletways.

The consortium working on the project is coordinated by the Computer and Automation Research Institute of the Hungarian Academy of Sciences (HU) and also includes



professionals from the Aston University (UK), University of Groningen (NL), Technology Transfer System srl (IT) and Palletways UK (UK).

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