Abstract: With the increasing volumes of containers in global trade, efficient global container transport planning becomes more and more important. To improve the competitiveness in global supply chains, stakeholders turn to collaborate with each other at vertical as well as horizontal level, namely synchromodal transportation. Synchromodality is the provision of efficient, effective, and sustainable transport plans for all the shipments involved in an integrated network driven by advanced information technologies. However, the decision-making processes of a global synchromodal transport system is very complex. First, time-dependent travel times caused by traffic congestion need to be considered. Second, a dynamic approach that handles real-time shipment requests in a synchromodal network is required. Third, spot requests received from spot markets are unknown in advance. Fourth, travel time uncertainty is not handled yet for global synchromodal transport networks. Fifth, distributed approaches that stimulate cooperation among multiple stakeholders involved in global container transportation are still missing. This project addresses the above-mentioned challenges with dynamic, stochastic, and coordinated methods.

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