TRIUMPH – (Trimodal transshipment centre port)

The aim of the TRIUMPH project is to develop a self-learning system that estimates arrival times of container vessels and trucks, determines deviations and cross-links all participants in the intermodal transport chain. Therefore, an optimization of subsequent transshipment and storage processes as well as a coordinated planning of transport processes for empty containers can be realized. Operations at the port can be carried out faster and more efficiently.

Empty containers (standardized according to ISO 688) are an essential part of intermodal transport chains. These containers have to be returned to their point of origin. Usually empty containers are brought to central container stocks, where checking, repair and maintenance are carried out before recirculating the empty containers. Typically, containers are transported by road, rail and increasingly often by ship. Hence, containers stocks/hubs are often located at ports such as the Ennshafen, which represents an ideal node because of its excellent intermodal transport connection.

The transshipment and loading processes at the port are characterized by several problems which impede a further expansion of transport empty containers on the inland waterway. Main problems are the lacking information transparency and integration of involved parties respectively as well as high proportions of delayed vessels (~ 90 %).

The absence of communication facilities prevents the reliable estimation of arrival times, which renders optimized planning of transshipment and onward movement impossible. The inability to estimate exact arrival time leads to a series of bottlenecks in the port infrastructure. For example, there is an increasing amount of empty drives, when trucks cannot be supplied with empty containers (since they are not yet available and their arrival cannot be estimated). Although some systems should be in place to enable the coordination of information flow among various traffic carriers, it is not possible to completely connect these systems and realize an automated analysis of data.

The aim of **TRIUMPH** is to develop a method which is able to estimate arrival times of container vessels and trucks, determine deviations and which connects all participants in the intermodal transport chain. As a result, it is possible to optimize storage processes and subsequent transshipment, on the one hand, and to improve the transport processes for empty containers on the other. As a result, the intermodal process at the port can be carried out faster and more efficiently.

Contact: Lisa-Maria Putz, BSc

+ 43 50804-33253, lisa-maria.putz@fh-steyr.at