



Security Event Management System Supports Staff of Transport Organisers

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Abstract

After 9/11, efforts for implementing security procedures were increased world-wide in order to improve the security status of transport chains and optimise the security of terminals and vessels. Bremen, federal state of Germany, is about to set up a headquarter for GMES - Global Monitoring of Environment and Security. The goal of the Institute of Shipping Economics and Logistics (ISL) is to develop services for GMES to improve the security in intermodal container transport with emphasis of the maritime sector.

During a transport, different types of threats can occur, e.g. a seal of a container may be broken or a container may be transported to an unforeseen location. This implies the risk of theft of goods or usage of the container for acts of terrorism. In order to recognize critical situations, transport organisers will in the future be responsible for the monitoring of their transports and to take appropriate counter measures in case of critical events.

ISL is developing a Security Event Management System which takes care of all security related events in the intermodal chain. The security system registers the schedule and transport information of a container and assigns a corridor for its transport. During the transport, the system receives the events which are generated e.g. using RFID, GPS, or other systems like smart units for containers. The generated events will be used for computing a security risk value for each container, by considering restrictions like position with respect to the assigned corridor, duration of standstill, and others. The security risk value will not be a sharp precise value because there is no sharp threshold value indicating the risk level. The system will instead use fuzzy logic to compute an imprecise result, e.g. "low risk" or "high risk". The functions of the fuzzy logic algorithm which determine the result for the events and their restrictions will be defined by experts. During operation, the staff of the transport organisers will be able to supply their own experiences to improve the efficiency of the system. According to the security risk value, the user, usually an employee of the company organising the transport, will be informed using webservice, EDI, or email. Hence, the system supports him in his duty to monitor the security status of all current transports. Thus, critical situations possibly leading to a security risk will be detected more easily and much sooner. As a consequence, appropriate counter measures can be taken as soon as possible.

In addition, the Security Event Management System will contain information about emergency measures and provide the user with appropriate instructions in case of critical situations.