Role of Digital Maps in Road Transport Security

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SUMMARY

With the rise of trucks-based terror attacks in European countries (like in Nice and Berlin), a new form of transport security is necessary to help prevent such incidents. For this purpose, a European Project TransSec (Autonomous emergency maneuvering and movement monitoring for road transport security) is funded by European Commission within the program Horizon H2020 for three years. This project was started in February 2018 and its goal is to design and implement such an intelligent positional monitoring and maneuvering system to prevent the terror attacks.

The Institute of Engineering Geodesy (IIGS) at University of Stuttgart is one of the five partners involved in TransSec project and has the task to design, develop and implement a prototype of map including the static environment as well as an electronic horizon provider for the vehicle based on a map matching algorithm. Finally a local dynamic map will be created using the information of the current acquired situation from the sensors like cameras and laser scanners, so that the dynamic objects like vehicles, pedestrian around the trucks can be detected. And the other task of IIGS is to get the precise positioning of the trucks by integrating the data from GNSS and other additional sensors like odometer, gyroscopes and accelerometers and cameras etc.

In this paper, the TransSec project will be introduced. The role of digital maps in Road Transport Security will be discussed and the first results of map data availability and quality analysis. At the end some future works will be introduced and discussed.

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