

## D36.3 Local environment and sources to monitor

Description of the local threat environment and the identified data sources to be observed

### PUBLIC SUMMARY ONLY Reference SCR-WP36-D-VTT-019-PS

Full document identification		Reference	SCR-WP36-D-VTT-019
Related SP / WP	SP3 / WP36	Dissemination Level	CO
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This document is issued in the frame and for the purpose of SECUR-ED project. This project has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 261605.

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<b>Status:</b>	Issued				



# 1 Abstract & Purpose

This report aims to identify early signals and their possible sources in order to prevent the damaging scenarios from happening. The concept of weak signal is examined and described. Then, the idea of weak signals in local mass transport threat environment is developed by analyzing past incidents. The essential outcome of this work is to create systematics for weak signal analysis which finally is applied to study selected scenarios.

An early warning system is considered as a living system due to the nature of the weak signals and the dynamically changing threat environment. Therefore the early warning system should be updated as soon as changes in the mass transport system or its threat environment occur.

The purpose of the work reported in this document is to study possibilities to identify weak signals related to different types of threats and which can be identified in the local environment of the mass transport system. Ideally, the identified signals are used when further developing an early warning system for mass transport operators to give them an early warning of a threat scenario and thus to help operators to prevent the incidents from happening.

The term *weak signal* was first introduced by Igor Ansoff who defined weak signals as “imprecise early indications of future significant events”. In this work, weak signals refer to those early signs, which may have an impact on the security of mass transportation systems. In this context, security refers to avoiding damage to people, organisations, property and environment. The local environment of a mass transportation system is defined as consisted by the PTO network and its immediate surroundings (including areal, organisational, social, political, business, cultural relations). Within this environment the weak signals may be detected by observing phenomena such as:

- Deviations from the everyday situation in the local environment like mass meetings or seasonal occasions;
- Events, exceptional weather conditions;
- Deviations in the other interlinked infrastructures (ICT, energy, water; etc.);
- A clear spatio-temporal variation in crime.

The attention is focused on the eighteen (18) most important threats from the mass transport operators’ point of view, which were identified and ranked in D36.2 “Definition of the events, signals and phenomena to be monitored”. The current study analyses these threats to study the weak signals in the local threat environment to identify their possible sources. The scope of this study include the well planned attacks but also the daily incidents like graffiti. As a result the important data sources to be observed are proposed.

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		<b>Status:</b>	Issued		