

PROJECT

## SIMMARC

### Safety Improvement Using Near Miss Analysis on Road Crossings

### *Safety Improvement Using Near Miss Analysis on Road Crossings*

**Funding:** National (Austria)

**Duration:** Oct 2016 - Sep 2018

**Status:** Complete



#### Objectives:

Hazardous traffic situations are far less subject of an assessment than accidents and their causes. Hazardous traffic situations may be characterized as near-misses, such as with air traffic.

This project aims at data and information that stems from a sensor fusion and that enhances road traffic safety at intersections for vulnerable road users. The traffic situation and eventual hazardous behaviour are detected with various sensors, such as image recognition or acoustic sensors. Novel algorithms and indicators are used to assess the traffic situations that are characterized by physical parameters such as size and distance of objects, acceleration or trajectories. Together with basis data such as traffic volume or traffic density, this allows to determine eventual hazardous situations and to estimate their intensities. The instruments in use are trajectory analysis, acoustical analysis (yells, breaking sound, honk sounds, etc.), the assessment of safety zones, and so on.

A permanent and automated detection allows generating significantly more data than the traditional manual methods, which increases the ground truth of traffic safety related data, ensures statistically sound assessments and allows a better understanding of the hazardous potential of the spot. This creates a well-funded basis for defining and prioritizing improvements. In the case that hazardous situations occur, possible solutions are to change the traffic pattern or to separate users in time. A repeated mis-behaviour of traffic participants can be detected and might become subject of campaigns. The project goal is to support Road Safety Audits and to give guidance for traffic planners and traffic technicians when mitigating traffic hazards.

#### Parent Programmes:

[MOTF - Mobility of the Future](#)

**Institute type:** Public institution

**Institute name:** FFG - Die Österreichische Forschungsförderungsgesellschaft

**Funding type:** Public (national/regional/local)

**Other programmes:** MdZ - 6. Ausschreibung 2015

#### Lead Organisation:

**Joanneum Research Forschungsges M.b.h.**

**Address:**

Steyrergasse 17  
GRAZ  
Austria

**Organisation Website:**

<http://www.joanneum.at/>

#### Partner Organisations:

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**Planum Fallast Tischler & Partner Gmbh****Address:**

Gartengasse 29  
8010 Graz  
Austria

**Siemens Ag****Address:**

SIEMENSSTRASSE  
93026 REGENSBURG  
Germany

**Organisation Website:**

<http://www.siemens.com>

**University Of Zilina In Zilina****Address:**

Univerzitna 1  
ZILINA  
Slovakia

**Organisation Website:**

<http://www.utc.sk>

**Technologies:**

Sensor technologies  
Analytics of sensor data

**Development phase:** Research/Invention

**STRIA Roadmaps:**

Cooperative, connected and automated transport, Network and traffic management systems

**Transport mode:** Road transport

**Transport sectors:** Passenger transport, Freight transport  
Societal/Economic issues,

**Transport policies:** Safety/Security

**Geo-spatial type:** Other