The WiConNET Project

A short Public Presentation

Project-Number: 860565 – Wildlife Control 4.0 Networks

Project-Duration: June 2017-December 2022

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Wildlife-Vehicle Collision (WVC) is a strongly increasing challenge for all types of traffic, not only in Austria, but in the entire mobile world.

The WiConNET project was created in 2017 as a combined effort of the relevant Austrian stakeholders, to further reduce wildlife related accidents by deployment of advanced technical means. The 3 main target areas in the WiConNET project are:

- National roads
- Highway entries and exits and
- Railways

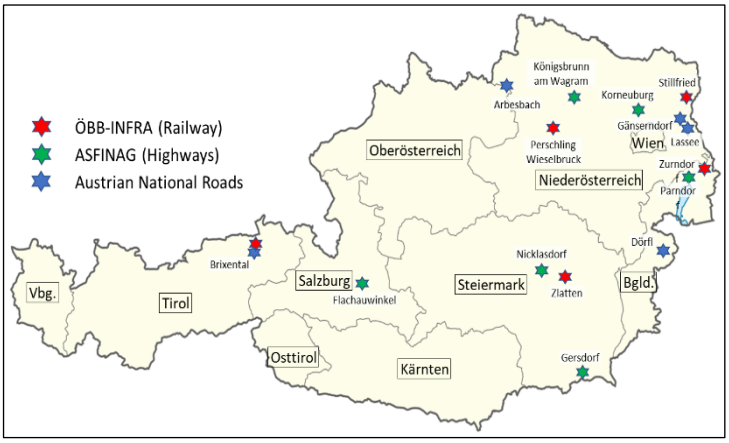
The project was founded by the Austrian Research Agency FFG representing the nine Austrian States, the Austrian Highway Operator ASFINAG and the Austrian Rail Infrastructure Operator OBB-INFRA.

There are 3 project contractors

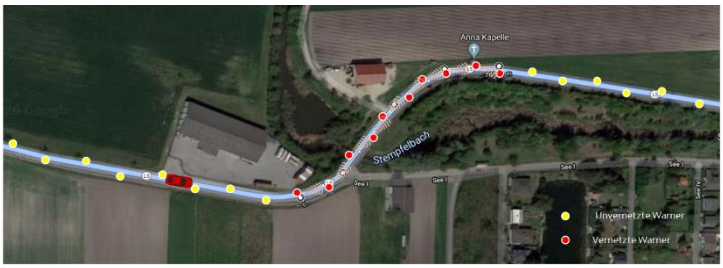
- iPTE Traffic Solutions, the lead contractor and a provider of wildlife safety solutions
- AIT - Austrian Institute of Technology, a famous Austrian research entity
- WWN – Forstner, an experienced expert in wildlife biology

An International Expert Panel was installed to advice the WiConNET project management to develop the scientific strategy. Members of the panel are among others Wolfgang Steiner (BoKu Vienna - Austria), Andreas Seiler (Swedish University of Agricultural Sciences) Carme Rosell, Senior Consultant (Minuartia - Spain) and Jochen Langbein, (Independent Wildlife Consultant - UK).

Each of the 3 target areas has specific requirements, that has been addressed in the development and the deployment phase. The results will be verified within 16 testsites all across Austria. 6 testsites for the national roads, another 5 testsites for the railways and 5 sites for highway entrance and exits.



Target Area "National Roads"



Securing National Roads with reflectors and active warner is a well-established practice. The remaining shortcoming are road sections with bends, hills and valleys that are difficult to oversee.

WiConNET is addressing this challenge by introducing interconnected clusters with pre-triggering, that act in a coordinated way.

Target Area "Highway Access Roads"

Highways in Austria are well secured against wildlife intrusion by fences and complementing over- and underpasses. The weak areas are the access areas (entrance, exits and green islands) that are attractive to wildlife. WiConNET is addressing this challenge by introducing thermo-activated warner that prevents wildlife to enter and to stay in the area.

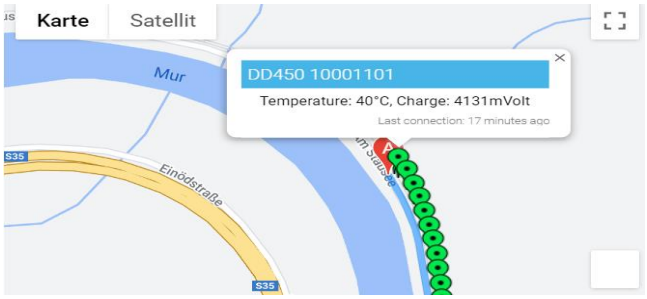
Target Area "Rail and Highspeed Rails"

Wildlife killed by trains is a problem worldwide, associated with high even higher costs in damage repair and compensation payments for delays and cancelled trains than to the road traffic. Testsites in the WiConNET have to deal with train-speeds up to 230 km/h (250 km/h in near future).

Target Area "Monitoring and Service"

The high costs associated with maintaining installed security measures may be mitigated by connecting the warner-nodes via internet to a service center. This is also demonstrated within the WiConNET project.

Standardization



The RVS, Richtlinien und Vorschriften für das Straßenwesen (Guidelines and regulations for the road sector) is the normative base for road planning, building and maintenance in Austria. Especially the RVS Section 04.03 is focusing on flora and fauna at transport infrastructure routes and how to protect it. WiConNET is supporting the standardization process by feeding the project results in respect of wildlife interference with traffic and the recommended measures into the standards development. The next release RVS 04.03.12 will include the subsequent WiConNET results:

- Technical requirements of passive optical Wildlife-Reflectors ("Wildreflektoren")
- Technical requirements of active Wildlife-Deterrents ("Wildwarner")
- Road layout employing optical reflectors and active warning devices

The WiConNET-LAB shall give the base of the minimum physical requirements of optical wildlife reflectors and active wildlife deterrents and its validation.

Project Results

The newly developed applications have raised worldwide attention. The systems have been validated to be technically working as planned, but due to time and logistical constraints WiConNET could not provide sufficient data on the efficacy and long-term performance of the wildlife deterring devices, which has still to be proven in future with additional data.

Cooperations

- A cooperation with the EU-project: „LIFE SAFE-CROSSING – Preventing Animal-Vehicle Collisions Demonstration of Best Practices targeting priority species in SE Europe; LIFE17 NAT/IT/000464“ has been established. SAFE-CROSSING is a 3,5 M€ budged DVC research project, validating different DVC mitigation approaches with testsites in several countries (Spain, Italy, Greece and Romania). Main target wildlife species are the large predators like wolves, bears and lynx.
- iPTE has delivered on behalf of WiConNET about 1.200# DD430 and 200# DD450 connected units to the SAFE-CROSSING Testsites for securing critical road sections and evaluation.

DD430 installation on the E60 south of Braşov (Romania) by the SAFE CROSSING project-team

DD450 installation in the Majella National Park (Italy) by the SAFE CROSSING project-team