

# ARTRAC CONSORTIUM

The ARTRAC consortium comprises car manufacturers, research organisations, universities and SMEs.

## Car manufacturers

Volkswagen AG



Centro Ricerche Fiat S.C.p.A (CRF)



## Research organisations

VTT Technical Research Centre of Finland (VTT)



Centro Tecnológico de Automoción de Galicia (CTAG)



## Universities

Hamburg University of Technology  
TuTech Innovation GmbH



Universitatea „Politehnica”  
din Timisoara (UPT)



## SME

Smart Microwave Sensors GmbH (SMS)



## ARTRAC TuTech Innovation GmbH

Axel Wegner  
Harburger Schloßstrasse 6-12  
D-21079 Hamburg, Germany

Phone +49 40 76629-6354

Fax +49 40 76629-6359

[info@artrac.org](mailto:info@artrac.org) | [www.artrac.org](http://www.artrac.org)

[info@tutech.net](mailto:info@tutech.net) | [www.tutech.net](http://www.tutech.net)



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# ADVANCED RADAR TRACKING AND CLASSIFICATION FOR ENHANCED ROAD SAFETY

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[www.artrac.org](http://www.artrac.org)



# ARTRAC

In 2001, the European Commission set the goal of halving the number of people killed in road accidents by 2010. This would mean saving 20 000 lives a year. Many initiatives have supported this aim, but it is sadly far from being met. One of the measures is to encourage the deployment of Intelligent Vehicle Safety Systems (IVSS) in cars. Seen as a promising technology in the 1990's, there are still challenges to be overcome. A major problem has been the performance of the Advanced Driver Assistance Systems (ADAS) in all driving situations and their high cost which means they are only in use in a few top-of-the-range models. Impact on reducing road deaths of VRUs will only happen when such systems become standard on mass production cars.

ARTRAC aims to achieve the much needed breakthrough by developing, testing and demonstrating an active vehicle safety system to protect vulnerable road users (VRUs) from vehicles in motion that is economically viable in the volume vehicle market.

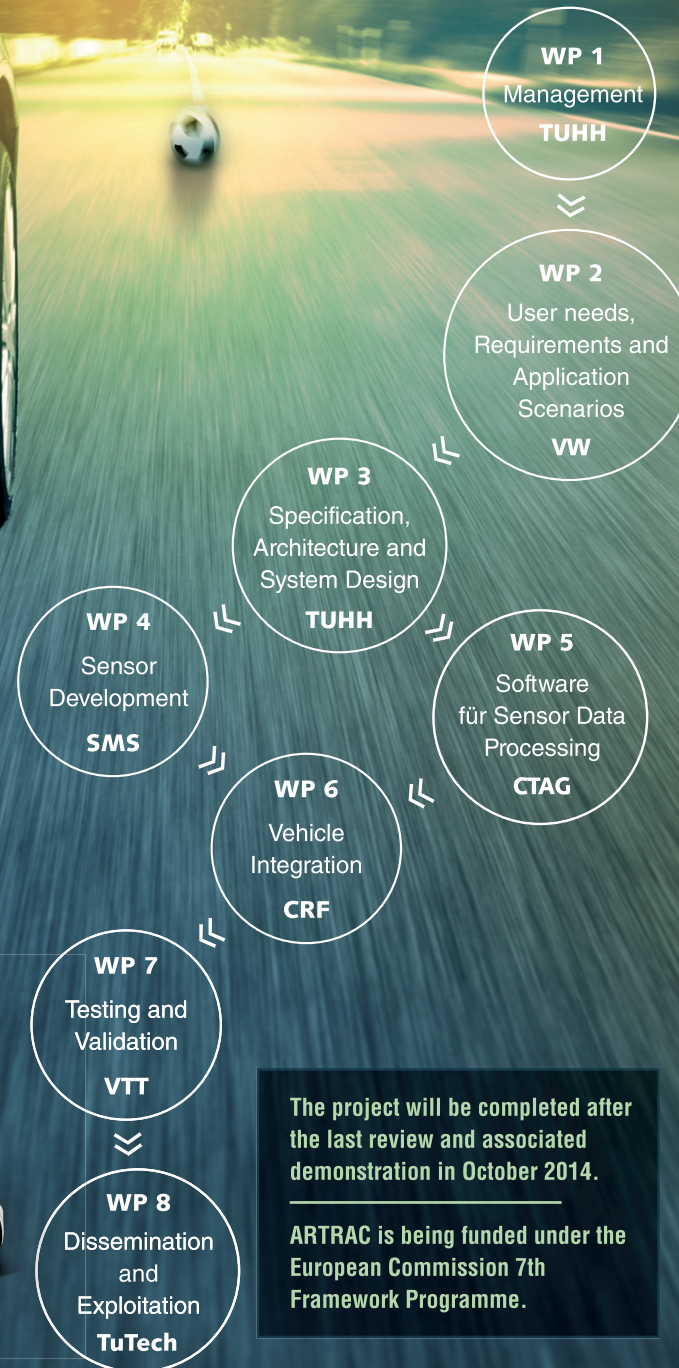
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Scheme of demonstrator passenger car

(green: radar sensor position)

Foto © Michel de Vries



The project will be completed after the last review and associated demonstration in October 2014.

ARTRAC is being funded under the European Commission 7th Framework Programme.

# OBJECTIVES

The key to achieving this breakthrough lies with the development of a detection system that is much cheaper and more reliable than what is available on high-end vehicles today. ARTRAC will develop an extremely reliable detection system using a novel 24 GHz radar sensor, linking this through a sophisticated set of algorithms to the actuation of the vehicle to provide collision avoidance as well as collision mitigation to prevent the vehicle hitting a pedestrian or cyclist.

## The specific technical objectives are:

1. to develop a detection system able to detect pedestrians, cyclists, and other VRUs as well as vehicles that can be used as a standard component
2. to provide detection of low-friction road sections caused by water, ice or snow on asphalt that can be used with Electronic Stability Control (ESC) and Collision Avoidance Systems (CAS) to handle potentially dangerous friction conditions
3. to provide a novel safety function based on automatic braking and system-initiated steering to avoid accidents, or at least mitigate their impact and prevent inappropriate driver reaction
4. to validate and demonstrate the ARTRAC functionality by means of pre-defined test scenarios using some basic safety applications on a demonstrator compact car and a Light Commercial Vehicle
5. to promote the deployment of VRU safety technologies among relevant bodies and stakeholders including end users