

PROJECT

MINIFAROS

Low-cost Miniature Laserscanner for Environment Perception

Funding: European (7th RTD Framework Programme)

Duration: Jan 2010 - Dec 2012

Status: Complete with results

Total project cost: €4,827,028

EU contribution: €3,198,125



Call for proposal: FP7-ICT-2009-4

[CORDIS RCN : 93743](#)

Background & policy context:

The wish and determination to achieve considerably fewer accidents have been pronounced by a number of European stakeholders, for instance the EU programme Halving the number of road accident victims in the European Union by 2010. This ambitious safety goal will not be met as scheduled. A number of reasons for that can be brought up.

One main reason is the slow market introduction of Intelligent Vehicle Safety Systems (IVSS) and the high cost of safety applications. Currently IVSS are limited to a small part of the premium car segment. Future safety systems must be made affordable to penetrate all vehicle segments. Since small and medium size cars are dominating the road traffic and thus most of the accidents.

Objectives:

The consortium stresses here that a boost of the market penetration of driver support systems can be realised by generic sensors that are affordable, durable and of compact size to be used in different locations in vehicles or in the infrastructure, providing fully reliable sensor data. All these requirements have not yet met by present day sensors.

Objectives

The main objective of the project was to develop and demonstrate a prototype of a low-cost miniature automotive Laserscanner for environment perception. More specifically, the consortium set out to develop totally new low-cost miniature Laserscanner technology that opens up the Advanced Driver Assistance System (ADAS) market for small and medium size cars and broadens the range of possible applications by its low cost, low power, small size and robustness.

Furthermore, the novel Laserscanner to be developed will be a generic sensor also in the sense that it will have application areas outside road vehicles ranging from infrastructure applications, moving work machines to mobile robots.

Expected impacts

1. World leadership of Europe's industry in the area of Intelligent Vehicle Systems and expansion to new emerging markets, improving the competitiveness of the whole transport sector and the automotive industry.
2. Significant improvements in safety, security and comfort of transport. This includes contribution towards the objective of reducing fatalities with 50% in the EU by 2010, and longer term work towards the 'zero-fatalities' scenario.
3. Significant improvements in energy efficiency, emissions reduction and sustainability of transport. This includes contribution to reduction in the energy consumption and congestion in road transport.

Methodology:

The consortium demonstrated and evaluated:

- the novel Laserscanner serving various applications in vehicle environment, both on a truck and passenger car
- the generic nature of the novel Laserscanner as a sensor that has use outside the vehicle by providing infrastructure based road user information at an intersection to the vehicle via V2I-communication

The MiniFaros consortium developed totally new low-cost miniature Laserscanner technology that opens up the Advanced Driver Assistance System market for small and medium size cars and broadens the range of possible applications by its:

- low cost
- small size (4 cm x 4 cm x 4 cm)
- high performance, like field of view of up to 300 degrees

Parent Programmes:

[FP7-ICT - Information and Communication Technologies](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Sick Ag

Address:

Erwin Sick Strasse
79183 Waldkirch
Germany

Organisation Website:

<http://www.sick.com>

EU Contribution: €983,624

Partner Organisations:

Volvo Bus Corporation

Address:

Fästningsvägen 1
40508 Gothenburg
Sweden

Organisation Website:

http://www.volvo.com/bus/global/en-gb/home_new.htm

EU Contribution: €233,021

Oulun Yliopisto

Address:

Pentti Kaiteran Katu
90014 Oulu
Finland

Organisation Website:

<http://www oulu.fi>

EU Contribution: €394,645

Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.v.

Address:

Hansastraße 27C
80686 MUNCHEN
Germany

Organisation Website:

<http://www.fhg.de>

EU Contribution: €569,653

Skoda Auto A.s.**Address:**

Tr Vaclava Klementa
29360 Mlada Boleslav
Czech Republic

EU Contribution: €66,487

Institute Of Communication And Computer Systems**Address:**

Patission
10682 Athens
Greece

Organisation Website:

<http://www.iccs.gr>

EU Contribution: €260,442

Teknologian Tutkimuskeskus Vtt**Address:**

TEKNIKANTIE 21
02150 ESPOO
Finland

Organisation Website:

<http://www.vtt.fi>

EU Contribution: €690,253

Technologies:

Advanced driver assistance systems
Sensor and Communication Platform for ADAS system

Development phase: Research/Invention

Key Results:

MiniFaros has developed an innovative Laser scanner in terms of its new solutions for optical and electronics design including a MicroElectroMechanical Systems mirror, which is able to serve a wide range of advanced automotive safety applications.

Strategy targets

- An efficient and integrated mobility system:
 - Secure Transport
 - Service quality and reliability
- Innovating for the future: technology and behaviour

Documents:

 [Project presentation \(Other project deliverable\)](#)

STRIA Roadmaps:

Cooperative, connected and automated transport, Vehicle design and manufacturing

Transport mode: Road transport

Transport sectors: Passenger transport

Transport policies: Decarbonisation, Safety/Security

Geo-spatial type: Other