

Partnering Opportunity

Profile Status: Published

Research & Development Request

EIC-FTI-2018-2020: French multinational automotive tier-1 supplier seeks three potential partners in order to develop sensor cleaning solution for autonomous vehicle

Summary

A French automotive multinational company, number one tier-1 supplier in the world, is preparing a project proposal for the Fast Track to Innovation EIC-FTI-2018-2020 call. The company especially develops innovative sensor cleaning solutions. It seeks partners in electronics miniaturization, in plastronics, and in ball bearing friction optimization to join the consortium for this Call.

Creation Date	15 October 2019
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Expiration Date	15 November 2019
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Public Link	https://een.ec.europa.eu/tools/services/PRO/Profile/Detail/ed33fd8a-dbf6-4d89-b5c8-9e5ede626209

Details

Description

A French multinational automotive tier-1 supplier and partner to automakers has been engaged in providing sensor cleaning systems to support Autonomous Driving (AD) developments for several years. These solutions are designed not only for increased comfort and safety, but also for reduced weight, thereby reducing CO2 emissions.

With the deployment of Advanced Driver-Assistance Systems (ADAS) and the automation of driving, the efficiency and availability of sensor functions become crucial for reliability and safety.

Nowadays, a camera “can't see” during harsh weather conditions such as rain, snow, or due to dust, mud and bugs.

Ref: RDFR20191015001

Thanks to the extensive knowledge acquired by the R&D projects performed in the field for many years, and a close collaboration with all the automotive value chain, the company has identified a remarkable opportunity to develop a research project based on a sensor cleaning system enabling autonomous driving in any weather condition. This is the first waterless solution ensuring the camera's visibility.

The project consists of the development of a cleaning sensor solution for AD and ADAS cameras. A lens is set in front of the camera. The lens is spinning at high speed thanks to a motor. The electronic control is embedded. The whole product is made of the camera, the lens, the motor and the electronics. The product lets the camera see in adverse weather conditions (rain, snow...) and it prevents the camera from soiling (mud, bugs...). It will be set in cars and the size of the solution is challenging. The size depends mainly on motor size and on PCBA (Printed Circuit Board Assembly) dimensions. The company seeks partners to optimize (electronic miniaturization/deportation, ball bearing friction optimization) solutions before market launch.

The company seeks one partner to provide a solution of low friction ball bearing. The ball bearing friction determines the size of the motor. If friction decreases, the motor will be downsized. Additionally the ball bearing should be tight according to the IP67 Standard (protection level required)

The company seeks a second partner to provide a plastronic solution. The goal is to deport electronic components from the PCBA (Printed Circuit Board Assembly) to the rear cover. The rear cover is an overmolded plastic part and it realizes several functions :

- Customer connector is plugged on the rear cover
- Lead frame is overmolded, it forms the electrical contact from the customer connector to electronic components
- O-ring rubber seal is set on the rear cover to ensure PCBA tightness

The company seeks a third partner to develop a tailor-made electronic component package as ASIC (Application-Specific Integrated Circuit) or POP (Package on Package). As PCBA (Printed Circuit Board Assembly) is embedded near the motor, such tailor-made package should be compatible with a low heat dissipation capability.

EOI deadline: 15 November 2019
Call deadline: 19 February 2020
Expected project will start September 2020

Advantages and Innovations

Performance of AD (Autonomous Driving) and ADAS (Advanced Driver-Assistance Systems) sensors such as a camera are highly impacted by weather conditions and soiling. Many sensor cleaning solutions have been developed but the company's solution is the only one merging a lot of sensor cleaning performances.

The camera can see when it is raining or snowing. The company has developed strategy for defrosting. It prevents from soiling due to mud, dust, bugs.

Usual cleaning solutions use washing liquid, but this solution uses centrifugal force to clean. As a consequence the weight of washing liquid in the car is lower, allowing longer range for electrical cars or reduced CO2 emissions for ICE (Internal Combustion Engine) cars. This solution enhances time availability of autonomous car as the sensor works in adverse

weather conditions and as it avoids soiling.

Keywords

Technology

01002003	Electronic engineering
02009004	Road Vehicles
02009009	Sensors for cars and transport
02009014	Automotive electrical and electronics
02009022	Security systems

Market

09001002	Trucking
09001005	Motor vehicles, transportation equipment and parts

Network Contact

Issuing Partner

ZACHODNIOPOMORSKI UNIWERSYTET TECHNOLOGICZNY W SZCZECINIE

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Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Ref: RDFR20191015001

Industry >500 MNE

Year Established

0

Turnover

50 - 100M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English
French

Client Country

France

Partner Sought

Type and Role of Partner Sought

1) One industrial partner for ball bearings is needed:

- to develop and to manufacture ball bearings as small as possible with low friction and a lifetime > 15000hrs
- Internal diameter of ball bearing can not be changed

2) One industrial partner for ASIC (Application-Specific Integrated Circuit) or POP (Package on Package) is needed:

- to develop and manufacture a specific chip gathering functions which usually use several components;
- to develop and manufacture a specific package to superimpose several components.

3) One industrial partner for plastronic is needed:

- to develop and manufacture the rear cover with lead frame and components

Type of Partnership Considered

Research cooperation agreement

Program - Call

Framework Program

H2020

Call title and identifier

Fast Track to Innovation (FTI): H2020-EIC-FTI-2018-2020

Submission and evaluation scheme

Single stage - 19, February 2020 Cut Off

Anticipated Project Budget

Max 4.25M€ for the consortium

Coordinator Required

No

Deadline for EOI

15 Nov 2019

Deadline of the Call

19 Feb 2020

Project Duration

104 week(s)

Weblink to the Call

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/eic-fti-2018-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;cro>

Project Title and Acronym

Fast Track to Innovation