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## **ASSIGNMENT PROCESS OF THE EMERGENCY SERVICES IN THE E-CALL PROJECT**

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### **KEYWORDS:**

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### **ABSTRACT**

Nowadays, the main fields of research in the automotive industry are safety and environment care. Inside the former field, one of the main targets is to improve the work of the emergency services, where the accident takes place, to decrease the total time needed to attend the victims. This is included in the postcrash safety.

The main target of this research project is to develop an algorithm to optimize the assignment process of the most suitable units of each brigade to be sent where the accident has taken place. The main input information comes from the vehicle about the accident in the emergency call. More necessary information to introduce is the real time traffic information which is registered in the mobility centre. As the state of the units of the brigades is known, the target is to assign the required units, minimizing the time to arrive to the place of the accident.

This research project takes into account the fact of three kinds of brigades can be assignment to go to the accident place. These brigades are the emergency services, the police and the fire brigade. The fire brigade only takes part when a victim is trapped into the car. So, there are many people involved in the first action in the accident place and many roads to be covered by the different bases; it is necessary to make automatic the assignment and decision making processes.

The algorithm designed has been tested with a stretch of one of the main roads in the area of Barcelona. There have been considered four bases of the emergency services, five police bases and three fire brigades, which are the nearest to the test road.

If a comparison between the nowadays protocol and the automatic assignment method, a reduction of 5 minutes is achieved and the maximum response time fixed, which is 20 minutes, was not exceed in none of the simulations.

As future works, a simulation with a complete scheme of the surrounding roads and all the bases of the three corps will be raised to extend the application and compare the results obtained with this first basic model.