

# V2X: Emergency medical service 2.0

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**BOSCH**  
Tecnologia para a vida



universidade  
de aveiro



25  
YEARS

instituto de  
telecomunicações

# Context / Application Areas

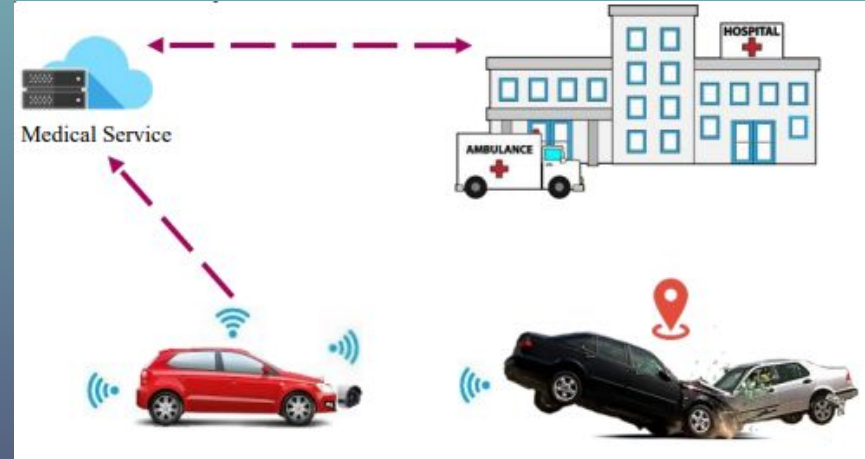
- Internet of things;
- Road Safety;
- Vision through computer;
- Vehicular communications;
- DSRC (Dedicated Short-Range Communications);
- C-V2X (Cellular Vehicle-to-Anything)
- LTE (Long Term Evolution)
- 5G



Autonomous Rescue Communications

# Problem

- Delay between the accident happening and emergency services being notified.
- Depending on human intervention to notify the emergency services.



# GOALS

## EFFICIENCY

Improve communications  
and accident responses.



Road traffic management.

**MANAGEMENT**



Provide the necessary  
information in real time.

**INFORMATION**

## QUALITY

Improve the quality of  
emergency assistance.



# Tasks

- Add livestream of gateway car;
- Add live location of emergency services;
- Improve gateway detection algorithm;
- Extended CAMs could be a DENM (Decentralized Environmental Notification Messages);
- Basic security in the API and Database;
- Check if the car is burning;
- Solve/fix some app bugs;
- Add statistics;
- API communication about congested areas;
- Advice about dangerous days(statistics);
- In severity calculations get in count meteorology and car messages like oil pressure, airbags, engine temperature.



# Expected Results

- Make the project a fully autonomous system that can help save lives by contacting emergency services when needed.
- Improve and increase functionality to the previous project;
- Acquire new skills in different types of software and hardware;



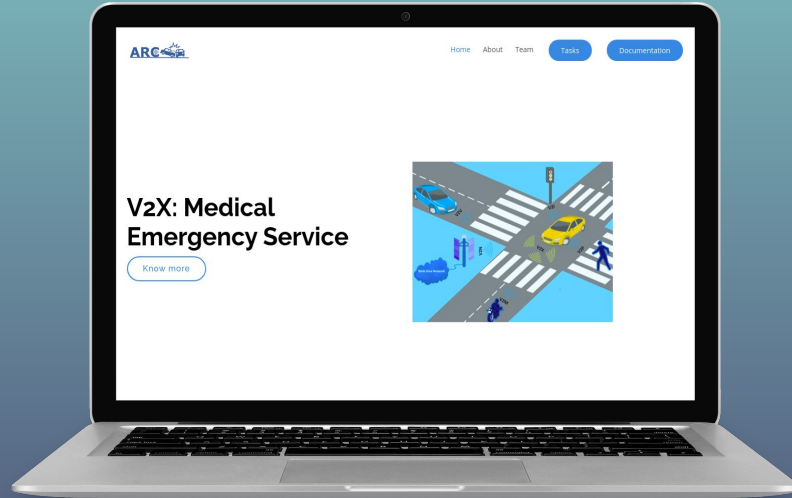


# Related work

- 5Gcar is an European project with the goal of developing several use cases of V2X in driving scenarios
- When Backscatter Communication Meets Vehicular Networks: Boosting Crosswalk Awareness is a project made in IT that uses V2X communication to disseminate information, namely, the presence of pedestrians crossing the sidewalk
- eCall is an European initiative to allow cars to communicate with emergency services in order to enable faster assistance times in European countries.



# Microsite



<https://rodrigo740.github.io/index.html#>