



## Case Study

# SARTRE - Developing autonomously controlled vehicles that operate in a platoon on public highways

## Ricardo led and coordinated the SARTRE project for autonomous vehicle platooning

### Challenge

The overall concept of the project was to have a lead vehicle driven by a trained professional driver followed by vehicles with automated driving. SARTRE is a €6.4M EU co-funded FP7 project, consisting of seven partners with the task to develop: strategies and technologies for vehicle platoons, autonomous vehicles operating on public highways and a prototype platooning system.

### Solution

Ricardo led and coordinated the project, as well as contributing on a technical level. The team led platoon safety analysis, developed the platoon control system as well as longitudinal and lateral control algorithms. The project was aimed at developing these systems and analysing them under real world scenarios. The control system performance was enhanced using real-time V2V data and was based on existing technologies (ACC, EPAS, sensors) with software enhancements. This was combined with advanced control software for optimal control of the platoon.

### Results

The demonstration platoon system was successfully implemented, with a 5-vehicle mixed platoon successfully tested on tracks and demonstrated on Spanish public roads. There were fuel economy benefits of 8% for the lead vehicle and 16% for the following vehicles with a gap size of 5m at 90kph



Link to video:  
<https://www.youtube.com/watch?v=3PW8GP9yIU>

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