

## A METHOD FOR GENERATING A TIME TABLE FOR SENSORS

### Abstract

This technology proposes a method for regulating the communication between multiple wireless sensors and a control unit. This technology enables a regular data exchange between the wireless sensors and the control unit. Therefore, it provides an efficient communication of on-board wireless sensors. This invention involves the generation of a time table algorithm that determines the data exchange times between a control unit and wireless sensors in a vehicle. As such, it improves the quality of the data exchanges.



### Problem solved with the technology

This method for generating a time table determining the data exchange times between a control unit and wireless sensors in a vehicle is developed. The system comprises said control unit; and said wireless sensors detecting the properties of components of the vehicle and/or surrounding parameters and suitable for carrying out data exchange with the control unit by establishing wireless connection with a wireless port provided in the control unit. This time table generation method works with a principle that wherein

- \* calculating the data exchange periods and/or the data exchange durations between each sensor and the control unit
- \* generating a time table having an adjustable table length according to the data exchange periods and/or data exchange durations
- \* splitting the time table into subunits according to the data exchange periods and/or data exchange durations;
- \* entering the times at which each sensor performs data exchange with the control unit into the table according to a predefined priority order.



## Potential Application

This technology is applicable to Automotive Industry on-board wireless sensor. Vehicles are equipped with sensors which detect the status of components and/or surrounding factors like the sensors detecting the internal pressure of a tire or the distance between some objects in the surrounding. Wireless communication is outweighing the use of wired applications in this area due to feasibility issues. Since the number of sensors is restricted in a control unit establishes communication at the same time, the timing of data exchange conducted between the control unit and the sensors should be regulated, preventing the data exchange quality between sensors and control unit drops.

## Customer Benefits

There are several advantages in this invention:

- \* The system makes it possible to perform a regular data exchange between the wireless sensors and the control unit provided in the vehicle using a single time table.
- \* By updating the time table with actual information and leaving empty times in the subunit of the time table, a safe data exchange can be made.
- \* Even when a variation occurs in the data exchange durations and the periods between the sensor and the control unit, a safe data exchange can be made using this method.
- \* Overall high quality data exchange between wireless sensors and the control units ensures efficient network in a vehicle.

## Market Trends

According to the WHO, more than 1.25 million people are killed in road accidents every year and about 50 million people get injured. For this reason there is a demand for automotive sensors. The global automotive sensors market is expected to register a CAGR close to 8% during the forecast period, 2018 to 2023. The major trend driving the global automotive sensor market is miniaturization and improved communication capabilities, which enables their integration into vehicles without interfering with the basic functionalities of the vehicle. The increasing demand for safety and security in the automobiles is the main factor that is playing a vital role for the growth of this market.

## Additional Technical Information

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