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CT successfully completes the Digital HBE Twin project, a smart interaction platform for buses based on digital twins and occupational and environmental health monitoring.

Digital Human-Bus Environment Twin, a smart solution for environmental and occupational health in urban mobility.

Measuring the way cities move is a key vector to achieve sustainable mobility that benefits both passengers and workers, and the environment in general. Along this line, over the course of 2022, CT developed the **Digital Human-Bus Environment Twin project**, a new **technological solution to control bus fleet operations** that immediately gives a better understanding of passenger transport in the city.

To do this, the CT team deployed digital twins of the fleet's buses in a geo-specific virtual environment. The system that was developed includes the collection of telemetry data from the bus, remote monitoring of driver workloads and environmental conditions (CO₂, temperature and seat use, among others). This information collected in the project demonstrator gives a better understanding of passenger transport in the city immediately, thanks to the implementation of technologies such as Big Data.

Some of the advantages of this system include:

- Use of synthetic data for AI training.
 - Predict the fuel consumption of buses.
 - Predict tire wear.
- Optimize routes based on conditions in the city.
- Quickly create Digital Twins of urban mobility.

The developed technology allows data and fleet operation to be analysed under different virtual scenarios. These developments will serve as a basis for integrating future research and development in the area of urban mobility.

About Digital HBE Twin

The project with dossier number 2020/0720/00099966, was awarded by Red.es and was co-financed through the European Regional Development Fund (ERDF).



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About CT

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