DIGITAL TWIN OF AN ELECTRIC VEHICLE

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# What are Digital twins?

 The concept of digital twins emerged around 20 years ago, having been developed and improved as technologies for simulation, sensor hardware, and real-time data transmission have advanced.

 This concept represents a faithful copy of a physical process, system, or object, with the copy being virtual, created by providing real and as concise data as possible related to the physical model.

 With the help of such a virtual model, you can simulate, monitor, or optimize the performance of an existing physical model. This concept helps in the better development of the physical model without causing damage or destroying the physical model in any way. Thus, the virtual model is powered by data collected from the physical model’s sensors, allowing various scenarios to be simulated or specific data to be better analyzed to make decisions related to the physical model.

 This concept is used in industry and manufacturing, in product design and development, in the medical field, in energy, and many other sectors.

 This concept is also used in car manufacturing, especially for electric vehicles. Data from a specific physical model is provided, creating a virtual prototype, a digital twin, which is an almost 1:1 replica of the physical model. By using this, various usage scenarios, the performance of the physical model, and how it can be improved can be tested, as well as studying existing data to prevent potential risks that may arise from using the physical model.

# TASK 1: Identify the System, Its Form and Function

# TASK 2: Identify the entities of the system, their form and function and the system boundary and context

# Task 3: Identify the Relationships among the Entities

# Task 4: Predicting Emergence