

E-03

Feel the connected car potential in a virtual space modeling a real city

Social Issues that we have focused on

Due to advances in electric vehicles and autonomous driving technology, CO₂ emissions and traffic accidents are being reduced. However, there are issues that cannot be solved by any individual vehicle, such as energy waste due to emergency braking and traffic congestion, environmental impact of mining and recycling rare metals contained in batteries, and waste of land due to non-operating vehicles.

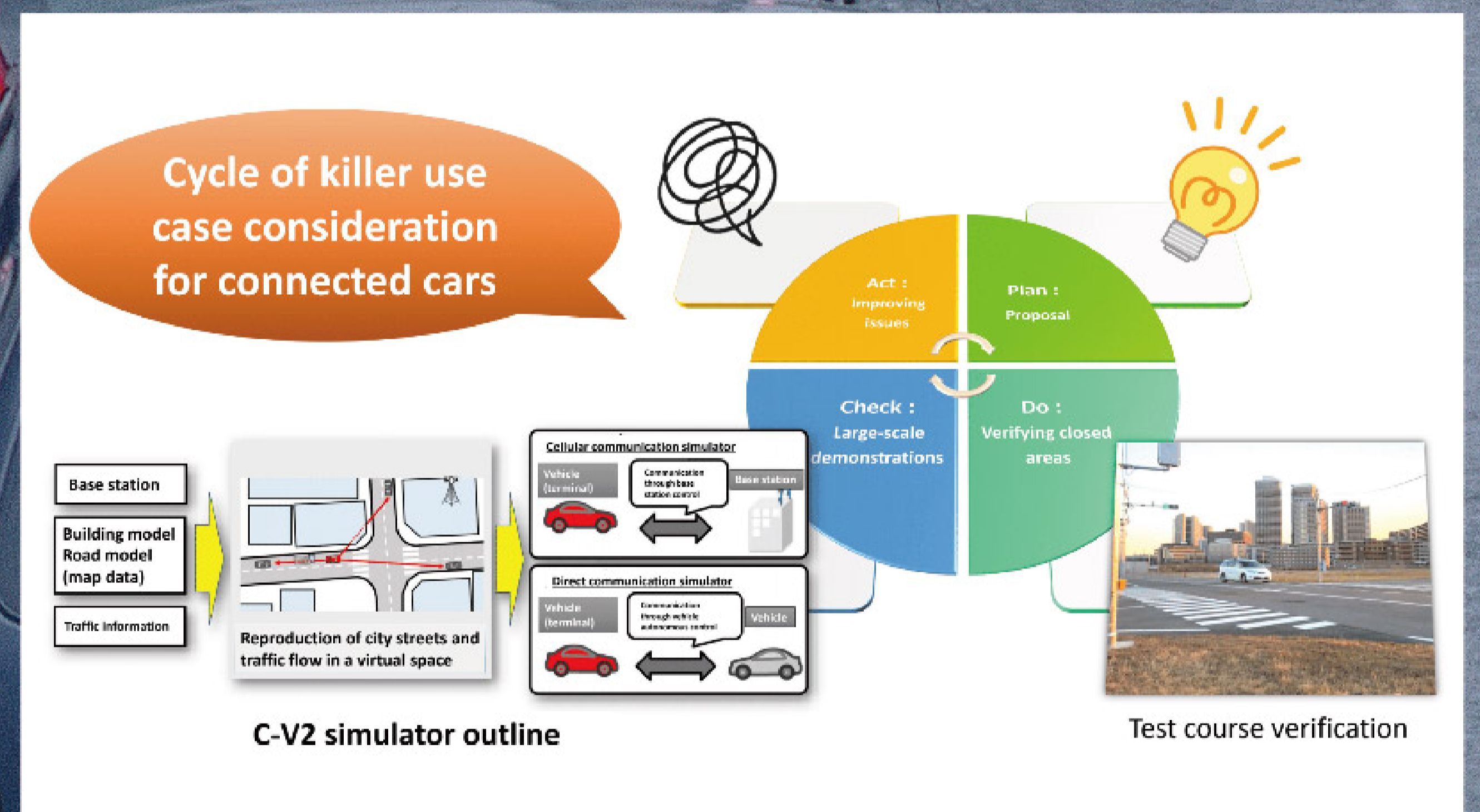
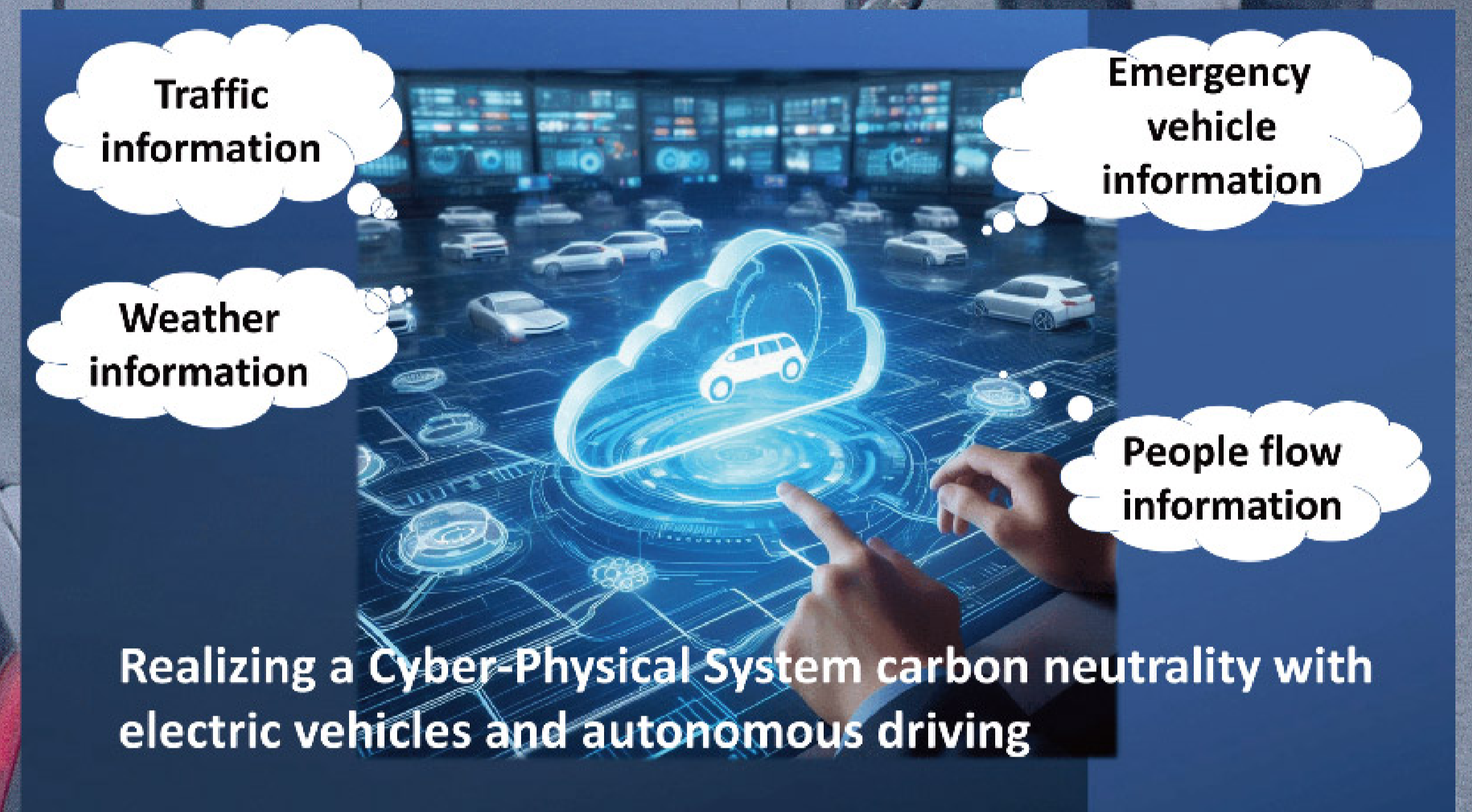
Initiatives to resolve issues

Overview

The solution to this issue requires overall optimization of the vehicles, and studies of a Cyber-Physical System (CPS) that centrally manages sensor information, etc. acquired by using connected cars, smart poles, and more are studied in many countries around the world. However, since connected cars are not yet widely used, docomo is working to create killer use cases.

Technology to Support Initiatives

Large-scale demonstrations are necessary to create use cases, but it is difficult to conduct them on a frequent basis. Therefore, we developed a C-V2X simulator that models the real world in a virtual space and enables the evaluation of communication quality for direct communication between vehicles, in which the mutual positional relationships change from moment to moment, in addition to cellular communication among hundreds of vehicles moving at high speed.



SDGs



By enabling use case studies without large-scale demonstrations, we can expect to create use cases from new perspectives of various other fields that differ from safety and security by the traditional automotive industry, leading to the widespread use of connected cars.

We hope that new use cases will change the concept of travel time.