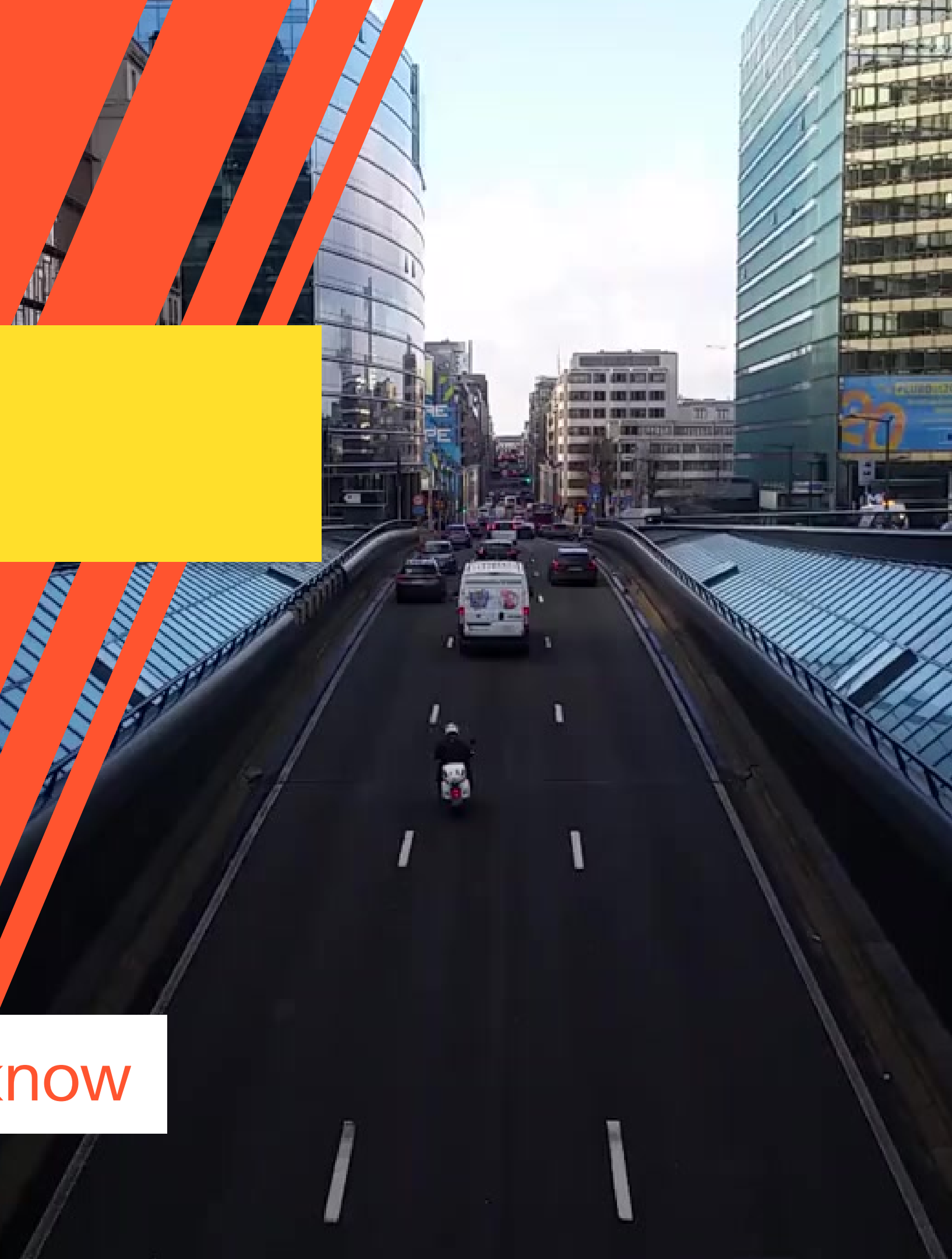


V2X TECHNOLOGY

What every newbie car owner should know



Introduction

Vehicle to Everything (V2X) is a vehicular communication system that supports the transfer of information from a vehicle to moving parts of the traffic system that may affect the vehicle. The prime objective of V2X is enhancing road safety and improving traffic management. V2X communications define the information exchange of a vehicle with different components of the ITS, including pedestrians, other vehicles, transport infrastructure (e.g., traffic signs and lights), and Internet gateways.

Introduction

Transport is a key necessity for specialization—allowing the production and consumption of products to occur at different locations. Throughout history, transport has been a spur to expansion; better transport allows more trade and a greater spread of people. Economic growth



Security system in v2x

V2X communication deals with communications related to both V2I and V2V.

The entities involved in both of these communications are vulnerable to attacks prevalent in wireless networks.

These systems must meet the needs of security, privacy, reliability, and integrity.

Some V2X security requirements are:

- Authentication
- Message Integrity
- Access Control
- Message Confidentiality.
- Availability.
- Privacy and Anonymity

objective of v2x

Vehicle to Everything (V2X) is a vehicular communication system that supports the transfer of information from a vehicle to moving parts of the traffic system that may affect the vehicle. The main purpose of V2X technology is to improve road safety, energy savings, and traffic efficiency on the roads.

Transport is a key necessity for specialization—allowing the production and consumption of products to occur at different locations. Throughout history, transport has been a spur to expansion; better transport allows more trade and a greater spread of people. Economic growth

Transport is a major use of energy and burns most of the world's petroleum. This creates air pollution, including nitrous oxides and particulates, and is a significant contributor to global warming through the emission of carbon dioxide, growth in the volumes of passengers or freight being carried. This is an outcome of growth in population, production, consumption, and income, which is illustrative of aggregate demand.

In ancient times, people crafted simple boats out of logs, walked, rode animals, and, later, devised wheeled vehicles to move from place to place. They used existing waterways or simple roads for transportation.

literature review

Each year, 1.35 million people are killed on roadways around the world. Every day, almost 3,700 people are killed globally in crashes involving cars, buses, motorcycles, bicycles, trucks, or pedestrians. More than half of those killed are pedestrians, motorcyclists, or cyclists

~~—Introduction (Minimum 2~~
~~slides) □ Objective / Problem~~
~~statement □ Literature Review~~
~~□ Proposed work □ Real time~~
~~usage □ Hardware & software~~
~~requirements □ Overall system~~
~~architecture diagram □ List~~
~~out the modules & Explanation~~
~~□ Project timeline chart □~~
References

proposed work

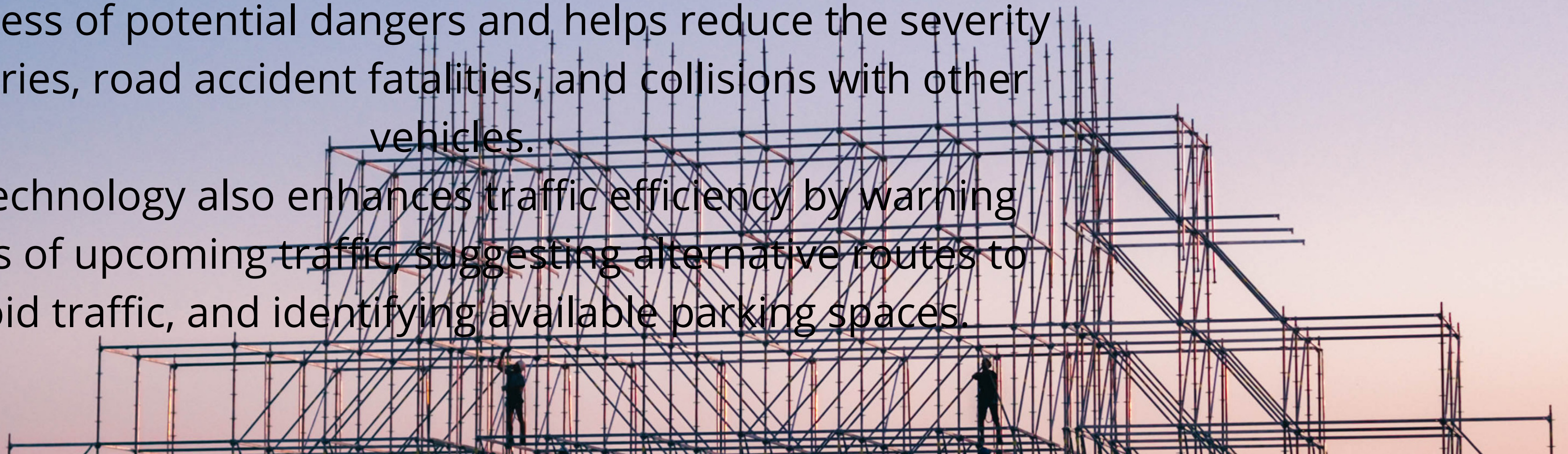
we make a representation of classifying the attacks in vehicular networks according to attacks based on the behavioral pattern, attacks on software and hardware. we present a comparative study of the different attacks on V2X

real-time usage

In a V2X communication system, the information travels from the vehicle sensors and other sources through high-bandwidth, high-reliability links, allowing it to communicate with other cars, infrastructure such as parking spaces and traffic lights, and smartphone-tossing pedestrians.

By sharing information, such as speed, with other entities around the vehicle, the technology improves the driver's awareness of potential dangers and helps reduce the severity of injuries, road accident fatalities, and collisions with other vehicles.

The technology also enhances traffic efficiency by warning drivers of upcoming traffic, suggesting alternative routes to avoid traffic, and identifying available parking spaces.

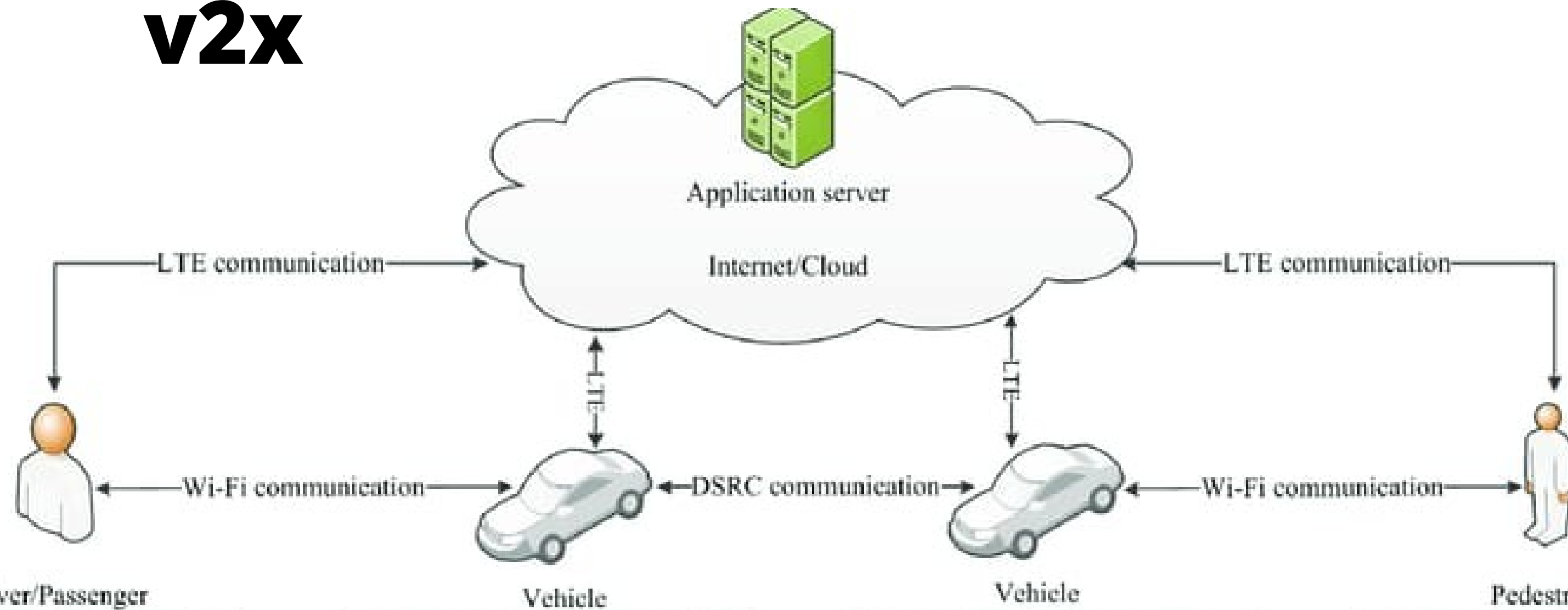


Applications of V2X

V2X applications in vehicular networks consist of traffic management applications, road safety applications and comfort and infotainment applications



Architecture of v2x



Driver/Passenger

Vehicle

Vehicle

Pedestrian



Driving information collection
V2D communication control
Pre-crash Warning



LTE communication

Internet/Cloud

LTE communication

references

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