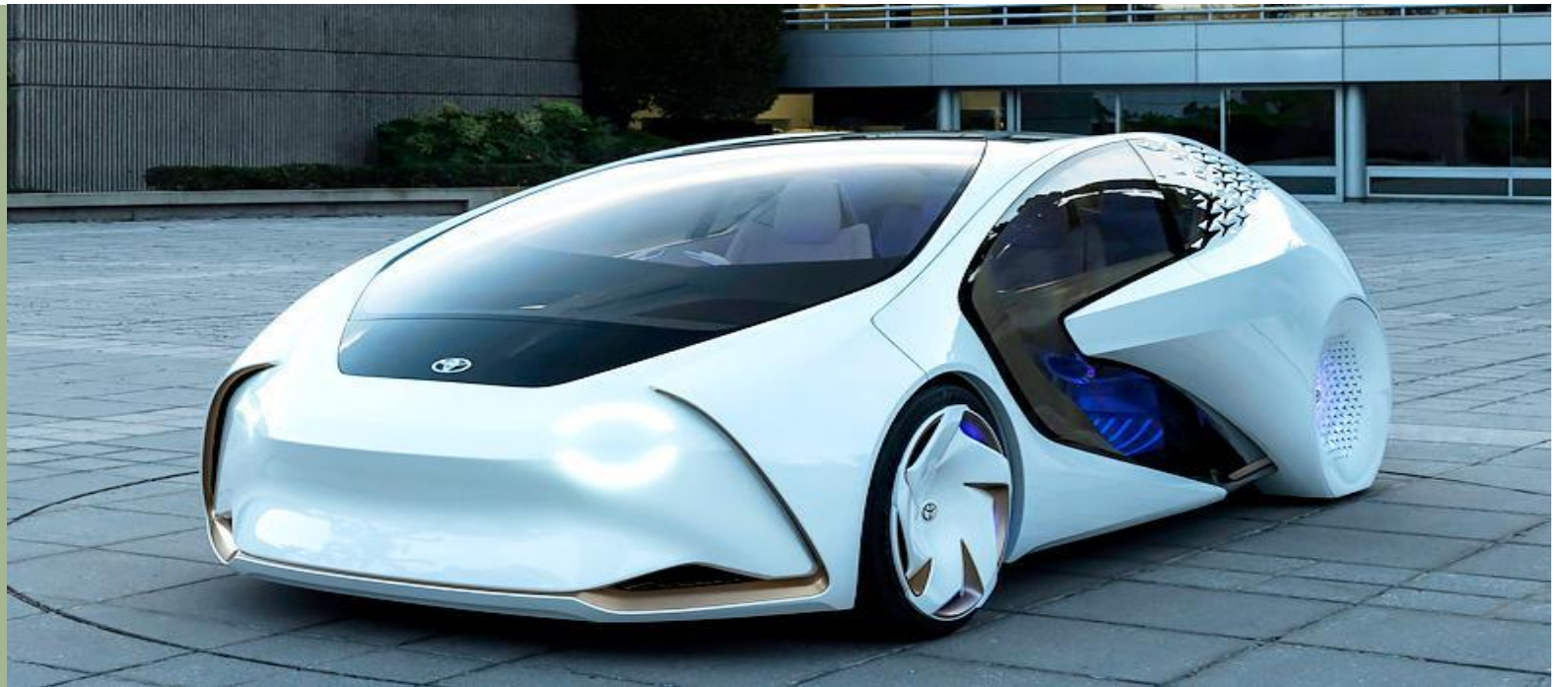

SELF-DRIVING CARS

PERFORMED BY TARASOVA TATIANA, KRASNOV ILYA



INTRODUCTION

Self-driving cars are able to move independently thanks to special software and sensors. The software controls the operation of all car systems: turning the steering wheel, changing gears, gas and brakes. Sensors collect information about the environment, which forms the basis for the actions of the car

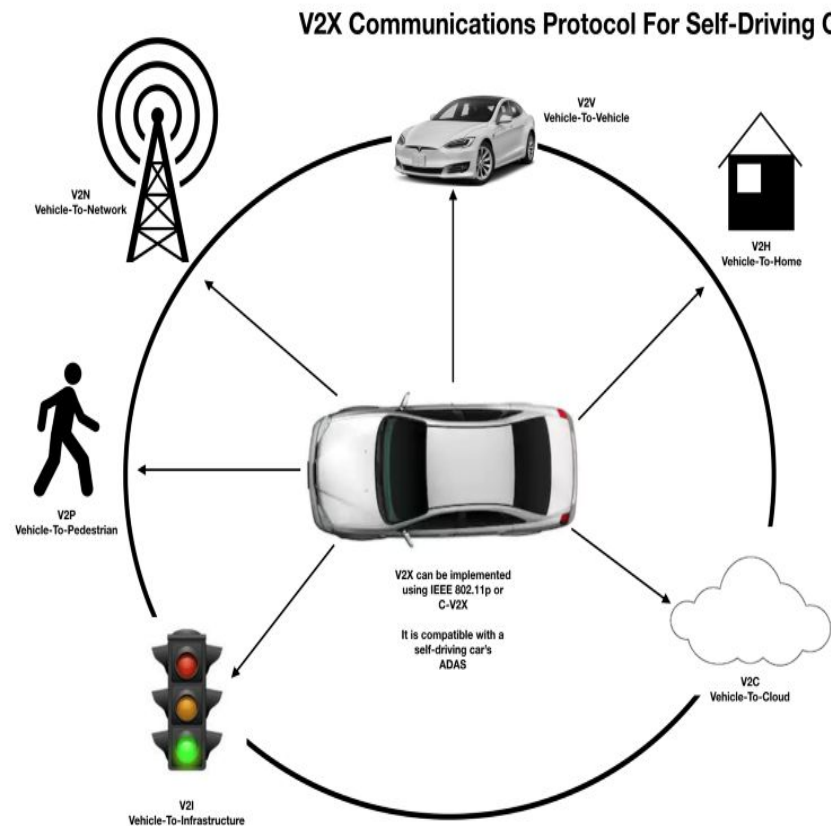


OUTLINE

- Advantages
- Disadvantages
- Basic system
- Current projects
- Autonomy levels
- The outcome
- Bibliography



ADVANTAGES



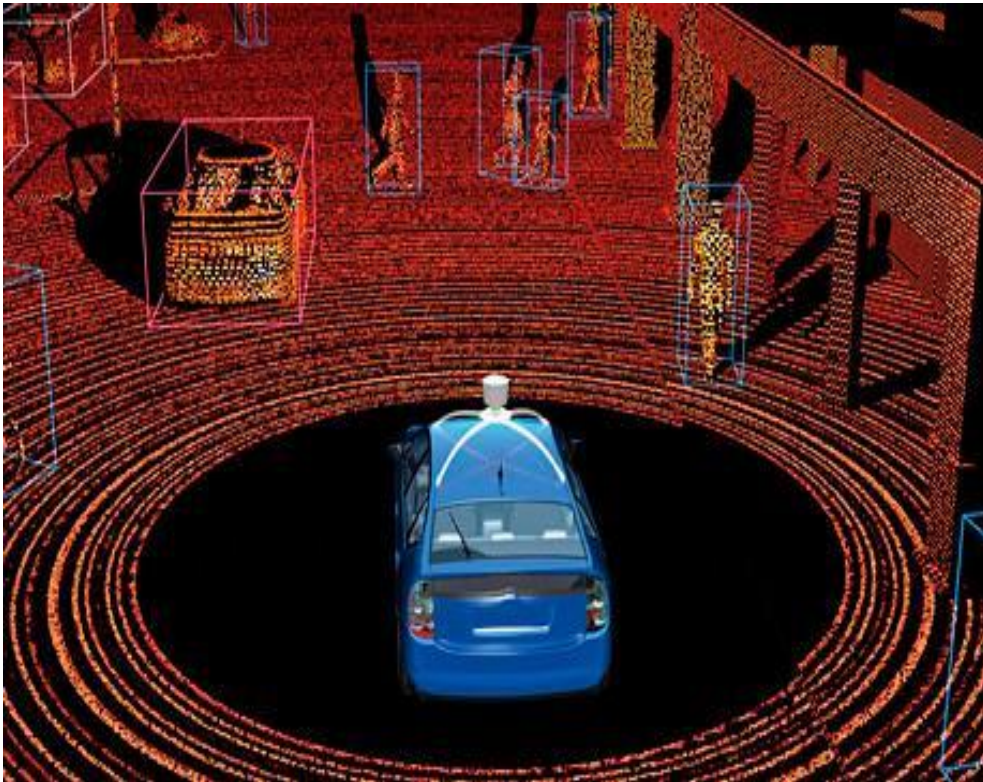
- saving time currently spent on driving the veh
- cardinal minimization of road accidents and almost complete exclusion of human casualties
- the ability to independently move by car for people without a driver's license
- transportation of goods in hazardous areas, during natural and man-made disasters or military operations

DISADVANTAGES

- Lack of driving experience for drivers in a critical situation
- Loss of the ability to drive independently.



BASIC SYSTEM



1. Lidar is the heart of the autopilot. This is a laser rangefinder that is installed on the roof of a car and generates a 3D map of the space within a radius of up to 100 meters.
2. Radar - there are 4 of them on an unmanned vehicle
3. The position sensor is a special device that determines the coordinates of the car on the map.
4. Camcorder - located near the rear-view mirror.

CURRENT PROJECTS

Currently, autonomous vehicles from companies such as Waymo, Aptiv, Baidu, General Motors Cruise, Yandex and a number of others are already being tested on public roads. In the USA, Russia and China, some cities operate robotic taxi services available to ordinary users.



AUTONOMY LEVELS

Level 0. No automation, the driver does all the work.

Level 1, "hands on", "driver assistance"

Level 2, "hands off", "partial automation"

Level 3, "eyes off", "conditional automation"

Level 4, "mind off", "widespread automation"

Level 5, "steering wheel optional", "full automation"



THE OUTCOME



They say a lot and quite loudly that artificial intelligence will take away the right from a person to drive. Today, drones are recognized as the safest way to travel, and tomorrow they will be the only choice for humanity. 10-20 years will pass and their domination will become total

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