

ANT

Effective response to the problems of relief

damaged vehicles in municipal services

What's the problem?

In today's world of machines and due to the high number of cars available in cities and countries, providing services and providing new services is of great importance.

According to the statistical community in the United States, up to 69 million cases of car breakdowns are observed annually for various reasons that require the transfer of vehicles. In this case, if the car breaks down in the middle of the highway or road, it causes high stress on the driver and passengers.

According to the statistics provided above, the relief system does not have a suitable response to provide relief services to vehicles in the remaining route, and it is necessary to provide a new and alternative solution to provide faster, lower cost and safer tram relief services.

Nowadays, relief services for vehicles with technical defects are provided by roadside assistance companies. The user has a technical problem after his car and calls these companies from a standing position by mobile phone and asks for help, after which The company sends a spare vehicle to the site of a vehicle with a technical defect to be transported to a repair shop for troubleshooting.

But is this the fastest way to help? How long does it take for an ambulance to reach a defective vehicle? How much stress will the car occupants get during this period? How much does the weather and temperature condition affect the health of the occupants due to the failure of the car's electricity and heating system? How much will the location of the car breakdown and the physical and traffic conditions of the roads affect the speed of relief?

All of these are factors that can challenge the current method of relief and prevent the provision of fast, low-cost and safe relief.

What's the solution?

By designing a fully intelligent system, our team has been able to provide a solution that overcomes all problems and provides fast, low-cost and safe relief for all vehicles.

This smart system consists of three main parts:

1. Ant towing robot
2. Mobile application
3. Control center system

ANT Autonomous Car Towing Robot

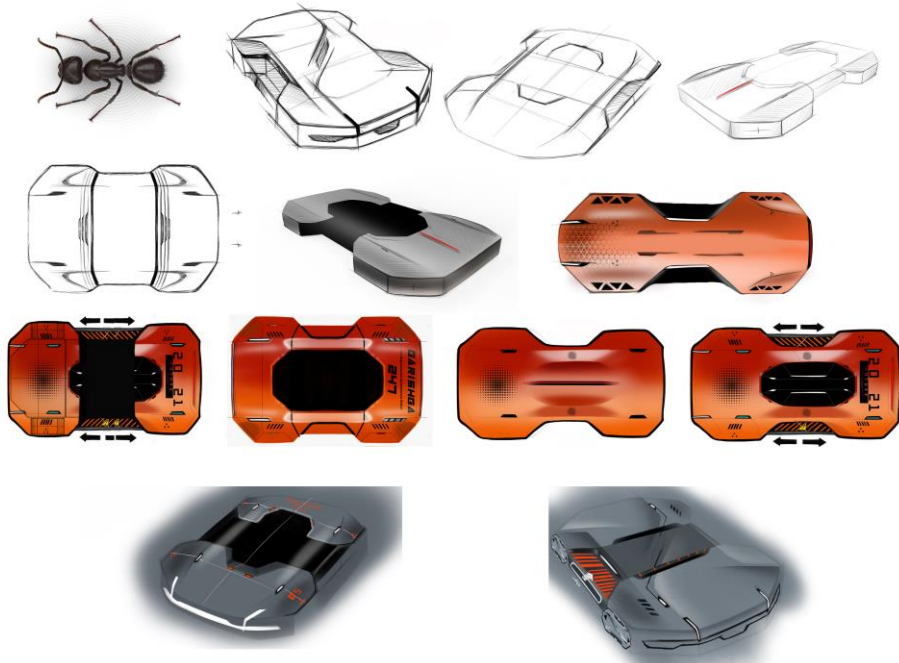
Designed with the help of electrical energy stored in its battery, this robot performs relief work and is charged wirelessly during standby in the designed locations.



But what makes this robot different and fast at the same time is its small size and high power in lifting all kinds of cars. Because this robot has to go under it to lift the car and perform lifting operations through the tires, and its unique dimensions give this robot the ability to choose the fastest route to reach the front tires of the car, for example. Entering the underside of the car from the rear, but this is just one of the differences between the ant tow truck and other tow trucks, which can operate at a faster rescue speed.

Inspiration and detail design & Technical tips

Another interesting feature of this robot is the ability to lift all kinds of cars, because cars are different in terms of size and weight, and this robot, despite its small size, has the power and ability of all kinds of cars, and because This car has an ant-like appearance, because the ant, despite its small body, has much more power than expected, and at the same time, it passes through every hole quickly and intelligently to reach its goal, this is exactly what happens in the robot. Ant tow is formed.



Lifting part like accordion movement.



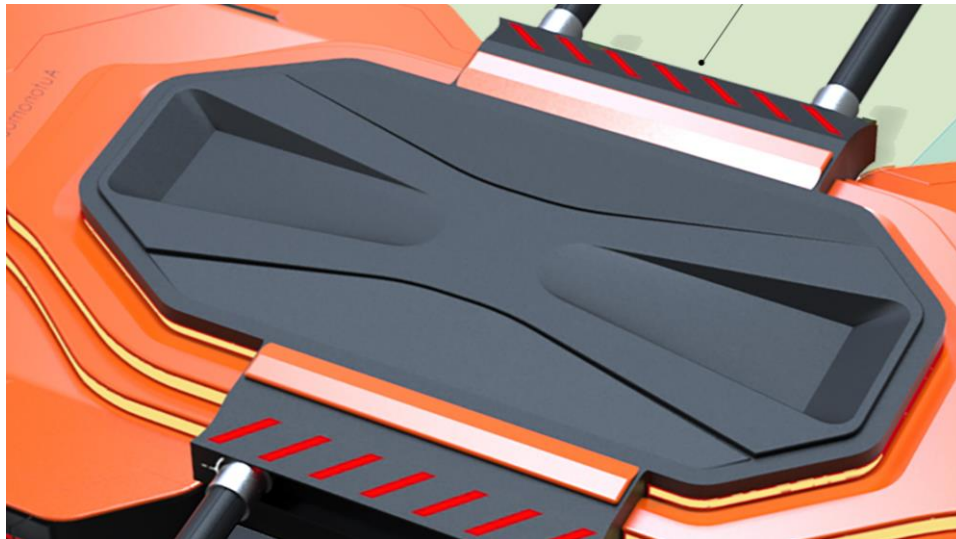
Flasher lights on wheel covers.



Shaft protective cover and warning signs.



Lifting Engine Cover Carbon Fiber Material.



Shafts are sliding and resistant when towing cars.

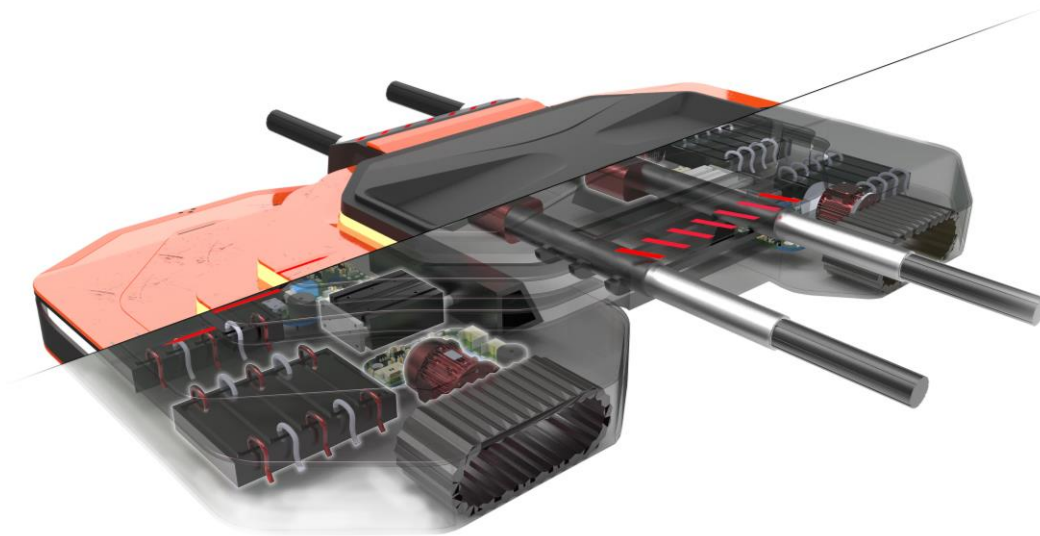
It can carry up to 1.5 tons with Electric Lifting jack.

lithium-ion battery .

4 Electric Engine.

Surface Material: Sheet Metal

Structure: iron profile



Control center system:

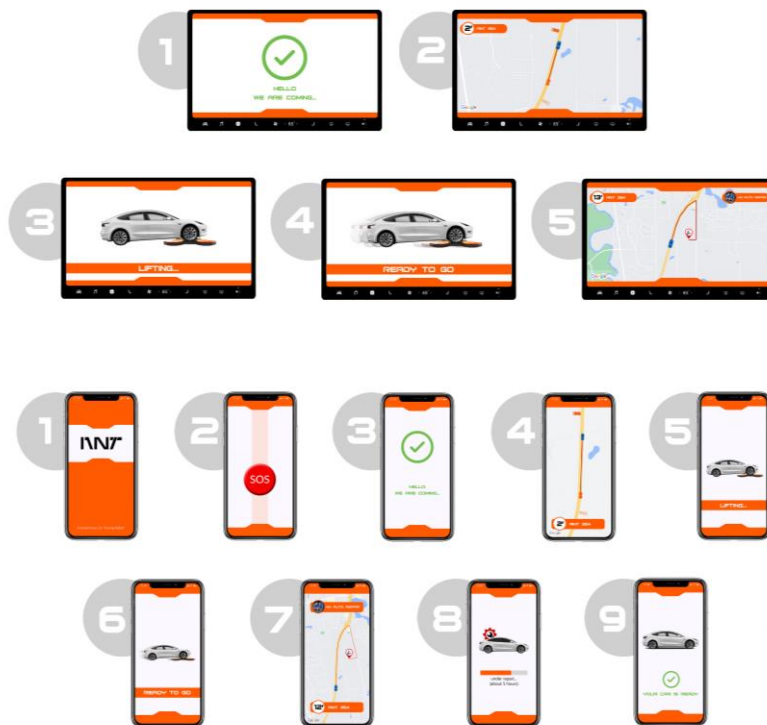
Today, despite the advancement of technology, it is possible for all human needs to be programmed and done automatically, so this possibility has been used to help speed up relief operations in such a way that (for vehicles Has media) The operation of detecting failure and the need for assistance and dispatch of a towing robot is done intelligently and without the user doing the slightest activity, he will sit safely in his car and wait for the first robot to arrive. Meanwhile, the user can be informed of the location and time of arrival of his ant rescue robot in the map displayed on his car monitor and see all the details, this awareness of the short distance of the robot and the short relief time due to the multiplicity of robots Helpers help a lot to reduce stress and keep the user cool.

This control center, in addition to each of the relief steps including lifting operations, destination display and the location of the technical defect of the vehicle, displays the destination time distance to the user online.

Mobile application:

Despite the advances in technology, it is not possible to use technology at a high level for all people, and everyone uses technology according to their financial level, so according to studies, a large number of wage earners can now use cars completely. They do not have smart, so the application is designed to be connected to the control center system, in which all the information displayed for cars with media is displayed in this application, and the only difference between cars with media and non-smart cars is in requesting help. Cars with media As mentioned before, this request is done automatically and intelligently, but in cars without media, the request is sent manually and with the push of a button in the application to the control center, and the ant tow robot performs the rescue operation. he is doing it.

In any case, even if it is a smart car, the user can view the service steps through the application.



“They say it can’t be done!

We say it will be done.”

Conclusion

The intelligent towing robot works using IOT technology and has intelligent programming and sensitive sensors and cameras to move and perform operations and is suitable for urban services and It has features such as speed in providing services, intelligence and robotics compared to previous examples and services, and its purpose is to improve urban relief services and reduce the level of stress of users during the accident.