KARSAN

Autonomous Atak Electric is Ready for the World with its Futuristic Technologies!

Karsan Holds the Online Debut of Autonomous Atak Electric

Autonomous Atak Electric, Europe's and USA's first serial-produced self-driving bus, is ready to hit the roads!

Karsan held the online debut of Autonomous Atak Electric, Europe's and USA's first Level 4 self-driving bus that is ready for serial production. Autonomous Atak Electric can navigate through streets without a human driver equipped with LiDAR sensors all around. Autonomous Atak Electric comes with innovative technologies such as an advanced radar in the front, high-resolution image processing with RGB cameras and extra driving safety thanks to thermal imaging cameras. Offering a Level-4 autonomous driving experience in combination with these technologies, Autonomous Atak Electric can drive itself on a pre-defined route. Capable of reaching speed of up to fifty kilometers per hour in all road conditions night and day when in self-driving mode, the bus can autonomously perform tasks previously done by a human driver such as pulling into bus stops on the route, managing the passengers getting on/off, navigating through roundabouts, thoroughfares or traffic lights etc.

Offering transport solutions for the mobility needs of the century with its factory based in Turkey, Karsan held the online debut of its Autonomous Atak Electric. The first Level 4 self-driving bus to be operated on the roads of Europe and the USA, Autonomous Atak Electric was modeled on Atak Electric, Karsan's 100% electrically powered electric bus in the 8-meter segment. Karsan's R&D team worked in collaboration with the US-based tech company ADASTEC. Level-4 Autonomous software developed by ADASTEC has been integrated into Atak Electric's electrical-electronic architecture and electric vehicle software. Autonomous Atak Electric was modeled on Atak Electric, powered by 220 kWh batteries developed by BMW that is capable of producing 2500 Nm torque with 230 kW engine power. Boasting a 300 km range, the 8.3 meter long Atak Electric can carry upto 52 passengers making Autonomous Atak Electric a pioneer in its segment.

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Emphasizing that the autonomous Atak Electric offers Level 4 autonomy thanks to its drive-by-wire equipment and dedicated software that processes and directs information in technological sensors, Kansan CEO Okan Baş continued, "We bring to the market a truly autonomous public transport vehicle equipped with a central management system that enables constant communication with the vehicles allowing for human intervention when necessary and enabling data exchange with third-party software.

On this level, the buses can be driven autonomously or non-autonomously either in a campus or in real road conditions on a pre-defined route. It is capable of reaching speeds of up to fifty kilometers per hour in self-driving mode - whether in day or night time, or in rainy or snowy road conditions. With its superior capabilities, Autonomous Atak Electric can pull into bus stops on the route, manage the passengers getting on/off, and navigate through roundabouts, thoroughfares or traffic lights. In short, it will minimize risks by making traffic more smart. ”

“We are working on Autonomous Jest and a new breed of electric vehicles in the 12-18 meter segment are lined up for production”

Underlining the fact that Karsan has so far made serious headway in the field of electric vehicles as evidenced by the success of Atak and Jest Electric buses which have hit the 1 million mile milestone, Karsan CEO Okan Baş continued, “Atak Electric, which we launched recently and prepared for serial production, was only an intermediate stop. The Autonomous Atak Electric, which you can see here today, is our main focus. From day one, we have planned it with this purpose in mind. As a matter of fact, we look at our range of electric vehicles as a stepping stone to self-driving ones. Of course, we want to start with Atak and move forward. And Autonomous Jest Electric is also on the cards. Every product Karsan will launch from now on will be autonomous-compatible. It will be possible to adapt them to all Level-4 autonomous features. Meanwhile, Karsan’s investments in electric vehicles continue at full speed. Fully electric vehicles in the 12-18 meter segment will soon be on the roads.”

“Autonomous transformation is to be faster for public transportation”

Karsan CEO’su Okan Baş continued saying, “In as short a time as two years, we have sold approximately two hundred Jest Electric and Atak Electric buses to be operated in thirty different European cities. And now it’s time for Autonomous Atak Electric. As a company that produces public transport vehicles, there is an important reason why we are headed down the path of autonomous vehicles. Unlike passenger cars, public transportation vehicles have certain routes. Therefore, we expect the "autonomous transformation" to be much faster for public transportation in contrast to passenger cars. We believe that autonomous transformation will progress 15-20 years ahead for public transportation vehicles.

“To be launched in Michigan on an actual route”

Praising Autonomous Atak Electric as the best model to cater to needs in the 8-meter segment, Karsan CEO Okan Baş said, “We saw an opportunity in the market and we acted

fast. We collaborated with the US based technology company ADASTEC in the process. Atak was an opportunity for us with its size and innovative features. Currently, there is no other company in Europe or the USA producing Level 4 autonomous vehicles of this size. This makes us a pioneer in the world. Autonomous Atak Electric, which we see as an opportunity with its size and innovative features, has attracted a lot of attention since the day it was announced. We received our first order from Romania which we will be delivering in the coming days. Also, we can soon get a new order from another European country. On the other hand, the bus is to be used on aroute inside a university in Michigan in the US to transport students inside the campus. Our target market for Autonomous Atak Electric is Northern Europe.”

In his statement, ADASTEC CEO Ali Ufuk Peker said, “We broke new ground on many levels with the Autonomous Atak Electric. Thanks to our collaboration with Karsan, we made our autonomous vehicle software platform flowride.ai available to the public transport industry. With the Autonomous Driving software, we have full-sized commercial vehicles operated on specific routes without a human driver. Our software platform ensures the continuous and secure operation of the autonomous vehicle fleet in a cloud environment. Mobile applications integrated into our software platform provide passengers and fleet managers with instant access to information about autonomous vehicles.”

Autonomous Atak Electric offers a 360-degree view with its sensors

The self-driving Autonomous Atak Electric, which puts its one step ahead of the pack, can easily navigate through roads, and analyze traffic besides having situational awareness. This way, driving systems are controlled via electronic systems without mechanical connection. Autonomous Atak Electric, which has driving assistance systems that go beyond ADAS functions, has advanced LiDAR sensors. These sensors work effectively at even the most critical angles for distances of up to 120 metres by emitting laser beams, enabling three-dimensional detection of surrounding objects with centimetre accuracy. Moreover, the radio waves emitted by the front radar identify moving objects up to 160 metres in all weather conditions.

Thermal cameras facilitate the detection of living beings

Autonomous Atak Electric, which can both measure the distance of objects and identify them by processing high-resolution images with six RGB cameras fitted on different parts of the vehicle, easily distinguishes between vehicles, pedestrians or other objects. On the other hand, Autonomous Atak Electric, thanks to its thermal imaging cameras, can detect the temperature changes in living beings around the vehicle without being affected by light and weather conditions, thus providing additional safety against pedestrians and other living creatures. Autonomous Atak Electric has high-resolution maps that convey highly accurate location information, GNSS, accelerometers , and also LiDAR sensors, allowing the vehicle's location to be determined precisely and safely.

About Karsan:

Celebrating its 55th anniversary in the Turkish automotive industry, Karsan has been manufacturing its own vehicles, as well as parts for the world's prominent brands in the commercial vehicles sector at its modern facilities. The company has been engaged in commercial vehicle production since 1981, and its factory in Hasanağa in Bursa has the capacity to manufacture up to 19,870 vehicles a year
on a single shift. The Hasanağa factory is a flexible installation that can manufacture all kinds of vehicles in the same facilities from passenger cars and heavy trucks to minivans and buses. It is located 30 km from the Bursa city center and has been established on an area of 200,000 sqm, 90,000 sqm of which is closed space.

Karsan has been the only multi-brand vehicle manufacturer in Turkey for more than 50 years and the next phase for the company, powered and enabled by its business partners and licensers, is to develop bespoke versions of new and existing vehicles in order to extend its presence to all segments of cargo and passenger transportation. Working to "develop innovative products and services from the idea to the market" and to cater to every market segment, Karsan primarily aims to strengthen its Main Manufacturer/OEM business line. Karsan manages its whole automotive value chain from R&D and manufacturing to marketing, sales and after-sales activities.

Currently, the company manufactures the new H350 light commercial vehicles for Hyundai Motor Company (HMC), 10-12-18 m buses for Menarinibus and its own Jest, Atak and Star models. It also produces fully electric vehicles, its much-celebrated Jest Electric and Atak Electric line, in partnership with the world giant BMW. Besides vehicle manufacturing, Karsan also provides a range of industrial services in its factory in the Organized Industrial Zone.

About ADASTEC Corp:

ADASTEC is a tech company developing Level-4 autonomous driving software for commercial transport vehicles with its Headquarter in San Francisco and business office in Detroit and R&D office in İstanbul. The Autonomous Driving Software (flowride.ai) developed by ADASTEC enables driverless operation for full-size commercial vehicles operating in specific regions and routes. For more information, please visit http://www.adastec.com/