Faster, Higher, More Comfortable: Domestic Project Is Entering the Fight for High-Speed Transport Market

Not long ago, the high-speed transport module from the Belarusian developer SkyWay Technologies Co. was presented at the International exhibition InnoTrans 2018 for the first time. The Company is implementing SkyWay project – a new concept of mobility based on the use of self-controlled electric transport. As planned by the developers, SkyWay project will have to compete with speedy trains and the latest promising concepts like Hyperloop.

SkyWay string transport is a new approach to the transportation of people and goods, the main idea of which is to create a more efficient and environmentally friendly infrastructure based on a pre-stressed rail located on light overpasses that will separate elevated and ground traffic. Electric modules, which are not harmful to nature and controlled by an autopilot, will have to run along such an infrastructure.
We are talking with the Chief designer of the high-speed transport complex at SkyWay Technologies Co. Sergey Artyushevsky about the place of high-speed transport in the cities of the future and about why SkyWay project can cross swords with serious Western competitors already now.

- Hello, Sergey! SkyWay Technologies Co. has already several transport modules. Please tell us what place among them will the high-speed unibus take?

- The modules developed by SkyWay Technologies Co. are the first samples for various elements of a large and comprehensive transport complex. SkyWay multifunctional complex will consist of passenger and freight transport for urban and intercity transportation. The urban transport are modules with a speed of up to 150 km/h, they will function within a local city network. In its turn, high-speed transport will connect local urban networks into networks into one large, global system. Its speed is up to 500 km/h today; in the future his indicator will be located outside the city, and passengers will pass the “last mile” - the distance to the house threshold - by urban modules.

- You are talking about passenger high-speed transport, but will there be the same cargo transport?

- At the moment, we have presented only the passenger module, but generally speaking the layout of the platform can be absolutely of any type, including allocation of cargo on pallets inside the module.

- The new SkyWay module will be able to accelerate to 500 km/h. What will feel a person who travels along the SkyWay route at such a high speed?

- In fact, there will be no specific sensations and overloads, such as, for example, while flying in an airplane. The only moment when a passenger can feel something unusual is in the case of technical problems that we try to avoid as much as possible. We duplicate safety systems, reserve auxiliary systems and do everything to ensure maximum comfort in the trip.

- SkyWay project is not the only development in the field of high-speed transport solutions. What makes you different from the competitors?

- Today, rather traditional solutions are used at this market: high-speed railways and Maglev (magnetic train, – ed. note). In a certain sense, they can be considered our competitors, but they are rather poorly integrated into a single system with other vehicles. In addition, due to the complexity of construction and high energy consumption, Maglev and high-speed transport are economically relevant only for areas with a very large passenger traffic. In its turn, SkyWay project has automatic control systems, a diverse infrastructure for any passenger traffic and energy-efficient aerodynamic transport modules – all this gives us excellent starting positions, despite the fact that we are newcomers in this fairly conservative market.

- What about multiple companies that are developing the idea of Hyperloop?

- A lot of noise, but not much use. Not a very thoughtful concept, primarily because engineers are trying by all means to achieve maximum speed, and at the same time they do not think about how the passenger will feel. There is no concept of normal centrifugal acceleration; solutions to the problems of thermal deformation are not worked out. And the safety of such transport remains doubtful.

- Then how does SkyWay transport make it possible to achieve such high rates of speed, while providing comfort if others do not succeed to do it?

- Thanks to a combination of several factors, of course. There is no some single aspect that determines success. Firstly, we use the link “rail-string – steel wheel” it has a very high efficiency factor, 95-98%. If even the most advanced transport module is put on the wrong track, there will be a sad sight. Therefore, it is important to ensure the evenness of the track, which will improve the running features. Secondly, we minimize the resistance, which determines the loss of energy. For example, we reduced the aerodynamic drag to virtually the maximum available in our situation – that’s why the module acquired such an unusual shape.

- Please explain: what is the most difficult in the development of high-speed transport?

- The major difficulty is to build the very first track. And the problem here is not at all in engineering or design. The current high-speed transport must unite at least two cities – and this is a huge number of land owners on the route, a huge number of legal subtleties and incidental expenses. It is not so difficult to build a transport complex, as to make agreements with people – owners, investors, government officials.
SkyWay Technologies Co. entered the race for leadership in the market of “new transport” with strong positions: the Company has several certified samples for the city; their speed is about 150 kilometers per hour. Even more important is that SkyWay transport can already demonstrate several types of proven infrastructure – the test sections are located at the SkyWay Technologies test site near Maryina Gorka.
The “flagship” of SkyWay transport - the high-speed unibus presented in Germany - is difficult to mix up with any other vehicle. Far-out associations arise only with Japanese super-speed Shinkansen trains. The similarity is associated with the requirements to the aerodynamics of this type of vehicles – SkyWay high-speed transport has a drag coefficient of Cx = 0.06 due to its unique shape. This is several times lower than that of most sports cars or high-speed trains.
The United Arab Emirates are announced as the most likely location for the appearance of the first SkyWay transport system. in August this year, the Head of SkyWay Technologies and the author of SkyWay transport concept Anatoly Yunitskiy said that the project managed to gain support of local authorities and get land for construction, where a test section of high-speed transport and a profile educational center will appear soon