Anatoli Unitsky's interview for a documentary about Sharjah Innovation Park

Babylon Gate Films, commissioned by the Arab Sharjah TV channel, made a documentary about the scientific, technological and innovation park of Sharjah. During the filming, an interview was recorded with Anatoli Unitsky, General designer of Unitsky String Technologies Inc., founder of uSky Transport FZE and the author of the uST technology. Watch below the full text of the interview with Anatoli Unitsky.

Fifty years ago I invented a new mode of transport and called it "string transport". All these years I have devoted to the advancement of string technology. In fact, it is a new transport and infrastructure industry. And today we are standing next to this new generation of transport created by this particular technology.

These days, many people say that the future belongs to the electric car, but everyone means regular electric cars, which run on the asphalt of urban roads. So it won't solve any transportation problems: it will still be stuck in traffic jams, people will still be killed on the roads, and it will consume a lot of energy. And this energy will be produced in a power plant, which will emit smoke gases into the atmosphere — the same exhaust gases, only in even greater quantities. This is why Tesla's regular electric car does not solve any problems, but our uSky transport is also an electric car, except on steel wheels.

The steel wheel rolls on a steel rail, just like in railway transport. This means that our electric car will be more efficient than Tesla's simply for this reason. In addition, we also have exceptional aerodynamics: it will also reduce the energy consumption while running. Therefore, if we compare all of our parameters with the hyped Tesla electric car, it turns out that our uSky electric car is 5 times more efficient than Tesla. And since our string transport moves above the ground, our roads do not reclaim the soil. After all, it's no secret that all over the world today there is already "rolled up" into asphalt and "buried" under sleepers and rails an area equivalent to five times the size of Great Britain. We can return this land to land use, because we have single-point footing and our supports take up little land, about 100 times less than conventional roads.

You can see for yourself by looking at our test tracks. Now we are building the 4th test line 2.5 km long, where the supports span 288 m. And these supports take up very little space. As I noted earlier, this is a considerable advantage of our transport — we hardly occupy any land. At the same time, we consume electrical energy and, because our movement efficiency is higher, we will consume five times less energy for the same amount of transportation than a conventional electric car. Thus, our uSky transport is several times more energy efficient than any other vehicle.

Highways consume an awful lot of resources. For example, looking at asphalt pavement, we see an asphalt sub-base that is about 1 meter thick. But how much asphalt, gravel, sand and concrete does it take to build a road?! In contrast, we have a light openwork track structure, and if you try to compare it with the railroad, for example, the material consumption of our road is 50–75 kg per meter of length, which is the material consumption of a single railroad rail. This means that we can use the steel for a single rail to build a road of the same length. So we have much lower resource and material consumption. And this also affects the cost — it will also be several times lower.

In comparison with conventional road or railroad overpasses, our material consumption is reduced by 10–20 times and, accordingly, we are proportionally cheaper than any other known transport that comes in an overpass design. These are monorail roads, light rail, subway, and magnetic cushion trains. We know the costs of our equivalents, our competing systems. For example, we know that the subway in Dubai in the UAE costs over $100 million per kilometer. We can invest $20 million per kilometer for the same performance. That's five times cheaper. And if you compare it to, say, the monorail, which Dubai also has, we are about four times cheaper. Thus, for the same money, the customer can build five times as many roads and solve more transportation problems. At the same time, we do not reclaim land. You have to remember that urban land is the most expensive land. And we may not take this land at all, because we can lift the land from under the foundations of our anchoring structures, improve it with our humus (one of our companies produces fertile soil), and plant a garden on it.

And as we talk about these advantages, we look positively into the future and are confident that our uSky transport will be the world's leading transport in the 21st century. It's just like the railroad that took the lead in the 19th century because of its advantages and the construction of railroads has changed the world. Look even at the United Sates, where most of the railroads were built — they initiated the emergence of new cities, an industry emerged, and then people started to build railroads on a large scale all over the world. And in the 20th century, the automobile changed the world: they began to build roads all over the world. Today there are about 65 million kilometers of them in the world. There are roads in every city, roads between cities, which means, in fact, that a road comes to every house.

This gave rise to a powerful industry, the same one-storied America, where a person could work in the city, live in the countryside, and use the car to get anywhere to and from work. But that was the 20th century. And in the 21st century, these advantages have actually vanished, because the car fleet has grown so much that there are now more than a billion passenger cars on the planet. And despite the fact that a lot of roads have been built, they cannot manage transportation: congestion lasts for hours, especially in large cities, megacities, and traffic jams can even reach dozens of kilometers, and therefore the average speed of public transport in cities has dropped many times over.

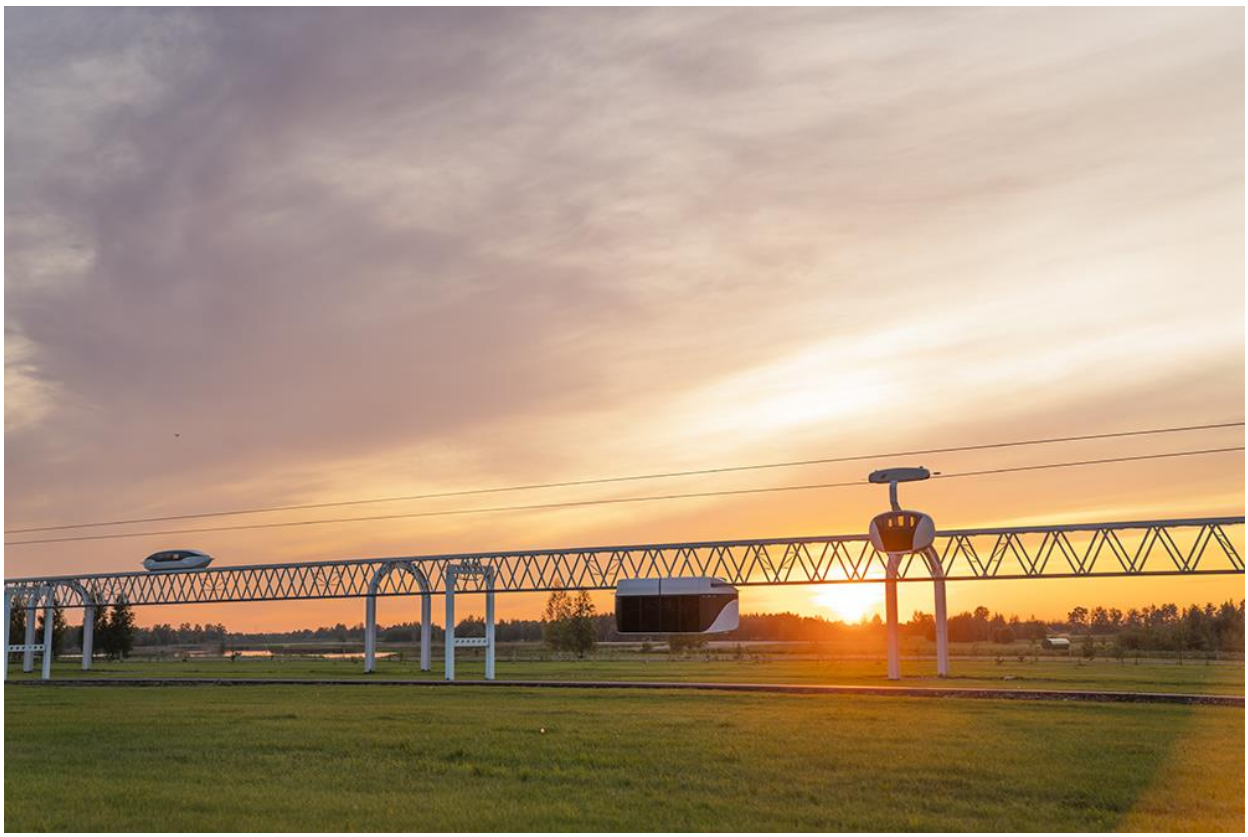
If to speak about cities, they appeared on the planet only because of one feature: transport accessibility. A person feels comfortable only when he gets to work, recreation, market, store within about half an hour. In the past, people walked and ancient cities, as a rule, were small — about 3–5 km, and a person could walk from the center to the edge in half an hour. In the Middle Ages, when a person mounted a horse, the speed increased and in half an hour it was already possible to go further, so the cities grew in size to 10–20 kilometers. For example, in the Middle Ages, London, Moscow, Paris and other cities were already 10–20 kilometers in size. In the 20th century, when people changed to a car, the speed increased even more, and for the same half an hour, it was possible to go 20, 30 or 40 kilometers. And cities grew. And now we see modern cities, megacities, where millions, even tens of millions of people live in one city, which have grown only because of this transport accessibility. But when there were traffic jams, when there was a transport collapse, the travel speed dropped, and became less than the speed of a pedestrian. For example, the fastest public transport in Berlin is only 5 km per hour, but in Washington, for example, the average speed is 3 km per hour. This is lower than the speed of a

pedestrian. Therefore, motor transport has no longer been able to do its job in cities. And cities have actually lost their function for comfortable living. And the further this problem will worsen, because new land will be occupied for the construction of new roads, there will be new traffic jams. The construction of bridges, overpasses, interchanges is not a solution either.

If people change from the regular car with a combustion engine to the electric car, that won't solve the problem as well. On the other hand, uSky string transport is the solution to this problem. Because all cities can switch to "second-level" transportation. We can go over urban roads, over development, and all the land that is now rolled up in asphalt can be reclaimed by the residents of each city. And we're also demonstrating that here on our test tracks at the American University Technology Park in Sharjah. We've already built the first line, it's been in operation for over a year, and there's one of these uCars running, although in a VIP version, but here at the stand it's presented as a public transport. It is a six-seater car. It's like a minibus, but it's speed is 150 kilometres per hour. And nothing prevents us from achieving such speed in the city, because there are no traffic jams, no intersections, traffic lights, crosswalks — we have no such obstacles.

That's why our transport will have the highest speed. It will be even faster than the metro, which is elevated above the ground or lies beneath the ground. For example, in the world's fastest Moscow metro, the average speed is 45 km/hour. And our average speed, including stops at the stations and getting passengers in and out, may be higher — 60 or even 80 km/h. It means that less energy is needed to run and fewer cars are needed to carry the same number of passengers. We can provide a solution to all transportation problems in terms of traffic, logistics, which will be easier and cheaper compared to what the market offers today in this regard.

And they solve these problems by using cars, cabs, buses, minibuses, trolleybuses, streetcars, light rail, monorails, maglev trains, and cable cars. Look at how many modes of transport there are in the city to solve transportation problems. And they are not going away. But our uSky mode of transport is the only one that can solve all the logistical problems in any city and become the only means of public transport, because it immediately addresses all the issues. And everyone who has already taken a ride on our transport on Sharjah's first line says that it is a miracle transport, the kind of transport that we all need.



We are already negotiating with customers from dozens of countries, from all the continents of the planet, except perhaps Antarctica, where we don't need any roads yet. And soon we will be able to start targeted projects in many countries around the world. And the center for technology promotion is the SRTI Park, the technology park where we demonstrate our technology. So this is where our transport will go all over the planet. And just as the railroad took the lead in the 19th century and the automobile took the lead in the 20th century, string transport will do the same in the 21st century because of its undeniable advantages. At the same time, we are creating a new industry, not just one car. For example, Elon Musk only makes electric cars — he did not create new roads, stations, garages, bridges, interchanges at the same time — he just made a car. We, on the other hand, create all the infrastructure. And we have a completely different road — a prestressed string rail track. It's a fundamentally new type of transport overpasses, and we created them and show how they function. We need stations, depots, and turnouts on the "second level", we need an automatic control system, our own power supply and communications. We did all that and show it here. That is why we are coming to the world from Sharjah with a revolutionary new transportation solution. And Sharjah has every chance of becoming a world leader in promoting this new mode of transport — just as the small town of Detroit in the United States once became a world leader in the automobile industry for a hundred years.

When I met with His Highness the Ruler of Sharjah four years ago and told him about this project, we did not yet have cars, we were just beginning our production, but he loved our technology so much that he gave us 28 hectares of land in the SRTI Park. And I remember his words as he said that he wanted us to build our lines next to the road he was driving on so he could drive and admire uSky, the string transport. And we constantly feel this care for us, a very good attitude from both His Highness, the government, and the SRTI management, who help us in every way in solving any difficult issues that arise and in promoting the project, negotiating, and we also get help from His Excellency Mr. Mahmudi Hussain on address projects both in Sharjah and in the United Arab Emirates. So I give them my sincere thanks for this help and support.