

Construction Week

THE SKY IS THE LIMIT

“Through the sky pod system we aim to transform the future of transport not just in Sharjah or the UAE, but around the world”

OLEG ZARETSKIY,
CEO, uSky Transport



COULD “FUTURISTIC” SKY PODS SYSTEM RESOLVE UAE COMMUTE CRISIS?

*In an exclusive conversation with Construction Week, **Oleg Zaretskiy, CEO of uSky Transport** talks about the company’s sky pods transportation system in Sharjah, how it could ease traffic congestion, and its environmental benefits*

INTERVIEW AND WORDS BY RANJU WARRIER | PHOTOGRAPHS BY USKY TRANSPORT



The world is becoming more cautious of developing environmentally-friendly and potentially cost-effective means of transportation. However, it is still battling the commute crisis on a daily basis due to traffic congestion.

“If you look at the current situation with the global transport system, accidental rate in traffic is huge,” says Oleg Zaretskiy, CEO of uSky Transport.

According to the 2019 TomTom Traffic Index, traffic congestion has increased globally during the last decade. Of the 416 cities included in the Traffic Index report, 239 saw a spike in congestion levels between 2018 and 2019. That accounts for 57% of participants.

Construction Week refrained from using the 2020 report as traffic congestion around the world was at an all-time low due to global lockdown caused by the COVID-19 pandemic.

Although technological advancements are keeping innovators and engineers on their toes to find innovative solutions to traffic problem, traffic congestion has increased as urbanisation sweeps developing nations.

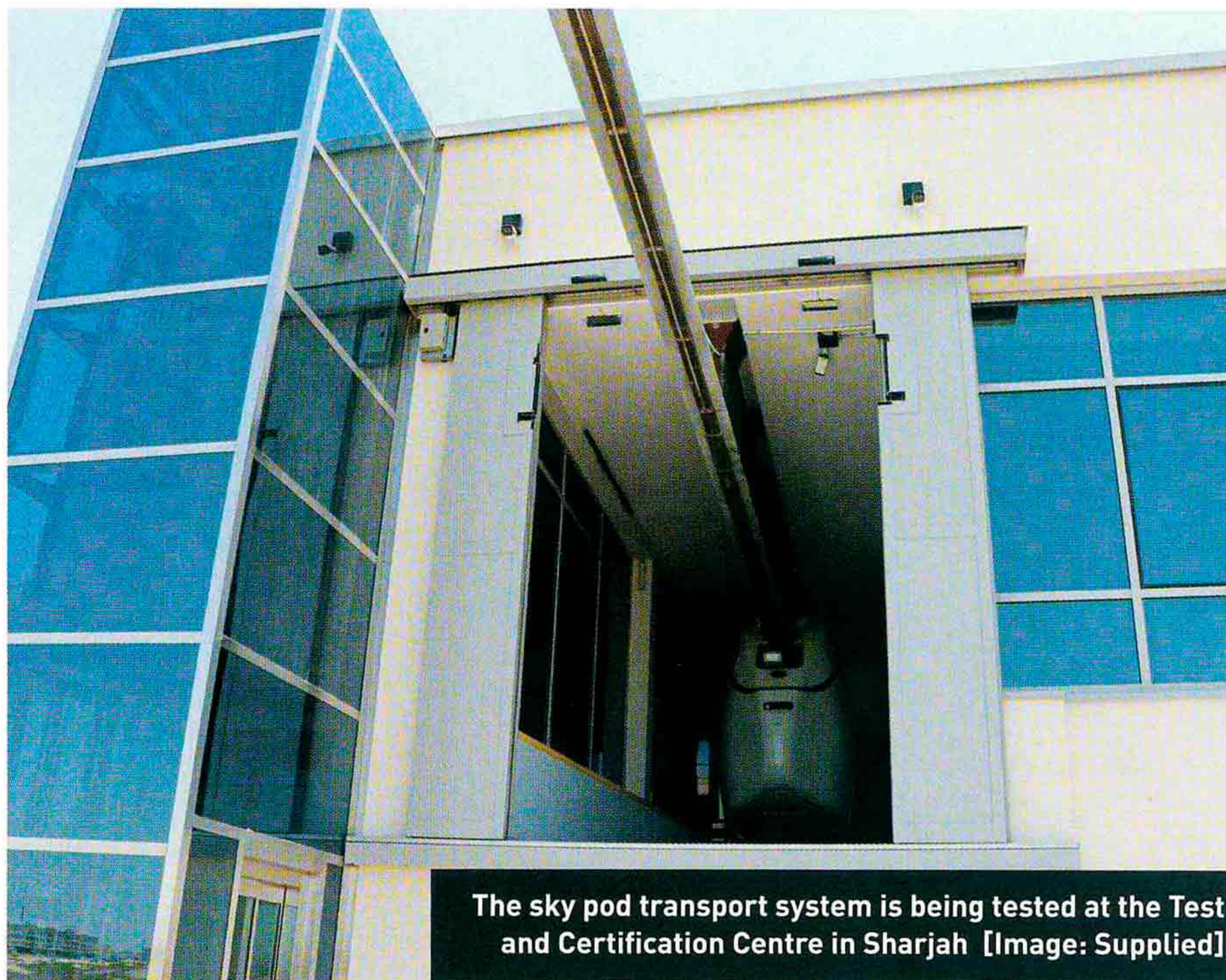
“Implementing our system, [sky pod], especially in developing countries with under-developed transport systems, will help save a significant number of people from being caught in road accidents,” Zaretskiy says.

Much like Zaretskiy, most countries are considering futuristic transport systems, such as hyperloops, autonomous helicopters, super trains with maglev technology, and sky pods, which are crawling through conventional transport systems to solve the traffic crisis.

In the Middle East, the UAE, which is regarded for innovation in infrastructure and digitisation, is doing its part by testing sky pods for an energy- and cost-efficient transport system of the future.

Supporting this move, the Test and Certification Centre of uSky Transport is developing a sky pod system in the Sharjah Research Technology and Innovation Park (SRTI Park).

uSky Transport is a part of Unitsky String Technologies, which is headquartered in Minsk, Belarus. The company’s sky pod transport system moves above the ground on a special string-rail overpass, and helps in optimising aerodynamics, increasing speed, and ensuring a high level of safety.



The sky pod transport system is being tested at the Test and Certification Centre in Sharjah [Image: Supplied]

According to Zaretskiy, it also promotes the rational use of land and resources, while minimising environmental impact.

“Our system does not interfere with the movement on the ground, which is dedicated for living beings, for agriculture, and irrigation purposes,” Zaretskiy notes.

He explained that the system provides passenger and cargo transportation services in a separate space, suspended in the air above the ground surface.

According to Zaretskiy, the system produces a minimal to zero carbon footprint. He notes: “From a sustainability perspective, the futuristic transport system has a low resource and energy consumption at all stages of its life cycle.”

Unlike traditional cable cars, which run on a conventional pulley system, the sky pods system is based on an innovative string rail technology, which is an ordinary concrete or steel reinforced beam or truss



The company is also testing a cargo pod in addition to the UCar at its 400-metre-long test track in SRTI Park [Image: Supplied]

with a rail head, additionally reinforced with strings that is formed by a bundle of pre-stressed steel wires.

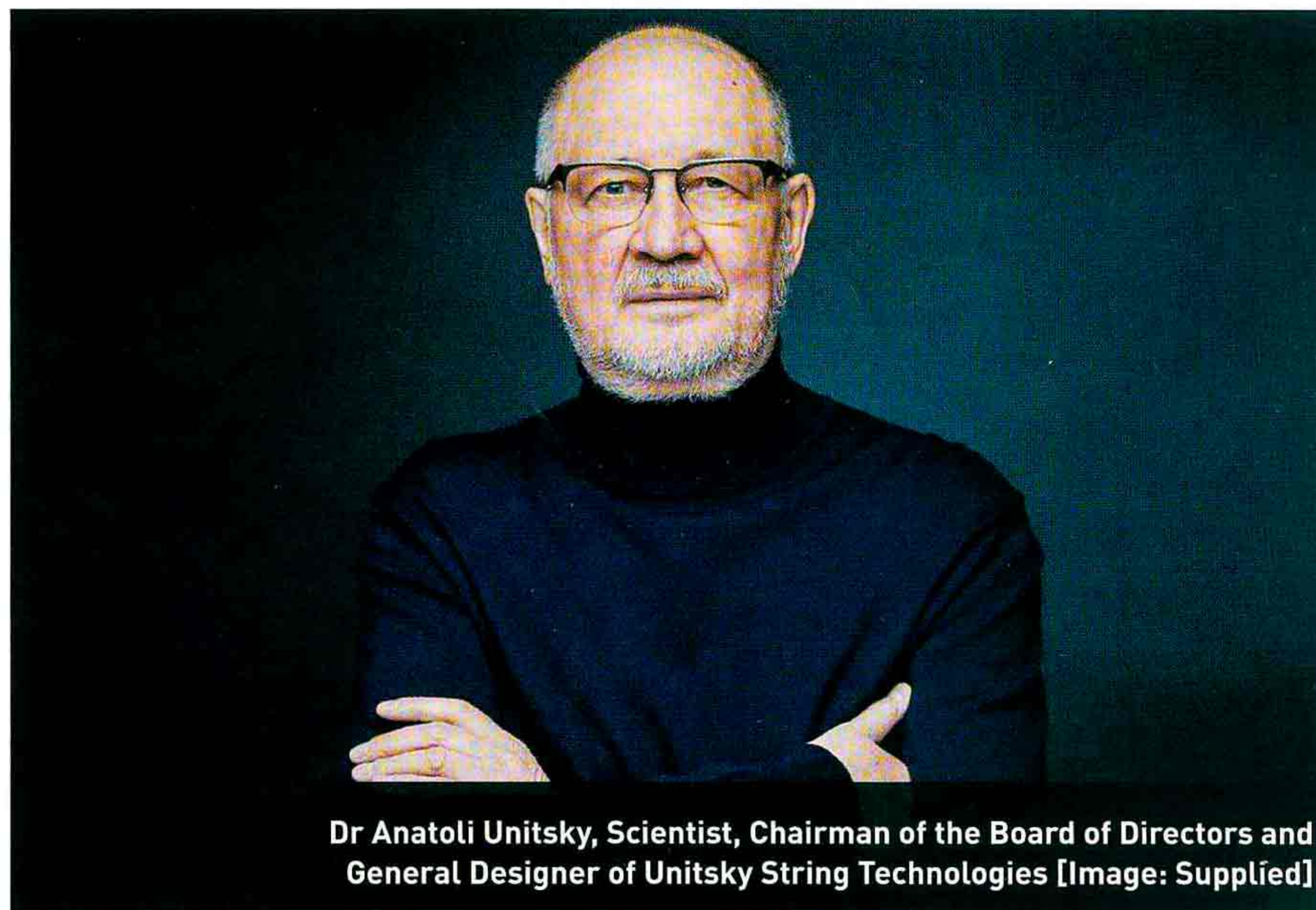
The system was invented by Russian scientist, Dr Anatoli Unitsky, Chairman of the Board of Directors and General Designer of Unitsky String Technologies, and a member of the Russian Cosmonautics Federation.

Explaining Unitsky's idea behind the system, Zaretskiy says: "Dr Unitsky rightly considered that the main application of these systems should be somewhere, where the growth of population makes the demand for transport natural. These parts of the world are Africa, Middle East, Asia – mainly India and Pakistan.

"In order to be close to the customers, he [Dr Unitsky] decided to set up the facility in the UAE. And this was based on two reasons. The first one being the UAE's strategic location as a preference for people coming from India and Africa."

The second reason, according to Zaretskiy, is the company's plans to have its commercial project up and running in the Middle East, particularly in the UAE.

He explains: "When people from the region see a new technology in Russia, Belarus, Germany or the US, the first question they ask is how this system would work in hot climatic conditions. To answer that question, we set up our Test and Certification Centre in Sharjah's SRTI Park, which would enable us to test



Dr Anatoli Unitsky, Scientist, Chairman of the Board of Directors and General Designer of Unitsky String Technologies [Image: Supplied]

and operate the system by ourselves first."

uSky Transport's testing facility along with their office is located on a 280,000m² area, rented out by the SRTI Park within its premises in Sharjah.

During the site visit, *Construction Week* got a first-hand experience of the project's test track. The team stepped into the UAE's first high-speed electric sky pod, a four-seater UCar, which covers a 400-metre distance – the length of the test track – in less than a minute at a speed close to 50km/hour.

Zaretskiy explains that the sky pod,

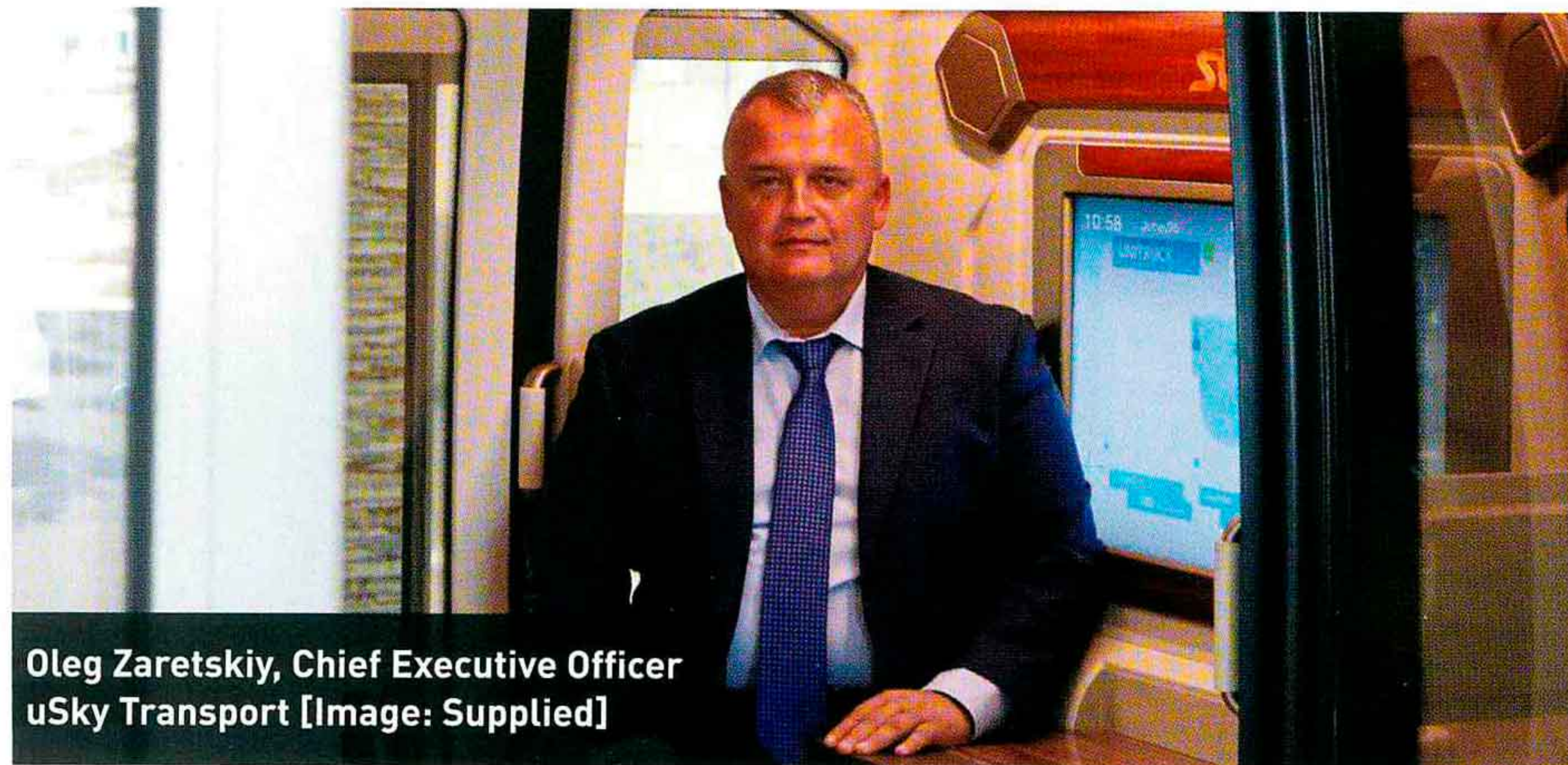
UCar in this case, can travel upto 150km/hour, however for "safety reasons the test track cannot be operated at the maximum speed for now".

The sky pod has a white finish on the outside and features two padded armchairs and two foldable seats on the inside, in addition to a display screen that shows a presentation on string technology system by Unitsky String Technologies.

Recalling the time when construction began on the test track, Zaretskiy notes: "The actual construction started in 2018. We had a very stringent bidding process



The sky pod prototype features two padded armchairs and two foldable seats on the inside [Image: Supplied]



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**OLEG ZARETSKIY
CEO, USKY TRANSPORT**

during the pre-construction stage.”

He says: “The first challenge for us was to appoint a local consultant who would match our expectations because this is not just an ordinary project. The sky pod transportation system is a special project from a structural point of view.”

uSky Transport appointed International Engineering Consultants as the local consultant with Al Serh Al Kabeer Construction as the general contractor for the project.

“We were able to bring on board one of the finest contractors in the emirate. However, we had to implement several training sessions to make sure the contractor understood the project’s

dynamics, and how it is different from building high-rise structures and skyscrapers in the city,” Zaretskiy adds.

Having constructed the passenger and technical station for the 400m test track, the companies are currently busy constructing similar facilities, about 14-metre-high, for a bigger test track, which will be 2.4km long and is expected to open in November 2021.

Zaretskiy says: “At this point, we have achieved a complete understanding with the consultant and the contractor, and are happy with their work.”

A permanent commercial line will be built in the UAE by September 2023. “Construction will soon commence on

this line,” he notes.

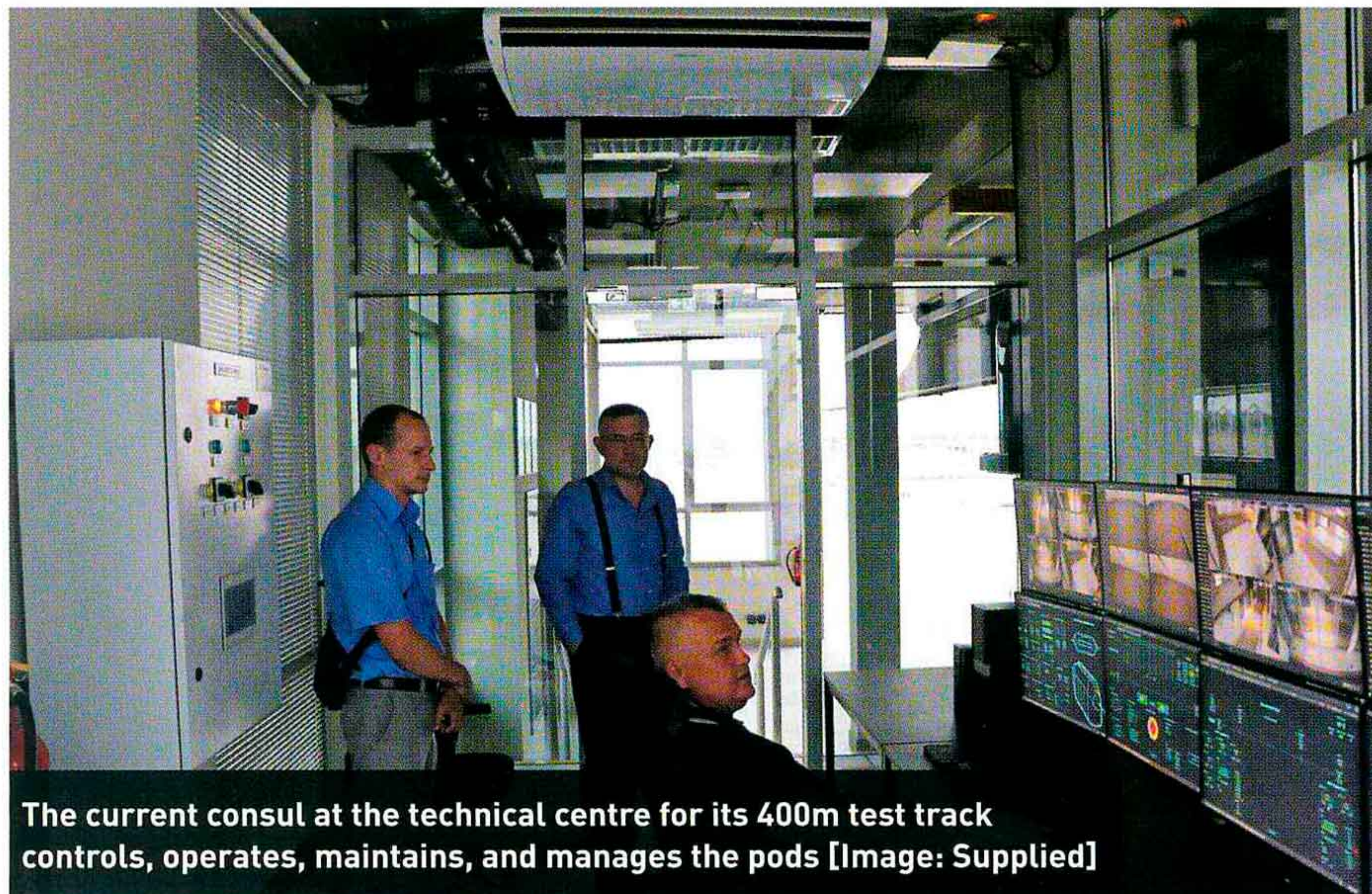
When *Construction Week* took a ride in the sky pod accompanied by Zaretskiy and Dzianis Yunitski, Managing Director of uSky Transport and son of Dr Unitsky, the temperature outside was over 45° Celsius.

“Even in a high temperature, the ride in the sky pod was nice and comfortable. This is a real achievement. And all this has been possible because of Dr Unitsky and his engineers,” Zaretskiy says.

Unitsky String Technology has deployed a team of over 600 engineers at its test site for practical implementation of string innovative technologies, their international expert evaluation, and certification at the EcoTechnoPark in



International Engineering Consultants is the local consultant and Al Serh Al Kabeer Construction is the general contractor of the project [Image: Supplied]



The current consul at the technical centre for its 400m test track controls, operates, maintains, and manages the pods [Image: Supplied]

Maryina Gorka, Minsk.

“At this test site they have various departments for string rail overpasses, for the development of transporting pods – which range from Unibike to Unicars (UCar) to Unibuses – as well as for the design and construction,” Zaretskiy explains. “The sky pod we took a ride in was also produced in Minsk, and we have two more pods coming here in Sharjah soon; one is a cargo pod for containers and another one is a Unibus, both are currently under production.”

While construction work continues on the longer test track, Zaretskiy tells *Construction Week* that the team is “simultaneously busy ‘publishing standards that are applicable to an innovative system such as the sky pods’.”

“We want to publish these standardisations with the Emirates Authority for Standardization and Metrology (ESMA),” he stresses.

“Through this the UAE could become a native ground for this technology. However, we know that this could be time consuming, so we are now appointing third party companies, such as Gloitt, TÜV, Bureau Veritas, to independently evaluate the safety features of our system.”

He adds: “When we begin our commercial project, we will involve them from the design stage, which is when the safety certification should be done, followed by certification of raw materials, assembling unit, and the final product.”

Many companies in the UAE are embracing future technology applications, such as blockchain, big

data, internet of things (IoT), and artificial intelligence (AI) to improve the operational efficiency of their transportation systems.

“We are exploring ideas to implement blockchain technology into the control system of the transport,” Zaretskiy says. “So, the systems such as ticketing, movement, controlling, as well as safety, will be unified and integrated with the blockchain technology.”

While technology will be an integral part of the sky pod transportation system’s operations and maintenance, the company will train more operators, once the project becomes commercial.

“There should be certain people involved in the operations, such as maintenance technicians, operators, technical supervisors, and ticketing managers,” the CEO notes.

According to Zaretskiy, this move will help uSky Transport improve the operational and maintenance efficiency of the system.

In the long run, the company is also looking at setting up a manufacturing facility in the UAE, where it currently operates training as well as warehousing facilities to store materials.

Wrapping the interview, Zaretskiy says: “With the development of our first test track, we have gained the right experience for the sky pod transport system. And now, we are ready for commercial projects.”

He smiles: “uSky Transport, through the sky pod system, aims to transform the future of transport not just in Sharjah or the UAE, but around the world.” **CW**

FLEXIBLE ADAPTATION

Nadeem Shakir, Technical Director Transport Planning – Middle East at Aurecon on how sky pod system could change the transport landscape of Sharjah



As the population grows, there is an increase in demand for living spaces, which makes cities overcrowded. This naturally impacts existing road and transport network causing congestion and commute crisis.

According to future mobility expert, Nadeem Shakir, Region Technical Director (Transport Planning) – Middle East at Aurecon, “innovation” is the right solution to combat an overcrowded transport network.

Talking about how the sky pod system will transform the face of transport in Sharjah, Shakir says: “The sky pod system is being developed considering the local needs of Sharjah. The suspended transit technology is land-efficient. It is also quite different from other typical technologies because it is more flexible and adaptable.”

He adds: “Unlike lot of other futuristic transport technologies, which are either focused towards first-last mile solution to cater to shorter trip distances, or other high speed breakthrough technologies, which are more oriented towards the long-distance travel, this technology [sky pod] can be adapted for the shorter or longer travel distance depending on the travel demand and requirements.”

Shakir has been optimistic about the sky pod transport system, which is based on a string rail technology.

He notes: “I find this technology quite interesting, and I am looking forward to see how it will solve the future transport condition in Sharjah.

“The need now is for the Multimodal and Integrated Transport solution, which can be used for short and long term future.”