MEMORANDUM
on uST High-Speed Technology
(2025)

uST high-speed technologies represent a large-scale investment opportunity aimed at establishing a new industry within the global economy, addressing the growing demand for high-quality, high-speed mobility. Currently, engineers at UST Inc., with financial backing from GTI and the investor community, have advanced this direction to the design, manufacturing, and testing of prototypes, the creation of detailed design documents, the construction of test, demonstration, and certification complexes, the patenting of key complex elements, etc.

The vehicle, developed with the know-how technology "uST High-Speed Transport Using Aerodynamic Shapes and Steel Wheels," is an unmanned rail electric vehicle (uPod) designed for intercity and international passenger or cargo transportation over distances of up to 10,000 km at speeds of up to 500 km/h. By operating the high-speed electric vehicle above ground on a specialized string rail overpass, the design optimizes aerodynamics, increases speed, minimizes energy (or fuel) consumption, ensures safety, and promotes the efficient use of land and resources (both mineral and financial). Additionally, it significantly reduces the environmental impact associated with high-speed transport.

Main characteristics of electric vehicles produced with the know-how "uST High-Speed Transport Using Aerodynamic Shapes and Steel Wheels" are:

- Cruising speed – up to 500 km/h.
- Maximum longitudinal track gradient – up to 15%.
- Passenger capacity of a single electric vehicle: public – from 6 to 48 people, private (family) – from 1 to 6 people.
- Maximum number of electric vehicles in a coupling (mechanical or electronic) – up to 10 pcs. with a total train capacity of up to 480 people.
- Throughput – up to 100 million passengers per year and more (in both directions.
- Minimum time interval between couplings (trains): 30 s, minimum linear distance between trains at standard operating speed: 4 km.

The high-speed electric vehicle operates on rail-type steel wheels, with its high speed ensured by the unique design of the string rail overpass, the streamlined shape of the uPod, and its aerodynamic properties.

The competitive advantages of uST high-speed transport, based on the know-how "uST High-Speed Transport Using Aerodynamic Shapes and Steel Wheels," include the following:

- Low construction and transportation service costs.
- Low energy consumption.
- Full automation of high-speed logistics.
- Top safety for high-speed traffic on the "second level."
- High-speed performance with low operating costs.
- Utilization of renewable energy sources.
- Minimal harmful impact on humans and the natural environment.
- Time savings and reduced financial costs for passengers.
- Short payback period.

The mission of uST high-speed transport is to connect local urban networks into one large interregional and international global system. The current cruising speed of this

innovative transportation (up to 500 km/h) is expected to increase to 600 km/h in the near future and up to 1,200 km/h with the transition to forevacuum tubes.

To avoid interfering with urban areas, major transportation hubs for uST high-speed transport will be located outside city boundaries. The "last mile"—the distance to passengers' doorsteps—will be traveled at lower speeds or via a transfer at a high-speed hub to urban uPods operating at speeds of up to 150 km/h.

During the creation and development of technologies for uST high-speed transport using aerodynamic shapes and steel wheels, since 1977, engineer Anatoli Unitsky has introduced fundamentally new developments and concepts, including:

- Exceptionally high aerodynamic characteristics of wheeled vehicles, approaching the theoretical limit, with an aerodynamic drag coefficient (C_x) of 0.06. Blowdown of a less ergonomic, ideal uPod yielded an even more remarkable value of C_x = 0.05. This indicator was achieved by elevating the string rail track structure above the ground and eliminating a continuous roadbed, thereby addressing the main issue of high-speed transportation—the parasitic screen effect. Additionally, these results were possible thanks to the innovative streamlined design of the uPod, developed as proprietary know-how by the author and protected by patents in multiple countries.
- The "steel wheel – steel rail" rolling pairs used in the rail electric vehicle developed by the author in contrast to conventional pneumatic wheels, which consist of an elastic rubber-metal-fabric shell mounted on a disc rim. This design enables a wheel propulsion efficiency close to the theoretical maximum of 100%, achieving more than 99.8%.
- Substantiation of the high economic efficiency of the know-how "uST High-Speed Transport Using Aerodynamic Shapes and Steel Wheels" in terms of fuel (energy) resource savings compared to existing counterparts with similar speed, cargo, and passenger capacity.
- Economic, social, financial, resource-related, and philosophical aspects of substantiating the efficiency of the know-how "uST High-Speed Transport Using Aerodynamic Shapes and Steel Wheels."
- Other.

Since GTI began financing the engineering company UST Inc., its specialists have undertaken extensive work on innovative solutions for creating high-speed complexes and uPods. A kilometer-long section of the test track was constructed as an initial segment to accelerate a high-speed uPod to 500 km/h on a future test track extending about 25 km. Due to the limited length of the current acceleration section, which is insufficient for reaching cruising speed and subsequent safe braking, a speed of 80 km/h was achieved. Simultaneously, systems capable of passenger transportation at speeds of up to 600 km/h were developed. Comprehensive design and organizational support for high-speed transport complexes at all stages of their life cycle was provided.

The designers at uST high-speed office continue to develop a prototype of the self-propelled chassis for the U4-362 uBus (uFlash), which was first presented back in 2018. Their primary focus is on enhancing driving characteristics for comfortable passenger travel, reducing noise levels, and improving stability and smoothness.

Additionally, specialists carried out concept development for a test bench to conduct traction bogie testing for high-speed rail electric vehicles. This work included defining technical requirements, describing operating modes, and establishing test parameters.

Comprehensive work was conducted on a two-body high-speed uPod, as well as uPods with capacities of 2, 36, and 40 passengers. The activities included concept development, defining technical appearance, layout solutions, technical requirements, and ConOps, focusing on the following directions:

- Logistics of the high-speed transport complex.
- Processes for luggage loading and unloading.
- Architectural solutions for stations and aprons, along with passenger service schemes.
- Elaboration of materials and structures, including emergency towing devices, damping nose part, and contact network.
- Formulation of system and equipment requirements, including suspension options for steel wheels.

Specialists initiated and analyzed engineering calculations, evaluating the ride smoothness and noise levels. The results and recommendations were submitted to the Rolling Stock Department of UST Inc. for further development.

The work conducted provides a solid basis for confidently asserting that uST high-speed direction is both promising and in demand within the market. Demand statistics for passenger and cargo transportation indicate a consistent growth: global passenger transportation is projected to grow to 122 trillion passenger kilometers by 2050 (a 362% increase compared to 2015), while cargo transportation is expected to reach 1,055 trillion ton-kilometers by 2050 (a 176% increase compared to 2015). A significant niche of this emerging global demand is planned to be occupied by innovative uST transport solutions, including high-speed complexes.

Funding for the high-speed direction, as well as for the development of uST high-speed passenger and cargo solutions, has so far been achieved through crowdinvesting and has brought together hundreds of thousands of people around the globe. Thanks to this, very soon those who dared to create their own future and supported the uST transport project will be rewarded by becoming co-owners of one of the most significant and large-scale international business projects. At the same time, the direction of high-speed transport could not be financed in sufficient amounts by now. According to experts' estimates, the received funds allowed to perform only about 1% of the necessary work on uST high-speed transport.

Based on the current state of affairs and guided by the goal of early capitalization of assets, GTI is not interested in continuing to finance uST high-speed direction. GTI's further objective is to facilitate sales of UST Inc.’s finished products—uST urban and cargo transport—in order to generate profits and reward investors.

At the same time, the author of uST technology and General Designer of UST Inc., Anatoli Unitsky, is intensifying work on the high-speed direction of string technologies with speeds of up to 500 km/h. To support this effort, the author of string transport has established a specialized group of companies in the United States.

Given the high cost of the development program for uST high-speed transport, which is approximately $700 million, the author plans to secure funding through alternative sources and mechanisms. GTI investors, who have supported the implementation of uST rapid passenger and cargo solutions as well as the initial development stages of uST high-speed transport, will initially receive a 5% stake in the U.S.-based company—representing the largest and most promising high-speed transportation business since the advent of railroads and aviation.

Through this memorandum, GTI announces the termination of its funding for uST high-speed direction and asserts its right to a 5% stake in this high-speed technology, which will be distributed among the investors in GTI projects based on their respective participation, i.e., in proportion to the number of investor shares listed in the register.