

# THE NEXT INTERNET?

## **DIGITALIZATION AND THE INTERNET HAVE REVOLUTIONIZED THE MOVEMENT OF INFORMATION. WHAT COULD BE THE TECHNOLOGICAL BREAKTHROUGH THAT REVOLUTIONIZES THE MOVEMENT OF PEOPLE AND GOODS?**

*By Anatoly Yunitskiy*

*New technology liberates people. The invention of agriculture freed people from the need for seasonal migration. The invention of the wheel freed people from the limitations of their own strength. The sail transformed the oceans from obstacle to highway.*

Meanwhile, the steam engine and the internal combustion engine greatly extended distances that could be travelled in a particular time period. Antibiotics gave freedom from disease and, often, death. Computers provided access to information and an escape from ignorance.

### **THE ARRIVAL OF THE INTERNET...FOR DATA**

The Internet, an adaptation of computer power, liberated people from physical location. In reality, a person can only be in one place at once. However, through the transfer of data, the Internet enables him/her to learn from or communicate with several counterparties in different locations that may be far apart. This is one of the key features of the digital world.

## THE SKYWAY GROUP OF COMPANIES

The SkyWay Group of Companies is developing a fundamentally new type of transport, which is called 'string transport' due to the peculiarities of its design.

The SkyWay track is based on a system of tensioning steel reinforced cables located inside special rails. These are mounted on supports at the height of several meters above the ground.

Being tensioned between massive anchor supports (which can be up to the distance is up to 5 km apart), the rails decrease the load on intermediate supports that are up to 100m apart.

As a result of this approach, the SkyWay track is 10 times more cost-efficient in terms of construction and operation compared to other elevated track systems being built today.

The location of transport systems above the ground provides a number of significant advantages. Less land needs to be acquired for construction. City traffic may be unclogged.

Further, there is a very high level of safety, due to the elimination of all risk of collisions with people, vehicles and fixtures at ground level.

Natural landscapes can be preserved intact, as the lines track can be built over any terrain and under water.

Combined with the unique configuration of the rolling stock, it provides aerodynamics that

are considerably higher than those of high-performance sports cars.

Tensioned rails provide a very even track surface, while a specially designed steel wheel minimizes rolling friction.

Consequently, the speed and energy characteristics of SkyWay vehicles are exceptional. We can achieve a speed of up to 500 km/h. Eventually, we expect to achieve a speed of 600 km/h, consuming just one sixth of the energy that is needed to power today's high speed trains – which are typically 100-150 km/h slower than our vehicles.

SkyWay now exists not only in theory, but also in concrete and steel working models of the rolling stock and infrastructure.

It is clear that SkyWay has applications in automated safety, energy supply and communications systems.

The technology is being developed by our subsidiaries in the UK (Global Transnet UK LTD), Australia (SkyWay Australia) and a range of other countries.

SkyWay is a radical new transportation system that is cost effective and ecologically friendly. It should have a dramatic impact on the way in which people move around the world, giving them new freedom.

Nevertheless, the digital world is not entirely detached from the physical world. The application of instantly available information and communication to global supply chains facilitates the cross-border movement of goods and services.

And new technology can produce changes that are rapid and radical. A case in point is Blockchain, the technology that underpins Bitcoin and other crypto-currencies. These are technologies which have liberated mankind from the need for governments to issue money that can be used globally.

### THE NEED OF AN INTERNET...FOR PEOPLE AND THINGS

However, just as new technology

liberates people, old technology can constrain people. A case in point is the motor car. Once an invention that greatly facilitated transport, it has become a symbol of danger and restriction.

Each year, millions of people globally are killed or maimed in road accidents. In spite of product improvements, cars remain one of the largest sources of pollution.

And cars no longer promote rapid transit. In many major cities globally, the average speed is only 20-25 km/h because of the congestion.

An obvious question is this: is there a technological innovation that could liberate mankind from these problems?

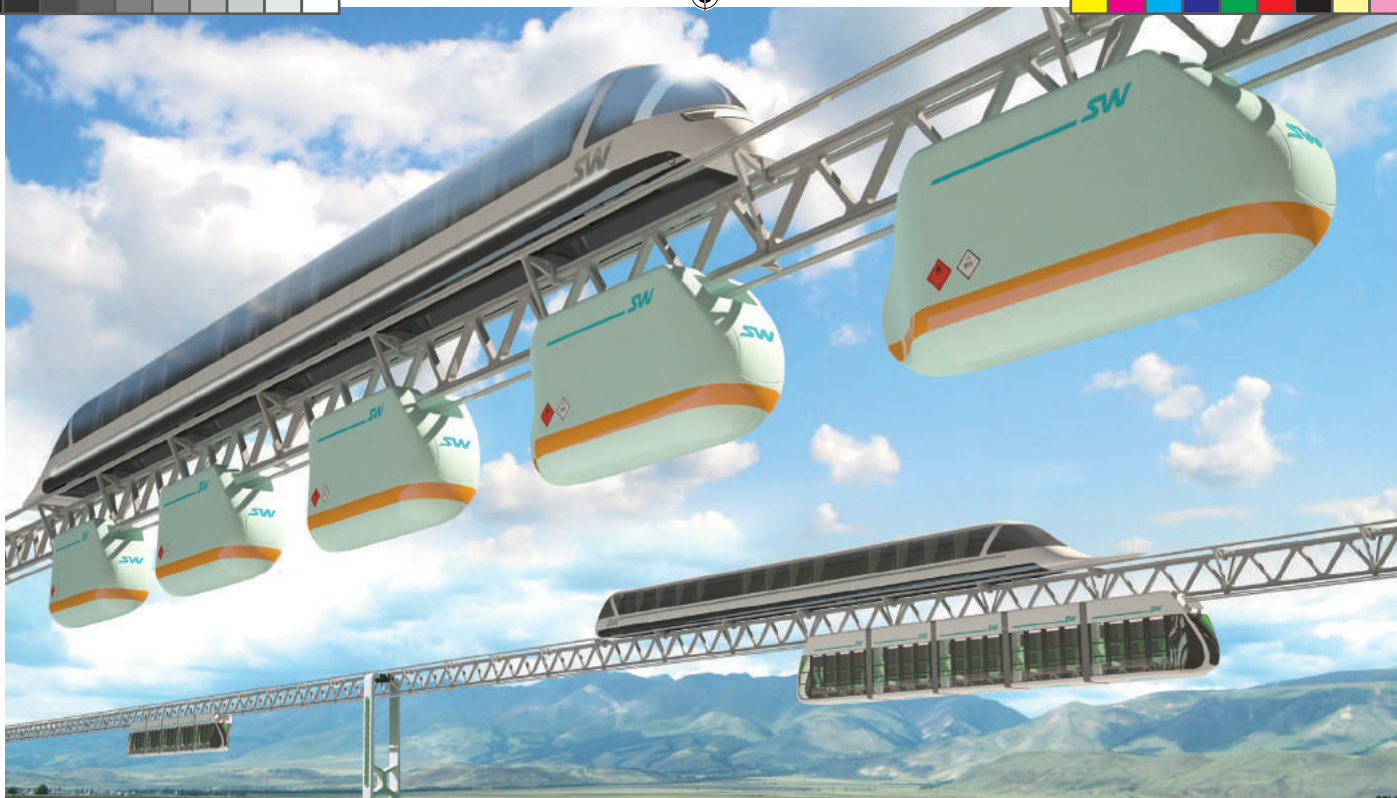
Put another way: is there a new solution that could provide to people and things many of the advantages that the Internet brought to data?

A possible answer is SkyWay. The technology underpinning it is consistent with higher speeds and cost efficient construction. It promotes safety and is environmentally sustainable.

And, like many new technologies, SkyWay will be subject to the network effect. The benefits from adding a new destination or node will likely promote the addition of other destinations.

Over time, SkyWay could evolve into a unified, highly efficient and extensive network. It could

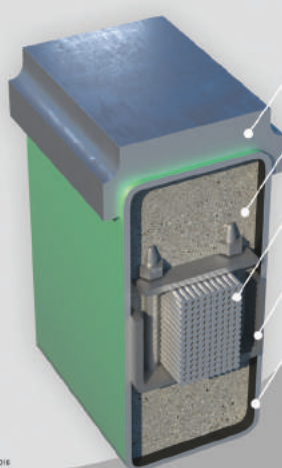




## The Basis of SkyWay technology is Innovative String Rail

A flat rail head and a cylindrical steel wheel ensure minimal energy consumption for movement

Design variant of a semi-rigid string rail



- steel rail head
- filler (special concrete)
- string (bunch of pre-stressed steel wires)
- element for fixing string to rail body
- rail body

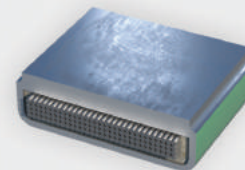
Power of unibus wheel rolling resistance with weight of 5,000 kg at the speed of 450 km/h:

$$W_{w.r.} = M \cdot g \cdot k_{w.r.} \cdot V = 5,000 \text{ kg} \cdot 9.81 \text{ m/s}^2 \cdot 0.0015 \cdot 125 \text{ m/s} \approx 9.2 \text{ kW}$$

Compare:

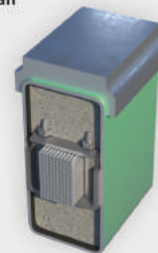
when using pneumatic tires with  $k_{w.r.} = 0.18$  (for  $V = 450 \text{ km/h}$ ),  $W_{w.r.} \approx 1,100 \text{ kW}$

### Flexible rail



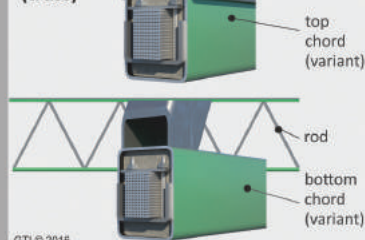
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### Semirigid rail



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### Rigid rail (truss)



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be a central part of the world's transportation system, moving large numbers of people and huge quantities of things.

In short, a network based on SkyWay could develop in a similar manner to the Internet. Over time, costs would fall, the pace of growth would accelerate, and new possibilities would be recognised.

As is the case with the Internet, and much innovation, the process would be driven by investors with imagination. Thanks to crowdfunding, it has been possible for SkyWay to engage with over

200,000 actual and potential investors from 80 countries globally.

The Internet revolutionized the movement and the handling of data. Within five years, many people will be seeking a similar shift in relation to the movement of people and the handling of things.

The solution could well be a series of international networks that are based on SkyWay.

Anatoly Yunitskiy is the inventor of Unitskiy String Technologies (UST), which is the basis of the SkyWay transportation system.