

## The Need

There are a number of human needs that have been since long served by some kind of public network like water supply, sewage, electricity, telephone and the most recent - the internet. The need for goods that can't flow through some kind of a pipe has been so far partially served by ordinary mail, door-to-door parcel services, pizza boys and so on. A major portion of the need to go and fetch ordinary goods individuals and families use or consume daily is still uncovered by any public service. So, must probably, people satisfy their need for non-fluid and packaged goods by walking and driving to the nearest grocery or some other shop not because they like to do it, but because there hasn't been any service on the local market yet that would either do it economically, promptly or do it at all. As the cities grow and as the population in the developed world gets older, this need is becoming more and more evident. Old people can't travel with ease and shopping or cooking for themselves is one of the activities they can't perform at certain stage of their aging which triggers their movement to the institutions.

The existing delivery methods like ordinary mail, door-to-door parcel service or pizza boys are relatively expensive and they contribute significantly to the CO2 emissions and the traffic congestions on the busy streets of our cities. Comparing them with the speed of a car on an empty road, they are very slow.

A major problem of cities is user friendly, efficient and economical waste collection and separation. There is no such solution on the market.

The Wishing Table goods transportation service will not just supplement the existing carriers, but will, due to much lower costs, open new frontiers. For example, the retail chains will reconsider their strategy and potentially open distribution centers instead of shopping malls. New types of services may arise that haven't been conceivable so far due to the relatively high cost or low speed of intra-city delivery.

## The Solution

The Wishing Table (short: TWT) is a novel transportation system introducing a new type of utility that will supply the goods people need in their daily lives with the elegance and almost the speed we've been experiencing so far in the virtual world of the internet only. In the opposite direction this same utility will ship separated waste to the recycling posts. The Wishing Table is the real "internet for things".

The core of the invention are a robotic vehicle, matable guideway and connected mail boxes. The robotic vehicle is based on the robotic technology which became readily available and increasingly spread in the recent years. The guideway that will conduct the robotic vehicles, on the other hand, is a very basic and simplistic mechanical construction with no moving parts, inexpensive to build and maintain. The guideway is a modularly built network of ducts, shafts and open spaces spread inside and outside buildings laid much like the existing HVAC systems. The guideway connects household and office units with businesses enabling transfer of goods in every direction utilizing the robotic vehicles. The mail boxes are terminal posts of the guideway where goods are temporarily stored and automatically uploaded or downloaded to/from the robotic vehicles. Using wheels with common

inflatable tyres, the current prototype can travel with the speed of up to 30 km/h along the straight and mildly curved sections of the guideway. Much higher speeds are potentially achievable. On flat open spaces like warehouse floors, on sharp guideway turns and on horizontal intersections the robotic vehicle uses Mecanum wheels which let it travel in any direction and make on spot 360 degrees turns. In vertical sections the robotic vehicle uses a patent pending “central gravity generated normal force linkage mechanism” featuring just two driving wheels employing friction or potentially rack and pinion mechanism to ascend or descend.

## **The Market and the Competition**

Narrowly speaking, there is no such service on the market, yet. Broadly speaking, the Wishing Table service will compete not just against the existing parcel services and carriers but also against drones and in the future potentially also against humanoid robots. Parcel services and carriers are expensive and not just heavily dependent on the existing means of transportation but also a contributor to their congestions and CO2 footprint. Drones aren't reliable in all weather conditions nor can they deliver within buildings. At the moment their operations don't meet the basic air traffic safety standards, though this obstacle may be removed in the future. Their weakness is also their comparable energy inefficiency in lifting loads and their comparable considerable size needed to carry heavier loads.

Even though drones have evolved very rapidly in the recent years, one just can't imagine that drones would replace any of the known building infrastructure systems to reduce the investment cost of a new building. Like for instance a new building designed with no water pipes and no sewage. Instead the building would be designed with drones to transport water tanks in one direction and buckets of human excrement to the recycling centers in the other. Drones are a hypothetical competition only. They will cease to be the competition with the first TWT installation. Each installed utility adds value to a building.

Much of the same can be said for street and humanoid robots. They won't replace any of the existing utility services. Their simultaneous usage of the existing corridors, passages and elevators next to humans is yet to be determined and even then such transport will be limited to the speed of walking.

On the other hand, drones can represent a complementary service as they could deliver the goods to the heliport of a larger building or a campus and the Wishing Table goods transportation service would then distribute these goods within the building. In an analogous way, the existing last mile delivery services could drop their parcels at a reception port of a TWT system installed in a large building complex and then the parcels would be distributed internally by the TWT utility.

The one other service that may be replaced by the Wishing Table is the existing pneumatic/vacuum garbage collection where it exists.

Even though the Wishing Table guideway can be installed in the existing buildings, the initial target market for this kind of infrastructure are new buildings, multi apartment residential buildings in particular. Let alone in the USA, approximately 440.000 of such units were built in 2023, 540.000 in EU and 1.820.000 in China. With a cost of 5600 EUR per unit a market of (billions) 2,5 in USA 3,1 in EUR, and 10,2 in China is opening for the infrastructure and in total round 1 billion EUR for the robotic vehicles.

With the cost of 5600 EUR per unit the return on investment for the end customer is 14% based on the high cost of the last-mile delivery for Courier, Express, and Parcel (CEP) services and their frequency. The calculated cost of the last mile delivery for CEP industry is 10 USD and 50% of this is due to human labor which could be eliminated by the Wishing Table infrastructure. The ROI for the end customer should be much higher if pizza boys and other takeaway food delivery not recognized as CEP industry would be taken into consideration. However, the benefits of TWT system go beyond ROI alone. Reduced CO2 emissions, improved waste recycling and increased autonomy of elderly people should also be considered in addition to increased quality of life in general.

## The Founder & Partners

Samo Kavcic 1956 - Inventor

has a university diploma in mechanical engineering and experience in mechanical design, programing microcontrollers, robotics, ERP application programming, CIO and management. Samo worked for Institut Josef Stefan and Slovenian company Iskra as an engineer and for the Adriatic (ex-Yugoslavia) branch of Oracle Corporation as a consultant, project manager and head of consulting. Samo has been developing this novel transportation system for more than 6 years.

During the development of the project, Samo has got assistance and advice from a few colleagues who hold a minor share as silent partners in the project.

## Project status

The functional prototype is operational since 2024. It is backed up by a patent application to PCT. The project has been developed and the prototype system is located in Slovenia, EU.

## Rough business plan

Phase	Milestone	Time	Investment	Achievement
C	Production version	6 months	0,5 MIO EUR	Production version of the complete system (vehicle, guideway, mailboxes) developed by an extended team
D	The first real installation	12 months	0,5 MIO EUR	Finance and build the first operational system for a large building or a campus. The calculation is for a building having around 100 terminals each costing 5k EUR per connection.
E	Busniess expansion	18 months	2-4 MIO EUR	Set up an industrial production facility. Establish a global company recruiting local franchise partners.
F	Break even	18 months	None	Break even