



New transport system for passengers with moving platforms for medium-range distances

(09 AT 0109 3F1M)

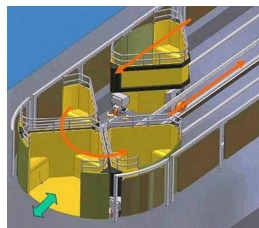


### Abstract

**An Austrian SME has invented a new transport system that closes the gap between moving walkways and small rail or pedestrian conveyor systems. The new system consists of individually driven wagons which move along a guideway with at least two entry/exit points. It provides continuous access like moving walkways and transit it speeds up to 30km/h, which makes it suitable for distances up to about one km. The company searches for partners for further development, commercialisation or licensing.**

### Description

A new solution developed by an Austrian SME extends the range of moving walkways, which are commonly known from airports and railway stations, up to a distance of about 1000m.



In principle, it comprises of a series of small, individually propelled platform wagons that continuously move along a closed-loop guideway with return places at both ends. Passengers may stand, loll or even sit during transit, thus the rides will be fast and comfortable! The guideway may also be inclined to some degree and conducted along curves if required, making the system much more flexible than today's moving walkways.

As shown in the picture 1, the platform wagons exhibit a specific geometric shape like pie-slices (i.e. circle or ring sectors), which has been applied for patent worldwide. Sector angle preferably may be chosen to 90°, however, also larger angles may be practicable. With this shape, clusters of 2 – 3 wagons always provide a gapless, continuous sequence of platforms in the return places, which also serve as entry and exit stations. In these stations, the wagons accomplish a slow rotational motion of 180°. During this motion, the wagons open their doors and the passengers may enter and exit. At the end of the rotational motion, the wagon doors are closed and each wagon starts an individually controlled translational motion along the guideway. In this way,

safe entry and exit is accomplished in the return places and the wagons may be accelerated and move with much higher speed achieving a fast transit. Assuming a cruising speed of about 25km/h, a distance of 500m may be covered in less than 1,5 minutes without any additional waiting time.

Access to the wagons is essentially free of gaps and steps, however to some degree lateral to walking direction. Although it is assumed that this is not a problem for most persons, platform motion may be slowed down or stopped shortly to facilitate access of impaired persons or wheelchairs in order to obtain safe and barrier-free operation for all. The system is scalable and may be produced in different sizes according to transportation demand. It will be able to achieve a transport performance in the range of 1000 – 3000 persons per hour. Like conventional moving walkways, the system is expected for indoor use in building complexes or at least protected by some shelter cover. It may also be implemented with additional stations along the guideway.

Technically, the system may be implemented with available technologies. Most important are the electronic control of vehicle flow, the reliable propulsion and control of translational and rotational motions of the wagons, and the certification of the system according to international standards. Power supply of the wagons will be done via a sliding contact line, remote control by an industrial wireless system.

The Austrian company has high experience in the field of electronic control, microcontroller, sensor systems, mechatronics and particularly for people mover applications. It also holds further patents that may be applicable and useful for specific control tasks. Implementation concepts and design of the wheel/rail or guidance system, the wagon design and its drive, steering and control system still have to be developed according to final specifications and tested in prototype systems.

### Innovations and advantages of the offer

The technology provides a new realization of moving walkways based on a series of small, individually propelled platform wagons. A patented pie-slice shape of the wagons accommodates a continuous and safe access to the system in the entry/exit stations. The speed of the movement along the guideway is not dependent on the speed at the



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entry/exit. Electronic control systems achieve fast rides as well as precisely timed gapless clustering and rotational motion of platforms in the stations.

Today, there is no cost-effective and convenient transportation technology available for distances between 100 and 1000m. The new system closes this gap. It provides a continuous service like moving walkways and a fast transit like buses, trams or other people movers. Cost level is expected to be similar to moving walkways. Thus, it extends to range of moving walkways in a cost-effective and convenient way. The system is also energy-efficient and environmental-friendly.

The technology makes feasible a low cost system extending the range of moving walkways" up to one km with:

- slim and flexible guideway that may comprise inclinations and curves
- continuous, barrier-free access and immediate service without waiting times
- travelling speed of about 25km/h achieving transit times of less than 1,5min for 500m (<3min for 1km)
- transport capacity in the range of 1000 – 3000 persons per hour

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**For further information (including IPR status)**

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