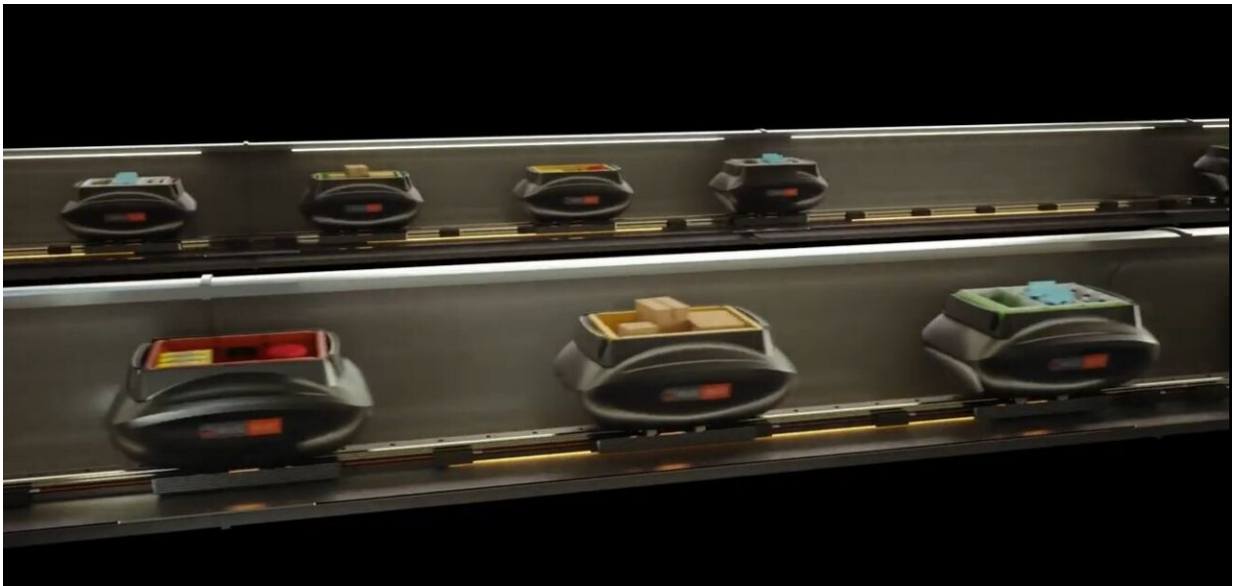


Tunnel vision for delivery vehicles could cut pollution

November 22 2019, by Nancy Cohen



Decarbonizing vans that carry Internet-ordered deliveries: if it is a good idea then why not? A company's effort in the UK to do so might show the rest of the world that this is the way to go as we try to find solutions for a greener planet.

The company wants to see underground tunnels transporting millions upon millions of parcels. "The tunnels are expected to be no bigger than 1m wide, similar to pipes used for the transfer of water and gas, and will

feature pods that travel at 30mph," [said](#) *The Telegraph*.

This is being described as a "subterranean" delivery concept that would cut air pollution by removing freight traffic from roads. (Reports said such a UK tunnel network could carry as many as 600 million parcels a year to London alone.)

"Capital investment is also substantially reduced and the system is inherently safer, independent of weather conditions and more secure than [road transport](#)," says the site of Magway, described in reports as a British startup.

From local demos the vision stretches out to a network of tubes UK-wide. Lucy Handley in [CNBC](#) explained that "Magway hopes to build a series of pipes, less than 1 meter wide, that could transport items in pods that would travel along a track powered by a magnetic motor, connecting distribution centers to [retail outlets](#) and consumers."

UK is looking toward a net-zero emissions target by 2050. "We need to do something radically different," Rupert Cruise, co-founder and managing director of Magway, said. "The status quo is just not good enough."

Jon Excell, [The Engineer](#), said the approach will use linear electric motors to accelerate passenger pods through low-pressure tubes. He described the concept as using the linear motors "to propel crates along a nation-wide network of pipes." The pipes would run alongside existing road and rail routes.

(A linear motor is often described as a rotary [motor](#), "just cut up and rolled out so that instead of a rotating shaft creating torque, it's a load moving linearly that creates force," according to the Motion Control & Motor Association.)

In this instance, the system uses a magnetic wave of electrical current, "generated by highly efficient linear synchronous magnetic motors to drive multiple, standard-sized crates (or totes) along a track," said Excell.

The optimal speed is 31 mph.

Magway will initially provide short delivery routes to alleviate the stress on local freight traffic traveling in and out of major airport hubs such as London Heathrow, according to the MEM site. Then the group would start construction work around 2023 on the first of longer routes of up to 100 kms, to ultimately form a network of pipes connecting the UK.

Having secured some funding, they are looking for a fresh wave. *Manufacturing & Engineering Magazine* [reported](#) that Magway aimed to raise more via crowdfunding.

Online retail giants could use Magway, for their trucks and vans to get products to customers with less concerns over road accidents and hazardous weather conditions.

Managing director Cruise was quoted in [Renewable Energy Magazine](#). Considering that the UK is already one of the most developed online retail markets in the world, "as e-commerce sales increase alongside quicker internet deliveries, with new one-hour slots promised by retailers such as Amazon, delivery traffic on the UK's already congested road network will also rise, further impacting air pollution."

Excell reported that already "Ocado Innovation Limited, along with the Transport Research Laboratory (TRL) and linear motors specialist Force Engineering, was one of the partners in the Innovate UK funded project."

He added that the crates carried on the Magway system were roughly the

same dimensions as totes used by retailers so there could be easy integration with their systems.

A look at reader comments in *The Engineer* revealed some favorable reactions to their idea of underground transport for delivery vehicles. "Let's hope we get a forward thinking Government that has the courage to invest in future projects such as this. The targets are achievable if we all buy into the fact tat things must change quickly."

Another comment addressed questions over cost. "Love this idea, Might be a re-purpose for some of he old Post office tunnels. However digging new tunnels under London does seem a very long winded and expensive process. "

If the concept will be deployed as widely as the company envisions, then arguments in support of their idea would be that it could help eliminate CO₂ emissions annually, save on road maintenance costs and costly accidents and relieve congestion.

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