



DISRUPTIVE TECHNOLOGIES BRIEFING

March 7, 2019

Hyperloops: The Next New, New Thing?

Jackie recently visited the West Coast and experienced LA's horrendous traffic first hand. Congestion is a problem in cities around the world, but a few companies are developing hyperloops in hopes of addressing the problem. In a call to developers everywhere, Elon Musk laid out his hyperloop transportation idea in a 2013 open-source [white paper](#). Capsules carrying people or freight would be levitated and propelled through tubes using magnets. The capsules would travel through large, low-pressure tubes at speeds that top 700 miles per hour. The tubes would have no windows because people would get sick looking outside while moving so quickly.

I asked Jackie to take a look at three of the companies that have embraced Musk's challenge: Virgin Hyperloop One, Hyperloop Transportation Technologies, and TransPod. Here's what she learned about some of the projects they're shepherding:

(1) *Virgin Hyperloop One*. Virgin Hyperloop is the furthest along when it comes to developing a hyperloop and raising money. The company did its first run on a 1,600-foot test track, called "DevLoop," outside of Las Vegas in May 2018. It has raised nearly \$295 million from investors including Richard Branson and DP World, which operates ports around the world and is owned by the UAE.

Virgin Hyperloop has the most traditional leadership. CEO Jay Walder previously headed New York's Metropolitan Transportation Authority and was managing director at Transport for London. Richard Branson served as chairman until he resigned in October, stating that the company needed a more hands-on chairman. However, his resignation may have been motivated by the death of Saudi journalist Jamal Khashoggi, because Branson also stepped down from a number of other projects and companies involved with Saudi Arabia, a Reuters 10/22 [article](#) reported. He was replaced by Bin Sulayem, chairman and CEO of DP World.

Virgin Hyperloop has a number of projects in their initial stages. The company is developing a hyperloop to transport cargo for a port in India operated by DP World, a 2/10 CNBC [article](#) reported, though no timing for deployment was given. And early last year, the Indian state of Maharashtra [announced](#) its intent to build a hyperloop between Pune, Navi Mumbai International Airport, and Mumbai.

In 2016, Virgin Hyperloop One announced its Global Challenge, a call for proposals to build hyperloops around the world. It received 2,600 applications and chose 10 routes, including four in the US: Dallas to Houston, Chicago to Pittsburgh, Miami to Orlando, and one route in and around Denver.

Now the company has a number of studies underway. Virgin Hyperloop and Colorado's Department of Transportation began a feasibility study in late 2017 for the Denver project, which the state estimates could cost \$24 billion. The Mid-Ohio Regional Planning Commission is spending \$2.5 million to study a rail or hyperloop between Pittsburgh-Columbus-Chicago. And

Virgin Hyperloop, Black & Veatch, and the University of Missouri System announced a partnership to study a hyperloop route along I-70 in Missouri.

The Virgin Hyperloop plans to offer “on-demand solutions and no fixed schedule. Passengers will be able to depart as soon as they arrive. The system will be dynamic with the ability to deploy pods based on up-to-the-second data points that continually optimize departures and arrivals,” explained a 5/22/18 company [press release](#).

(2) *Hyperloop Transportation Technologies* (HTT) has built a passenger capsule that can fit 28-40 people and is in the midst of building a 320-meter testing track in Toulouse, France. Testing will begin in April. The company, which plans commercial sites in Abu Dhabi and China, hopes its hyperloop will be ready for use in three years, a 2/26 CNBC [article](#) stated.

HTT plans to start construction in Abu Dhabi in Q3-2019. The China hyperloop will connect the southeastern city of Tongren with its airport, six miles away, and Mount Fanjing, a Unesco’s World Natural Heritage site, 31 miles further. The Chinese project would cost more than \$1.5 billion to build, a 7/20 *WSJ* [article](#) reported.

HTT also has entered a joint venture with a German logistics and transportation company Hamburger Hafen und Logistik Aktiengesellschaft to bring a freight-moving hyperloop to the Port of Hamburg. “The project will begin with an initial study on connecting a cargo-based Hyperloop system from an HHLA container terminal to container yards located further inland, thereby expanding the port’s capacity, while reducing congestion within the port and city area, and lowering the carbon footprint of the port,” a 12/5 HTT [press release](#) stated.

HTT has raised \$42 million and has 50 full-time employees, according to a 2/18 *NYT* [article](#). Another 800 people around the world put in at least 10 hours a week on the project and are compensated with stock options. The company’s CEO Dirk Ahlborn quit his job as a banker in Germany at 19, worked in Southern Europe, and then came to the US where he founded crowd-sourcing site JumpStarter. In 2013, JumpStarter reached out to SpaceX to feature Musk’s Hyperloop concept on the JumpStartFund, per a 2013 [article](#) on Crowd Fund Insider. The rest is history.

(3) *TransPod*, a Canadian company, raised \$52 million in capital with which it [plans](#) to build a hyperloop test track this year and begin testing in 2020. It has preliminary agreements to build a six-mile test track for a route that ultimately will run the 180 miles between Calgary and Edmonton, Canada. It also plans a shorter track in France, according to the 2/18 *NYT* [article](#).

Challenges in building a hyperloop include raising huge sums of project financing and receiving the necessary rights of way and permits, particularly in the US. “Although there are advanced plans to create hyperloops in Missouri (St Louis to Kansas City in 31 minutes) and the Midwest (Pittsburgh to Chicago via Columbus in 30 minutes), the most likely to happen after the Pune to Mumbai line is in the UAE, where Dubai to Abu Dhabi in 12 minutes looks like a strong candidate for an early showpiece hyperloop,” estimates a February [article](#) in TechRadar.

Contact us by [email](#) or call 480-664-1333.

Ed Yardeni, President & Chief Investment Strategist, 516-972-7683
Debbie Johnson, Chief Economist, 480-664-1333
Joe Abbott, Chief Quantitative Strategist, 732-497-5306
Melissa Tagg, Director of Research Projects & Operations, 516-782-9967
Mali Quintana, Senior Economist, 480-664-1333
Jackie Doherty, Contributing Editor, 917-328-6848
Valerie de la Rue, Director of Institutional Sales, 516-277-2432
Mary Fanslau, Manager of Client Services, 480-664-1333
Sandy Cohan, Senior Editor, 570-775-6823

Copyright (c) Yardeni Research, Inc. Please read complete [copyright and hedge clause](#).