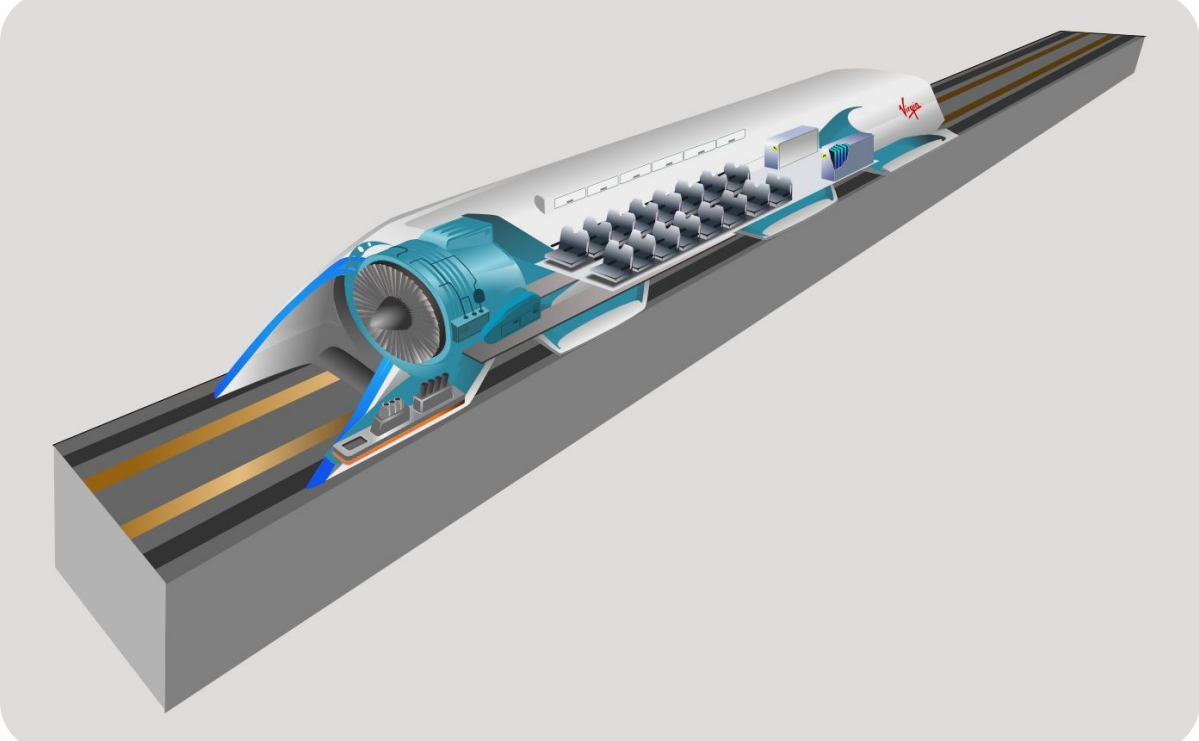


ESA helps students to test hyperloop technology!



A hyperloop train could travel faster than an aeroplane!

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14 June 2018

Have you heard of a hyperloop? It is a very new and exciting kind of technology! The idea is that if you have a tube and take all the air out, then anything travelling through the tube could go much faster since there would be no air resistance to slow it down. For example, a hyperloop train could whizz people along at more than 1000 km/h, meaning you could cross all of Europe in just a few hours!



The Delft team's hyperloop pod

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Hyperloops are still in the early stages of development. To help speed things along, the company SpaceX is running a challenge called the 2018 SpaceX Hyperloop Pod Competition. Teams from around the world are working hard to build a prototype hyperloop system that can zoom along a 1.2km tube in the fastest time possible. One of these teams is a group of students from the Delft University of Technology, in the Netherlands. To be in with the best chance of winning they needed to test their hyperloop pod's components in a vacuum – that is, somewhere with no air – just like a hyperloop tube. They realised that ESA could help!



Putting the components inside the Space Simulator...

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ESA are experts when it comes to vacuums, because space is a vacuum! That is one reason why astronauts on spacewalks need to wear a spacesuit containing air to breathe. The Delft hyperloop team visited ESA's Test Centre in Noordwijk, the Netherlands. There they found the Space Simulator, which is a large vacuum chamber. The Space Simulator is used by ESA to test equipment like satellites before they are sent into space. This was just the thing to help the students!

Excitedly, they loaded their hyperloop pod's equipment into the Space Simulator. The students were able to test how the electric motor, battery, sensors, and brakes performed in a vacuum. It was a very useful test, and the students now know how to improve their design!



...and then closing the door to seal the vacuum!

[Access the image](#)

There is not much time left though, as the competition is set for 22 July. The Delft students will join 19 other teams in California, where the test hyperloop tube is. To thank ESA for their help, the Delft team have placed the ESA logo on the side of their pod!

Would you like to travel in a high-tech hyperloop train? What about a hyperloop roller-coaster?

Cool fact: Future hyperloops could be propelled using magnetic induction, meaning that they would not even need wheels that touch the ground!