



## Tech Talk

### Futuristic Transport Systems ©

by Max Farrington and Pascal Grierson

Can you imagine a future without traffic jams? Countries such as China or India have seen their city populations explode. The more people there are, concentrated in one area, the harder it becomes to travel efficiently. What would take 20 minutes 10 years ago, now takes an hour in some cities. And if you consider the pollution this causes, it becomes obvious that the future is not necessarily bright. The main solution is mass transport systems and some aim to be eco-friendly, reliable and fast. Let's see what the future holds in the transportation sector.

The first and most famous, futuristic transport system is the Hyperloop. In 2013 Elon Musk, the original PayPal chairman and current chairman of Tesla Motors, had the idea to create a new transport solution, which he is quoted as saying is a mix of "the Concord and a canon". Basically it is a long tube, in which there will be small capsules for passengers to sit in. These capsules will ride on a cushion of air, driven by linear induction motors and air compressors, and it will be possible to reach speeds of 1,220km per hour. This is much faster than France's TGV or Japan's Shinkansen.

Another innovation which could revolutionize our air travel is Skylon, a spacecraft. Designed by the British company Reaction Engines Limited, it uses an air-breathing rocket propulsion system and it will be able to transport around 300 people anywhere on the planet in just 4 hours. The first tests are due to start in 2019. The spacecraft will be able to accelerate to Mach 5.4 at an altitude of 26 kilometers. Naturally, this is a very costly project. The program had already cost \$12 billion by 2004 and that was more than 10 years ago.

Other future innovations, on a smaller scale than the Skylon, include the IRoad. No, it's not a new "revolutionary" product from Apple; this comes from Toyota. The idea is a mix between a smart car and ...a motorbike; it is currently being tested in the French city of Grenoble as well as in Tokyo.

Ecology is also an important part of the equation when it comes to future transportation methods. A project called Vindskip is a hybrid cargo boat. It works with liquefied natural gas and wind power. The project is being developed by Norwegian engineer, Terje Lade. This technology will allow us to reduce the consumption of motor fuel by 60% and the CO2 emissions by 80%. These are huge numbers if you bear in mind that there are more and more cargo ships, transporting more and more goods.

The future that lies ahead is full of innovations; as cities are growing and becoming more densely populated, efficient transportation requirements are increasing. The problem has become so serious that in some cities, the very wealthy take their personal helicopters to go from one part of the city to another. This is the case in Sao Paulo, where there are helipads everywhere. The main objective in these new transport systems is that they must stay as eco-friendly as possible, as these growing cities are already extremely polluted.