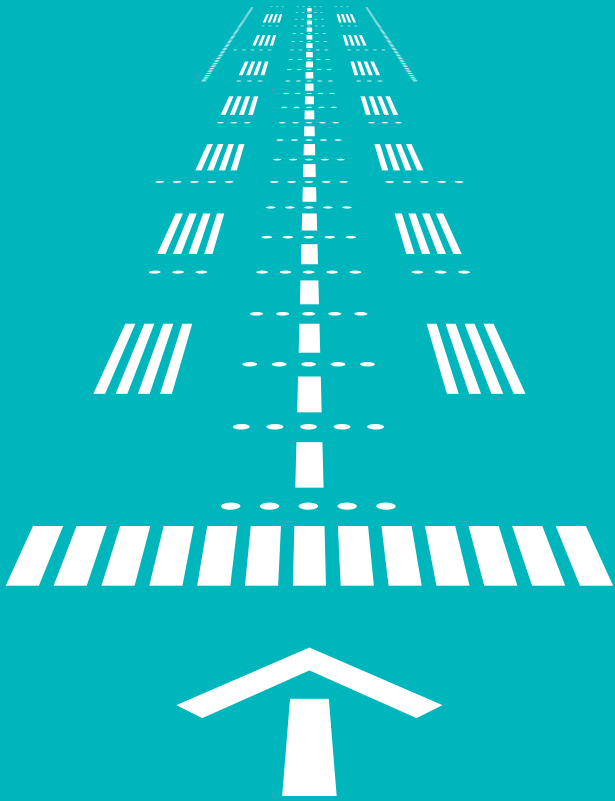


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Today's innovation for our future travel

What will travel look like in 2050? Will it have progressed beyond what we have now? What is an intelligent transportation system (ITS)? This article explores the future of transport and determines what's really achievable.

ITS, PRT? What does it all mean? What is an ITS? It stands for Intelligent Transport System and refers to information and communication technology that's applied to transport infrastructure and vehicles. The technological advances being explored are meant to improve all types of transport issues – safety, productivity, reliability, travel choices and environmental performance. This includes alternative energy such as hybrid vehicles, battery charged electric and fuel-cell cars. PRT (personal rapid transit) we will explore later in this article.

Replacing the driver with "driverless technology" is a significant development in the evolution of transport systems. Autonomous Cruise Control is an example of technology that is already available on many of today's cars. The system uses radar or lasers to monitor the distance between the car and the vehicle in front and will automatically slow the car down or speed up when required. So "driverless technology" is already here and is evolving into tomorrow's transport solution.

Heathrow Airport in the UK has recently launched driverless battery-powered pods that provide hassle-free rides for passengers and their luggage. A total of 21 Personal Rapid Transit (PRT) pods have been installed which use 70% less energy than a car and can circulate around a 3.8km congestion-free track. Currently used to replace buses at Heathrow, this technology is already being considered for other urban areas.

Cars that can fly

Developments in microlight technology may make it possible for everyone to own what are, in effect, flying cars. They have closed cabins, heating and room for two people. By using fuel efficient technology combined with microlight wings, we will travel as the crow flies – rather than following winding roads – reducing our impact on the environment. We will take off from a field or runway near our home, fly to towns and cities across the UK and Europe then land and drive to our destination. But could this really happen?

The answer is yes. There is a vehicle capable of flying. The \$250,000 Terrafugia Transition is a two-seater aircraft with a top speed of 115 mph and a range of 500 miles on a tank of fuel. At the touch of a button it takes just 15 seconds for the wings to fold up automatically and the power to be re-routed from the propeller to the rear wheels.

Levitating trains for a shorter commute

What about public transport? The continuing population boom and its associated demands on transport calls for innovative and integrated mass transit solutions.

Personal rapid transit (PRT), sometimes known as personal automated transport (PAT) technologies are likely to become common place in public places such as airports and stations. Trains of the future will go faster. Maglev technology is a system of transportation that uses magnetic levitation to suspend, guide and propel vehicles from magnets and is already in use in Shanghai. The Shanghai Maglev Line is the first commercial high speed magnetic levitation line in the world. Its trains have a top operational speed of 286 mph

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making it currently the world's fastest train and this technology continues to advance.

But it's not just speed and type of vehicle that will change but how we will travel – what will be our level of comfort? Will faster trains have more passengers increasing the cramped conditions? Well maybe not. Developed in Russia, the "Bombardier" is a personal coach compartment which accommodates one person in utmost comfort. The individual compartment includes an armchair, computer panel with TV and multimedia centre and wardrobe with drying function. The touch sensitive panel on the table lets you watch TV, listen to music or surf the net with the touch of a finger.

"Scramjet"

A recent report by the Institution of Mechanical Engineers in the UK suggests that by the end of the century passenger planes able to fly at around 4,000mph could become a reality. "Scramjets" – short for supersonic combustion ramjet – contain an 'air-breathing' jet engine that allows them to combust fuel and decelerate the incoming air to produce speed and thrust. This could reduce flight times from New York to Sydney to a mere two and a half hours.

Imagine an aircraft built of intelligent membranes that turn from opaque to transparent on command, to do away with windows and provide a panoramic view of the sky. Fanciful? Not in the future; after palm-recognition check-in the aircraft knows who you are, and keeps track of you throughout the flight thanks to smart materials and neural networks that learn everything from your lighting preferences to the size of your posterior, adjusting ambience and seat shape accordingly.

Airships – the new airplane

Even how we transport our goods will change. Modern airships are widely viewed as a low-carbon option for the cargo of the future. A number of companies have prototypes under development. An airship is already in the works. It has even been suggested that there could be a commercial fleet of airships by 2020. The Australians have developed a 500 ft prototype blimp theoretically capable of lifting about 150 tons. Designed in a saucer shape to combat heavy winds, the hope is that these vehicles could one day carry hospitals and disaster-relief centres to remote areas – meaning faster aid and response times in the event of natural catastrophes.

Technology – tackling complex risk

But new technology brings many new risks – from design through production to the actual use of the new product. Rigorous testing and technological regulation will mean that pioneers in this area need to be appropriately insured by partners that understand the risks involved.

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