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[England](#)
[Northern Ireland](#)
[Scotland](#)
[Wales](#)
[Business](#)
[Politics](#)
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[Education](#)
[Science/Nature](#)
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[Entertainment](#)
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[Magazine](#)
[In Pictures](#)
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Smart directions for green ideas

Electro-car public transport and a scheme to track the proper disposal of waste are two of smartest ideas for using satellite-navigation technology.



Cities may soon be full of electro-cars
(Image: Effedi)

The applications have just triumphed in an international competition seeking novel ways to employ Galileo, Europe's soon-to-launch sat-nav system.

The multi-billion-euro space venture will transform the quality of location and timing data available on Earth.

And entrepreneurs are being urged to develop innovative ways to exploit it.

The transport application devised by the Vu Log company in Sophia Antipolis, France, envisages a fleet of "green" vehicles on city roads.

Each electrically powered mini-car would be equipped with instant and highly precise positioning equipment.

Commuters could use the internet or their mobile phone to find the nearest vehicle, jump in and start it with a smartcard, and then drive it to their destination.

"There would be no constraint - you could leave the car where you wanted," explained Vu Log's George Gallais.

"The service provider would come and charge the cars up every two or three days. Being used just for short distances, they wouldn't need charging every day," he told the BBC News website.

Future skies

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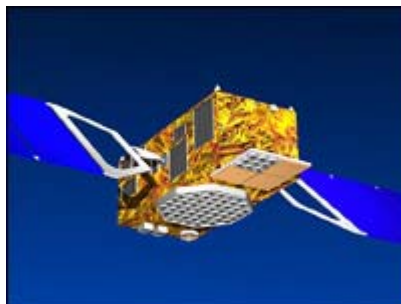
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WHAT IS GALILEO?



Europe's own global satellite navigation system
Will work alongside US GPS and Russian Glonass systems
Promises real-time positioning down to under a metre
Guaranteed under all but most extreme circumstances
Suitable for safety-critical systems - can run trains, guide cars and land planes

The electro-car concept was deemed to be the best in over 200 entries to this year's Galileo Masters competition.

The contest pushes small and medium-sized enterprises to start thinking now about how they could get the best out of Europe's satellite-navigation system, due to be operational by the decade's end.

At the moment, Vu Log's car scheme would have difficulty working because the American Global Positioning System (GPS) does not give sufficiently accurate and reliable location data to precisely pin-point a vehicle in a heavily built-up area.

But with Galileo operating alongside GPS to "beef-up" the sat-nav signal, there would be less chance of community cars being lost in the steel and glass "canyons" that characterise modern cities.

"This is definitely an application for the future," said Christian Stammel, from the competition organisers.

"But when GPS is enhanced with Galileo, you can envisage all sorts of 'navigation guardian' solutions, which would guide you through a city using a mixture of buses, subway, electric cars and on foot."

THE GALILEO FUTURE



Expected to be more than 400 million sat-nav users by 2015 European aerospace and electronics firms say it will create more than 100,000 jobs Rescue services will be able to pinpoint the exact location of a car driver's accident System will allow someone to find their way in an unfamiliar city using their mobile phone

Galileo Masters 2005 accepted entries from seven European business regions, including from the UK which put forward the greatest number of ideas.

Richard White, from Melbourn in Cambridgeshire, took the prize for the best of these. He has devised a secure, web-based system he calls "TrackerBack" for keeping tabs on large or valuable loads from pick-up to delivery.

It issues secret numbers to sender, haulier and recipient which, when brought together, confirm the chain has been completed.

"Only when the Pin codes are brought together are you able to track duty of care; you can prove an audit that is legally watertight," explained Mr White.

Green solution

With tighter controls being introduced for the disposal of waste and a growing problem of illegal dumping, the

entrepreneur believes his TrackerBack system could play a useful policing role when combined with Galileo.

"With the sub-metre accuracy of Galileo, you'd even know how high off the ground that consignment of tyres was," he said. "You'd know instantly if it had been dumped over a hedge rather than being taken to the reprocessing plant."

Lyn Dutton, from the Thales Group, which produces sat-nav receivers, was on the UK judging panel. "We liked the environmental aspect to Richard's solution and it addresses a real problem that exists at the moment," he said.



The system would track duty of care

"If you've paid a contractor to properly dispose of waste, you want to be sure they haven't just pocketed your money and dumped the load in some quarry. This has a position record attached to it and a log of what was done."

The 25-nation EU bloc is funding the early development of Galileo to the tune of 1.1 billion euros (£0.7bn).

The deployment of the system - the launch of the satellites and the construction of ground stations - will cost a further 2.1 billion euros (£1.4bn), with two-thirds of the investment borne by the private sector. The latter is also expected to pick up all the running costs in the long term.

The first demonstrator spacecraft are undergoing final testing and one will be launched next month.

A full constellation of 30 spacecraft should be in orbit within the next five years.

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