

UK scientists warn of 'dangerous over-reliance' on GPS

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Directions are shown on a GPS unit mounted in a car travelling along Kaiserdamm at dusk in Berlin, October 8, 2010. Developed nations have become "dangerously over-reliant" on satellite navigation systems such as GPS, which could break down or be attacked with devastating results, British engineers said Tuesday.

Developed nations have become "dangerously over-reliant" on satellite navigation systems such as GPS, which could break down or be attacked with devastating results, British engineers said Tuesday.

The Royal Academy of Engineering said the application of the technology was now so broad -- from car sat-navs to the time stamp on financial transactions -- that without adequate backup, any disruption could have a major impact.

It cited a recent European Commission study showing that six to seven percent of economic growth in western countries -- about 800 billion euros (\$1,100 billion) in the EU -- is already dependent on such navigation.

"Society may already be dangerously over-reliant on [satellite radio navigation systems](#) like GPS (the US's Global Positioning System)," it said.

Disruption could come from technological problems or from deliberate interference, by criminals using small-scale jammers to avoid road tolls or block the tracking of cargo, or terrorists seeking to attack entire systems.

The report also warns of political interference, such as when North Korea reportedly recently disrupted South Korean military communications.

"A significant failure of GPS could cause lots of services to fail at the same time, including many that are thought to be completely independent of each other," said Martyn Thomas, who led the academy's work on the issue.

The US-operated [Global Positioning System](#) is currently used for everything from commercial aircraft and the tracking of cargo to the opening of train doors at stations.

The report said all these are vulnerable, with consequences ranging from "the inconvenient -- such as passenger information system failures -- to possible loss of life -- such as interruptions to emergency services communications".

It urges greater awareness of the security risks by key services, tougher

action on the sale of cheap jammers -- although they are already illegal in the EU -- and efforts to boost the resilience of antenna and receivers.

The expansion of alternative satellite navigation systems to GPS such as Europe's Galileo system or the Russian-developed GLONASS should help, Thomas said.

"But many of the vulnerabilities we have identified in this report will remain. No-one has a complete picture of the many ways in which we have become dependent on weak signals 12,000 miles above us," he added.

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