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| Submission | Smoother-flowing traffic and safer jet engines are just two of the benefits already achieved with the use of an application developed by the University of York's Advanced Computer Architectures Group.<br><br>The Aura (Advanced Uncertain Reasoning Architecture) project aims to allow the huge amounts of disparate data produced by many modern systems to be processed in a useful way.<br><br>The development of the software drew on ideas about how the human brain deals with the vast quantity of sensory data is receives.<br><br>The technology allows researchers to search large, complex datasets for patterns that are similar to those exhibited by current data and which might provide a clue as to how the system will behave in the future.<br><br>It has been used by Rolls-Royce to analyse unusual activity in aircraft engines. The company's use of the technology was cited by aircraft manufacturer Boeing as a reason why it chose Rolls-Royce engines for its new 787 Dreamliner aircraft.<br><br>The software has also been used by the Department for Transport to analyse traffic date. A number of changes to traffic-light sequencing have been shown in trials to improve the flow of traffic.<br><br>The York team has set up a spin-off company to develop the application of the technology in other areas such as medicine, power generation and wind energy systems.<br><br>Judge Lesley Thompson, director of research base, Engineering and Physical Sciences Research Council, said: "This team demonstrated internationally leading engineering research with a broad utility.<br><br>"This was coupled with strong team working, extending partnering with industrial collaborators so that the research findings were successfully translated into commercial advantage. An impressive achievement." |