



It is not uncommon for modern vehicles to have several dozen sensors for engine management, emission monitoring, traction control and other driver aids. Similarly, drivers' smartphones and factory-fitted or aftermarket automotive telematics, "black boxes", contain multiple sensors.

A governmental client set Plextek the challenge of determining the extent to which an individual driver can be identified just from the data that is accessible from the sensors on-board a vehicle. This is a good example of Smart Sensing as the value of the result is dependent on the smart combination and interpretation of multiple sensor outputs. Our approach was to sample the

output from the accelerometers, gyros and the GPS receiver in a telematics unit and send this to a database for post-processing.

During the project we gathered telematics data for a large number of journeys, with a range of drivers, all driving the same vehicle. We identified a number of quantifiable metrics of driving style, and then used a statistical analysis of the background data set to profile each driver. Driver metrics collected from subsequent test journeys by each driver were compared with the baseline metrics, and an assessment of the extent to which they correlated was made. It was concluded that this was a potentially powerful tool in the identification

or elimination of particular drivers from a preselected pool of candidates.

In addition to public-sector applications, there are also many potential uses of this technology in the commercial market. Improved differentiation between drivers can now be provided to insurance providers, for example, to allow more accurate personalised car insurance details to be issued. Delivery and logistics businesses, for example, can now conduct a more refined audit of shared vehicles where multiple drivers can be uniquely identified and monitored.