



There is an increasing list of vehicles from which data can be recovered post collision.

The data must always be considered with due regard to the available scene evidence.

The data can be recovered from dashcams, vehicle telematics systems or infotainment systems.

If you are dealing with a collision or incident where you think electronic data may have been stored, get in touch with your force Forensic Collision Investigation team. They can advise what may be there, and if appropriate, arrange for the download and analysis process.

CAUTION – THIS MAY BE CHALLENGING



What are a vehicle's telematics and infotainment systems?



Prifysgol Cymru
Y Drindod Dewi Sant
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Trainer to pose the question “**What are a vehicle's telematics and infotainment systems?**”

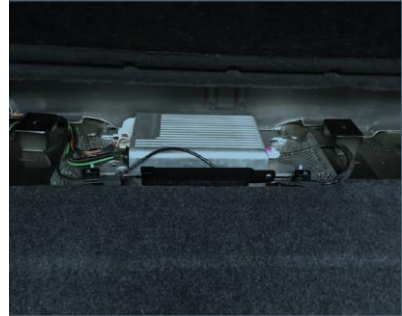
Class to answer with suggestions, and trainer to record these on a board blast on the whiteboard/flipchart.

These answers can then be referred back to throughout the session.

Telematics

The integration of telecommunications and information (how the car “talks” to its on-board computer).

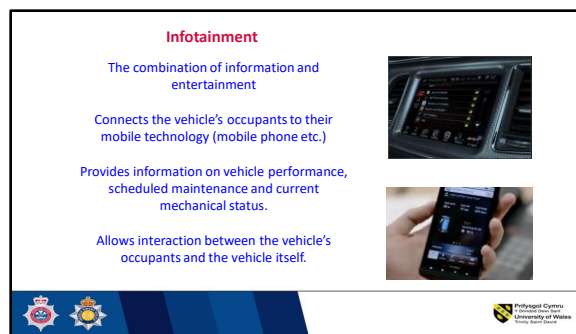
Facilitates and records requests to and from the infotainment system.



Telematics is a method of monitoring a **vehicle**.

By combining a GPS system with on-board diagnostics it's possible to record – and map – exactly where a **car** is and how fast it's traveling, and cross reference that with how a **car** is behaving internally.

The system also records any requests made by the occupants to the vehicle's infotainment systems.



What is an infotainment system?

In-vehicle infotainment refers to vehicle systems that combine entertainment and information delivery for drivers and passengers. These systems typically use audio and video interfaces, touchscreens and keypads.

Currently, these systems are only available in selected vehicles, however, it is expected that by 2020, up to 80% of new vehicles will feature these systems and will be connected to digital services. The systems typically use Bluetooth technology and or smart phones to help drivers control the system. Some of these systems are controlled by pressing traditional buttons on the steering wheel or around the screen.

However, many vehicles are now equipped with a screen and voice command system that allow motorists to push a button and speak to facilitate an interaction³. Most screens are now touch sensitive and use haptic buttons, which vibrate or offer other feedback to let the user know that the command was received.

Some vehicles also include other features, such as heads up displays, gesture controls, rotary dials and write pads. Infotainment can allow a driver to perform a number of tasks, such as standard radio and CD players to listen to music, hands-free phone connections to make phone calls, vehicle voice commands and other types of interactive audio or video.

Some systems include rear-seat DVD capability, which allows passengers to view movies and video. Vehicles with built in satellite navigation are becoming the norm on newer vehicles, with some also incorporating features such as: reverse camera display, ability to listen to incoming and outgoing text messages and access internet or smartphone enabled content such as traffic conditions, sports results and weather forecasts. Some vehicles even have a range of systems that allow passengers with smartphones and laptops to connect to the vehicle.

Many of these systems involve a complex multimodal interaction to perform a task. For example, to select a music option, a driver might push a button on their steering wheel, issue a voice-based command, view the options presented on an LCD screen and select an option via touch using the touch-screen display³. However, some systems have safety features that disable drivers from using some services while driving, such as viewing video or adjusting the in-built satellite navigation system

Telematics/Infotainment – What data is available?



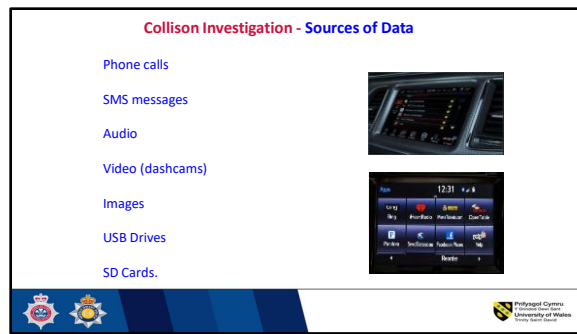
- Speed
- Deceleration rates
- Steering input
- Brake application
- Accelerator position
- Occupant levels



What data is available?

This will depend on many factors, including, the nature and severity of the collision, the make, model and age of the vehicle. There is also a possibility, especially after a relatively minor incident, that collision data could be overwritten by subsequent events.

In general, if data is stored, it will give information on vehicle speed for approximately five seconds [possibly 20 seconds] leading up to the event as well as other data such as, deceleration rates, steering input, brake application, throttle position, occupant levels etc.



All of the above may give relevant evidence to collision investigators, of pre collision vehicle and driver actions (use of mobile phone/infotainment etc.) and vehicle performance/malfunction.

Officers need to be aware that the existing applicable legislation that encompasses the management of digital evidence, comprises the following:

- Criminal Justice and Police Act 2001
- Criminal Procedure and Investigations Act 1996 (CPIA)
- PACE
- Police Reform Act 2002
- Data Protection Act 1998 (DPA).
- Human Rights Act 1988 (in particular Article 8)
- Home Office (2005) Code of Practice on the Management of Police Information
- APP on information management
- ACPO (2007) Practice Advice on Police Use of Digital Images
- ACPO (2012) Good Practice Guide for Digital Evidence.

All operational queries regarding seizure and downloading of digital data in these circumstances should be referred to the Forensic Collision Investigation team via force control room.



Roads Policing Vehicles – Digital Investigation Opportunities



Any Questions?

