CLAIMS:

1. A tag to be affixed to a vehicle for obtaining vehicle data, the tag including:

a battery for powering the tag independently from a power source of the vehicle;

an accelerometer to measure acceleration of the vehicle;

a processor running executable code to process acceleration data provided by the accelerometer;

a memory for storing a unique tag identifier of the tag and for storing acceleration data provided by the accelerometer;

a communication module configured to (a) wirelessly transmit the acceleration data through an untrusted mobile communications device located in the vehicle and unchanged to a server outside of the vehicle, the communication module causing the transmitted acceleration data to be digitally signed using the unique tag identifier, (b) wirelessly receive communications from the server through the untrusted mobile communications device, the received communications being digitally signed by the server using the unique tag identifier, and (c) authenticate the received communications using the unique tag identifier;

the unique tag identifier being associated with the vehicle by data stored at the server; and

the unique tag identifier being known to the server and unknown to the untrusted mobile communications device.

2. A tag according to claim 1 further including a clock, wherein when the untrusted mobile communications device is not in communications range of the tag, the memory stores acceleration data with corresponding timestamps and transmits acceleration data to the untrusted mobile communications device when the untrusted mobile communications device is in communications range of the tag.

3. A tag according to claim 1 or claim 2 wherein communication between the tag and the untrusted mobile communications device occurs

automatically without manual intervention or pairing between the mobile communications device and the tag.

4. A tag according to any one of the preceding claims wherein the tag is not connected to the vehicle's computer or power systems.

5. A tag according to any one of the preceding claims wherein the acceleration data is transmitted to the untrusted mobile communications device using Bluetooth low energy communications protocol or another short range wireless communications protocol.

6. A tag according to any one of the preceding claims wherein the untrusted mobile communications device comprises a mobile telephone.

7. A tag according to claim 2 wherein the communication module also receives clock data from the untrusted mobile communications device and sets its clock accordingly.

8. A tag according to any one of the preceding claims wherein the tag includes a tamper detection mechanism using one or more of data from the accelerometer and data from a light sensor.

9. A tag according to any one of the preceding claims wherein the tag includes a crash/impact detection mechanism using data from the accelerometer, and wherein data provided by the crash/impact detection mechanism is transmitted via the untrusted mobile communication device to the server soon after a crash/impact detection.

10. A tag according to claim 1 wherein the tag includes one or more of a gyroscope, barometer, and compass.

11. A tag according to any one of the preceding claims wherein when the vehicle is not moving the tag is in a dormant state in which components

of the tag are powered down and wherein the tag is woken up by the accelerometer measuring acceleration exceeding a measurement threshold for a period of time.

12. A tag according to claim 2 in which the memory stores information about trips that include a trip start time and a trip end time, and the trip start and end times and any measured acceleration whose magnitude exceeds a threshold, along with a timestamp, are stored in the memory.

13. A tag according to any one of the preceding claims wherein the untrusted mobile communications device forwards digitally signed code from the server to the tag for an over-the-air upgrade of the tag's software.

14. A tag according to any one of the preceding claims wherein the processor compares a derived lateral acceleration of the untrusted mobile communication device and the tag in a vehicles frame of reference to determine whether the mobile communication device is located to the left or to the right of the tag in the vehicle.

15. A system for obtaining vehicle data, comprising:
    a tag affixable to a vehicle, including:
        a housing with no external wired connections, the housing containing:
            an accelerometer to measure acceleration of the vehicle,
            a wireless transmitter,
            a processor executing software to:
                receive acceleration data provided by the accelerometer; and
                use a unique tag identifier of the tag to digitally sign the acceleration data for communication, using the wireless transmitter, through an untrusted mobile communications device

located in the vehicle to a server outside of the vehicle,

a battery within the housing configured to provide sufficient power for the accelerometer, transmitter, and processor, wherein the battery powers the tag independently from a power source of the vehicle;

a software application executable upon the untrusted mobile communications device, the untrusted mobile communications device including a location module for determining and recording location data regarding the location of the untrusted mobile communications device, the application configured for receiving the digitally signed acceleration data from the tag, and forwarding the digitally signed acceleration data and the location data to the server via a mobile communications network so that the acceleration and position of the vehicle at a particular point in time is known from a combination of the acceleration data from the tag and location data from the untrusted mobile communications device.

16. The system of claim 15, wherein the housing is closed, and the system further includes a processor of the server configured to execute software to process digitally signed acceleration data from the tag to determine if the tag has been tampered with by being moved from being affixed to the vehicle, using at least one of the digitally signed acceleration data provided by the tag or data from a sensor within the housing indicating the entry of light into the housing.

17. The system of claim 16, wherein the wireless transmitter of the tag is able to communicate with the untrusted mobile communications device via a short range wireless communications protocol.

18. The system of claim 17, wherein the short range wireless communications protocol is Bluetooth.

19. The system of any one of claims 15 to 18 wherein the acceleration data and location data is transmitted to a server of an insurance company

which uses the acceleration data and location data to assess the insurance risk of the individual.

20. The system of any one of claims 15 to 19 wherein the tag includes a crash/impact detection mechanism using data from the accelerometer, and wherein data provided by the crash/impact detection mechanism is transmitted via the untrusted mobile communications device to the server soon after a crash/impact detection.

21. The system of any one of claims 15 to 20 wherein the processor of the tag executes software to:

receive, via the wireless transmitter, communications from the server through the untrusted mobile communications device, wherein the received communications are digitally signed by the server using the unique tag identifier, and

authenticate the received communications using the unique tag identifier, wherein the unique tag identifier is associated with the vehicle by data stored at the server, and the unique tag identifier is known to the server and unknown to the untrusted mobile communications device,