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What Do a Truck and a Refrigerator Have in Common? From Product Liability to Trucking Casualty Defenses – Telematics Tell All

Have you ever asked yourself what a truck and a refrigerator have in common? Fifty years ago, the answer to that question would have been very little. Today, although you still cannot keep your drink cold in a truck or transport 50,000 pounds worth of products in a fridge, what you can collect from them both is data.

Why is this of any significance? One of the biggest cogs in the litigation machine is information.

We live in an era of everchanging technology, and with every advancement, the availability of information has grown. In 2009, there was around 50 petabytes (a petabyte is 1,024 terabytes) of data on the internet.[1] Today, the top four online storage and service companies alone have at least 1,200 petabytes between them.[2] This immense growth in information has many implications. As litigators, what we should focus on is how we can find ways in which we can utilize the availability of information to benefit our clients.

In order to do so, we must adjust our perspective and understanding of **where** we can find information and **how** it can be of use in litigation. This paper will help you understand a new source, one that is cutting edge and can lead to the golden nugget that settles a matter in mediation or turns a loss on liability into a win on damages.

This new source is telematics: the combination of telecommunications and informatics that has given rise to devices that are able to send, receive, and store data.[3] The integration of such devices into everyday objects such as fridges or trucks is aptly described as the "Internet of Things".

What is the Internet of Things (IoT)?

The Internet of Things is a popular term for describing scenarios in which the connectivity of the internet and computing capability of modern devices extends to a variety of everyday items. Essentially, it connects objects from the physical world to the Internet using sensors.[4]

Although the concept of IoT is relatively new, the concept of combining computers and devices has been around for decades. In the 1970s, systems for monitoring meters on the electrical grid via telephone

[1] Kevin Ashton, "That 'Internet of Things' Thing" (2009) *RFID Journal*, online: <RFIDjournal-That Internet of Things Thing.pdf (itrco.jp)>.
[2] "How much Data is on the Internet" (January 2019), online: <How much data is on the internet? - BBC Science Focus Magazine>.
[3] "What is telematics" (29 October 2019), online: <What is Telematics? Everything You Need to Know | Verizon Connect>.
[4] Vivek Singhania, "The Internet of Things: An Overview Understanding the Issues and Challenges of a More Connected World" (2015) *ACADEMIA*, online: < ISOC-IoT-Overview-20151014_0-with-cover-page-v2.pdf (d1wqtxts1xzle7.cloudfront.net)>.

lines were already in commercial use. By the 1990s, machine-to-machine monitoring had already become widespread.[5]

The next phase was combining the devices with internet networks. The first internet connected toaster was featured in a conference in 1990.[6] Over the next several years, a soda machine and a coffee pot were also internet-connected.[7]

Nowadays, with IoT, the applications are endless. They include home controllers and security systems, optimizing equipment use and inventory in factories, fleet management in trucking, accessories such as watches, and household appliances such as refrigerators and ovens. Using sensors, diagnostic systems, and communication with a network, these common devices can interact with the world around them and store data that is not necessarily human-entered.

Some of these applications will be discussed in detail below.

How are IoT and Telematics connected?

Simply put, telematics is the idea behind information and data in IoT being processed and stored. Imagine a highly intelligent computer embedded in the device that is able to report nearly every detail of its usage and store it either locally or on a remote database that may be accessed at a later time. It is not difficult to conceptualize how much data can be collected on an individual's usage of said device.

This answers the question of where we can find the data or information. The next question though, is how can we use it?

Using Telematics Data in Litigation

How can data gathered through every day devices be useful in litigation? In one word: evidence. We anticipate that the next evolution in evidence will come in the form of telematics – data collected from involved devices and metadata analyzing the same admitted as evidence to aid in findings of fact.

As new forms of evidence have emerged through the years, the law was forced to evolve alongside them. In 1967, the Supreme Court of Canada in *Creemer and Cormier* settled, for the first time, the admissibility of photographs as evidence. The court stated that the admissibility depends on three factors: (1) accuracy in truly representing the facts, (2) their fairness and absence of any intention to mislead, and (3) their verification on oath by a person capable of doing so.

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[5] Vivek Singhania, "The Internet of Things: An Overview Understanding the Issues and Challenges of a More Connected World" (2015) *ACADEMIA*, online: < ISOC-IoT-Overview-20151014_0-with-cover-page-v2.pdf (d1wqtxts1xzle7.cloudfront.net)>.

[6] 16 "The Internet Toaster" Living Internet, (7 January 2000) online: <http://www.livinginternet.com/i/ia_myths_toast.htm>

[7] "The "Only" Coke Machine on the Internet" Carnegie Mellon University Computer Science Department, (6 September 2015), online: <https://www.cs.cmu.edu/~coke/history_long.txt 1>;
"The Trojan Room Coffee Pot." (May 1995), online: <http://www.cl.cam.ac.uk/coffee/qsf/coffee.html>.

With the emergence of video footage, the court in *Maloney* stated that the *Creemer* principles apply in the determination of their admission as well.

Any claim asserting that telematics evidence will follow the same considerations of admissibility would be mere speculation; however, what can be said with certainty is that telematics evidence represents to the courts the same notion photograph and video evidence did at their time: a new form of evidence that can ascertain the facts of the case.

To clarify further what exactly are the facts that can be established through telematics, let us consider a few examples.

Telematics and Vehicles

Using telematics as a method of monitoring vehicles is becoming widespread; however, it began and is still most commonly used for fleet management in trucking companies.

There are several components that are used in a telematics device of a truck: on-board diagnostics (OBD), GPS receivers, engine interface, input/output interface, sim card, accelerometer, and a variety of other sensors.[8] Simply put, the sensors, receivers and interfaces retrieve data generated by the usage of the vehicle and send them to the cloud or originating database for storage.

Such data include location, speed, idling time, harsh acceleration or braking, fuel consumption, battery voltage and other engine data, and any other potential vehicle faults.[9]

Imagine a case where a truck was run off the road as a result of the trucker losing control. Any claim brought in this situation would be met with many uncertainties, including whether the loss of control was due to the trucker's negligence or a malfunction of the truck.

Now imagine the same case, but where met with the aforementioned uncertainties, the truck driver has access to telematics data from the truck. Counsel would be able to use this information in court to show evidence of vehicle faults that may remove the trucker from the scope of liability. At the very least, even where the trucker is found guilty of negligence, any vehicle fault proven would be useful in apportionment of damages.

As one might expect, this is a double-edged sword – the data could also prove to be adverse to the trucker's interests. They may show that the trucker was speeding at the time, or that there was not an attempt at braking in a reasonable time frame.

Either way, what is undisputed is that the data would illuminate facts that may otherwise be impossible to ascertain accurately.

[8] "What is telematics" (25 March 2021), online: <What is telematics? | Geotab>.
[9] *Ibid*.

Telematics and Home Security

An example that may perhaps be more familiar to most is the use of telematics in home security systems.

Wireless alarm systems installed in a home can communicate with monitoring stations providing data from, amongst other things, door sensors, motion detectors, glass break sensors, monitored smoke and fire detectors, smart doorbells, and smart door locks.[10]

Such data include times at which any of the sensors or detectors are triggered, entry and exit data, and even potential CCTV video footage where cameras are present.

This information would be useful in litigation to pinpoint the exact time and potential causes of incidents. Imagine an insurance claim made pursuant to a home being burnt down. Even before the matter reaches litigation, but especially then, the telematics information can be used to ascertain when and how the fire was initiated.

Telematics and Smart Watches

Another source of telematics data are smart watches. This is a particularly interesting source, as it is likely that the individual will have the watch on their person consistently – leading to accurate and representative long-term data.

A common example that may be able to elucidate the type of data they are able to retrieve would be Apple Watches. Apple Watches are able to collect a variety of data including but not limited to location, heart rate, blood oxygen levels, irregular heart rhythms, and number of steps taken in a day.[11]

All of this information would be useful in litigation by way of assessing prior health conditions when it is in issue. As mentioned, this would be consistent, long-term data that is otherwise unattainable unless the individual is hospitalized.

Telematics and Refrigerators

An example that may not be as consequential in litigation but portrays truly the extent of IoT's reach into our lives is refrigerators.

Smart refrigerators are not a new concept; but how smart can they possibly get? Today, your refrigerator can send notifications to your phone if the door has been left open. It can also keep record

[10] Ravi Kishore Kodali, "IoT based smart security and home automation system" (2016) *IEEE Explorer*, DOI: < 10.1109/CCAA.2016.7813916>; "Canadian Security Professionals" (2021), online: <Canadian Security Professionals (cspalarms.ca)>.

[11] Taylor AG, "Operating the Apple Watch" (2015) Apress, Berkeley, CA. https://doi.org/10.1007/978-1-4842-1281-3_3;"Apple Watch" (2021), online: <Watch - Apple (CA)>.

of the temperatures inside and allows you to adjust it using your phone. You can also tell the refrigerator to make ice without ever being near it.[12]

All of this is possible through the refrigerator's ability to be connected to the internet. This further allows it to collect information regarding its usage and store it in online databases.

Telematics Tell All

As made clear by these examples, there is a plethora of different sources and kinds of information that can be ascertained by way of telematics. In a way, the title of this paper is quite representative of the message: telematics tell all. They tell you all the small details and information that would otherwise be uncertain, and you can in turn use them to bring material facts to the attention of the court. However, they can certainly be beneficial in more ways than just as evidence at trial.

The focus on material facts at the pleading stage is integral to the structure of modern civil procedure. Through their pleadings, parties in a lawsuit are required to delineate contested matters for the purpose of bringing to a finer point the issues that must be decided at trial. The presence of telematic data that can reveal certain facts with a high degree of certainty decreases the chances of material facts being contested. As such, telematics can be used to strengthen one's pleadings.

For the same reasons, they can also be used in negotiation and mediations. Where there is little in way of contested facts, there will be fewer disagreements and it will be easier for parties to find common ground on key issues of focus.

Telematics data can also speed up the discovery process by delivering many material facts that would otherwise require substantial document production, reports, and involvement of third parties to ascertain.

Overall, the potential usefulness of telematics data and their future in the legal field cannot be overstated. No matter the step in the litigation cycle, it is important to understand what data may be available and their potential significance to the lawsuit. Understanding the new technology and sources of information is the first step to efficiency in your future litigation.

[12] Aurel-Dorian Floarea, "Smart refrigerator: A Next generation refrigerator connected to the IoT" (2016) *IEEE Explorer*, DOI: <10.1109/ECAI.2016.7861170>.