

Telematics Trendline

Following the Growth of Automotive Telematics
By Derek Kaufman, C3 Network, Inc.

Telematics Trendline is a series of monthly articles by Derek Kaufman, C3 Network, Inc., designed to inform AAIA members about the trends in telematics applications for both the retail automotive and commercial trucking industries. For the full October article, or for more of the series, visit <http://www.aftermarket.org/Publications/Telematics-Trendline.aspx>.

This month:

- **Mainstreaming Motorcycles**
- **Li-Fi**

We have written extensively on telematics applications for cars and trucks, but this month we think it is time to bring motorcycles into the telematics spotlight. And speaking of lights, you might be interested to learn about the latest advances in the use of LED lighting for transmitting digital communications. Yes, you read that correctly.

Mainstreaming Motorcycles

We talk about the use of telematics devices to increase safety, and no sector of transportation is more safety conscious than the motorcycle community. Bikes are the ultimate statement in transportation freedom (except, maybe, for the jet-pack but that's another column) but their riders are also vulnerable simply because the mass ratio of car or truck to bike is not in their favor. Enter telematics as one step toward safer café racers.



After multiple studies showed that motorcycle fatalities represented upwards of 18% of the highway deaths in the European Community, the SafeRider Project was formed in January 2008 to implement advanced driver assistance systems (ADAS) and in-vehicle information systems (IVIS) for motorcycles in Europe. Using telematics devices including GPS, accelerometers and inclinometers, Saferider is offering bikers speed alerts, curve speed warnings, navigation, route planning, intersection information, weather and road conditions and the same eCall services available to four wheelers across Europe.

A check of the British Motorcycle Federation homepage shows the BMF openly supporting the addition of telematics devices for cycles and many OEMs are now packaging telematics gear in their products.

The folks at Xact Technology must own motorcycles. They have adapted their telematics suite of products specifically for motorcycle applications and now offer a portal for cyclists to track stolen bikes and instantly network with people and authorities in case of an accident. The small size of their sending unit makes inconspicuous location on the bike easy and effective. <http://www.xacttrax.com/>



XactTrax
PORTABLE GPS TRACKING DEVICE



You won't be surprised to know that BMW is leading the way for motorcycle telematics in much the same manner as they do in their cars.

They have focused their BMW Motorrad program at cycle safety since the 1970's, developing advances such as road bike ABS, daylight running lamps, tire pressure sensing, dynamic traction control and the electronically adjustable chassis, which neutralizes load states to increase ride balance and braking safety.

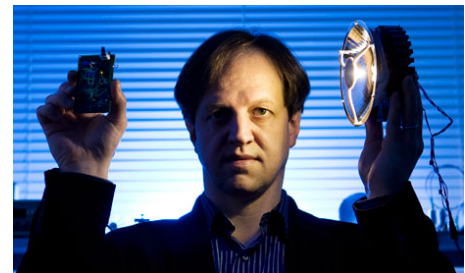
Now Motorrad takes the next logical safety step utilizing telematics. It is a natural for BMW to adapt their BMW Assist package for their bikes. That adds eCall and Automatic Collision Notification (CAN). But they are also working on a whole new level of safety with a camera that monitors the environment around the bike to provide information on speed limits, road sign recognition, road object advanced warning and an ingenious use of both headlamp and marker LEDs that will flash in case of a pending collision to give the bike a wider silhouette on the roadway.

And finally, there is the ConnectedRide program. Here BMW is adding vehicle-to-vehicle (V2V) and machine-to-machine (M2M) technology to increase the level of advanced warning of changing conditions for cyclists. It might be the notification of a changing road surface condition or the timing of traffic lamps to provide more gradual braking for bikers. It could be the left-turn assistant, which measures the location and movement of vehicles in an intersection to inform the bike rider of increased collision risk. Whatever the combination of telematics and technology is, it is clear that BMW is once again pushing the envelope and increasing safety for its customers. <http://www.bmwmotorcycles.com>

Li-Fi

You know Wi-Fi. Now think about Li-Fi. We marvel at these types of discoveries.

Professor Harald Haas of Jacobs University in Germany is developing a way to use LED light to transmit data.



The LED is a semi-conductor device that can be switched on and off very quickly. Professor Haas manipulates that switching speed using orthogonal frequency division multiplexing (OFDM) to obtain data transmission speeds of 100 megabits per second. Your broadband today is probably in the 10-megabit range while your LAN might reach 50-MPS speeds. And of course, LED lighting is everywhere and growing in usage.

Rather than describing more about OFDM we suggest watching a recent TED conference video to see Professor Haas make a strong case for his idea. <http://tinyurl.com/3sqao3n>

You can learn more about his technology by attending a public presentation on November 15, 2011 at the Apex European Hotel in Edinburgh Scotland. <http://www.see.ed.ac.uk/wordpress/hxh/>

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