IoT Drives Business Opportunities for Intelligent Transportation

The concept of intelligent transportation has been around for a long time but it was not until the emergence of the Internet of Things (IoT) that it could become a reality. IoT combines automation with cloud computing, WiFi, RFID and telephony to enable smart and intelligent applications, bringing with it a new driving force as well as enormous business opportunities.

By Ninelu Tu and pictures from Advantech
An interview with Van Lin, Manager of Advantech Industrial Mobile Computing
Every morning, truck drivers turn on their in-vehicle systems and follow the onscreen instructions to their destinations. Through instant reports and advice for road conditions, truck drivers can avoid any traffic jams ahead to deliver goods quickly and efficiently. These devices can also remind a driver that they have to do routine checks that day and send information to the depot about which goods have been delivered. Due to the linkages between devices, sensors, WiFi and telephony, drivers can not only fully control their vehicles but also fleet managers can manage and maintain them more easily. In fact, it was the increasing number of vehicles on our roads that resulted in the demand for intelligent transportation, and it was arrival of the IoT that brought it all together and pushed it to the next level. If current market trends continue, the RFID industry will prove to be a boon for business opportunities for IoT applications. As a result of this, many vendors have been actively engaged in the development of products and services in these relevant fields.

**IoT Completes the Intelligent Transportation**

The idea of intelligent transportation had already been around for a while but went no further until such things as the wireless infrastructure and RFID technology reached a critical mass, whereupon transportation applications such as one’s mobile phone, could enable drivers to directly view real-time highway traffic information. Such technology had already been available ten years ago, but wide scale application only started recently. It was not until the combination of automation, and telecommunication technologies received wide scale uptake and popularity, that eventually drove such applications further.

As a result of those maturing technologies, the emergence of IoT has also indirectly influenced intelligent transportation. Based on the concept of object-to-object communication, the practical issues to be solved were how to link all the vehicles and their devices through the network? Furthermore, how to create more diversification and added value became one of the key drivers in the development of intelligent transportation.

With regard to the relationship between intelligent transportation and IoT, the manager of Advantech Mobile Computing and In-Vehicle Computing Group, Van Lin pointed out that, “Advantech has been dedicated to Automotive-related applications for a long time, the In-vehicle platform has already been widely adopted in the management of commercial vehicles and logistics. The basic concept of IoT originally existed in the management of vehicle fleets and in warehouse logistics.

And now, Advantech with its premier market position and extensive product offering is engaged in carrying forward this idea”.

In terms of products, Van said, “Advantech can provide critical system equipment for a complete turnkey solution. For example, through the Controller Area Network (CAN) protocol, Advantech’s solution can get vehicle information such as speed, engine revs and fuel, and also connect to the Tire Pressure Monitoring System (TPMS) or other monitoring systems for even greater feedback. Through Advantech’s in-vehicle computer, TREK-550 or TREK-743, with its built-in wireless communication features like GPRS, CDMA and HSDPA, vehicle data can be transmitted directly to the control center to be utilized by the intelligent traffic control system infrastructure.

**Integrating DLoG Resources Focusing on 4 Fields**

In order to gain valuable new experience and enhance device features, Advantech acquired a German company, DLoG in 2010. With a new brand name, Advantech-DLoG, it focuses on four major areas including Intralogistic, Heavy Duty, Stationary Applications, and Fleet Management.

Van stated that the reason Advantech chose a commercial and specialist vehicles business was that their business model was driven by a notion of “must have”, not the “nice to have” sentiment of the consumer market.

For instance with telematics, a fleet control center can fully control a vehicle’s status and location which helps prevent unexpected situations. In terms of a commercial fleet of 600 cars, through telematics, a company could save at least two million dollars a year.

Advantech also benefited from the application experiences of a high-end and exclusive market, such as in the case of farm vehicles. Through automated scheduling programs, Advantech has gained expertise from this field which will help Advantech to develop more suitable applications for future specific telematics markets.

For general drivers, Van said that, “right now, there is no strong attraction to add advanced functions in cars except for entertainment systems. However, when the IoT grows and matures, systems will interact more effectively and benefit all drivers, and they will need telematics support for reliable data delivery, intelligent information, and real-time processing.” Telematics and the concept of IoT both emphasize data transparency, meaning, status information can rapidly intercommunicate between different devices and platforms to enhance administration efficiency, convenience and safety. As the public gets to know more about the IoT and what it really means for us all, more diverse in-vehicle systems will be applied.”

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