

The New Telematics Business

Heralded as the next big revenue booster for automotive majors, OEMs and commercial vehicles, telematics is the latest enabler behind a new generation of 'intelligent' vehicles. To maximise profit potential, Phil Dane of IBM Telematics Solutions highlights the need for a new 'value net' business model to create a 'must have' market for these on-board devices.

Telematics – a cross between telecommunications and information technology - is a rapidly evolving industry that offers unique opportunities within the automotive field. Enabling new types of on-board, location-based voice and data communication tools, it allows access to intelligent information, tailored to where drivers are and to what they are doing.

Offering enhanced security, navigation and convenience to mobile consumers, vehicle telematics can also benefit automotive manufacturers by delivering 'real-time' data on how vehicles are performing. It also paves the way for location-sensitive information that can be exploited by private and commercial users as well as third parties.

Unlocking Potential

In a recent report Frost and Sullivan estimates the European commercial vehicle telematics industry alone will grow from 169.5m Euro in 2001 to 4.7 billion Euro by 2009, representing 5.4 million mobile-device enabled vehicles.

Once in place, this technology will create a new layer of customer services that could open massive new revenue streams for the industry. However, to achieve its full potential, vehicle telematics requires a solid approach, one that makes it a 'must-have' rather than a 'should-have'.

Until now, the technology has been developed on a 'piece meal' basis driven by a few engineers and developers, often in their own time. To allow it to blossom into 'sellable' commercial solutions, it needs to be pushed up the automotive boardroom agenda. The industry needs to drive its own development rather than waiting for spin-downs from other sectors. It needs to migrate rapidly from a 'silo' and proprietary approach to unify, evolve and exploit its own telematics standards and open platforms.

Vehicle telematics has the ability to transform the in-vehicle experience and open the door to new associated and profitable services. Imagine new levels of emergency response to collision or breakdown backed up by instant vehicle location determination and remote diagnostics. Improved theft avoidance, prevention and detection. Better driving and route planning using real-time

traffic and congestion alerts integrated with route guidance information. And a whole new approach to in-car entertainment, such as music, games and movies on demand combined with driver and passenger personalised news, sports and weather information.

Today's Technology

All of the above are possible with technology that exists today.

This includes:

- *RFID, Radio Frequency ID tags*
Ideal for short-range transmission applications including production floor process and parts tracking, yard management, tollbooths, and vehicle-identification.
- *DSRC, Dedicated Short-Range Communications*
Enhanced RF methodology for both vehicle-to-enterprise, and vehicle-to-vehicle uses. Vehicle-to-vehicle information sharing pilots are currently underway for traffic monitoring, hazard identification, and other public network applications.
- *Wi-Fi, or the 802.11(b) standard*
A new RF technology suitable for a wider area than infrared or Bluetooth currently around 100 metres. Suitable for the download of information to or from a vehicle, from a parked, or non-mobile location, such as a petrol station or garage.
- *GPS, Global Positioning Systems*
Uses satellite technology to identify a vehicle's location and can accurately pinpoint a vehicle's position and speed in real-time. Mobile technology is then used to relay this information to a base unit such as a transport depot, vehicle base or control centre.
- *Mobile or digital cellular technology*
Normally used as the carrier for GOS and similar information. Digital GSM and TDMA offer potential to carry other non-voice information such as in-car entertainment and vehicle diagnostics. SMS text messaging can also be used for traffic alerts on in-car phones or displays, instantly notifying drivers to traffic hazards ahead.
- *Third generation, or 3G mobile networks*
Where available, will offer faster data speeds to make mobile in-car entertainment and real-time information services viable.
- *In-service bay diagnostics*
Computer chips in a car are connected by a cable to a service centre or read by infrared. Availability of 3G networks could allow real-time diagnostics and even software reprogramming of chips on the move.

Most telematics technology is still expensive, however, and there is a need for lower cost and easier to action applications. Business models and back-end systems also need to be redesigned to handle, integrate and utilise this new information.

Today's telematics systems are primarily based on call centre technology, with very little or no intelligence in the vehicle. In order to reduce cost, these systems are moving rapidly to automated, voice response systems.

The next generation of intelligent telematics will follow with devices exchanging content and complex data transactions with service providers.

Building A New Business Model

In addition to evolving the technology, there are issues that must be addressed to make telematics solutions fit a new demographic of customer, as well as addressing 'value' as seen from interested third parties.

Initial models have tended to centre on either subscription revenues or warranty savings.

However, experience has shown that this market is highly sensitive to cost. Call centre solutions are simply too expensive to operate and recover the cost from subscription revenue alone.

In addition, while OEMs can achieve significant cost savings on warranty servicing, by identifying failures earlier in the warranty cycle, these are rarely accurately estimated. While the potential here is undoubtedly high, its unlocking involves a significant amount of automotive industry (and individual company) reengineering, to take advantage of the information from such systems. While Telematics provides more of the current warranty information faster, and perhaps with greater accuracy, it does not change the underlying analysis capabilities of the OEM to take advantage of that information.

The real potential for value creation/participation lies in the revenue present in the 'value net' surrounding telematics.

Today's customers want more versatile in-car solutions which provide access to services from a wide variety of devices now essential to their lifestyle - cell phones, personal digital assistants, office desktops, smart phones, and home gateways.

This is where the real value for Telematics lies. Automotive companies and OEMs development strategies must build the basic infrastructure and encourage services to develop alongside that. They must also develop a new business model around value nets. This involves significant partnering, and a new approach to complex business relationships.

An Open Approach

For industry and third party application development to thrive, it requires interoperable architectures, built upon open standards technology.

The Automotive Multimedia Interface Collaboration group (AMI-C) has been working for several years to develop such standards. It has now joined forces with the Open Services Gateway initiative (OSGi) to develop a standard for in-vehicle architecture for telematics. Similarly, The FMS-Standard (Fleet Management Systems Standard), newly arising in Europe, purports to 'standardise' third-party access to vehicle information.

The development of such standards is critical to the success of the budding partnership-based business models now emerging. Devices must also be ubiquitous and take advantage of enhanced diagnostic/prognostic potential and the revenues associated with these partnerships.

In addition, new value will be built into Customer Relationship Management (CRM) when combined with the information possible from Vehicle Relationship Management (VRM) systems enabled through the introduction of telematics.

By adopting an open standard approach, a whole new breed of vehicle related services could become widely available. For example pay as you drive insurance; 'My Private Radio' – a list of music tracks, chosen by the driver or passengers from a comprehensive list stored on a server and delivered to the cars entertainment system in real time; Information Portfolios and location based services, including electronic commerce, informational, and public uses.

There is also potential government use of this infrastructure – e.g. for electronic tolls and emission compliance testing.

Manufacturers can also offer extended after-sales services. Vehicle maintenance and reprogramming of on-board chips could even be carried out remotely, saving the owner the cost of a trip to the service centre for the owner and the OEM or service centre the cost of actually replacing the chip.

Turning technology into profit

As we move into an era of open standards and interoperable devices, the new model that is emerging is a co-operative, partnership based one where value is created through the products and services that can be offered through open standards based architecture and appliances.

This model has the advantage of offering high revenues and cost-savings while lowering the costs, thus increasing profitability. Because development costs are shared or spread across the value net, they are proportionately lower while revenue increase proportionately for all parties as a common platform becomes ubiquitous.

Of course, when developing new initiatives, the basic business model must not be ignored but it is essential to realise that telematics is not simply another product feature of the vehicle. Indeed it is not only a new business model but also a new business which is evolving.

Many players will benefit from the value nets around telematics, and OEMs stand to make the first move by participating in the creation of systems, based upon open standards, and fostering the creation of value nets surrounding telematics initiatives.

- end -