Telematics systems offering “usage based insurance” enable insurers to create much broader relationships with policyholders that go beyond traditional insurance coverage. Could telematics eventually become an essential part of a motor insurer’s business model? Jon Tindall looks at recent renewed interest in the development of these products.
In the last 18 months there has been a flurry of activity in the US and the UK toward developing telematics based motor insurance products as insurers seek to gain technological advantage in pricing and marketing these products. The term “telematics” broadly refers to a system that integrates both telecommunication and informatics technologies to provide access to real-time information for analysis. In the context of motor insurance it refers to the live capture and transmission of information relating to the driving behaviour of an insured. “Usage Based Insurance” (UBI) is the term that is often used to describe the incorporation of this technology in the design of insurance products where the premiums paid vary depending on how often and how well the insured drives.

BACKGROUND

A telematics system comprises a series of hardware and software components that integrate to transfer information on the use of a vehicle to other stakeholders. Basically, this consists of a device that communicates with the vehicle’s on-board systems, collates this information and then transmits it via GPS to an insurance company or other organisation. The Progressive Corporation was the first major insurance company to implement a usage based insurance product back in 1998, and it was from the demand for these products that they then became involved in the development of telematics systems, including patenting some of the first technology that underpins the infrastructure. These techniques were developed initially to support the increase in demand for UBI products and in particular “pay-per-kilometre” style insurance cover that grew significantly in popularity at the beginning of this century. Since the initial phase of implementation of the technology in the early 2000s, there has been a revival of interest in insurance telematics, specifically in the development of products where premiums are related to how you drive and not just how far you drive, sometimes referred to as Pay-How-You-Drive (PHYD) policies.

These products are a natural extension of the usage based insurance products initially developed during the early days of insurance telematics. Rather than the telematics devices being used merely to record the distance that an insured travels, they are now being used to transmit detailed information to the insurance company about the driving behaviour of the insured, including the time of day, location, speed and acceleration.

IMPLEMENTATION ISSUES

Wider acceptance of insurance telematics products has progressed relatively slowly over the last decade. There is a range of implementation issues that have put a substantial drag on the development of telematics insurance, particularly in a domestic context. Some of these include:

Cost of the device: incorporating a telematics system has previously meant the installation of a physical device into the insured’s vehicle, which comes as a large upfront cost to be borne by either the insurer or the policyholder. Telematics techniques developed in recent years “piggy-back” off the computer and GPS systems that are generally incorporated into most modern cars. In this situation, the telematics infrastructure is reduced to particular software installations only, so the cost associated with telematics based products is reduced significantly.

Privacy issues: one of the central objections to the technology relates to privacy concerns from the view of the insured and the fear that information collected by the insurance company could be misplaced, mishandled or that it could be used for purposes that are detrimental to the policyholder’s interests.

Selection issues: clearly, safe drivers would be more incentivised to select a telematics based insurance product, so the “pool” of risks that are underwritten would be of better quality and the insurer would have limited ability to differentiate poor drivers. This generally means that policyholders would receive a discount for selecting a telematics based product, as the fact they are selecting this type of insurance product means that, on average, they are a better risk than the population of drivers on standard policies.

Bandwidth constraints: telematics devices require significant bandwidth to be able to transmit “live” information about a vehicle’s usage. Previously, insurance telematics systems had been restricted to providing snapshots of vehicle details approximately every thirty seconds, which is too large a gap to be able to effectively determine the driver’s individual characteristics.

Several of the implementation issues outlined above have been minimised significantly with the progression towards incorporating the telematics software into the already in-built computers installed in most new vehicles. In fact, manufacturers such as Ford and Toyota have pre-built telematics systems as standard in many of the current models of cars available to the public.

OTHER BENEFITS OF TELEMATICS-BASED INSURANCE

There are a variety of other benefits that the integration of telematics technology into insurance contracts can provide for both the insurer and the insured, including:

- **Anti-theft.** The telematics based insurance system allows live tracking of vehicles providing a deterrent to thieves, as well as assisting in the recovery of stolen vehicles.
- **Integrated roadside assistance.** Live monitoring of a vehicle’s vital statistics allows roadside assistance to be automatically requested and, if required, a detailed diagnostic of the vehicle’s condition can be provided to the mechanic prior to arrival at the scene. In an Australian context, this type of functionality could prove particularly attractive to the various motor club insurers where they operate associated roadside assistance programs.

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Claims handling and fraud prevention.
Telematics systems provide important information that can be used to assist in claims handling processes. They provide data on location and other key variables that potentially can clarify details about a theft or collision incident and assist in the determination of fault, therefore maximising recoveries from motor insurance claims.

Marketing.
Detailed information about an individual’s vehicle usage can provide insights for marketing strategies and targeted campaigns.

In summary, insurance telematics technology has a range of secondary applications with the potential for an insurance company to become a lot more “personal” in its relationship with its customers across a range of services. This has led to insurers extending into areas that go beyond typical insurance coverage, including weather and traffic reports, maintenance management and road safety education.

THE STATE OF THE TELEMATICS MARKET
The insurance telematics industry, and UBI products in particular, were initially developed in the US at the end of the last century, with the UK quickly adopting the technology and progressing to establish itself as a leader in the insurance telematics industry alongside the US.

UK TELEMATICS MARKET
In the UK, there have been significant advancements in the telematics insurance industry in the past few years. Many of the major motor insurers in the UK offer UBI products of various designs. A precise market share is difficult to determine but it is estimated that approximately five per cent of the UK’s motor insurance market is written under telematics based product designs.

In a report from February this year, Tiger.co.uk, an online broker of motor insurance, estimated that 14 per cent of all policies sold through their website in the previous 12 months were based on telematics technology, compared with ten per cent during the year prior to that.

In December this year, a European ban on charging different premiums for motor insurance policies based on the insured’s sex will be implemented – a ruling that is commonly known as the “gender directive”. This directive means that motor insurers now need to develop alternative methods to differentiate the relative riskiness of drivers, and insurance telematics systems are seen as one way of overcoming this, particularly for younger drivers.

Alongside the product development activities, there has been a renewed interest in these techniques at major professional conferences and indeed, there is now a dedicated seminar addressing the needs of insurance telematics held annually in both Europe and the US. In May this year, Insurance Telematics – Europe 2012 held in London, hosted a wide range of telematics stakeholders including technology providers, insurance companies, underwriters, actuaries and other groups interested in the growing industry.

Insurance companies represented among the attendees included: AVIVA, Co-operative Insurance, Insurethebox, RBS Insurance, Towergate, Zurich, and Zenith Insurance.

One of the features of the latest phase of insurance telematics products is the need for insurers to jointly develop the infrastructure with car manufacturers and technology companies in order to bring an integrated product to market. Earlier this year, the satellite navigation company TomTom and the insurance broker Motaquote joined forces to launch Fair Pay Insurance, a product that rewards “good” drivers with lower premiums.

“A study of 10,000 policyholders aged 18-25 who had telematics based insurance products found that on average they had a twenty per cent lower claim frequency and a thirty per cent lower average claim size than policyholders without an integrated telematics device.”
The premium savings that “good” drivers can receive under an insurance telematics product vary but several providers advertise that discounts of up to thirty per cent can be achieved. Co-operative Insurance undertook a study of 10,000 policyholders aged 18-25 who had telematics based insurance products and found that on average they had a twenty per cent lower claim frequency and a thirty per cent lower average claim size than policyholders without an integrated telematics device.

While progress may have been relatively slow over the past five years, in the last 18 months there has been a substantial increase in the premiums written on telematics based insurance products and, importantly, most participants expect this interest to grow significantly in the coming years.

Gocompare.com, a leading aggregator site in the UK, surveyed over 2,000 British drivers in March this year and 57 per cent of the respondents indicated that they expected to switch to a usage based insurance product in the next five years.

**US TELEMATICS MARKET**

The US was the first insurance market to develop telematics based products. Progressive, the US-based insurance company, had been a pioneer in the development of usage based insurance products. Their latest telematics product launched in late 2010, Snapshot, had more than 900,000 policyholders as at June this year, up from approximately 250,000 a year earlier. This product extends further on earlier products that developed out of the initial pay-per-distance policies introduced in the late 1990s.

There is a wide range of other insurers in the US who have developed UBI products since those early days, including State Farm, who announced in June this year that they had joined forces with Ford and their SYNC technology to release a “Drive Safe & Save” program in which policyholders can lower their premiums based on how they drive. Similarly, in February this year, AA launched a telematics product named “Drivesafe” in which users pay for insurance based on their driving characteristics. In fact, ABI Research, based in New York, has estimated that sales of telematics based insurance products will reach 89 million by 2017.

As in the UK, there has been significant interest at relevant professional events in the US, including presentations at actuarial forums such as the CAS Ratemaking and Product Management seminar. An insurance telematics conference is planned for Chicago (Insurance Telematics US 2012) in September this year. Speakers and attendees at this event include AAA, Allstate, Chartis, the Hartford, Nationwide, Progressive, State Farm, General Motors, US Department of Transportation, and Zurich, as well as a wide range of technology solution providers such as Oracle, Sprint Nextel, TomTom and SAS Institute.

**TELEMATICS “DOWN UNDER”**

In Australia and New Zealand, the development of telematics based insurance products has been much slower. We are subject to largely similar limitations as have been experienced in the US and the UK but in addition to this, we have a substantially less competitive motor insurance market, where there is reduced incentive to implement innovations that competitors don’t yet have.

Notwithstanding this, there has been some recent activity in the Australian market. Several...
Telematics service providers (for example, Gridtraq and Intelematics) have established themselves in anticipation of an increase in demand for UBI products. These organisations provide assistance to insurance companies who want to establish telematics based infrastructure, assisting with the development, analytics, product design and market research required to bring a UBI product to market.

Real Insurance has made the greatest in-roads into the UBI market by an insurer in Australia through its PAYD motor insurance policy introduced in 2008. This product is, however, based on a “trust” system and does not rely on telematics technology to determine the level of vehicle use. This was due to Real’s desire to avoid piracy as well as cost concerns surrounding the telematics device. Other parties interested domestically are the motor clubs that are becoming popular among younger, city drivers. CharterDrive is an example of an Australian organisation incorporating telematics into their pay-per-usage based business model.

Access to this technology will become less inhibitive in the coming years in Australia: in fact Toyota recently announced that from next year, several lines of vehicles will come enabled with Toyota’s telematics system, Entune.

WHERE TO FROM HERE?

It is clear that during the past few years there has been a renewed interest in the development of UBI products in both the US and the UK. Activity has been significantly less in Australia although there has been notable movement with some of the niche players in the motor insurance market. Some of the major impediments to the expansion of telematics based insurance policies have been largely overcome by advancements in car technology, meaning that the products have become less obtrusive for the policyholder. In addition, telematics systems enable the insurer to create a much broader relationship with the policyholder that goes beyond traditional insurance coverage and that one day might be considered an essential part of a motor insurer’s business model.

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