September 10, 2021

Telematics in Insurance: From Hard to Install Boxes to Transformed Customer Engagement

For years, insurers and customers could benefit from telematics in motor insurance for personalized insurance rates and new products like pay-as-you-drive. We are, however, approaching a new era in telematics where mobile technology, IoT, apps, data platforms, and partnerships are transforming telematics into a new channel in insurance customers' lives.

Looking at my driving behavior as claimed by the Motion-S telematics application (well, I always thought of me a bit different than the App does😊), I realize how far telematics technology and adoption have come over the last ten years. Back then, it was mainly about the costly telematics devices that were difficult to install and were used for simple premium discounts. Today, we are talking about data platforms, gamification, loyalty programs, claims, and more.

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Reminiscing about the early days of telematics

Telematics in motor insurance is not a new thing. For more than a decade, insurers have offered drivers the ability to share their driving data for certain benefits, such as reduced premiums and various discounts.

When I joined **Adacta** in 2015, two large cardboard boxes in the corner of the office I just moved in, caught my attention. It turned out they were full of telematics hardware. The insurance team was keen on the idea that telematics is the way to go in Insurance; thus, Adacta worked with partners to develop a complete solution consisting of hardware, means of data transfer, and rating software that would make use of the data within insurance processes. The idea mostly revolved around personalized pricing, known as the pay-as-you-drive (PAYD) model.

And all this was back in 2010!

Even 10 years ago, Adacta saw the potential of telematics. However, it turned out that adoption was slower than anticipated, particularly in the B2C segment. In B2B, the adoption is much higher as telematics delivers clear business value regarding Insurance, fleet and route optimization, and reduced fuel cost.

Today, telematics remains an essential part of the shift we see in the market that is moving towards more personalized and engaging offerings. **Mordor Intelligence estimates** that in Europe, the telematics market is growing at a compound annual growth rate of 28.2 percent, with the number of active insurance telematics policies in Europe estimated to reach 44.5 million by 2024. While this trend is still unevenly distributed – with Italy and UK making up the bulk of the market – insurers are increasingly focused on making telematics a part of their operations.

This vision is still very much alive in our products and services.

WHITEPAPER
Data-Driven Insurance:
the Telematics Use Case

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The value and benefits of telematics initiatives

Usage-based Insurance (UBI) which uses IoT data to adjust insurance premiums to reflect driving behaviour in pay-as-you-drive or pay-how-you-drive scenarios is among the more common use cases for telematics. In addition, there are numerous other benefits delivered by telematics initiatives:

- **Self-selection:** Safer drivers are more likely to enroll in telematics programs, which means fewer risk claims.

- **Risk mitigation:** Drivers are more likely to drive more safely when using telematics solutions that can be reviewed by their insurer, resulting in reduced risk claims.

- **Improved claim management:** Data from the moment of accident is extremely valuable as it allows insurers to challenge repair costs and fraudulent claims.

- **More accurate pricing:** Driver risk profiles help insurers set their premiums more accurately to deliver a better customer experience and drive customer loyalty and retention.

- **Improved customer experience:** This approach brings insurers closer to their customers, opening up new opportunities to sell additional services.

Overall, usage-based Insurance remains the most straightforward use case. It allows insurers to adjust insurance premiums based on the number of kilometers driven (Pay-As-You-Drive), based on the actual routes (Pay-Where-You-Drive) or based on actual driver behavior (Pay-How-You-Drive), measuring parameters such as acceleration, braking, speed and cornering.

Telematics roll-out turned out to be a complex project

Our adventure in telematics is also illustrative of the broader insurance industry story – a great, but difficult idea to implement. For years, insurers had been struggling to find a telematics use case that would be simple to implement and commercially viable.

Telematics initiatives in most countries stalled or never got off the ground. While some countries were more successful – in Italy around 20 percent of all personal motor insurance policies are usage-based – most faced a slow uptake.

Looking at telematics from the data perspective, there are three groups of challenges: data collection, data analysis, and modeling, storage, and last but not least, integration and real-time usage of models and data within the insurance value chain (sales, underwriting, claims).

To bring the vision of UBI to life, insurance carriers needed a way to collect the data that was not provided by cars, so telematics required standalone hardware. These so-called black boxes record different data points, such as speed, driving behaviour, braking, and many others.

However, insurers were dealing with a piece of hardware that someone had to pay for, and it needed to be installed and the interface was not standardized between cars, it had to be powered and the data had to be transmitted, ... and on and on.

Getting these devices into cars was an enormous challenge and an often-insurmountable barrier to adoption. And this is just data collection. After the data is collected, you hit the

issues of transferring data, processing and cleaning data and integrating it with your existing insurance systems.

The transformational power of mobile

Smartphone and mobile tech have disrupted many industries and telematics is no exception. The smartphone brought the power of computers and data transfer into our pockets and cars, which boosted the potential for telematics adoption. It was natural that tech vendors and insurers soon started eyeing the possibility of using this ubiquitous device for gathering and using telematics data.

While it used to be a matter of debate whether mobile phones were even suitable for collecting telematics data, the improvements in sensor technology have ensured that phones now provide very accurate data. A phone cannot compete with native vehicle sensors that provide advanced and exotic data such as the *"incline of the bike engine"*. It can, however, tick many of the boxes of a consumer-level telematics solution – a GPS, acceleration sensors, and data connection.

Smartphones can provide good enough data for most common use-cases (driving behaviour, mileage), making them a far more attractive option for a telematics solutions provider (such as an insurance company) than a traditional black box.

What we are seeing today, is the consumerization of telematics technology. An expensive technology has advanced far enough to become a low-cost regular feature in most consumers' lives. Insurers now have a tested business model of UBI to rely on and drive customer adoption.

What about car manufacturers and telematics?

We need to keep in mind that telematics is an area where insurers are not operating in a vacuum but face potential competition (or partnership potential) - the carmakers.

The reality is that most car manufacturers already collect large volumes of telematics data, including the "exotic" ones. This data is just not (yet) publicly available. But it could be; it fits nicely into our earlier **"insurance ecosystems"** discussion.

While most of the gathered data is probably used to advance self-driving capabilities and

other internal development purposes, there are signals in the markets to use the data to expand into other industries.

> As we all know, **Tesla** is testing insurance offerings based on the data reported from their cars (the Internet lost it when ARK published the San Marino valuation, which included Tesla Insurance predictions that some felt were wildly over-optimistic).

But it is not only Tesla. GM is planning to use the data it collects through its subsidiary OnStar Connected Services. Both represent a threat to insurance incumbents and rely on massive amounts of data they already have on potential customers.

We can also imagine a future in which the telematics data from vehicles is shared in a standard manner with insurers and other ecosystem partners. It is not likely that all manufacturers are looking to diversify into an industry, such as insurance, due to the high barriers to entry.

The telematics data from vehicles shared in a standard manner could pave the way to a crucial element in digital transformation: ecosystems that connect carmakers providing car and driver behavior data, data and AI platforms that process and augment data, rating platforms to estimate risk, and insurers that offer innovative products, underwrite the risk and drive customer engagement.

Picture: *Insurance telematics value chain*
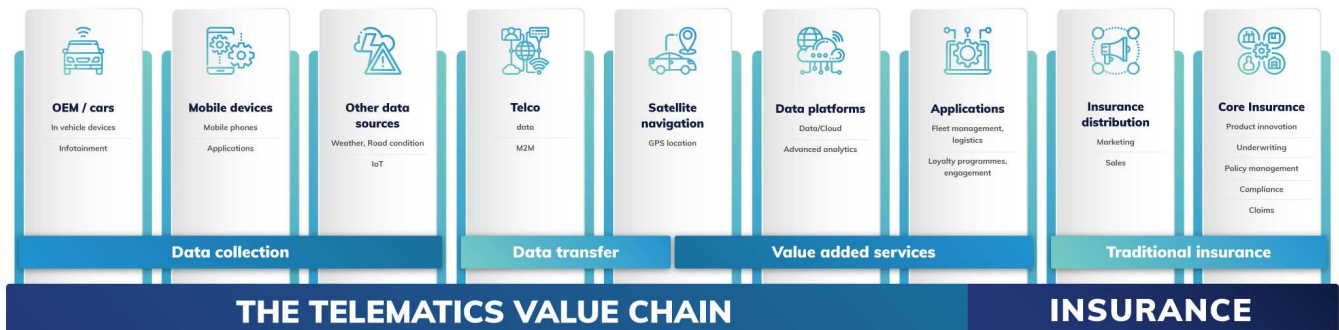
Dynamic product tariff - a real-world use case for telematics

The development of technology, the evolution of business models, and a growing field of competitors (or partners) mean that we are in the early days of data-based insurance models. While we believe this paradigm is poised to become the norm in the future, we still have a way to go.

With the issue of technology for collecting data solved to a large extent, the real challenge will be how to use this data to create business value. The market winners won't be insurers who collect the most data; it will be those that put that data to best use.

Let's take a look at a mature technology that's already on the market and adopted by customers.

> To deliver telematics-based solutions, we have **partnered with Motion-S**, a powerful mobility analytics platform provider. Jointly, we developed a complete solution for driving-behaviour-based motor insurance pricing. Motion-S provides trip recording and data analysis, while **AdInsure** provides product configuration in the back-end and makes use of data on the front-end of insurance processes (the UW/Sales process).

Here are some of the features on the Motion-S side:

- **Trip recorder.** The smartphone mobile application collects drivers' data securely and captures information about speed, location, acceleration, and other factors.

- **Analyse exposure to risk.** The solution can evaluate the severity and frequency of events that impact insurance scores: exceeding the speed limit, loss of control, aggressive driving, road layout, sudden braking, etc.

- **Augmented location data.** Risk evaluation is not just about raw location data. This data needs to be augmented with contextual data from maps and weather sources. The trip is broken down into sections and all possible information layers are extracted - general trip information, road environment, road topology, traffic information, road signage, weather information, etc.

All this information allows insurers to build a risk profile of their clients and their trips. After all, it is not just driver behavior that impacts safety but also other factors, such as traffic, weather conditions, and other events. And capturing data is not the only challenge to

realizing the benefits of telematics: data needs to be processed, contextualized, and augmented before it can deliver actual value.

Embedding telematics into the insurance value chain

Once the data is augmented and prepared, it can be used to drive informed decisions ranging from premiums to risk assessment and claim approval. To do this, one needs a solution that integrates telematics into your insurance value chain. This is where an open and configurable solution for **Policy** and **Claims management**, such as AdInsure, plays a key role. With AdInsure it is easy to change the premium rules to use the data. It is easy to integrate and use the data when calculating the premium. It is also easy to reconfigure the claims process to use the additional data provided by the **Motion-S solution.**

- **Risk exposure analysis.** As mentioned above, trip data is put into the context of specific events to come up with driving style information and other data points.

- **Model pricing in AdInsure.** Driver behaviour data can then be applied to adjust and enhance existing products, such as Casco or windshield protection. An insurer might offer additional discounts or other benefits. Data can also be used to create and power new and innovative PAYD, PHYD or PWYD products.

- **Advanced Claim Management.** Telematics data provides deep insight into accident causes and context to improve claim management. Learning about the last moments before the accident is a powerful way to understand the causes and factors that led to a crash.

Conclusion

While an attractive option for insurers, **telematics** has turned out to be a surprisingly tricky nut to crack. After fits and starts, it has solved its most prominent challenge in smartphones that can act as data recorders in auto insurance. However, with this challenge mostly solved, insurers have to develop ways to integrate this new data source with their core insurance systems to transform pricing, create new products, and optimize claims.

Telematics for UBI in auto insurance is a sure sign of how hyper-personalized insurance will look in the future. Internet of Things will increasingly provide more data that can be used to adjust every transaction between a customer and their insurer to result in a truly personal policy reflecting the true levels of risk.

We call this "UBI++", an approach that reaches beyond simply gathering data about driver behavior. This approach helps insurers create new experiences and products that combine more accurate pricing with risk reduction approaches, new communication channels, and even transforms customer engagement. And well, it positions insurers properly within the future ecosystems-based business world.

Meet the trends and future
of insurance telematics

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