

# Pay As You Drive

A telematics-based car insurance model

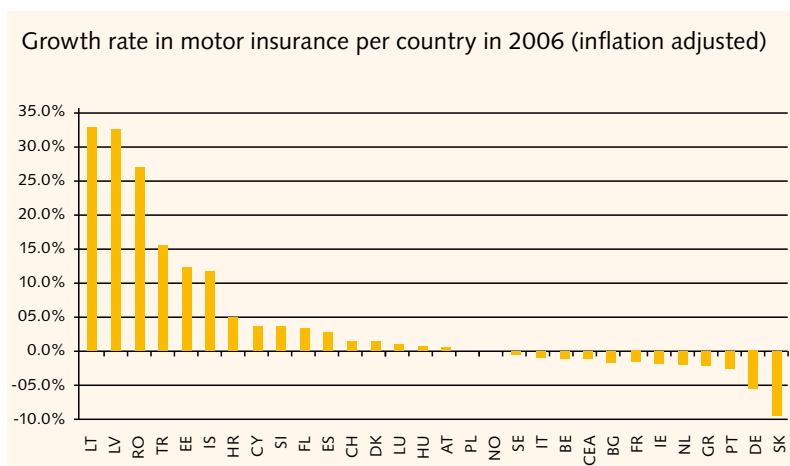


# Truly Competitive Car Insurance Market

Car insurance concepts like “Pay As You Drive” calculate insurance premiums on the basis of individual driving habits. Such individual insurance pricing is a strategic option for insurance companies to stand out from the competition. In most European countries auto insurance companies are suffering from declining profits and stagnating sales.

## Stagnating sales

The European auto insurance industry has to cope with numerous challenges. The growth rate in vehicle ownership is likely to slow down due to the demographic changes over the next decades. For example, a study carried out by Shell, Germany, predicts that the number of cars will increase from about 45 million in 2008 to 49 million in 2030, i.e. a growth rate of just 0.3 per cent. Additionally, customer loyalty is declining across the insurance market in Europe as customers tend to switch providers more often.



Source: CEA Annual report 2006-2007

## Decreasing revenues

The income of the car insurance companies is falling in Europe. The European insurance and reinsurance federation CEA (Comité Européen des Assurances) stated in its annual report 2006-2007 that the car insurance industry in Europe recorded a negative growth rate of -1 per cent (inflation adjusted) in 2006 for the second consecutive year, despite increasing numbers of insured vehicles. According to CEA this decline is mainly due to the high level of competition between insurers. For example, in the UK total net written premiums decreased by 1.2 per cent. In Germany, car insurers noticed a decline in premiums of 3.6 per cent compared with 2005.

The East-European market with its still strongly growing vehicle ownership rates and increasing premium income could compensate for the negative trend. However, insurers in Central and Western Europe need to come up with new ideas to stand out from the competition.

# Pay As You Drive: Increasing customer loyalty, reducing costs

## Customer communication and cross selling

Pay As You Drive provides new forms of customer communication. Car insurances have so far been low involvement products. The customers usually sign their insurance contract and pay their annual bills. They only have to contact the insurance company on unpleasant occasions, i.e. in the event of damage. However, Pay As You Drive can be invoiced several times a year or even on a monthly basis. This allows the insurer to contact the customers on a regular basis and to inform them of reduced premiums due to safe driving, for example. PAYD also opens up new ways to develop customer loyalty programmes and to identify cross selling opportunities.

## Reducing costs

Insurance companies can better assess the risks for each customer and calculate realistic premiums by collecting data on the routes travelled and by evaluating the risk factors. Several pilot projects also showed that personalised car insurance rates motivate motorists to drive more carefully. Additionally, the number of damage reports and the loss expenses were reduced. Pay As You Drive enables insurers to electronically collect and process data, including automated billing.

## Additional services to attract new customers

Pay As You Drive is based on a telematics system which allows insurers to provide additional services and to win new customers. In North America for example, telematics and assistance services have generated a multi-billion dollar business. These services include:

- ▶ Automatic emergency call after an accident
- ▶ Fast roadside assistance
- ▶ Travel assistance
- ▶ Anti-theft devices
- ▶ Stolen vehicle tracking
- ▶ Electronic driver's logbook

**Pay As You Drive offers car insurers numerous advantages in today's difficult business and economic environment. Individual insurance pricing allows insurers to stand out from the competition, to increase customer loyalty, to reduce the combined ratio and to identify cross selling opportunities.**



# Advantages for insurance customers

**PAYD is an easy way for insurance consumers to directly influence their auto premiums. Low-risk drivers, who are currently overcharged, will particularly benefit from personalised insurance pricing.**

## Advantages for young and senior drivers

In particular two groups of consumers benefit from Pay As You Drive, i.e. the growing population of senior drivers on the one hand and young drivers who are the potential future customers on the other.

Normally, young drivers must pay much higher premiums than older people as they belong to the group of high-risk drivers. However, PAYD helps them to cut premiums by driving sensibly. The competition for this important target group is intense, but Pay As You Drive insurance concepts put insurers a step ahead of the competition.

Senior drivers can also benefit from individual auto premiums. Many pensioners are experienced drivers but they tend to drive less frequently and to avoid hazardous situations like rush-hour traffic. Pay As you Drive is therefore of particular interest to this growing target group.

Apart from offering great savings opportunities, Pay As You Drive has numerous additional advantages which other premium concepts do not offer. Customers regularly receive their invoices based on transparent and understandable data. Telematics systems also allow drivers to take advantage of emergency or breakdown calls, for example.



# The technical implementation

## Parameters for analysis

Drivers, who opt for PAYD, receive a telematics box that is fitted into the customer's vehicle. It records the GPS data transmitted during the trip. PTV software helps to analyse the data according to different parameters:

- ▶ Road kilometres actually travelled
- ▶ Types of roads (e. g. motorways / country and trunk roads / inner-city roads)
- ▶ Types of zones (e. g. city / country)
- ▶ Time categories with different risk factors (e. g. weekend / weekday / rush hour)
- ▶ Average speed, speeding

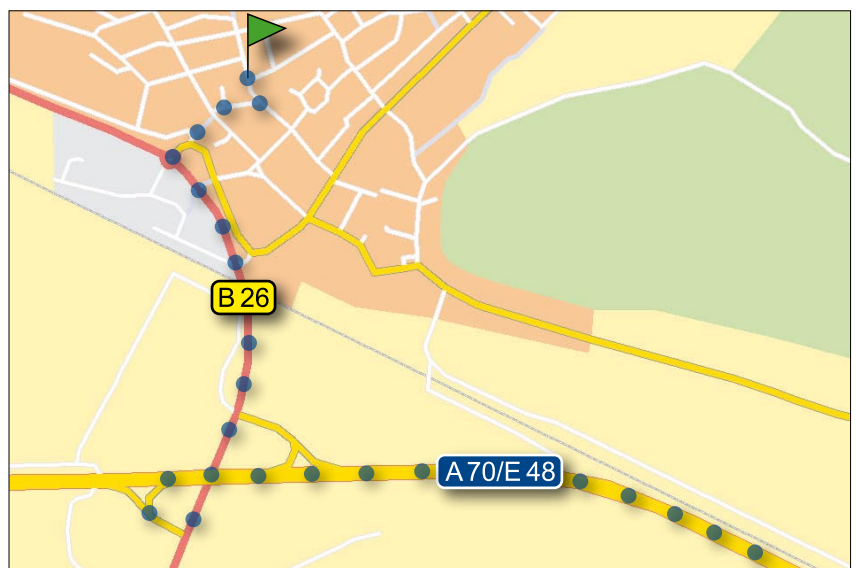
Satellite-based collection and evaluation of the driving habits are the basis for individual insurance pricing. PTV technology allows insurance companies to analyse the data at different levels of detail: from simple road kilometre counts to the evaluation of types of roads and time categories with different risk factors.

## Example: Analysis of zones

Zone-based analysis means that the GPS coordinates are allocated to pre-defined zones by matching them to the database. Zones could be for example inner-city / out of town / motorways. It is also possible to include time categories and speeds in the analysis.

## Example: Analysis of types of roads

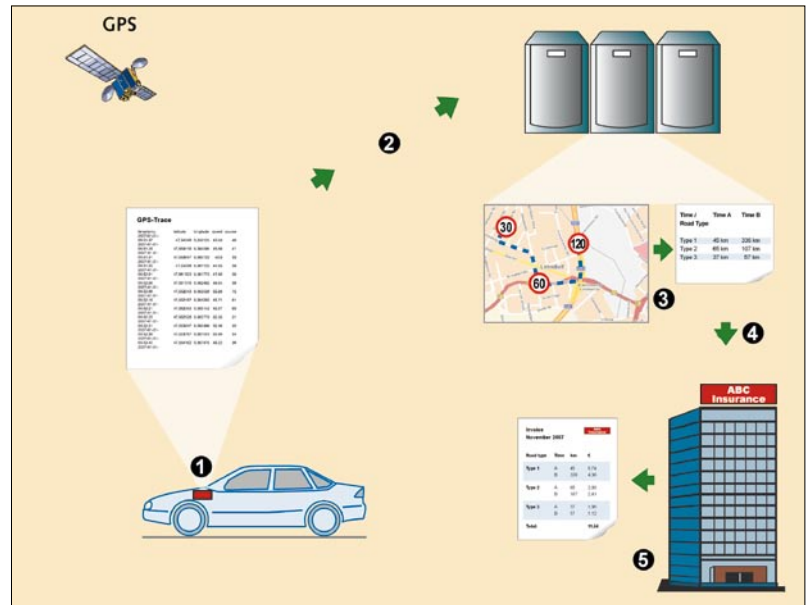
The types of roads are analysed by matching each GPS coordinate to the road network on a digital map. The software computes the road kilometres travelled for each type of road (e.g. inner-city / country and trunk roads / expressways and motorways). It is also possible to include time categories and speeds in the analysis.



# Analysis at a data centre or inside the vehicle

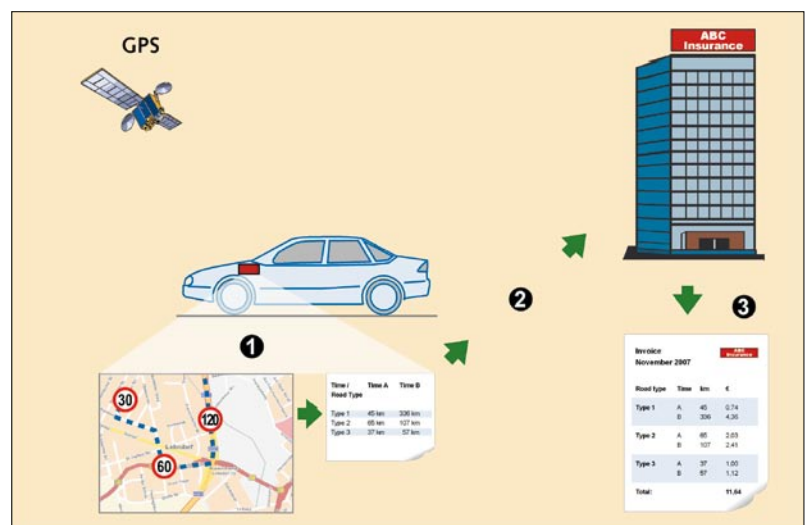
PTV provides insurance companies with a unique range of options. GPS data can be analysed both at a data centre and inside the vehicle by means of a telematics box.

Data evaluation at a data centre



A telematics box is fitted inside the car to collect the GPS data during the journey (1) and to send it to the data centre (2), where it is evaluated, using PTV software (3). All results are transmitted to the insurance company (4) which sends the insurance bill to the policyholder (5).

Evaluation inside the vehicle using the telematics box



A small telematics box fitted inside the car receives and evaluates GPS signals (1) during the trip. The telematics box regularly transmits the results to the insurance company (2) which sends the insurance bill to the policyholder. This scenario allows efficient data protection because the GPS tracking information remains in the box installed in the vehicle. The GPS data is deleted on a regular basis.

# About PTV

## PTV Planung Transport Verkehr AG

PTV AG provides software, consulting and research for travel, traffic and transportation planning in the B2B field. In the business fields Traffic, Mobility and Logistics the company secures the long-term future of mobility with new concepts and innovative technologies. Our privately-owned enterprise with headquarters in Karlsruhe was founded in 1979. With about 700 employees worldwide, PTV actively develops and deploys innovative transport information and optimisation systems.

The Mobility business field has specialized in innovative software solutions and map technologies for telematics applications. They support efficient claims management and services such as road and travel assistance or stolen vehicle tracking. PTV software is installed on tracking servers for automatic vehicle tracking and tracing. PTV's extensive experience in incremental map updating via mobile communication is second to none in the field. It helps to develop modern, satellite-based road toll systems. PTV Mobility's research department is involved in several international traffic telematics projects.

For more information about our wide range of products and services, visit [www.ptvag.com/mobility](http://www.ptvag.com/mobility).



## Pay as you Drive at a glance

- ▶ What are the competitive advantages of individual auto premiums?
- ▶ Rewarding safe driving – what are the advantages for drivers and insurers?
- ▶ How does satellite-based analysis of travelled routes function?
- ▶ Which parameters can be used for the analysis?



**Further questions? Feel free to contact us:**



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