

Introducing 'Pay How You Drive' (PHYD) Insurance

**Insurance that rewards
safe driving**

Jul 2016



**"Accidents are
someone's fault.
Don't let them
be yours"**

Gary Works Circle (Illinois Steel Company, 1916)

Drivers are now operating smarter cars.

With the rapid development of technology, automobiles and mobile devices are more connected than ever. Manufacturers are producing faster and more powerful vehicles which have the ability to take over certain driving behavior from humans.

This phenomenon is a key factor in the dramatic improvement in our daily lives especially when it comes to transportation, be it public or private. However, there are still 1.3M people dying from road accidents annually.

We are now faced with the question: Do motor insurers have a role to play in helping their customers reduce the risk of driving? How might insurers create products that proactively encourage and reward better driving behavior?

The fast-paced evolution in the motor industry has driven forward-thinking insurers to conceptualize Pay How You Drive (PHYD) Insurance, or Telematics. EY, with its usage based insurance team, is helping turn this concept into reality.

Nearly 1.3 million people die in road crashes each year, on average 3,287 deaths a day.

- ▶ An additional 20-50 million are injured or disabled.
- ▶ More than half of all road traffic deaths occur among young adults ages 15-44.
- ▶ Road traffic crashes rank as the 9th leading cause of death and account for 2.2% of all deaths globally.
- ▶ Road crashes are the leading cause of death among young people ages 15-29, and the second leading cause of death worldwide among young people ages 5-14.
- ▶ Each year nearly 400,000 people under 25 die on the world's roads, on average over 1,000 a day.
- ▶ Road crashes cost USD \$518 billion globally, costing individual countries from 1-2% of their annual GDP.
- ▶ Unless action is taken, road traffic injuries are predicted to become the fifth leading cause of death by 2030.

<http://asirt.org/initiatives/informing-road-users/road-safety-facts/road-crash-statistics>

Trends creating opportunities in Pay How You Drive Insurance

Continued growth of auto ownership across Asia

In 2015, 23.9 million new cars were registered in mainland China alone. With a total of 172 million car owners, China experiences a road fatality rate of 22 per 100,000 people, exceeding the global average of 18. With the “peak car” hypothesis not yet applicable to the majority of markets in Asia, these alarming fatality figures, with Thailand and Malaysia’s being 44 and 30 in every 100,000 respectively, show no signs of slowing down. As automobiles become more attainable to consumers in a burgeoning middle class, more cars are joining some of the world’s most dangerous roads.

With low car ownership penetration compared to most developed economies, we will continue to witness an influx of cars on the road in Asia, and thus an expected increase in car related accidents and fatalities.

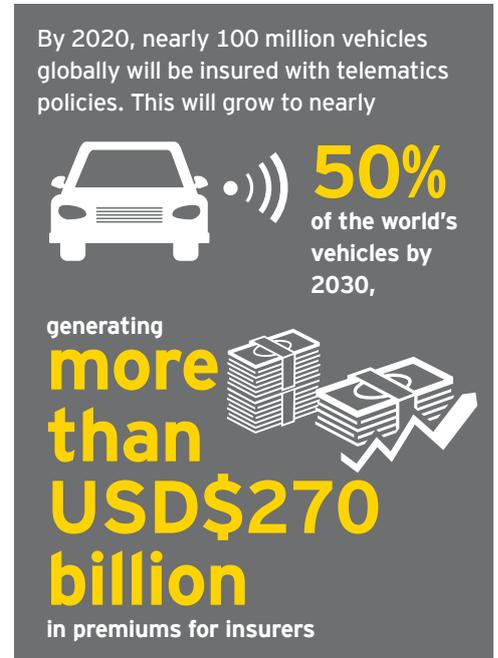
Customer expectations have developed

The global insurance industry is resurfacing from a combination of financial turmoil and economic uncertainty. In spite of this, the industry remains under intense pressure with significant challenges concerning the transparency of prices and services, the changes in regulations and distribution models, and the ever-present threat of new competitors. Above all, the change in consumer behavior and expectation is the most challenging to keep up with. The explosion of digital and social platforms mean new innovations from other sectors will directly influence the expectations of consumers - put simply, customers expect the kind of easy and transparent experience they have in other aspects of their daily lives from their insurer.

With insurers and policyholders rapidly embracing new technologies and looking for ways to reduce costs, “Pay How You Drive” insurance offerings, or Telematics, will expand across Asia over the next decade with innovative insurers leading the way. Not only does PHYD respond to the impending need for insurers to design differentiated, personalized products, but they also help build stronger, more frequent, engaging and meaningful relationships with customers, something our recent EY 2014 Global Consumer Insurance Survey confirmed customers were calling out for, all while improving underwriting and rating methodologies in what is a highly competitive and commoditized market.

Figure 1

Telematics and premium growth



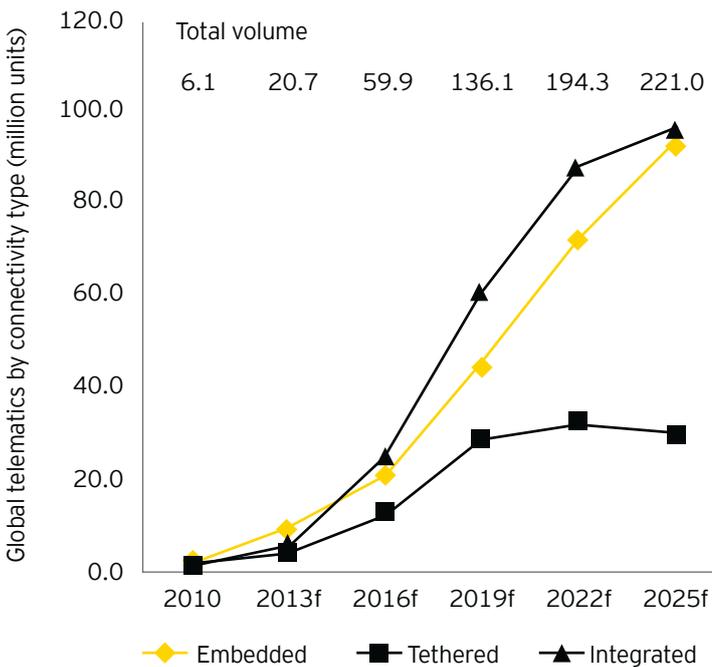
<http://en.apdnews.com/xin-hua/326057.html>

<https://asiancorrespondent.com/2014/02/study-thailand-roads-2nd-most-dangerous-in-the-world/>

Technology advancement and data availability

Telematics-based UBI growth is being propelled by technology advances, which continue to substantially improve the cost, convenience, and effectiveness of using telematics devices. It is through the use of telematics that insurers are able to collect driving data enabling them to monitor and connect a driver's individual risk with premium. Data has traditionally been one of insurance industry's greatest and more valuable assets. The ubiquity of wireless connectivity, the increasing sophistication of in-vehicle electronics and machine-to-machine (M2M) communication is presenting the auto insurance industry with a historic transformational challenge. Insurers are investing on their ability to collect, store, manage and analyze vast amounts of variable data to solve complex problems in order to remain competitive and profitable. Auto insurance is fast becoming a big data industry, with telematics-based UBI poised to potentially change the business of insurance as we know it.

Figure 3
The rise of technology enabling UBI



Source (for data): 2025 Every Car Connected: Forecasting the Growth and Opportunity study by SBD and GSMA published in 2012

Figure 2
Which markets will lead UBI?

The US will become the leading UBI market in the world.

In Europe, growth will be driven by Italy but the UK, Germany and France will see UBI subscriptions take off in the next 5 years. New major markets will emerge, including China and Russia.

http://www.naic.org/documents/cipr_study_150324_usage_based_insurance_and_vehicle_telematics_study_series.pdf

http://www.naic.org/cipr_topics/topic_usage_based_insurance.htm

PHYD Proposition

The Pay How You Drive (PHYD) Proposition

The Usage Based Insurance (UBI) concept was introduced into the personal motor insurance market over a decade ago. Instead of basing insurance premiums on a vehicle's make and model, the age of driver, their experience and history on the road, UBI assess premiums based upon time of usage, distance driven, driving behavior and places driven to.

There are currently 2 typical models for UBI: Pay As You Drive (PAYD) or Pay How You Drive (PHYD):

Pricing schemes

Pay How You Drive (PHYD) - insurance premium is calculated based on how the vehicle is driven

Pay As You Drive (PAYD) - insurance premium is calculated dynamically, typically according to the amount driven

PHYD is the more mature of the two offerings, contributing more detailed data to insurers and customers. It is also the recommendation that EY focuses on when rolling out UBI to the motor insurance market.

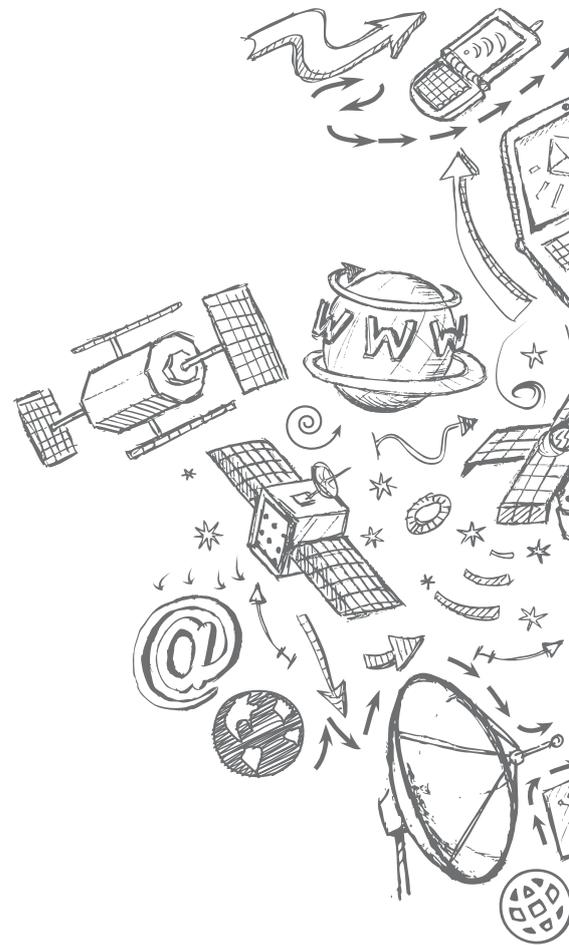
Currently, there are four distinct categories of UBI technology offerings available in the market:

Dongle: The insurer installs the device into the vehicle themselves

Black box: A professionally-installed black box is permanently affixed to the insured vehicle. This is considered to be one of the most secure and reliable offerings

Embedded: As of the end of 2013, there are 11 car manufacturers that provide embedded telematics equipment for vehicles. Early on, embedded telematics provided services such as remote diagnostics, navigation and infotainment services, now they can provide UBI services

Smartphones: Mobile telecommunication technology is the latest tool in telematics, with smartphones working as stand-alone devices or linked to vehicles' systems to transmit a variety of information to and from the car



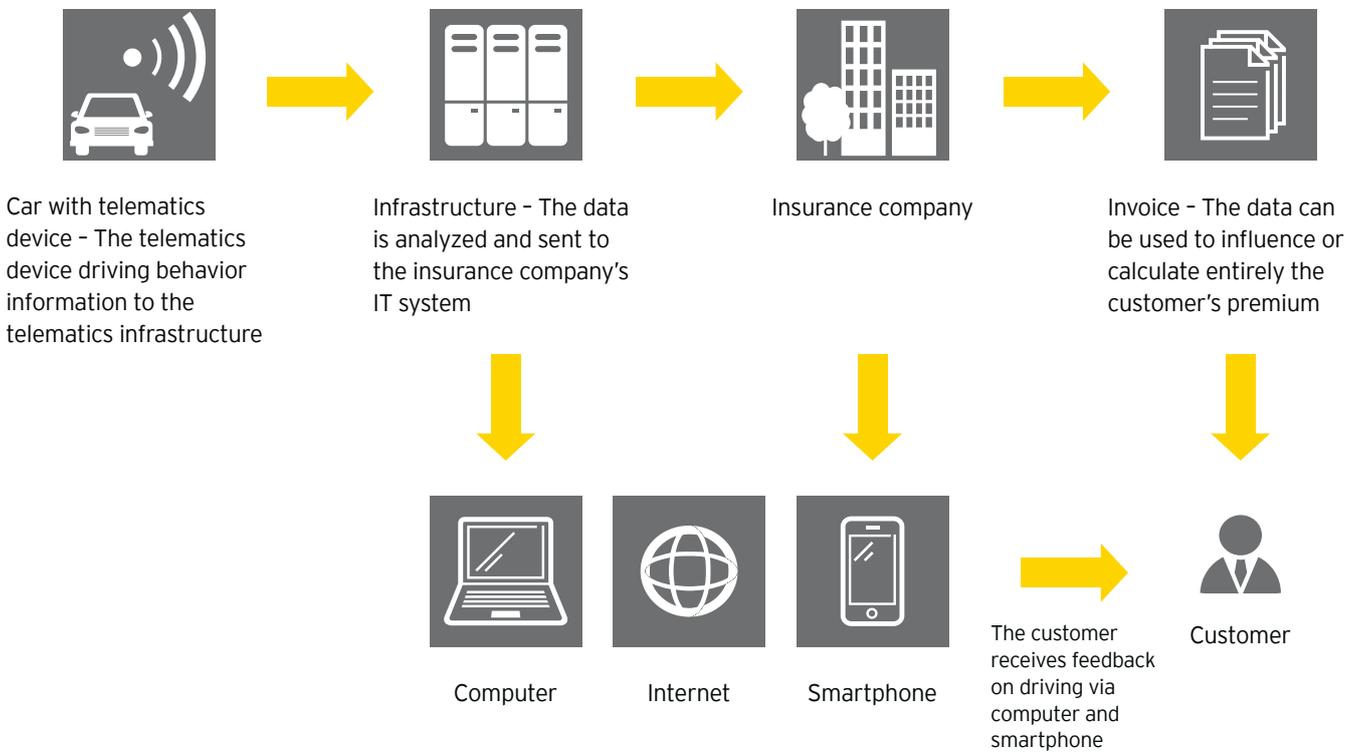
Sweeteners for customers

Cash back - Providing cash incentives to the policy holder upon reaching pre-determine goals/ratings

Premium discount - Policy holders will get a certain percentage off their agreed premium rate upon reaching pre-determine goals/ratings

Value-added services - Offering merchant discounts, car maintenance alerts, and smart home controls alongside the policy holder's PHYD product

How it works



PHYD for Fleet

Many organizations around the world, including in Canada, France, Japan and the U.S., have started using PHYD telematics to manage insurance costs for their fleets. This includes government and commercial fleet, public transportations, driving schools etc. They have proven that a significant improvement in combined loss ratios, customer acquisition, service costs and customer retention is possible. Potential usage includes:

Potential vehicle types:

- ▶ Commercial vehicles
- ▶ Pay per use vehicles (e.g. Delivery vans)
- ▶ Public mini-bus
- ▶ Taxis

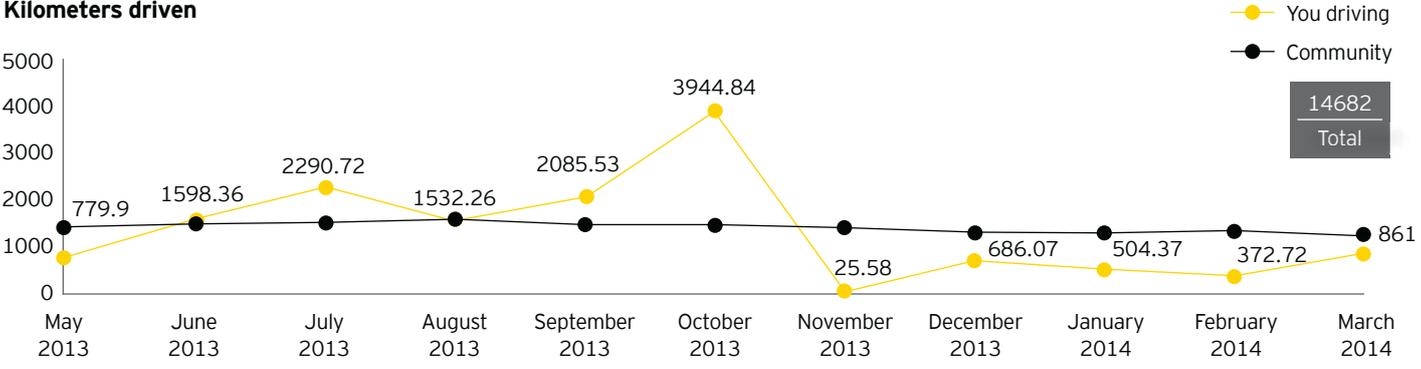
Usage:

- ▶ Track your fleet
- ▶ Monitor driving behavior
- ▶ Optimize fleet management
- ▶ Route planning
- ▶ Potentially reduce fleet costs

Pricing models can be made according to multiple assessment criteria, including distance, speed, and driving behavior.

Figure 4
Insurers can select pricing methodologies to suit their business

Kilometers driven



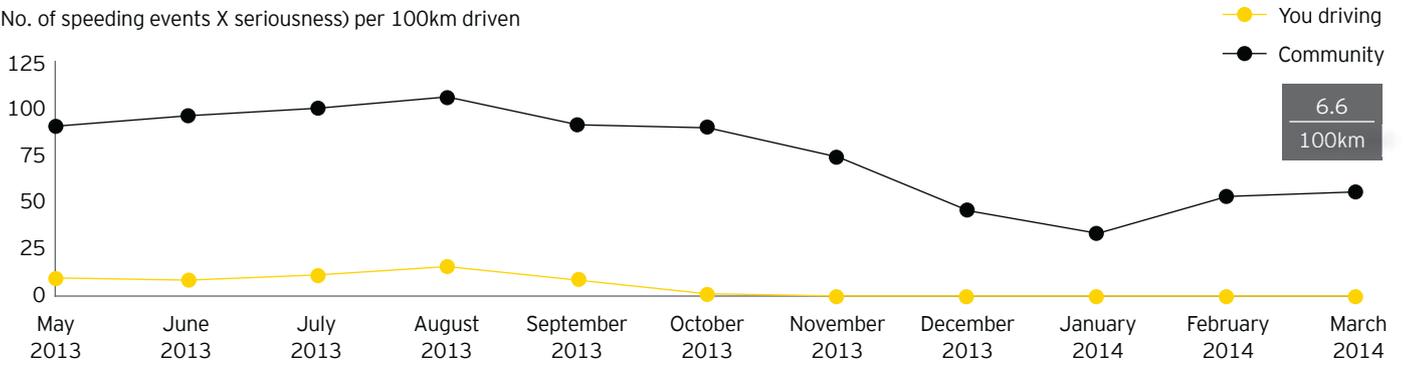
Members' average for this period: 15,555km

Key questions insurers ask:

What commercial operating models for PHYD exist today?

Speeding

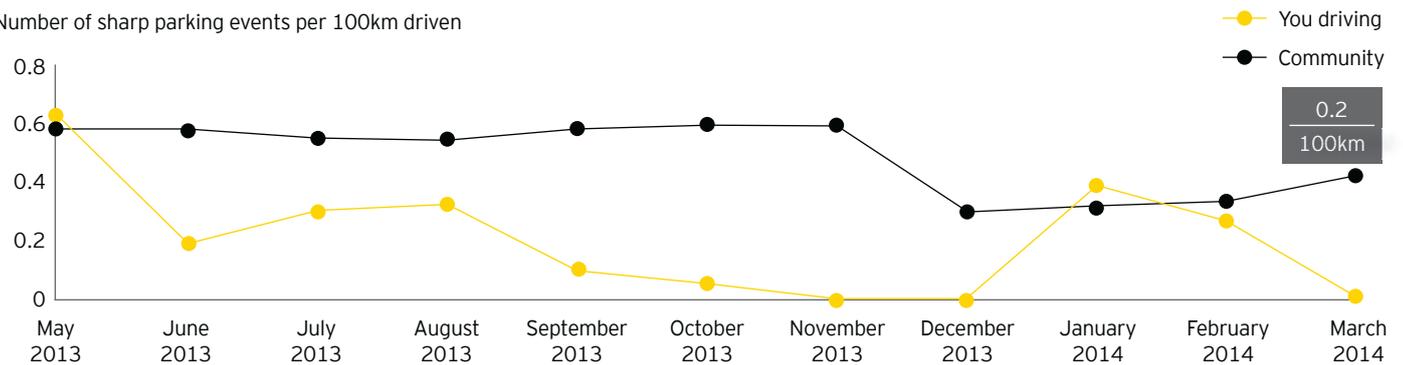
(No. of speeding events X seriousness) per 100km driven



Members' average for this period: 5.5 par 100km

Sharp parking

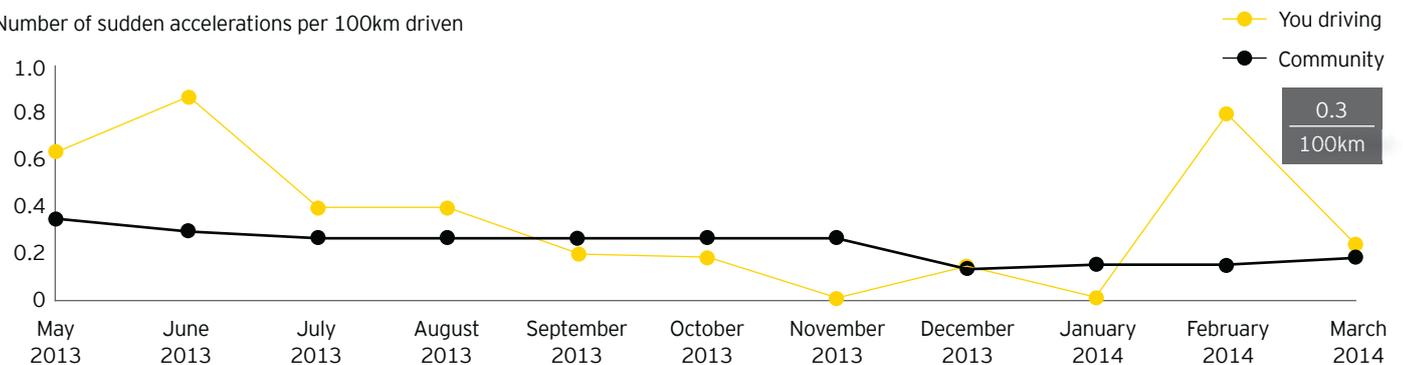
Number of sharp parking events per 100km driven



Members' average for this period: 0.5 par 100km

Sudden acceleration

Number of sudden accelerations per 100km driven



Members' average for this period: 0.2 par 100km

PHYD Benefits



Benefits to the customer

- ▶ Access to rewards such as premium discounts or access to partner benefits (e.g. garage membership, gas station, etc.)
- ▶ Demonstrate safe driving habits following an accident
- ▶ Enjoy value-added services, including:
 - ▶ Teen driver monitoring
 - ▶ Emergency services
 - ▶ Navigation/infotainment
 - ▶ Stolen vehicle recovery
 - ▶ Vehicle diagnostics



Benefits to the insurers

- ▶ Correct risk misclassifications
- ▶ Enhance pricing accuracy
- ▶ Attract favorable risks
- ▶ Retain profitable accounts
- ▶ Fight fraudulent claims
- ▶ Reduce claim costs
- ▶ Enable lower premiums
- ▶ Replace proxy variables with intuitive variables directly related to loss exposure
- ▶ Differentiate brand
- ▶ Market environmentally friendly programs



Benefits to society

- ▶ Reduce accident frequency and severity (e.g., via driver incentives and education)
- ▶ Reduce accident response time
- ▶ Track and recover stolen vehicles
- ▶ Establish fault to improve equity in settling claims
- ▶ Reduce driving, pollution, traffic congestion and energy consumption

Where to from here

EY is well-positioned to assist forward-thinking motor insurers to evaluate the PHYD / Telematics proposition for your market. Through a series of focused sprints (Figure below), we will work with you to:

- ▶ Assess strategic fit and identify appropriate path to value using a workshop-led approach
- ▶ Refine the prototype strategy selected and run experiments to prove the viability of this offerings
- ▶ Develop the customer value proposition, product and operating model requirements for delivery to market
- ▶ Assist deployment of the offerings with a minimum viable product, track benefits and create a closed feedback loop for offerings refinement

It is an exciting prospect to be a market leader through innovation - it is something our thought leaders are passionate about. With only a short window for first-mover advantage now is the time to act. Or as the saying goes, "disrupt or be disrupted".

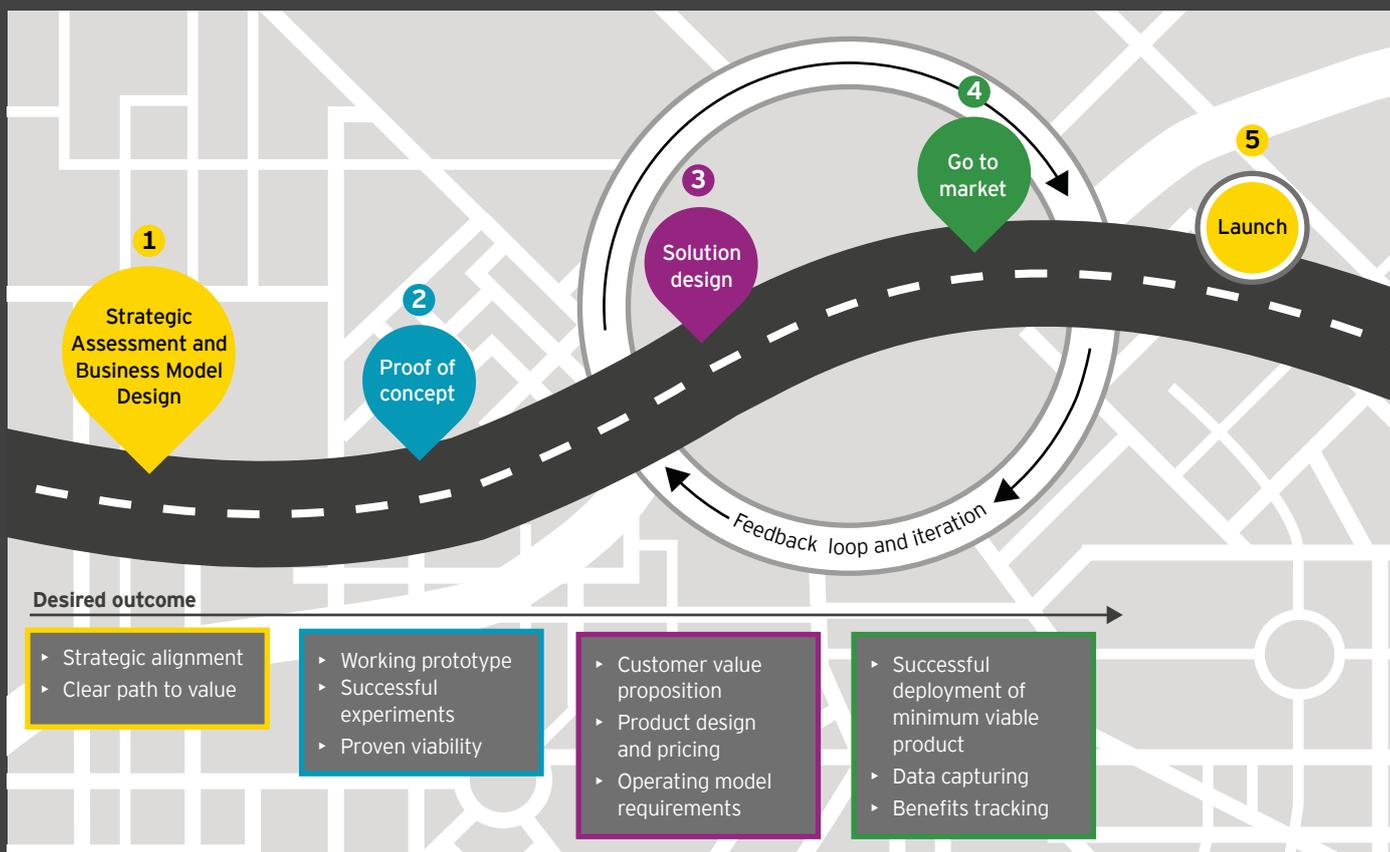
Contact us to discuss developing an innovative and scalable PHYD platform for your business

EY 2016 Sensor Data Survey

EY - Introducing 'Pay As You Live' (PAYL) Insurance

Figure 5

EY proposes an accelerated and collaborative approach to leverage the selected PHYD offerings to develop and launch a tailored offering for your market



Our PHYD and digital thought leaders

EY's global network of experienced insurance, technology, actuarial and customer strategy team are ready to help you take an end-to-end PHYD offering to market.



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Loon is equipped with knowledge in claims and integration services to enable technology - driven change

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