

# Digital ecosystems for insurers: Opportunities through the Internet of Things

The Internet of Things has entered customers' everyday lives around the globe and transformed business models across industries. This environment brings opportunities for insurers: to develop new products, open new distribution channels, and extend their role to include prediction, prevention, and assistance.

Simon Behm, Ulrike Deetjen, Sanjay Kaniyar, Nadine Methner, and Björn Münstermann

**Insurance Practice** January 2019



The Internet of Things (IoT) will radically change the world in the coming years, and networked devices will be a substantial part of that change. In 2010, people owned 12.5 billion networked devices; it is estimated that by 2025 that number will have climbed to more than 50 billion (Exhibit 1). People use such devices, many of which are equipped with sensors and automatic-activation functions, in practically all areas of their life, including for both work and leisure. It has long been possible to install them quickly and easily and to wear them anywhere on the body. These devices can transfer huge volumes of data to their providers or third parties—whether for real-time analysis or to automatically trigger reactions or services—and are already altering traditional business and operating models in multiple sectors.

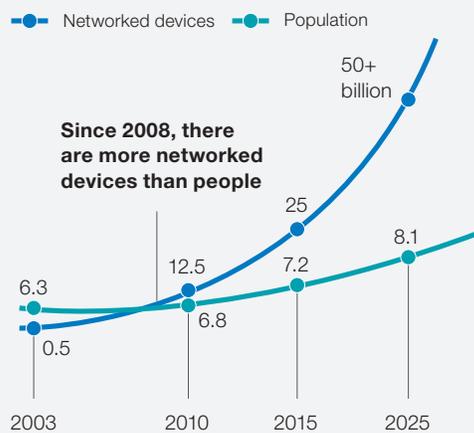
So far, insurers have mainly used IoT capabilities to aid interactions with customers and to accelerate and simplify underwriting and claims processing. Increasingly, however, new IoT-based service and business models are emerging that are highly attractive to insurers. In the context of these new business models, digital networking through the IoT could become a strategic component for insurers. For example, insurers could partner with companies to provide improved or new cross-industry products and services that harness IoT technologies and the new ecosystems, which are discussed further below (Exhibit 2).

IoT technologies enable insurance companies to determine risks more precisely. Auto insurers, for example, have historically relied on indirect indicators, such as the age, address, and creditworthiness of a driver, when setting premiums. Now, data on driver behavior and the use of a vehicle, such as how fast the vehicle is driven and how often it is driven at night, are available. Applications of such technology in countries where the market is already much more mature reveal that insurers can assess risk far more accurately this way.

Exhibit 1

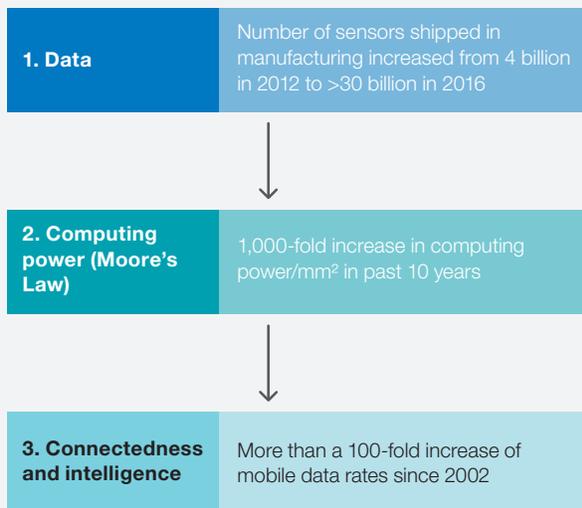
**Networked devices now outnumber people and are an important component of the IoT.**

**An increasing number of networked devices...**



Source: Markus Löffler, Christopher Mokwa, Björn Münstermann, and Anand Rao, "Partnerships, scale, and speed: The hallmarks of a successful IoT strategy," March 2017, McKinsey.com

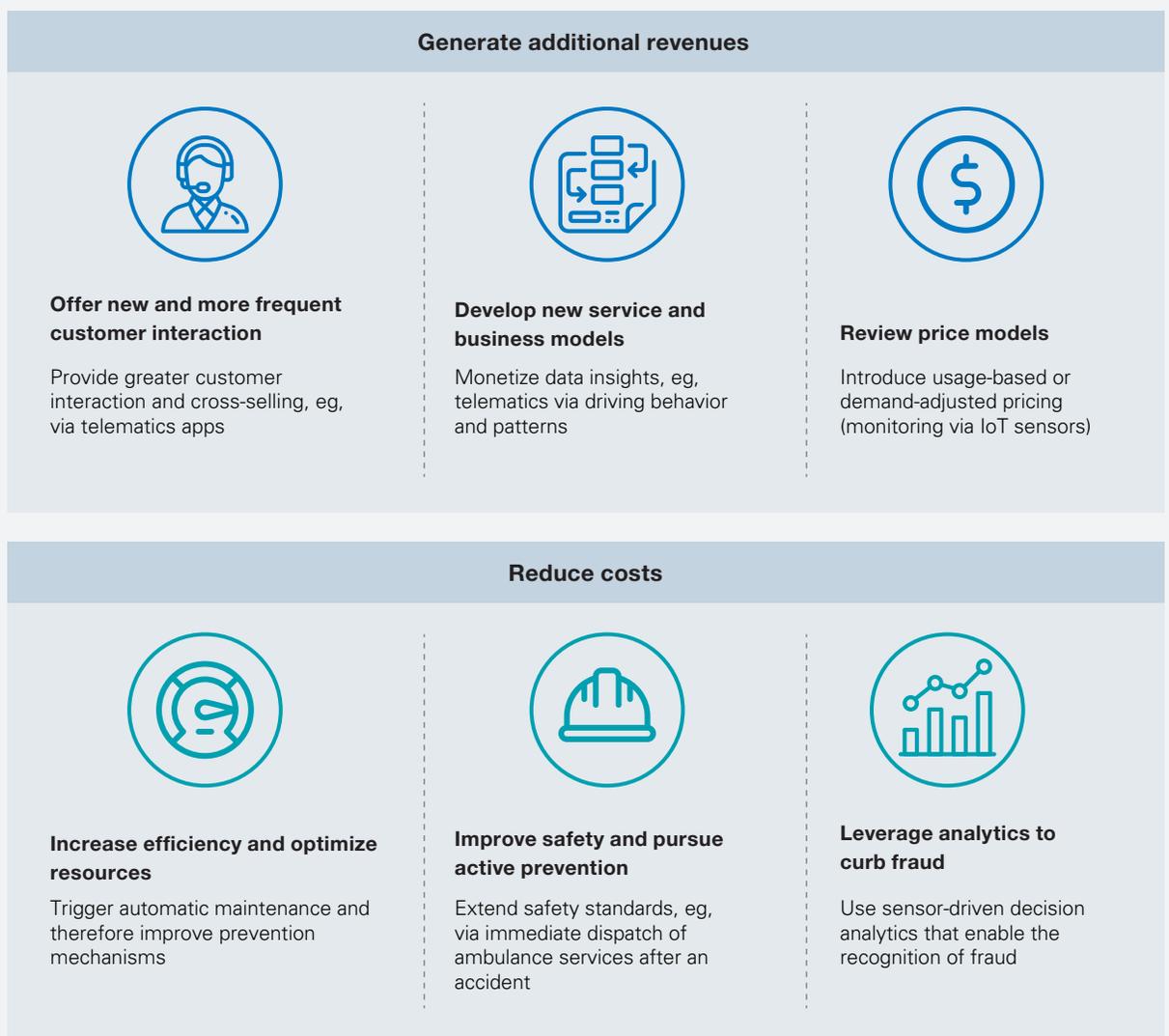
**...and three critical enablers are kick-starting IoT**



Networked devices also allow insurers to interact with their customers more frequently and to offer new services based on the data they have collected. In the insurance sector in particular, customers often engage exclusively with agents or brokers; direct customer contact has been limited to contract extensions and the handling of insurance claims. IoT could therefore have considerable benefits for customer relationships, allowing companies to establish more intensive and targeted customer contact.

So how can insurers develop compelling IoT offerings and a successful strategy for setting up and becoming involved in IoT-based ecosystems?

**Exhibit 2 Digital networking via the IoT allows insurers to both significantly reduce costs and generate additional revenues.**



## What digital ecosystems are most important to insurers

Four different digital ecosystems are emerging that are relevant and attractive to insurers: mobility/connected car,<sup>1</sup> smart housing, connected health, and commercial lines (Exhibit 3). While these ecosystems certainly have parallels by measure of their basic dynamics, on a granular level, they have key differences, which is why insurers need to develop a dedicated strategy for each. The degree of market maturity differs in each of the ecosystems, and they feature some clear distinctions in market dynamics, relevant players, and regulatory environment.

Overarching dynamics can be explored using two examples: the mobility/connected-car ecosystem, the most advanced of the four ecosystems, and smart housing, specifically Ambient Assisted Living, which combines smart-home and connected health services in an innovative and effective way.

### Mobility/connected car

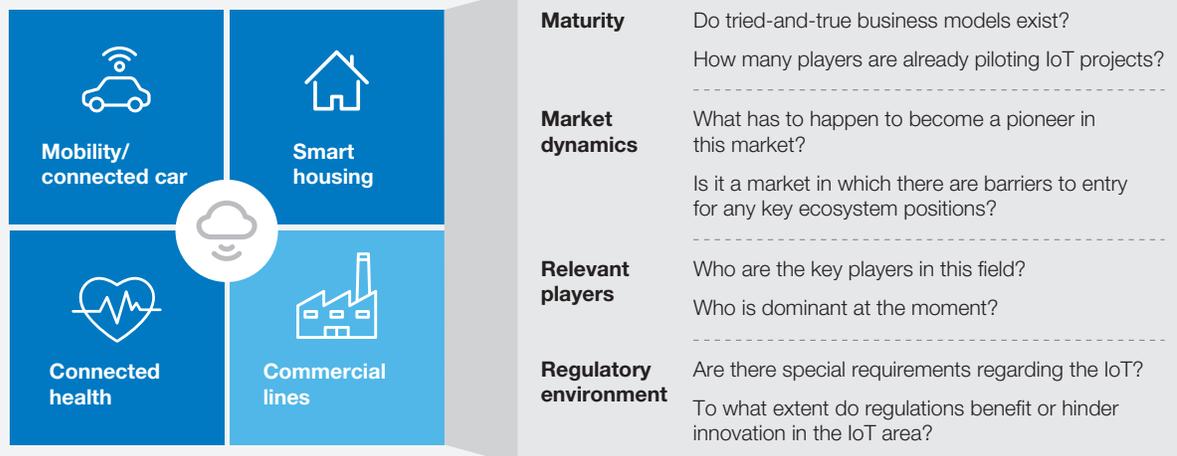
The automotive industry and the mobility/connected-car ecosystem clearly demonstrates how digital ecosystems function and what development dynamics they can reveal. It also illustrates the entrepreneurial opportunities and challenges of this new environment.

Cars—and their drivers, if carrying smartphones—are increasingly outfitted with sensors that do not just monitor driving behavior and use of the vehicle but also collect other vehicle data, from the oil temperature and wear of the brakes to tire pressure. This data forms the basis for countless new applications that contribute to customer comfort as well as to active and passive safety. The increase in applications of this kind creates a completely new ecosystem around the

#### Exhibit 3 Four digital ecosystems are particularly attractive and relevant to insurers.

##### Questions to reveal key differences between IoT ecosystems

■ Private lines



connected car, encompassing not just automotive OEMs. Other players in this landscape include telecommunications operators, sensor and chip manufacturers, operators of digital platforms such as Uber, research institutes, standardization centers, and, of course, insurers.

This ecosystem alters the competitive parameters for all participants—in particular, insurers. While the claims frequency of networked vehicles will decline, the numerous sensors on and in the car will increase the average claims sum due to the high repair costs. Even if high-risk customers can be distinguished from low-risk ones using the additional data gained from the new ecosystem, overall premiums may fall due to discounts offered for telematics use. While careful drivers may justifiably expect quite considerable reductions in their insurance premiums, insurers likely won't be able to compensate for this decrease simply by increasing the rates for high-risk drivers.

To minimize the impact of any resulting decrease in premiums, it will be important for insurers to explore additional levers in conjunction with reducing claims expenditure via optimized risk selection. More effectively combating fraud, increasing use of allied repair workshops, and offering assistance and service add-ons are all initiatives that could potentially more than compensate for decreasing premiums.<sup>2</sup> Insurance companies could, for example, provide services for avoiding risk, point out necessary maintenance work to drivers, and identify intelligent parking solutions. Insurers also can sell their data and analysis solutions to third parties, such as media agencies focusing on location-based advertising.

Various insurers worldwide have already partnered with IoT-based telematics suppliers, automotive OEMs, vehicle repair shops, telecom companies, and operators of systems that guide drivers to free parking spaces—for example, Progressive partnered with Zubie and TrueMotion. Such partnerships will provide both sides with access to the valuable sensor data that will lay the groundwork for new hybrid insurance models.

It is possible, however, that these partners may have a better, more intensive relationship with insurance customers than the insurers themselves. Companies outside the insurance industry can also increasingly generate risk-related data and many have the requisite skills to derive relevant conclusions from it. In other words, while insurers can unlock great value from new IoT-based ecosystems, players in other sectors may be closer to the customer interface.

## Smart housing and smart health

The insurance market did not initially embrace smart housing—primarily because the potential new market was too limited for technical reasons and the solutions available on the market were slow to meet technical standards.

However, this situation has changed as the technology has matured rapidly. With the advent of Google, Amazon and other providers put their smart-home offers on the market. In recent years, the mass market has opened up by facilitating simple connections with more devices. As a result, many insurers around the world (for example, Allianz) have started cooperation models, selling integrated products via Google Nest or offering insurance discounts for people who equip their homes with smart-home devices. In addition, these insurers offer digital add-on services such as home security and convenience services (for example, Liberty Mutual).

---

One of the areas with high value at stake is commercial ecosystems—that is, ecosystems centered on distribution to business partners (B2B or B2B2C) and on making the most of partnerships along the value chain.

---

Customers have also come to expect more and different services from insurers. To date, smart-home insurance products have largely lived under the property and casualty segment of the insurance market. Insurers have treated the product relatively defensively, as new, more modern home contents and supplementary insurance, regardless of the development of add-on services and more attractive price models for customers over the years. As insurers have also continued to sell traditional products in parallel, it has become evident that new customer segments can be addressed with smart-home insurance products.

An extension of smart housing is Ambient Assisted Living. This field connects with connected health services as well, which is particularly relevant in aging societies across industrialized countries. People with limited mobility, for instance, are increasingly seeking innovative services to aid their day-to-day activities and enable them to pursue an independent lifestyle at home. Potential customers of this segment will likely have a positive attitude toward IoT and related technologies, as well as to insurers acting as overarching providers of this kind of new service bundle. Insurers can also position themselves as digital coordinators of nursing-care services and providers such as proptechs and general as well as specialized housing associations. Insurers can tap into opportunities in this sector by providing customers with additional services that allow the insurers to minimize their costs.

## Commercial lines

One of the areas with high value at stake is commercial ecosystems—that is, ecosystems centered on distribution to business partners (B2B or B2B2C) and on making the most of partnerships along the value chain. Whereas private lines ecosystems are primarily aimed at optimizing customer points of contact, commercial ecosystems also often focus on data and operational excellence.

Commercial lines insurers have various ecosystem plays available along the value chain: product innovation, distribution excellence, risk prevention, holistic service provision, supplier network management, and capital-to-risk matching. An example for product innovation involves cybersecurity, as only through additional risk management and assistance services does it become viable to insure cyberrisks—hence the rise of new partnerships between insurers and IoT cybersecurity software and hardware providers. IoT-enabled risk prevention may include, for example, sensors in warehouses to assess risk—and hence price—on a more granular level. Supplier network management has frequently been applied in (fleet) motor insurance for garages and in directors and officers liability insurance for lawyers. And capital-to-risk matching refers to an electronic platform to trade new forms of insurance-linked securities—allowing insurers to transfer risk via the markets, as is done already by some commercial lines insurers.

## How insurers can improve their competitiveness and innovate

To be successful with digital ecosystems in an IoT world and develop an IoT strategy, insurers should first tackle five key tasks.

### Define application areas

Insurers need to define concrete applications that customers in their market are willing to embrace and that are relevant to their business model. The potential for discounts for telematics use differs across countries, for instance, because customers' savings potentials are lower where motor insurance policies are cheaper.

While being as specific as possible in identifying attractive customers segments and promising application areas, insurers should consider the mid- to long-term potential of the application area as well as calibration factors that might unlock unrealized potential. In the German market, for example, at first glance smart housing retail insurance offerings seem to be relatively unattractive for two reasons: the market for traditional retail property insurance products is quite saturated, and roughly half of the population rents their homes, making them unlikely to invest in property tech and IoT devices. However, customer segment and behavior analyses reveal strongly growing potential for new IoT-based retail products among young and affluent renters, as well as older and more affluent property owners.

### Lock in adequate strategic partnerships early

Selecting the right partner is just as success critical to defining well-shaped IoT-based insurance offerings. In mobility/connected car, these partners are OEMs, telematics providers, parking garage operators, or gas stations. In smart housing, these partners tend to be utility companies, multimedia providers, telecoms operators, and companies in the housing sector as well as specialized property tech sector players. In Ambient Assisted Living, partners include a combination of those mentioned plus connected-health providers.

To shape an adequate offering, insurers should reach out to potential partners early and actively involve them in the development and fine-tuning of the offering. This will shorten the time to market, lower the risk of sunk costs, and increase transparency on an active and rapidly expanding market. It will also increase stability of the partnership as both sides will need to invest in shaping the offering for market maturity.

Selection of candidates for successful and stable partnerships should involve certain key factors. First, partners must have sufficient experience, as well as relevant knowledge of and exposure to the target customer base. For example, IoT device providers must demonstrate mature tech operations and cybersecurity capabilities, and property-tech companies should bring an existing customer base. Second, partnerships should include an adequate commercial agreement from the start that will appropriately incentivize all parties to scale up the joint offering as needed. Flat rates, commission models, or volume-based incentives could all work if shaped with an appropriate risk appetite. Third, partners must be open to technical and business interoperability, to allow for other partners to step in and expand the ecosystem collaboration,

as well as submit to an appropriate risk evaluation of their offerings, for example, on adequate geographical coverage or capture of relevant data needed for actual claims processing. Finally, insurers should carefully screen partnership candidates regarding their other business planned or already conducted to avoid the risk of reputation damage, sunk costs, or even accidental abuse of customer data.

### Ensure scalability

Insurers can improve their ability to find the right partner by carefully positioning themselves as an attractive partner with the capabilities critical for success in the IoT ecosystem, thus ensuring the requisite scalability. An important related issue for insurers to address is consumers' reservations regarding data protection and security. Insurance companies can and should present themselves as trustworthy and reliable partners and highlight the benefits of digital networking for the consumer, such as lower premiums or a faster breakdown service. Large insurers that already operate with a tight-knit network of allied workshops have clear advantages: they can expand on possible offers with greater speed and agility. It is important for insurers to go to market with a first offer swiftly to test customer acceptance. As a second step, they can scale the offer.

### Maximize rollout speed

The issue of scalability also includes the question of speed. Insurers must ask themselves if they're in the position to put their IoT offering on the market quickly. The IoT could soon reach a point where market penetration also increases exponentially for insurance products. Insurers that are not able to act fast will run the risk of losing out completely. Over time it will become ever more difficult to find a partner that both offers sufficient data and contacts and that is not yet linked to a competitor—OEMs ultimately only need one insurance partner. Data owners are likely to be choosy and to want to establish a partnership early in the smart-home market. Thus, established insurers that are best prepared and can provide a compelling IoT offering fastest will shape the market and competitive scenario, and there will be no pickings left for laggards.

### Ensure a long-term perspective

Insurers should see the development of IoT services for ecosystems as a long-term investment in future capabilities. It is still not exactly clear what a positive business case for IoT offerings looks like. Reductions in premiums due to use of telematics may be significant in some markets, while

---

Insurers can improve their ability to find the right partner by carefully positioning themselves as an attractive partner with the capabilities critical for success in the IoT ecosystem, thus ensuring the requisite scalability.

---

there is not yet any reliable evidence of the benefits of better claims ratios. In the years to come, as maturity grows and the cost of the services continues to fall, the value for customers as well as insurers will decline considerably. Insurers should begin building their long-term capabilities now to expand their market position and develop innovative, competitive services for their customers in the years ahead.

In the end, it is important that insurers position themselves as attractive partners for existing IoT providers, ensuring that they find their role in the ecosystem and create genuine value for customers. Investing in innovative approaches will only pay off and be successful in the long term if customers understand and can see the benefits, which should include more favorable prices and rebates, additional services, and greater convenience. ■

---

<sup>1</sup> For more on connected-car ecosystems, see Markus Löffler, Christopher Mokwa, Björn Münstermann, and Johannes Wojciak, "Shifting gears: Insurers adjust for connected-car ecosystems," May 2016, on McKinsey.com.

<sup>2</sup> For further details, see *Assistance & service offerings as a game changer in a transforming insurance industry*, May 2017, on McKinsey.com.

**Simon Behm** (Simon\_Behm@McKinsey.com) is an associate partner in the Munich office, where **Björn Münstermann** (Bjoern\_Muenstermann@McKinsey.com) is a partner. **Ulrike Deetjen** (Ulrike\_Deetjen@McKinsey.com) is an associate partner in the Stuttgart office. **Sanjay Kaniyar** (Sanjay\_Kaniyar@McKinsey.com) is a partner in the Boston office. **Nadine Methner** (Nadine\_Methner@McKinsey.com) is a partner in the Frankfurt office.

## Contact

For more information about digital ecosystems, please contact:

**Eric Lamarre**, Senior Partner, Boston  
Eric\_Lamarre@mckinsey.com

**Mark Patel**, Senior Partner, San Francisco  
Mark\_Patel@mckinsey.com

**Björn Münstermann**, Partner, Munich  
Bjoern\_Muenstermann@mckinsey.com

**Brad Mendelson**, Senior Partner, Hong Kong  
Brad\_Mendelson@mckinsey.com

## Further insights

McKinsey's Insurance Practice publishes on issues of interest to industry executives:



Insurance beyond digital:  
The rise of ecosystems  
and platforms



Competing in a world of  
sectors without borders



Deep insights, broad  
solutions: How banks can  
win in the vast housing  
ecosystem

January 2019

Copyright © 2019 McKinsey & Company. All rights reserved.

Cover image: monsitj/Getty Images

Printed in the United States of America.