

The Connected Home: Trends and Implications for Insurers

CAS Centennial Celebration

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What is the “Internet of things”?



Internet of things (in'tər net·uv·thiŋz)

n. 1. Everyday objects connected to the Internet participating together in a system

2. The convergence of traditional connected devices and “smart” appliances

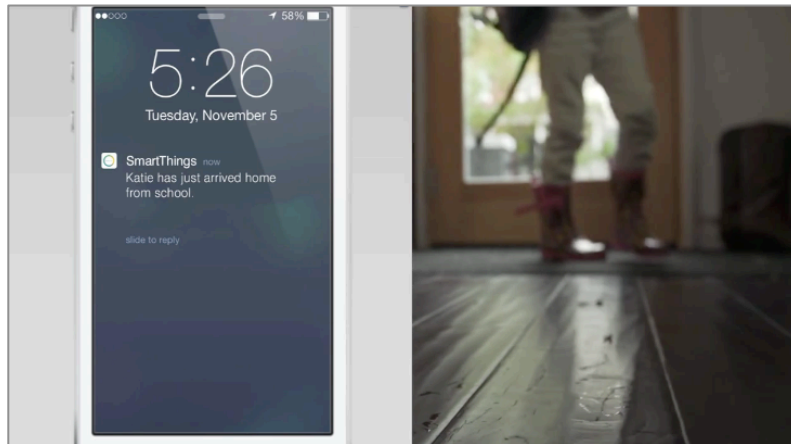
Internet of Everything | Circle Story

<http://www.youtube.com/watch?v=Kt5VuIFqBm4>

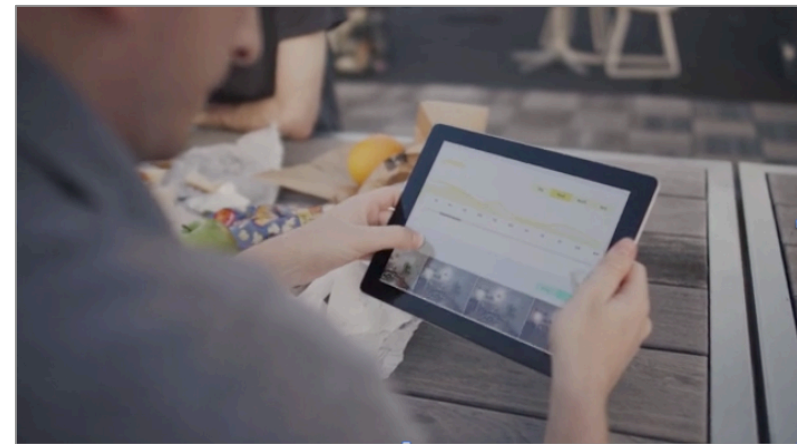
What is the “connected home”?

Connected home (kə nekt'ed·hōm)

n. A home equipped with electronic devices, such as sensors, appliances, and lighting and heating applications, that are tied to the Internet and controlled remotely via interfaces such as phones or computers

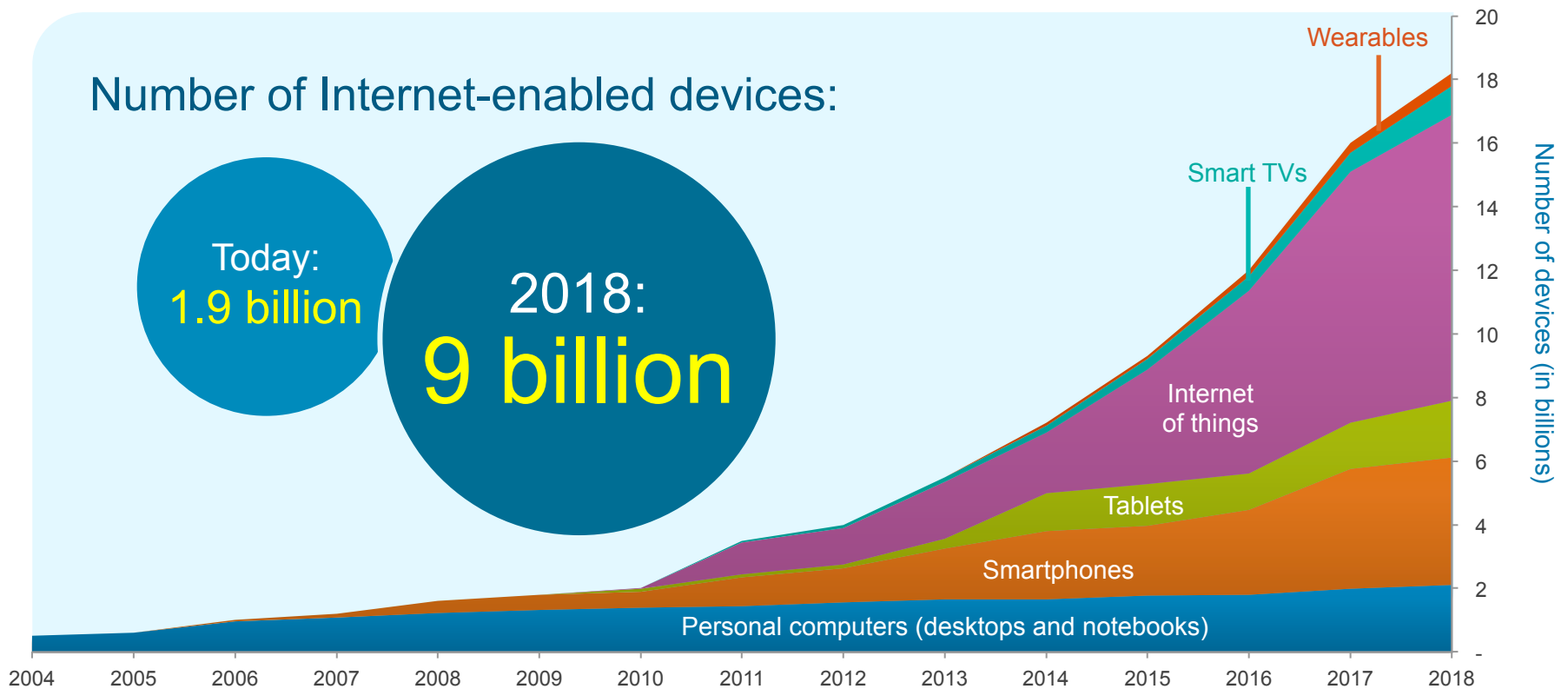


Hello, Smart Home | Part 2
<http://www.youtube.com/watch?v=9qKA9JDxaaw>



Canary: The First Smart Home Security Device for Everyone
<http://vimeo.com/93289352>

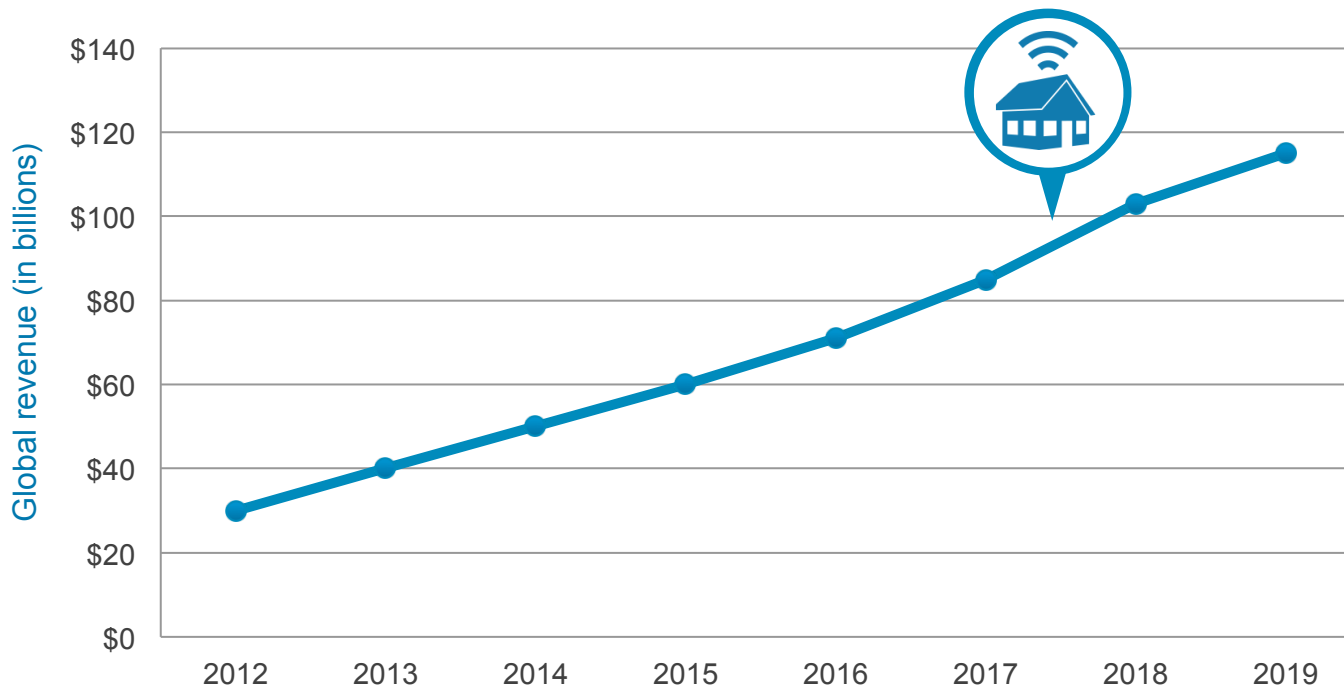
Expected global growth in the number of Internet-enabled devices



Source: Gartner, IDC, Strategy Analytics, Machina Research, company filings, BI Intelligence estimates

The connected-home market is evolving rapidly

Current and predicted revenue from connected-home-related hardware, services, and installation



Source: Strategy Analytics



Google bought Nest for \$3.2 billion in January and opened software interfaces in June

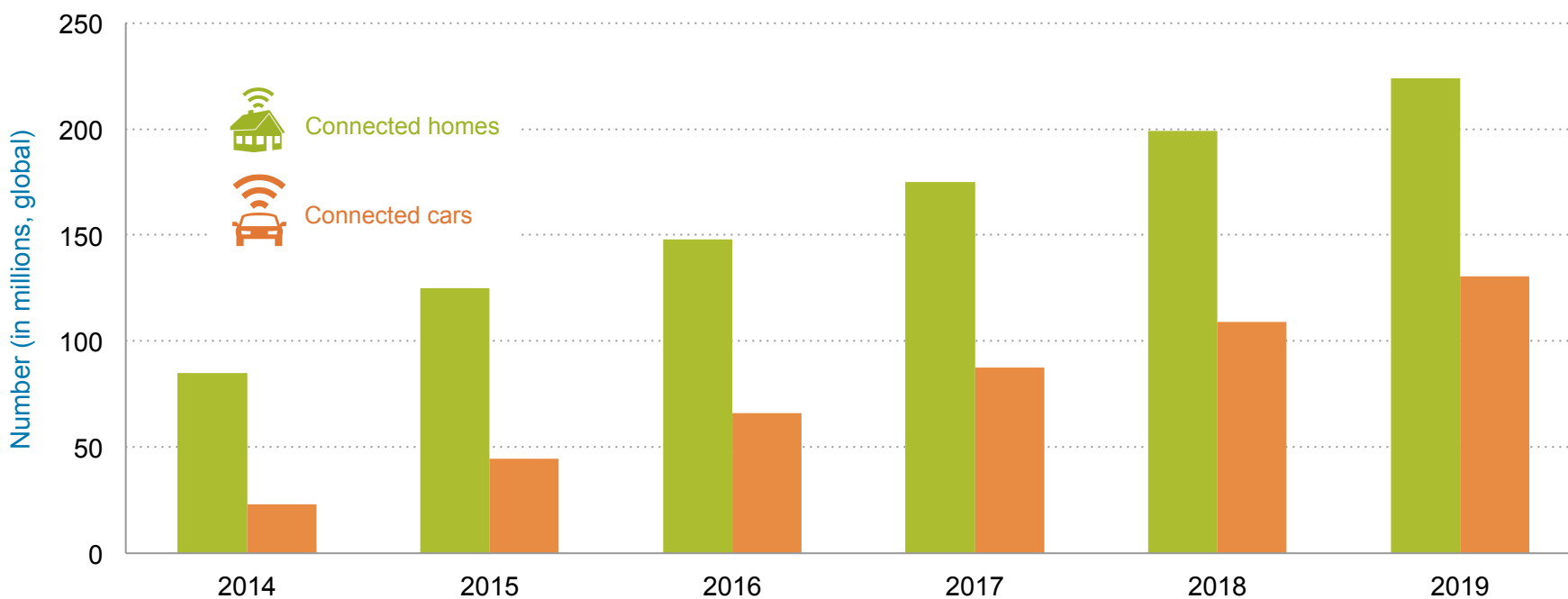


Apple announced HomeKit platform, promising a single service to synch devices

Source: Forbes 7/30/2014

Global connected-home penetration will reach 26% of broadband and 12% of total households

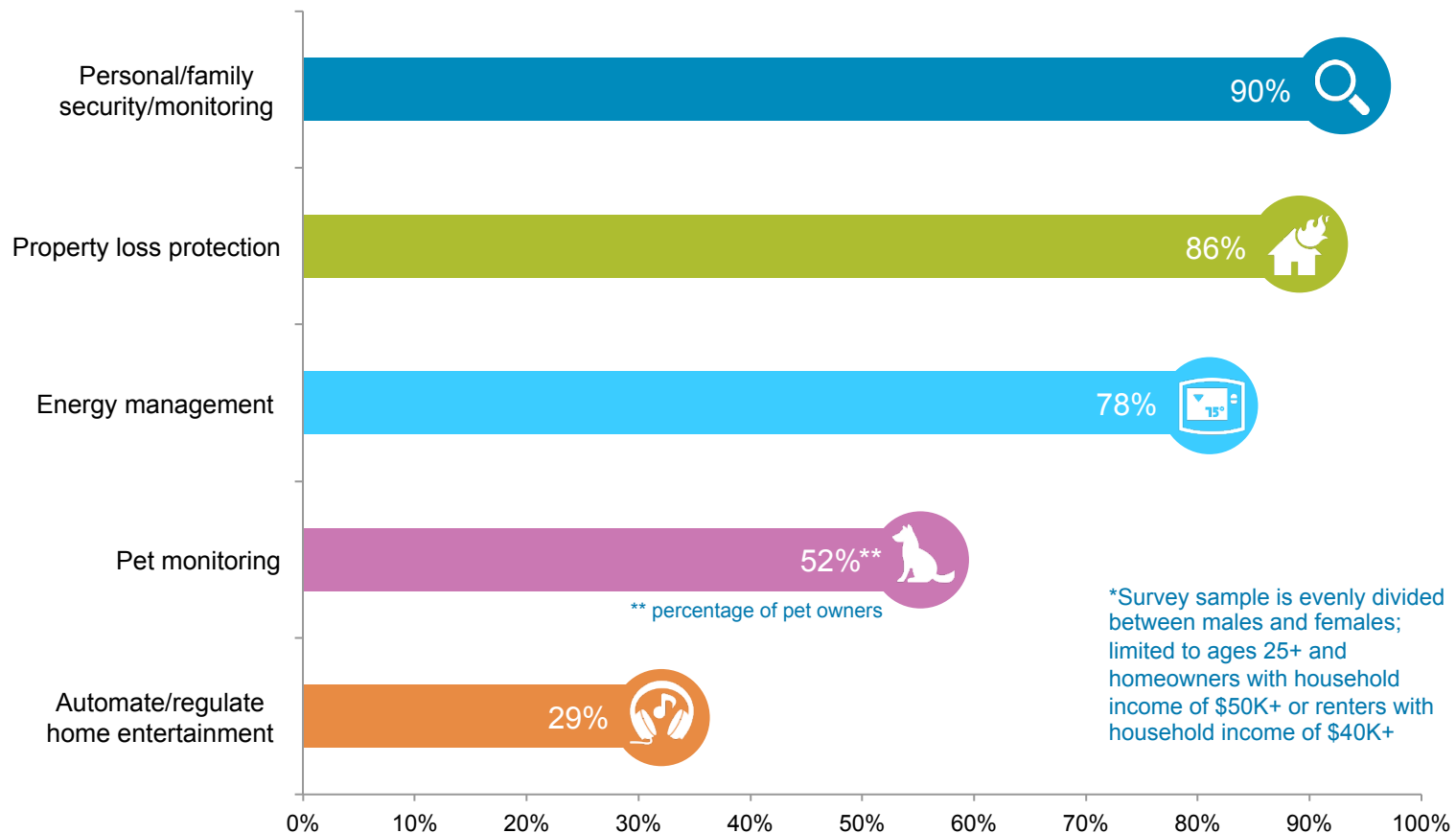
Households with at least one connected-home system and automobiles connected to the Internet*



*Data on connected households from 2012-2019 and data on connected automobiles from 2014-2020; common years shown; some midpoints estimated.

Sources: Strategy Analytics, IHS Automotive

Top reasons for using a smart home system*



Source: Icontrol Networks, 2014 State of the Smart Home

The “cool factor” vs. “cold hard cash”

51% would pay \$500 for
a connected home

32% are willing to
spend between
\$500 and \$3,000

*Survey sample is evenly divided between males and females; limited to ages 25+ and homeowners with household income of \$50K+ or renters with household income of \$40K+

Source: Icontrol Networks, 2014 State of the Smart Home



Technology is evolving fast: Meet Jibo



JIBO | The World's First Family Robot

<http://www.youtube.com/watch?v=4thHRHTVKWM>





Connected Homes

Implications for insurers



Key differences between auto and home telematics

Factor	Auto 	Home 
Ultimate utility	Insurance	Multiple
Customer benefit	Insurance related	Insurance and non-insurance related
Implementation	Standard	Multiple
Device	Standard OBD-II/one location	Multiple
Data delivery	Cellular	Various/consumer's ISP

Homeowners telematics: Data possibilities



Usage

- Patterns of energy and water consumption
- Water running when no occupants home
- Which rooms are used, when, and for how long?



Occupants

- Occupants: number, frequency of access
- Number of smokers; frequency and time of day of smoke
- Number of connected devices



Contents

- Movement of contents in and out of house
- Major appliance location
- Sprinkler system detection



Residence

- Roof age and condition; material; weight load
- Wind speed and barometric pressure
- Gas leak detection

Making sense of the data

Predicting market leaders

Venture capital is available for this market and **start-ups pop up daily.**



Big data

Collection and use of big data are growing exponentially, yet

a small percentage of useful data is analyzed.



Infinite sensor applications

Due to microsensor evolution in smart phones, there are **enhanced economies of scale and a wave of innovative solutions.**



Unwieldy and unstructured

Understanding data from multiple sensors and how it correlates to future loss is

a moving target that requires expertise.

Variety of devices

Technology is changing the way we live our lives. Analysts estimate

9 billion devices

will be connected to the Internet by 2018.



Source: Icontrol Networks, 2014 State of the Smart Home

Security and privacy concerns

- Many devices are general purpose computers that can be hacked
- Controllers are vulnerable too
- Data and video are subject to security breaches, increasing litigation and reputational risks
- Actual cases to date:
 - Reset codes for door locks
 - Lights, cameras, hijacked



Regulation

- Regulation is evolving
- Access to data may require policyholder permission
- Collected insurance data will need to protect privacy
- Start with obvious and nonintrusive sensors
- Provide discounts



Insurance applications for connected-home technology



Obvious

- Monitor potential causes of loss to head off a damage-causing event (example: leaking pipe)
- Correlate connected-home data with loss experience to develop more refined rates
- Avoid adverse selection
- Develop a “lived in” seasonal residence product



Not so obvious

- All possible interactions with sensor data and losses
- Strengthen connections by addressing policyholder concerns for safety, peace of mind, and pocketbook in new ways

Where do insurers start?

Top family sensor applications



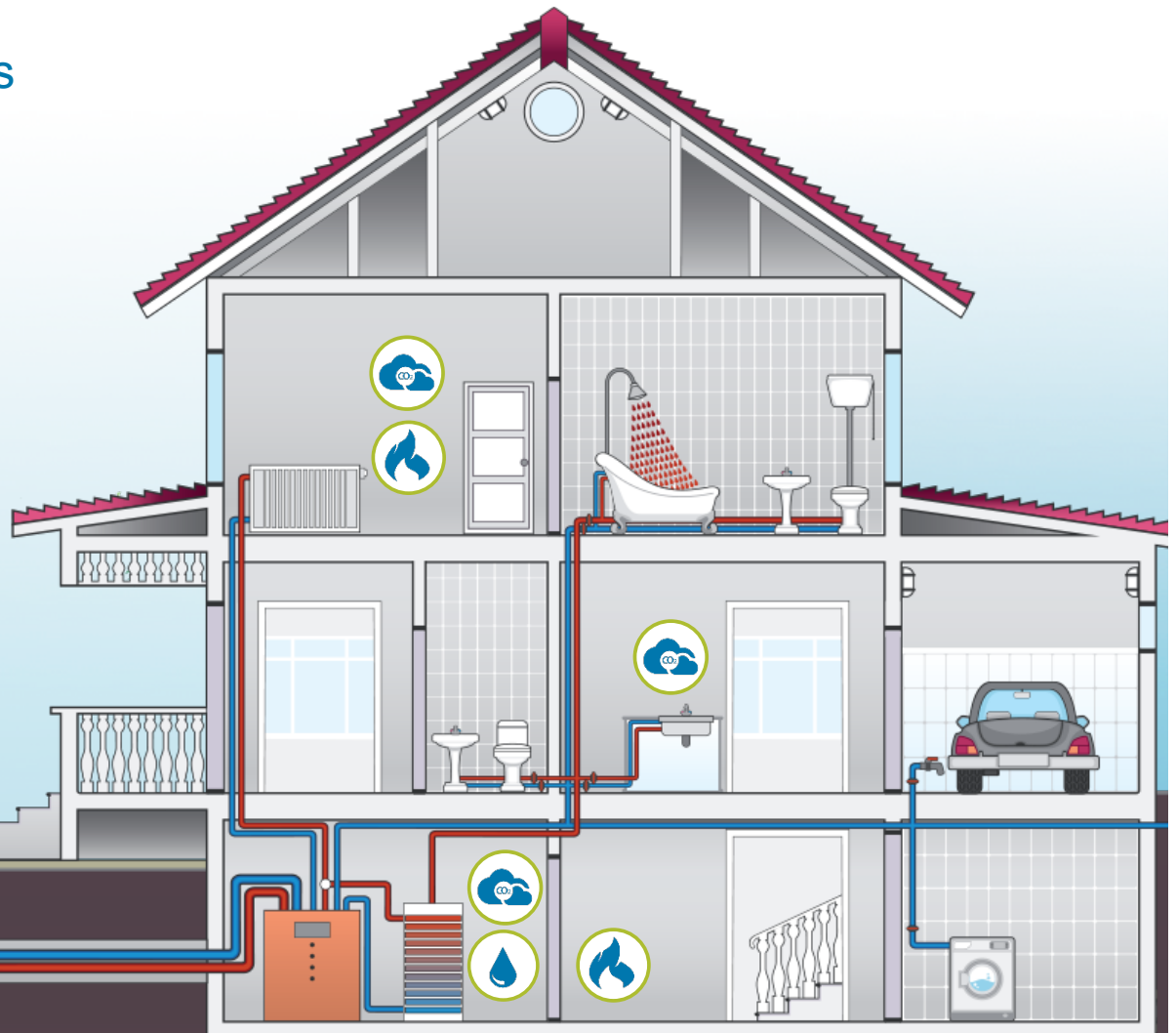
85%
Fire detection



64%
Carbon monoxide
detection



50%
Gas leak detection
and shutoff



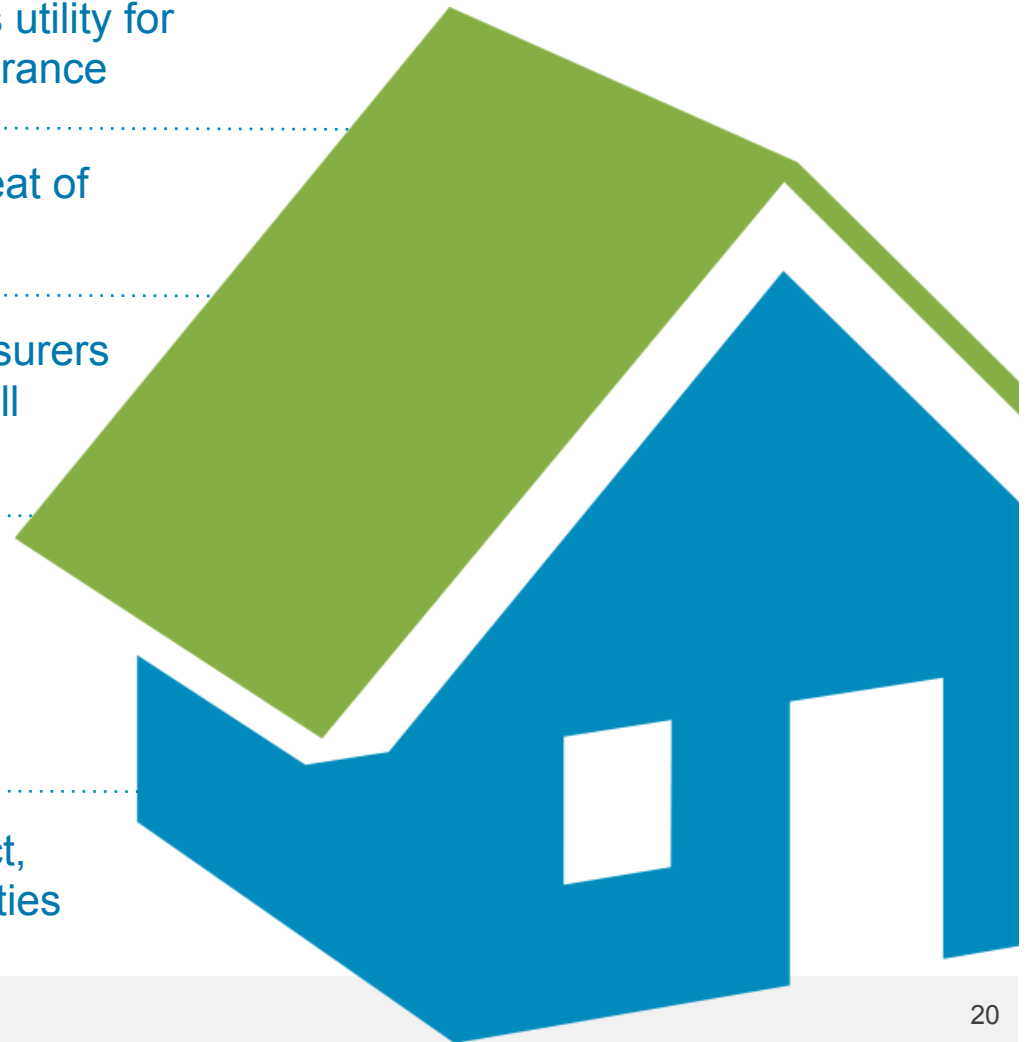
Partnership considerations

- Develop strategic alliances that will help you see connections and understand the data
- Remain open to multiple partnerships as shifts in market leadership occur
- Look at R & D as an ongoing investment to reduce losses and build stronger policyholder relationships



Key takeaways

- 1** Connected-home technology creates utility for consumers that extends beyond insurance
- 2** Because of the complexities and threat of adverse selection, get involved early
- 3** The market is evolving faster than insurers are entering this space, and many will have difficulty catching up
- 4** Develop partnerships to help you see connections and understand the data so you can strategize regarding future use
- 5** Take a long-term view toward product, profitability, and relationship possibilities



Expert panel: Questions and answers