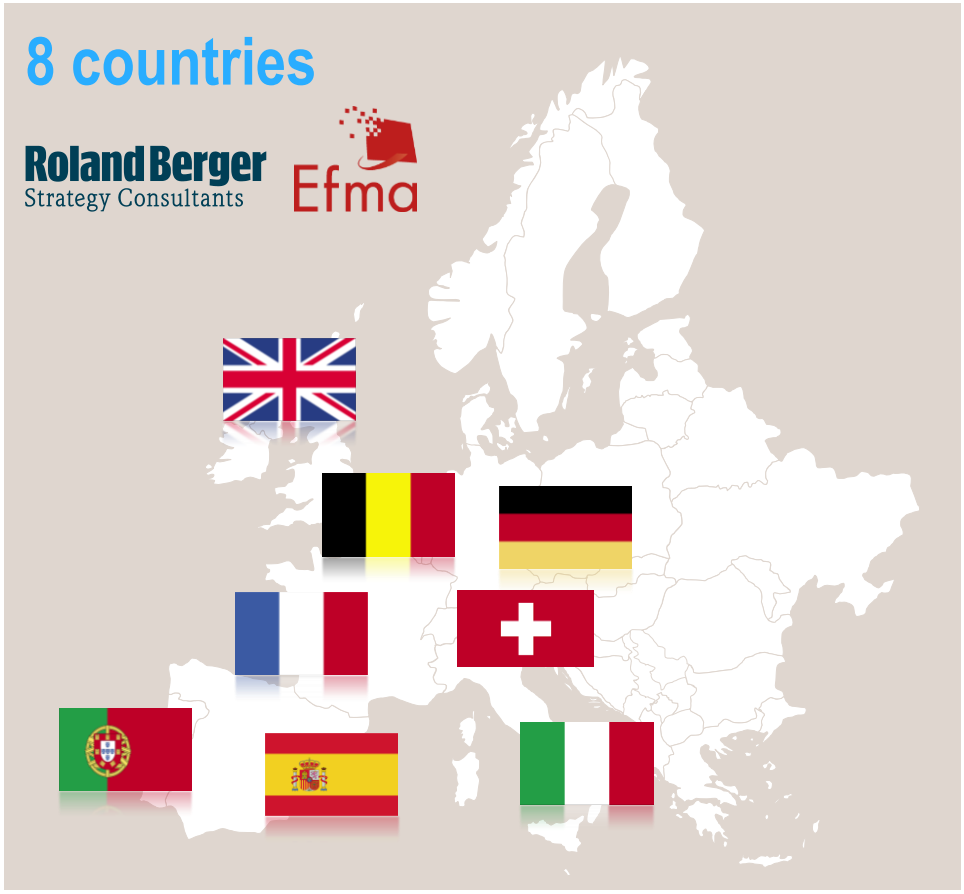
Internet of Things and insurance

Roland Berger
Strategy Consultants

April 2015

The "IoT Insurance" Think Tank was conducted with 23 participating European insurers between November 2014 and February 2015

Roland Berger – Efma "IoT Insurance" Think Tank



23 insurance companies from 18 groups

Key questions

> What is the current status of IoT insurance ?

> What are IoT strategic stakes for insurers ?

> How to prepare to win in the IoT environment ?

Connected car, home and health technologies could substantially transform insurers value proposition

Connected insurance potentialities

Scope of IoT in insurance

Connected car

> Smartphone **applications, dongles** or **black boxes** to be installed/ plugged in the cars

> Analysis of **driving behaviors** (km, time of driving, fuel consumed, type of roads, braking, accelerations,…), **accidents** and **breakdowns** detection and analysis**, stolen car tracking,…**

Connected home

> **Sensors and cameras** installed at home with connectivity and smartphone platforms

> Analysis of **presence**, intrusion detection analysis of **carbon monoxide**, **smoke**, **water** etc. levels (leak / flood / fire **detection)**

Connected health

> **Wearables / devices** with connectivity and smartphone platforms

> **Analysis** of **health behaviors** and **conditions** for **wellness** or **patient management** (chronic disease)

Impact on insurance value proposition

1 Customization of offers

Improved risk selection (customized pricing & guarantees)

2 Prevention and early detection

Claims reduction (rewards for low risk behaviors ; claims early detection)

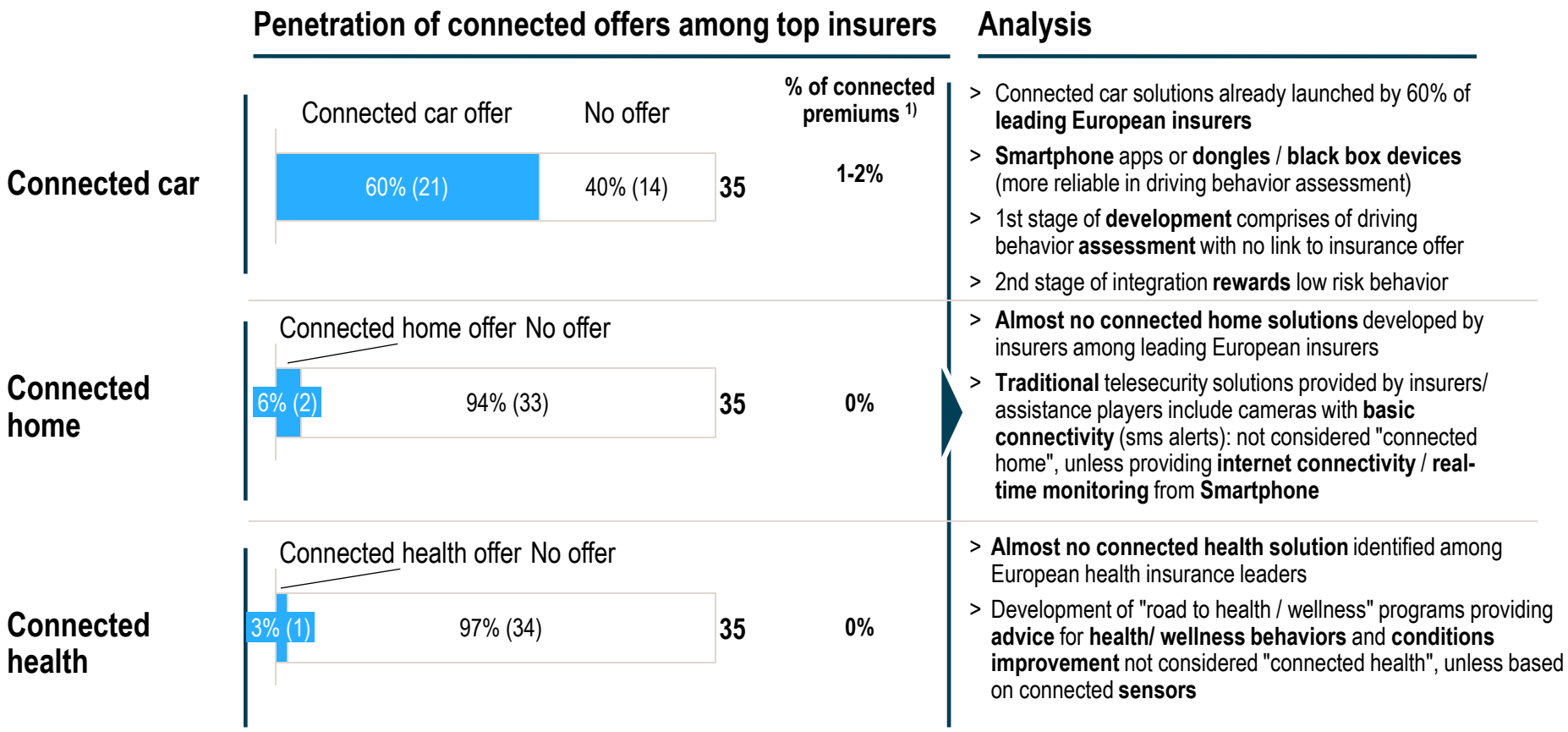
3 Customer Relation Management improvement

Increased proximity/ frequency of interactions with customers ; high added value services ; differenciation of offers / new image

Source: Roland Berger analysis

60% of European top insurers have launched connected car solutions but almost none has entered the smart home / health universes

Connected technologies penetration among insurance leaders – As of 11/2014



1) Share of connected insurance premiums / total insurance premiums (total market)
Scope : Top 5 insurers in 7 countries (Belgium, France, Germany, Italy, Spain, Switzerland, UK)
Source: Roland Berger analysis

The case for connected car insurance solutions is currently more obvious than for home and health applications

		Car	Home	Health[1)]
DRIVERS				
Demand	Savings	+++	+	+
	Prevention	+	++	++
	Knowledge and control	+	+ +	+++
	Early detection & assistance	++	+++	+
Supply	Positive selection	+++	+	++
	Claims reduction	++	+++	+
	Improved CRM	++	++	++
HURDLES				
Demand	Data privacy	- -	-	- - -
	Costs	-	- -	-
	Installation	-	- - -	=
Supply	Regulatory constraints	-	-	- - -
	Investment costs	- -	- -	-
	Insurers capabilities	-	-	-
Net incentive		+6	+4	+2

1) Wellness applications only, excluding patient management

Source: Roland Berger analysis

Comments

DEMAND

> Connected **car** insurance demand is mainly driven by the **savings** potential it can offer to its customers (especially young drivers)

> Connected **home** insurance's first benefit for customers is its **early detection** potential (to limit damages)

> For connected **health**, the "**quantified-self** " tools are the most attractive demand drivers

> **Data privacy** is by far the **main concern** regarding IoT health insurance development, whereas **installation issue** is the main hurdle for connected home

SUPPLY

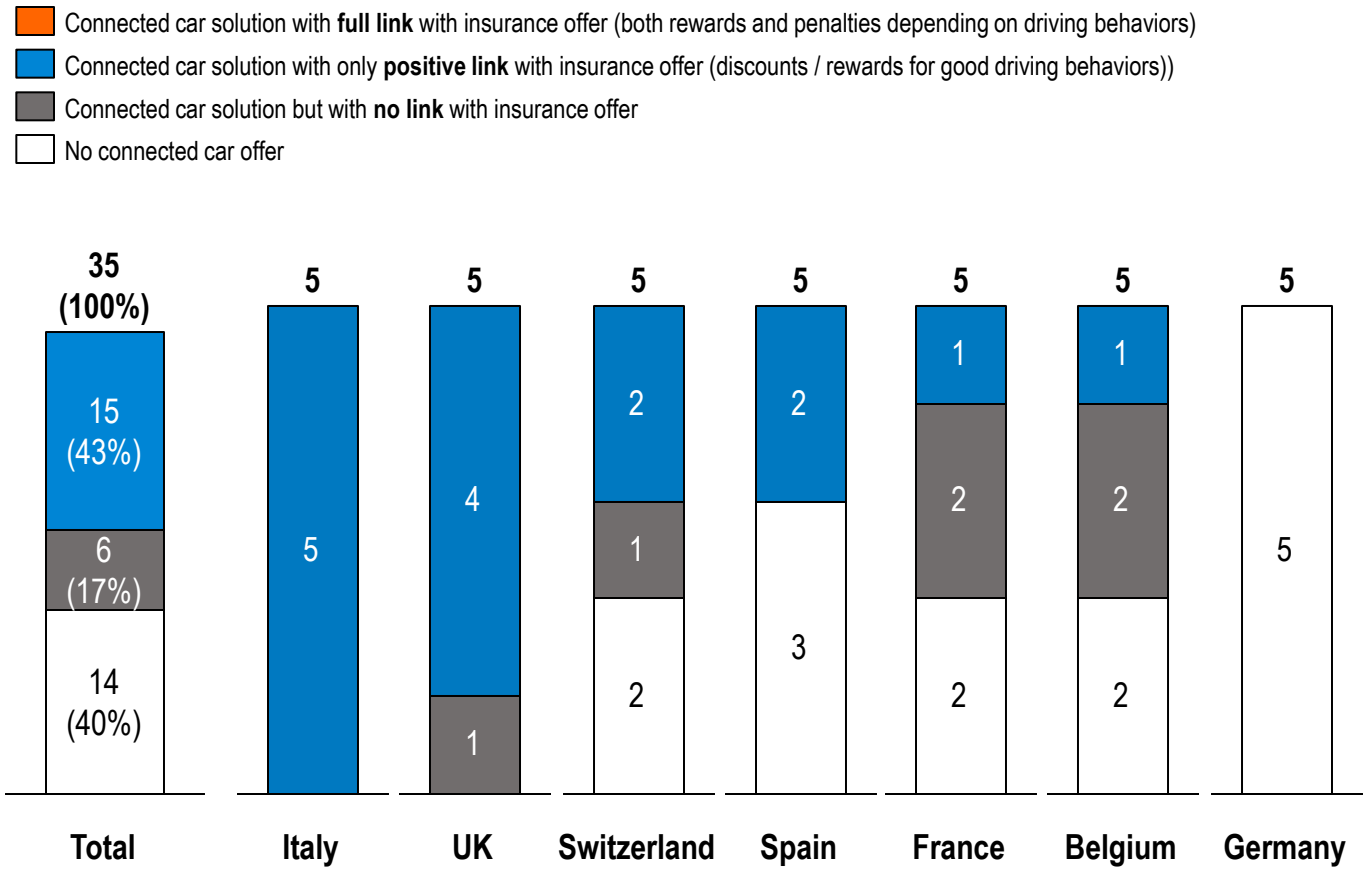
> Insurers developing connected **car** insurance benefit from **positive selection**

> **Connected home** insurance could **help reduce claims** but insurers **need** to learn how to **analyze data** provided by domotics

> **Connected health** insurance could add significant value into customer relationship but **regulatory constraints** on **use of data** may be a barrier which will be tough to overcome

Italy and UK are the most advanced countries in terms of connected car insurance solutions

Integration level of connected car offers by insurers – As of 11/2014



Comments

> The **European** connected car insurance **leader** is **Unipol**, representing **50% of European telematic** policies

> In **Italy**, ~5% of all motor premiums are based on telematics

> Penetration rate of telematics for car insurance within Unipol approximates 15%

> The **UK** is the 2nd connected car insurance market in Europe after Italy with approx. 250 k new policies (approx. 5% of new policies)

Note: on these charts, one insurer = one offer ; by hypothesis, the more integrated offer provided by the insurer was taken into account

Source: public information, analyst reports, Roland Berger analysis

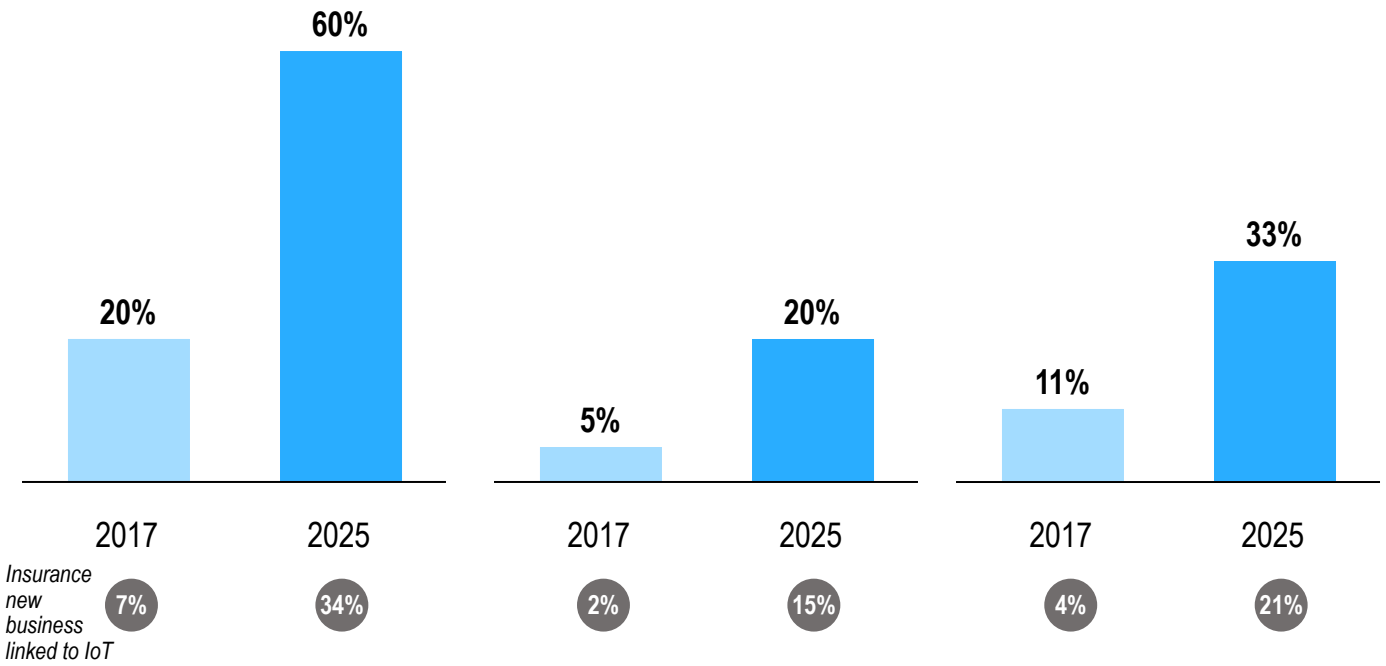
Connected car is perceived as the first IoT segment to grow, pushed by car manufacturers

Expected share of cars/homes/people equipped with IoT solutions[1] and share of insurance new business linked to IoT solutions

1 Connected car

2 Connected home

3 Connected health



Comments

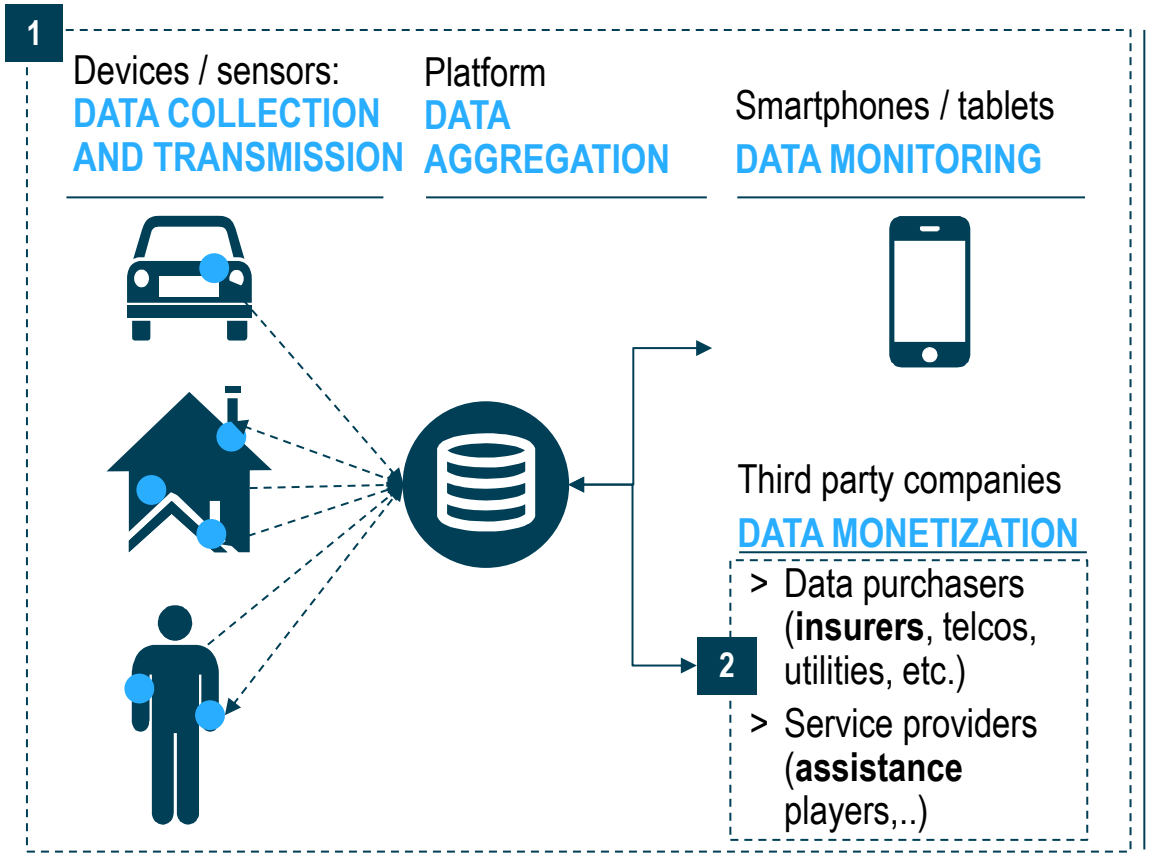
- Connected car is seen has the **first IoT segment to emerge pushed by car OEMs embedding IoT in new vehicles**
- Home and Health should emerge at a slower pace, mainly **pulled by consumers**
- **Lack of consensus** for 2025 estimates and on Health:
  - **Overall consensus on the emergence of Care** IoT solutions
  - **Various points of view on the IoT emergence on Wellness** (temporary fashion or long-term trend?)

1) Connected solutions with sensors tracking multi-dimensions data on a frequent & regular basis and enabling real time consultation on smartphones/tablets/laptops

Question: Which share of cars/homes/people will be equipped with IoT solutions in 2017/2025 in your country?
Question: Which share of insurance new business will be "IoT linked" in your country (overall market)?
Source: Interviews, Roland Berger analysis

Insurers can play 2 roles in IoT, with two levels of ambitions

IoT landscape: potential ambitions for insurers



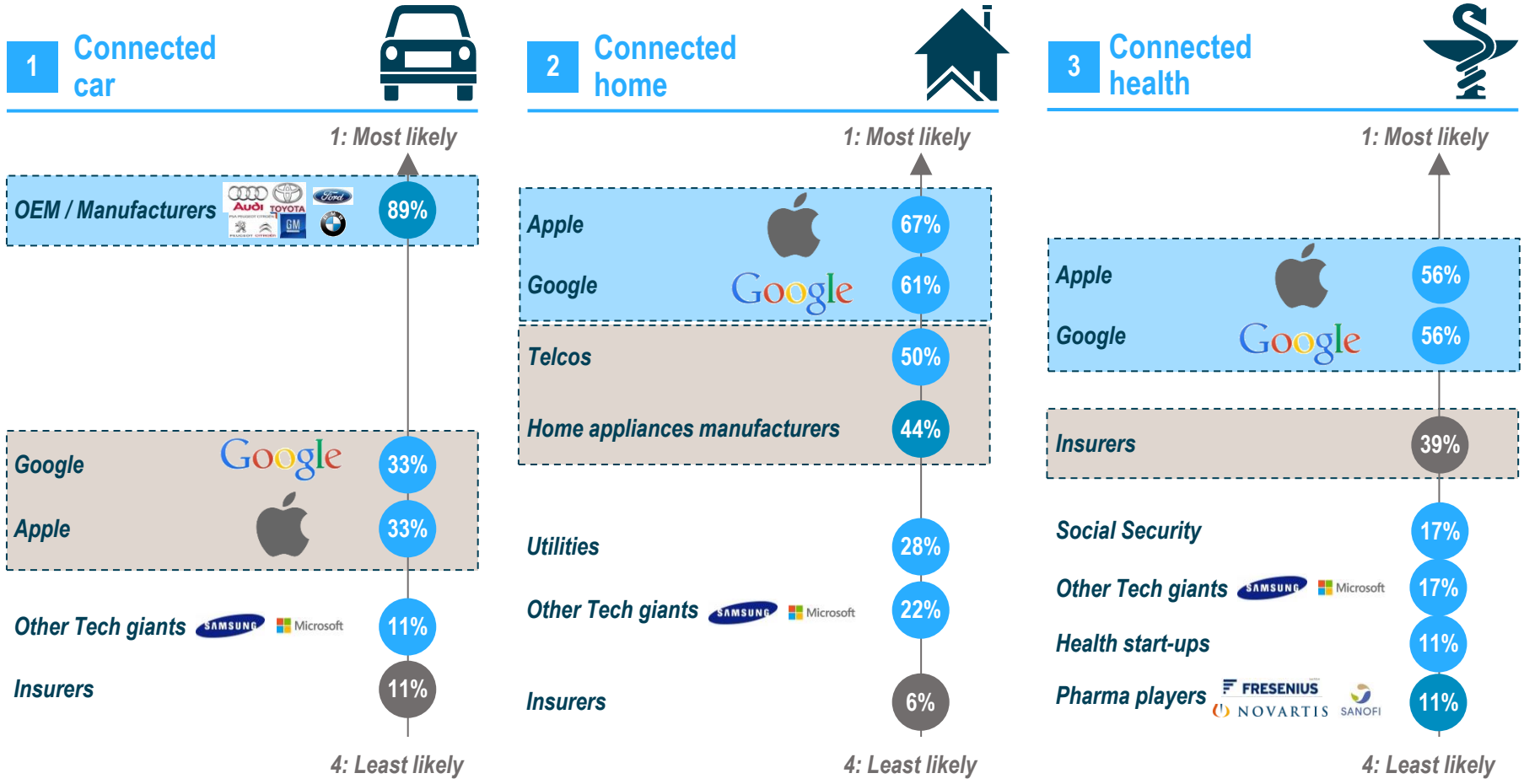
Insurers possible roles

1 **Build a leading IoT ecosystem**	> Build an IoT ecosystem capturing data from various IoT devices > Use data to improve insurance value proposition and monetize them to third party companies
2 **Deliver IoT linked insurance and assistance services**	> Deliver IoT linked insurance and assistance services by making partnerships with platform owners (or participating to platform owners data marketplaces)

Source: Roland Berger

Insurers will probably not manage to build dominant IoT ecosystems

Likeliness of player dominance [% of answers[1)]]



Question: What type of player will control dominant ecosystems (if any)?
Source: Interviews, Roland Berger analysis

Dominant player(s) | Challengers

1) More than one answer allowed

Future dominant ecosystem players will have three main options regarding their monetization of IoT data for insurance purposes

IoT data monetization for insurance purpose - options

Key question for dominant ecosystems:

HOW TO LEVERAGE IoT DATA?

1 SELL DATA TO INSURERS

> Leverage data gathered by **selling it to insurers**, either raw or processed (eg. scores) as a:
- **Aggregator** (several insurers)
- **Strategic partner** (with 1 or 2 insurers)

RELEVANCE

\+ > High value to be captured
− > One-off commissions
\+ > No conversion risk

2 DISTRIBUTE INSURANCE

> Leverage data gathered to **distribute insurance products** as a:
- **Broker** (with several insurers)
- **Strategic partner** (with one insurer)

RELEVANCE

\+ \+ > High value to be captured
\+ \+ > Recurring commissions
− > Some conversion risk
− − > Need to comply with regulation

3 BECOME AN INSURER

> Leverage data gathered to **price, underwrite and carry risk**

RELEVANCE

\+ \+ > High value to be captured
− − > Need to comply with regulation
− − > Capital requirements
− − > Service delivery ecosystem requirement

COMMENTS

> Dominant ecosystems will have a **strong incentive to monetize their data** in Insurance to generate revenues – but they will probably not become insurers (ie. risk carrier)
> Two main ways for dominant ecosystems to monetize their data:
- **Set-up a market place** (aggregator or broker), with several/ many insurers in competition
- **Build a strategic partnership** with one or two insurers

Source: Roland Berger

Insurers are likely to get intermediated to access IoT data – a regulatory change could help prevent this trend

Alternative scenarii – by 2025

1 - BASE SCENARIO : DOMINANT ECOSYSTEMS
IoT DATA CONTROLLED BY DOMINANT ECOSYSTEMS

2 - ALTERNATIVE SCENARIO : USERS EMPOWERMENT
IoT DATA CONTROLLED BY USERS

IoT will be integrated into a significant share of motor insurance as well as home and health insurance policies
Dominant ecosystems are going to emerge on all IoT segments – in most cases **Insurers will not be among them**

Dominant ecosystems will **control the data**, leaving **no direct access to insurers players**
Insurers players have to either enter **strategic partnerships** with IoT data leaders or participate in IoT **data marketplaces** set up by these dominant ecosystems

Insurers get intermediated – only a few of them will be able to **build strategic partnerships** with IoT data ecosystem leaders

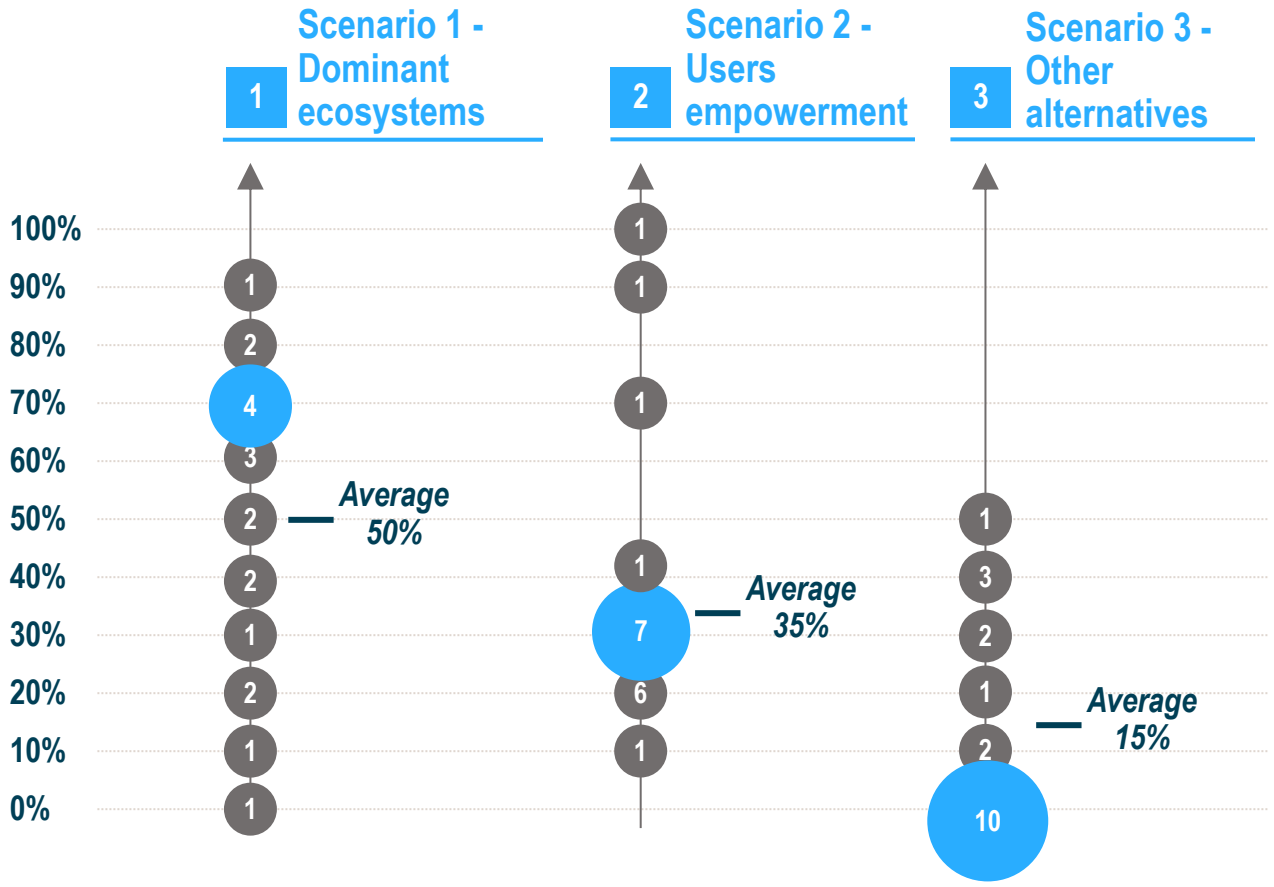
EU Regulation forces IoT players to **make all collected data available** to users, in homogenous formats, to make it usable by Third Parties, including Insurers players (ie. rise of personal clouds / consumers empowerment on personal data)

Insurers do not get intermediated – and can get a **direct access to IoT data** through customers

Source: Roland Berger

The "dominant ecosystems" scenario is seen as the most likely - but with a wide variety of opinions

Scenarios probability of occurrence [# of answers]



Comments

> Scenario 1 is anticipated as the **most likely scenario** by the majority of TT participating insurers

> However, **anticipations vary to a large extent** between insurers

> Some participants suggested **a third scenario**, but with low probability, eg.:
- use of personal data by insurers strictly regulated and prohibited in some cases
- IoT data landscape remaining fragmented
- …

Question : Do you estimate a third scenario should be taken into account? What would be this scenario key elements?
Question : What is your assessment of each scenario probability of occurrence ?
Source: Interviews, Roland Berger analysis

New regulation, social trend and private initiatives could however foster a radical shift in the way citizens control their personal data

Key changes impacting personal data management

A Regulation

- European Regulation project on personal data protection launched in January 2012 is under discussion with a **willingness to get it adopted in 2015/2016** – one key objective :
  - reinforce users **access to personal data** and **portability** of such data: "possibility for individuals to transfer their personal data from one service provider to another"

B Social trend

- **Growing awareness** from consumers that they have **lost control on their personal data** while (digital) companies have substantially improved the knowledge of their customers
  - willingness to **redress the balance** by enabling consumers to regain control on their persona data

C Private initiatives

- Development of **Personal clouds** / Personal Data Stores :
  - personal information management service that **helps individuals gather, store, update, correct, analyse and share** their own data in ways that they can control

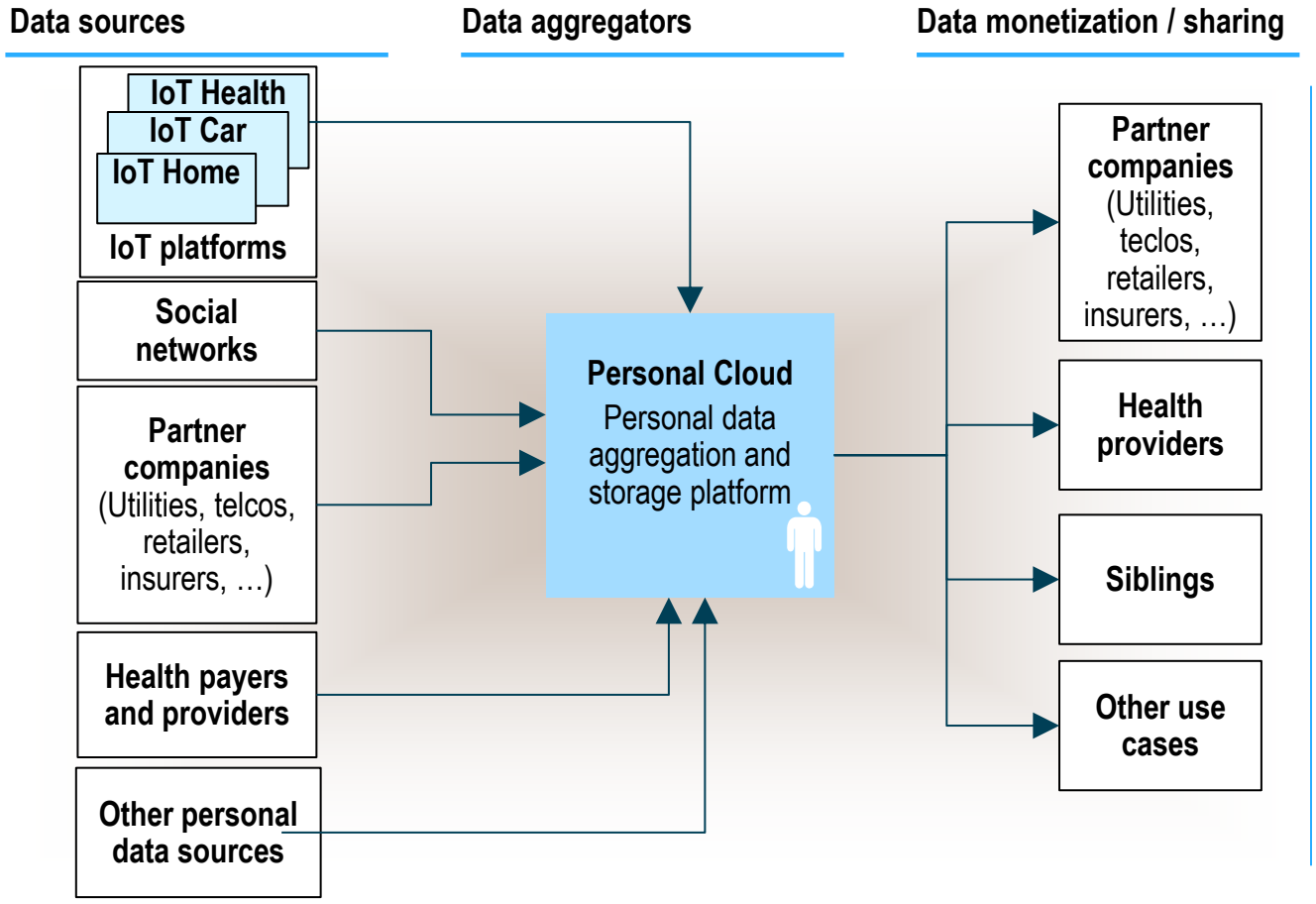
Citizens empowerment with their personal data

Source: Roland Berger analysis

Roland Berger
Strategy Consultants

Multiple personal cloud initiatives have been started in the last few years to empower individuals in their personal data management – 1/2

Personal Cloud principle



> In order to benefit from the **personal data empowerment** trend and led by US start-ups since 4-5 years, multiple personal cloud initiatives have been started to enable consumers to **get access, aggregate and share their personal data**
> At the request of consumers, personal clouds **can gather data from multiple sources** :
  – Partner companies
  – IoT sensors ecosystems
  – Health payers and providers
  – …

Source: Roland Berger analysis

Roland Berger
Strategy Consultants

Multiple personal cloud initiatives have been started in the last few years to empower individuals in their personal data management – 2/2

Personal Cloud initiatives

personal

Launched in 2009

> Platform **aggregating personal data** imported from **partner companies**, **social network** or filled up by consumers themselves

TICTRAC

Launched in 2010

> Platform aggregating personal data from various sources (**social media**, **connected devices**, emails, e-reputation apps, …) to offer a numerical dashboard to consumers

Orange Datavenue

Launched in 2014

> Platform **aggregating personal consumer data from various sources** (connected devices, partner companies, …) in order to offer innovative services to customers
> Partnerships with Altran, Schneider Electric, SEB, Société Générale, …

optimizeme
everything is connected

Launched in 2014

> Platform **aggregating and analyzing personal data** from **connected devices** (FitBit, Jawbowne UP, …), other **IoT tracking platform apps** (Moves) and data filled up by consumers themselves

DOCAPOST

Launched in 2014

> Platform launched by Docapost, a La Poste subsidiary - Platform aggregating **personal data from connected devices** (wellness, home, city, postal services, …) and offering a numerical dashboard to consumers

datacoup

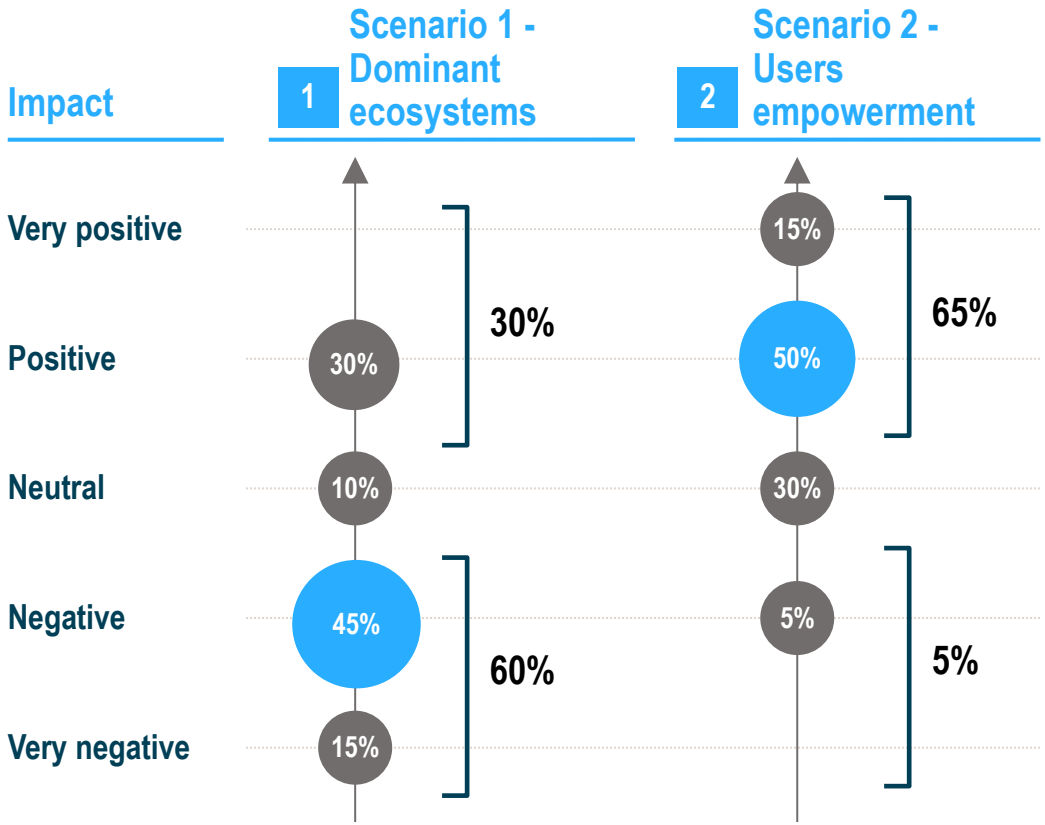
Launched in 2012

> Platform **aggregating personal data** from various sources (**social media** activity, credit card transactions, **connected devices**, **web search** history)
> **Consumers can sell some of their personal data** to information brokers for a **monthly fee**

Source: Roland Berger analysis

The "users empowerment" scenario is seen as much more positive by insurers overall

Impact of scenarii 1 and 2 on insurers [% of answers]



Comments

SCENARIO 1

> Major **threats** perceived :
  - margin capture by IoT dominant ecosytems, especially in case of marketplaces
  - only large international insurers will manage to deal strategic partnerships with IoT dominant ecosystems
  - exclusion / death of insurers unable to build required capabilities
  - premiums decrease

> Major **opportunities** perceived :
  - claims decrease / improved risk selection
  - better customer knowledge and improved value propositions (prevention, services,…)

> **SCENARIO 2** seen as much **more positive** for insurers than scenario 1
  - similar opportunities (claims decrease / improved risk selection, improved value proposition,…)
  - no commercial intermediation / insurers fully "in the game"
  - advantage to insurers with existing significant client base (gradual equipment with connected solutions)

Question : Do you estimate this scenario would overall be negative/positive to existing insurers ?

Source: Interviews, Roland Berger analysis

Specific capabilities will be required to succeed in each IoT scenario

Capabilities required by scenario

Scenario 1 - Dominant ecosystems

Strategic partnership with IoT ecosystems

1	> **Global reach** / coverage
2	> **Brand** strength
3	> Proven **IoT** related technology / **competences**
4	> Know-how in **partnerships management**

Large international insurance groups have a competitive advantage to be selected as strategic partners

IoT insurance marketplaces

1	> Leading edge data **analytics** skills
2	> **Innovation** capabilities (products / services)
3	> **Digital processes** and lean/ low cost operating model
4	> **Customer loyalty** enhancement capability

Pricing risks more accurately than competitors will be a pre-requisite to win on marketplaces

Scenario 2 - Users empowerment

1	> **Customers brand trust / preference**
2	> Leading edge data **analytics skills**
3	> **Innovative / high quality services delivery**
4	> **Digital processes** / operating model

Winning customers trust will be a pre-requisite to convince them to share their IoT data

What would be Key Success Factors required for an insurer to develop on IoT ?

Note : 1 : most important criteria
Source: Interviews, Roland Berger analysis

Insurers need to define and implement a specific IoT roadmap for the next 2-3 years to prepare for one of the possible IoT end game

Key initiatives to launch in the next 2-3 years to prepare for IoT scenarios

Scenario 1

Scenario 2

- Ensure **internal alignment** : define and share vision and strategic roadmap, adapt organization and change culture, recruit and train talents, allocate investments/ budgets
- Participate to **lobbying** actions in favor of preferred scenario (ie. Scenario 2 for most insurers)
- Progressively build **experience** and **skills** (test & learn) : use **"interim" period** (ie. before some IoT ecosytems get dominant) to launch proprietary light IoT solutions, collect and analyse data, derive insights, deliver new services,…
- Continue building **digital operating model** (digital processes, new IT infrastructure,…)
- Strengthen **services delivery capacity** (assistance, prevention,…) – internally or through partnerships

- **Negotiate** and **start testing** with possible strategic **partners**
- Participate and **test** some IoT data **marketplaces**

- Build **customer trust** / strengthen brand image : communication on personal data management process/ rules,…
- Build "operational" partnerships to get access to data / to ensure **platforms interoperability**

- Derive **key lessons learnt** from past experiences, refine IoT business cases and make **strategic decisions** (with related investments)

Source: Roland Berger analysis

Let's think: act!

Roland Berger
Strategy Consultants