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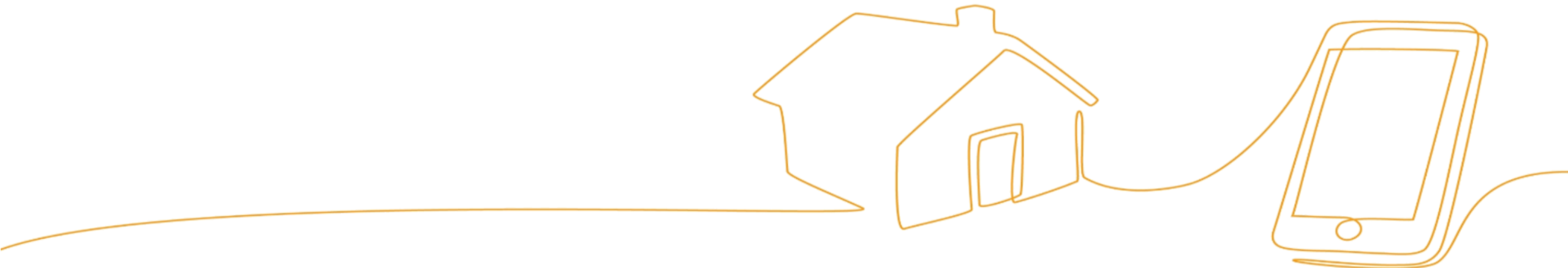
New services and products based on connection with the consumer

A Delta-ee presentation for Naturgy

12th July 2018

Contact:

Arthur Jouannic: +44 131 285 0777, arthur.jouannic@delta-ee.com

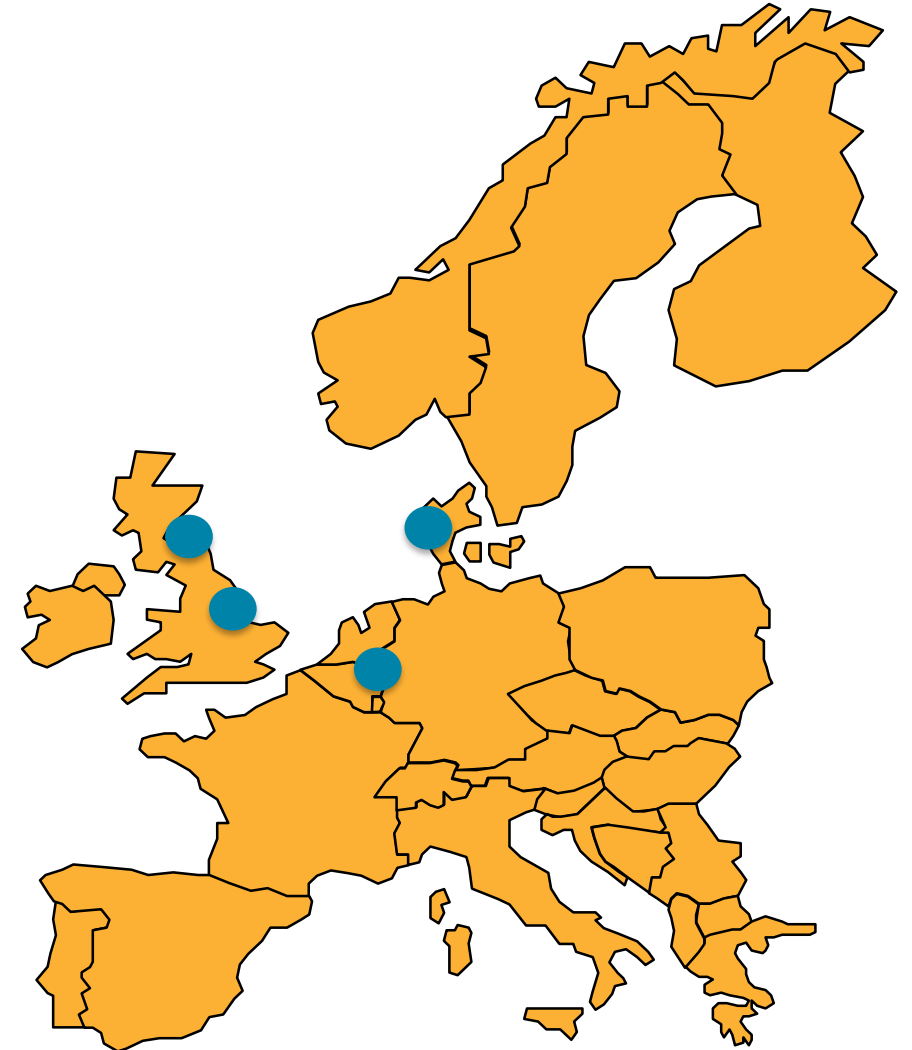
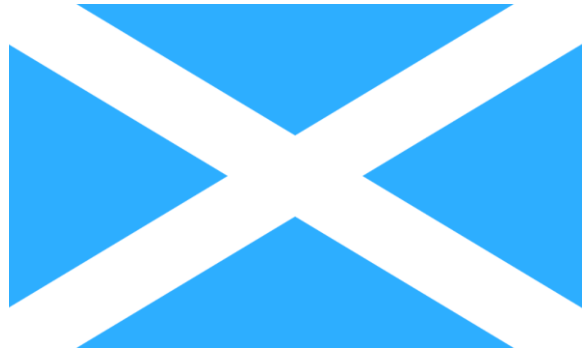


New services and products based on connection with the consumer

1. Introduction to new energy and Delta-ee
2. The consumer
3. Connecting the consumer
4. Customer and data = value
5. The smart home
6. Home services
7. New energy offerings

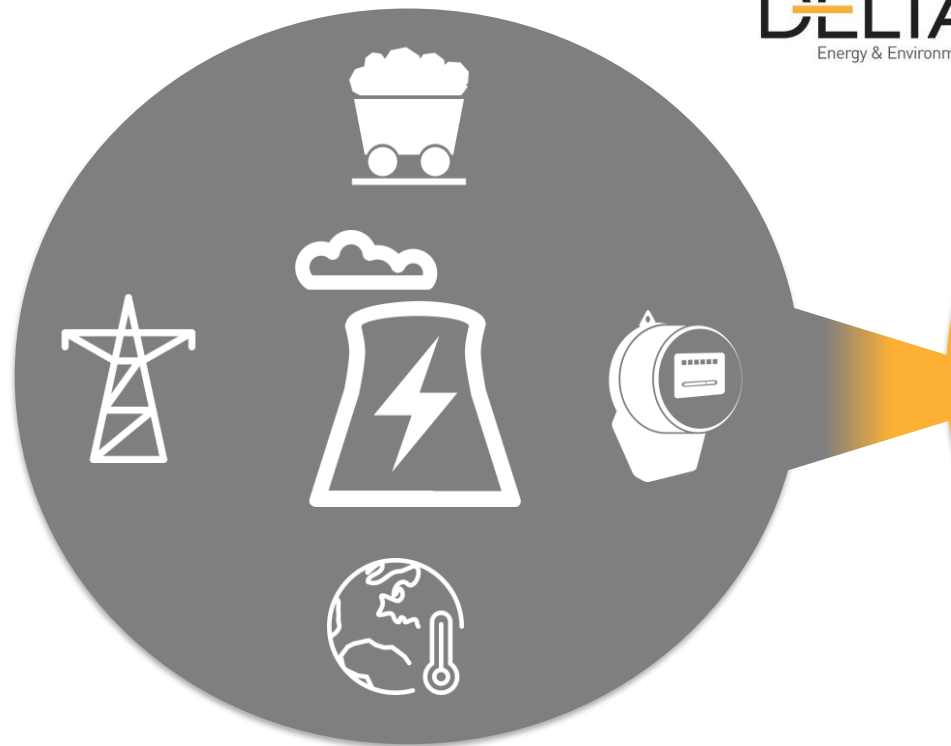
DELTA

Energy & Environment



Advisory services to succeed in this transition

Old Energy



**Fossil driven, CO₂ intensive,
Centralised, Meter-centric**

New Energy

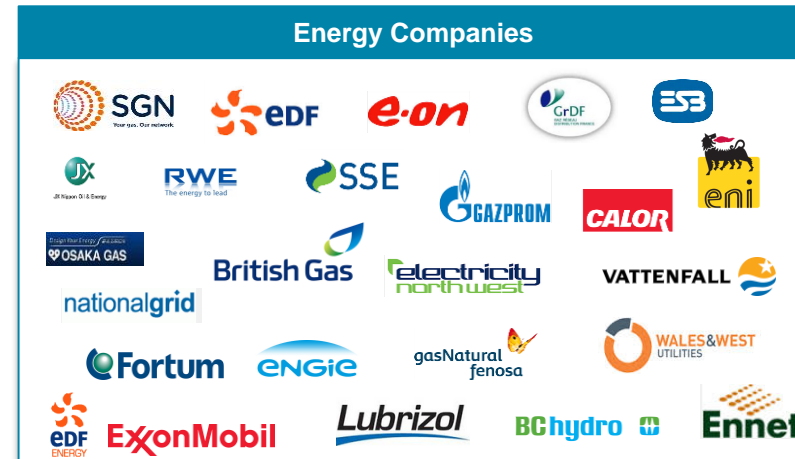


**More renewables, Cleaner,
More distributed, Digital,
Customer-centric**

Delta-ee is the leading provider of market research services for helping you succeed in the transition from 'old' energy to 'new' energy.

Characteristics

'Old' energy		'New' energy
Centralised	⇒	Distributed
Carbon intensive	⇒	Low carbon
Commodity sales	⇒	Service based
Meter points	⇒	Customer centric
Upstream value	⇒	Downstream value



Research Services and Multi-Client Studies

Digital Research

- ▶ Connected Home Service
- ▶ Customer Data Value Advisory Service



Heat & Cooling Research

- ▶ Electrification of Heat Service
- ▶ Gas Heating Service



Alternative Business Models in the Energy Sector

- ▶ 'New Energy' Business Model Service
- ▶ Energy Services Innovation Multi-Client Study

Electric Vehicles & Electricity Service

EVs & Electricity Research Service



Distributed Generation & Flexibility Research

- ▶ Energy Storage Service
- ▶ Flexibility
- ▶ Distributed Power Service
- ▶ Microgrids

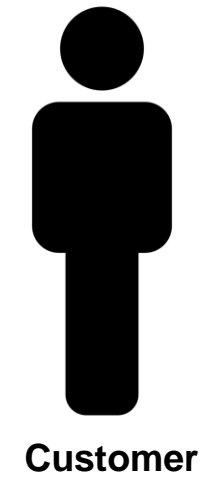
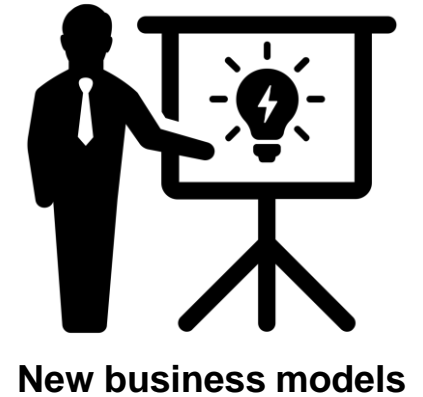
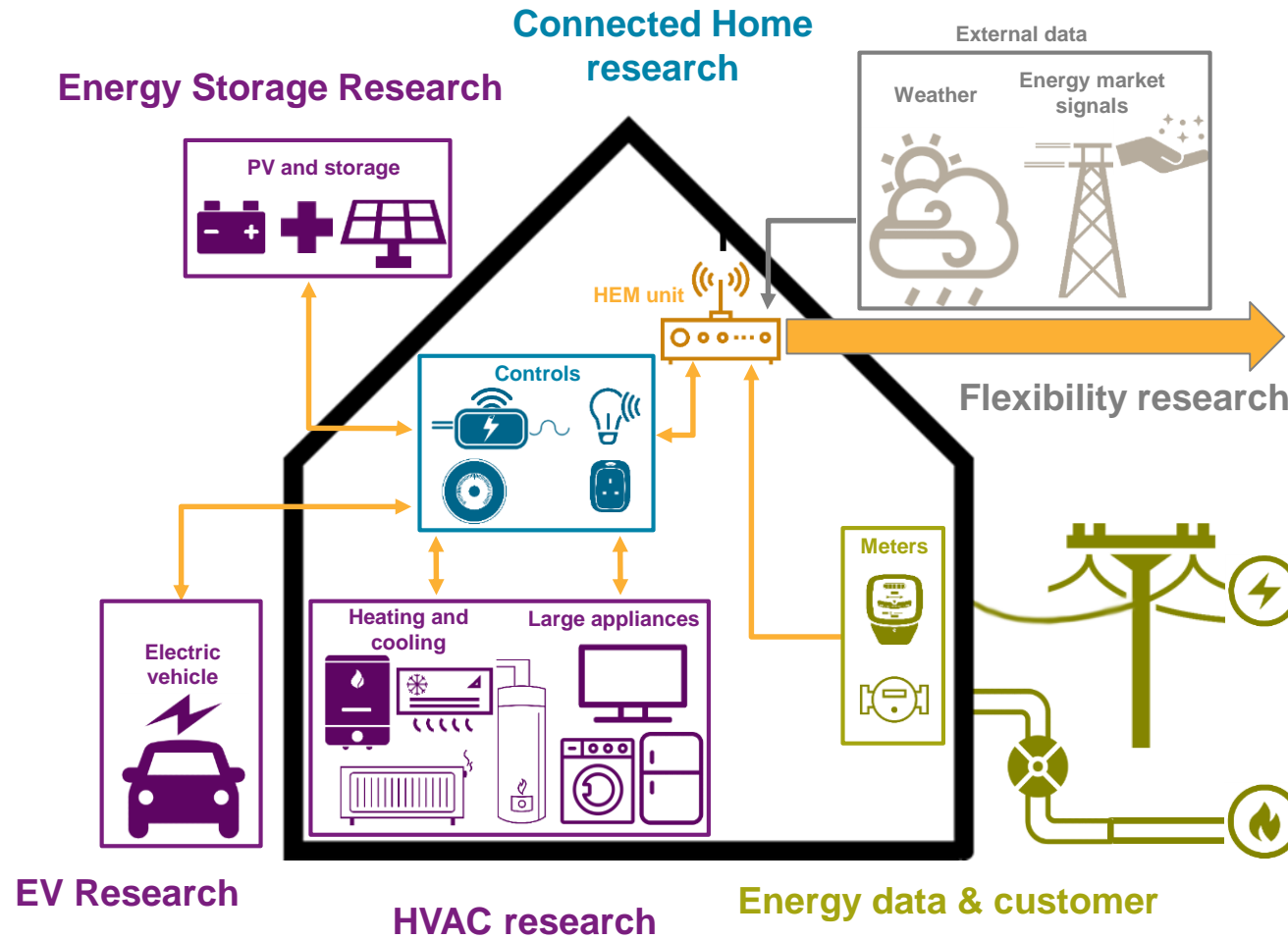


Knowledge Based Consulting

- Market analysis and forecasts
- Strategy
- Propositions and customer research
- Technology and product
- Policy & regulation
- Demand forecasts



What the changes of the energy system mean in the home



Helping clients navigate the transformation of the energy system



New services and products based on connection with the consumer

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An example of the market evolution

1973

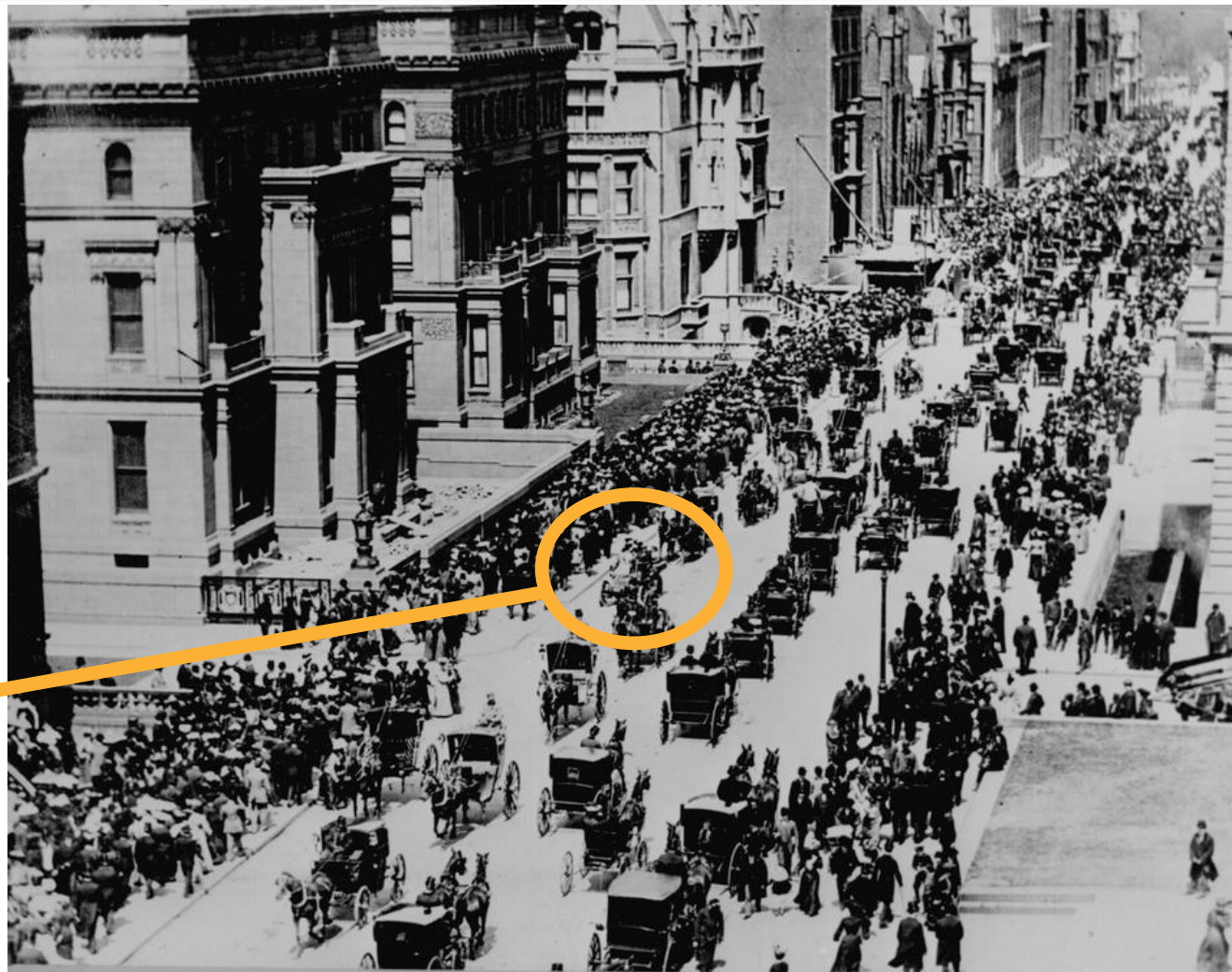


2018



5th AVE NYC
1900

**Where is
the
car?**



5th AVE NYC
1913

Where is
the
horse?



Old versus smart thermostat





“One thing I love about customers is that they are always discontent. Their expectations are never static – they go up”

Jeff Bezos, Founder and CEO Amazon



Old versus smart meter



New Automated Meter

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Governments will force connectivity

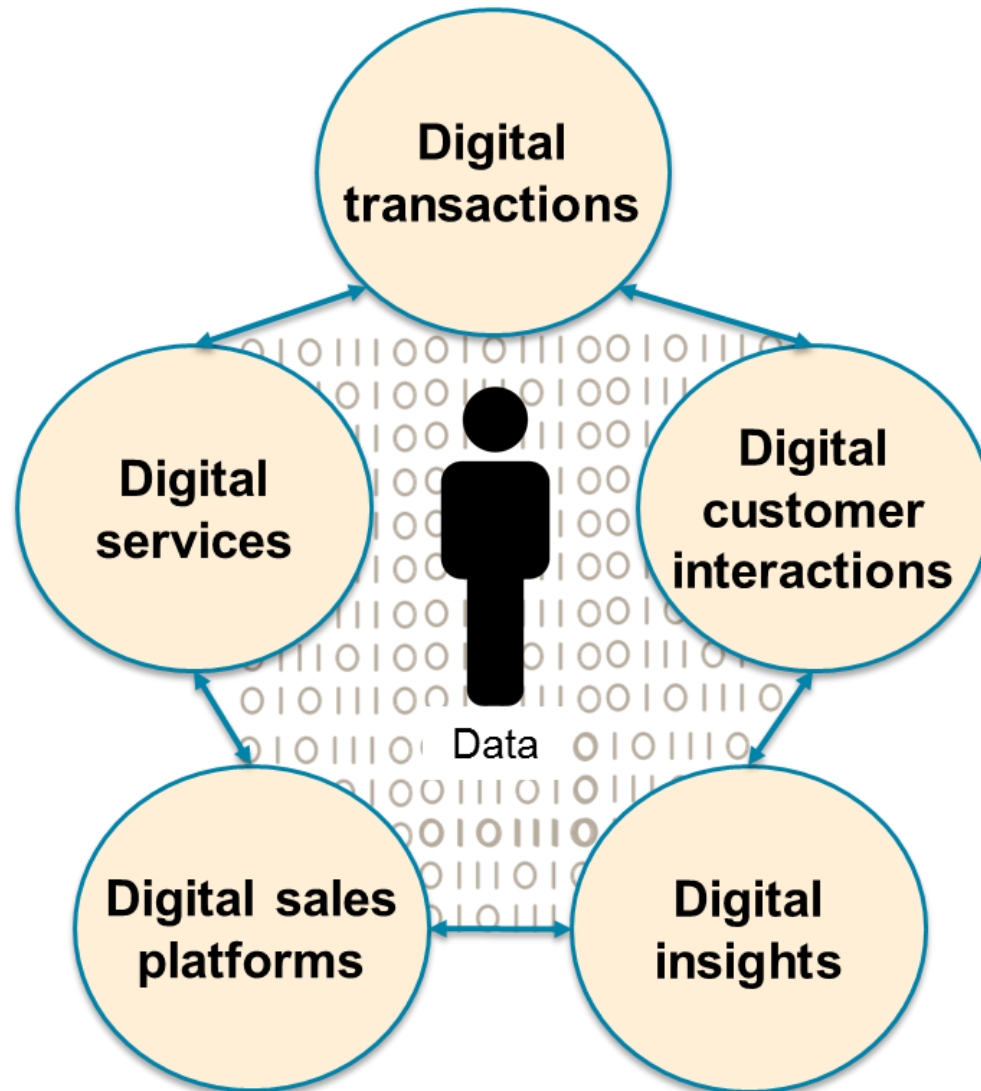


Consumers will buy gadgets



The industry will offer digital services

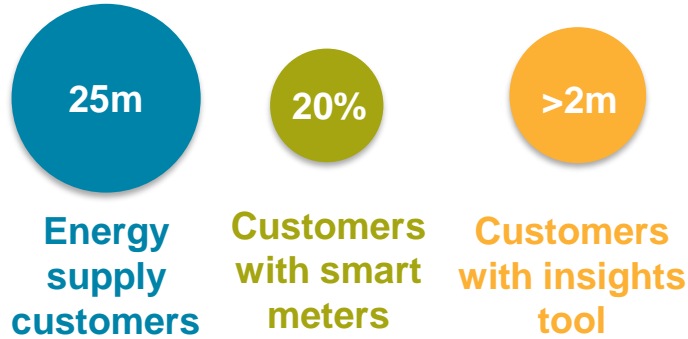




New services and products based on connection with the consumer

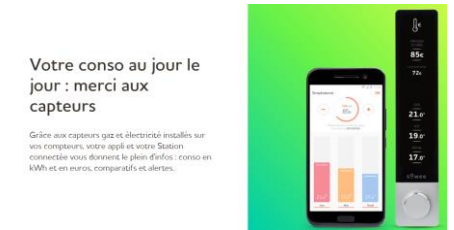
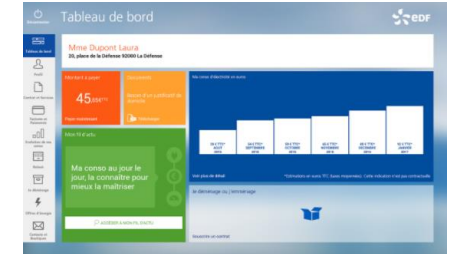
1. Introduction to new energy and Delta-ee
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Company information



Smart meter rollout status in country

- ▶ ~20% smart electricity meters installed
- ▶ Standard data granularity of 30m.
- ▶ More granular insights available with additional hardware.



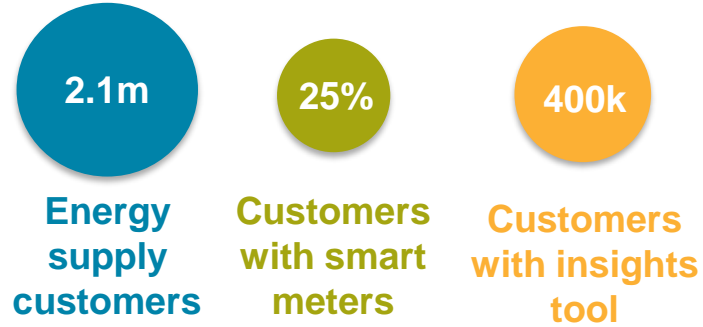
Offers 1: e.quilibre

- ▶ Available to both smart and dumb meter customers
- ▶ Daily consumption data for smart meter customers
- ▶ Monthly consumption forecasts
- ▶ Comparisons with similar homes
- ▶ Generic energy efficiency tips
- ▶ Estimated appliance disaggregation
- ▶ Billing through app

Offer 2: Sowe (subsidiary of EDF)

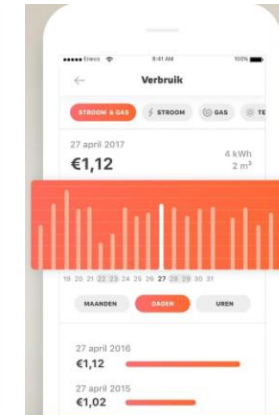
- ▶ Connected heating controls and sub-metering readers
- ▶ Real-time consumption monitoring
- ▶ Daily consumption forecasts
- ▶ Comparisons with similar homes
- ▶ Generic energy efficiency tips
- ▶ Budgeting alerts

Company information



Smart meter rollout status in country

- ▶ ~25% completed
- ▶ 10s consumption data for electricity
- ▶ Hourly consumption data for gas



Offers 1: Mijn Eneco

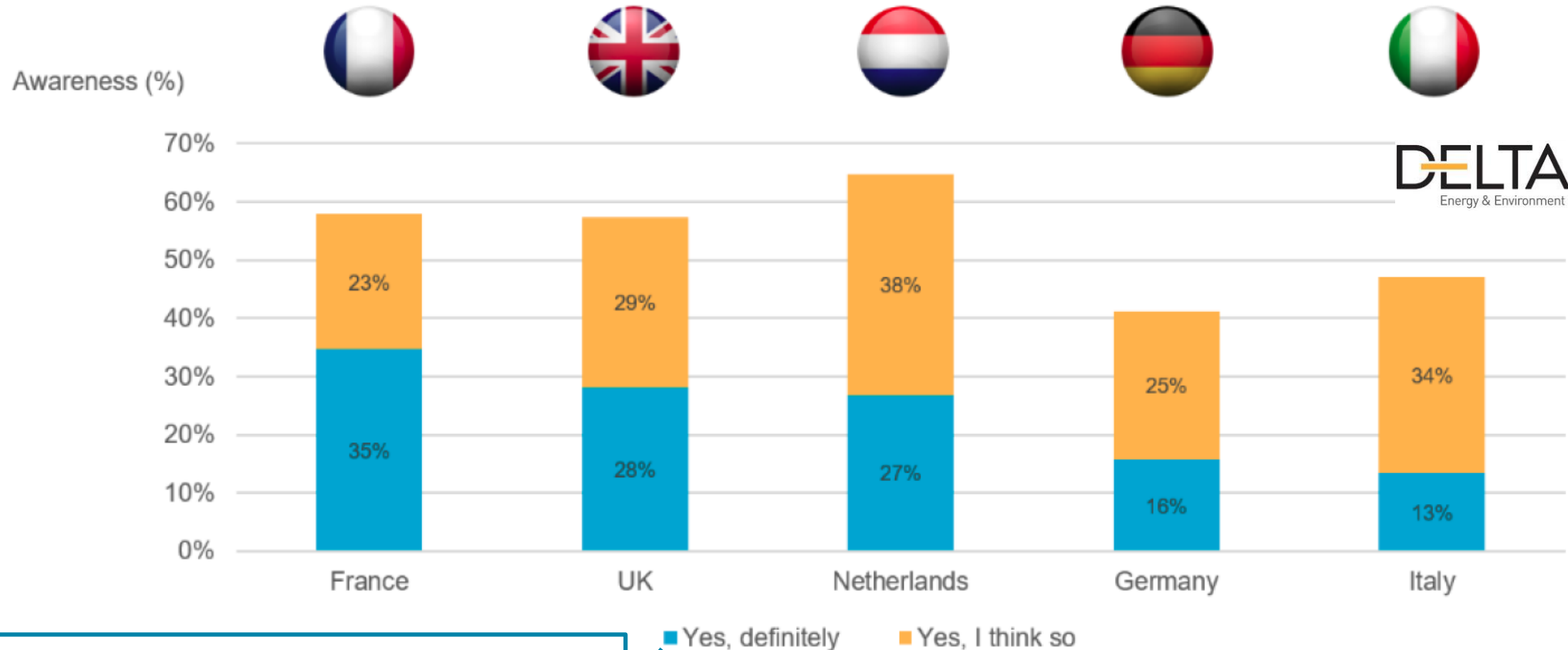
- ▶ Real-time / daily consumption data
- ▶ Monthly consumption forecasts
- ▶ Comparisons with similar households
- ▶ PV monitoring and automatic heating controls via Toon smart thermostat
- ▶ Disaggregation of large appliances, heating, and hot water
- ▶ Appliance efficiency alerts, as well as generic efficiency tips



Offer 2: Oxxio (subsidiary of Eneco)

- ▶ Available to anybody (including non-customers) with and without smart meters
- ▶ Daily-monthly energy consumption monitoring
- ▶ Monthly consumption forecasts
- ▶ Budgeting alerts

Awareness of energy insight propositions by country (%)



Utility Landscape

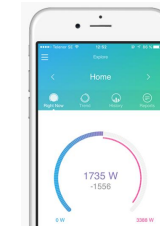
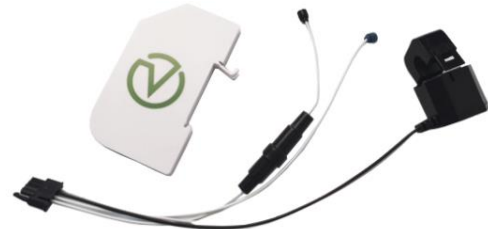
Typical data granularity

High



Low

Hardware component	Combination	Software-only solutions



Energy insight propositions are available in most Western European markets, usually with fairly basic functionality. The most sophisticated propositions include...



Consumption forecast



Disaggregation of appliances



Consumption comparison



Solar PV generation monitoring and battery storage status



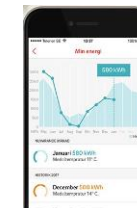
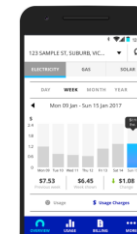
Tailored energy efficiency tips



Electric vehicle consumption monitoring



Budgeting features

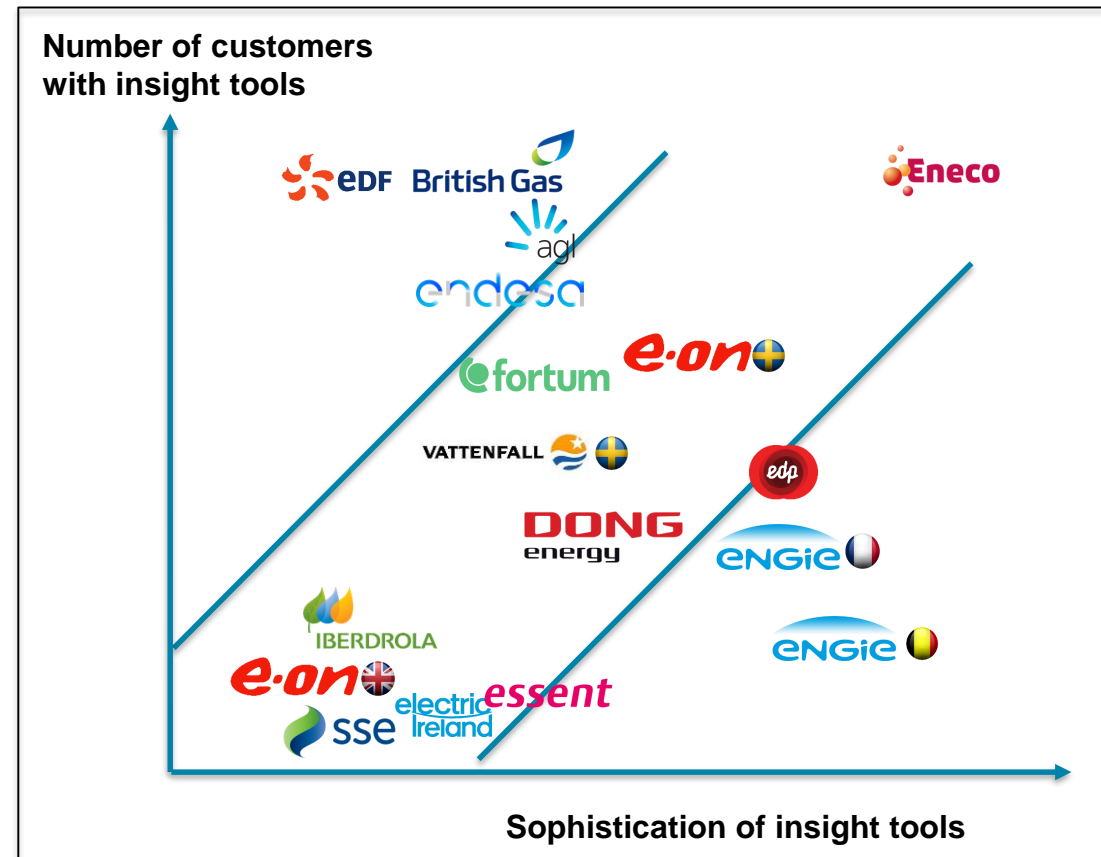


Investment in energy insight tools has reached a point of no return

Energy insight tools will become a customer service norm

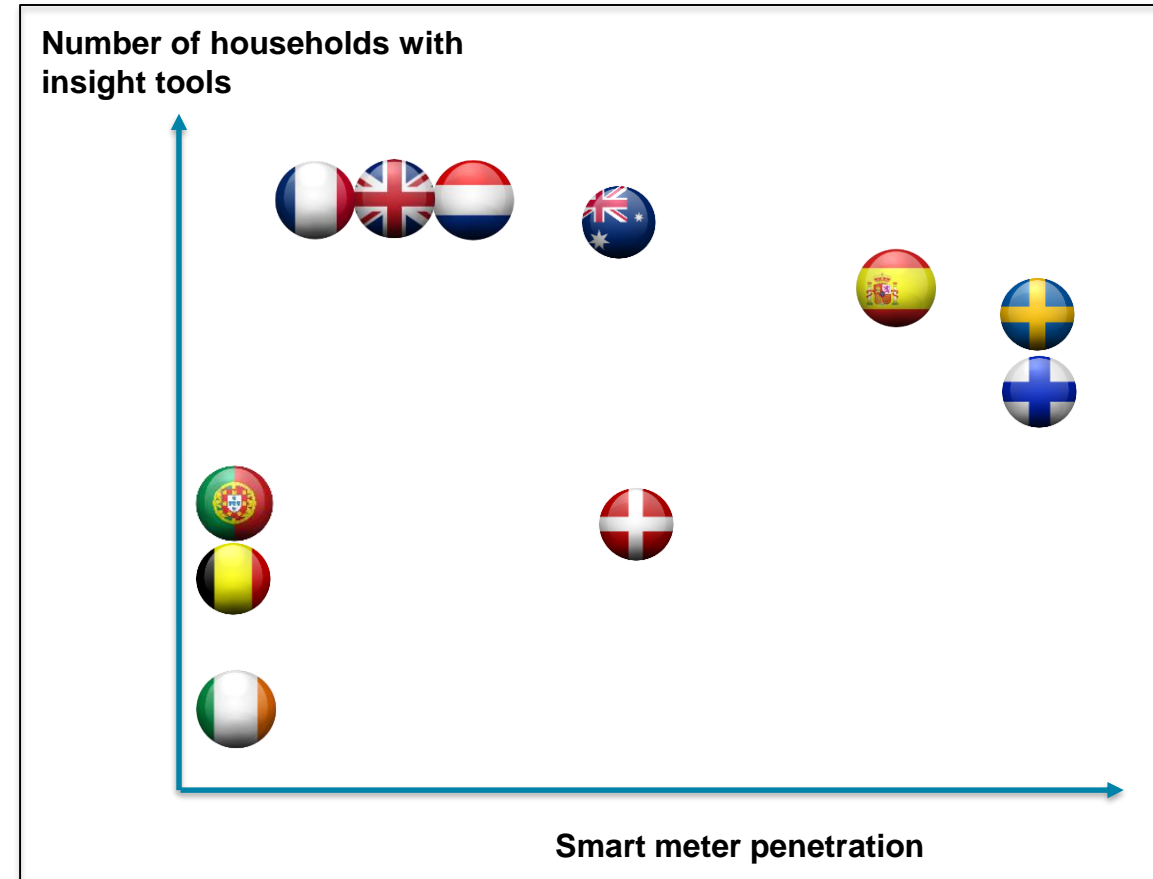
- ▶ Energy insight tools are available in most Western Europe markets
- ▶ Some suppliers have been investing for a number of years
- ▶ There's a correlation between the sophistication of energy insight products and usage
- ▶ Smart meter rollout programme
- ▶ Increasing customer engagement
- ▶ Evidence of early success

Number of energy insight tool customers per energy supplier versus complexity of insight tools provided



Number of energy insight tool customers per country against the electricity smart meter penetration

- ▶ Smart meter data is valuable input, but not essential to energy insight propositions
- ▶ Potential to use smart home data to estimate non smart meter homes:



Energy insight tools are transforming some customer relationships

Suppliers who have invested in quality energy insights tools are seeing improved customer relationships

We are in the habit of setting ourselves a daily limit and our smart meter warns us when we are close to reaching it. It's working really well as a guide for us, and it helps us balance out the energy we use across a week

You can see exactly how much you've spent by each second. No more nasty surprises when you get your quarterly bill



Smart meters have definitely helped me stop fussing around with bills, it's helped me see usage much more clearly now.

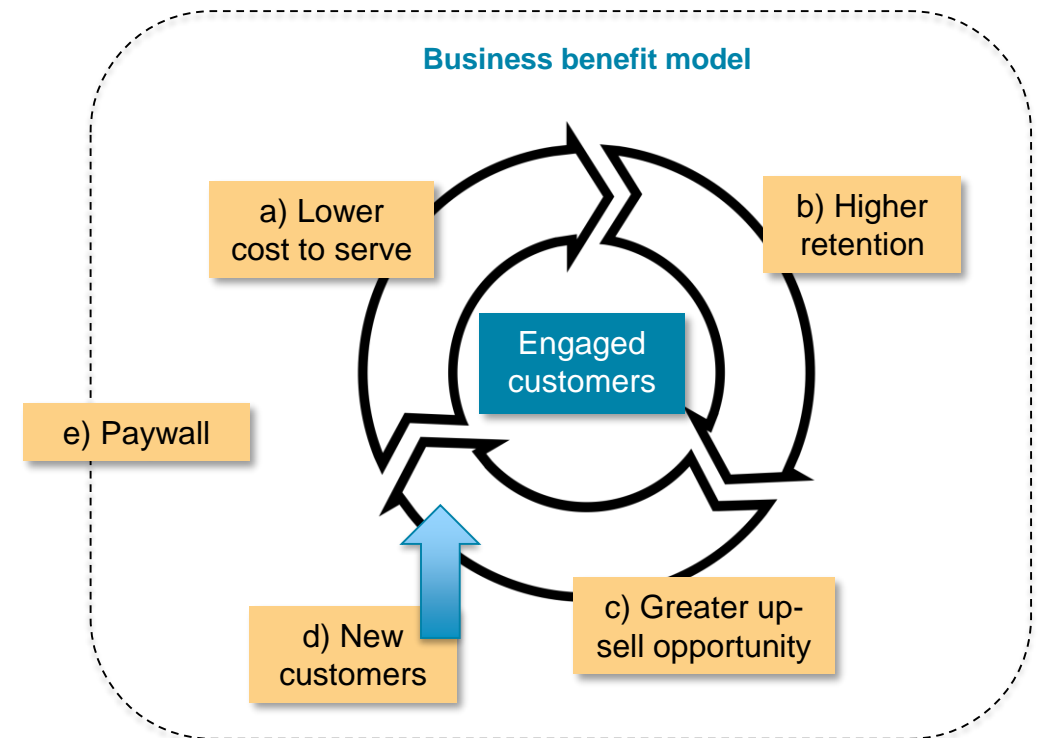
I now make sure my washing machine has a full load before using it and I only boil enough water in my kettle for my tea rather than boiling a full kettle each time

Source: residential customer comments of various European energy suppliers' energy insight propositions

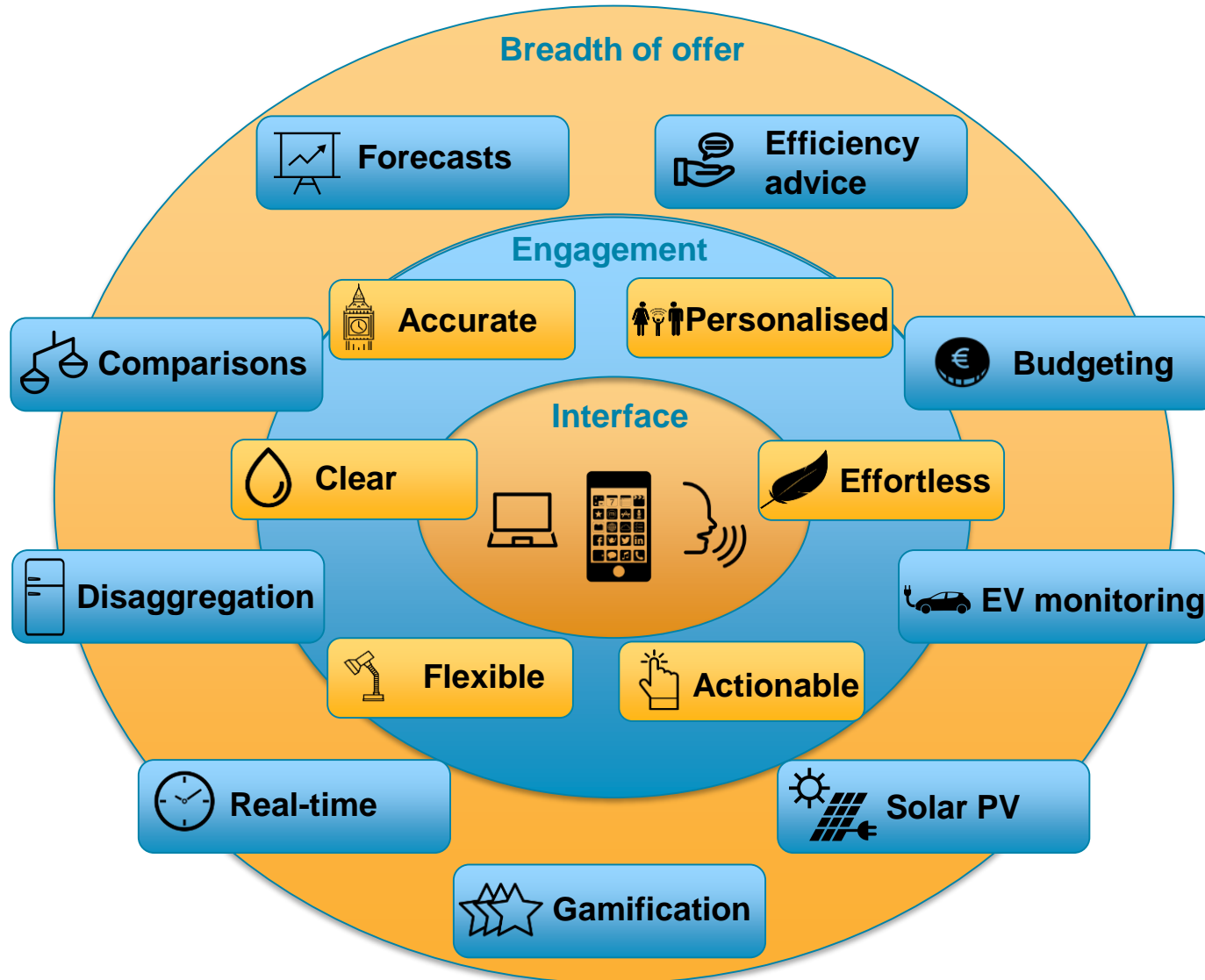
Suppliers with energy insights propositions are starting to see improvements in hard business metrics

Propositions are typically not that mature, yet suppliers are starting to see evidence of value. Delta-ee's view is that the commercial metrics will naturally follow earlier indicators of customer satisfaction, and harden over time:

- a) **Low cost to serve:** greater customer engagement and understanding of their bills will lead to customer contact reduction
- b) **Higher retention:** high customer satisfaction reduces the need to look for a new energy supplier
- c) **Greater upsell/cross-sell:** greater energy consumption insight and deeper, more trusting customer relationships provide the bedrock for more successful cross and up sell activity
- d) **New customers:** energy insights are likely to become a decision criteria in searching for a new supplier
- e) **Revenue stream:** European energy suppliers have adopted different commercial models using energy insight tools



To succeed, propositions must change focus from being product to customer led



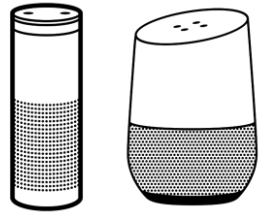
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My smart home



Smart home US successful actors



>30M customers



>1.3M customers

Special Offer: Get a Free Amazon Echo
While supplies last. (See for details)

24x7 Monitoring
Continuous monitoring and support that stays up all night so you can rest easy.

Call now for **Professional Installation**
844.577.4638

Examples of 24x7 Monitoring Packages

wink
>1M customers



~800k customers

ADT Pulse®
ADT Starter Kit
PLUS an Indoor Camera
Installed For Just
\$49⁺
FOR A LIMITED TIME
\$400 Savings!

Call Now 800.521.0772

36-month monitoring contract. Early termination & activation fees apply. Enrollment in QSP & required. Certain markets excluded. See terms and conditions.



~600k customers

XFINITY Home - Secure	<ul style="list-style-type: none"> 24/7 Security & Professional Monitoring Home Control Energy & Money Savings 	Equipment Included with New System: 1 Touch Screen Controller (provided during the term of service only) 3 Door/Window Sensors 1 Motion Sensor 1 Wireless keypad	Free Professional Installation Includes: • Personal assessment of your home to create a customized security and control system • Professional in-home installation by an XFINITY Home technician • Tutorial on how to get started with your XFINITY Home security and control system	FREE Camera for the first 12 months With 2 year agreement. Early termination fee applies.
Learn More				Pricing & Other Info Add To Cart
XFINITY Home - Secure	<ul style="list-style-type: none"> 24/7 Security & Professional Monitoring Home Control Energy & Money Savings 	Equipment Included with New System: 1 Touch Screen Controller 3 Door or Window Sensors 1 Motion Sensor 1 Wireless keypad	Professional Installation Starting at \$50 Includes: • Personal assessment of your home to create a customized security and control system • Professional in-home installation by an XFINITY Home technician • Tutorial on how to get started with your XFINITY Home security and control system	\$29⁹⁹/mo With 2 Year agreement. Early termination fee applies.
Learn More				Pricing & Other Info Add To Cart

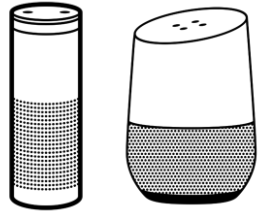


~500k customers

AT&T Digital Life Explore Shop Support Get Digital Life: 866.464.8089

<p>Smart Security</p> <p>24/7 professionally monitored home security with window and door sensors, a motion sensor, indoor siren and more, to help protect what matters most to you.</p> <p>Includes \$700 in equipment!</p> <p>What's included</p> <p>Add to cart</p> <p>\$39.99/month \$29.99 due today</p>	<p>Smart Security and Automation</p> <p>Get everything in the Smart Security package, plus our most popular home automation features – an outdoor video camera and remote access door lock. Secure and automate your home and control devices from virtually anywhere.</p> <p>Includes \$1000 in equipment!</p> <p>What's included</p> <p>Add to cart</p> <p>\$54.99/month \$49.99 due today \$24.99 due today</p>	<p>Premium Security and Automation</p> <p>The ultimate in home security and automation. Get everything in the Smart Security and Automation package plus energy features like temperature and light control, and water detection to help prevent water damage.</p> <p>Includes \$1700 in equipment!</p> <p>What's included</p> <p>Add to cart</p> <p>\$64.99/month \$99.99 due today</p>
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Smart home EU actors with the highest number of customers



>3M customers



400k customers



2M customers



200k customers



700k customers



650k households



350k customers



BOSCH

300k connected
boilers



Toe in the water (< 0.1M customers)



Managed risk (0.1-1M customers)



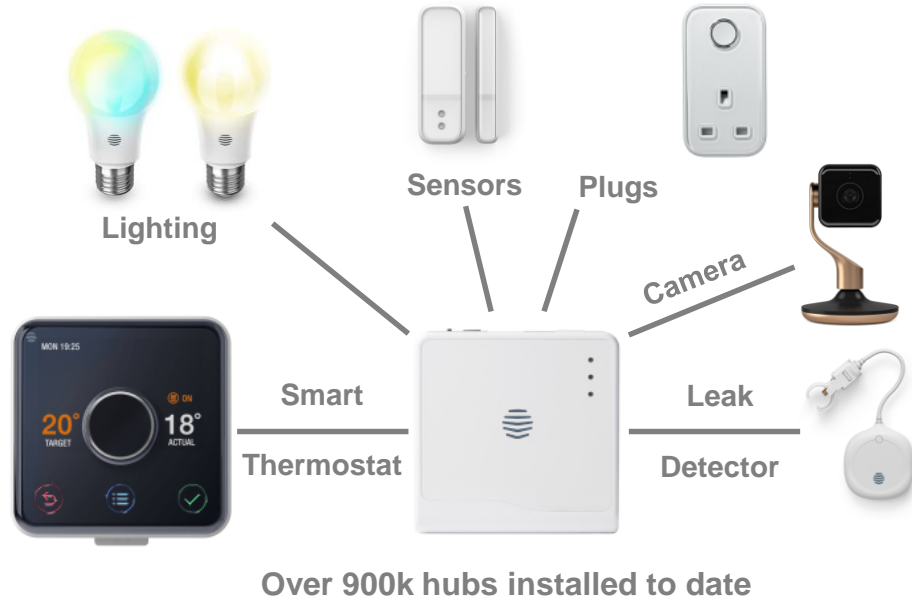
Mainstream strategy (> 1M customers)

Short term examples:

- ▶ Platform as a service
- ▶ Bundle with core product
- ▶ NPS / churn / acquisition
- ▶ Reducing operational costs

Longer term examples:

- ▶ Home Energy Management
- ▶ Demand Response
- ▶ Enabling new energy business models
- ▶ Monetising data analytics in house



New revenue streams

Boiler IQ
£3 / month



Subscription plans
£4 - 30 / month

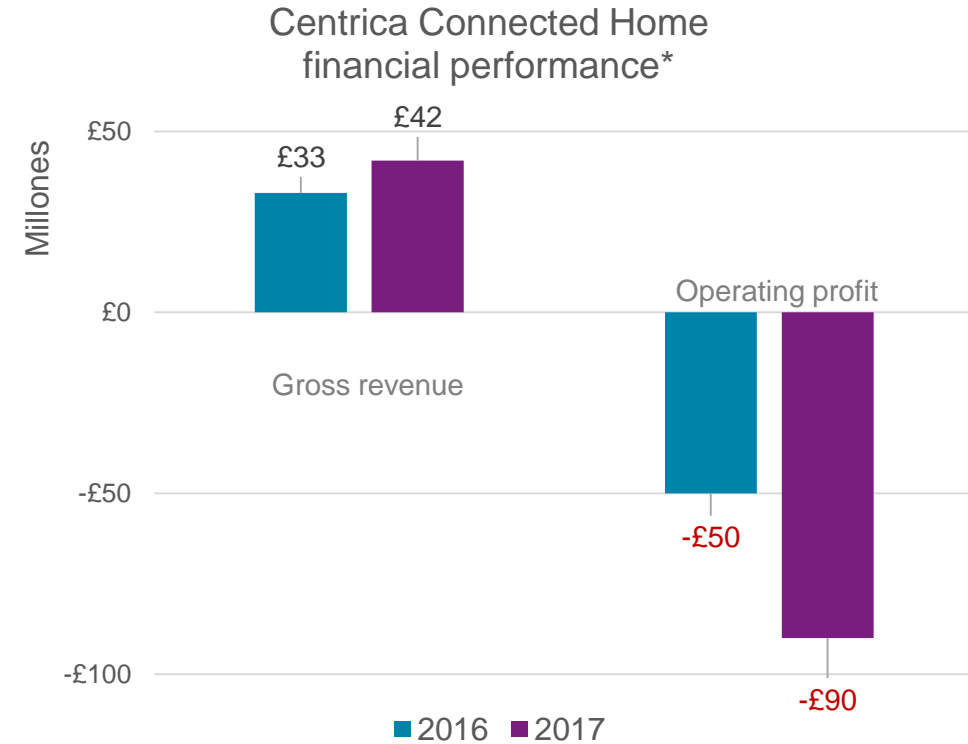


International expansion



Challenges Hive is facing

- ▶ Need to shift from hardware sale to recurring service revenue

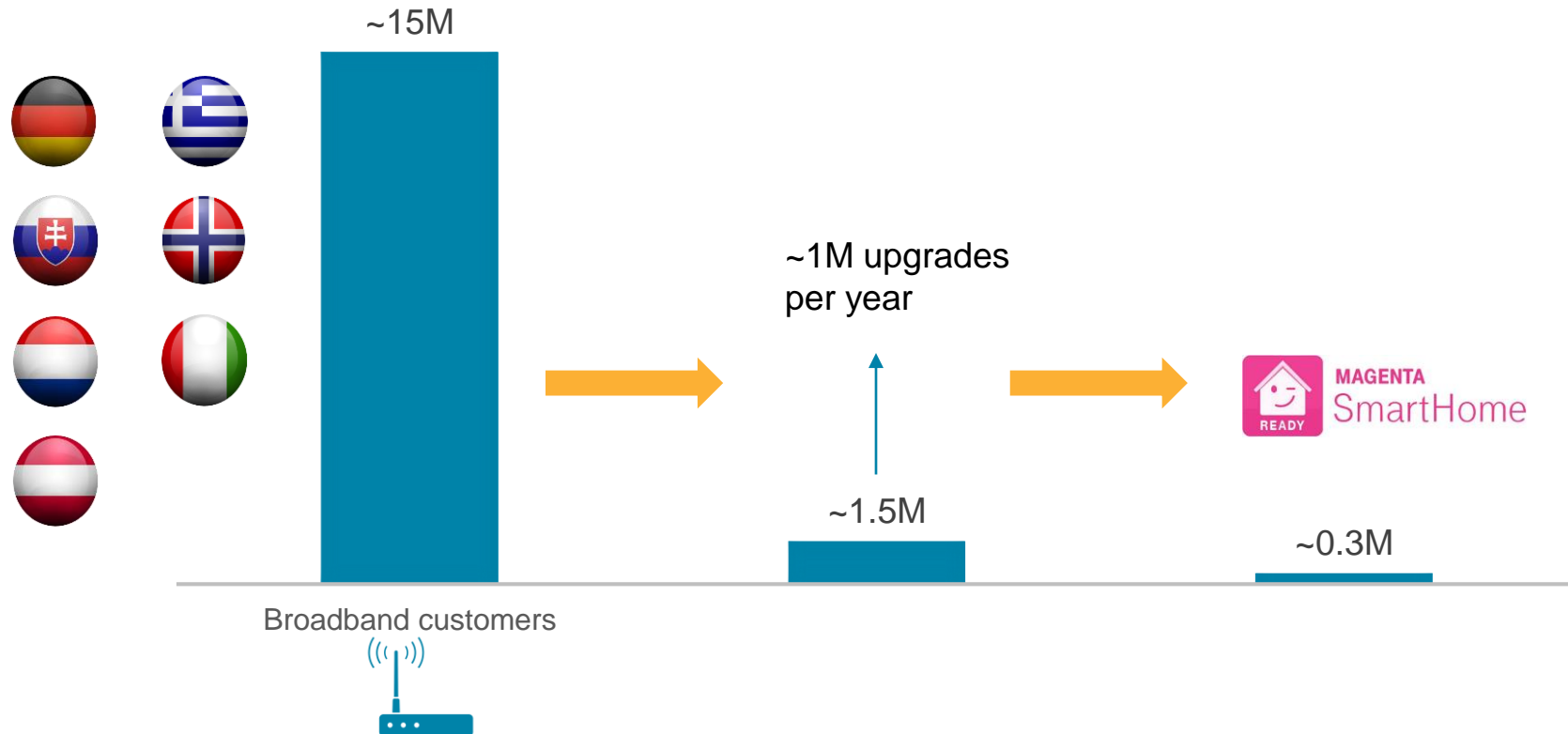


*Source Centrica Annual Report and Accounts 2017



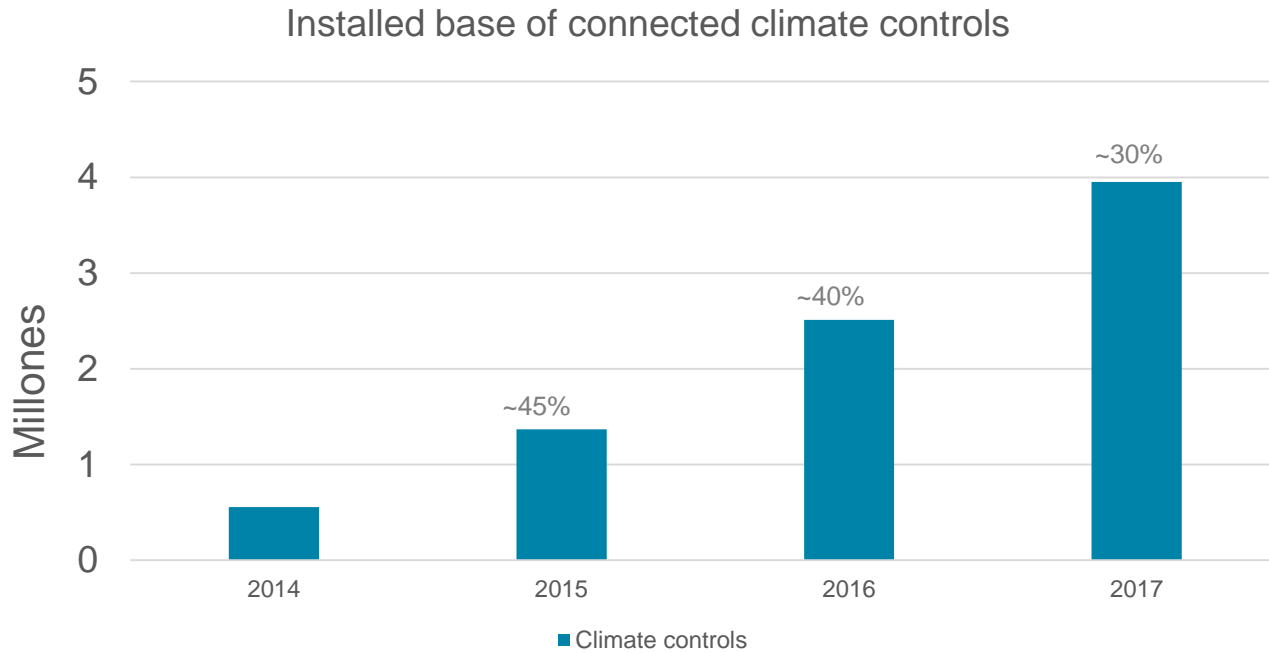
Deutsche Telekom had its strongest year to date with ~120k new connected home customers.

DEUTSCHE TELEKOM FIGURES IN GERMANY (NUMBER OF HOUSEHOLDS)




How fast has the growth been – case of connected climate controls

~4M European households with connected climate controls

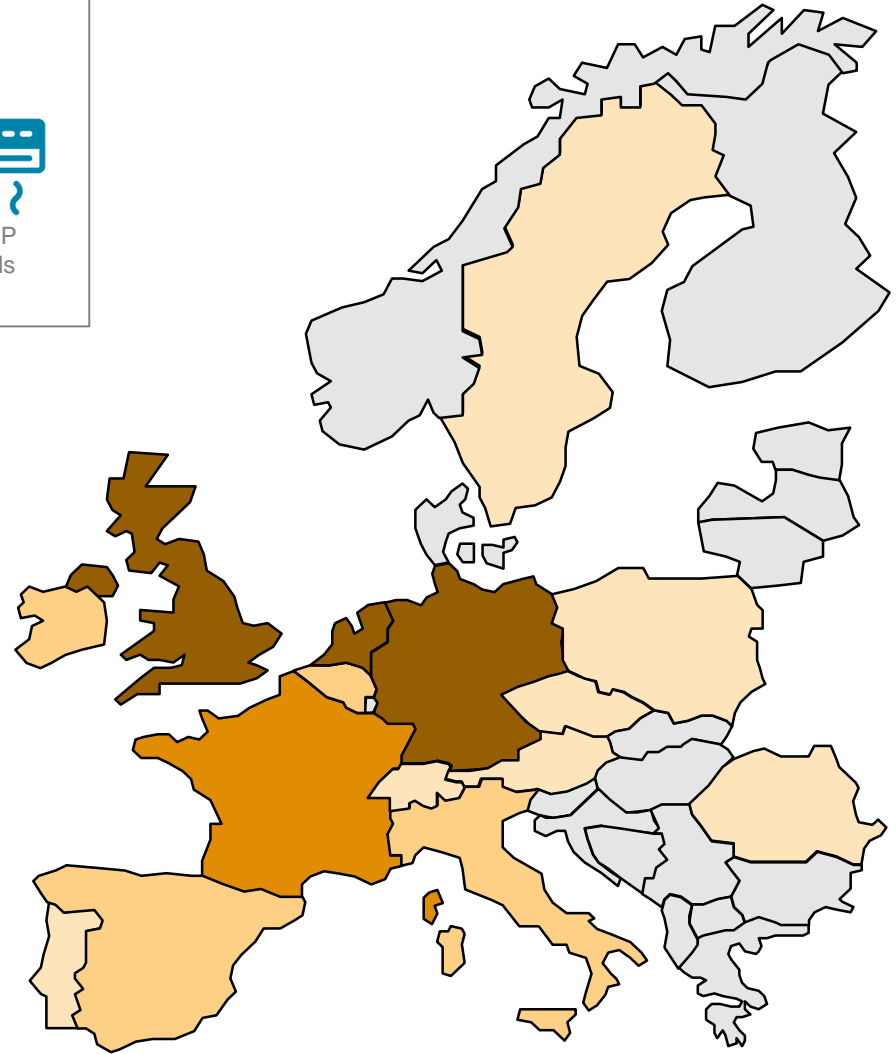


Penetration of connected climate controls in Europe

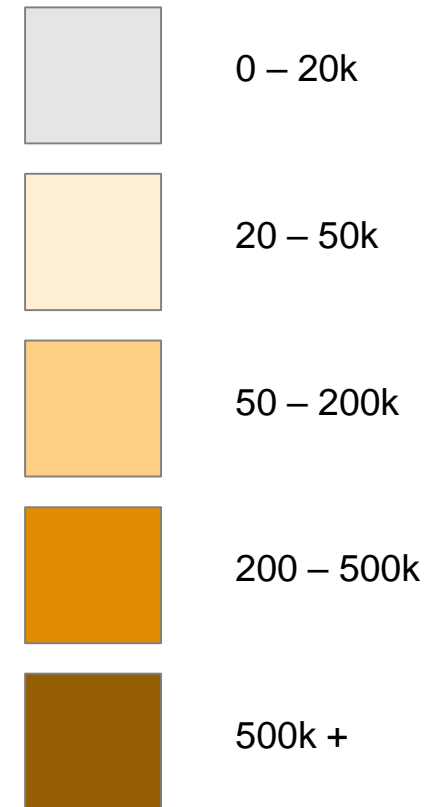
Products covered:



Connected radiator valves Smart thermostats AC / HP controls



Installed base for climate controls:

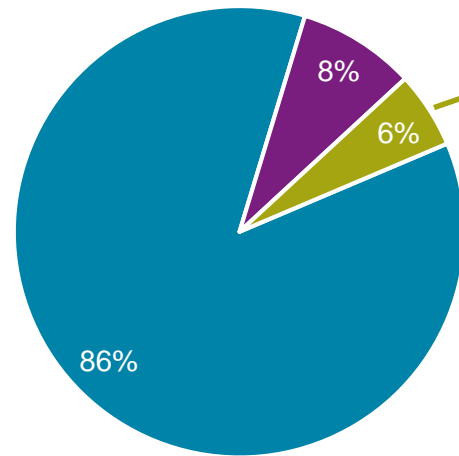


What is the value of the market today?

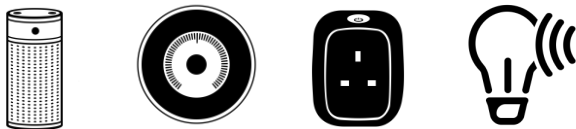
~€700M

Customers spending in Europe on connected home products in 2017*

Customer spending in Europe in 2017*



- Spend in product purchases
- Spend in installation
- Spend in subscriptions



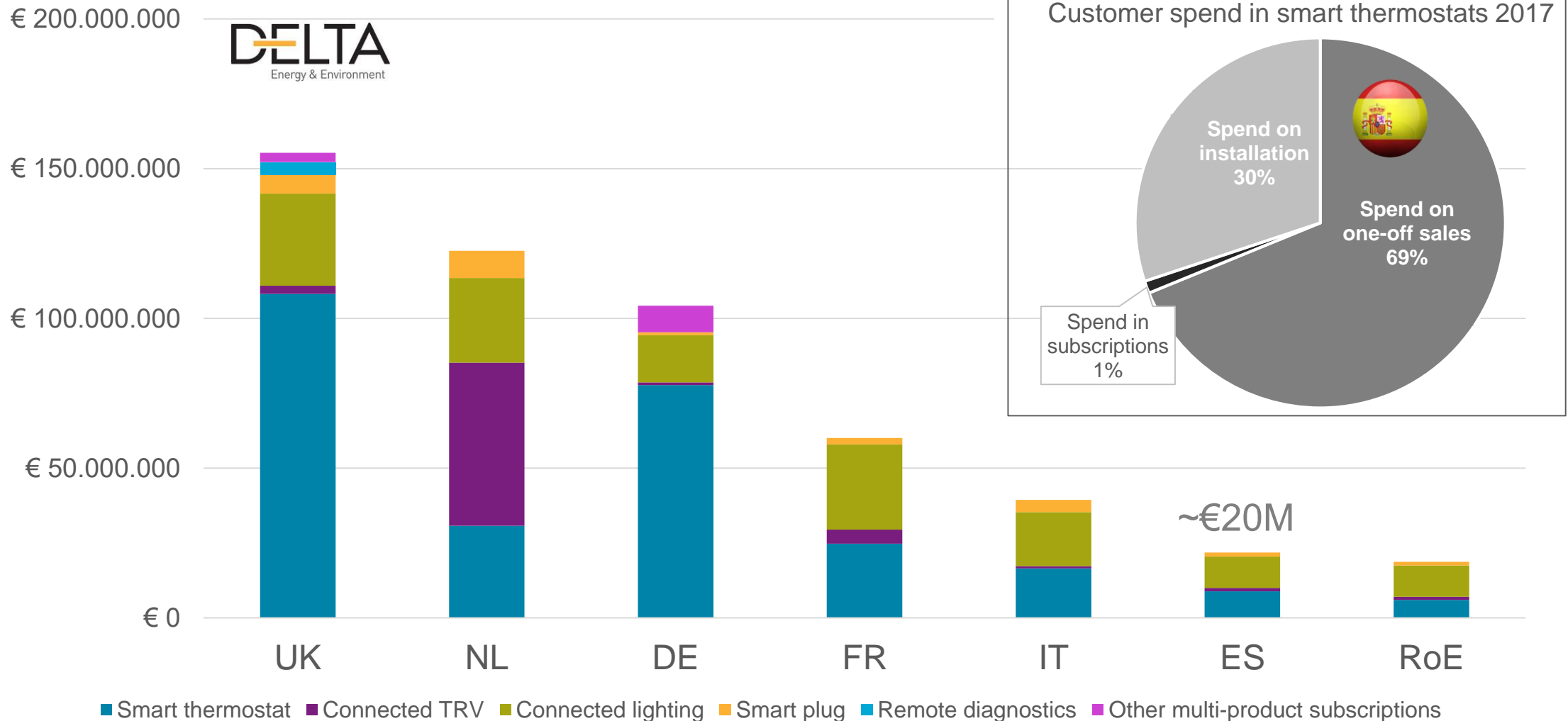
Four main types of subscriptions

- ▶ 'Access fee' for smart functionality
- ▶ 'Rental model'
- ▶ 'Product bundles'
- ▶ 'Added value services'

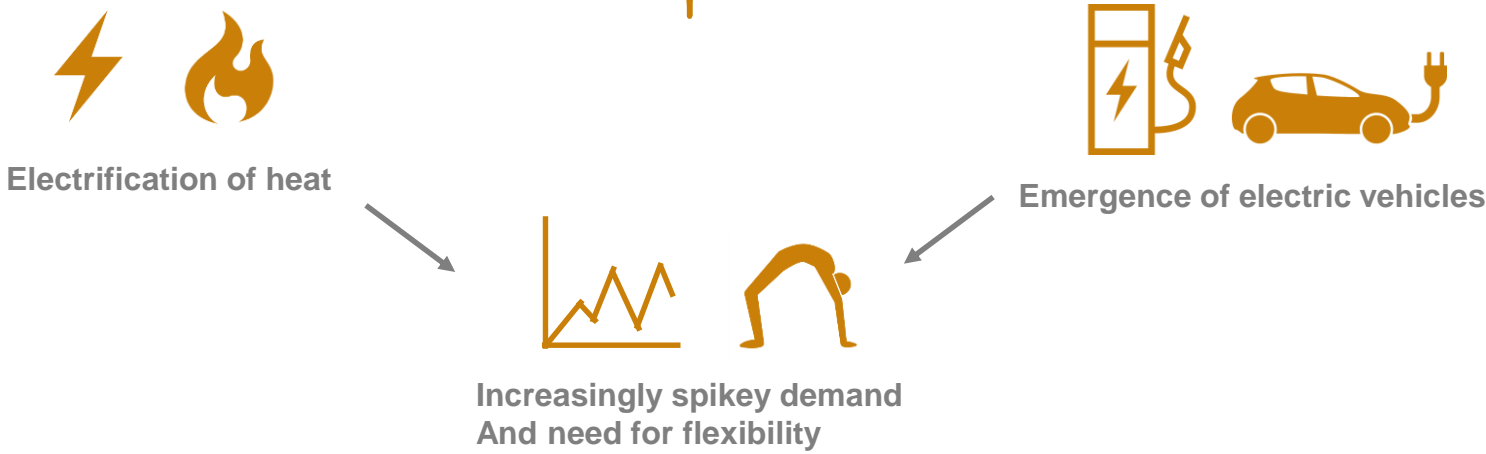
Example:



Customer spend on connected energy products in 2017

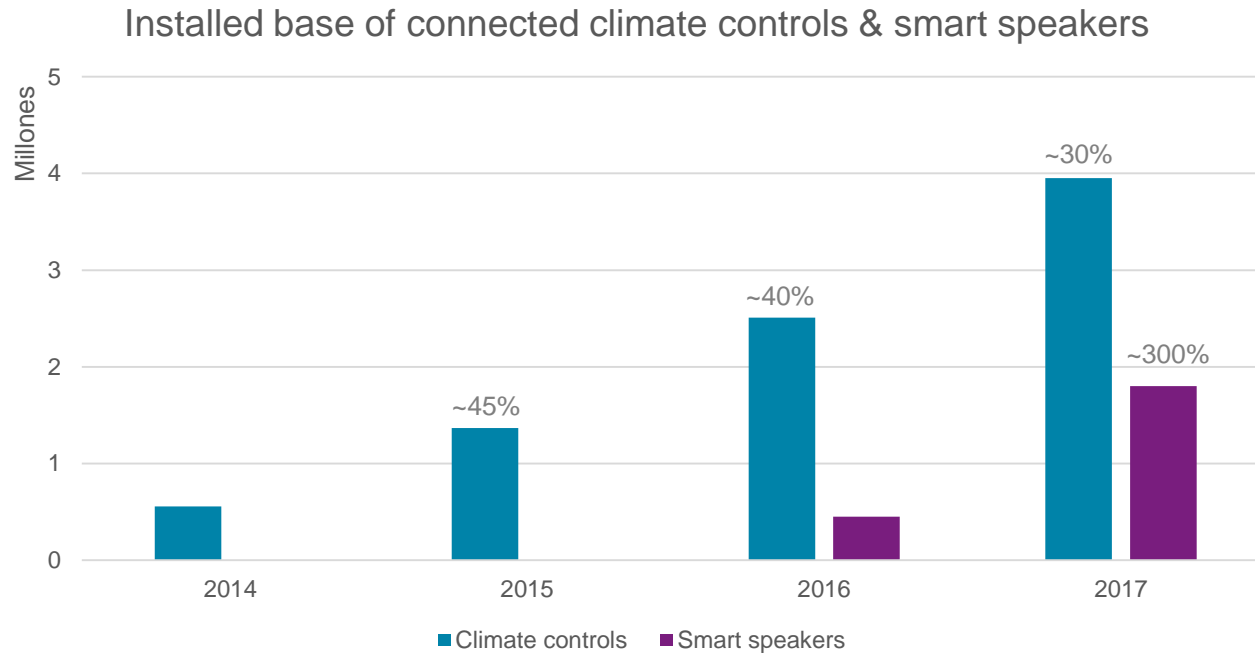


Connected controls expanding to electric heating & cooling

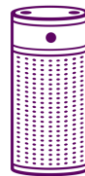
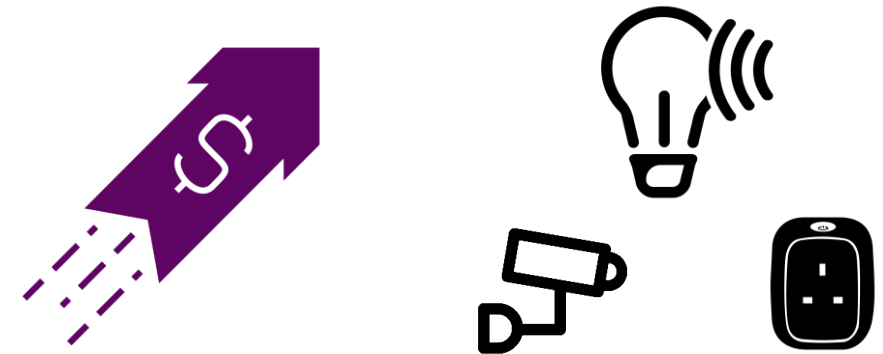


The voice control market will explode

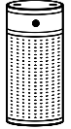
~4M European households with connected climate controls



Smart speakers have provided a huge boost in sales for DIY smart home products – especially smart lighting



Smart speakers



After only one year in the European market, smart speakers were already the best selling connected home product.



amazon echo
Google Home
Apple HomePod

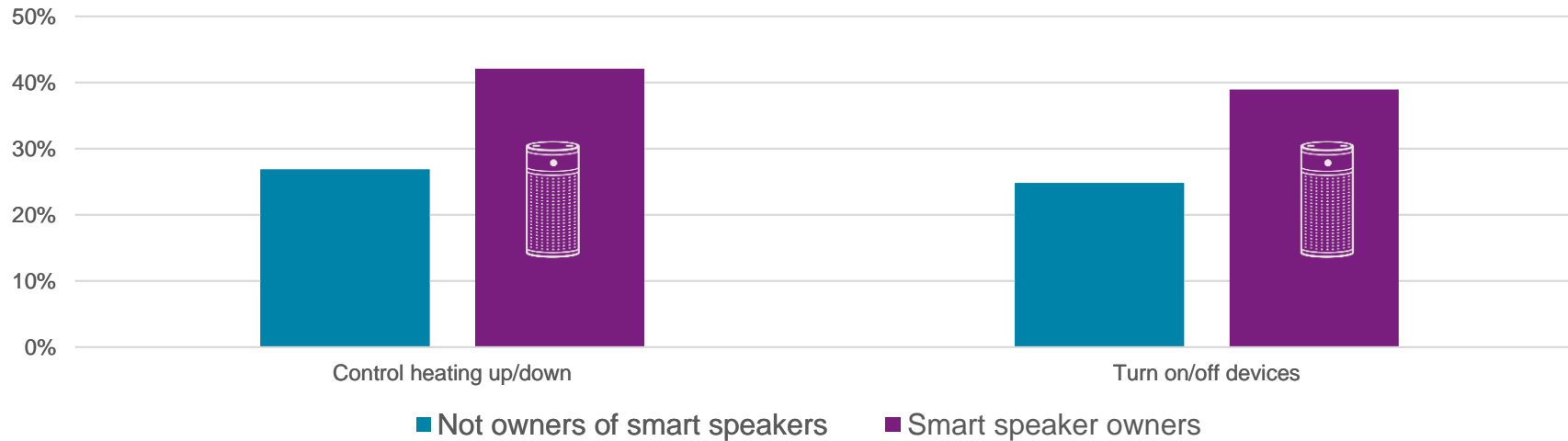


Google Home
amazon echo Apple HomePod



Google Home

Smart speaker owners find smart home use cases more appealing



Security companies – major smart home players?



verisure
SMART ALARMS



ORIGINE
FRANCE®
GARANTIE
BVCert. 6133021

eps



Smart camera



Smart lock



Smart heat pump control

Panasonic

egardia

Upgrade your home ...

... to a Secure Smart Home

... to a Comfortable Smart Home

→ Home Security

→ Smart Home

All companies are fighting for the gateway in the home



Hive Hub 360
£99

[LEARN MORE](#)



Hive Hub
£80

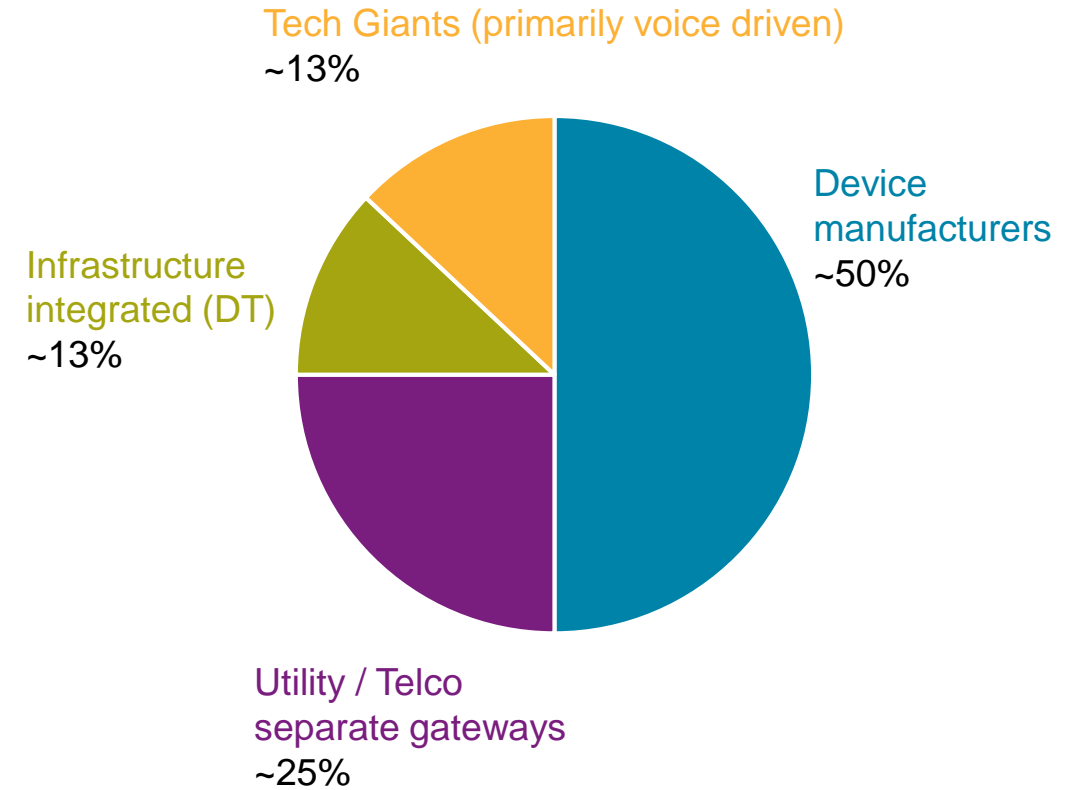
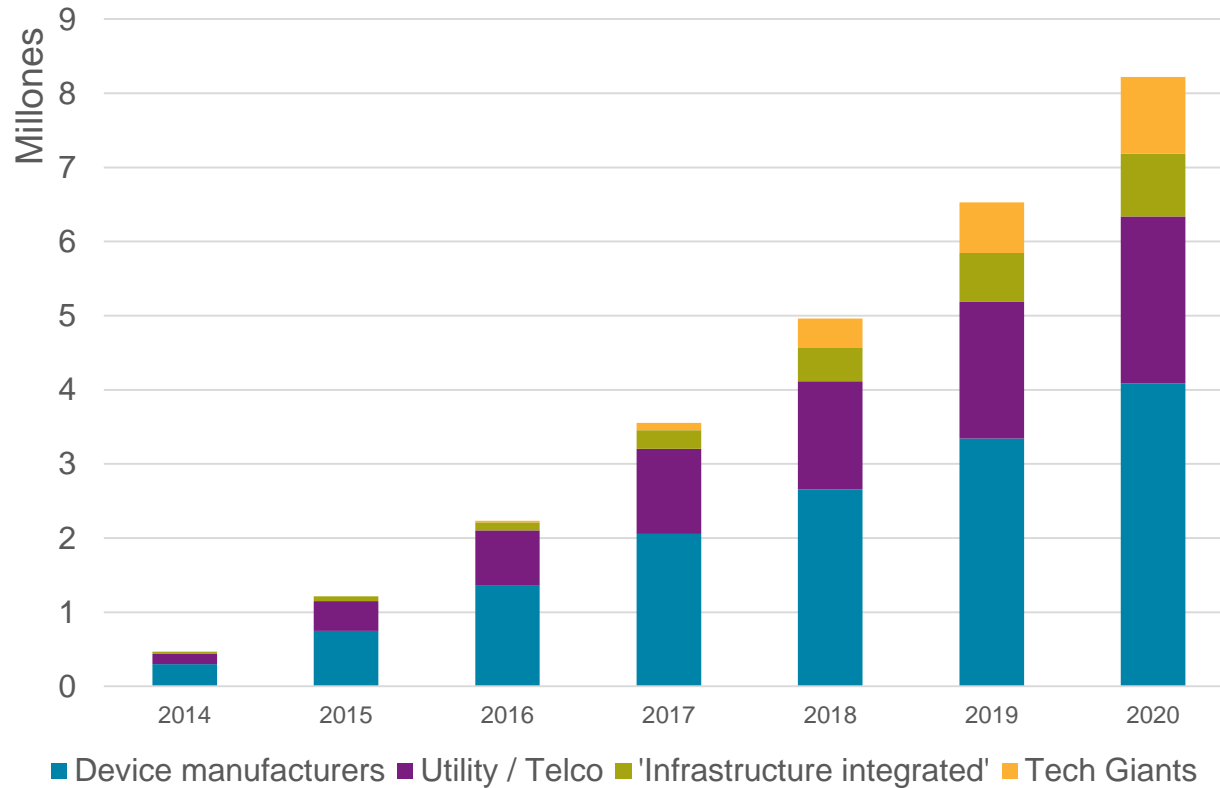
[LEARN MORE](#)



wink

All companies are fighting for the gateway in the home

Forecasted installed base of Connected Home Gateways



- Big market = Big opportunity for energy industry



- Amazon and Google are strong players

amazon

Google



- Customers want services

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Wide range of home services



NOW AVAILABLE IN SELECTED POSTCODES IN THE UK

A simple way to hire professional help

amazon home services

BOOK & SCHEDULE INSTANTLY HIGHLY-RATED SERVICES AMAZON'S HAPPINESS GUARANTEE



Smart Doorbell Installation

by Amazon

£100.00

Pros are available in postcode N5 1SH

Amazon

Hand-picked pros. Backed by our Happiness Guarantee.



Smart Home Security System Installation

by Amazon

£319.20

Pros are available in postcode N5 1SH

Amazon

Hand-picked pros. Backed by our Happiness Guarantee.



Smart Home Thermostat Replacement

by Amazon

£120.00

Pros are available in postcode N5 1SH

Amazon

Hand-picked pros. Backed by our Happiness Guarantee.

Click here to select Installation: [Get professional installation Details](#)

Without expert installation

Include installation

+£120.00

- Removal of existing thermostat
- Typical installation time of 2 hours
- Installation of 1 customer-supplied smart thermostat
- Testing new thermostat for proper function
- Instructions on proper use

[^ See less](#)

Amazon Certified



Control this product with your voice through selected Alexa devices.



Smart technology

Neos includes smart sensors and indoor security camera to actively protect your home.*

What you get with Neos:



24/7 assistance

Phone off? Battery dead? We can take over and help you fix things in the event of an emergency.**



Home insurance

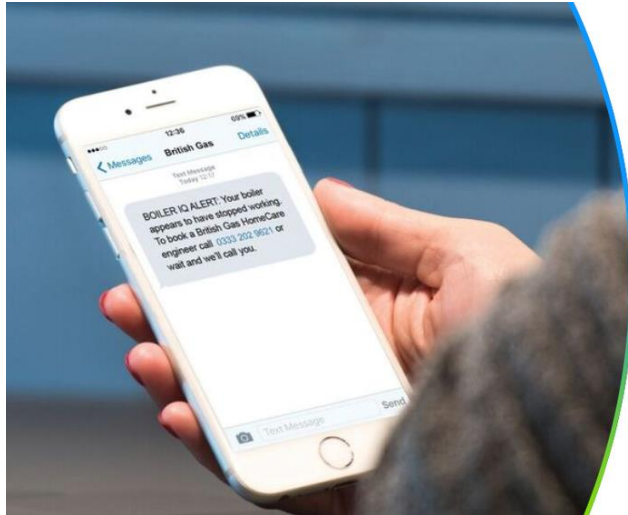
Should the worst happen, you've got comprehensive home insurance just in case.

Interpolis. Quby



Heating system remote diagnostics – a huge growth opportunity

centrica  **BOSCH**



Why get Boiler IQ?

- ✓ Peace of mind
We'll constantly monitor your boiler to spot if it stops heating your radiators or generating hot water.
- ✓ Convenience
If we detect it's failed, we'll contact you to help get things sorted as quickly and conveniently as possible under your HomeCare agreement or British Gas Warranty.
- ✓ Prepared engineers
They'll have access to all the data from the boiler to help them understand what's gone wrong. And we'll pre-order the parts you might need.

Controls companies

Honeywell

tado°

 **Plugwise**

Heating system manufacturers

 **ARISTON**

VIESSMANN



BOSCH

B2B2C business through service companies

 **British Gas**

HomeServe

 **Feenstra**

 **Thermondo**

 **ENGIE**
Home Services

drapo | FAQ

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THE PACK BOILER

49 € / month*

ESTIMATE MY MONTHLY PAYMENT

Up to 50% savings on your gas bills

Boiler pack eligible for the 30% tax credit

Next Thermostat configured

Next-day installation

Choose a boiler in minutes, installed next day

Your new boiler in 4 steps

- ESTIMATE MY MONTHLY PAYMENT**
In less than a minute online, I estimate the price of my new boiler and the monthly payment.
- SEND PHOTOS**
No movement is necessary, I send photos of my existing boiler.
- I ACCEPT THE OFFER MADE BY DRAPO**
Accept the Drapo offer as soon as possible, your disposal to accompany you.
- HOORAY, WORK CAN BEGIN**
A certified installer visits your home to install your new boiler and connect the thermostat.

ESTIMATE MY MONTHLY PAYMENT

Hometree

Next-day installation

Choose a boiler in minutes, installed next day

Buying a boiler

FIND A BOILER IN MINUTES

Buy a boiler online or over the phone in minutes with just a £99 fully refundable deposit required upfront

BOXT

Find a boiler | How BOXT works | Who we are | FAQs | Call an engineer, free 0800 193 7777

One fixed price | 10 year warranty | 5000+ happy customers | Next day installation | Gas Safe approved

9 recommended boilers with installation included

Back | 3 | 1 | 0 | Wall

Every BOXT Combi comes with

- Smart Thermostat RRP £199.99
- Free filter worth up to £130
- Free system cleanse

10.2L Hot water per min

Worcester Bosch Greenstar 25i
Worcester Bosch's most popular boiler

- Which? Best Buy 2016 – voted for by customers and trade
- 10 year warranty
- Central heating output (kW) 24
- Solar compatible? No
- Dimensions (cm) H 71 D 33 W 40

Your fixed price with installation

£1,795 Inc VAT or **£11.60** Per month 9.9% APR

View boiler details

8.9L Hot water per min

Worcester Bosch Greenstar 25Si
Designed for small spaces

Your fixed price with installation

New services and products based on connection with the consumer

1. Introduction to new energy and Delta-ee
2. The consumer
3. Connecting the consumer
4. Customer and data = value
5. The smart home
6. Home services
- 7. New energy offerings**

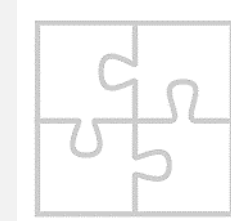
6 key categories of 'New Energy' business models

Marketplace operations

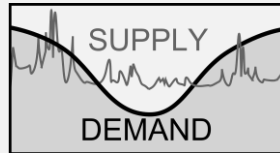


Energy as a service

Bundling



Time-of-use optimisation



Efficient consumption

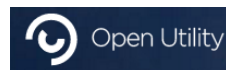
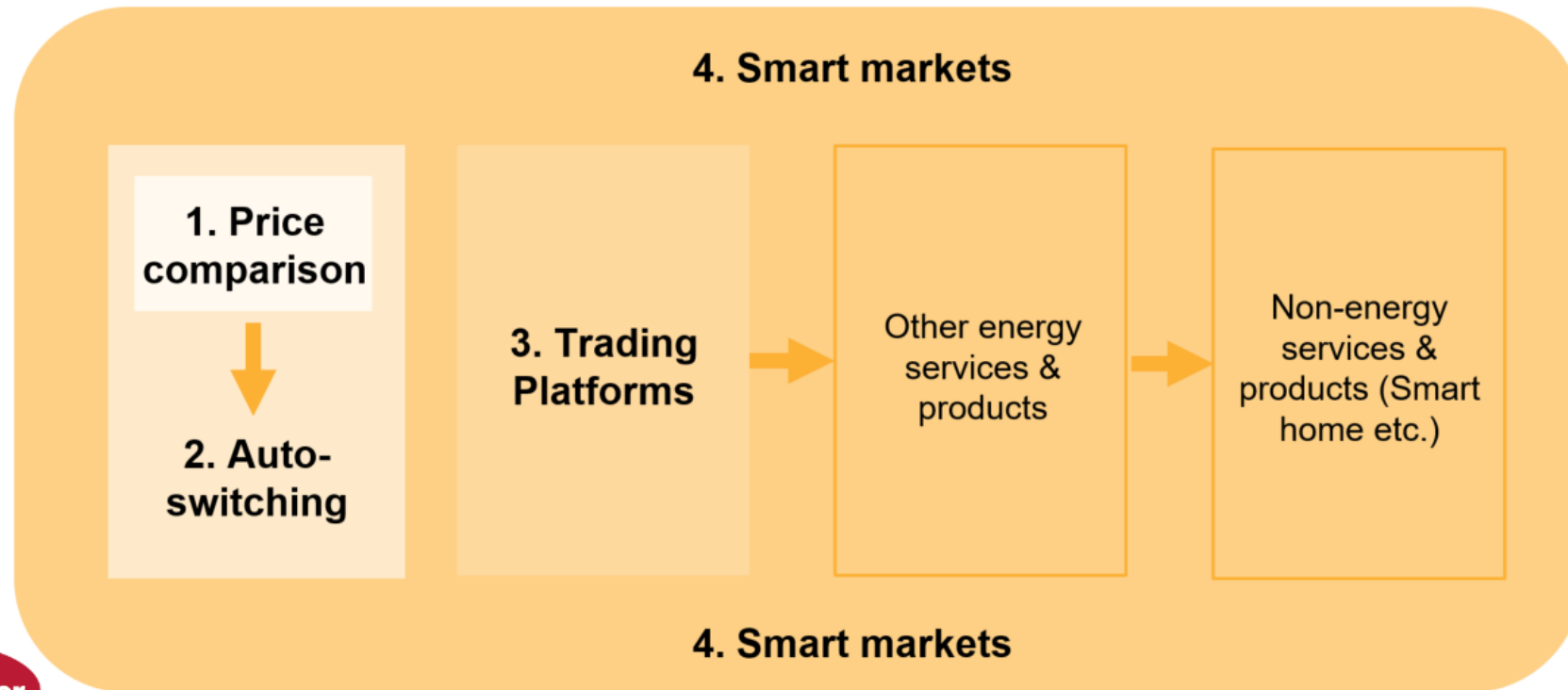


Lifestyle products



The race to re-invent: six types of business models are shaping the future – [whitepaper](#) & [podcast](#)

Marketplace Operations - Transforming the way in which stakeholders are connected and transactions occur.



Powerpeers example



Time-of-Use Optimisation - Leveraging value from flexibility, through demand shifting, storage and/or use of distributed generation.



On-site flexibility to generate revenue



Lowest cost energy supply via shaping customer's demand profile



Empowering customers to optimise their own timing of consumption

UPS↑DE

REstore **tiko**

Orsted

NEXT
KRAFTWERKE

VOLTALIS

sonnen

Gruppo
innowatio

TempUS
energy

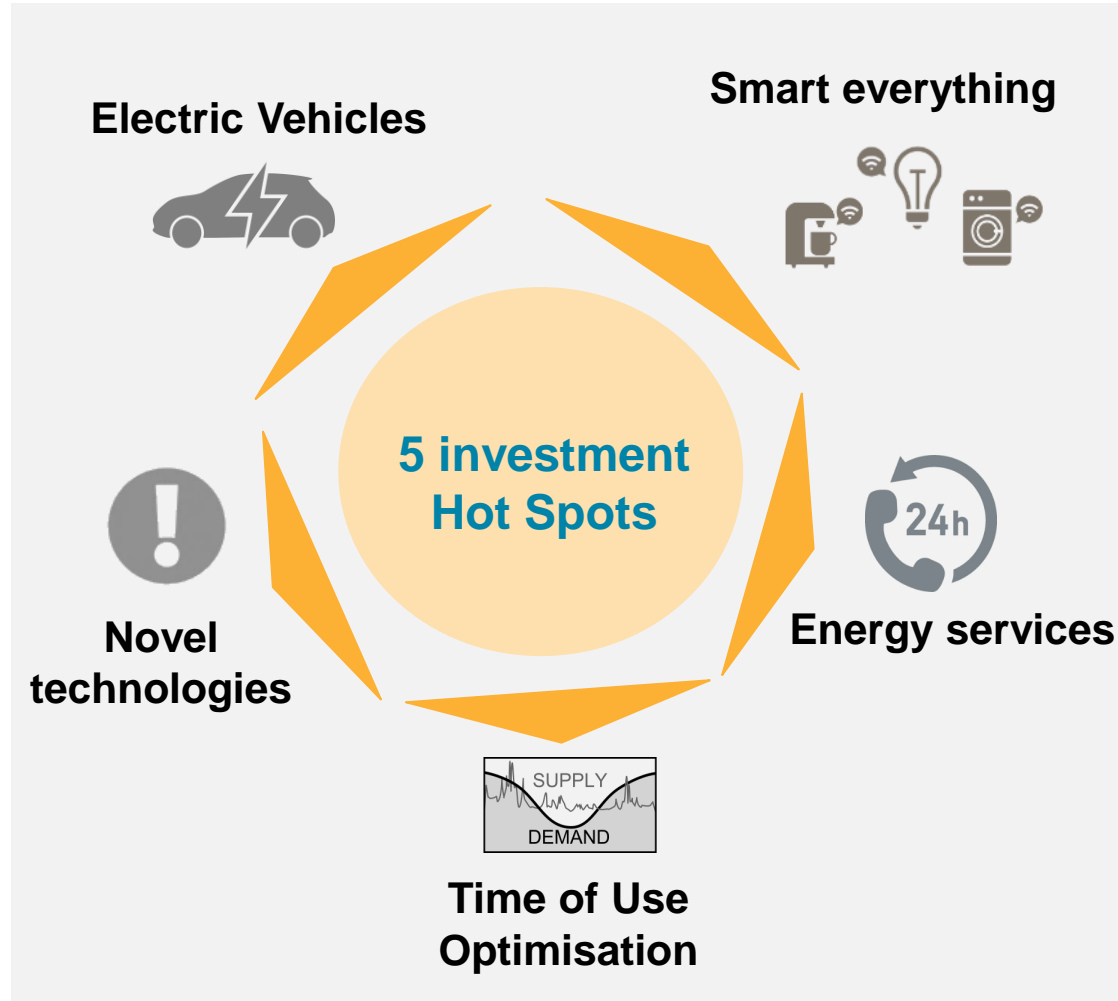
re:dy

shine
it starts with you

dezera

iVITI
LIGHTING LIMITED

Where are the investments in new energy?



2 clear battlegrounds



The oil majors are coming, entering the utility market via EVs.



If the smart home is the gateway into new energy for digital giants, the EV is the gateway for the oil majors.

Currently **Time-of-Use Optimisation & Lifestyle Products** are seen as key prizes – there is a high level of investment focus here, across the 6 investor groups profiled. Deep pockets and/or sustainable sources of competitive advantage are needed to win here.



Our study on EV business models

Examples of companies we looked at



Filtering

Research

20 leading edge propositions



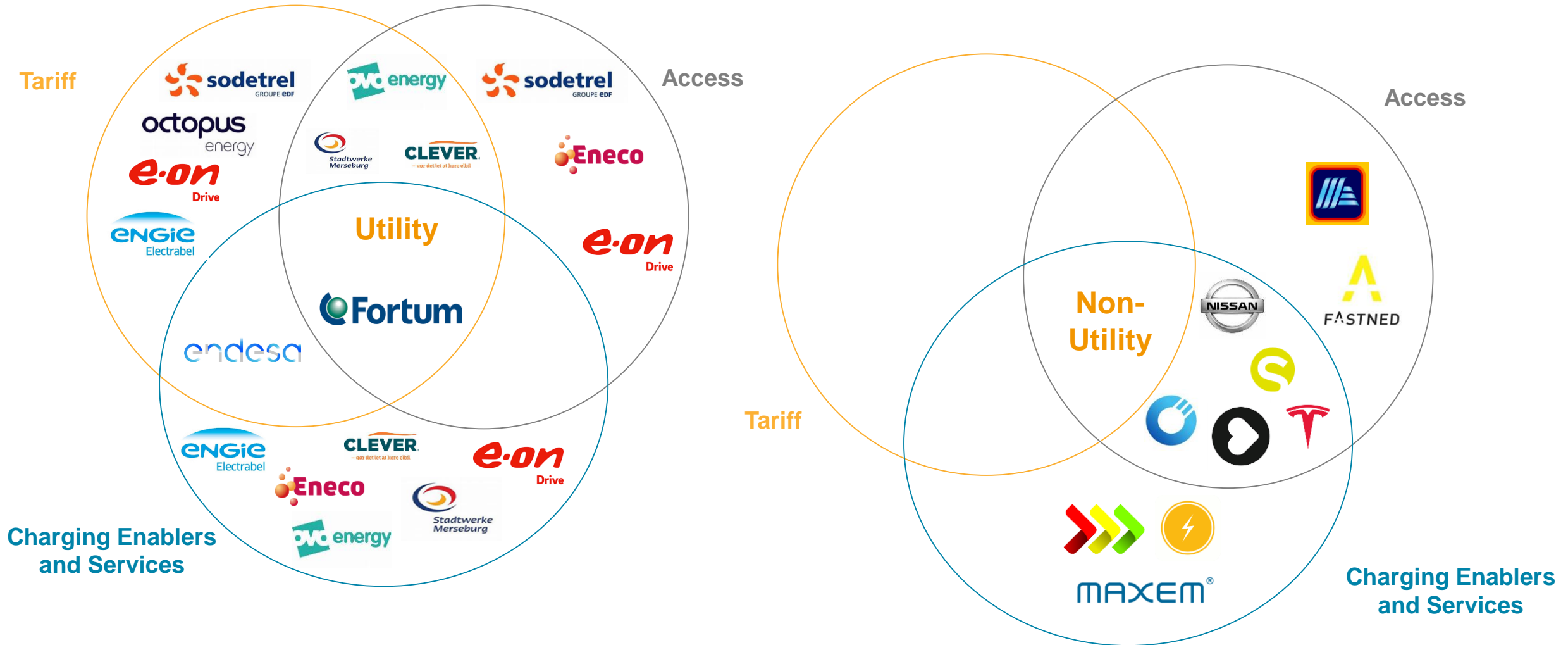
Synthesis and analysis

Emerging business models

Customer proposition types

Market gaps and opportunities

Energy companies versus car companies



- The new energy market is growing rapidly
- The consumer will be connected
- Energy insights to consumers will be very important
- The Smart home is growing fast
- Home services will be connected
- New business models (EV, marketplace, etc.) will emerge



Arthur Jouannic

Arthur.jouannic@delta-ee.com

+44 131 285 0777