

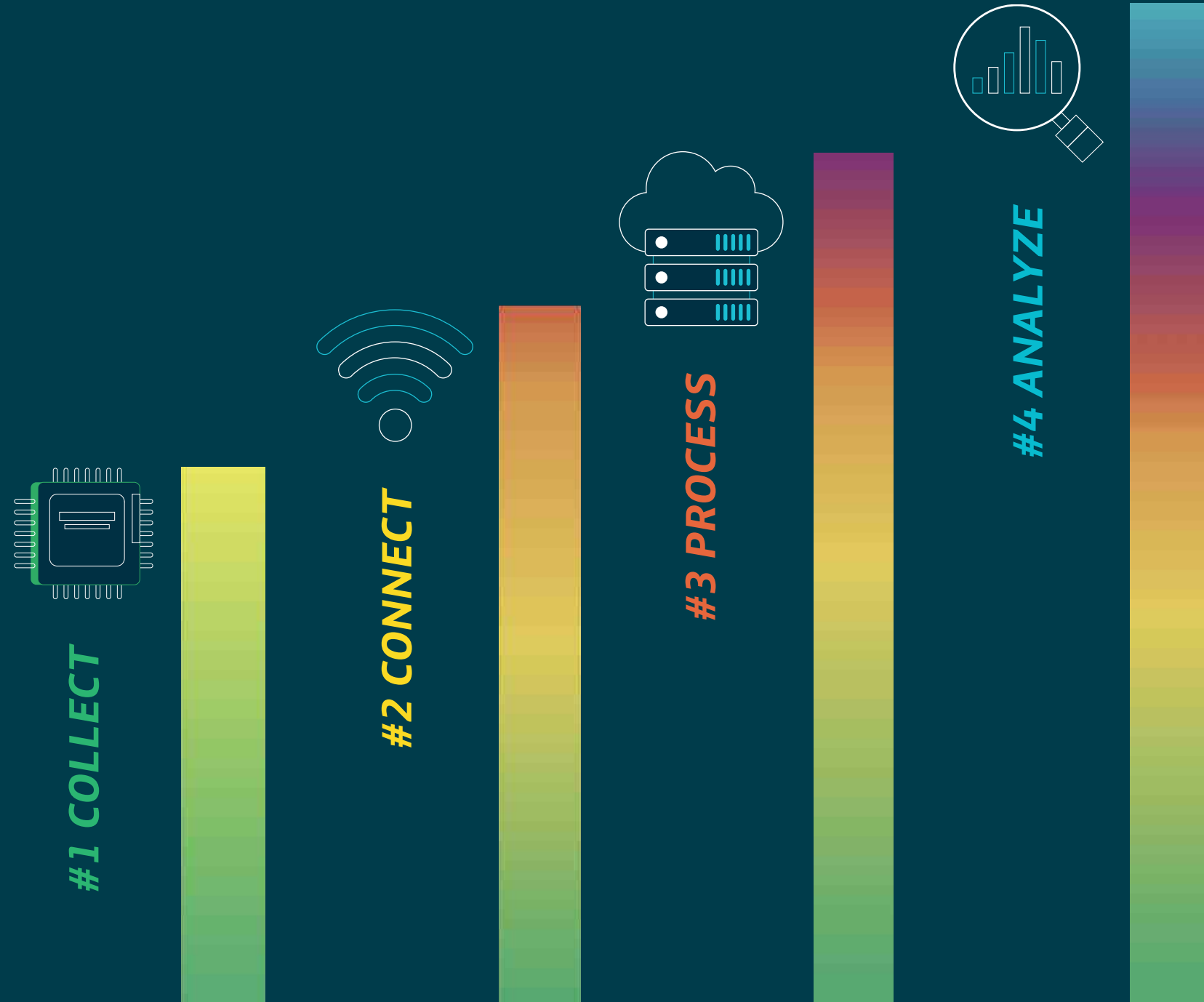
Telefonica

GLOBAL IOT PORTFOLIO & PARTNERS ECOSYSTEM



INTERNET OF THINGS

THE IOT PATH



Telefonica

GLOBAL IOT PORTFOLIO & PARTNERS ECOSYSTEM

2019



INTERNET OF THINGS

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We live at a time in which we talk and listen constantly about changes, digital revolution, transformations... Not only us, but also our clients. However, the true engine of all these changes is not based only in machines. It is boosted by millions of industries and people all around the globe that at one point decide to start their own single and unique revolution.

It is in that ambition of change where we help them every time we offer them one of our products, and services. That is the reason why, in Telefónica, we don't think of IoT only as a group of solutions, but as a way of evolution. When connected, the vast number of tools, items and machines we use throw us back into a data-composed universe where we obtain information more accurate than we could ever imagine about how we use those tools. In this way, we can make much righter, faster and safer decisions.

IoT is the technological environment where the things connect with us and among themselves so that we can make a much better use of the time we dedicate to routines. Thus we can focus on what makes us special and different, to attend what is truly important to us. At home, at the office at shops, factories or transportation... everywhere we are present as the OnLife Telco we are. This is the difference we make at Telefónica.

Not only our vision is distant to others, but it positions us exactly where we have to be, because connecting people with what they care about is what we've been doing for almost a century. It's in our DNA. First, connecting houses; then, people; later on, the broadband mobile content; and now...

Now is time to connect objects: a new leap forward in connectivity and communication, which Telefónica is leading once again.

This Telefónica IoT catalogue contains products, solutions and partners which together are much more than a showcase of stuff that measure, process and give relevant data to improve our clients' business. One can also see it as a manual of pieces that compose and redesign their business plans. Because, at the moment of truth, when things tell us how we use them in real time our clients may evolve their vision and take it to a most inspirational and competitive level.

We walk side by side with our clients in this journey of evolution, from connectivity to the discovery of new opportunities. And we do that in the best company along with everyone who contributes to the development of our exclusive and open innovation ecosystem in IoT, The Thinx.

All together we can get closer to the goal of making the changes we want and need.

This is the IoT path that we are building in Telefónica. But we are not only talking about IoT. We are talking about a future we can all create together. This is the right moment to make it happen. The Internet of Things... of the People. Let's make this future an actual reality.

Let's do IoT.



1

CATALOGUE



INGREDIENTS OF IOT

- CN

CONNECTIVITY
PLATFORMS
- TR

THINGS READY
- RE

RETAIL
- CO

CONSUMER
- NC

NEW
CONNECTIVITIES
- MO

MOBILITY
- EN

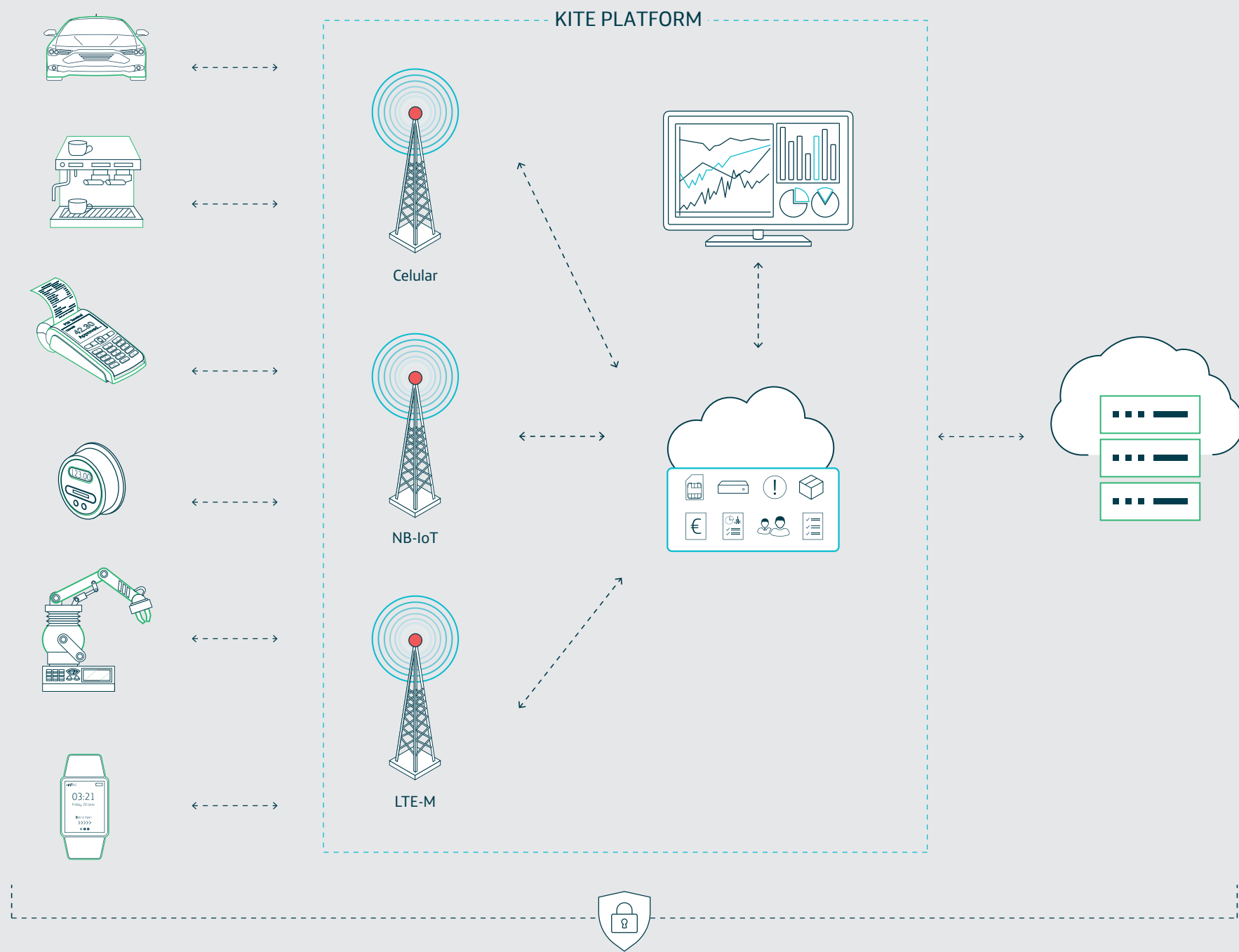
ENERGY

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2 CN JASPER	5 NC LTE-M	8 TR TRACK	10 MO WORKFORCE OPTIMISE	13 RE SPOTWIFI	16 RE QUEUE OPTIMISE	18 EN ENERGY OPTIMISE	20 CO MY TRACKER



CONNECTIVITY PLATFORMS

A CONNECTIVITY SOLUTION



KITE PLATFORM

Kite Platform is Telefónica’s foundational component of its IoT portfolio. It is a platform that goes beyond managing IoT connectivity, and provides benefits for all dimensions in all IoT ecosystems from devices to IoT products and platforms. It is an in-house solution with a dedicated network infrastructure that is globally deployed and hosted in the cloud, allowing access via a web portal or API from everywhere. It supports an extensive portfolio of sim cards. It also offers an end-to-end service and is capable of managing not only traditional cellular connectivity but also all new IoT network connectivity technologies like Narrow Band –IoT (NB-IoT), LTE-M and Sigfox.

FUNCTIONALITIES

Real-time inventory of sim cards; real-time management of data; voice and SMS communications usage and expenses; visual security and operations dashboards; geolocation of sim cards; remote diagnostics; alarms; automatic notifications and actions; twofold factor user authentication; audit logs; reports; tools provisioning and monitoring; private connectivity between the devices and the customer’s systems or 3rd party clouds; development accelerators in public clouds; device management; multi connectivity management (cellular, LPWA and Sigfox).

TARGET

This service is geared to all customer segments, from multinationals with deployments of hundreds of thousands of sim cards globally to small businesses with local deployments of dozens of sim cards.

BENEFITS

- Obtain operational efficiencies, avoiding unnecessary displacements managing remotely connectivity and devices.
- Control cost in real time to quickly detect security threats or fraud.
- Improve connectivity’s operations and security by providing dashboards that extract insights from communications data.
- Increase security by using functions that only allow authorized communications, and alert capabilities to identify outlier behaviors.
- Simplify your path into IoT devices and cloud ecosystems by using provided connectors that ease devices management and integration with IT systems.

WHY TELEFÓNICA?

- Carrier class end-to-end service support.
- Worldwide connectivity through Telefónica’s extensive roaming partners network.
- Kite Platform is in-house developed which give us the right level of flexibility and agility when it comes to adapt to customer needs.
- Kite Platform has wide unique features vs competing products, including:
 - Real time control of usage and expenses
 - Geolocation of sim cards based on the cell to which the line connects
 - Wide range of security features
 - Beyond connectivity features into the devices and cloud ecosystems
 - Support for IoT-centric networks

RELATED PRODUCTS

Services to combine and enhance the product:

- Kite Platform is compatible with any solution in Telefónica’s IoT catalogue that requires connectivity.

AVAILABILITY IN COUNTRIES

Spain, United Kingdom, Germany, Brazil, Argentina, Chile, Peru, Colombia, Mexico and USA.

KITE PLATFORM IS MUCH MORE THAN CONNECTIVITY PROVIDING BENEFITS IN ALL IOT ECOSYSTEMS



SECURITY

It has capabilities and tools that help To prevent, detect, and correct situations that compromise the security of devices or connectivity.



END-TO-END APPLICATION

Facilitates the integration with vertical and sectorial solutions, as well as with the leading IoT platforms in the market, through APIs and toolkits. Kite Platform also eases the integration with Public Clouds through the Cloud Ready solution.



MANAGED CONECTIVITY

It offers an extensive set of connectivity management features such as inventory and control of use and real-time expenses, alarms, reports...



NETWORK TECHNOLOGIES

Integrates 2G, 3G, 4G / LTE cellular network technologies, as well as networks designed for iot, such as, LTE-M, NB-IoT, or sigfox, and even industrial sensor networks such as industry ready.



DEVICES

Customers have access to a bundle including communication hardware from leading device manufacturers through our Things Ready offering. Kite Platform performs essential management of the communication devices, such as restarting them or downloading the firmware.



ANALITYCS

Extracts value from connectivity data to display it in visual panels that make it easier for our clients to make decisions.

INTERNET OF THINGS ■ ● ▼

SUCCESS CASE
KITE PLATFORM

THE NEXT CAR MODEL IS A BUSINESS MODEL

STRONGLY SECURE CONNECTIVITY FOR:
REAL TIME IN-VEHICLE TELEMETRY
INTERNET SERVICES CONSUMPTION.

DATA INFO MANAGEMENT BY OWN PLATFORM KITE.
WORKING TO REPLICATE ACROSS 18 MARKETS.

Cars are entering into a new kind of mobility based in Data traffic. Mechanics status reports and a wide range of infotainment move in an anonymous and safe way from vehicles to service providers platforms and back. At the midpoint of this massive gigabyte journey our own Kite Platform identifies what type of data is and sends comprehensive info reports to the service provider. Thus clients can split billings and customize its offer to match the actual needs of the car owners.

CAR
TELEMETRY



ASSISTANCE



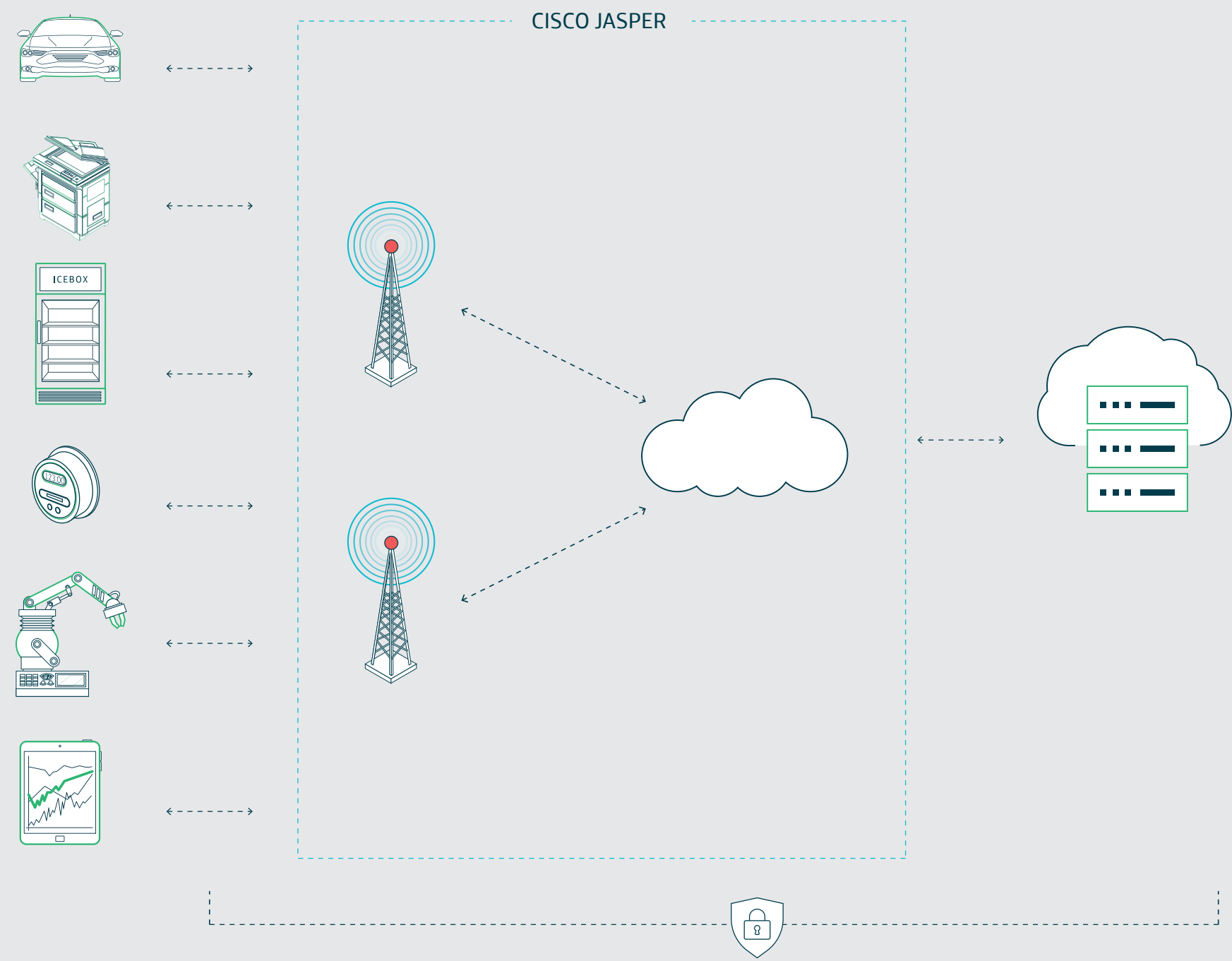
FIRMWARE
UPDATE



INFOTAINMENT



A CONNECTIVITY SOLUTION



JASPER

Jasper is a cloud-based IoT managed connectivity solution accessible from everywhere via a web portal or APIs. The product provides customers with a wide set of self-management capabilities to connect their IoT devices to the network. It supports an extensive portfolio of sim cards.

FUNCTIONALITIES

Information and management capabilities for data, voice, and SMS communications; inventory of sim cards; remote diagnosis of connectivity status; wide set of alarms and automatic business rules; private connectivity between devices and customer's systems or 3rd party clouds; reports; tools provisioning and monitoring.

TARGET

This service is geared to companies of any size and sector, from multinationals to small businesses that require a managed connectivity.

BENEFITS

- Obtain operational efficiencies, avoiding unnecessary displacements managing remotely connectivity.
- Implement broad fraud detection by offline usage control.
- Increase security by using functions and alert capabilities to identify outlier behaviors.

WHY TELEFÓNICA?

- Carrier class end-to-end service support.
- Worldwide connectivity through Telefónica's extensive roaming partners network.
- Partnerships with other mobile network operators that sell the same product.

RELATED PRODUCTS

- Services to combine and enhance the product:
- This solution is compatible with any solution in our IoT catalogue that requires connectivity.

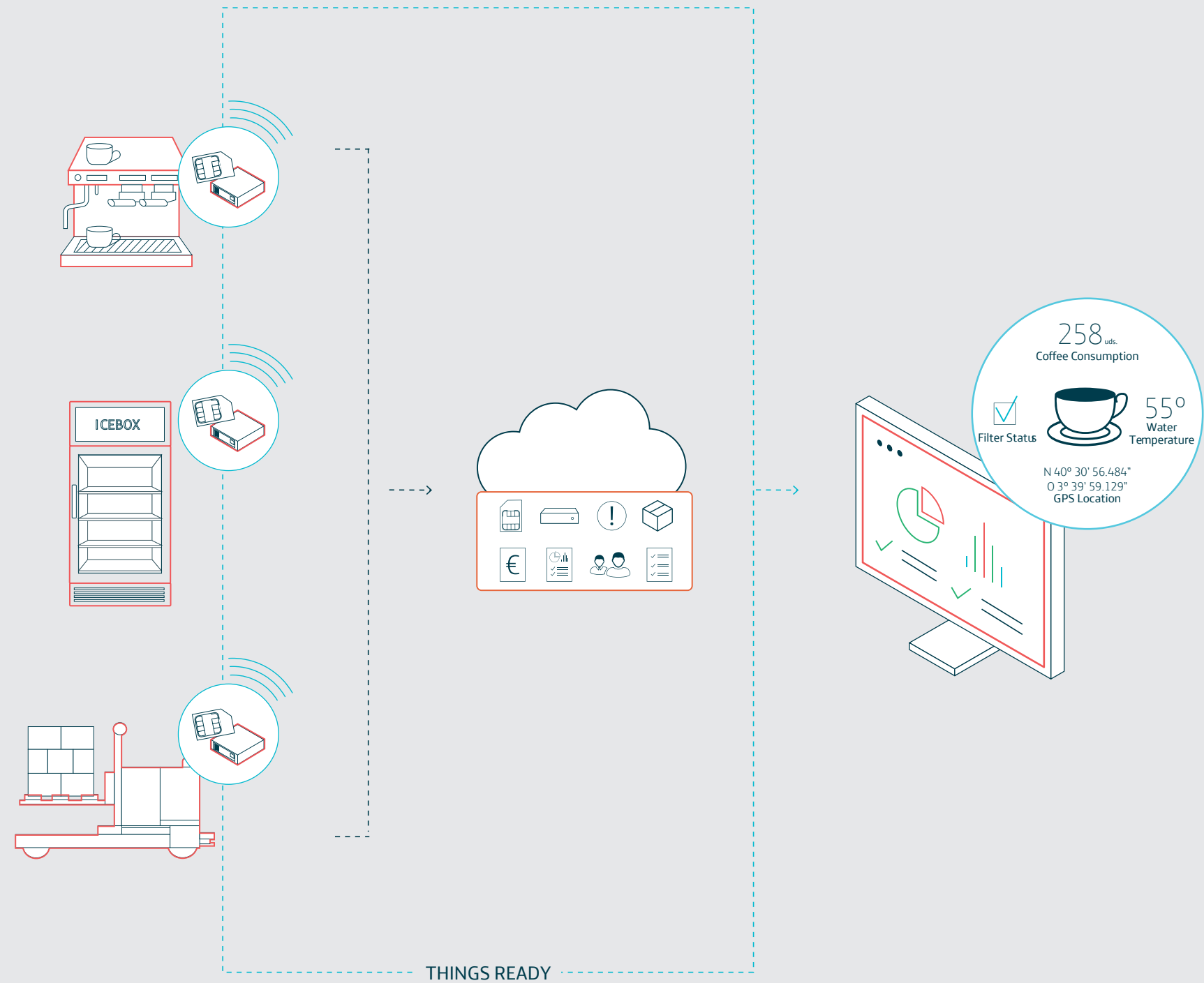
AVAILABILITY IN COUNTRIES

Spain, United Kingdom, Brazil and USA.



THINGS READY

A THINGS READY SOLUTION



THINGS READY LINK

Things Ready Link allows a customer to connect any kind of asset to its corporate network from coffee-makers or refrigerators for catering to industrial machinery, wind generators, etc. Thanks to the connection to the asset, data from the asset is accessible in real time and can be used to enable the end-to-end digitization of business processes.

FUNCTIONALITIES

Connection of the assets to the customer's corporate network; selection of the most suitable mobile communications network depending on the type of information; integration with the device -router, modem, gateway- that best fits the assets requirements; comprehensive management of the connectivity and the device with Kite Platform (communications consumption, device status, advanced monitoring and diagnostics, etc.).

TARGET

This service is geared to system integrators of any size that develop monitoring and process automation solutions for end users and companies that offer equipment as a service. In addition, final customers that need to connect a large number of distributed assets such as: containers, refrigerators, vehicles, vending machines, industrial machines, heavy machinery, remote facilities (agricultural, mining, offices), etc.

BENEFITS

Collection of real time data enables:

- Avoid assets redesign or replacements thanks to remote monitoring and control.
- Locate distributed assets.
- Reduce operational and maintenance costs thanks to process automation.
- Create new business models and customer service optimization.

WHY TELEFÓNICA?

- Reliable single point of contact for the purchase and support of both connectivity and device.
- Simplified operations and logistics: the device is delivered with the sim card already installed.
- Global connectivity and the best local coverage in any country in the world using different national networks.
- Centralized capabilities of devices and connectivity management from a single platform, supporting customer's IoT projects growth.

RELATED PRODUCTS

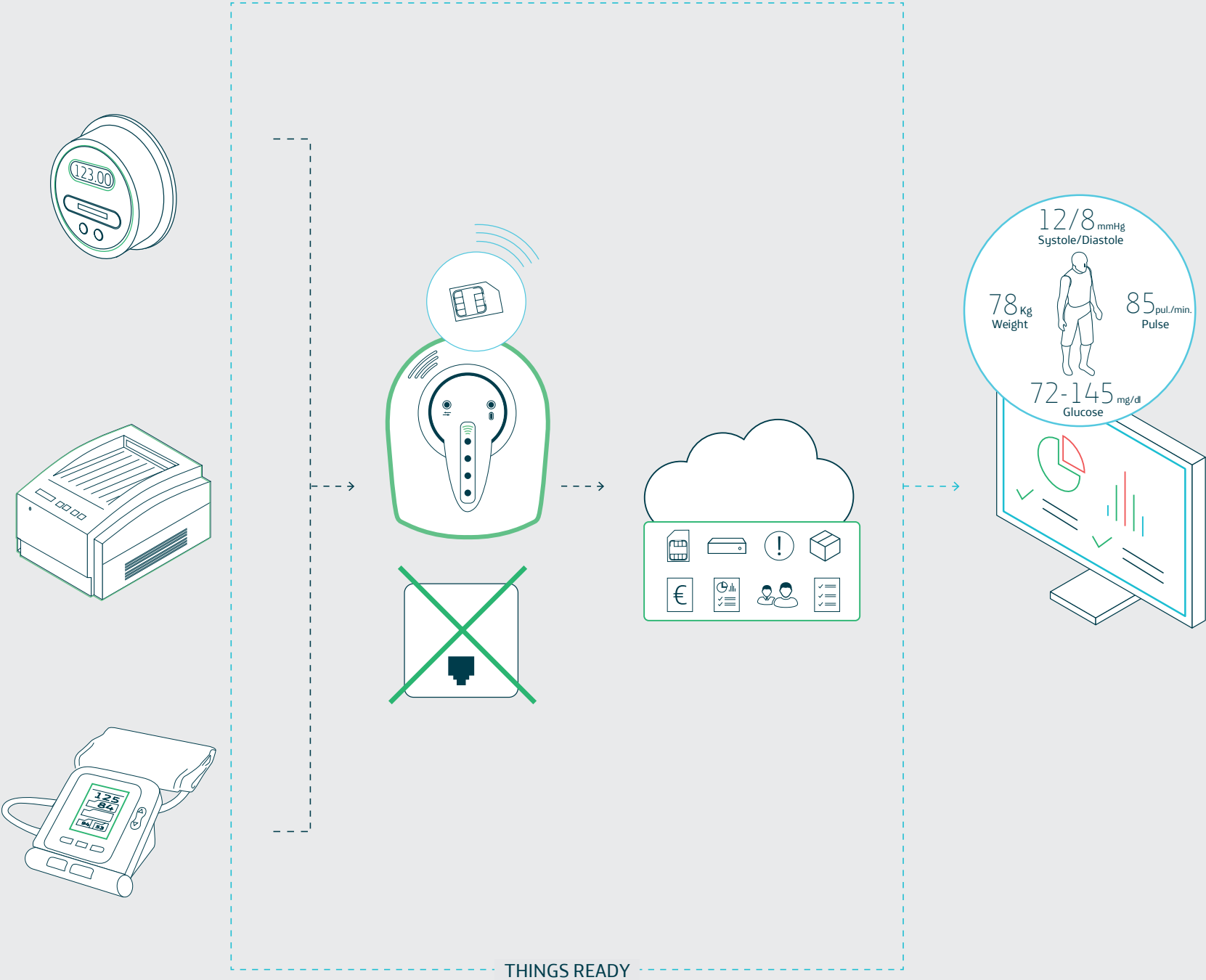
Services to combine and enhance the product:

- **Kite Platform:** Telefónica's IoT platform jointly commercialized with Telefónica's connectivity, which allows to manage the deployed sim cards and devices.

AVAILABILITY IN COUNTRIES

Spain.

A THINGS READY SOLUTION



THINGS READY EVOLVE

Things Ready Evolve provides a cellular connectivity backup for equipment such as medical gadgets and machines, printers, meters, and other devices allowing them to continue working in the event of a predictable black out of the analogue network. It also enables companies to expand the commercialization of medical, printing and other solutions to users without a fixed line.

FUNCTIONALITIES

Replicates analogue signal behaviour (dial tones, ring tones...) for the assets to keep on performing the same functions anywhere, regardless of the existence of a fixed line, by using global mobile connectivity. Kite Platform makes it possible to manage and obtain real-time information about communications.

TARGET

This service is geared to end customers of any size that use analogue lines to connect their assets. Especially interesting for health, energy and transportation companies. Alternatively, companies of any size that provide consumer equipment such as patient monitoring devices, printers, etc.

BENEFITS

- Evolve existing equipment with state of the art IoT communications.
- Provide a reliable customer service and continuity of the business activity.
- Deliver greater flexibility avoiding the installation difficulties of fixed lines.
- Achieve competitive prices to keep the equipment connected.

WHY TELEFÓNICA?

- Reliable single point of contact for the purchase and support of both connectivity and device.
- Easy and smooth migration thanks to an extremely simple installation.
- Simplified operations and logistics: the device is delivered with the sim card already installed.
- Comprehensive connectivity management with Kite.

RELATED PRODUCTS

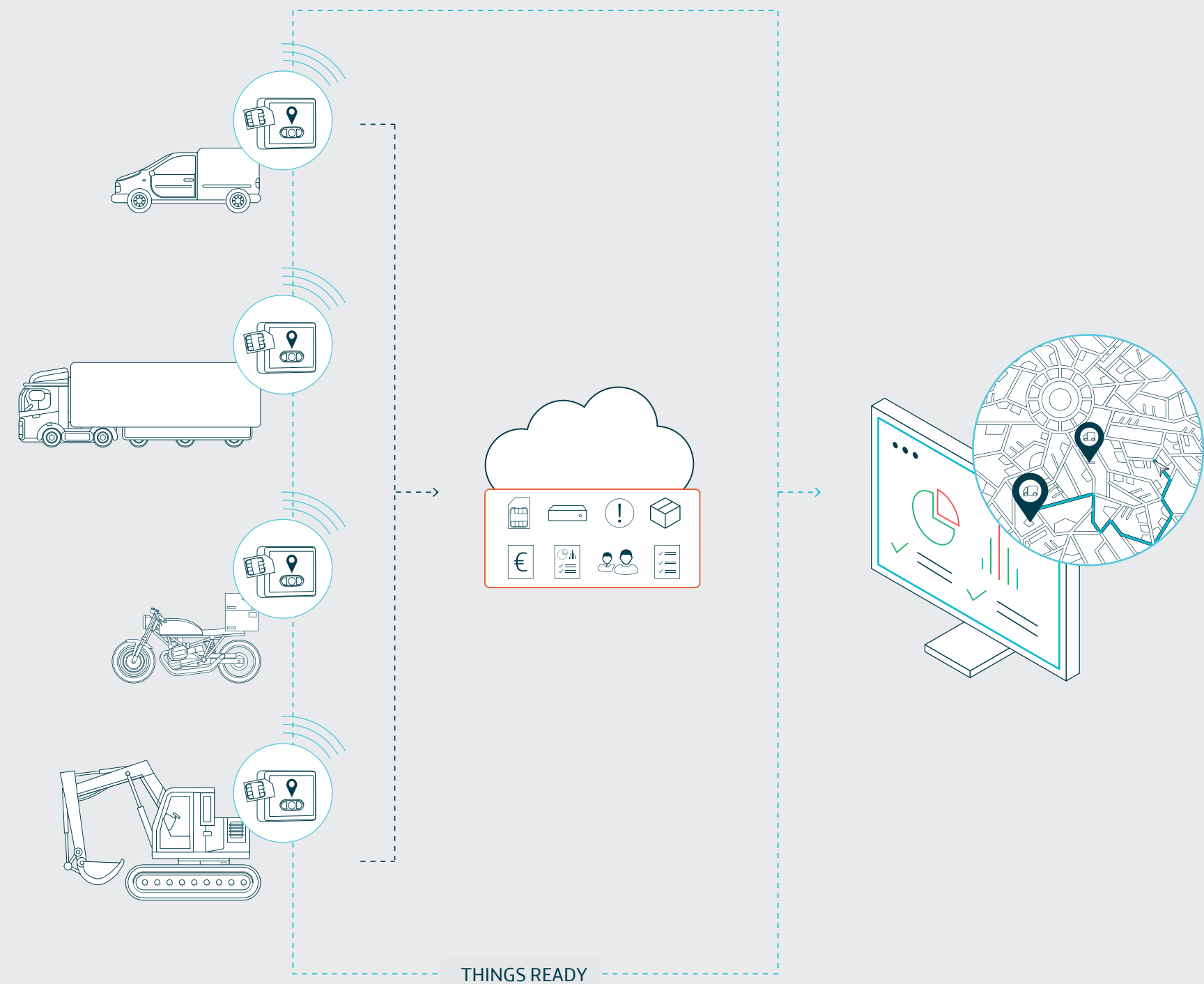
Services to combine and enhance the product:

- **Kite Platform:** Telefónica's IoT platform jointly commercialized with Telefónica's connectivity, which allows to manage the deployed sim cards and devices.

AVAILABILITY IN COUNTRIES

Upcoming releases: United Kingdom.

A THINGS READY SOLUTION



THINGS READY TRACK

Things Ready Track incorporates all necessary IoT equipment and connectivity to build solutions for vehicle location, cargo and driver security, fleet optimization, stolen vehicle recovery, insurance telematics, etc. The solution includes a set of pre-configured equipment and IoT networks options and facilitates business growth by reducing the initial investment in equipment and communications.

FUNCTIONALITIES

Connection to existing vehicle platforms; capture vehicle data for real-time monitoring and location, and obtaining information about their status, use, and mobility. Kite makes it possible to manage and obtain information of communications in real time.

TARGET

This service is geared to system integrators of any size that develop solutions for vehicle location and fleet optimization (AVL, insurance telematics...). On the other hand, end customers who manage vehicle fleets such as car rental, leasing and insurance companies or those dedicated to security, technical services, logistics, courier or passenger transportation among others.

BENEFITS

Collection of real-time data enables:

- Raise security levels for vehicles, occupants and cargo using geographical positioning and alert reception for vehicle location in case of theft and detection of unauthorized uses, etc.
- Optimise fuel consumption and route management by tracing the distance travelled.
- Predictive maintenance, regular checkups planning, etc. by checking the status of the vehicle.

WHY TELEFÓNICA?

- Reliable single point of contact for the purchase and support of both connectivity and device.
- Simplified operations and logistics: the device is delivered with the sim card already installed.
- Global connectivity and the best local coverage in any country in the world using different national networks.
- Centralized capabilities of devices and connectivity management from a single platform, supporting customer's IoT projects growth.

RELATED PRODUCTS

Services to combine and enhance the product:

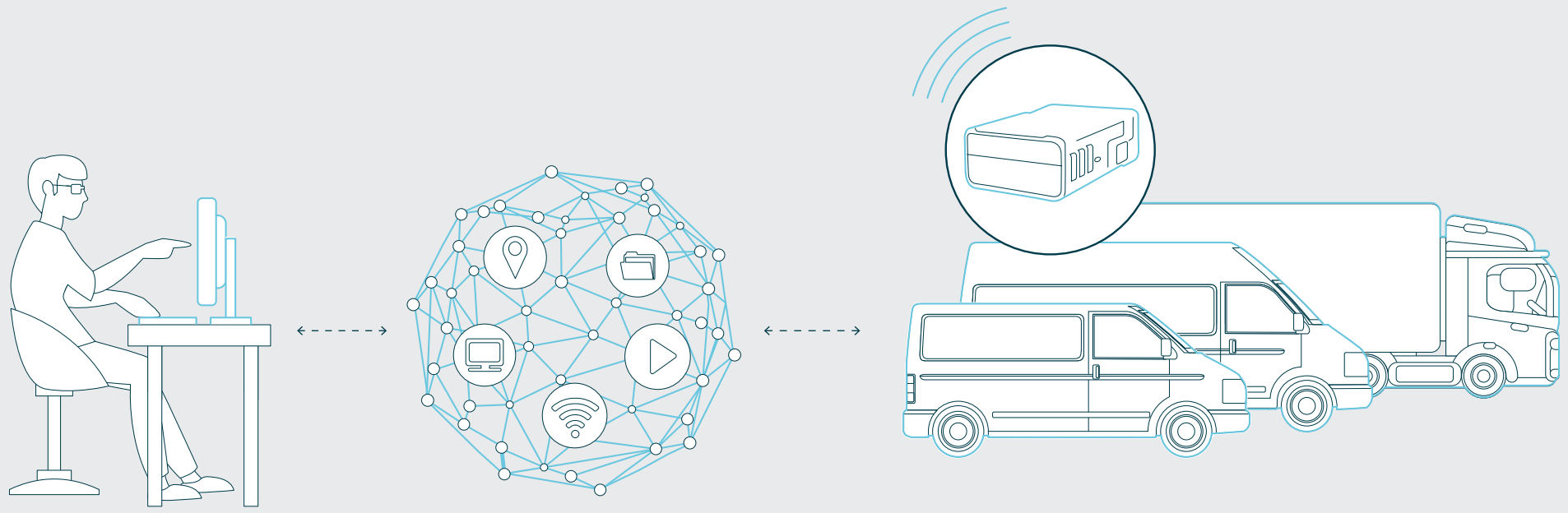
- **Kite Platform:** Telefónica's IoT platform jointly commercialized with Telefónica's connectivity, which allows to manage the deployed sim cards and devices.
- **Fleet Optimise:** service oriented to help fleet managers to better tracing their fleet activity and obtaining valuable information through reports and alarms thus optimising processes, locating vehicles, reducing costs and offering a better service to final customers.

AVAILABILITY IN COUNTRIES

Colombia and Mexico.



A MOBILITY SOLUTION



FLEET OPTIMISE

Fleet Optimise is an end-to-end service that provides fleet managers a deep understanding of the state and use of their fleet in real time, and helps to prevent vehicle failures and repairs. The solution includes a small IoT device that is easily installed into any vehicle, and a cloud based platform that enables remote monitoring and analytics.

FUNCTIONALITIES

Fleet status and utilisation; fuel consumption, mileage, location, engine data and driving behaviour. In addition, we can also configure control panels to support decision-making, create alerts, foresight breakdowns and panic button.

TARGET

This service is geared to companies of most sectors and of any size. Especially interesting for those with fleets of vehicles or businesses where transportation is an essential asset for its success (rent-a-car companies, renting/leasing, roadside assistance, transportation, sales force, field forces, security companies...).

BENEFITS

- Achieve savings and operative efficiencies by optimising the fleet usage.
- Protect vehicles, cargo and personnel through driving behaviour monitoring.
- Foresight breakdowns: control of problematic engine symptoms and vehicle downtime.
- Reduce gas consumption, by improving driver's habits through monitoring of navigation routes, speed, alerts, etc. Simplify your operations: the device is self-installing and connects to the vehicle's port (called OBD).

WHY TELEFÓNICA?

- End-to-end solution fully operated by Telefónica that integrates all elements of the value chain: device, communications, platform, maintenance, customer service, billing and value added services.
- Proven experience in project management, implementation and customer satisfaction that guarantees the continuity of the solution over time.
- Multi-geography: global homogeneous service, operated without borders.

RELATED PRODUCTS

- Services to combine and enhance the product:
- **Kite Platform:** Telefónica's IoT platform jointly commercialized with Telefónica's connectivity, which allows to manage the deployed sim cards and devices.
 - **Workforce Optimise:** service focused on helping team leaders and workers to manage the field work by following staff location and routes, improving travel security, allowing a better client portfolio management, optimising visits with digital forms and detecting anomalies such as deviations on routes, delays, etc.

AVAILABILITY IN COUNTRIES

Spain, United Kingdom, Germany, Brazil, Argentina, Chile, Peru, Colombia, Mexico and Ecuador.

SUCCESS CASE
MOBILITY

ASK YOUR BIKE TO TAKE CARE OF ITSELF

INTERNET CONNECTED DEVICE COLLECTS DATA ABOUT
GPS, ROUTES, MILEAGE, NON-PERMITTED USE OR ACCIDENTS.

MOBILE APP FOR USER.

Leaders in the Peruvian motorcycle market faced a difficult situation when their bikes began to be the most appealing also to motorcycle thieves. For their customers peace of mind, we were asked for a solution.

By installing a simple connected device, bike owners can now check the position and mechanical status of their vehicles on their smartphones, without interrupting their activity and without worries. It led to many bikes recovery and the capture of some bands and, most important, it brought customers the calm and loyalty to the brands that made this happen.

TELEMETRY



POSITION



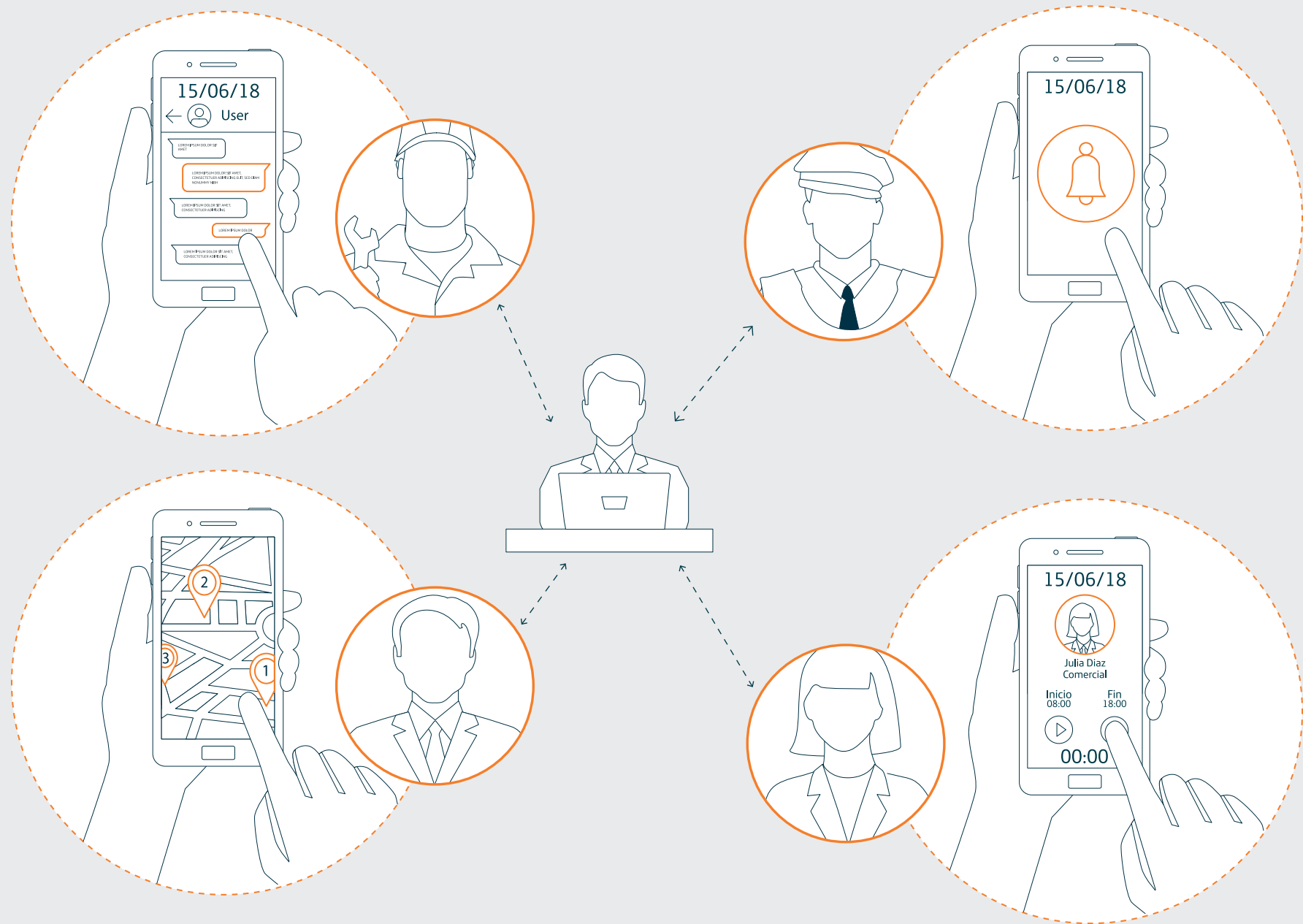
ASSISTANCE



ARRESTED
BANDS



A MOBILITY SOLUTION



WORKFORCE OPTIMISE

Workforce Optimise is a real time location service of field personnel that provides them also a productivity and efficiency management solution, and a useful tool to better plan their activity.

FUNCTIONALITIES

- For managers: location of personnel and tracking of routes; assignment of visits and customers portfolio design; geo-fencing and alerts setting; request of automatic and on-demand reports; business chat; dispatch of internal news and communications.
- For employees: registration of working hours, panic button, forms, client portfolio and visit planning; business chat; reception of internal news and communications.

TARGET

This service is geared to any small, medium or large company based greatly on their off office employees activity. Especially interesting for technical assistance, commercial force, security agents, delivery, etc.

BENEFITS

- Understand the activity of employees and streamlining their working day.
- Increase security by immediate location of employees in risk situations.
- Improve communication between company and employees.
- Enhance employees' satisfaction by better balancing their working and personal lives.

WHY TELEFÓNICA?

- Proven track record in helping for remote management of teams over 90.000 field workers.
- Globally homogeneous connectivity service, operational without borders.
- Personalised support without professional installation: cloud service and mobile application can be installed by the customer himself. Compatible with iOS and Android.

RELATED PRODUCTS

Services to combine and enhance the product:

- **Kite Platform:** Telefónica's IoT platform jointly commercialized with Telefónica's connectivity, which allows to manage the deployed sim cards and devices.
- **Fleet Optimise:** service oriented to help fleet managers to better tracing their fleet activity and obtaining valuable information through reports and alarms thus optimising processes, locating vehicles, reducing costs and offering a better service to final customers.

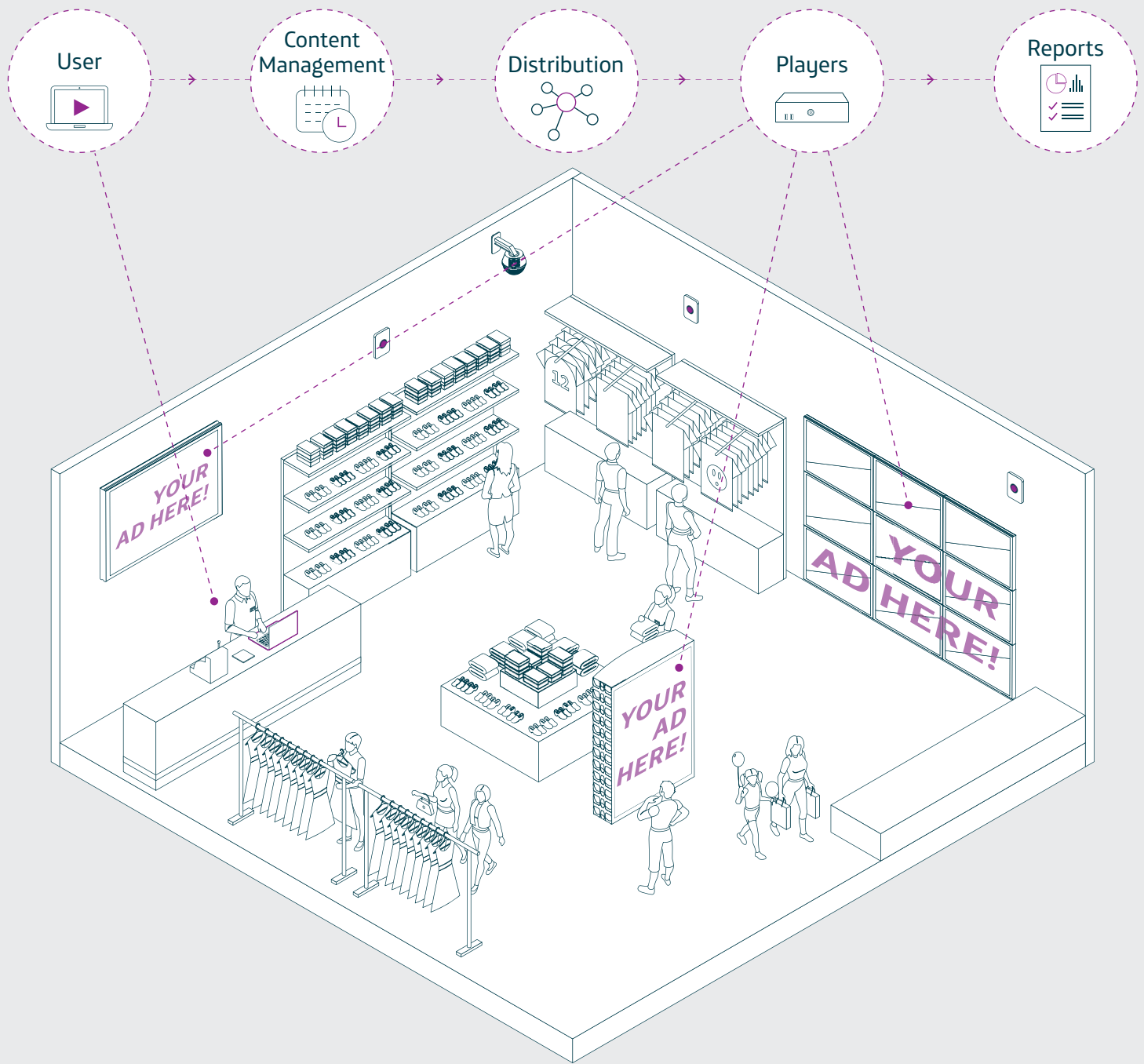
AVAILABILITY IN COUNTRIES

Spain, Argentina, Chile, Peru, Colombia, Mexico and Ecuador.



RETAIL

A RETAIL SOLUTION



SPOTSIGN

spotsign enables retailers to create their own communication channel and broadcast content on store screens. It is a dynamic and attractive way to communicate with customers, to update info fast and easy and to strengthen brand image when promoting products and services. It is also the optimal tool for centralised management of marketing strategies and activation of all stores.

FUNCTIONALITIES

Configuration of digital content publishing by area and screen; content management; programming, distribution, segmentation and synchronisation of content; devices monitoring; tracking of main business indicators (marketing campaigns); programming of business rules.

TARGET

This service is geared to medium and large companies, mainly in the retail sector (fashion, electronics, telcos, pharmacies, bricolage), hotels, restaurants, banking and insurance companies. Especially interesting for sectors in digital transformation processes.

BENEFITS

- Increase sales by improving products visibility and impact, enhancing the cross selling or the up selling.
- Optimise campaigns management by unifying brand communications throughout the Point of Sales network in a more flexible and dynamic way depending on specific objectives: possibility of publishing promotions at the right time or depending on the profile of visitors.
- Improve customer experience by recommending and inspiring purchases in order to reduce waiting sensation and increase the time spent in store.
- Save costs by reducing the use of traditional media and simplifying the process of updating content.

WHY TELEFÓNICA?

- Telefónica is specialised in the transformation and digitisation of spaces, with a dedicated subsidiary: Telefónica On The Spot Services.
- 13 years of experience in dynamic marketing, more than 100 customers and 25.000 screens across the globe.
- End-to-end service. Facilities and logistics deployed at a global level.
- Cloud-based in-house developed platform, with technical capacity for customised developments and own equipment.

RELATED PRODUCTS

Services to combine and enhance the product:

- **In-Store Insight:** a set of IoT-based technologies for statistical and aggregated learning about the influx of customers and their behaviour in store. The content of Spotsign can be adapted to the context conditions measured by In-Store Insight through Telefónica's verticalised platform for Retail.

AVAILABILITY IN COUNTRIES

Spain, Brazil, Argentina, Chile, Peru and Mexico.

SUCCESS CASE
RETAIL

LANDING THE DIGITAL

DIGITAL SIGNAGE REMOTE MANAGEMENT IN 300 STORES WORLDWIDE.

CONNECTED STORE CONCEPT: ALL BRAND VISUALS ARE SYNCHRONISED IN A SINGLE EXPERIENCE.

The world of Retail is living through profound changes trying to bring the main advantages of online commerce into physical stores. Only the Travel Retail sector keeps on growing. Along with our clients, we have developed a new Connected Store concept that takes the shopping experience to a higher level both to client and consumers.

As sensors help to measure and provide clients a deeper knowledge of consumers behaviour, stores have been transformed into an immersive communication channel that speaks to each shopper in a unique and emotional way.



DYNAMIC
CONTENT

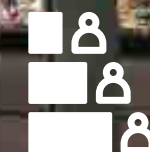


PEOPLE
COUNTER



PEOP

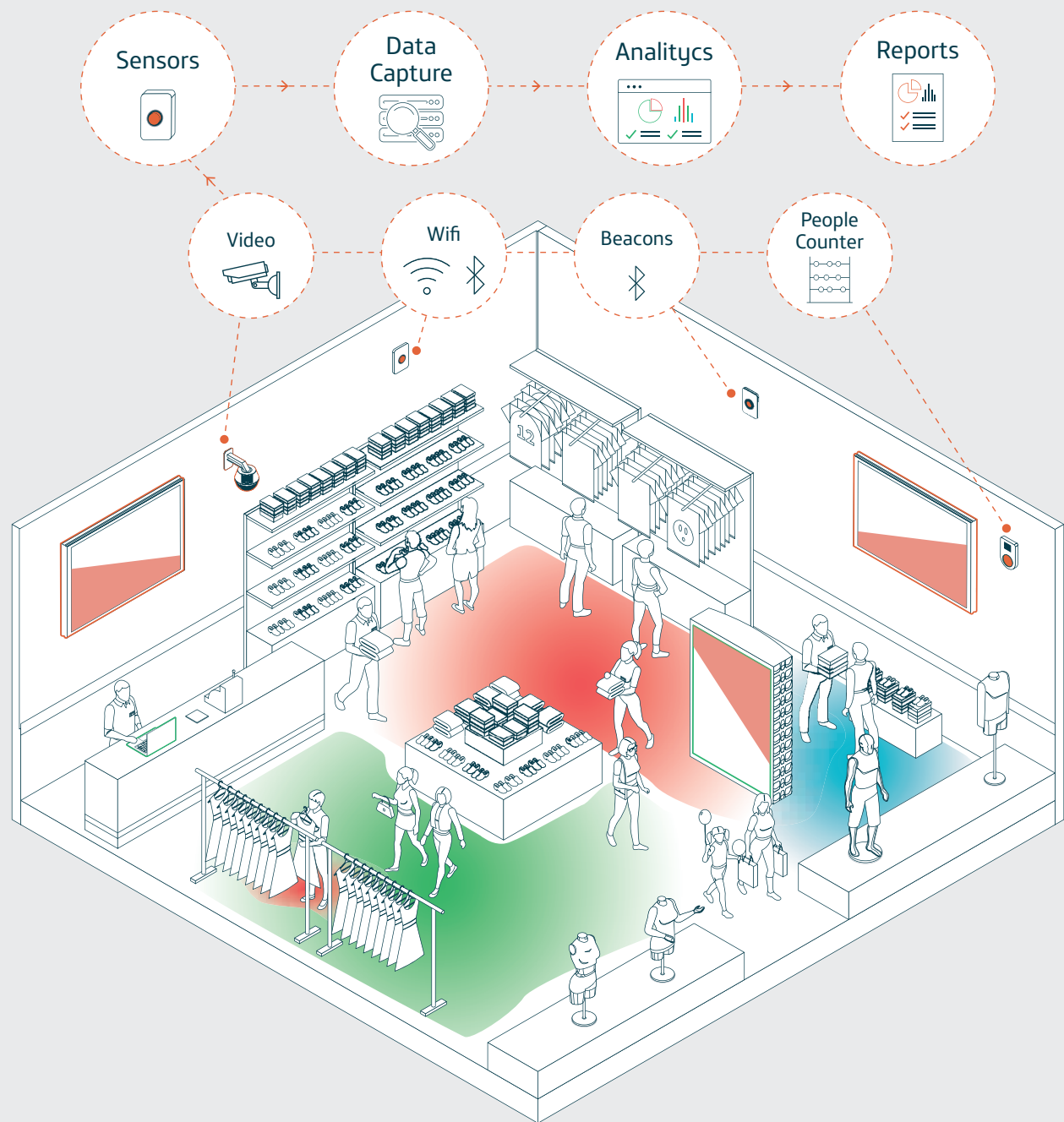
FOOTFALL



VIDEO
TRACKING



A RETAIL SOLUTION



IN-STORE INSIGHT

In-Store Insight is a set of IoT-based technologies for statistical and aggregated learning about the influx of customers, and their behaviour in stores. As the retailer expands its knowledge about its business, so do the sales and operational processes.

FUNCTIONALITIES

Gather detailed information about customers affluence to a store (number of visits, in and out); behaviour (zones visited, dwell time, floors visited); point of sales information (conversion and sales funnel).

TARGET

This service is geared to medium and big companies, especially fashion, supermarkets, and shopping centres. Particularly interesting for retailers in need of increasing their efficiency and customer's knowledge.

BENEFITS

- Increase conversion rates by cross-referencing customer data and sales data to design ideal business strategies.
- Improve operational efficiency and obtain cost reduction by organising the staff according to the behaviour of the customers; resources costs adjustment.
- Reinforce customer satisfaction and loyalty by adapting the store environment to enhance their experience.
- Optimise stores' layout by making it easier to discover products, receive promotions, and avoid unnecessary queues.

WHY TELEFÓNICA?

- Telefónica is specialised in the transformation and digitization of spaces, with a dedicated subsidiary: Telefónica On The Spot Services.
- Profiling and segmentation information about the customer through Telefónica's Big Data analysis capabilities.
- End-to-end service. Facilities and logistics deployed at a global level.
- Cloud-based in-house developed platform, with technical capacity for customised developments and own equipment.

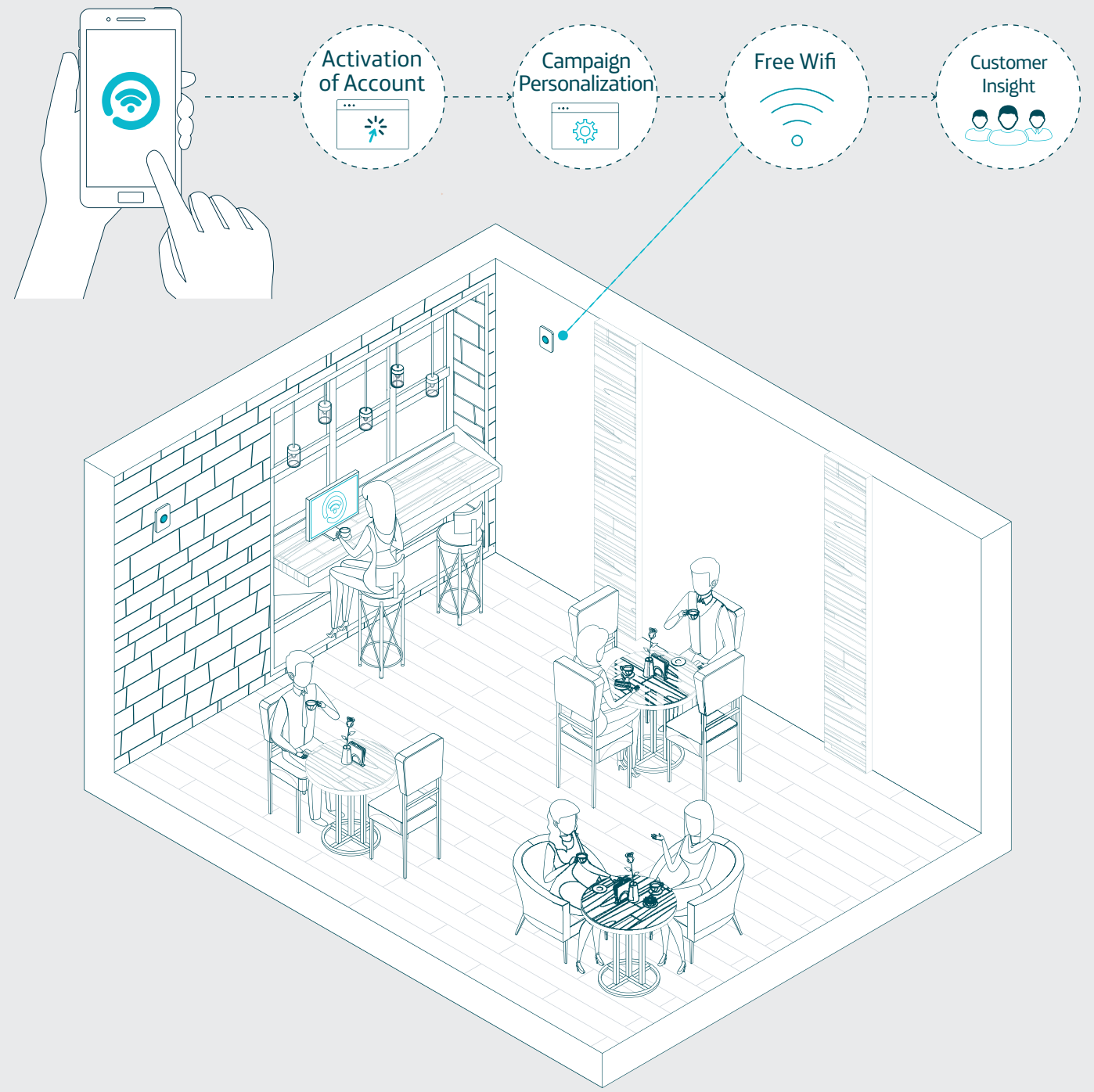
RELATED PRODUCTS

- **spotsign:** communication channel with customised content, aiming to increase retailer sales and enhance their brand awareness by using different devices (screens, projectors and totems). Content can be adapted depending on customer affluence and behavioural data gathered by In-Store Insight.

AVAILABILITY IN COUNTRIES

Spain.

A RETAIL SOLUTION



SPOTWIFI

spotwifi allows retailers to offer their customers free Wi-Fi in the point of sale and interact with them through communication campaigns: share promotions, redirect traffic to social networks, perform surveys, deliver coupons and show corporate videos/ website...

FUNCTIONALITIES

Personalisation of captive portals; campaign segmentation; customer data download (compliant with privacy policies); remote control parameters of the Wi-Fi device; connection with external tools; and access to the control panel (with information about connected visitors, profiles, types of sessions, percentage of users, etc.).

TARGET

This service is geared to medium and big companies, especially fashion, supermarkets, and shopping centers; particularly interesting for retailers in need of increasing their customer attraction and customer´s knowledge.

BENEFITS

- Reinforce customers loyalty by communicating campaigns and promotions directly to them.
- Increase visits frequency and length thanks to the Free WiFi connection claim.
- Sociodemographic profiling of customers (gender, age range, and repeat visitors).
- Personalise the experience by Image customisation of the captive portals, traffic redirection, connection time limits, etc.

WHY TELEFÓNICA?

- Telefónica is specialised in the transformation and digitisation of spaces, with a dedicated subsidiary: Telefónica On The Spot Services.
- Connectivity is the core product of Telefónica.
- and a sector in which the company has got a long time expertise across the globe.
- End-to-end service. Facilities and logistics deployed at a global level.
- Cloud-based in-house developed platform for the retail sector, with technical capacity for customised developments and own equipment.

RELATED PRODUCTS

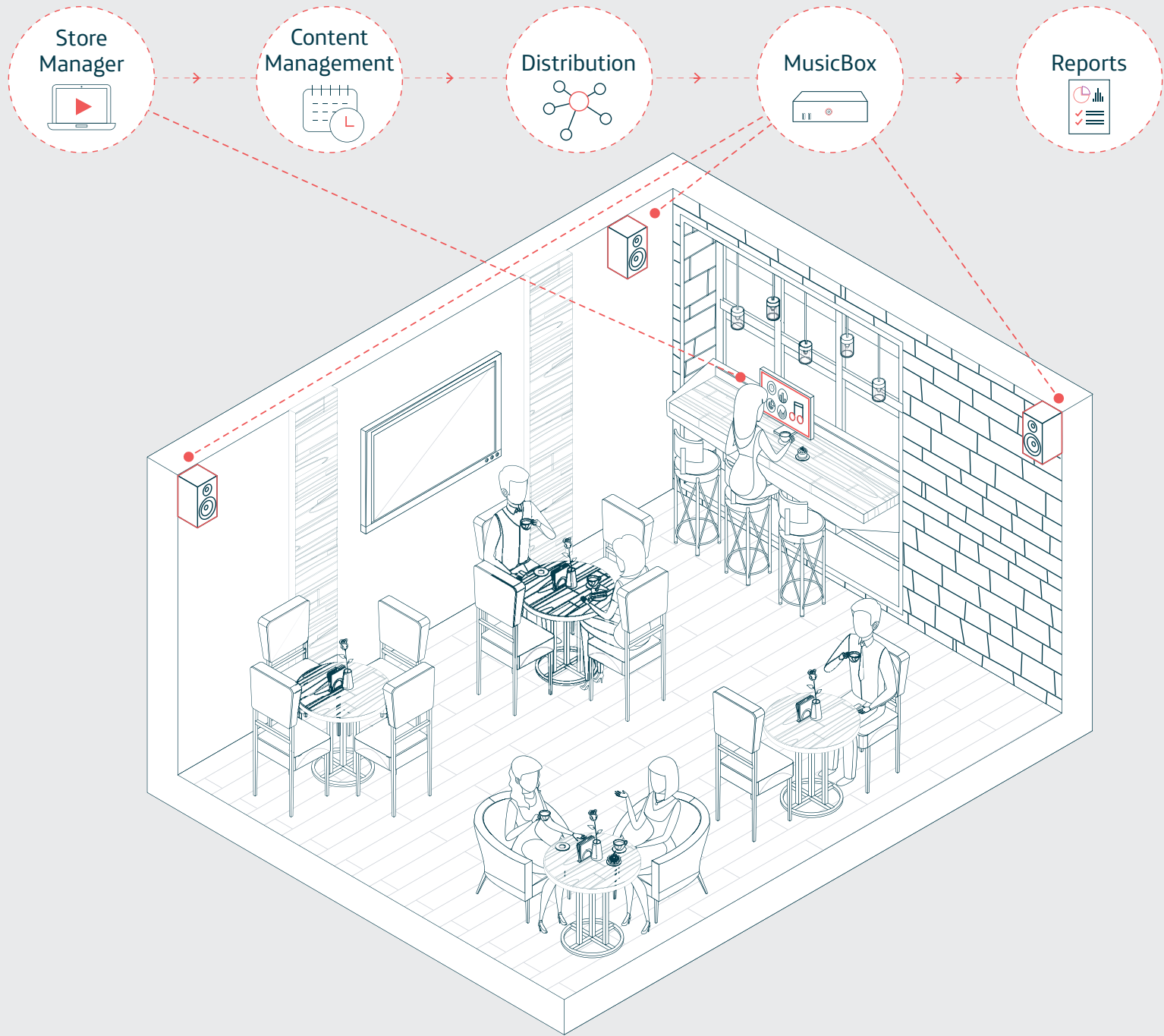
Services to combine and enhance the product:

- **spotsign:** communication channel with customised content, aiming to increase retailer´s sales and enhance their brand awareness with the usage of different devices (screens, projectors and totems).
- **spotmusic:** 24-hour music service that makes stores more attractive to customers thanks to playlists designed to influence their response, with no interruptions nor advertising.

AVAILABILITY IN COUNTRIES

Spain, Brazil, Argentina, Chile, Peru and Mexico.

A RETAIL SOLUTION



SPOTMUSIC

spotmusic offers ambience music 24 hours a day with no interruptions or advertising to take advantage of the undoubted added value of music at the point of sale. Thanks to its diverse range of curated playlists, this service creates the right musical environment for every moment, influencing clients activity and response.

FEATURES

Music channels programming by time slots or days of the week; ad spot scheduling within the same channel; variety of content depending on customer needs; playback continuity; terminal status monitoring in real time.

TARGET

This service is geared to small and large companies or multinationals for any sector or market, especially for retail, tourism / hospitality and offices.

BENEFITS

- Enhancement of brand recall and image, enriching customers' journey.
- Sales increase and customer experience improvements.
- Simplified programming.
- Adaptive for promos, commercials and campaigns.

WHY TELEFÓNICA?

- Telefónica is specialised in the transformation and digitisation of spaces, with a dedicated subsidiary: Telefónica On The Spot Services.
- Over 40 years of experience in music playback, with more than 15.000 customers and 17.000 PoS (point of sales) worldwide.
- End-to-end service. Global deployment of facilities and logistics.
- Cloud-based in-house developed platform, with technical capacity for customised developments and own equipment.

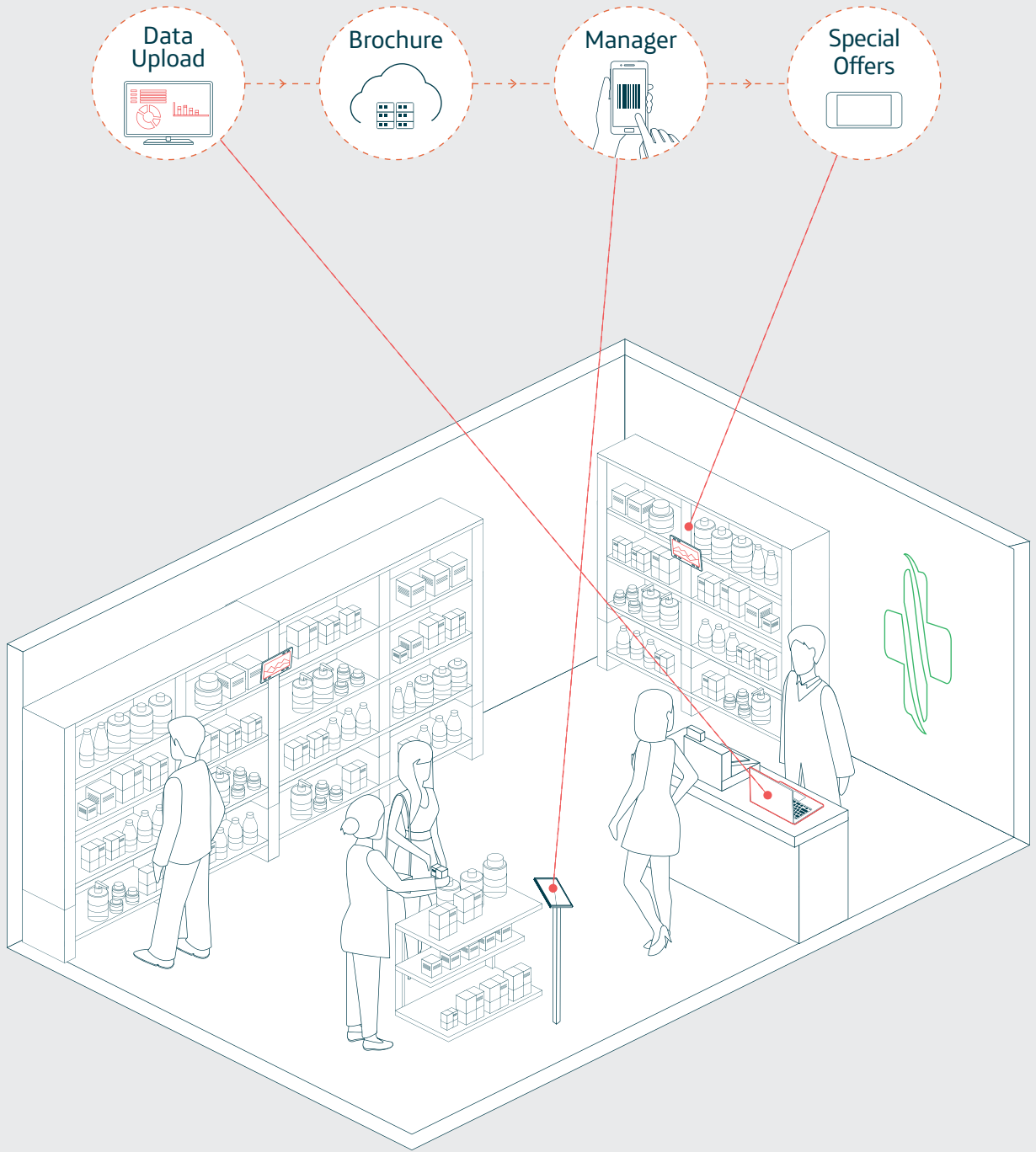
RELATED PRODUCTS

- Services to combine and enhance the product:
- **spotsign:** communication channel with customised content, aiming to increase retailer´s sales and enhance their brand awareness with the usage of different devices (screens, projectors and totems).
 - **Queue Optimise:** helps avoiding waiting queues to improve customer service in offices, according to the PoS capacity and the profiling of employees in direct contact with the final customer.

AVAILABILITY IN COUNTRIES

Spain, Brazil, Argentina, Chile, Peru and Mexico.

A RETAIL SOLUTION



SPOTLABEL

spotlabel is a digital labelling solution, easy to install and self-managed, that enables customers to create a small, dynamic and attractive in-store media to inform about products and promotions. Product information can be assigned to a screen either from a web interface or from a smartphone.

FEATURES

Management of catalogued items (add/edit/delete articles, export of catalogue, etc.); promotion processes automation, configuration of screens by editing attributes and organised labelling.

TARGET

This service is geared to medium to large companies in sectors such as distribution, fashion and retail or companies with a broad product catalogue that cannot be displayed in the store. Especially suitable for points of sale with a high product turnover in exhibitors...

BENEFITS

- Increase efficiency by reducing products replacement timing, and traditional labeling costs (no human errors, no paper, no print).
- Increase sales by showing dynamic and innovative content both inside the store and the shop windows true to brand image guidelines.
- Update content dynamically, immediately and centralised.
- Reinforce campaigns impact by enabling screens distributed throughout the store.

WHY TELEFÓNICA?

- Telefónica is specialised in the transformation and digitisation of spaces, with a dedicated subsidiary: Telefónica On The Spot Services.
- End-to-end service. Global deployment of facilities and logistics.
- Cloud-based in-house developed platform, with technical capacity for customised developments and own equipment.

RELATED PRODUCTS

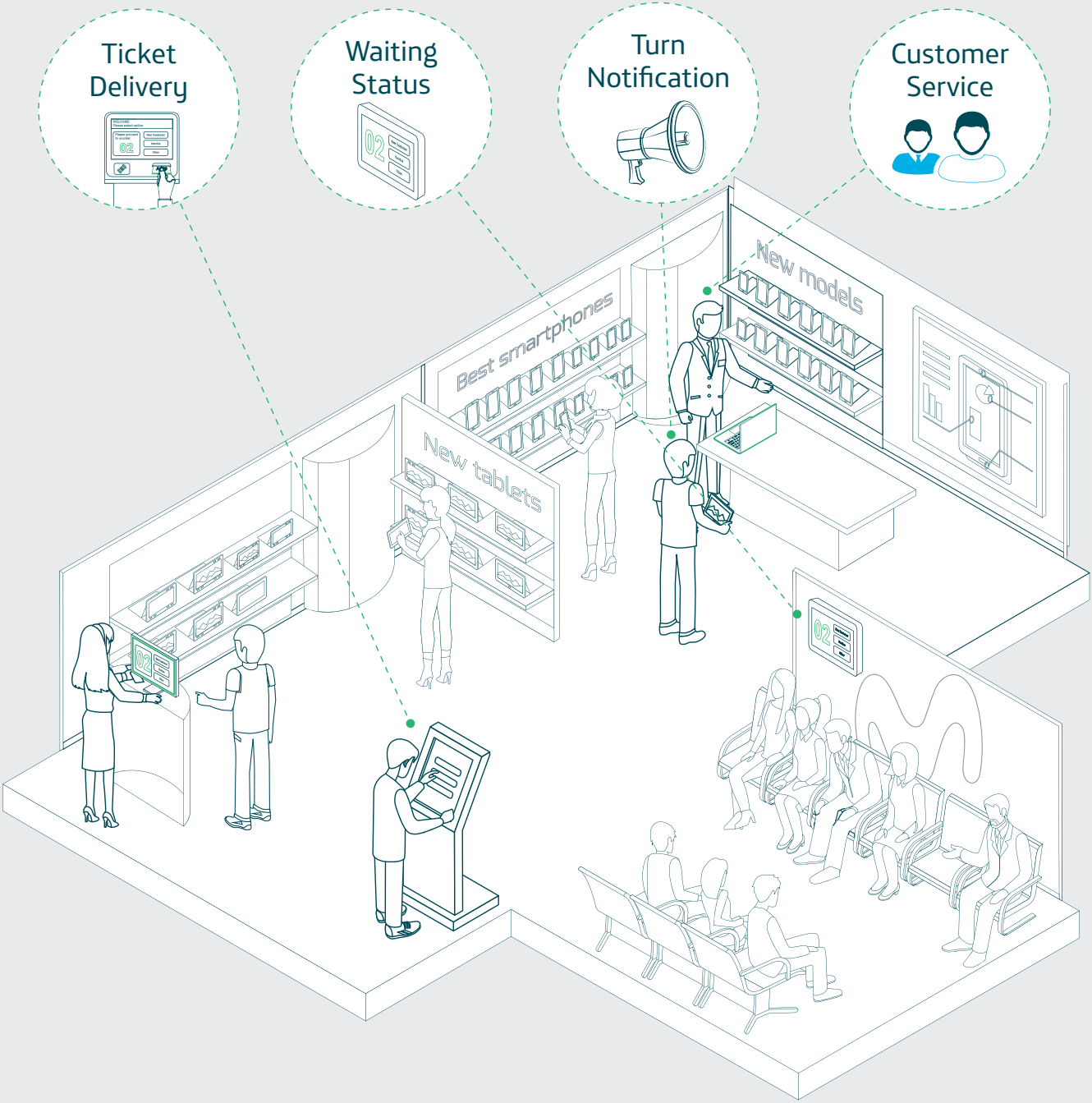
Services to combine and enhance the product:

- **spotsign:** communication channel with customised content, aiming to increase retailer's sales and enhance their brand awareness with the usage of different devices (screens, projectors and totems).
- **spotmusic:** 24-hour music service that makes stores more attractive to customers thanks to playlists designed to influence their response,, with no interruptions nor advertising.
- **spotwifi:** free Wi-Fi access for customers at a point of sales so the retailer may interact with them through communication campaigns.

AVAILABILITY IN COUNTRIES

Spain.

A RETAIL SOLUTION



QUEUE OPTIMISE

Queue Optimise is a service that helps avoiding waiting queues to improve customer service in offices according to point of sales capacity and employees profiling in direct contact with customers. It is configured to convey an outstanding customer service perception in order to rise levels of customer loyalty, brand awareness, productivity and efficiency.

FEATURES

Automatic management of priority rules; configuration of services provided at the point of sales; assignment of customer service desks; requests for product replacement or return at the dispensing point or previously via web.

TARGET

This service is geared to medium or large companies that want to improve customer service and manage waiting times. Especially relevant for customer service offices in both public and private sectors and the healthcare sector.

BENEFITS

- Increase customer loyalty.
- Improve service quality and brand awareness thanks to statistics delivered.
- Increment staff productivity at the point of sale.
- Improve personalised attention.

WHY TELEFÓNICA?

- Telefónica is specialised in the transformation and digitisation of spaces, with a dedicated subsidiary: Telefónica On The Spot Services.
- End-to-end service. Global deployment of facilities and logistics.
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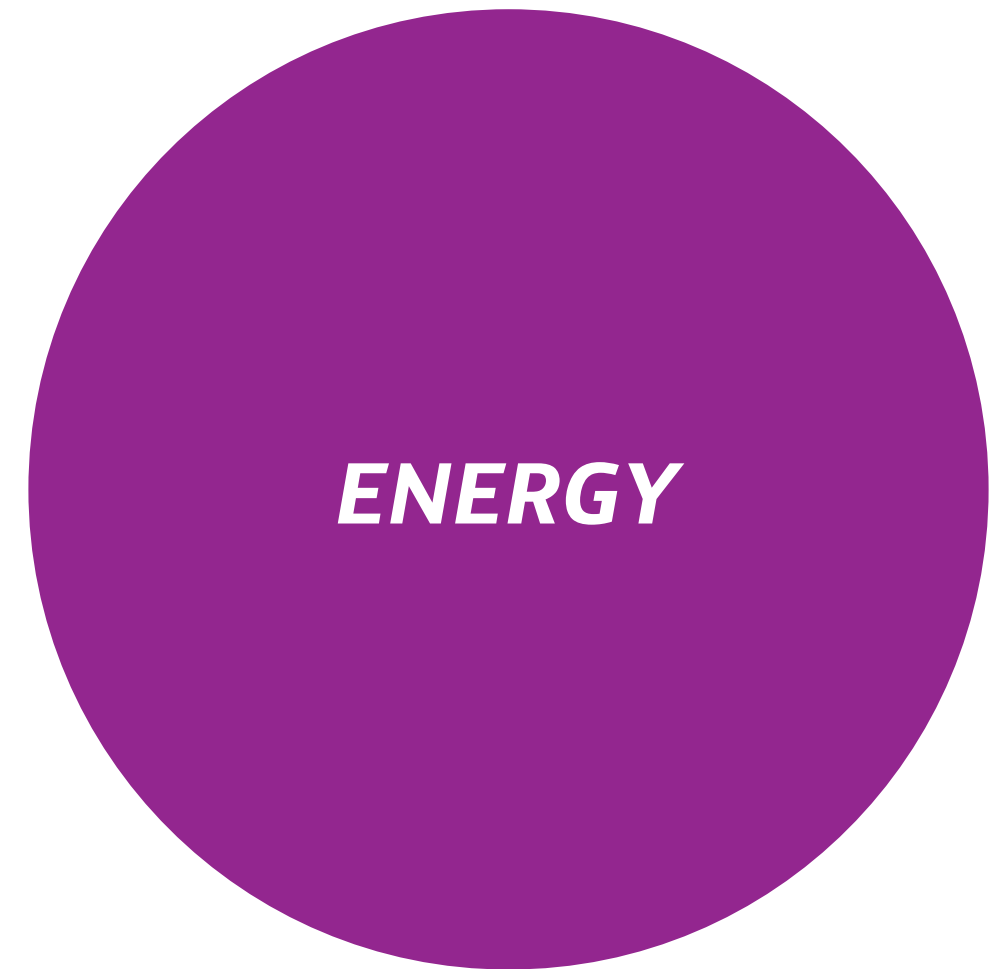
RELATED PRODUCTS

Services to combine and enhance the product:

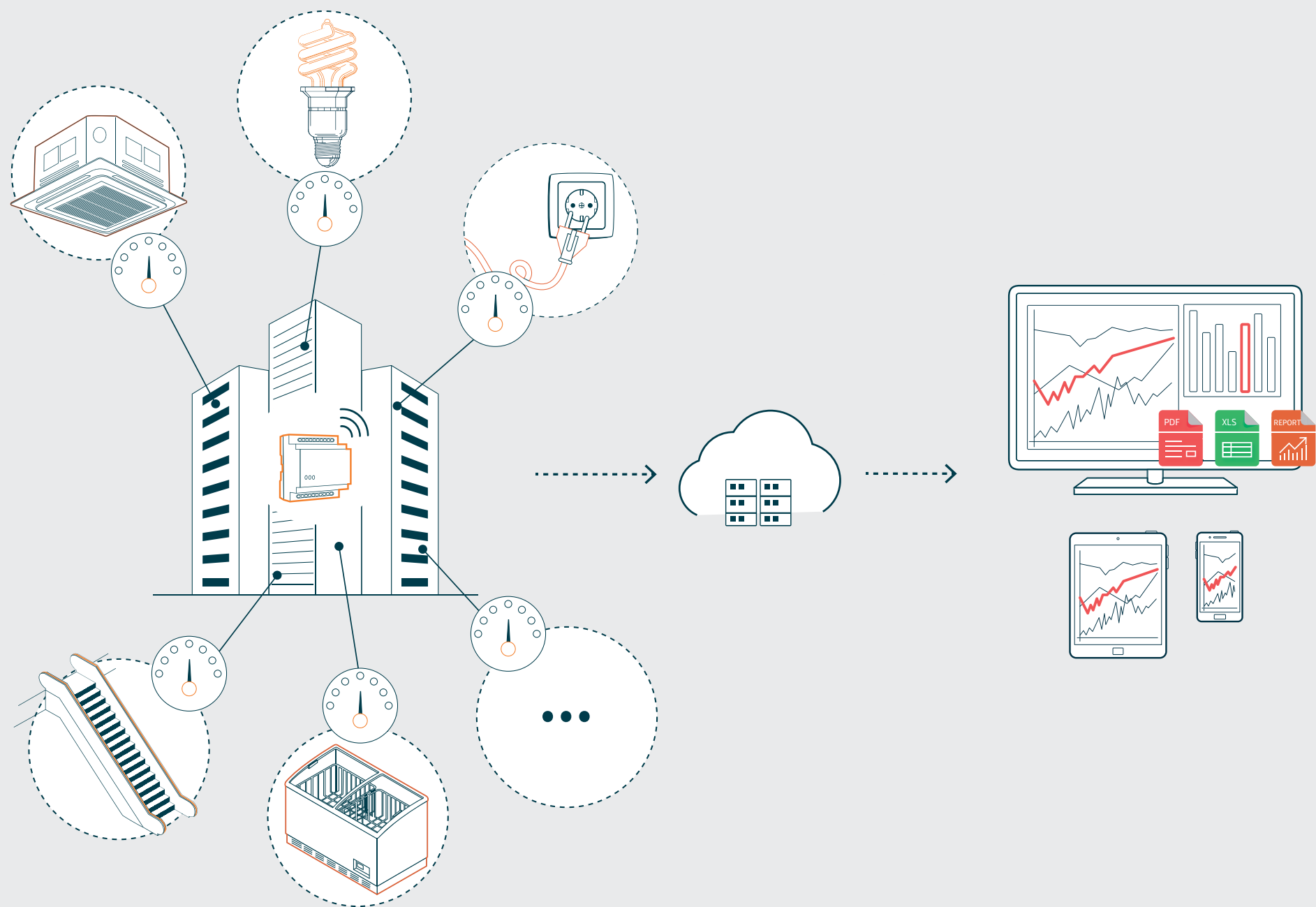
- **spotsign:** communication channel with customised content, aiming to increase retailer's sales and enhance their brand awareness with the usage of different devices (screens, projectors and totems).
- **spotmusic:** 24-hour music service that makes stores more attractive to customers thanks to playlists designed to influence their response,, with no interruptions nor advertising.

AVAILABILITY IN COUNTRIES

Spain, Brazil, Argentina, Chile, Peru and Mexico.



AN ENERGY SOLUTION



ENERGY INSIGHT

Energy Insight is our first level of energy management for companies that want a deep understanding of the use of energy in any building or location and advice of actions to be taken. The service provides the required tools so building managers can make the right decisions to lower energy consumption and achieve savings.

FUNCTIONALITIES

Detailed knowledge of the energy consumption and cost, by site or by a set of sites; prediction (Big Data) and detection of deviations; alerts system; bill simulation; energy performance analysis; custom reports; creation of Sankey diagrams; monitoring of energy savings; detection of improvement opportunities; archive of historic data; task orders follow-up; centralised management.

TARGET

This service is geared to any customer that has a high-energy consumption, with especial interest for three sectors; Industry, utilities and services (e.g. banking, hotels, retail, shopping centers...).

BENEFITS

- Lower the energy consumption and bill, by providing valuable information on critical points of consumption and possible improvements.
- Improve efficiency and obtain operational improvements by managing your energy infrastructure.
- Make better investment decisions based on data (return on investment).
- Centralised access to energy consumption info from all the infrastructures.

WHY TELEFÓNICA?

- End-to-end service from the proposal definition up to the operation service.
- Over seven years of experience with several sectors.
- Solution compatibility with most hardware providers.
- Pay-per-use.
- By using Telefónica network, the information arrives safely to our high availability cloud platform.

RELATED PRODUCTS

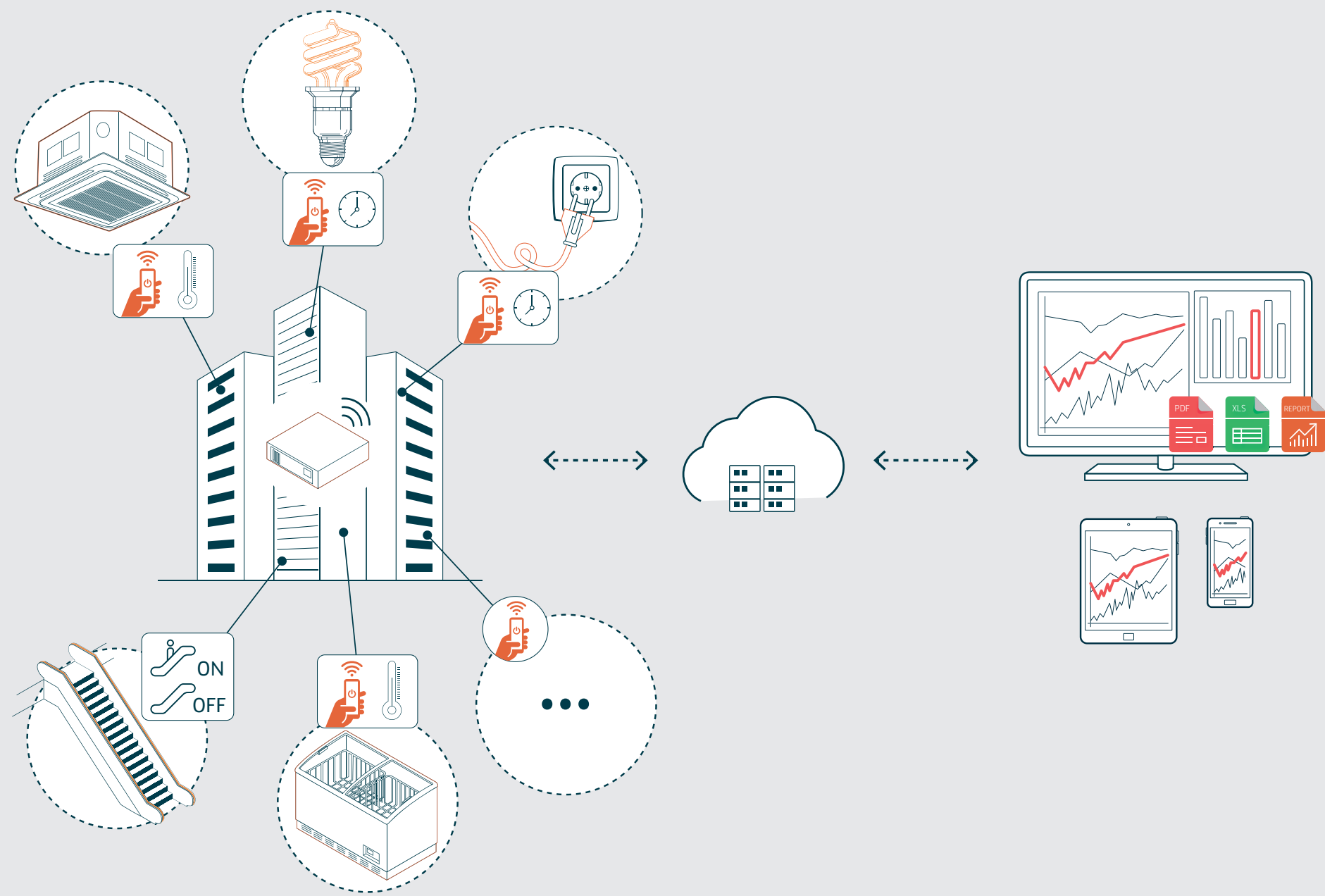
Services to combine and enhance the product:

- **Energy Optimise:** our second level of energy management in which certain high-consumption equipment is remotely and automatically controlled to assure energy reduction.

AVAILABILITY IN COUNTRIES

Service mode: Spain and Peru.
Platform as a Service: Spain, Brazil, Peru, Mexico and Ecuador.

AN ENERGY SOLUTION



ENERGY OPTIMISE

Energy Optimise enables remote and centralised measurement, control and management of high energy consumption equipment at any facility. This service particularly focuses on points of high consumption such as air conditioning, heating and lighting, giving a holistic control of a building or set of buildings.

FUNCTIONALITIES

Rules for the automation of equipment behaviour in the facilities; alarms of unexpected changes in any equipment; real-time monitoring of the functioning status and operating parameters; all kinds of reports, consumption predictions, branches comparison, alerts, etc.

TARGET

This service is geared to any customer that has a high energy consumption, with especial interest for three sectors; Industry, utilities and services (e.g. banking, hotels, retail, shopping centers...).

BENEFITS

- Reduce energy consumption and CO2 emissions.
- Improve energy operations due to a better knowledge of the functioning status of the facilities.
- Adapt the use of energy facilities to business needs by remote management and control of the equipment.
- Optimise the performance of the facilities by automating operations.

WHY TELEFÓNICA?

- End-to-end service from the proposal definition up to the operation service.
- Over seven years of experience with several sectors.
- Solution compatibility with most hardware providers.
- By using Telefónica network, the information arrives safely to our high availability cloud platform.

RELATED PRODUCTS

Services to combine and enhance the product:

- **Energy Insight:** first level of interaction with energy efficiency through a simple implementation for monitoring and measuring energy consumption.

AVAILABILITY IN COUNTRIES

Service mode: Spain.
Platform as a Service: Brazil.

SUCCESS CASE ENERGY

WHEN EARTH CALLS, IOT ANSWERS

OPTIMISED AND CUSTOMISED END-TO-END SOLUTION.

ENERGY CONSUMPTION REMOTE METERING AND MAIN USES SUBMETERING.

REMOTE CONTROL OF COOL WATER CONDITIONING PLANT AND LIGHTING
SYSTEM FOR COMMON AREAS.

A top level hotel wanted us to propose a solution for measuring and managing lighting and temperature in order to locate energy inefficiency spots in the building. By simply doing that energy costs savings raised up to 12%. So, why stop there? Why settle for reacting when we can be more active for the environment? And so we did.

Employees now can easily control the whole ambient conditions at the hotel from anywhere, wether in the inside or the outside. They can focus on customer service and make predictions after reports to deliver best comfort to passengers. And also to the planet.

ENERGY
CONSUMPTION
REMOTE



REMOTE CONTROL
COOL WATER,
LIGHTING SYSTEM...



REMOTE
TEMPERATURE
CONTROL



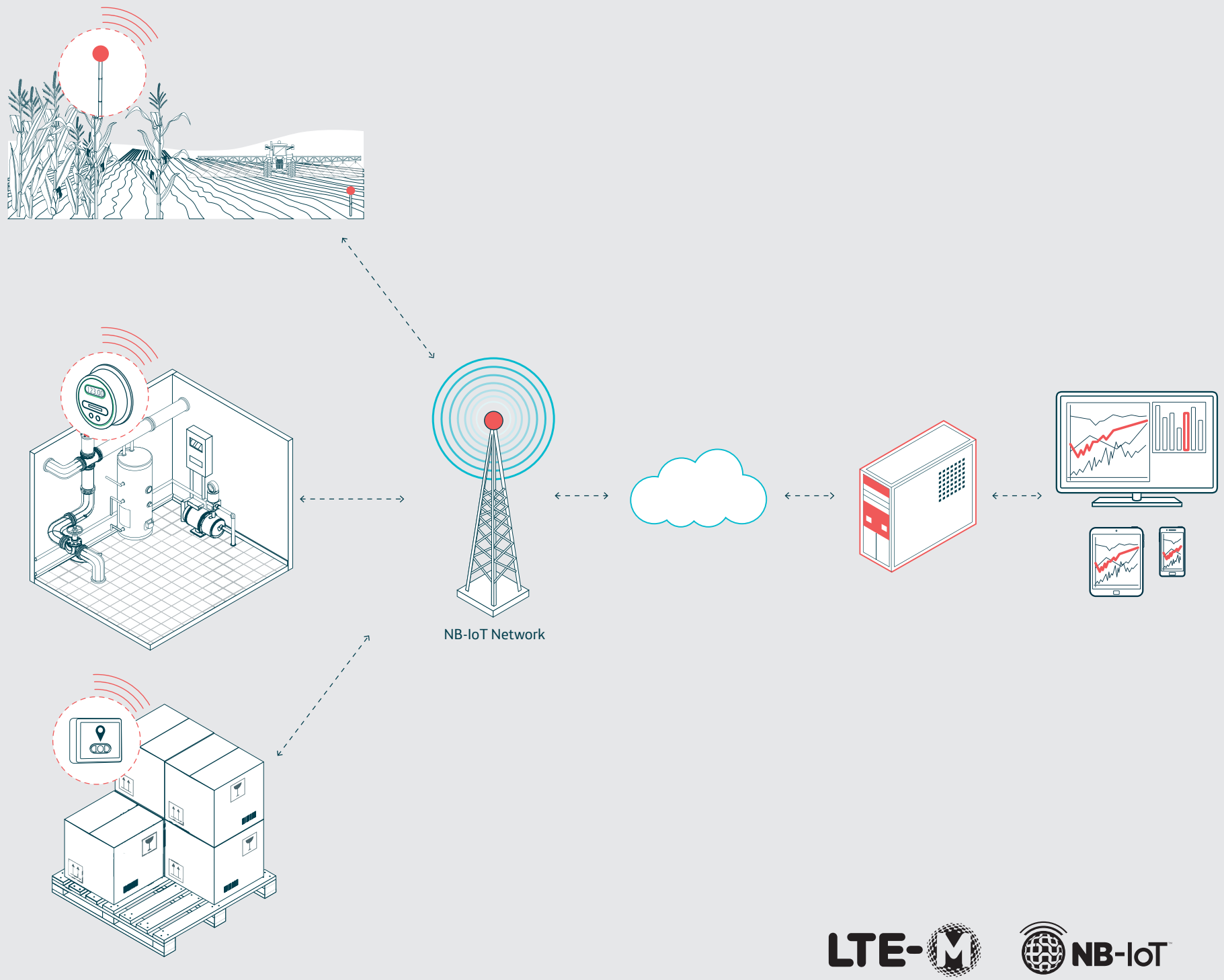
COMMITMENT





NEW CONNECTIVITIES

A NEW CONNECTIVITIES SOLUTION



LPWA: NB-IOT Y LTE-M

NB-IOT and LTE-M are the first 3GPP standard technologies designed ad-hoc for IoT in the licensed spectrum. LPWA (low power wide area) networks have been designed to optimise the massive consumption of low data and cases of low cost IoT use. They are part of the deployment of the 5G networks concept.

FUNCTIONALITIES

LPWA functionalities allow to reduce the cost of devices and extend batteries life for years. In addition, network coverages improve both indoors (complicated coverage sites: e.g. basements) and outdoors (long range).

TARGET

This service is geared to companies using IoT solutions with low data consumption.

BENEFITS

- Provide extended services for places with no electricity or coverage difficulties both outdoors and indoors...
- Speed up the generalisation of the solutions due to the low cost of the devices.
- Guarantee an alternative future for use cases that are currently resolved with 2G.
- Extend the lifespan of batteries and devices.

WHY TELEFÓNICA?

- Deployment of NB and LTE-M networks over entire Telefónica footprint, offering top technology according to the customer needs.
- Integration of technologies within the same Kite Platform allows to offer hybrid solutions.
- Telefónica's value proposition goes beyond connectivity and may include a hardware or services platform to build an end-to-end solution.
- Access to "The Thinx" laboratories to accelerate deployment times of our customer's solutions.

RELATED PRODUCTS

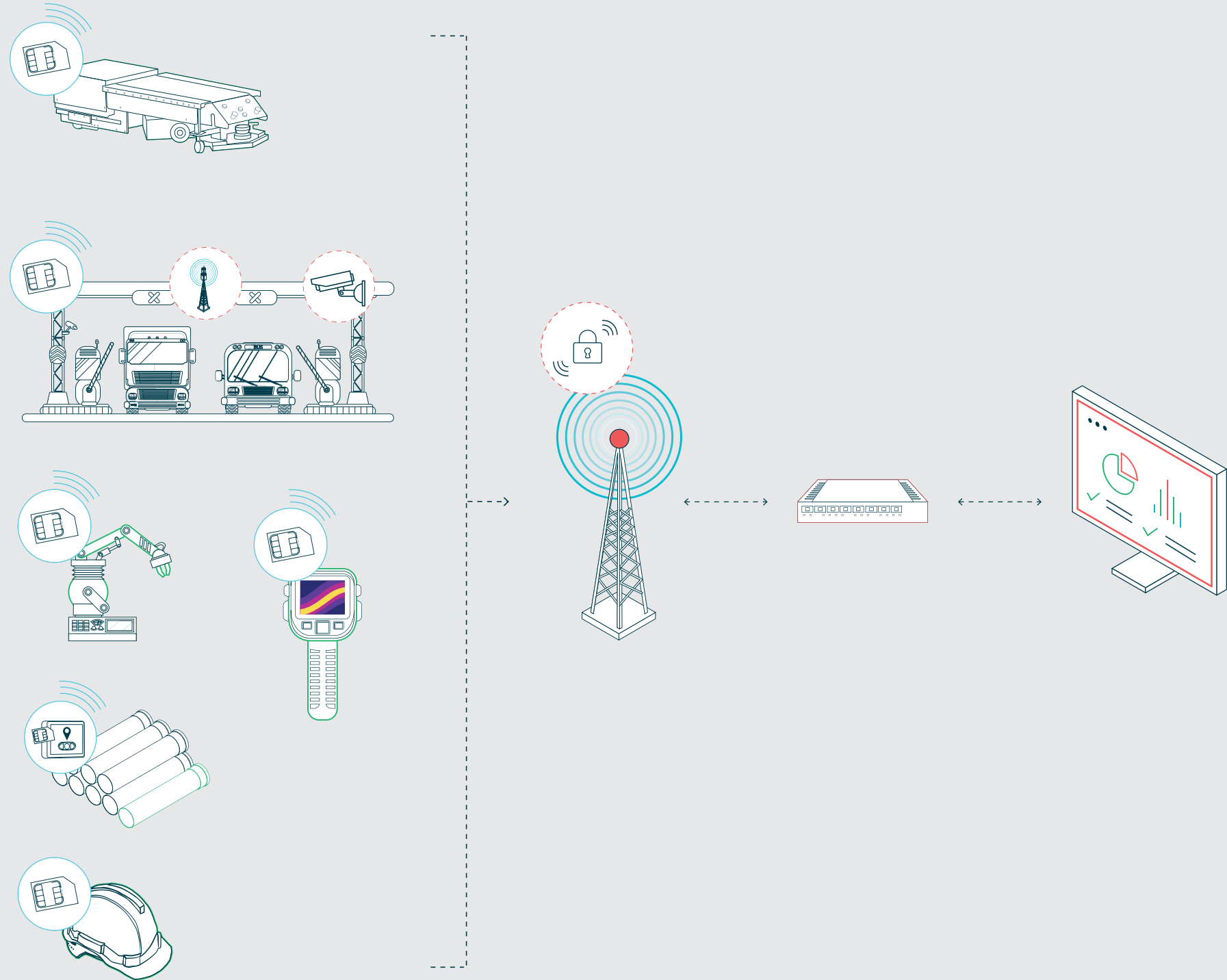
Services to combine and enhance the product:

- **Kite Platform:** Telefónica IoT platform jointly commercialised with Telefónica connectivity, which allows to manage deployed sim cards and devices.

AVAILABILITY IN COUNTRIES

Spain.

A NEW CONNECTIVITIES SOLUTION



INDUSTRY READY

Industry Ready is the wireless network solution that connects all the elements of an assembly line with all the required flexibility. Factory assembly lines are increasingly flexible in industrial digitization processes, so Industry Ready is a great aid in making them more mobile and flexible according to three different possible architectures.

FUNCTIONALITIES

Manage and adapt the network to specific customer needs; guarantee interoperability and quality of service. In addition, all defined and standardised technologies of each 3GPP release apply (LTE-A, LTE-M or C-V2X), and 5G even when it becomes available.

TARGET

This service is geared to large companies, especially for those in sectors such as mining, Oil & Gas, fleet management and semi-autonomous vehicles; retail, due to its close integration with warehouses and the supply chain-; construction; renewable energies, expanding coverage to remote locations; logistics for warehouses, airports and seaports -i.e. for container monitoring-; or industrial automation.

BENEFITS

- Reduce maintenance expenses.
- Reduce hazardous situations.
- Rise production.
- Increase security in the communications network.

WHY TELEFÓNICA?

- Network infrastructure adapted to the specific needs of industry.
- Telefónica's value proposition goes beyond connectivity and may include a hardware or services platform to build an end-to-end solution.
- Mobile and wireless connectivity of all of the company elements for total mobility.
- End-to-end service: detection of needs, configuration and installation of network hardware, integration, operation, and maintenance.

RELATED PRODUCTS

Services to combine and enhance the product:

- **Kite Platform:** Telefónica IoT platform jointly commercialised with Telefónica connectivity, which allows to manage deployed sim cards and devices.
- **Things Ready Track:** comprehensive solution that enables a more efficient location management of vehicles and other assets of customers in real time through the use of communications and necessary devices.

AVAILABILITY IN COUNTRIES

Spain, United Kingdom, Germany, Brazil, Argentina, Chile, Peru, Colombia and Mexico.

INTERNET OF THINGS ■ ● ▼

SUCCESS CASE
INDUSTRY READY

INDUSTRIAL PRODUCTION, UNCHAINED

PRIVATE-PUBLIC IN-PLANT LTE NETWORK:
TAYLOR MADE SERVICES TO ATTEND CLIENT NEEDS.
QOS GUARANTEED.

INDUSTRIAL ETHERNET GATEWAY AND IOT CONNECTIVITY FOR DATA
UPLOADING TO THE CUSTOMERS PRIVATE CLOUD.

SINGLE IOT SPECIALISED SUPPORT TEAM.

Industries are evolving to a future where mobility, security, multiplicity of connections, High SLA or QoS and E2E solutions are key. These are the main benefits of the journey from 4G to 5G that we create for our customers so they can develop and deploy their new factory model, either locally or globally.

Thanks to AGVs, Automatic Product Test and other connected tools, developed together with our specialised IoT partners network, we help industries to be more agile every day, both inside and outside the factory.



PREVENTIVE
MAINTENANCE



TEST
PROCEDURES



TOOLS
PARAMETERS



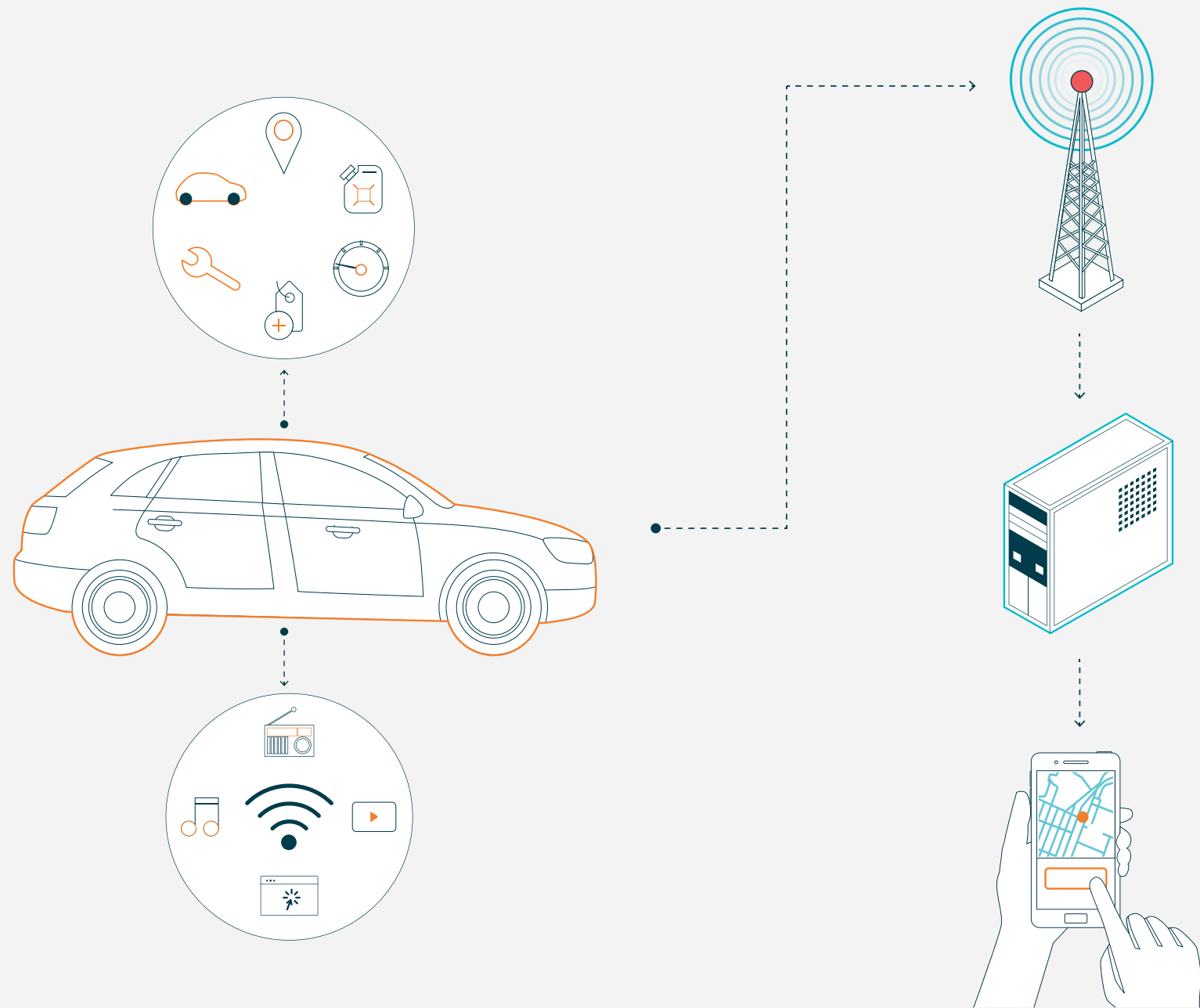
ROUTES





CONSUMER

A CONSUMER SOLUTION



MY CAR

My Car is a smart vehicle driving experience that provides real-time information about the vehicle functioning and usage, so users can take more efficient decisions. It integrates into the daily life of the user who stays connected while driving and can access information through a mobile application where data collected by the device connected to the car are received.

FUNCTIONALITIES

In-car Wi-Fi hotspot to provide connectivity to all the vehicle passengers; access to the vehicle's telemetry data, and reminders of maintenance services; vehicle localisation in real time; information about routes; driving behaviour information; commercial discounts in participating businesses.

TARGET

People who want their car to be connected in real time at any time to optimise the use.

BENEFITS

- Expand connectivity to your car with a specific data plan for connecting devices to the car Wi-Fi.
- Increase peace of mind by knowing which are the vehicle faults before going to the mechanic.
- Always know the exact location of the vehicle, as well as the routes taken and entry and exit alerts to geo-fencing.
- Monetise and profit your data (e.g. discounts) by creating a source of income for the operator based on valuable information on Wi-Fi usage.

WHY TELEFÓNICA?

- Single point of contact to manage any aspect of your service.
- We rely on the best platform partners combined with internal developments to match Telefonica quality standards.
- Your data is completely secured. Your privacy comes first at Telefonica. We have the expertise and we have the commitment.

RELATED PRODUCTS

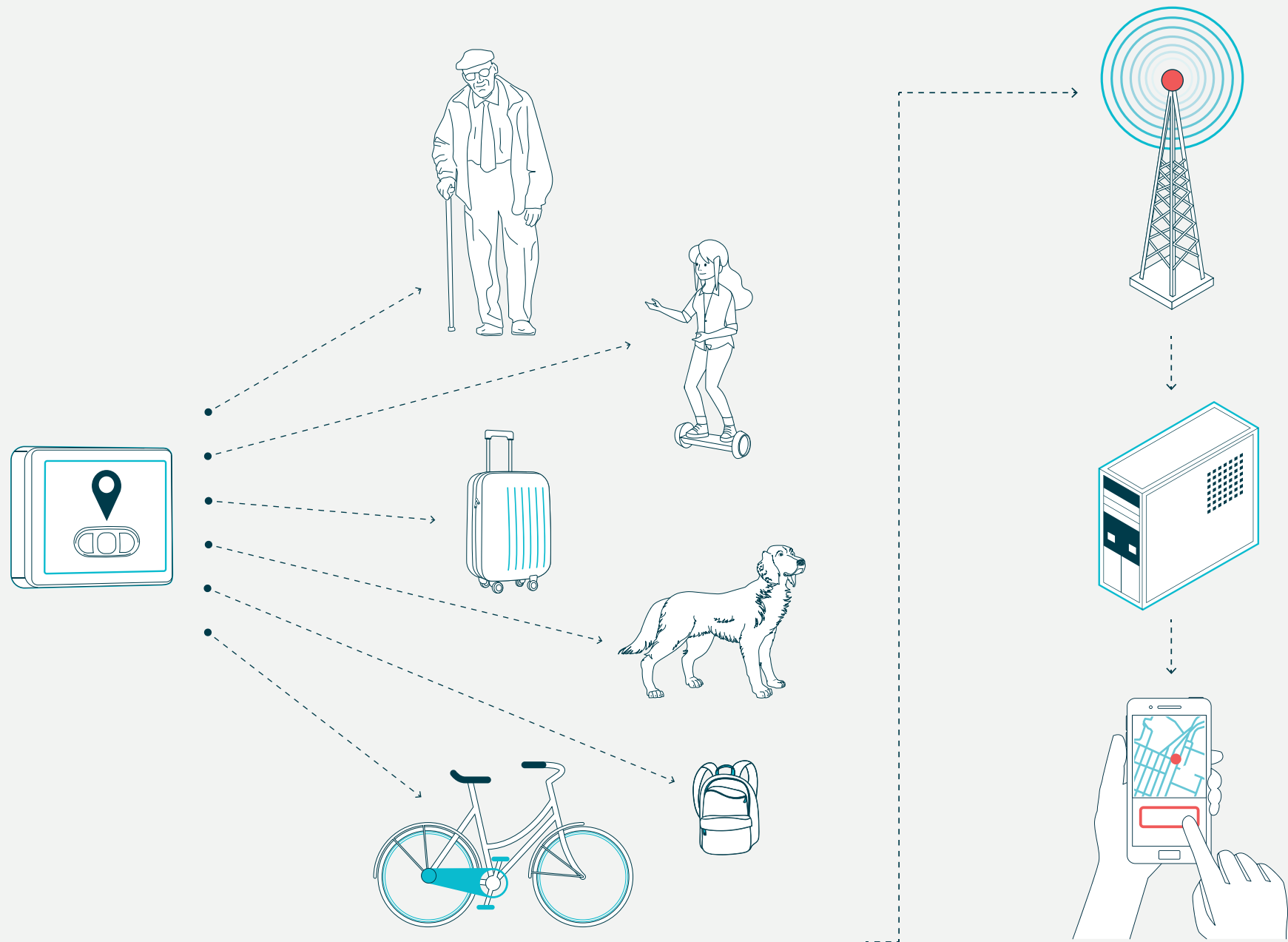
Services to combine and enhance the product:

- **My Tracker:** localisation solution for objects, pets and people based on a device equipped with a SIM card. The information is accessible through a mobile application.
- **Kite Platform:** Telefónica IoT platform jointly commercialised with Telefónica connectivity, which allows to manage deployed sim cards and devices.

AVAILABILITY IN COUNTRIES

Upcoming deployments in Spain and United Kingdom.
Other deployments: Brazil, Chile, Peru and Ecuador.

A CONSUMER SOLUTION



MY TRACKER

My Tracker is a localisation experience that allows the user to locate objects, pets and people that he or she matters most in real time at all times. All collected data by the device – which is equipped with a sim card- is sent to the mobile application where the location information is displayed.

FUNCTIONALITIES

For any use case (pets, objects, and people): real-time localisation; smart alerts and geo-zones; panic button and trips history. Depending on the uses other specific functionalities can be included such as light detection -e.g. in a suitcase-, emergency call from the device, etc.

TARGET

Frequent travellers, pet owners, relatives of people with orientation issues...

BENEFITS

- Locate the item and track it in real time.
- Increase peace of mind thanks to real time information and monitoring.
- Be informed of possible incidents through smart alerts and notifications.
- Monetise your data: Depending on the use case, Big Data can provide greater value to the user service company and new sources of income.

WHY TELEFÓNICA?

- Single point of contact to manage any aspect of your service.
- We rely on the best platform partners combined with internal developments to match Telefonica's quality standards.
- Your data is completely secure. Your privacy comes first at Telefonica. We have the expertise and we have the commitment.

RELATED PRODUCTS

- Services to combine and enhance the product:
- **My Car:** delivers a smart vehicle driving experience, and provides real-time information which helps the user to take more efficient decisions.
 - **Kite Platform:** Telefónica IoT platform jointly commercialised with Telefónica connectivity, which allows to manage deployed sim cards and devices.

AVAILABILITY IN COUNTRIES

Upcoming deployments in Spain and United Kingdom.
Other deployments: Brazil, Chile, Peru and Ecuador.

2



CAPABILITIES

INTRODUCTION

Developing a complete IoT solution can be a complex and time-consuming process, since it requires the right skills and expertise in order to combine a wide set of heterogeneous technology assets, from devices connected through IoT networks to IoT platforms and analytics.

Telefónica has built an end-to-end complete commercial offer that helps customers during their “journey” of designing and building a tailored IoT solution. This offer is composed of a set of technical capabilities, brought to life by a specialised team in the design and development of IoT solutions, complemented with a curated portfolio of world-class partners.

To make IoT complexity simpler, Telefónica has designed an *IoT framework* which tackles the diverse problems found when building a solution with a layered-approach in which each layer or “platform” focuses on resolving a specific subset of issues.

In the following sections, a detailed description of these capabilities will be described along with the list of partners that are part of the ecosystem. (Figure 1)

4º Platform: IOT ANALYTICS

Fourth platform we find the physical assets which are devices and IoT networks.

In addition to the connectivity and “Things Ready” devices portfolio, Telefónica provides a complete devices ecosystem (see transversal layers section).

3rd Platform: IOT PLATFORMS & SERVICES

The third platform holds products and services, also including the platforms to aggregate the data and enable the services that the customers use.

Telefónica has partnered with top providers of the leading IoT platforms and have also developed a capability called “Cloud Ready” which makes easier to integrate devices into these platforms.

Furthermore, as shown in the IoT catalogue section, Telefónica provides a wide range of end-to-end products for specific cases and/or industries.

2st Platform: MANAGED CONNECTIVITY & DEVICES

Second platform is for diverse elements that focus on managing either connectivity or devices through Kite Platform.

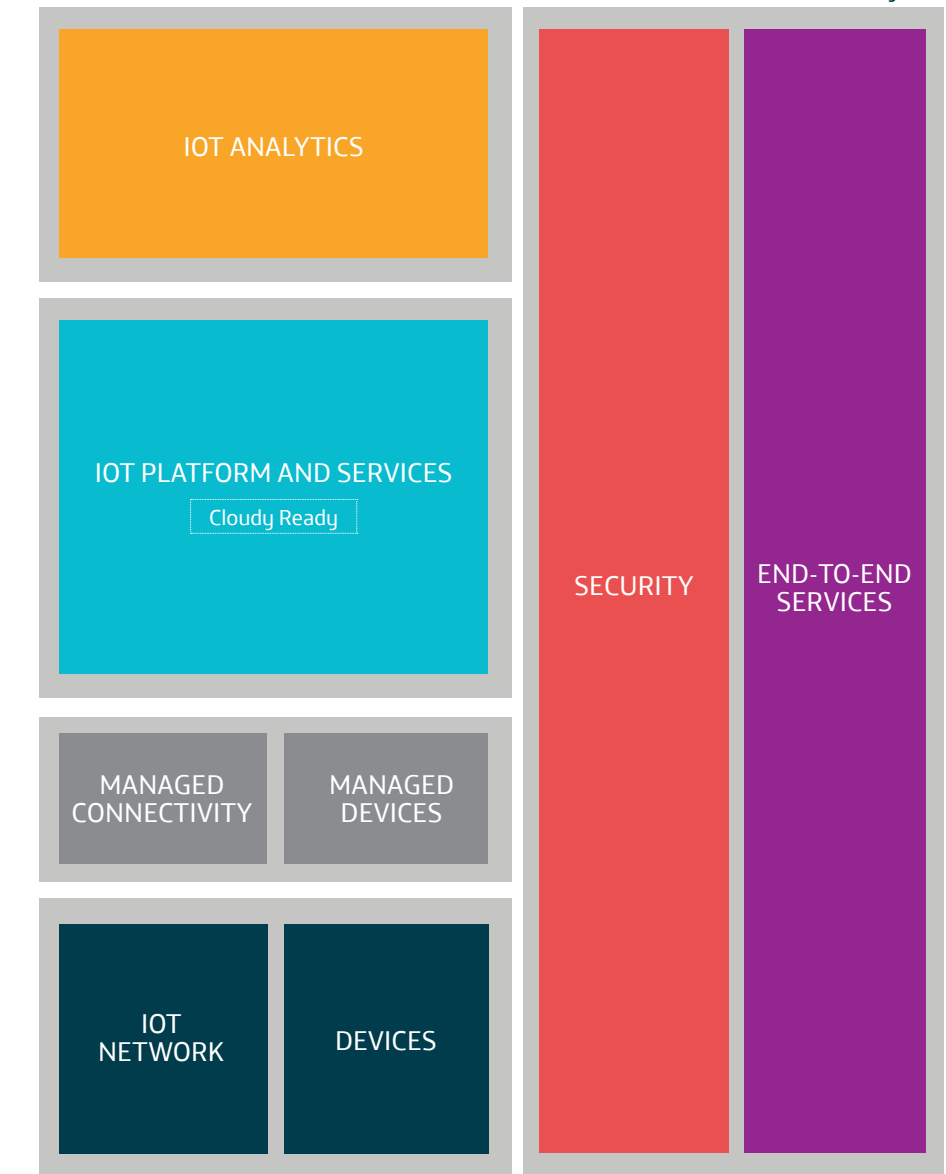
1st Platform: IOT NETWORK & DEVICES

On the first platform we find the physical assets which are devices and IoT networks.

In addition to the connectivity and “Things Ready” devices portfolio, Telefónica provides a complete devices ecosystem (see next section).

IOT FRAMEWORK

Figure 1



Transversal layers

These 4 platforms are complemented with two transversal layers:

- The **SECURITY** layer is highly valuable proposition of capabilities and solutions that give the right level of security that an IoT solution needs.
- **END-TO-END SERVICES**: consulting and integration services that complement technical capabilities for customers to fully deploy end-to-end IoT solutions.

CAPABILITIES IN DEVICES ECOSYSTEM

When an IoT solution is designed, a right choice of the IoT device is decisive. Furthermore, many bespoke projects need a customised device. Therefore, the engagement with the hardware ecosystem is one of the keys to success.

IoT devices ecosystem is deep, complex and fragmented, with many different players in the value chain: chipsets and modules manufacturers, Original Device Manufacturers (ODM), device designers and manufacturers...

Telefónica IoT team has built, over time relationships with the main players of this ecosystem. These relationships ensure the availability and quality of devices for our IoT customers. As an example, Telefónica maintains fluent relations with the following players:

- Chipset manufacturers: GCT, Intel, Mediatek, HiSilicon and Sequans.
- Module manufacturers: Quectel, Telit, Sierra, Gemalto, Simcom and U-blox.
- Original Design Manufacturers (ODM) at all scales, from global (Foxconn, Fagor, WNC) to regional companies.
- End device designers and manufacturers including Huawei, Sierra, Netcomm, Robustel, eDevice amongst others.

These relations are kept in many different ways, according to the scale and type of the players:

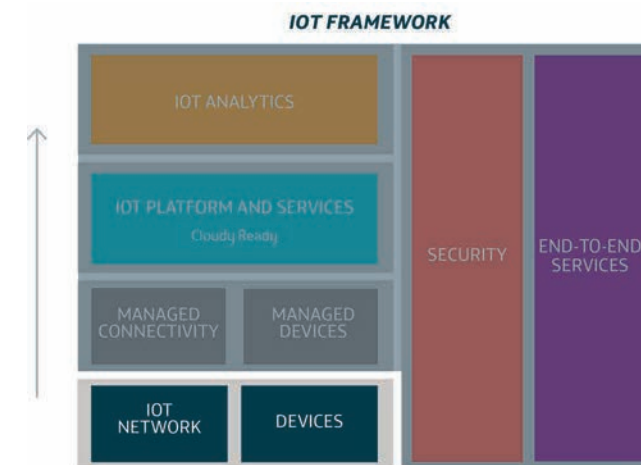
- The Telefónica Device Council and other industrial forums are

where Telefónica ensures that the ecosystem delivers a variety of compatible devices with our networks and platforms.

- The Thinx labs give customers and manufacturers an early access to the newest communication technologies.
- Telefónica device onboarding and certification program assures the compatibility, reliability and security of customer devices.
- Specific collaborations with partners, ready to deliver devices fully integrated with the end-to-end Telefónica solution.

BENEFITS

- Telefónica customers will find always a variety of devices for any need they may have. This is especially important when Telefónica deploys new technologies, from NB-IoT and LTE-M to 5G. Our customers will always be ahead of the market, even accessing early samples as soon as they are available.
- Customers can be sure that Telefónica products and projects are built on the best available devices. Telefónica has scouted the full market for them finding the best solution for every specific need, certified and integrated in their end-to-end solution.
- When necessary, Telefónica can coordinate the best partners in the ecosystem to create new, tailor-made solutions for its customers.



DEVICE ECOSYSTEM PARTNERS

CHIPSET MANUFACTURERS: INTEL, MEDIATEK, HISILICON, SEQUANS, GCT

Chipset manufacturers provide the electronic components required for mobile communications. They are global strategic companies that play a key role in the evolution of technology. Aside from pure communications chipsets also provide transport and processing capabilities as well as security or location (GPS) services.

Value proposition:

- Definition of new chipsets and chipset features adapted to Telefónica customers' needs.
- Chipsets certification by Telefónica guarantees manufacturers and end customers the security of their devices and their compatibility with our networks.
- Chipset integration with Telefonica value added services saves integrators' costs and time.



MODULE MANUFACTURERS: QUECTEL, TELIT, SIMCOM, SIERRA WIRELESS, GEMALTO, UBLOX.

Module manufacturers bundle the chipsets in-an-easy to use format and also distribute the technology to the thousands of IoT device manufacturers. It's their designs that determine the accesibility of protocols, bands and capabilities to others.

Value proposition:

- Telefónica ensures module manufacturers can provide modules fully compatible with its networks.
- Module certification warrants customers the compatibility of new devices with Telefónica networks and services.
- Telefónica customers get early samples of modules for their tests



DEVICE ECOSYSTEM PARTNERS

ORIGINAL DESIGN MANUFACTURERS: FOXCONN, WNC, FAGOR

Original Design Manufacturers (ODMs) are companies that design and manufacture products as specified, which eventually may be rebranded by another firm for sale. They have a range of scales, from huge global companies to local factories.

Value proposition:

- ODMs collaborate with Telefónica creating new devices for customers, when no existing solution meets their needs.
- The diverse sizes of ODM partners of different sizes, enable Telefónica to deliver at any required volume.



DEVICE MANUFACTURERS: SIERRA WIRELESS, NETCOMM, ROBUSTEL, HUAWEI, EDEVICE...

Device manufacturers define and specify IoT devices. They own the device design, handle device manufacturing and distribution and give support to users. In short, they create the IoT devices that meet the needs of a certain market.

Value proposition:

- Telefónica collaborates with major manufacturers, so they manufacture devices compatible from scratch with Telefónica networks
- Telefónica connects manufacturers and customers. Telefónica brings market insights to manufacturers and finds the best devices in the market for their customers' needs.
- Device certification guarantees customers the compatibility of new devices with Telefónica networks and services.
- Telefónica and the manufacturers work together to create or customise products for our customers' special projects.



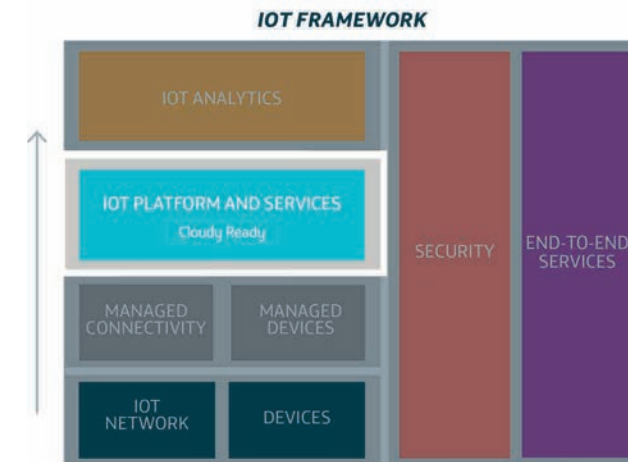
CAPABILITIES IN IOT PLATFORMS ECOSYSTEM

IoT solutions and applications are generally built on top of IoT Platforms which can be deployed in the Cloud or in private on-premise environments. Integrating devices with these platforms faces several challenges that can be resolved thanks to Telefónica's IoT connectivity “*Cloud Ready*” features.

Telefónica has evolved the traditional cellular connectivity to IoT connectivity ready for the cloud. IoT Connectivity “*Cloud Ready*” fulfils the needs of customers that are using the public cloud and wish to enrich their cloud applications with IoT SIM & network information in an easy way. Thanks to this enabler, customers can implement limitless business rules and intelligence by combining IoT connectivity data with other systems data. In addition, devices data integration is performed in a secure way by allowing an efficient setup of VPN cellular IPSec tunnels with the main public clouds.

This capability is based on the collaboration between Telefónica and the main public cloud providers enabling:

- Connectors and add-ins in Kite to facilitate and increase security at integrating devices with public cloud platforms.
- Joint market approaches with the most important IoT cloud providers.



Going beyond “*Cloud Ready*” capabilities, close collaboration with these partners allows us to design fully customisable solutions on these cloud platforms. Telefónica has experts in these technologies for the design, deployment and operation of tailor-made solutions for customers.

BENEFITS

This value proposition built on top of the connectivity allows the integration between devices and the public cloud in an easy, secure and reliable way, providing customers the following benefits:

- Improved business logic of customer IoT applications by having access and visibility of SIM & network information in real time.
- Reduced setup time & cost for new IoT solutions development.
- Enhanced security management for all the IoT devices installed.

IOT PLATFORMS ECOSYSTEM PARTNERS

MICROSOFT

Microsoft (Nasdaq “MSFT” @microsoft) enables digital transformation for the era of an intelligent cloud and an intelligent edge. Its mission is to empower every person and every organization on the planet to achieve more. Headquartered in Redmond, WA (USA), it has offices all over the world. The Microsoft Azure cloud computing platform allows enterprise customers to build, test, deploy, and manage applications and services through a global network of Microsoft-managed datacenters.

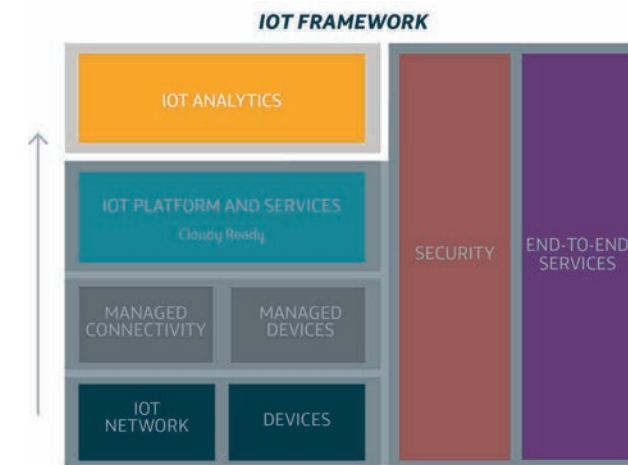
Value proposition:

The partnership with Microsoft is a key enabler of the IoT ecosystem. Our collaboration with Microsoft allows customers to develop their new IoT solutions using Azure and converge IoT data with their existent IT systems.

With Microsoft Azure, Telefónica can also develop IoT end-to-end solutions such as apps, services, security and analytics, enhanced by Microsoft constant investment in innovation.



CAPABILITIES IN IOT ANALYTICS



Analytics is considered the other side of the IoT coin. The huge amount of information captured by the global deployments of connected assets is a unique source of value for our clients, and the way to extract all the value from these data is via Analytics.

Telefónica is developing a set of capabilities to process IoT information, focusing on the end-to-end services that we provide. To do that we rely on the key knowledge of LUCA, our internal Data Analytics unit. Accordingly, Telefónica has developed data analytics modules on top of our product lines:

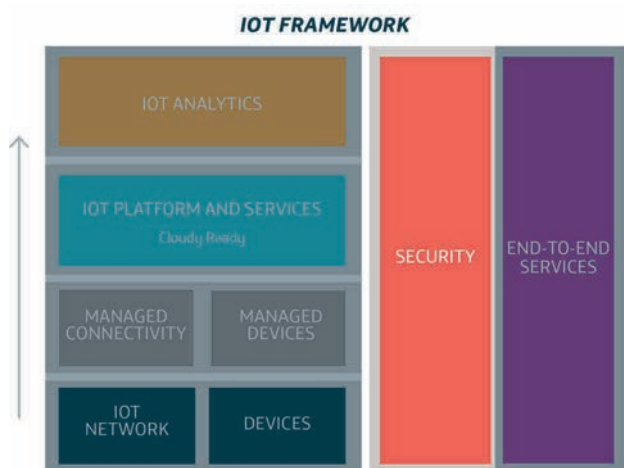
- LUCA Fleet: Analysis of the location and usage information of rental cars in order to provide business insights to optimise the customer's operations and predict failures.
- LUCA Energy: Predictive models to estimate the energy consumption of a customer, in order to identify abnormal behaviours, detect fraud, energy leakage or malfunctioning of elements.
- LUCA Retail: In-Store Insight data analytics to understand the behaviour of the customer and optimise the operation of a retail store.

BENEFITS

- Telefónica can enhance the customer benefits of a connected IoT solution by extracting business information or predicting failures of connected assets.
- The benefits of the solution are associated to higher efficiencies, optimisation of operations, and increases end-customer experience by anticipating situations based on past experiences.



CAPABILITIES IN IOT SECURITY

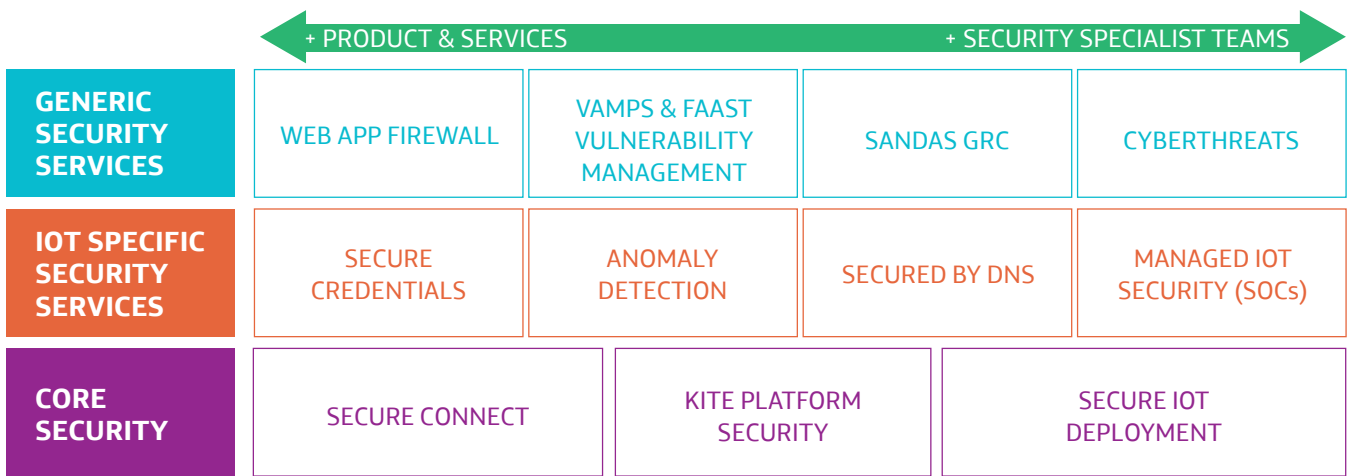


When millions of hyper connected devices use different technologies, the real challenge is to provide scalable security solutions that respond to the needs of heterogeneity and scalability that the Internet of Things is imposing.

Telefónica has a rich IoT security proposal, adapted to the customer needs and size. This proposal covers all security stages (prevent, detect and response), and for its design we rely on the Telefonica unit specialised in security: Elevenpaths.

Telefónica has structured this value proposition in three levels: **Core security**, supported by our networks and platforms secure by design; **IoT specific security services**, solutions specifically built for IoT customers, and **Generic Security Services**, based on Elevenpaths product portfolio.

Below you can find more detail about the products and solutions included in each of the levels



CORE SECURITY

Telefónica has developed the Kite Platform, a managed IoT connectivity platform. Concerning security aspects, **Kite Security** brings a set of controls such as:

- Mutual authentication between devices and network, based on a trusted hardware (SIM card).
- Strong over-the-air (OTA) encryption (128 bits key AES-like in LTE) and integrity assurance.
- Prevent SMS origin number spoofing.
- Unexpected locations control.
- Excessive data/sms/voice usage or expense
- Device whitelisting and Security Dashboard to quickly detect their abnormal behaviour.

In addition, the following network-based features define the differential Telefónica proposal to offer **Secure Connect** capabilities:

- VPNs (MPLS or IPSEC) to secure and isolate the communication from devices to customer data platform.
- Private APN per customer to isolate devices from the Internet.

Besides, Telefónica assists their customers to Secure IoT Deployments with specialised security consultants, understanding their specific needs and building the right security solution in any project phase.

IOT SPECIFIC SECURITY SERVICES

Telefonica's IoT Security team capabilities offers the customer different services to leverage and complement the Core Security ones:

- **Secure Credentials:** leverage on the cellular identity (SIM) and network systems (OTA) to allow massive provisioning of credentials to IoT devices in a secure and cost-effective way.
- **Anomaly Detection:** most IoT devices perform repetitive tasks, which simplifies profiling and makes anomaly detection a powerful tool.
- **Secured by DNS:** using the DNS service as the first line of defence, detecting and blocking requests for domain name resolution to malicious sites.
- **Managed IoT Security (SOCs) services:** Managed Security Operations relieves customers from the pains related with deploying and operating their own security operation centre.

GENERIC SECURITY SERVICES

Based on classic Elevenpaths' products, the capabilities of the Telefónica IoT Security team adapt the portfolio to IoT requirements:

- **Sandas GRC**, a platform for supporting consultancy services on Governance, Compliance and Risk assessment, incorporates the GSMA IoT Security self-assessment checklist.
- **Web Application Firewall** protects against web-based attacks and identifies gaps, information leaks, configuration errors, etc... within the IoT application layer (web or mobile).
- **Vamps** detects security threats in every IoT device within your corporate environment.
- **CyberThreats** provides early detection and identification of the modus vivendi of cybercriminals and their attack techniques.

BENEFITS

- The Telefonica network is the key and reliable environment to deploy IoT services, its native security capabilities assures the traceability of any security incident, reducing costs and investment in the basics.
- Telefónica's IoT security portfolio integrates IoT managed connectivity that seamlessly evolves to support security issues with evolved network security solutions.
- We also build end-to-end security solutions for customers, supported by our specialised Telefonica's unit dedicated to cybersecurity, Elevenpaths, with own products that complement the IoT Security proposal.

IOT SECURITY PARTNERS

DEVO

Devo is a technology company that designs and develops software solutions. Headquartered in Spain, they work with partners internationally. The company provides real-time analytics and insight for IT operations, security analytics, business analytics, customer insight and log management. The company solution reaches the world leading organisations, whether in telco, financial services, manufacturing or any other sectors.

Value proposition:

The partnership with DEVO enhances our capabilities, thanks to its solution being able to receive, store, process and analyse the IoT data managed by Telefónica in a profitable and rapid manner, performing the analysis with operations in real time and facilitating the visualisation of the information in graphic models that help understanding data. These solutions are as useful as highly required in IoT environments, where information comes from a large volume of very heterogeneous devices that generate lots of data.



PALO ALTO NETWORKS

Palo Alto Networks is the next-generation security company. Headquartered in California, US, they have offices spread around the world. The company specialises on applications and cyber breach prevention and maintains a valuable network of cybersecurity intelligence through its large customer base. The company products target service providers and organisations worldwide.

Value proposition:

The partnership with Palo Alto Networks and ElevenPaths, Telefónica’s Cyber Security unit, results in the delivery, management and integration of Palo Alto’s next generation security platform combined with Telefónica’s managed security services and ElevenPaths in-house development of security solutions. Telefónica, through ElevenPaths, is a Platinum Partner and a Managed Security Service Provider (MSSP) Partner of Palo Alto Networks’ NextWave Partner Program. The partnership also allows Telefónica to capitalise their intelligence in cybersecurity to protect the infrastructures and services of its customers thus contributing to boost the IoT market.



IOT SECURITY PARTNERS

SUBEX

Subex is a leading software solutions provider, working towards enabling a secure digital future for businesses. Subex has more than 300 installations across 90+ countries. Through it’s Internet of Things security offerings including an IoT Security solution, VAPT, managed services and consulting services, Subex helps businesses operate with the highest levels of assurance while securing their infrastructure from cyberattacks, malware and other threats. Subex today operates one of the largest Honeypot networks in the world.

Value proposition:

This partnership between Telefónica and Subex, through its IoT Cybersecurity Initiative, makes possible to offer a complete solution for IoT Threat Detection. This is one of the services that Telefónica offers specifically for IoT Security and it is leveraged on one of the key assets of Telefónica: the network. The data analytics capabilities of Subex make possible to process the network traffic using Machine Learning and other techniques and raise an alert when threats related to the IoT devices are discovered.



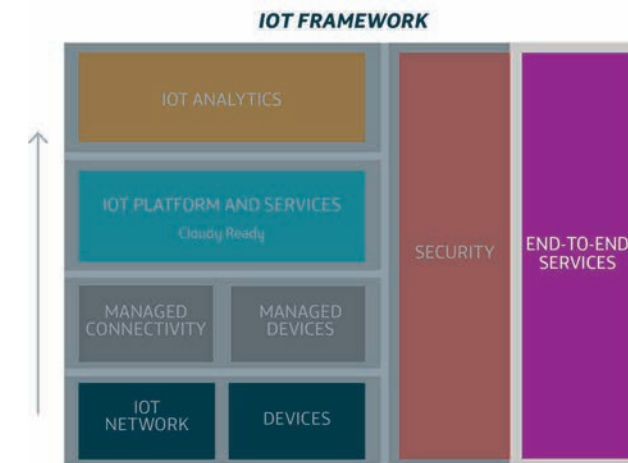
CAPABILITIES IN END-TO-END SERVICES

Telefónica provides a strong set of capabilities in consulting, design, delivery and operations of complex IoT solutions, thanks to its best-in-class IoT solutions specialised team.

All these capabilities are complemented with global System Integrators partners, in order to help the customer to deploy complete and complex end2end IoT solutions worldwide.

The different services offered include:

- Solution Design (including SW & HW).
- Solution Development (including 3rd party Systems Integration)
- Solution Testing (including User Acceptance Tests-UAT and certification).
- Solution Operation & support.



BENEFITS

Telefónica provides a one-stop-shop and advisory on IoT, including full stack technology solutions from hardware selection to middleware, application development and SaaS operations.

END-TO-END SERVICES PARTNERS

TECH MAHINDRA

Tech Mahindra is a company with 112,900+ professionals across 90 countries, helping over 910 global customers including Fortune 500 companies. Tech Mahindra is also amongst the Fab 50 companies in Asia as per the Forbes 2016 List.

Value proposition:

The partnership with Tech Mahindra makes it possible to simplify the selection of the right system integrator that will adapt the IoT solution to the specific requirements of the customer, considering the customer's internal processes and technologies, in order to unleash the full potential of the IoT.

**Tech
Mahindra**

3



***GLOBAL
PARTNERS***

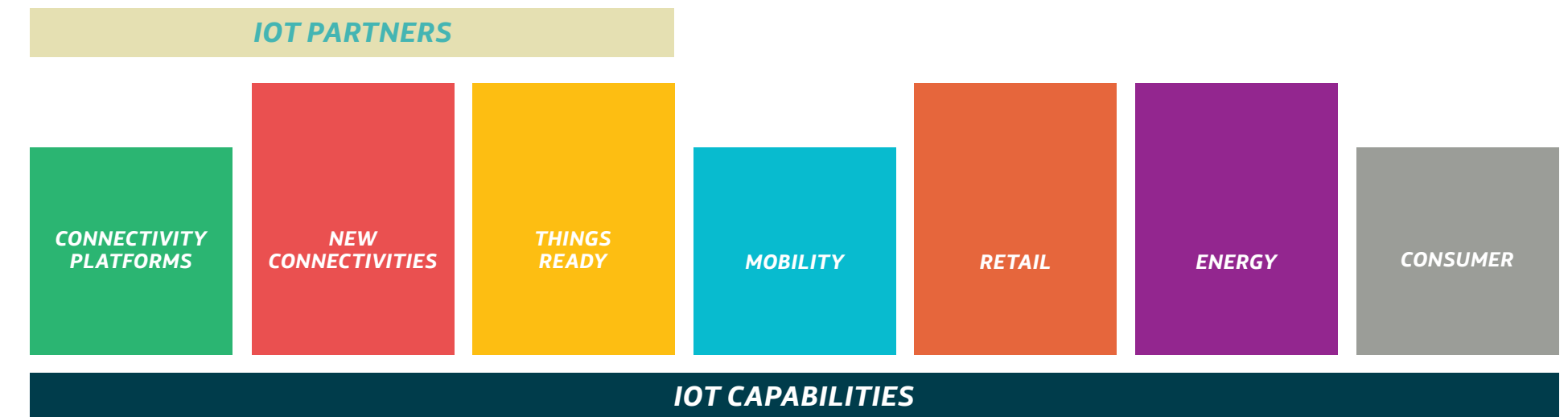
INTRODUCTION

IoT leverages across the four layers of our Company IoT Vision: Physical Assets, IT Systems, Product and Services and Big Data. In this scenario of such diverse technologies, collaboration among companies with different expertise is the only guarantee to succeed.

Thus, at Telefónica IoT Global, we are creating an ecosystem of partners that complement our:

- **Go to market/Sales Channels**, amplifying the market reach of IoT solutions (IPP).
- **Solutions catalogue**, enriching the product portfolio and value proposition for enterprise customers.
- **IoT Capabilities**, contributing to design the future IoT technology and ecosystems (discussed in the previous section).

IOT PARTNERS FRAMEWORK





IOT PARTNERS

IoT solution providers, connectivity distributors, modules and device manufacturers can enrol in the **Telefónica IoT Partners (IPP)** for a best market approach jointly with Telefónica. Our un-paralleled Global reach combined with the innovative IoT Partners accelerates our partners growth.

Up to day more than 1,300 partners are registered in the Programme in Europe and the Americas and categorised depending on their position in the IoT value chain. Each partner has been allocated to one of the following groups:


- **Authorised Distributor** provide a dedicated sim card management platform to supply both Telefónica's connectivity and connectivity management services to their channel customers. This allows them to manage all aspects of their sim cards.
- **Advance Certified**, including device manufacturers, embed the Telefónica sim card into the dedicated vertical solution that they deliver directly to their end customers.
- **Master Certified Partner** deliver solutions to customers via an established sales channel infrastructure.

PROGRAMME DESCRIPTION

Registered partners in the IoT Partners include Telefónica connectivity and/or devices in their commercial offering. The Programme standardises and automates the IoT sale and post-sale process to bring maximum efficiency to our partners. IoT Partners is based on a specific model around which rules, processes and self-service tools have been developed.

We have based the collaboration with our partners on the use of customised tools (such as Pricing Simulator, Coverage Maps, Deal Manager, Ordering tools and Support Centre) and a dedicated legal framework support. On their side, transaction tools execute all the processes oriented to the purchase, configuration and management of tariffs for connectivity devices and applications. As these Partners can manage the whole process online from the quote to the order, both scalability and global reach improve.

Partner Account Managers (PAMs) act as the single point of contact for partners and support them during their daily activity, making the most of their journey with Telefónica. Finally, the central IPP Team supports permanently the operation of the IoT Partners to ensure the maximum efficiency in all country channel teams.



MBSLFT

ADVANCED CERTIFIED PARTNER

MBSLFT specializes in enterprise solutions for organizations deploying MDM, IoT, and cloud computing products. MBSLFT leverages expertise in security, data minimization algorithms, big data analysis, software development, and hardware engineering to deliver customized solutions for its clients. MBSLFT facilitates connectivity to public and private clouds, including on-premise and fully managed deployment options.



GEOTAB
management by measurement

ADVANCED CERTIFIED PARTNER


For over a decade, **Geotab** has been a proven industry leader in the area of GPS fleet management and vehicle tracking, also known as telematics. Fortune 500 companies, including 30% of the top ten fleet and 10% of the top 100 fleets in North America, rely on Geotab's technology. Since Geotab provides end-to-end, hardware and software, solutions that are entirely scalable, both enterprise organizations and small-to-medium sized firms are active users. Geotab's products are represented and sold worldwide through its Authorized Reseller network.



Telit

MASTER CERTIFIED PARTNER


Telit supplies products that are business scalable and interchangeable across families, technologies, and generations, that help customers to keep development costs low with protection for design investments. Telit offers SaaS-structured value added services from m2mAIR Mobile combining comprehensive, powerful solutions for module, SIM, and subscription management. It delivers business value through performance, redundancy, and network coverage. On the Internet side, m2mAIR Cloud PaaS-based application enablement and cloud back-end integration services enable configuration and deployment of enterprise-grade m2m applications without programming.



KORE

AUTHORISED DISTRIBUTOR


KORE is dedicated to provide true M2M connectivity solutions. For an M2M solution provider, getting up and running on a reliable network – quickly, predictably and cost-effectively – can make all the difference. KORE understands and provides efficient M2M applications designed to deliver the speed to market and reliability needed in today's fast-paced competitive economy. KORE's efficient M2M services have the expertise and the experienced team in place to get you to market quickly, efficiently and at the lowest possible cost, while giving you the tools you need to manage your M2M business.



ADT

ADVANCED CERTIFIED PARTNER


ADT is a Johnson Controls business and a world leader in security and alarm monitoring. It started operating in Latin America in 1999 and has been present in Chile for more than 16 years, providing protection and peace of mind to thousands of homes and businesses, 24 hours a day, 365 days a year.



COMSATEL
seguridad y control satelital

ADVANCED CERTIFIED PARTNER


Comsatel is a pioneer in GPS services in Peru with more than 19 years of experience in the field. Comsatel offers solutions in satellite technology for families and companies. Comsatel has a professional and technical team committed to guarantee peace of mind and confidence to its customers. Comsatel is registered in the MTC as the Trading House of Telecommunications Equipment and Devices and has the Certificate of Registry of Companies that Provide Value Added Services given by this institution.



GPS CHILE

ADVANCED CERTIFIED PARTNER


GPS Chile offers solutions to control and manage fleets of trucks, trailers, light vehicles, machinery or any other asset. The portfolio includes products and platforms for fleet control, data collection, fleet safety, discharge control, cold chain control, telemetry and much more.



PROSEGUR
Seguridad de confianza

ADVANCED CERTIFIED PARTNER


Prosegur is a monitoring company for alarm panels and GPS, which also sells, installs, supports and removes electronic equipment from alarm panels and their zones as well as GPS devices. Prosegur takes care of any alarm alert that may occur both at home and in the vehicles through its own platform and assist our clients in case of theft, robberies, intrusions, etc



SKY

AUTHORISED DISTRIBUTOR





SkyECC is a full-fledged mobile security and device management solution for corporations that need to manage their internal team and maintain internal information integrity. With the device management, SkyECC enables internals to communicate through a secured and encrypted channel with the assurance that their corporate information transferred (whether it be messages, files, photos, recordings) is protected from any malicious attacks or corporate espionage.



Transaction Network Services

ADVANCED CERTIFIED PARTNER

A worldwide provider to global companies in the most mission critical industries. **Transaction Network Services (TNS)** has been delivering industry-leading solutions for the payments, financial and telecommunications industries since 1990. TNS is the preferred supplier of networking, integrated data and voice services to many leading organizations in the global payments and financial communities, as well as a provider of extensive telecommunications network solutions to service providers.

	<p><i>ADVANCED CERTIFIED PARTNER</i></p> <p>Prolog is a company dedicated to the avl and telematics industry for vehicles in the automotive, transportation and insurance industry, generating added value based on features regarding personal safety, asset tracking or routine planning. Prolog services and products are designed to allow customers to make decisions regarding their operation and also to evaluate potencial new businesses.</p>
	<p><i>ADVANCED CERTIFIED PARTNER</i></p> <p>Nayar Systems, with three commercial brands 72horas, Advertisim y net4machines, is a company specialized in telecommunications engineering. The success of the company is based on constant investment in R+D. Over 80% of the annual profit is dedicated to new technological developments. The company has set up as its main principles the simplicity, reliability and connectivity, always based on wide experience and security, which makes possible to provide customers with total control over data and information of their devices.</p>
	<p><i>ADVANCED CERTIFIED PARTNER</i></p> <p>The JM Systems Group is a distribution company which integrates services and technologies for electronic security, operates in Spain, Portugal and Latin America. It was created in 1992 in order to work in the environment of the most advanced specialization in technology, working professionals with the best technical and commercial background and an experience of over 25 years in the sector. The company covers the Spanish and Portuguese market through its commercial presence in Valencia, Madrid, Barcelona, La Coruna, Malaga and Lisbon.</p>
	<p><i>ADVANCED CERTIFIED PARTNER</i></p> <p>Wisetrack provides additional intelligence to your business through robust and flexible solutions that enhance the value delivery chain. Wisetrack Chile has developed specific solutions for different businesses generating competitive advantages, making operations more efficient and providing value in the relationship with suppliers, distributors and customers. Wisetrack Chile is a leader in technological innovation and detection of trends and market needs. We are committed to the continuous development of functionalities of the solutions and integration of new devices, resulting in a global offer of integral tailored solutions.</p>
	<p><i>ADVANCED CERTIFIED PARTNER</i></p> <p>America Telematics (AmTel) provides Security Solutions for fleet tracking. They provide certified tracking devices, connectivity as well as specialized consultancy for transport companies and logistic agencies. AmTel seeks to provide Security and logistic quality services, while always looking to improve customer's experience.</p>

	<p><i>AUTHORISED DISTRIBUTOR</i></p> <p>Emprenet is a company dedicated to the distribution of mobile voice and data solutions, GPS devices, mobile computing equipment, they work exclusively for the Movistar brand, focused on the business and government sectors. Located in the city of Monterrey, Nuevo León and presence throughout the north of the country and Mexico City through our network of distributors, commission agents and direct sales force.</p>
	<p><i>MASTER CERTIFIED PARTNER</i></p> <p>Alarm.com makes possible to interact with your home in completely new ways. Powered by an intelligent cloud service your home adapts to your lifestyle to deliver a highly personalized and unmatched experience. Their solutions offer control and awareness across the Connected Home, together with a large ecosystem of devices. Alarm.com's solutions are built according to reliability standards required for 24/7 security.</p>
	<p><i>ADVANCED CERTIFIED PARTNER</i></p> <p>The company Alda Digital de México, S.A. de C.V., better known as EasyTrack GPS, is a proudly Mexican company dedicated to the manufacture and development of satellite location systems with GPS technology. This is their mission: working to help companies achieve the highest profitability of their business starting with vehicles and personnel management. Alda Digital vision is to be the GPS and telematics solutions company with the highest growth within Mexico.</p>
	<p><i>ADVANCED CERTIFIED PARTNER</i></p> <p>Mtrex award-winning M2M platform, delivered in partnership with the world's largest mobile network operators, provides secure, reliable wireless connectivity to mobile and fixed devices in nearly every country in the world. Their unique products and services help customers to deploy robust, scalable and secure M2M applications, simplifying the management of remote devices, reducing costs and offering guaranteed availability of critical applications.</p>
	<p><i>AUTHORISED DISTRIBUTOR</i></p> <p>With over 15 years in the Mexican telecommunications market, CelVendeCel get national permission to distribute and sale M2M services. The strength and differentiation in the market of CelVendeCel is based on customer care and service</p>



AUTHORISED DISTRIBUTOR

With offices in Spain and the US **EasyM2M** is the first company to offer both pre-paid and post-paid IOT services. They provide a flexible and straight-forward solution to those companies looking for a simple, no-hassle solution without long term contracts or complicated approval processes. They leverage from the strength and coverage of a global network combined with the best SIM management platform in the market. They cater for OEM looking solutions to established companies looking for a more reliable way to manage IOT communications.



ADVANCED CERTIFIED PARTNER

With more than 7 years within the GPS tracking industry, **Tracker** focus is to offer solutions that solve customer business problems, obtaining short time increasing revenues from fleet optimization and from employees' productivity. The tracking systems are Tracker core business and the software development is their strongest skill. They integrate tracking information with your operational systems, developping new add-ins in Tracker platforms and innovating with new software products. DWIM is totally focused in make your investment back with our Tracking Systems Solutions.



ADVANCE CERTIFIED PARTNER

Anton Seissiger provides a service based on both Telefonica connectivity and powerful SIM card: the SUPERSIM.plus which is a Roaming-m2m-Prepaid-SIM-Card, for IOT-solutions. After quick and easy registration on SUPERSIM's web-portal, customers can instantly charge credit as needed to their account, using all popular payment-methods. With an IoT-Solution provider profile and as a SUPERSIM-partner are able to preselect which services (SMS, data, GPS) can be used by the SUPERSIM-cards assigned to your SUPERSIM-partner-account.



ADVANCED CERTIFIED PARTNER

Precursor of Geolocation in Mexico, **AO Comunicaciones** has a high response capacity to advise people and companies regarding their assets and also maintaining and recovering your security, as well as optimizing your logistics costs. More than 220 Corporate Clients today guarantee the quality of AO Comunicaciones products and services.

We have the broadest knowledge and technological innovation, which is why world-class companies prefer our services.



AUTHORISED DISTRIBUTOR

MCI Telecom is the MCI data connectivity division created to empower devices with data services worldwide. In partnership with first class wireless communication and satellite companies, they are on providing a complete and first level solution to different service providers for tracking services, Internet of Things , telemetry, monitoring and remote control.



AUTHORISED DISTRIBUTOR

Erictel was born in 1997 as a spinoff of the multinational company Ericsson. Its main purpose was the execution of business communications projects. The new Erictel vision, renamed Erictel M2M, is focused on communications between machines, especially in telecommunications systems that due to the growing use of mobile devices (smartphones and tablets) is booming for personal and business use.



MASTER CERTIFIED PARTNER

LAP goal is to increase the productivity of vehicle fleets through an exclusive system of driver professionalization and trough the analysis and management of information regarding the operation and logistics of vehicles.

These are some of the LAP solutions:

- Driver Professionalization
- Logistics Management
- Operation Management

PRODUCT PARTNERS

NEW CONNECTIVITIES PARTNERS

HUAWEI AND ERICSSON

Huawei and Ericsson are global network technology providers integrated in both radio access and main network equipment. As world leaders in designing, implementing, executing and supporting 2G, 3G, 4G and IoT (NB-IoT and LTE-M) connectivity networks, they fully commit to network standards so that end customers can enjoy the best experience.

Besides, the three of them add extremo a extremo services and their own technology partners network to our IoT ecosystem.

Value proposition:

Finally, this whole partnership system led us to develop a unique test environment for IoT connectivity technologies, namely NB-IoT and LTE-M. This exclusive open lab is called The Thinx and gives manufacturers and providers of end-to-end solutions fast and reliable validations of the performance of chipsets, modules, devices and solutions through the different IoT connectivity technologies.

Due to its global footprint, Telefónica maintains a close collaboration with these partner's specialised engineering units and research divisions aiming to build the network of the future at a global scale.



ASTI

ASTI is a mobile robotics engineering company, dedicated to the study, design, manufacture, start-up and maintenance of automated intralogistics solutions.

Headquartered in Burgos, Spain, they serve companies in 16 countries in Europe, North and Latin America and Asia.

It specialises in internal transport solutions using automated guided vehicles (so called AGV). The company's solutions focus on intralogistics automation in industrial environments.

Value proposition:

Partnering with ASTI gives Telefónica new project possibilities as industrial customers increasingly require AGV (automated guided vehicle) vehicles to work within a secure and reliable communication network able to combine very low latency and high performance, just what Telefónica's private networks do.

Within the scope of this partnership, ASTI enables Telefónica to offer its new generation of private networks for industrial customers, called Industry Ready. This way they benefit from better AGVS performance, more precise business intelligence and optimised manufacturing processes.



ERICSSON

Ericsson is a leading provider of information and communication technologies (ICT). From its headquarters in Stockholm (Sweden), Ericsson has spread its presence worldwide. By providing Packet Core support and services capabilities, Ericsson targets the emerging needs of the Industry 4.0 to connect a large number of devices with ultra-latency requirements.

Value proposition:

The Partnership with Ericsson reinforces the construction of a private industrial communications network with the highest quality service.

Ericsson's Packet Core in Industry Ready offers a solution to work under the demanding conditions of latency and bandwidth required by industrial mobile communications. Thus promoting changes in the productive systems of industrial sectors such as mining, petrochemicals, automotive, ports, airports and agri-food, companies feel that they are not alone in their digital transformation journey.



THINGS READY PARTNERS

ROBUSTEL

Robustel is a leading industrial IoT hardware and solution provider that is headquartered in Guangzhou (China) with offices in Germany, Australia, Japan, and Hong Kong.

Robustel delivers industrial cellular routers, gateways, modems, cloud platforms, and end-to-end solutions to customers in more than 100 countries worldwide. Solutions are focused on smart grids, oil & gas, finance, security & surveillance, industrial automation, healthcare and many other industries.

Value proposition:

The Partnership with Robustel strengthens our portfolio of Things Ready Link solutions, which combines Kite Platform, IoT Terminals and Remote Management, relying on a top class technology and devices provided by a leading IoT hardware manufacturer.

Within the scope of this partnership, Robustel supplies a consistent selection of IoT industrial routers and gateways, including the R3000, R2000 and M1000 series.



NETCOMM WIRELESS

Netcomm Wireless is a leading developer of bespoke network-grade telecommunications equipment.

Headquartered in Sydney (Australia), it has offices in the US, Europe and New Zealand. The company is specialised in 4G and 5G Fixed Wireless broadband, Industrial IoT and Fibre and Cable to the distribution point (FTTdp/CTTdp) technologies, and is a globally acknowledged as a communications technology innovator.

The company's solutions aim at telecommunication carriers, core network providers, system integrators, government and enterprise customers from different sectors such as smart grids, security & surveillance, healthcare, industrial automation and infrastructure amongst others.

Value proposition:

The partnership with Netcomm Wireless strengthens our portfolio of Things Ready Link solutions, which combines Kite Platform, IoT Terminals and Remote Management, relying on a top class technology and devices provided by a leading IoT hardware manufacturer.

Within the scope of this partnership, Netcomm Wireless supplies high-end IoT industrial modems, routers and gateways, including NTC-3000, NTC-140 and NTC-6200 series.



HUAWEI

Huawei is a global leading provider of ICT solutions and one of the largest telecommunication equipment manufacturers. Headquartered in Guangdong (China), it has got operations worldwide.

The company provides a competitive ICT portfolio of end-to-end solutions in telecom and enterprise networks, devices, and cloud computing, that aims mainly at government areas, smart grids, oil & gas, finance, security & surveillance, manufacturing, transportation, retail and many other sectors.

Value proposition:

The partnership with Huawei strengthens our portfolio of Things Ready Link solutions, which combines Kite Platform, IoT Terminals and Remote Management, relying on a top class technology and devices provided by a leading IoT hardware manufacturer. Huawei supplies a wide range of IoT industrial modems, routers and gateways, including AR502, AR503, AR509, AR129 and AR161 series, as well as MS2131i Industrial USB stick and CarFi E8377.



SIERRA WIRELESS

Sierra is an equipment designer and manufacturer based in Richmond (USA) with offices and business operations in North America, Europe and Asia.

They offer a device-to-cloud solution, which comprises embedded and networking solutions, and integrates with their own secure cloud and connectivity services.

Sierra Wireless solutions are used in a wide range of markets and sectors, including industrial, sales and payments and security.

Value proposition:

The partnership with Sierra Wireless strengthens our portfolio of Things Ready Link solutions, which combines Kite platform, IoT Terminals and Remote Management, relying on a top class technology and devices provided by a leading IoT hardware manufacturer.

Within the partnership scope, Sierra Wireless supplies a diversity of IoT industrial modems, routers and gateways, including GL8200, Columbia-XE, RV50, LS300, GX450 and MP70 series.



CALAMP

CalAmp is a telematics pioneer headquartered in California (USA), with ten offices distributed around the country. They provide software applications, scalable cloud services, and intelligent devices that collect and assess business-critical data taken out of the mobile assets, cargo, companies, cities and people.

Their solutions are mainly oriented to government and enterprise customers in the automotive, construction, insurance, energy and industrial sectors to name a few.

Value proposition:

The partnership with CalAmp strengthens our portfolio of Things Ready Track solutions with a wide range of high-end vehicle GPS trackers, combined with our Kite Platform and Remote Management Services.

Within the scope of this partnership, CalAmp supplies different families of vehicle GPS Tracking devices, including LMU-1175, LMU-200, LMU2130, LMU-2630, LMU-2640, LMU3030, LMU-330, LMU-3640, LMU-4232, TTU-1220, TTU-2830 and TTU-720 series.



SUNTECH

Suntech is a technology leader specialised in the design and manufacture of latest generation devices for tracking and telemetry. Headquarters are located in Seoul (South Korea), and you will find offices in Hong Kong, Mexico, Colombia and Brazil.

They provide customisable quality tracking devices and are specialised in mobility applications such as fleet management, insurance, cargo and personal tracking.

Value proposition:

Partnership with Suntech brings to Telefónica a complete selection of GPS vehicle trackers to our Things Ready Track solutions portfolio. The combination of our Kite Platform, the GPS trackers and Remote Management Services, allows our customers to develop telematics solutions relying on the best technology and devices, provided by a leading manufacturer.

Within the scope of the partnership, Suntech supplies different families of vehicle GPS Tracking devices, including ST310, ST340, ST940, ST600, ST640 and ST650 series.



eDEVICE

eDevice is a leading provider of IoT solutions headquartered in France, with most of its sales in the US. The company provides devices and services to connect a wide range of equipment, including medical devices, alarm systems, voting machines, metering equipment... Their solutions are widely used within the health sector, currently connecting more than 650,000 patients, however most of the solutions also address other industries, such as transportation and public services.

Value proposition:

The partnership with eDevice strengthens our portfolio of Things Ready Evolve solutions. In combination with our Kite Platform and Remote Management Services, our customers can convert the analogue connectivity into cellular so their equipment may continue performing as usual. Within the scope of the partnership, eDevice supplies a cellular gateway for this devices migration from wired to cellular connectivity: the WireX - POTS/PSTN to Cellular Converter.



MOBILITY PARTNERS

GEOTAB

Geotab is a top player in the telematics market and the automotive sector, and one of the fastest organic growing companies in the fleet management world, operating over a million connected vehicles. Based in Ontario (Canada) it has got offices in Europe and the USA.

Geotab delivers open platform fleet management solutions. that aim at different industry sectors ranging from logistics, courier, leasing, car rental, to retail, security and surveillance or even agriculture.

Value proposition:
The strategic partnership with Geotab enables Telefónica to offer Fleet Optimise, a differential, state-of-the-art fleet management solution that goes far beyond of the GPS location to measure and report driving behaviour or engine status data. Geotab provides the technical solution including the device and platform accessible via web to allow data visibility.
The solution is available in most of Telefónica´s footprint, and its main benefits are increasing productivity and security levels of our customer businesses: optimising their processes and reducing their costs at the same time. Geotab also and provides technical support to the commercial development.

ERICTEL

Erictel pioneered in IoT services and products development. Headquartered in Bizkaia (Spain) it has got presence already in Germany, Argentina, Chile, Colombia, Ecuador, Mexico, Peru and Central America.

Specialised in Mobility use cases such as workforce management, fleet management and asset tracking, Erictel develops and maintains software platforms, as well as designs, prototypes and manufactures hardware. It also provides specialised local teams to support sales processes and cover every need while deploying projects of any size.

Value proposition:
Starting on this partnership,Telefónica is now offering end-to-end mobility solutions such as Workforce Optimize and Fleet Optimize, for Erictel to develop or to give support, respectively.

Combined capabilities result in a flexible and agile way to perform quality projects, regardless of complexity. Specialized teams composed by experts from both companies cover every project detail, such as consultative sales, pre-sales, project management and implementation, including hardware installation, support levels, hardware warranty, etc.

RETAIL PARTNERS

INTEL

Intel is the world's second-largest semiconductor chipmaker and inventor of the x86 series of microprocessors that most personal computers (PCs) use. Headquartered in California (USA), they have offices worldwide.

Intel provides IoT and cloud-based capabilities and the development of 5G connectivity and solutions that practically cover all industrial sectors, including automotive, retail, industrial power and healthcare.

Value proposition:
Partnering with Intel to provide advanced retail solutions such as spotsign, helping the retail sector to evolve. Telefónica offers its spotdyna Platform which integrates seamlessly with Intel´s hardware (PCs, NUCs...).

Intel technology provides the necessary flexibility to adapt the solution to customer´s specific requirements, thus enabling an end-to-end solution to let customers get faster deployments, and also cost savings, new efficiencies, more accurate inventories, smarter marketing decisions, and finally a better customer experience.

SIGNIFY

Signify, formerly Philips Lighting, is a developer of energy efficient lighting products, systems and services. Headquartered in Eindhoven (The Netherlands), it has got offices in 70 countries around the world.

The company provides energy efficient lighting solutions, which reduces energy losses and enables lighting management in buildings, urban areas and homes. Signify solutions portfolio aim at both the professional and the consumer markets.

Value proposition:
The partnership with Signify enables the provision of retail solutions for in-store lighting . Using both companies technologies, retailers can now engage with their customers through new and enhanced experiences while improving in-store sustainability.

In the scope of this partnership, Philips provides their specific lightning solutions to be integrated with spotdyna.

ENERGY PARTNERS

SMARKIA ENERGY

Smarkia Energy is a Spanish company with six years of expertise both in Spanish and Latin American markets that has developed the most advanced and complete energy efficiency Cloud platform, called Smarkia, for major energy consumers in every sector.

By using largely big data analytics on a technology-agnostic basis, Smarkia enables all those major energy consumers to achieve significant savings in costs, time and resources while reducing emissions.

Value proposition:

The partnership with Smarkia Energy opens up for Telefónica a way to extend its value proposition beyond electrical management, which is to offer energy consumption monitoring of any type such as water, gas, renewable energy... Thus, it makes easier to get closer to customer needs, providing intuitive dashboards, friendly interfaces and simplifying the daily management.

Within the scope of this partnership, Smarkia Energy also reinforces the commercial development, provides technical support (training and back-office), brings electricity markets knowledge from different geographies and adapts to Telefónica's customers' requirements. This flexibility allows us to reach faster to market and fulfil legal and commercial requirements from our customers.



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