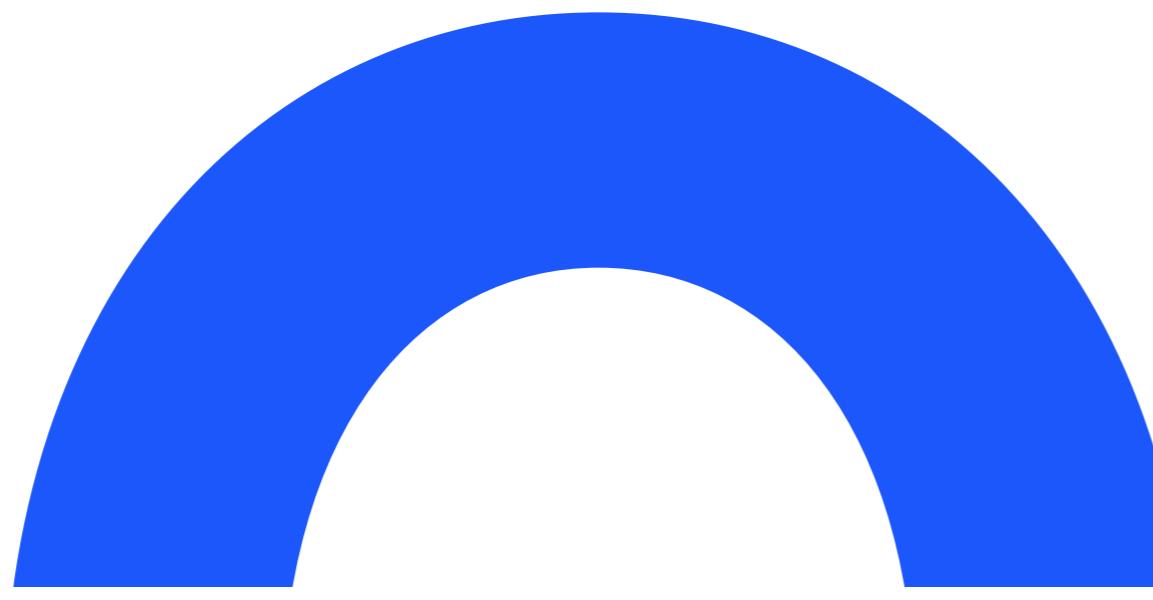
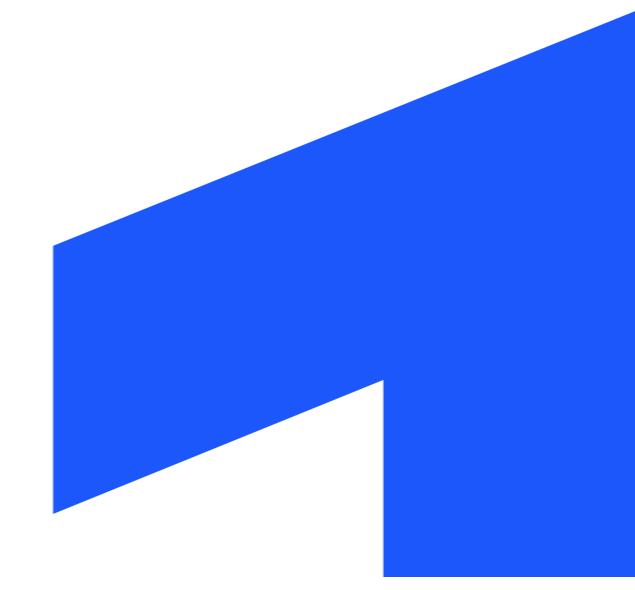


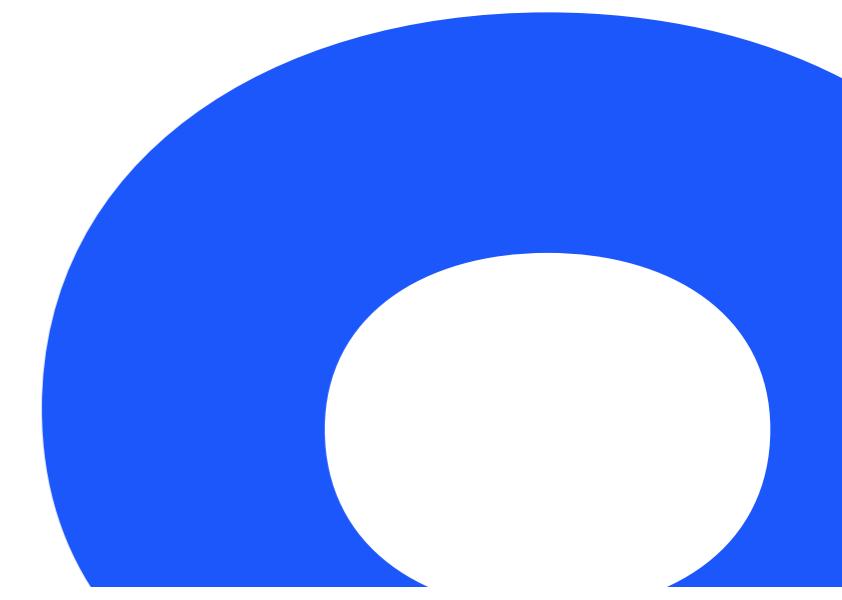
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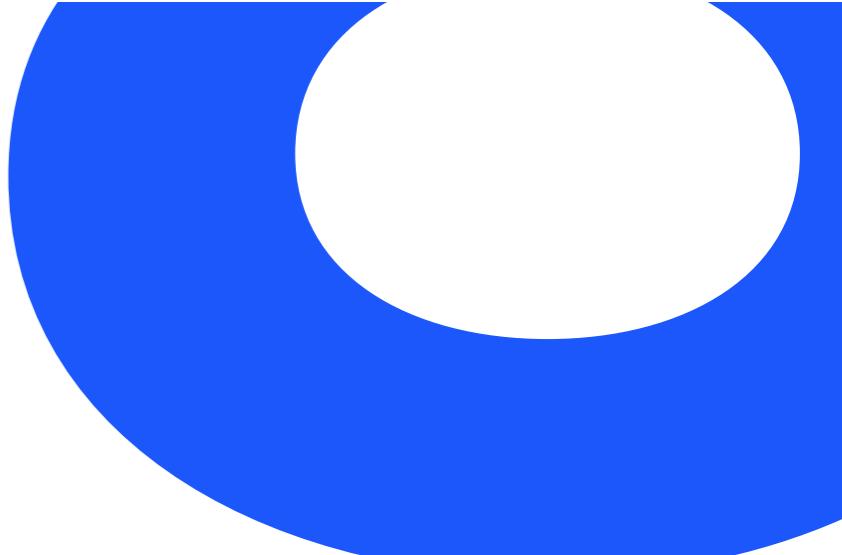
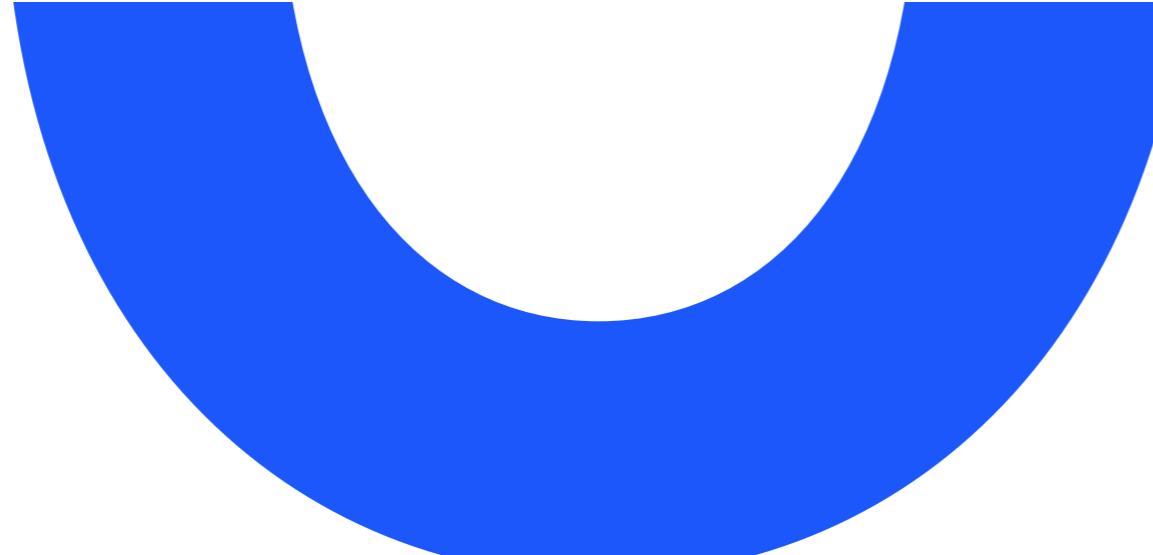
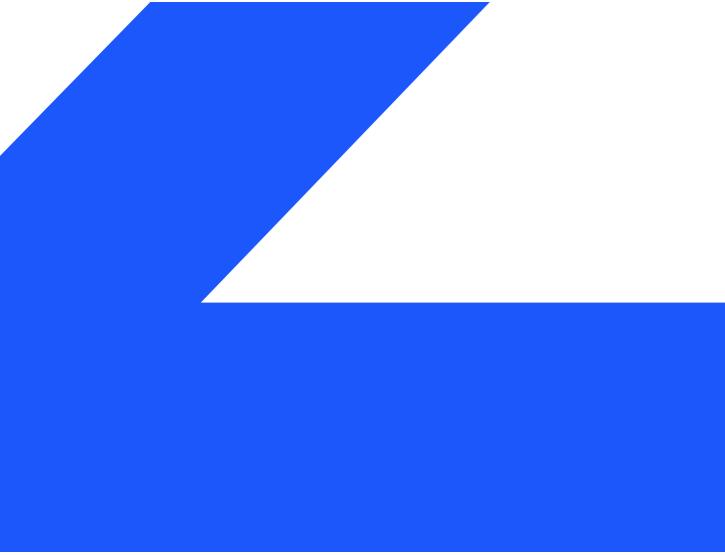
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SECTION ONE



Rui A. Costa

Message from the founders

The last 11 years have provided us with a mindset of skills that we think may redefine the future, because they are already redefining ours. In 2018, we have invested in our image and also presented a new website, made with the same love and dedication. We have created new partnerships all over the world. We had our biggest presence in the world leading event on smart cities, the Smart City Expo World Congress in Barcelona. We released the Urban Platform. We presented Uncle and Thumbeo Corporate. What a great year.

As time passes by, we continue to believe in our strength as a technological research and development company. In the upcoming years, we don't ask for too much. We'll keep the main focus on the client needs' and keep the development of solutions that improve the citizens' quality of life. And we know that for that we'll continue to believe in our special team of more than 60 talented people.

In the end, we only want to dream for a better tomorrow, with all our partners and friends from our side. Because the dream is only the beginning.

All the best,
Ubiwhere's Founders
(Rui A. Costa & Nuno Ribeiro)



Nuno Ribeiro



About us

Founded in 2007, Ubiwhere is focused on Research, Development and Innovation of software-based solutions in the areas of Smart Cities, Telecom and Future Internet, and New Technologies. As an innovative and technological company, the skills of our team are one of our differentiating factors. Our team (about 50 employees, more than 90% with a Master degree), is one of the pillars of the

company's success and is prepared to face the biggest challenges in the market. Ubiwhere cooperates with leading technology companies which value our partnership and recognise Ubiwhere's large-scale contribution to their creative and innovative projects. We're committed to ensuring the best practices at quality management level holding certifications such as ISO9001 and CMMI-Dev Level 3.



We have the innate desire of changing the World, the reason why we create, design and develop solutions which aim at improving everyone's lives.

Mission, Vision & Values

Mission

Create innovative solutions that improve people's quality of life.

Vision

To be an international reference in smart cities.

To be a national reference in innovation and technological development.

Always be successful in applying technology to solve customer needs.

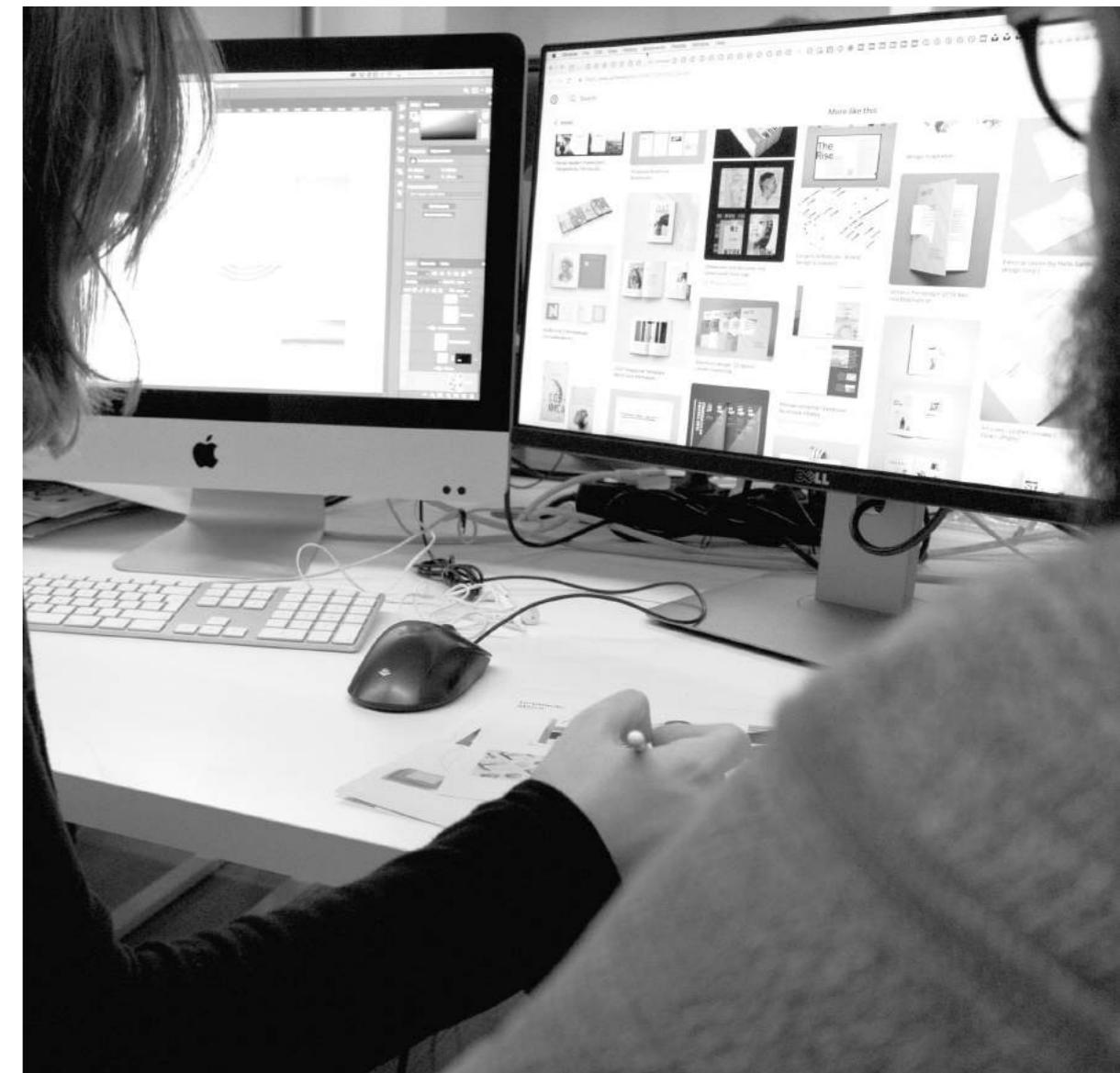
Values

Ambition in setting objectives, in value creation.

Responsibility to society, employees, customers, and partners.

Sustainable development and respect for the environment.

A day in Ubiwhere's life



It is nice to say that human resources are the most valuable asset that companies have. It is even nicer when the company truly believes, respects, and lives by this philosophy.



We worry about many aspects and therefore we provide great conditions regarding health, hygiene and safety at work. We even provide vocational training and try to leverage the skills our people have and contribute for their good professional life. But ensuring that we work under great conditions doesn't only mean providing the best infrastructures or physical conditions, it also means working alongside people who have great moral values and that is why we select our team-members so carefully. We look for dynamic people, who appreciate life. People who are

great and passionate about what they do, who like to interact with each other, share knowledge and talk. People who are simple and dynamic. Responsible and cooperative people who have great moral values. We look for people who are conscious about what they do and who promote good working spirit whether with their superiors or with the people they are helping or guiding. We also like to know the perspectives and opinions of all our team so that it becomes easier to achieve better ideas, and ideas which are better accepted. This creates a trustworthy environment, with mutual confidentiality and loyalty.



Our Offices

Our company has consolidated and become solid since September 2007. Choosing where to establish ourselves meant strategic thinking. We wanted to be in technological places and align that with a strong entrepreneurial spirit. Therefore our offices are located in Aveiro, Coimbra, Porto, Lisboa, Cologne, and Paris. These places are close to prestigious universities that are well-known all over the world and where reputed international companies are located. We believe we have the best experts working alongside with us and that we are surrounded by a great environment full of life and energy, with creative and dedicated people who want to succeed and give their best every day.



Aveiro

Since our early days, in September 2007, our headquarters have been in Aveiro. A city that is well known in the technological field, with powerful companies with whom we have good and long-lasting strategic partnerships and synergies. We also like to stay in touch with talents from the University of Aveiro and work alongside with motivated people with entrepreneurial spirit.



Coimbra

We are in Coimbra since 2013, located in Instituto Pedro Nunes (IPN), that has been awarded the best business incubator in the world. Another relevant aspect had to do with the proximity to the University of Coimbra and its transfer of technology. We believe in the potential of motivated students and in young and outstanding talent.



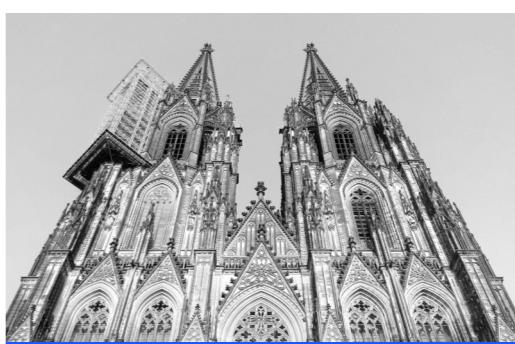
Porto

Situated on the slopes of the Douro River, the city of Porto has become a technological reference worldwide. The quality of human resources trained at the University of Porto, the innovation ecosystem, with particular emphasis on the role of UPTEC, and the positioning of the city as a launching platform for other markets add three factors of attractiveness to national and international stakeholders.



Lisbon

Lisbon is turning into the technological capital of Europe and has become a major center for innovation and technology, for the scientific capacity, and for the entire business environment it holds. The city has an increasingly rich and complete business network with the installation of many technology companies and with some of the best academic institutes.



Cologne

[EU Presence](#)

With around seventy thousand students, Cologne is considered one of Germany's largest cultural, tourist and economic centers.



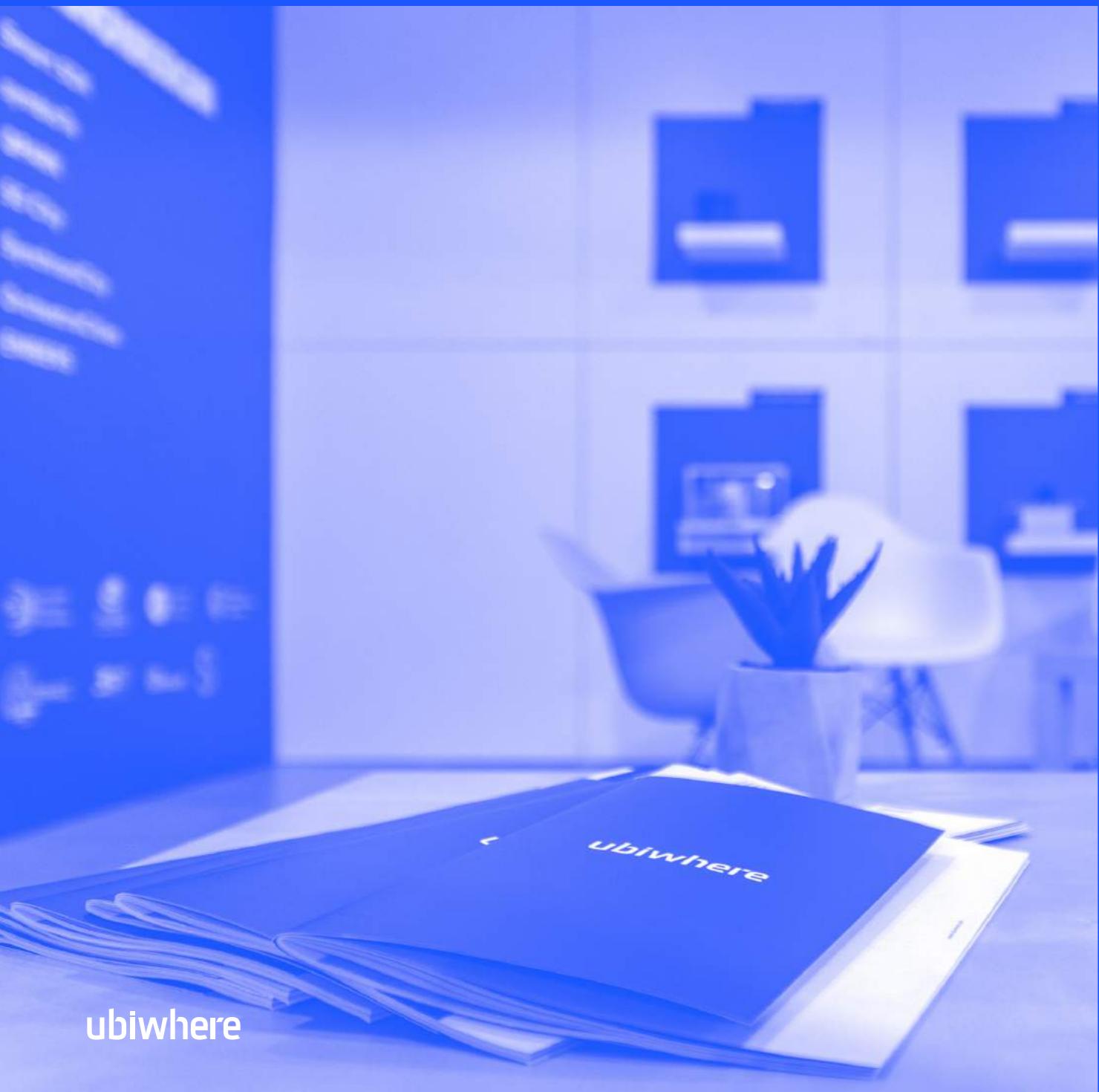
Paris

[EU Presence](#)

Besides being the French capital, Paris is the economic and commercial capital of France, where Stock Exchange and finance businesses are concentrated.

Events 2018

In 2018, Ubiwhere
was present in
29 events.



Jan

Connected Smart Cities Conference @ Brussels
National project approved: PT2020 Mobilizador 5G

Jul/Aug

Smart Cities Africa @ Johannesburg
Finalist on the Porsche Accelerator Programme @ Madrid

Feb

Release of 2017 Annual Report - Volume I
Mobile World Congress @ Barcelona
European project approved: Data Pitch

Sep

NGI Forum @ Porto
European Mobility Week @ Coimbra
TECHDAYS @ Aveiro
SHIELD F2F Meeting @ Aveiro
symbIoTe Plenary Meeting @ Porto
Smart Cities Summit Asia @ Republic of Korea

Mar

Selected proposal in the FET Funding Innovation Launchpad - QPARK
Agile Connect hosted by Ubiwhere @ Aveiro
Intertrafic 2018 @ Amsterdam
SONATA Final Review @ Ghent
APAN 2018 Congress @ Singapore

Oct

DSPT Day @ Porto
European Week of Regions and Cities @ Brussels
IoT Solutions World Congress 2017 @ Barcelona
MARECOM final workshop @ Lisbon
European project approved: UNICRINF

Apr

One of the winners of Deutsche Bahn challenge - Data Pitch
Portugal Smart Cities Summit @ Lisbon
Release of 2017 Annual Report - Volume II
Finalist on the Portuguese Mint and Official Printing Office's Innovation Prize

Nov

Web Summit @ Lisbon
Smart City Expo World Congress @ Barcelona
Official launch of Urban Platform
Official launch of Smart Lamppost v2 (built in EV Charger)
Google Developers GroupGDG DevFest @ Coimbra
European project approved: EdgeTube (FLAME)

May

Internet Week @ Denmark
FIWARE Global Summit 2018 @ PortoJun 18
IoT Week @ Bilbao
EU Sustainable Energy Week @ Brussels
Zoom Smart Cities 2018 @ Lisbon
EuCNC 2018 @ Ljubljana

Dec

ICT 2018 @ Vienna
European project approved: CARAMEL

**For the fifth time in a row,
Ubiwhere was present in the leading
international event on smart
cities - the Smart City Expo World
Congress, once again in Barcelona.**

Smart City Expo World Congress

In 2018, under the theme “Cities to live in”, Ubiwhere has signed up as an Event Partner and has a 60m² booth, side-by-side with renowned companies such as Microsoft, Cisco, Huawei and many more.

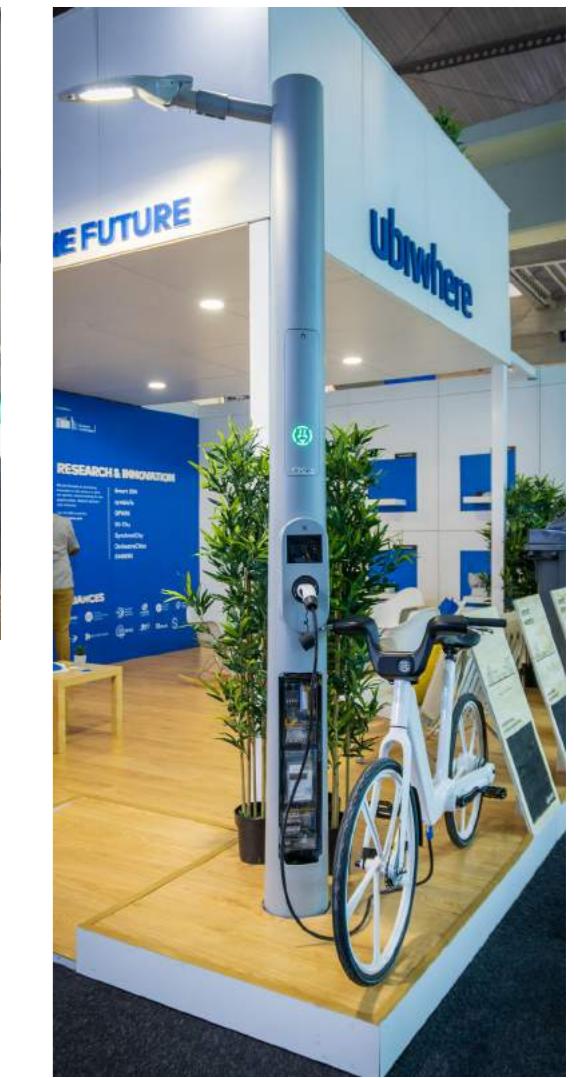
The Smart City Expo World Congress, taking place at the Gran Via venue, in Fira Barcelona, from 13 to 15 November, has opened its doors to the representatives of cities from all around the world.

This event is a meeting point for the smart city sector, with over 800 exhibitors, more than 20.000 visitors along with high-level representatives from more than 700 cities.

In 2018's edition, Ubiwhere was in Barcelona presenting the Urban Platform and its main features to improve the citizens' quality of life. Through the proper integration of the right technology to solve the existing municipal challenges, Ubiwhere is definitely adding value to this industry by shaping its future.

In our stand (D409), we have demonstrated some of the Urban Platform's main features along with additional smart city solutions, such as the Smart Parking, Smart Waste, Smart Air Quality, and Smart Lamppost.

This presence has demonstrated Ubiwhere's business expansion into international markets as well as our ambition to become a worldwide reference in Smart Cities.



SECTION TWO

Smart Cities

2.1

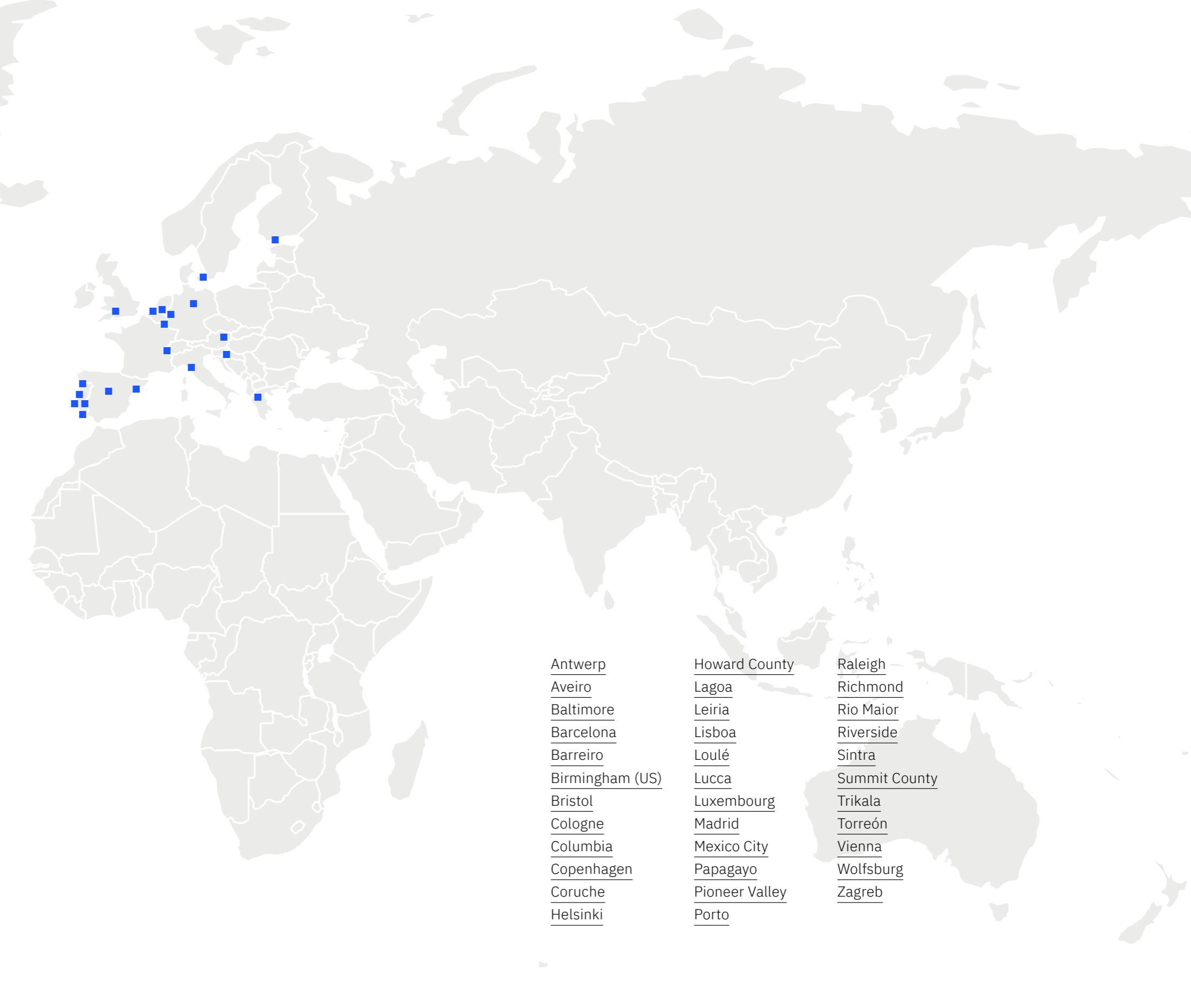
As time goes by, the population keeps growing along with the rise of the urban population percentage. In fact, cities use up to 80% of the world's resources while occupying only 2% of the global territory. This is boosting several problems, such as the difficulty with planning and managing this fast and forced urbanization, facing these scary climate changes, the lack of drinkable water, the extreme droughts and floods, and even the increasingly higher stress levels of citizens on their daily basis. As fancy as it may seem, the smart cities movement is not a luxury topic, uniquely addressed to main cities with a lot of money and population.

It is about providing people with the best solutions for their daily life problems, it is about involving several people with different responsibilities and backgrounds and trying to understand the problems of every single one of them to ultimately offer the best solutions. It is about sustainability, about ensuring that we can aim at waking up to a (better) tomorrow. We need to try to consider both parts - people's goals and the effects these life changes have both on the planet and on their lives. While thinking about smart cities, we can consider a wide variety of areas, with our company giving its contribution by focusing on mobility, tourism, energy, and efficient resource management.



World Presence

We are in 35 cities around the world spreading our innovative and unique solutions. Take a closer look.



BIKE SHARING

Our more than 10 years of experience have given us the right tools to bet in areas that we consider essential to the future of cities. Through the Bikeemotion joint venture, we have invested in state-of-the-art bike-sharing solutions, with the help of our commercial partner Bewegen, a bicycles supplier.

We have our technology implemented around the world. A great example is Birmingham, USA, where citizens have been pedalling on bicycles for 4 years using this easy and flexible solution.



Key-features

Technologically advanced

Bicycles can be unlocked with a card, mobile application or SMS. Users can leave bicycles close to their destinations and rent it in multiple ways.

Cost effective

With flexible stations the system is cost effective, while providing advanced technology.

Locatable

Each bicycle is GPS locatable and the system manager can restrict the renting areas to only allow the user to leave the bicycle at authorised areas.

Flexible

Easy to grow, change or enlarge. We can meet the demand or provide bicycles according to punctual fluctuations.

Safe

Each bicycle will alert the system and sound alarms in case of damage, theft or inappropriate usage. It can only be returned when locked in an authorised area.

Interactive

The system provides users with useful and targeted information, suggesting interesting nearby places and routes through a context-aware user interface.

URBAN PLATFORM

Can you imagine having your city as a single, integrated system?

The Urban Platform was created from Ubiwhere's vision of providing cities with a holistic view of their smart urban environment. Made for cities actively looking to contribute back to those who manage it and to their inhabitants, Ubiwhere started designing and developing several solutions for the demanding challenges that smart cities face (environmental monitoring, energy efficiency, mobility, sustainability, among others).

Since its early days, Ubiwhere has partnered with several technological companies and research specialists with the purpose of enhancing its innovative solutions to tackle urban obstacles, as well as collaborating with different international initiatives focused on the openness and interoperability required for the development of these platforms for the future of Smart Cities. By taking advantage of the close relationship with such key partners

and thanks to a solid presence in the Smart Cities sector, Ubiwhere has proven that the Urban Platform accurately responds to the unified vision, needed for the cities of tomorrow. One of those initiatives is an open software platform called "OrchestraCities", "an innovative Smart City solution designed to serve multiple cities and deliver to them a collaborative data and IoT-driven solution involving different stakeholders through Open APIs and Open Data", that is the result of the collaboration of three innovation-driven SMEs with strong experience with FIWARE technology: Ubiwhere, Martel Innovate and Therapænis. OrchestraCities has successfully completed Phase II of the Pre-Commercial Procurement "SELECT for Cities", a European project that "aims to deliver a city-wide open innovation platform for the public sector and beyond by supporting the effective use of Internet-of-Everything (IoE) data and technology".

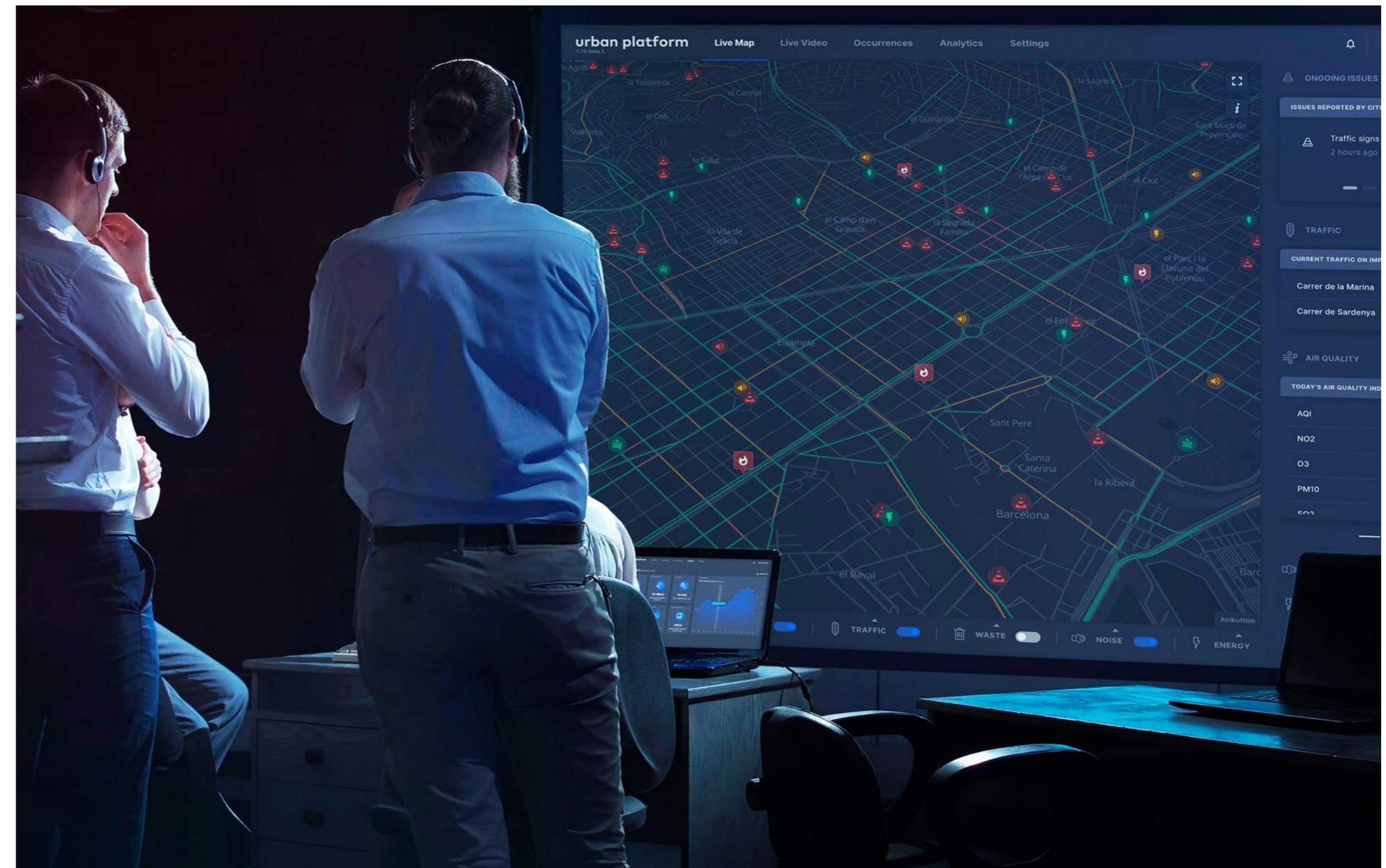


URBAN PLATFORM

In the scope of this tender, Ubiwhere's vision of creating an innovative solution such as the Urban Platform has been successfully validated with the cities of Copenhagen, Antwerp and Helsinki. After this step, it was possible to understand which specific features and components were required to adapt the company's solution to become a more reliable and robust product. With the continuous (and precious) contribution of Ubiwhere's R&D team, the Urban Platform has reached a relevant position in the market.

For the fifth time in a row, Ubiwhere participated in Smart City Expo World Con-

gress 2018, in Barcelona, from the 13th to the 15th of November, the world's leading event for cities. This was definitely the biggest presence ever in this event, in which Ubiwhere has officially launched the Urban Platform. With the dedication and demand of everyone, Ubiwhere built a space that welcomed hundreds of people every day. In real-time, the Urban Platform was presented to representatives of cities, journalists and managers of big companies. Ubiwhere demonstrated that through the proper integration of the right technology to solve the existing municipal challenges, Urban Platform is definitely adding value to this industry.



The Urban Platform is already a solid solution in the market, ready to redefine the industry of Smart Cities, with the ultimate purpose of improving the citizens' quality of life.

CO-FUNDED:

CENTRO 2020 **PORUGAL 2020**



EMBERS

Enabling a Mobility Back-End
as a Robust Service

EMBERS has brought to market a cloud platform for smart city mobility based up Ubiwhere's smart parking and smart traffic management products that two municipalities in Portugal had already deployed.

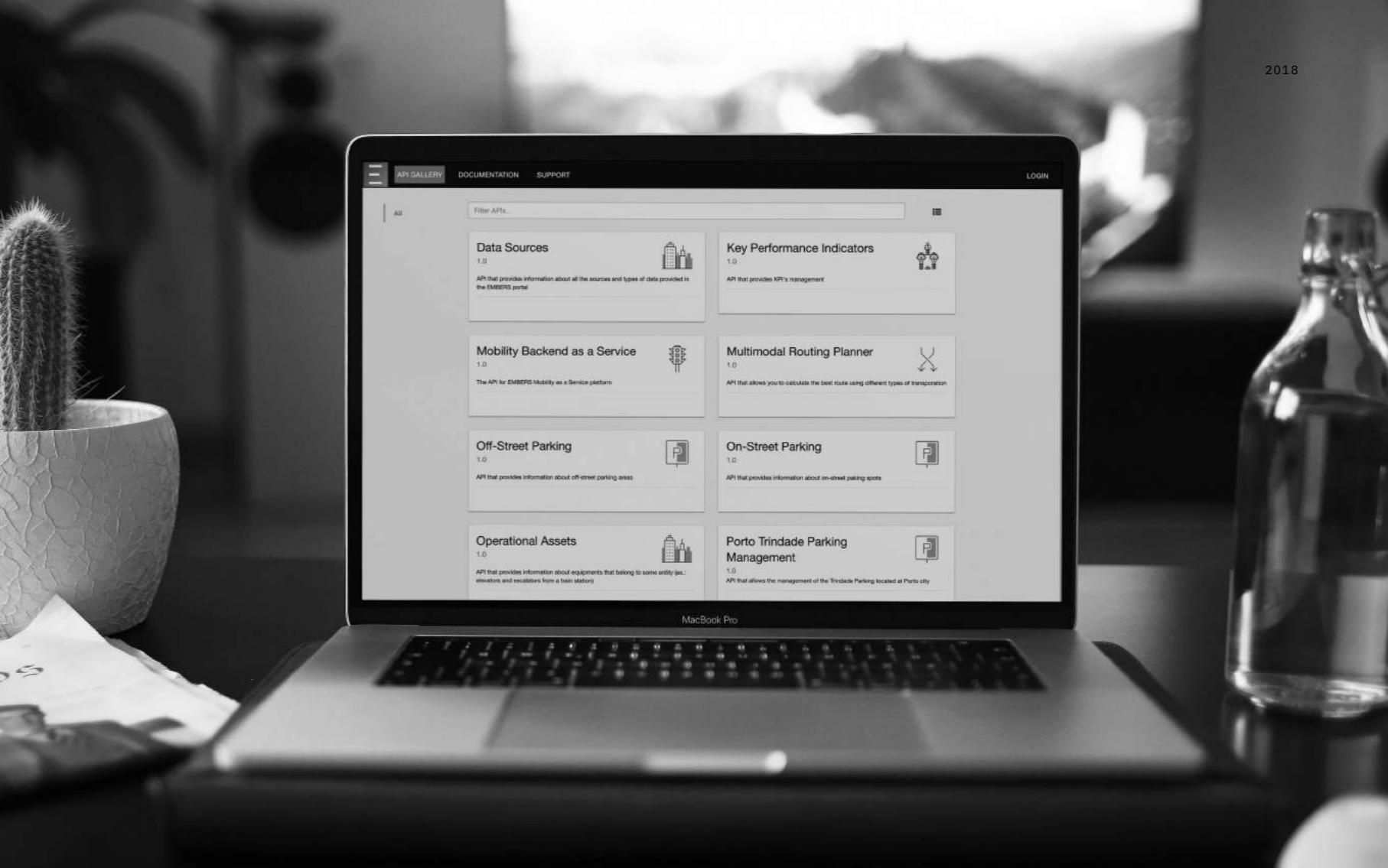
EMBERS is a European co-funded R&D project that counts with extremely qualified experts from Ubiwhere, Sorbonne Université (formerly known as Université Pierre et Marie Curie), Inria, Fraunhofer, FOKUS and Technische Universität Berlin. As the project's name gives away, the plan has been to Enable a Mobility Back-End as a Robust Service, making it interoperable via Open APIs using interfaces compliant to oneM2M, ETSI M2M, FIWARE NGSI and OMA LWM2M.

EMBERS has brought to market a cloud platform for smart city mobility based up Ubiwhere's smart parking and smart traffic management products that two municipalities in Portugal had already deployed. The Mobility Back-end as a Service (MBaaS) replaces such all-in-one systems, in which a municipality

purchases the full set of components from a single vendor. Instead, the city manager can purchase best-of-breed devices and apps developed by third parties, with the only constraint being that they interoperate with the back-end via an open smart city mobility API. This domain-specific API lowers barriers to entry for app and device developers, making it easier for innovative SMEs to enter the market. Furthermore, the API is offered via a variety of generic interfaces, including oneM2M, SmartM2M, OMA LwM2M, and FIWARE NGSI. EMBERS thus clears the way for developers and to municipalities that have adopted any one of these potential emerging machine-to-machine (M2M) communication standards. Beyond its primary goal of bringing the MBaaS to market, EMBERS has stimulated the development of an entire ecosystem

around the MBaaS smart city mobility API. Separating out the back-end from the other components has, however, required rigorous testing. EMBERS has experimented the system on two test-beds that are part of the FIRE+ OneLab facility: the FUSECO Playground, for M2M communications, and FIT IoT-LAB, for wireless sensor devices. EMBERS hosted a hackathon and an app challenge to bring in third-party developers, having ultimately included three demonstrators by third-parties via an open call (Porto, Cologne and Trikala).

These activities have contributed back to FIRE+ by demonstrating successful experimentation by SMEs developing close-to-market products. The project has also conducted real-world pilots in multiple cities as a final step in bringing the MBaaS to market.



After three fruitful years of Research and Development, EMBERS offers to firms, start-ups, and freelancers the tools they need to build their business. It provides open interfaces and simple SDKs ready to use, such as:

TRAFFIC

EMBERS gives you access to real-time information about the vehicles traveling the streets of your city through open dynamic interfaces;

PARKING

EMBERS will not let you waste time assembling a server for parking monitoring, since it provides developers with standardized interfaces on Mobility data;

ROUTING

EMBERS allows developers to benefit from an intelligent and reliable route planning service that offers them the best path, based on the vehicle attributes, street properties, and road events;

ENVIRONMENT

EMBERS gives access to free libraries and SDKs that allow third-parties to readily obtain air quality measurements from their city in their new application.

CO-FUNDED:



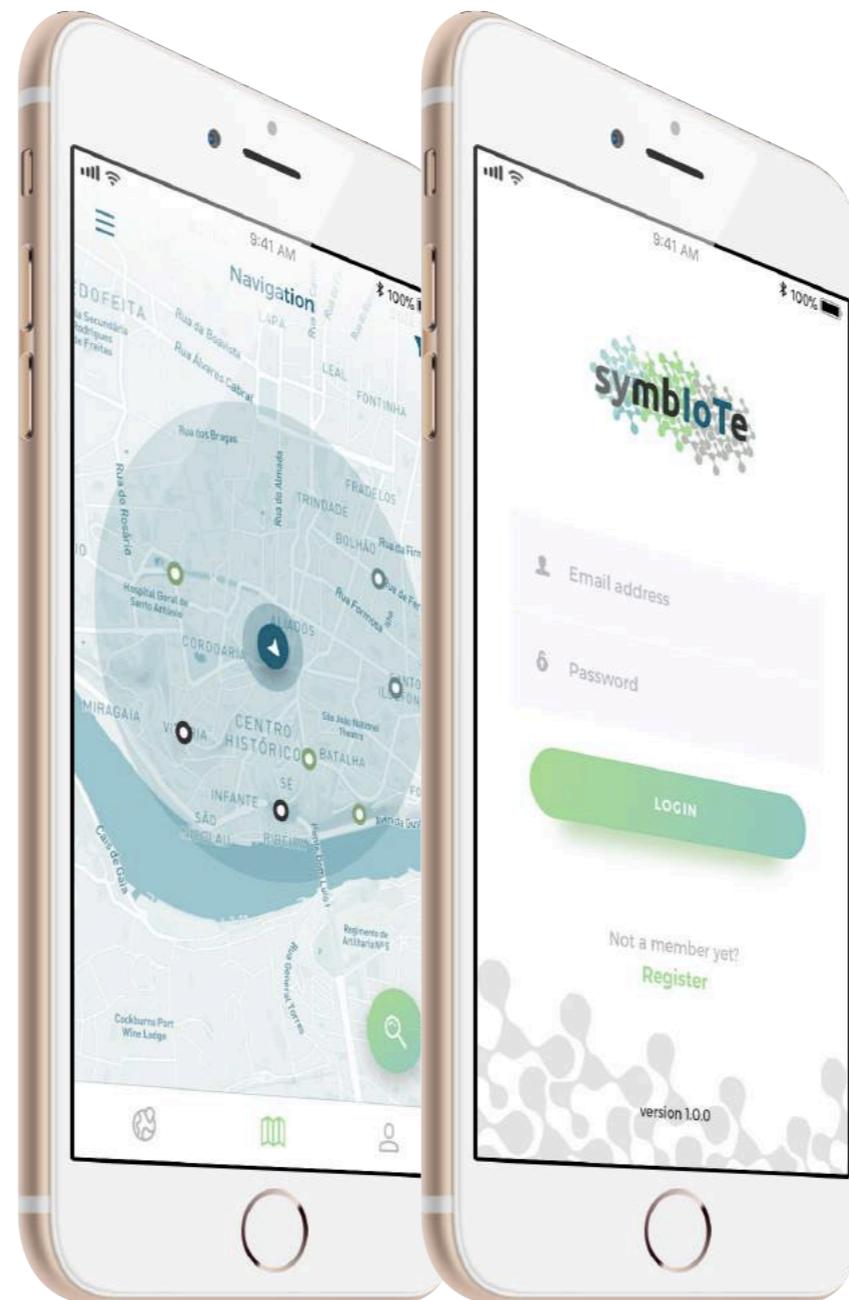
SYMBIOTE

Symbiosis of Smart Objects
Across IoT Environment

“The world is more and more connected and thousands of apps, focused on different purposes, can be found.”

We live in a connected world, where smart networked devices are of very important help. For some, this is even considered a basic need, as every day new apps emerge. People use them in many situations, from leisure to work, from day- to- day decisions to the long term ones. The world is more and more connected and thousands of apps, focused on different purposes, can be found. However, in order to be able to access all of this, customers need a wide variety of applications. The current IoT ecosystem is

fragmented: the series of vertical solutions that exist today and that integrate connected objects within local environments using purpose-specific implementations, also connect smart spaces with a back-end cloud hosting often dedicated to proprietary software components. Creating a platform that adapts to the needs and places where customers are, where changing smart environments does not imply using different apps and where safety and transparency are assured while using the resources across various IoT domains seems a good and important idea.



Since this is a big and wide challenge, the European Union has given an incentive and gathered 14 organisations, including Ubiwhere, to form a consortium, with experts from a wide variety of fields to work in the so-called “symbIoTe project” (symbiosis of smart objects across IoT environments), a European co-funded R&D project. Ubiwhere’s contribution has been mainly focused on the Smart Mobility & Ecological Urban Routing, as the proud leaders on the topic, whose goal is to help solve the issue of transport inefficiency and poor air quality that many European cities have. symbIoTe has provided a “unified view” on various IoT platforms and their resources (APIs for air quality, pollution, noise), so that these resources are transparent to

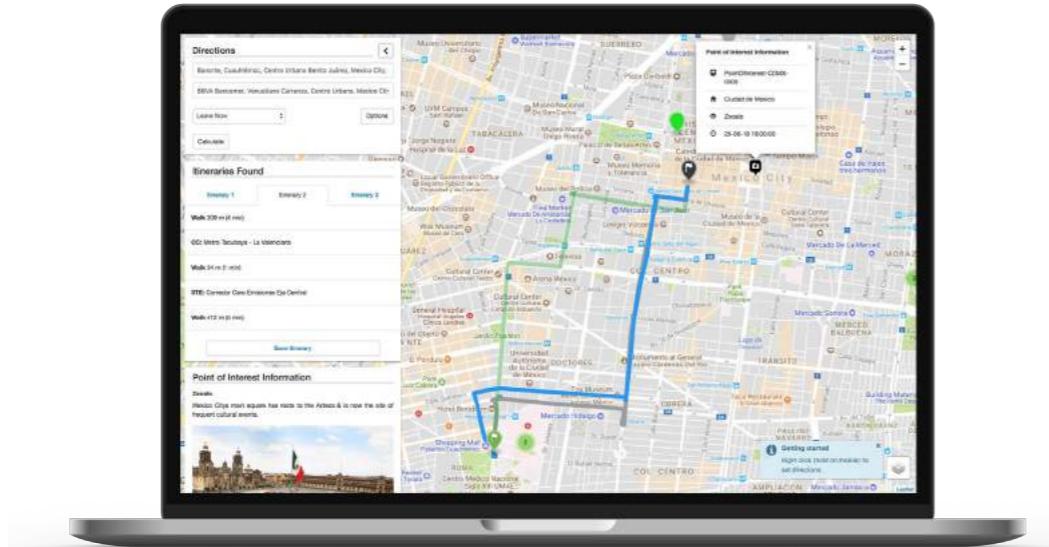
application designers and developers. In addition, symbIoTe also implements IoT platform federations so that they can securely interoperate, collaborate, share resources and support the migration of smart objects between various IoT domains and platforms. symbIoTe opens up the potential for innovative business models that are incrementally deployable. Plus, it removes the strict separation between IoT islands to create an environment which has a significant impact on the market, is attractive for a heterogeneous user group, matches the dynamicity of modern life and is helpful for various business, home, and public infrastructure use cases. This project has been through third and last year and we believe it has reached a very satisfying result.

SMARTSDK

“SmartSDK adopted existing Open Standards and Open-Source solutions, leveraging on results of European and Mexican initiatives based on FIWARE.”

Europe and Mexico, working side-by-side towards the same goal, is what Smart SDK has intended to encourage. The goal has been to create a sustainable and long-lasting FIWARE ecosystem where we can identify and leverage successful FIWARE outcomes in Europe and build reference standards for common challenges, following the idea of identifying successful FIWARE applications deployed in Europe.

After doing so, the project has been able to establish a set of FIWARE-based reference service architectures and reference data models to support the agile development of smart solutions for sustainability challenges. In this perspective, SmartSDK adopted existing Open Standards and Open-Source solutions, leveraging on results of European and Mexican initiatives based on FIWARE. By creating a reference Software Development Kit (SDK) the project has cultivated a nice and solid collaboration between Europe and Mexico, an important step regarding future societal and/or economic challenges.



We believe that this project has promoted and increased FIWARE adoption in Mexico, having caused a wide impact on both sides. In order to achieve the best results and to ensure that we truly are creating an equitable and successful ecosystem, FIWARE has involved people, cities, research institutions, innovative SMEs and startups in the process of change. By doing so, we have supported the growth of new FIWARE-based businesses through the direct involvement of a network of around 30 incubators

and accelerators, with access to more than 1000 ICT Innovative companies and startups. In order to foster this vision and culture, the project counteds with FIWARE partners from both sides of the ocean, with European startups and SMEs also playing an important role, by working together with Future Internet researchers from Mexico in order to integrate FIWARE technology in replicable real-life use cases while promoting FIWARE internationalization to make this dream come true.

SYNCHRONICITY

The vision of SynchroniCity is not only to pioneer the establishment of such an environment but to pilot it in reference zones across 8 European countries addressing 3 key IoT-enabled smart city application areas. These reference zones are based on cities at the forefront of smart city development covering different geographies, cultures and sizes and include Antwerp (BE), Carouge (CH), Eindhoven (NL), Helsinki (FI), Manchester (UK), Milano (IT), Porto (PT) and Santander (ES). Globally, SynchroniCity adds committed replicating reference zones, including Léon (Mexico) and Seongnam (Korea). The project already connects 35 partners from different continents.

This project counts with the solid and wide knowledge of hard-working people all over Europe, people from several initiatives (such as OASC, FIWARE, FIRE, EIPSCC) and with important partners who have leading roles in standardization bodies (like ITU, ETSI, IEEE, OMA, IETF). From this team of experts,

SynchroniCity is an innovative project intended to create a Single Digital City Market for Europe.

SynchroniCity is born, providing a balanced ecosystem for IoT-enabled smart city solutions where IoT device manufacturers, system integrators and solution providers can innovate and openly compete. With an already emerging foundation, SynchroniCity has established a reference architecture for the envisioned IoT-enabled city marketplace

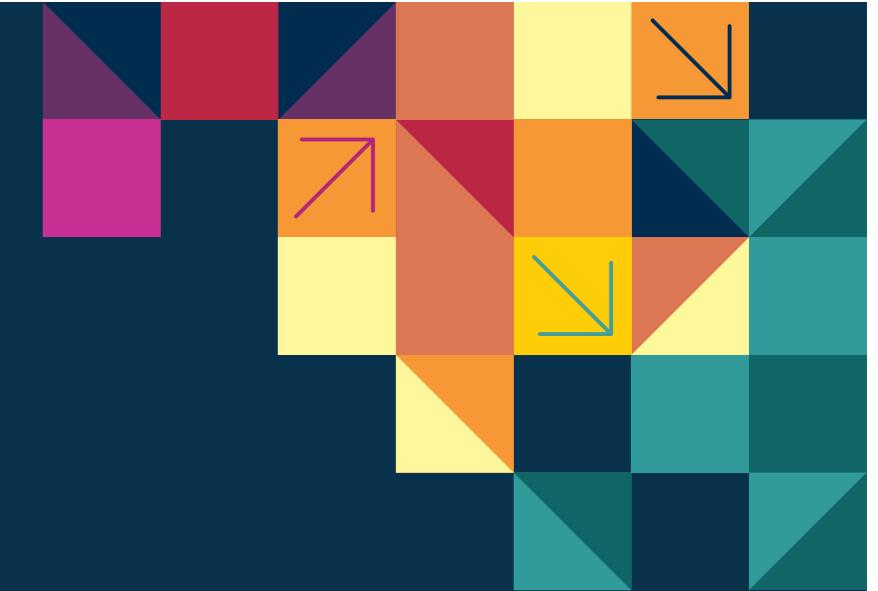


QPARK

“A low-cost, seamless and straightforward-to-install system for Smart Parking.”

Ubiwhere has been commercialising a low-cost, seamless and straightforward-to-install system for Smart Parking. With so many competitors, and taking into account that several cities have started to dismantle the spaces reserved for parking in their urban areas, Ubiwhere has applied for EU funding to enrich its Smart Parking platform with urban planning capabilities, unlocking a new business opportunity and consequently standing out from its competitors. QPARK, funded through the H2020 FET Innovation launchpad,

intends to enrich Ubiwhere’s Smart Parking solution to perform simulation-based analysis, by exploring what-if scenarios that change the number of cars moving around and the parking distribution and availability, leveraging on the results achieved by the FP7 FET Proactive project QUANTICOL. These scenarios will help city managers to properly handle traffic and parking in their cities and to become better prepared for certain conditions and events (e.g. weather, tourist attractions), that will affect the natural flows in their cities.



DATA PITCH



Ubiwhere’s objective in Data Pitch was to engage Deutsche Bahn to identify pain points in mobility management, spot hidden costs and inefficiencies and increase the our smart mobility solution’s fitness and market readiness. With the ultimate purpose of bringing this intelligence to mobility service providers and other urban planners, we have enriched our mobility platform with a new business intelligence module. We were able to optimise and validate algorithms for mobility use cases, successfully integrating and validating the

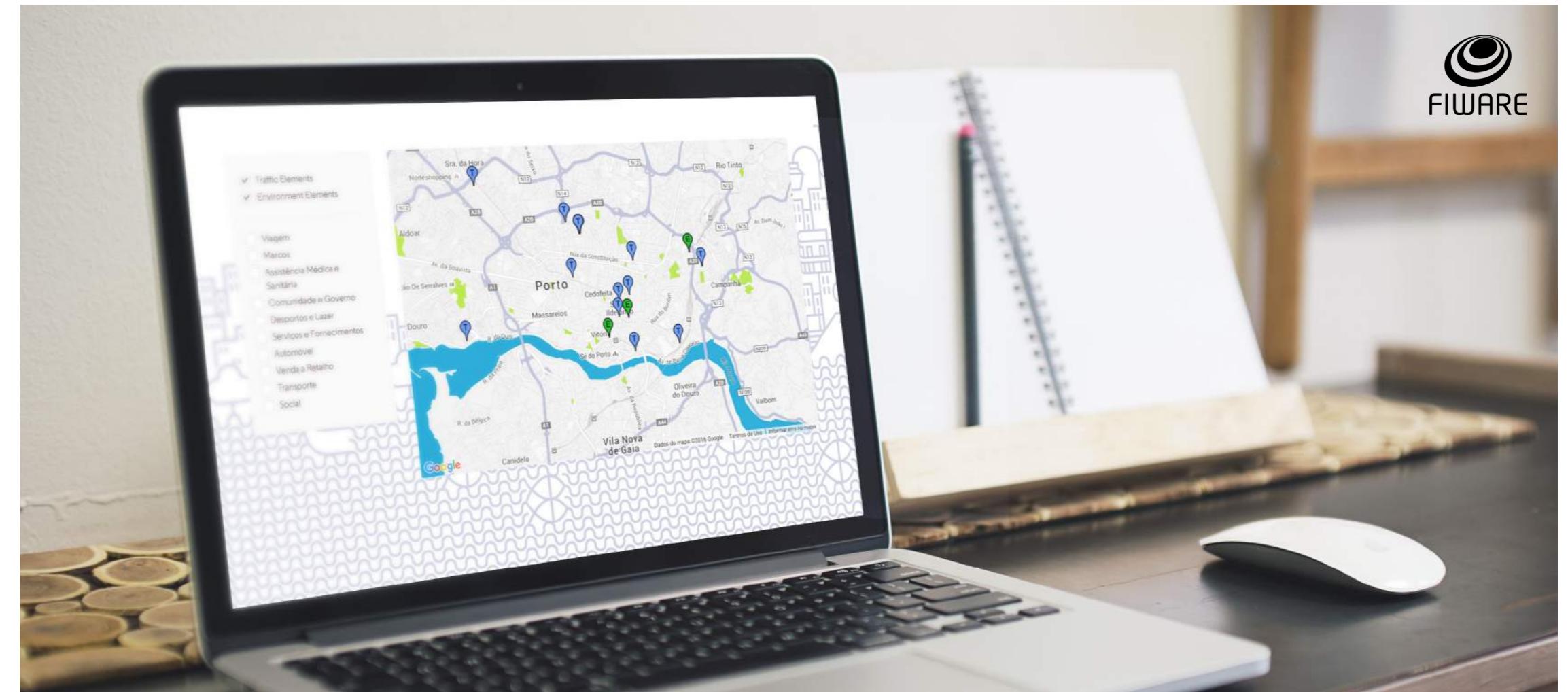
relevant datasets provided by Deutsche Bahn for the current challenge, through a new web dashboard showcasing analytics and other reports. In terms of business, our objective has been to engage Deutsche Bahn and use what we learn from them to improve our pitch when interviewing prospective customers, as well as to understand where our system’s unique value proposition lies, with our solution remaining generic enough to easily adapt to other mobility providers, regardless of their operation’s dimension.

FIWARE

FIWARE can be seen as a powerful link between two major groups: software and hardware companies and municipalities. Regarding cities, the Open and Agile Smart Cities initiative already includes over 100 cities, spread around 22 countries.

The companies, members of FIWARE Foundation, among which we can find Ubiwhere, work to make open and agile cities not only possible but real. The ultimate goal is to implement driven standards to enhance openness and interoperability in smart cities, focusing on:

Common APIs compliant with FIWARE NGSI;
Software Platforms for open data/API publication;
Harmonised Data Models following best practices from popular projects like CitySDK, SynchroniCity and SELECT for Cities;
Following an approach driven by implementation.



Coming as a link between these two stakeholders, FIWARE aspires to build a common space to share information and make it easier to create a holistic view.

Being focused on high quality delivery and solid participation in smart cities products and projects, it is important for Ubiwhere to use a common language because it allows portability of the solutions. The goal is to make real-time approaches possible and to understand the best way to do it. One key factor is the sharing of knowledge, so we need to ask ourselves, how to stimulate people to share knowledge. One suggestion that seems good is to enable data economy. Cities are doing a good job but an important question is how to

execute and adopt solutions. Sharing a vision is good but it may not be enough. It is extremely important to convert the vision into real execution and then assure the consolidation of results.

Ubiwhere's participation in the FIWARE ecosystem, came, in fact, as a step towards consolidating and leveraging trusted technology to create interoperable, standards-based ways to unify our Smart City solutions. This is extremely interesting because it will be possible access to the information of the Smart Cities' solutions and data sources using a single standardized interface. Ubiwhere contributes to the Smart Cities ecosystem with a portfolio of intelligent systems for Mobility and Environment: Smart Parking and Traffic Management,

Smart Waste Management, and Smart Environmental Monitoring, all compliant with (and powered by) FIWARE, which has allowed Ubiwhere to set up a sophisticated Smart City infrastructure powered by open standards and interoperable at its core.

Porto has been our first and favourite FIWARE challenge. As a proud member of the Open and Agile Smart Cities initiative, Porto is now considered a Smart City and a very innovative Portuguese city adopting FIWARE standards. By working together with us, Porto now has interfaces that bring access to real-time, contextual environmental data from dozens of air quality, noise and weather stations, as well as mobility and tourism data from traffic sensors, points of inter-

est and touristic events databases, all located across the city and periodically updated. These tools came together for the first edition of Hackacity in Porto, in June 2015, and have since then been an integral part of Ubiwhere's smart cities expansion efforts throughout the country, the European continent and the world. This achievement turned us be a FIWARE Smart Cities Success Story and led to international success and recognition in events in the USA (i.e. FIWARE Mundus), Brazil (i.e. Beyond2020, Hackacity Tour) among others. We had the opportunity to talk about our experience and FIWARE use-cases in multiple renowned events, which eases international recognition and has become very gratifying for the whole company and employees.

Telecom and Future Internet

2.2

Every day we work in order to develop new ideas, new products and services that contribute to a better and sustainable tomorrow. Focused on solving problems that affect society on a daily basis, we imagine, explore and create innovative tools for changing environments. We truly believe that our work is important and necessary.

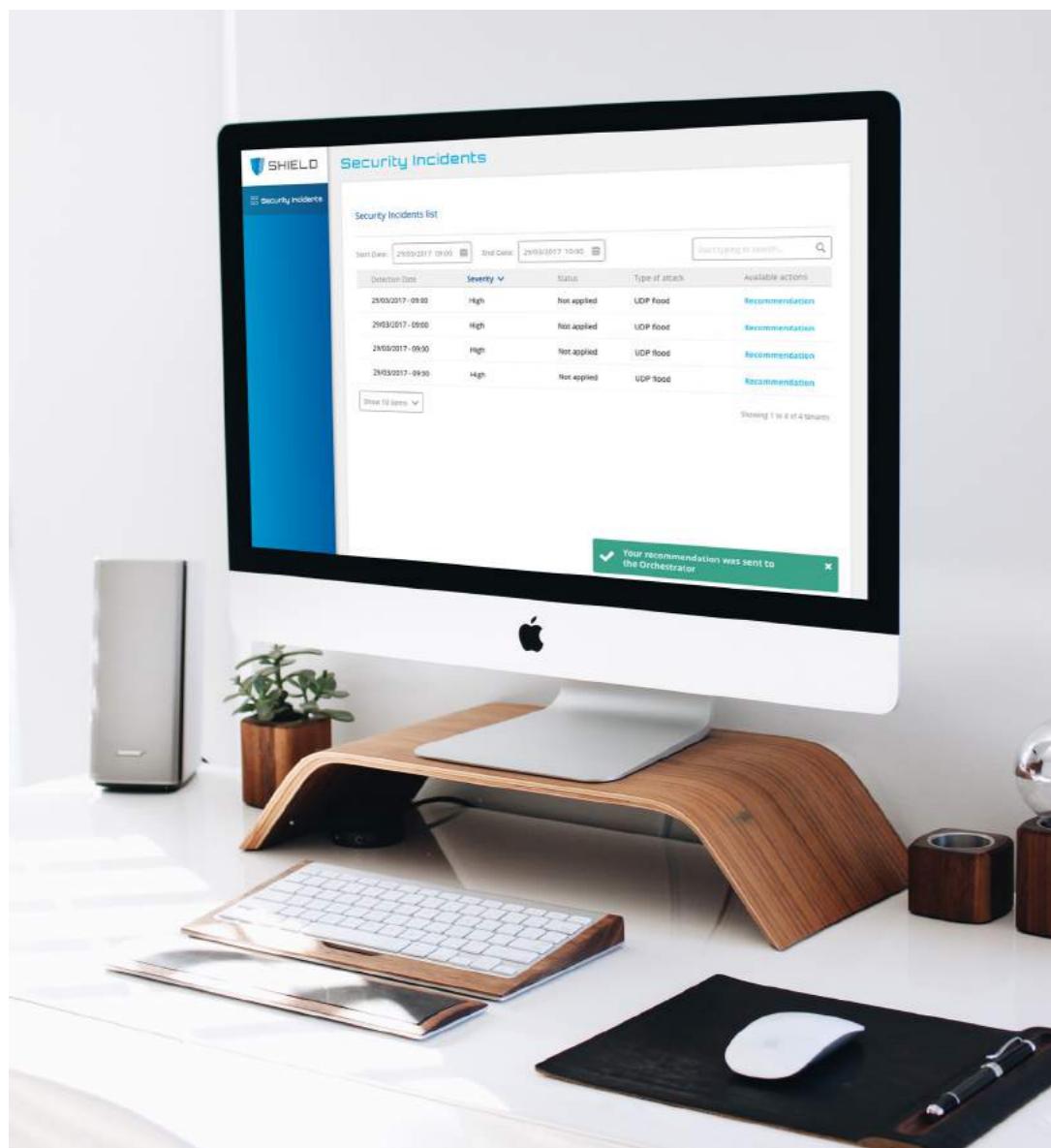
As we should be aware, the telecommunications industry is always changing: new improvements and interesting opportunities are raised for service providers. With our focus always on the customer's and society needs, our portfolio includes a wide variety of products, services and SaaS for the Telecom and Future Internet areas. Our outstanding results can be happily seen all over the world.



SHIELD

The world has faced huge developments and our digital footprint is becoming bigger and bigger every day. It is now possible to find out a lot about people's personal life, track them, know what they like, where they live, their secret passwords, information

about their families and even more personal details. People are losing the private part of their "personal" lives and becoming a file stored somewhere they do not even dream about. The data that is stolen is not always related to people but also about companies. We ought to ensure that safeness and



CO-FUNDED:



Horizon 2020
European Union funding
for Research & Innovation

SELFNET

security of services, infrastructures, information (among which we can find personal and sensitive data) and, most of all, of people, is guaranteed. Therefore, cybercrime is the core concern of this European R&D project, co-funded by EC under GA 700199, counting with the help of the most competent professionals as a consortium of 12 focused companies from a wide variety of countries. These companies realised that there was a lack of open-source tools for cybersecurity, leveraging massive analytics capabilities. Moreover, a huge momentum of open technologies for big data was becoming a reality. Expensive and specialized hardware for information security (high CAPEX) was also required and the emergence of "security-as-a-service" paradigm, based on cloud and NFV led to the need of a specialized team. SHIELD arose on the huge momentum of Network Functions Virtualisation (NFV), as currently standardised by ETSI, in order to virtualise security appliances into virtual Network Security Functions (vNSFs), to be instantiated within the network infrastructure using NFV technologies and concepts, effectively monitoring and filtering network traffic in a distributed manner. SHIELD proposes a universal solution for dynamically establishing and deploying virtual security infrastructures into ISP and corporate networks, ultimately to protect citizens from people trying to threaten them.



The SELFNET project has designed and implemented an autonomic network management framework to achieve self-organizing capabilities in managing network infrastructures, by automatically detecting and mitigating a range of common network problems that are currently still manually addressed by network operators, thereby significantly reducing operational costs and improving the user experience. SELFNET explores smart integration of state-of-the-art technologies in Software-Defined Networks (SDN), Network Function Virtualization (NFV), Self-Organizing Networks (SON), Cloud Computing, Artificial Intelligence, Quality of Experience (QoE) and Next-Generation

existing or potential network problems. SELFNET is driven by use cases designed to address major network management problems including self-protection capabilities against distributed cyber-attacks, self-healing capabilities against network failures, and self-optimization to dynamically improve the performance of the network and the QoE of the users. SELFNET is designed within this economy and business context to substantially reduce network operators' operational costs by automating a significant number of current labour-intensive network management tasks. Therefore, SELFNET directly addresses the Strand Network Management challenge highlighted by the EC.

CO-FUNDED:



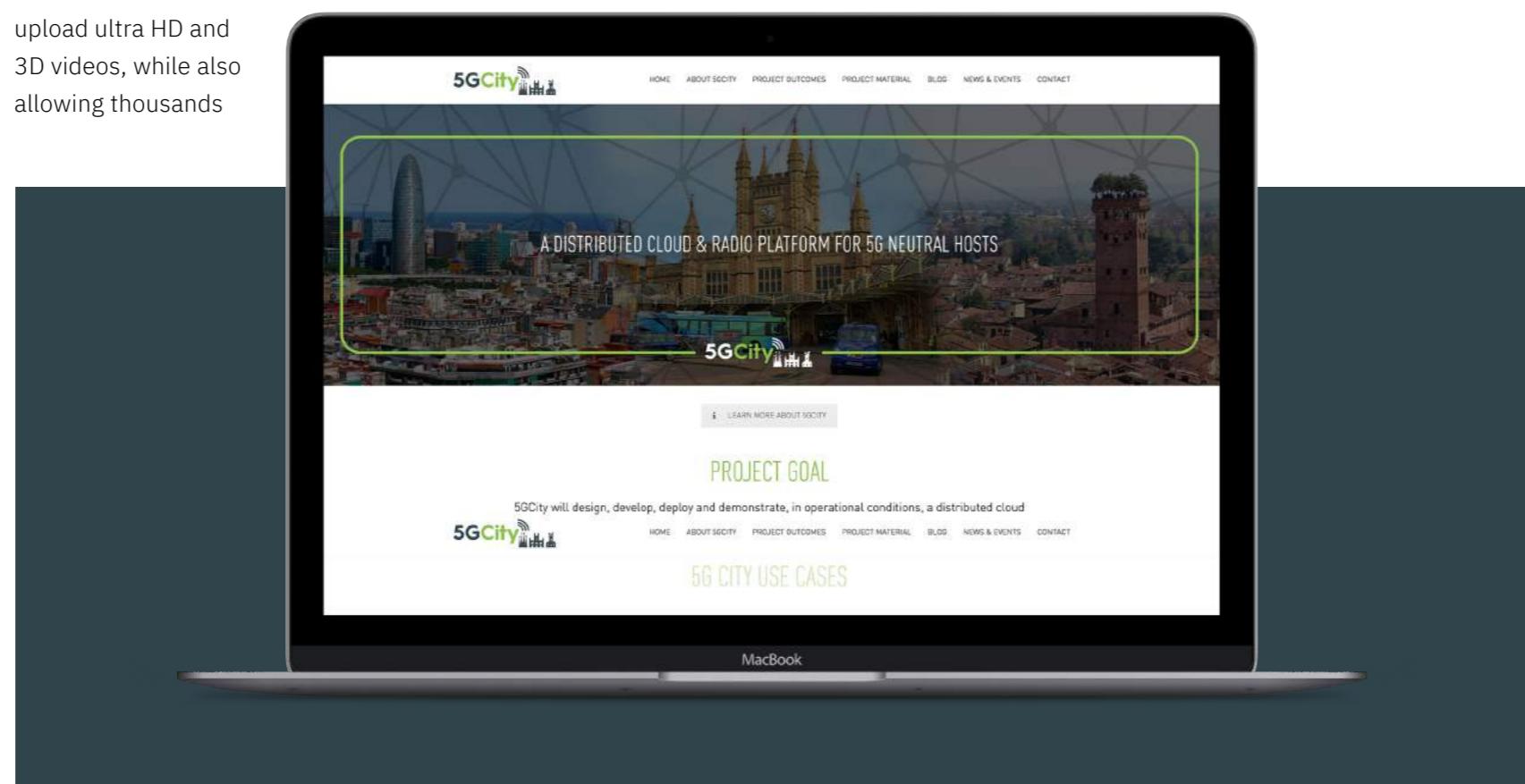
Horizon 2020
European Union funding
for Research & Innovation

5GCITY

In the 1980's, the world faced an interesting and brand-new reality - the introduction of wireless telephone technology, mobile communications. It has since then evolved and our life today is quite different when compared with the early 90's. The first generation (1G) of mobile networks had enabled voice calls in a single country, using analog signal with a speed up to 2.4kbps. Despite being a technological revolution, the evolution continued and the second generation allowed people to send text messages between two cellular devices. The third generation thrilled our society with the introduction of a new function on their mobile phones - it enabled people to do much more than just making phone calls or texting, they could browse the Internet! The fourth generation allowed all of that but, on top of it, people could also download and upload large video files without any problems. We want to con-

tinue to amaze the world and overcome their expectations. Texting or making phone calls (even if we are talking about video calls) is not the main use of phones anymore, this is something people already take for granted. Customers have become more demanding and they are not willing to wait more than 40 seconds to get the information they need. Thus, the fifth generation of mobile networks (5G) will be an astonishing revolution in that it will allow a great increase of Internet speed, where people will be able to download and upload ultra HD and 3D videos, while also allowing thousands

of Internet-connected devices to enter our daily lives. 5GCity project aims to design, develop, deploy and demonstrate, in operational conditions, a distributed cloud and radio platform for municipalities and infrastructure owners acting as 5G neutral hosts. One of the paradigms that we are focused on is called edge computing, which we believe to demand an extension of cloud architectures all the way to the edge of the network, close to the devices that produce and act on data.



Process data close to where they are collected and minimize processing latency;

Offload gigabytes of network traffic from the core network;

Keep sensitive data inside the network itself.

This facilitates a cloud-like 5G infrastructure able to support rapid, dynamic, and customisable deployment and operation of virtualized network functions (VNFs) and services, or network apps composed of those virtualized elements. A municipality hosts thousands of 5G Small Cells with processing and storage capabilities becoming itself a giant distributed cloud infrastructure, which can be seen as an open environment for service deployment. Such ambition raises harsh technical challenges for which we can count on the help of extremely competent and focused people from over 18 companies.

Our goal is to maximize the ROI (return on investment) for the entire market chain, building and deploying a common and multi-tenant distributed cloud and radio platform for 5G neutral hosts (open access). Such collaborative effort allows a greater synergy between telecommunication and infrastructure providers, SMEs and also municipalities, maximising the return on investment. With its strong NFV and MEC expertise, Ubiwhere is co-designing, developing and deploying the needed infrastructure and platform to showcase the technology across three different use cases in Barcelona, Bristol and Lucca.

CO-FUNDED:



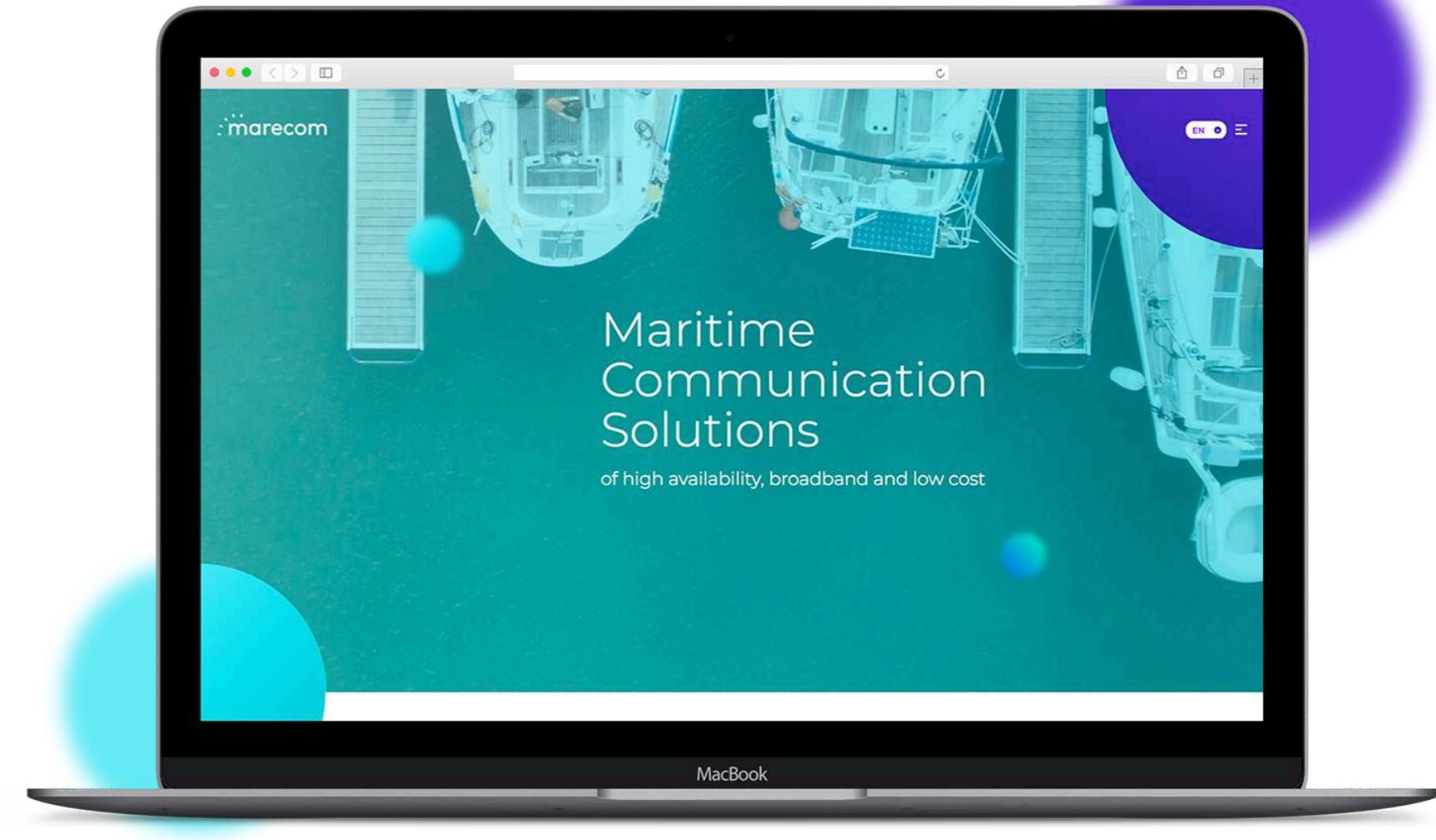
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 761508

MARECOM

This project is focused on maritime communications, tackling the important challenge of serving communities who operate in a sea environment (e.g. fishermen, sea shipping recreational craft and national marinas) with reliable and broadband connections. The digital inclusion of maritime communities is also an important aspect and can be leveraged if we try to converge with land communications. Therefore, with the support of INESCTEC, Wavecom, Centro de Investigação Naval, Compete 2020 and the European Union, we have worked together in this project to allow:

- New MIMO communication architecture, which takes into account, specific configurations of multiple antennas adequate for the propagation of radio in the marine environment;
- The design and implementation of multi-band MIMO antennas, which allows the definition of a radiation diagram, adequate to the requirements of the marine environment;
- The development of a new access protocol adapted to these environments, foreseeing the sea wave movements and the maritime radio propagation conditions, in order to ensure wireless and reliable connections with high availability;
- Development of a new routing protocol, that allows the creation of multi-hop networks formed by fixed or mobile platforms (e.g. offshore wind generators and vessels), for a wider reach, availability and extension of the terrestrial networks;
- Development of applications to support the activity of maritime communities - e.g. fisherman and navy.

With this, we have been able to provide maritime communications with high availability, broadband and at a low cost.



:marecom

CO-FUNDED:



CARAMEL

The damaging effects of cyber-attacks to an industry like the Cooperative Connected and Automated Mobility (CCAM) can be tremendous. From the least important to the worst ones, one can mention for example the damage in the reputation of vehicle manufacturers, the increased denial of customers to adopt CCAM, the loss of working hours (having direct impact on the European GDP), material damages, increased environmental pollution due to, e.g., traffic jams or malicious modifications in sensors' firmware, and ultimately, the great danger for human lives, either they are drivers, passengers or pedestrians.

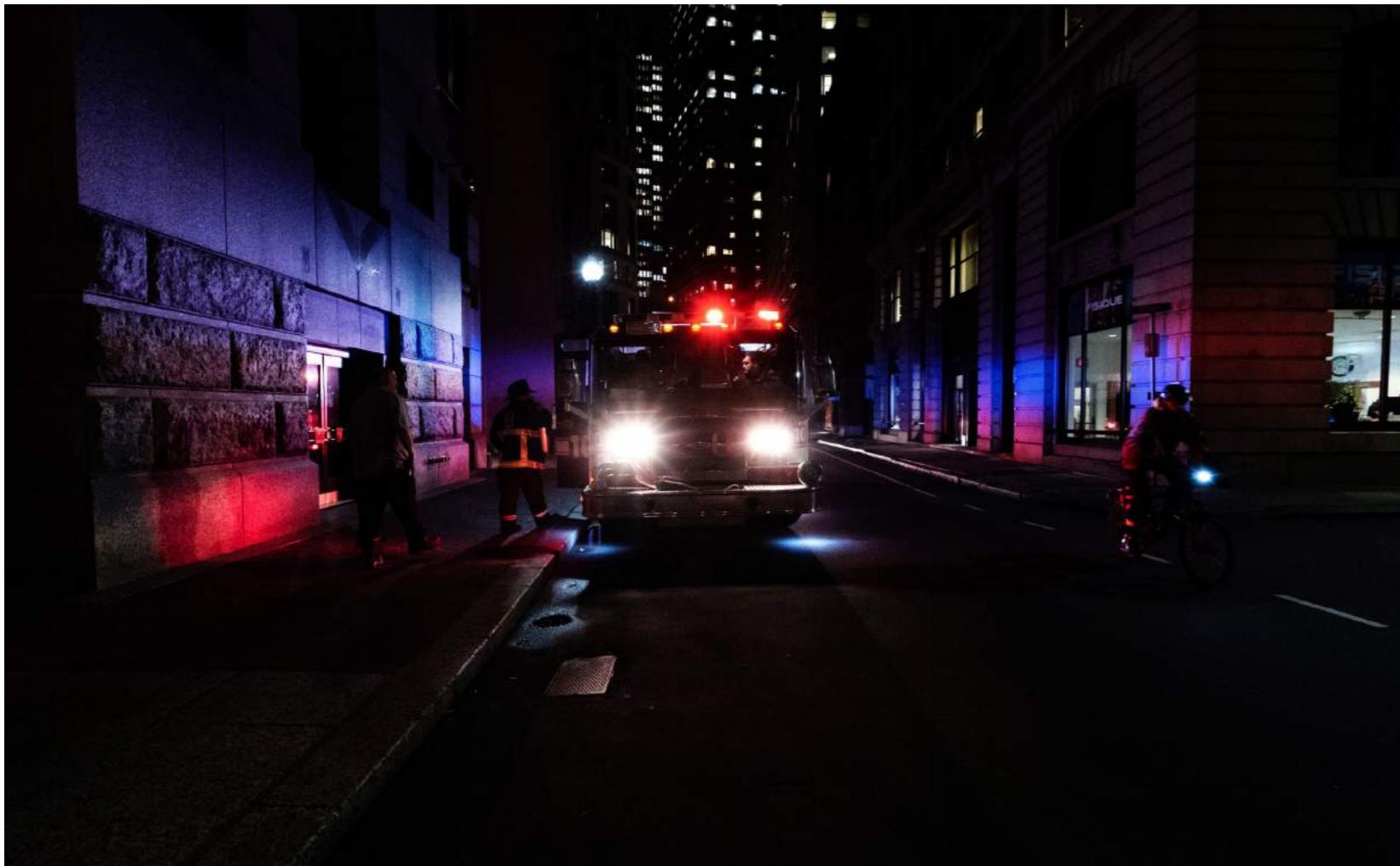
CARAMEL's goal is to proactively address modern vehicles' cybersecurity challenges applying advanced Artificial Intelligence and Machine Learning techniques, and also to continuously seek methods to mitigate associated safety risks. In order to address cybersecurity considerations for the already available autonomous (and connected) vehicles, well-established methodologies coming from the ICT sector will be adopted, allowing to assess vulnerabilities and impacts of potential cyber attacks. Although past initiatives and cybersecurity projects related to the automotive industry have reached to security assurance frameworks for networked vehicles, several newly introduced technological dimensions like 5G, autopilots, and smart charging of Electric Vehicles (EVs) introduce cybersecurity gaps, not yet satisfactorily addressed. Considering the entire supply chain of automotive operations, CARAMEL targets to reach to commercial anti-hacking intrusion detection and prevention products for the European automotive cybersecurity and to demonstrate their value through extensive attack and penetration scenarios.

Ubiwhere has been actively involved in ETSI's industry specification group ISG-MEC (working on a European standard for edge computing), having been selected as part of the Specialist Task Force, whose main objective is to develop a Testing Framework which will ensure a correct

implementation of such standard by third-party entities. Such acquired knowledge and experience with MEC systems will ensure the project's use cases are successfully deployed, by providing a local breakout to different radio technologies and, thus, enabling interoperability across different environments. Based on the past experience from other security-related H2020 projects and mission-critical V2X (vehicle-to-everything) deployments (5GCity), Ubiwhere aims at contributing in the design and development of security and trusted computing functionalities.



EdgeTube aims to study a commercial exploitation of our Smart Lamppost solution, a smart furniture enabler of flexible and cost-effective 5G networks and services at the edge, in the media Sector. Through the novel neutral host paradigm, Smart Lamppost (SLP) allows municipalities and vertical sector players to add valuable services to end-users by leveraging on SLP's managed infrastructure ultimately providing connectivity and virtualized edge computing resources in strategic locations. Besides enabling third-parties to leverage on Smart Lamppost with their innovative services, we are also capitalizing its services. Leveraging on H2020 FLAME's framework and testbed, we are developing a collaborative media acquisition and consumption experience through a mobile app and smart cloud-edge based services. This application should target crowded events such as concert halls/venues and stadiums, where the mobile network congests quite easily given the high number of connected devices concurrently streaming (uplink) high-quality videos. The goal is to help both media service providers and end-users consuming and producing such streams, leveraging a flexible and smart edge-based platform. The close link between radio components and edge devices will allow MNOs to efficiently distribute video streams by means of compression and deletion of duplicate and low-quality links by means of smart and real-time traffic analysis at the Edge. Simultaneously, end-users can monetise these streams by making them available to interested parties at cloud-level, through media streaming servers. Through these combined services, a full end-to-end platform will be made available, reducing OPEX costs (backhaul traffic), while rewarding its content producers and providing the highest-quality experience to the content users. The monetisation should be made possible by redistributing a share of the revenue achieved through advertisements watched by cloud-connected users.. This service is most beneficial for Smart Lamppost while effectively providing added value for content producers and distributors interested in supplying high-quality services in crowded entertainment-oriented events.



UNICRINF

In this project, under catastrophic environment, we planned to identify the remaining infrastructure and develop the protocols, interfaces, etc, to recover automatically the telecommunications infrastructure at all layers: core, mobile network, access, fiber. In this sense, we plan to use the available communications infrastructures to create a global inte-

grated platform to detect catastrophes, communicate with emergency teams and advice citizens. While cooperating with acknowledge international companies in telecommunications, we aim to integrate the best of our technology to improve the emergency protocols including TV emergency Support or messaging alarms in small, medium and large areas.

CO-FUNDED:



MOBILIZADOR 5G

“Together, they will support services and products for the areas of IoT”

This project will allow the design, implementation and integrated validation of a new set of products, capable of becoming part of and giving services within the future 5G networks, while collecting efforts from different technology companies in the telecommunications segment, addressing both B2B and B2C models. These products cover all functional domains of 5G networks, reflecting in their organization this structure of domains: access, core and vertical sectors (differentiated by machine-to-machine and human communications). The project is planned to last 36 months, from Jan 2018 to Dec of 2020, thus being aligned with the 5G calendar. In the lifetime of the project,

access network products (CRAN, CPE, probing) as well as network management and control products (Policy, MANO, AAA / DNS, monitoring) and security products (IDPS, Vulnerability Assessment System, Honeynet) will be specified and designed.

Together, they will support services and products for the areas of IoT (monitoring /control of power distribution networks, railways and vital signs) and broadband multimedia (distribution/video streaming). Finally, within the scope of the project, all products from all the domains will be integrated, validated, tested and demonstrated in an ecosystem that promotes new 5G services, which will benefit from a realistic test environment.

CO-FUNDED:



WIDEMONITOR

The operational management of Widemonitor's remote devices, for support and maintenance, is simple and fluid.



This project successfully developed a radio spectrum monitoring system, covering a wide range of frequencies, corresponding to the spectrum where 90% of wireless communications are supported. The need for higher spatial resolution in the spectral monitoring comes from the fact that communications, particularly in the area of coverage at high frequencies, are making increasing spectral reuse and channel with a high density of radio transmitters. As a consequence, there's a need of a monitoring system that provides such a wide spectrum monitoring probes while being cost efficient to be installed in large quantities (compatible with the budgets of regulatory and supervisory bodies for national wide deployments).

Besides aligning with these requirement, Widemonitor's probes are easy to install in a wide range of scenarios: urban, semi-urban or rural; a logic of monolithic installation, not dependent on the existence of utility power distribution and

characteristics that minimize vandalism or theft. The operational management of Widemonitor's remote devices, for support and maintenance, is simple and fluid. Regarding spectrum measurement bandwidth capacity, Widemonitor probes cover bands from 30MHz to 6GHz (UHF and microwave), more relevant in wireless emissions, and where the monitoring network with high spatial resolution has advantage to identify and measure emissions that mitigate a lot from distance, preventing its monitoring of otherwise than in proximity. A multi-tenant cloud central service is responsible to manage all the remote units as well as collect and persist all the monitoring information.

Statistically treating as well as complex event processing analysis features are features provided by Widemonitor cloud solution effectively allowing an operator or service regulator to perceive in real time a potential problem in the spectrum as well as correlate its cause with multiple potential sources.

CO-FUNDED:



Tailor-Made

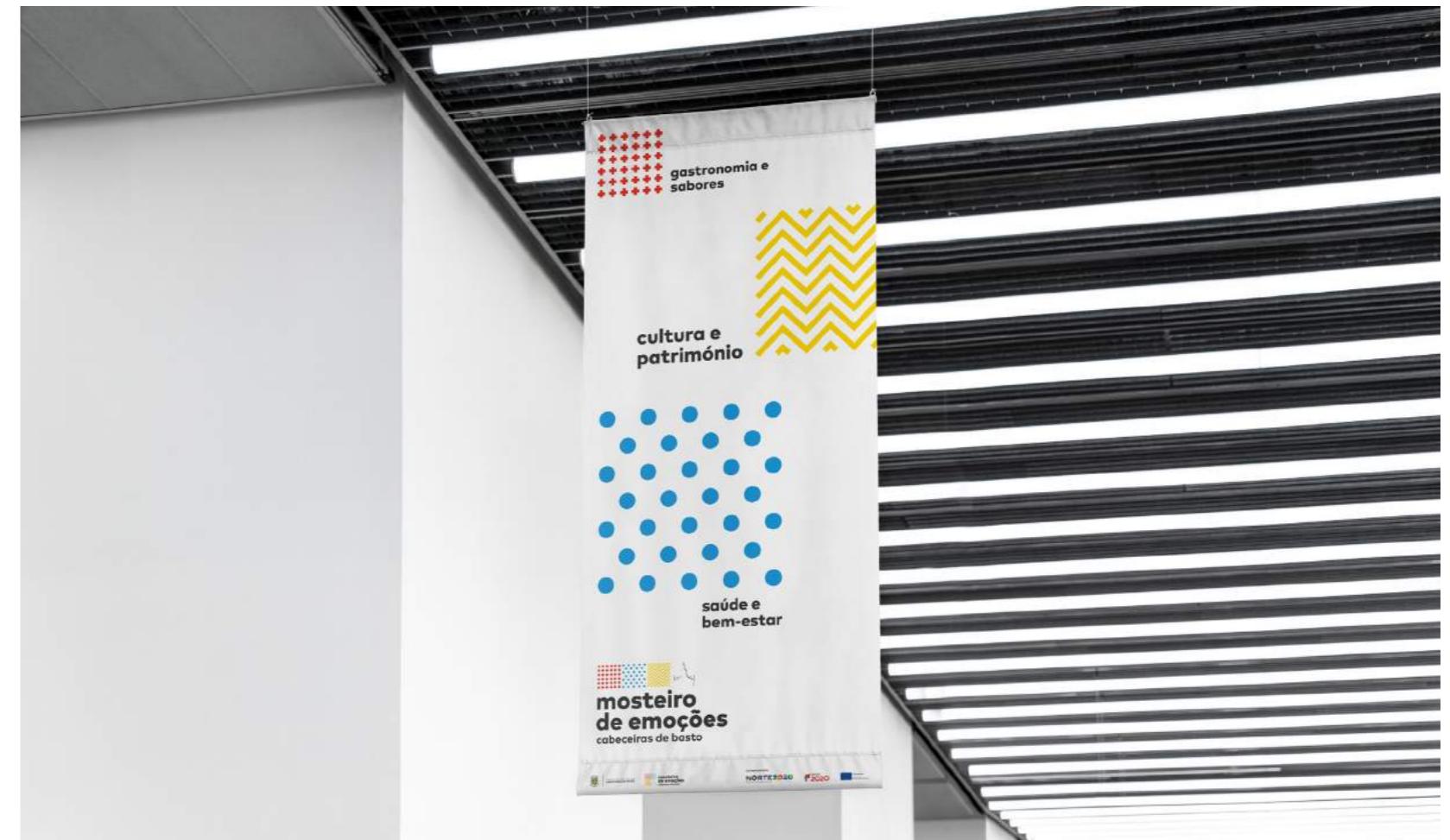
It is true that we live in a world that is always changing and which presents strong and avid competitiveness. But we face daily challenges, not as everyday problems, but as opportunities to outstanding our expectations. This is what keeps us awake and motivated every day. We want to offer out-of-the-box and creative solutions. We offer such a wide portfolio, because we let our imagination lead the way, and that is a key to reach innovation.

Of course that, besides being extremely important, this is not enough. Alongside this, we count with extremely qualified expertise from many fields and this is how we truly believe that we are able to provide remarkable solutions - products and services - to our clients, in different sectors. As time went by, we were able to understand that specific client needed specific projects, and this is how tailor-made projects emerged in our company.

2.3



“An integrated branding and communication strategy involving the three thematic axes and its broader audience.”



MOSTEIRO DE EMOÇÕES

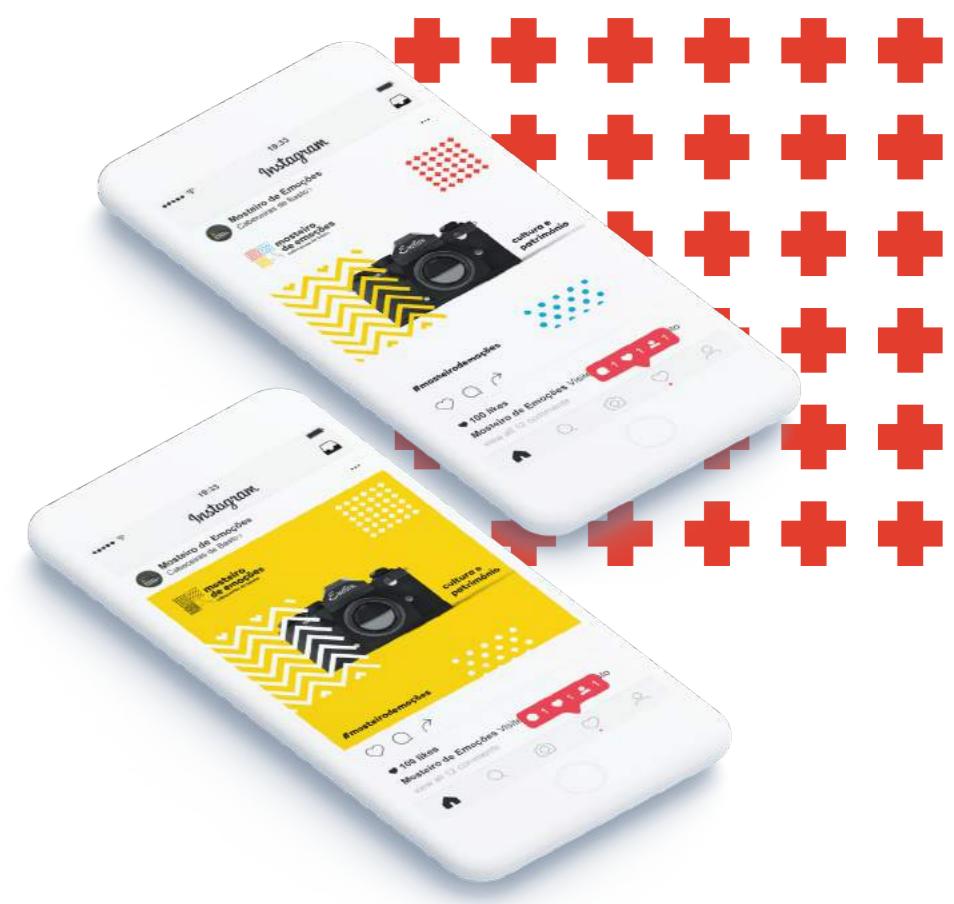
The Monastery of Emotions (Mosteiro de Emoções) is a cultural program that has as its central element the Monastery of São Miguel de Refojos - a magnificent Benedictine monument. This results from an application for community funds designated “Monastery of São Miguel de Refojos, Unparalleled Cultural Heritage”, through NORTE 2020, which includes, in addition to a set of material actions, rehabilitation works of roofs and facades of the Monastery and requalification of the old Benedictine bookshop, the aforementioned cultural program, which will materialize in multiple artistic manifestations, of exaltation of herit-

age, tradition and history. The program is aimed at a diverse audience, divided into three thematic axes: Culture/Performative Arts, Gastronomy/Flavors and Health and Well-being that combine roaming, combination and diversity.

Within the scope of this project, Ubiwhere was the chosen entity to create an integrated branding and communication strategy involving the three thematic axes and its broader audience. The first stage involved the creation and development of a creative concept for the Monastery of Emotions, capable of expressing a wide and varied offer of culture, entertaining and educational

initiatives. Besides this, Ubiwhere has also created several communication graphic materials such as outdoors, posters and leaflets. Ubiwhere also left a mark in the digital communication strategy by designing and developing a customized website (UI/UX design and technical implementation) that works as a portal that gathers the most important data related to the upcoming events, a press room and a gallery.

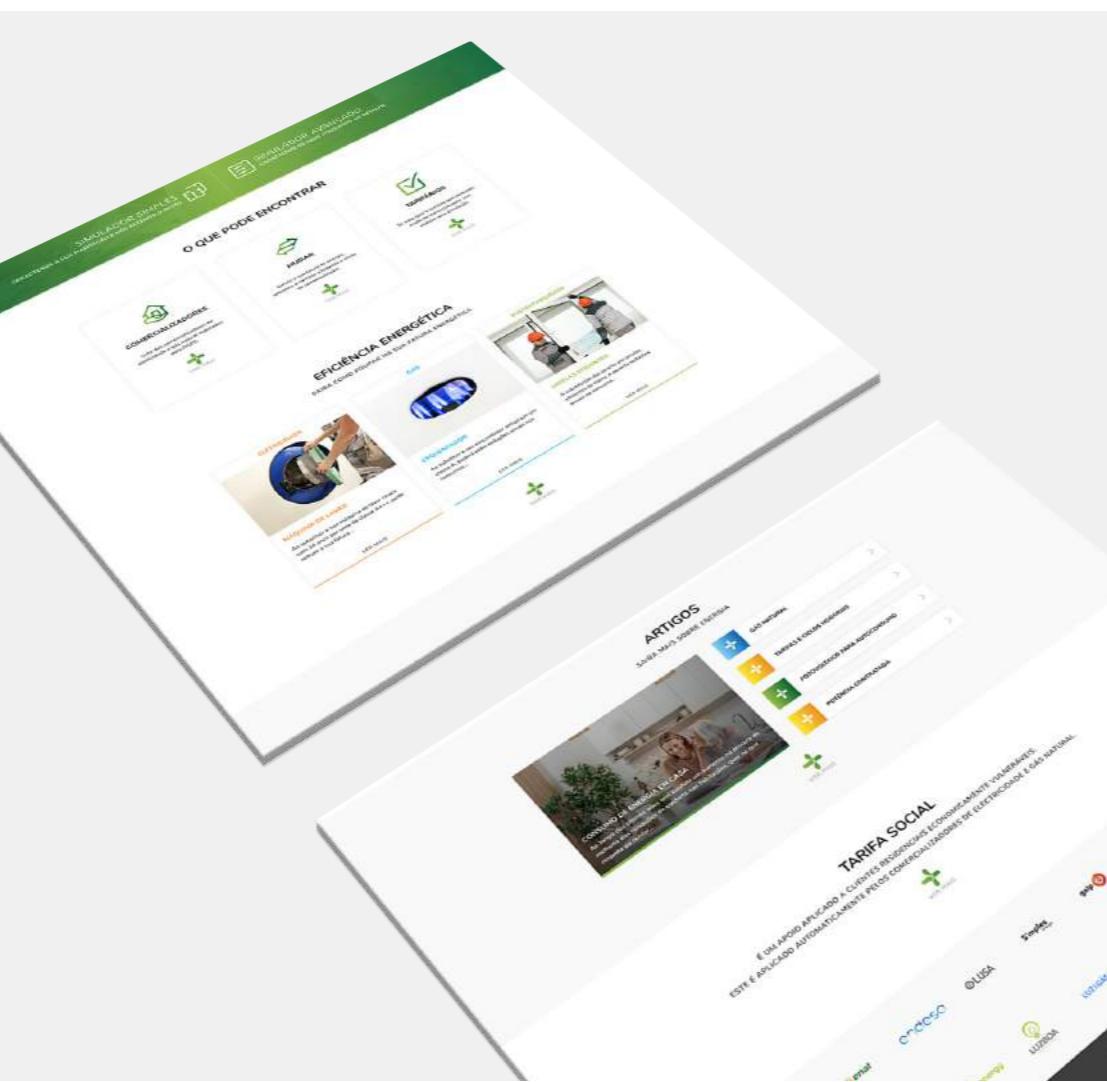
The cultural project will run until July 2019 and it is based on broad partnerships ranging from local institutions to various regional and national entities.





POUPA ENERGIA

Developed for ADENE, this platform allows customers to simulate the costs they will have with electricity, gas or both.



Choosing the best light and gas seller is not always easy. We consider different factors, such as the packages available in the market but, essentially, we look at the price. And that's exactly why the Poupa Energia Portal has emerged, with the purpose of creating a platform where consumers can proceed to the free choice of sellers, in a clear and fast way.

Ubiwhere was the chosen entity by ADENE to develop this solution, a public portal that provides all the offers of electricity and natural gas sellers available in the liberalised market.

Just a click away, this portal gives the possibility of carrying out different sim-

ulations and considering the profile of consumption of each consumer, conclude which tariffs and respective sellers best suit their needs.

Moreover, this Portal provides several relevant information related to energy efficiency, with a set of tips that foster behavioural change in order to reduce energy consumption in the daily routine.

In short, this portal, that resulted from the cooperation between ADENE and Ubiwhere, represents a “fast, uncomplicated, transparent and dematerialized process”, that already has more than 1700 regular users, more than 240 tariffs available for consultation and adhesion and savings of more than 150 000 euros.

TASTE PORTUGAL

There's no one who doesn't love the portuguese gastronomy. Unless he doesn't know it yet. That's why AHRESP came to us. Taste Portugal presents the places where the Portuguese Gastronomy can be savored to those few people who still never tried a portuguese dish or have doubts of which to choose.

NETWORK OF PORTUGUESE RESTAURANTS IN THE WORLD

To structure and implement the first phase of the Network of Portuguese Restaurants in the World, as gastronomic ambassadors are spread across five continents.

EVENTS AND ACTIONS

Publicize the participation in international events of reference of tourism and gastronomy and promote initiatives that support the establishment of the Network of Portuguese Restaurants in the World.

PORTUGUESE ENDOGENOUS PRODUCTS

A catalog of regional products, qualified and/or gastronomic interest.

RECIPES

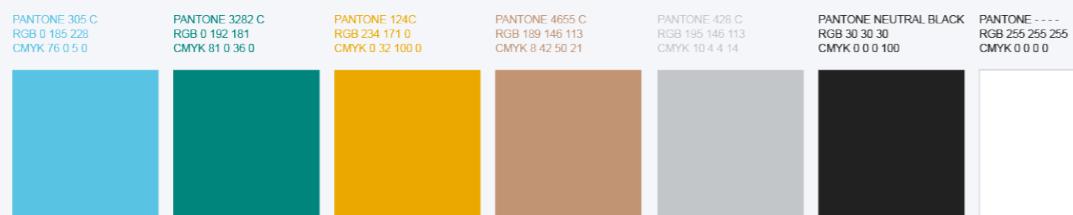
A set of possible regional recipes to be executed in each of the countries where this first phase of Taste Portugal will be developed.

The collage includes several screenshots from a mobile application:

- Moelas Recipe Screen:** Shows a dish of Moelas (Portuguese sausages) in a blue bowl. Details: Nome: MOELAS, Descrição: Este encopado de moela é um dos mais amados portugueses. Deixe-se levar e não se iniba em mergulhar o pão no delicioso molho., Cozinhar: 35 MIN., Preparação: 10 MIN., Quantidade: 8 PESSOAS, Dificuldade: FÁCIL. Includes sections for Ingridients and Products.
- Portuguese Honey Product Screen:** Shows a bottle of Mel do Alentejo honey. Details: Nome: Mel do Alentejo, Empresa: Product Mel, Morada: Dietimport S.A., Rua 1º de Dezembro 1249-057 Lisboa, Telefone: 912 123 123, Email: info@melproduct.pt, Website: melproduct.pt.
- Salada de polvo com batatas Recipe Screen:** Shows a bowl of potato salad with octopus. Details: Nome: Salada de polvo com batatas, Descrição: Mediterraneo, Europeu, Português, 3-4 pessoas | 1h30 de confecção.
- Modo de Preparação do Prato Screens:** Shows steps for preparing Moelas and Salada de polvo com batatas.
- Principais pratos Screen:** Shows a list of main dishes: WILD MUSHROOM BUCATINI WITH KALE (14.5€ por pessoa), WILD MUSHROOM BUCATINI WITH KALE (14.5€ por pessoa), and WILD MUSHROOM BUCATINI WITH KALE (14.5€ por pessoa).
- Rating and Reviews Screen:** Shows a chart with a rating of 4.5 stars based on 8,000 reviews.



TASTE Portugal



**BETWEEN FLAVORS, KNOWLEDGE,
CELEBRATIONS, SCENTS,
LANDSCAPES AND PEOPLE, WE
SHOW THE MOST PURE OF BEING
PORTUGUESE**

ÁGUAS DE PORTUGAL

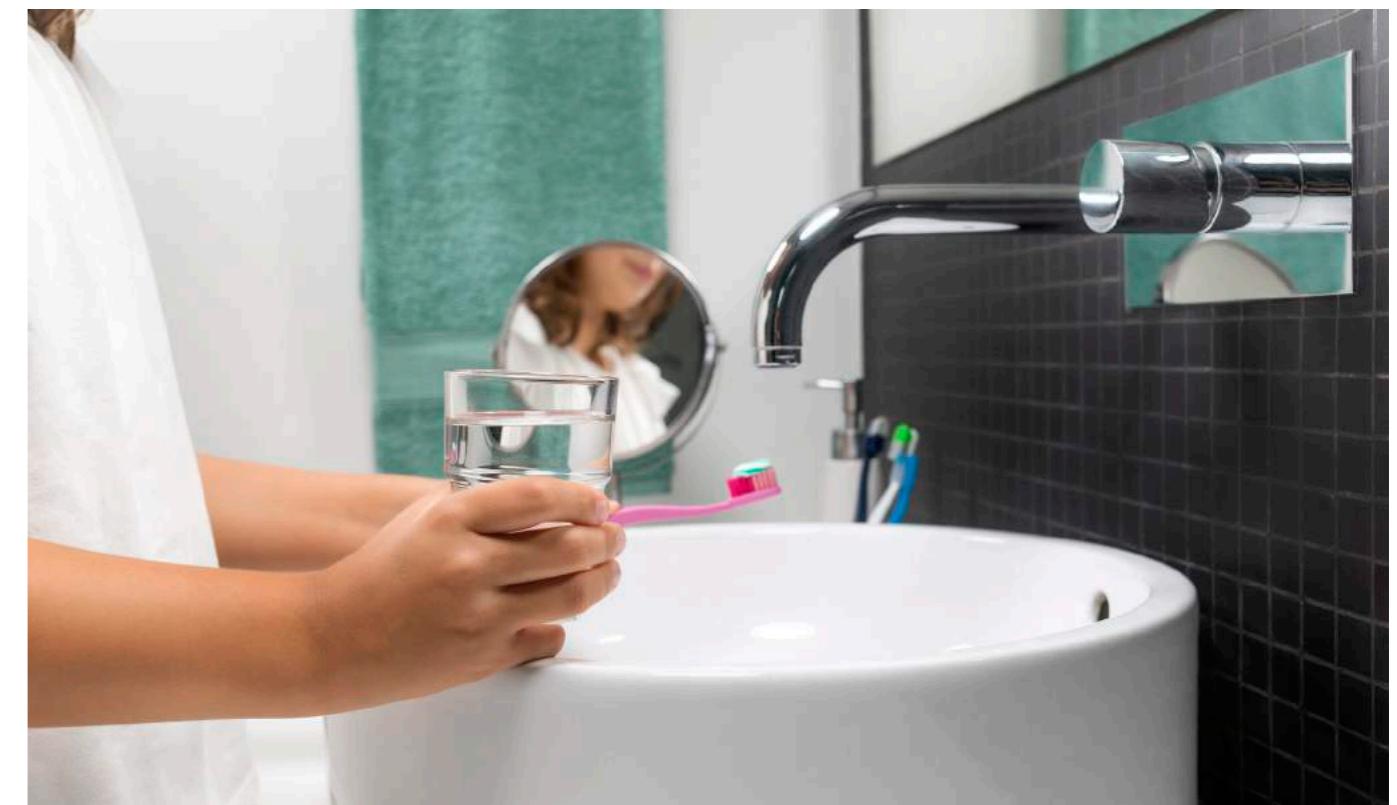
In the context of a Public National Tender and among several applications received, Ubiwhere was the entity chosen for the development of Águas de Portugal's most recent awareness campaign.

The campaign has the motto “Água com um pingo de consciência” (“Water with a drop of consciousness”) and has as its main target the big consumers of water.



The objective is to counteract the tendency of waste in water consumption, disruptively and with an irreverent graphic concept, leading the consumer to think how their small habits can effectively mark the difference.

This is a fully-built campaign by Ubiwhere, which will encompass various communication strands such as: creative concept and campaign branding, press, radio and television ads, digital advertising and social media, and specific awareness sessions for municipal and schools.



In the official campaign's presentation, the Environment Minister, João Pedro Matos Fernandes, affirmed that “rational use of water” is a message that needs to reach “urban consumers and large consumers”. In this sense, the motto also aims to be an alert for the population that, unconsciously, adopts habits without environmental concern or sustainability with the planet. This is a campaign co-financed by the Environmental Fund of the Ministry of

the Environment, as part of various actions to raise awareness of the efficient use of water in various sectors.

For Ubiwhere, this was a significant step in the creation and development of advertising projects nationwide and represents a new stage in the technology company that has been consistently investing and standing out in the communication area.

UNIVERSIDADE DE ÉVORA

Admission to the University represents a unique milestone in the life of any young student. Choosing a higher course, moving to a new city and looking for a room to live alone for the first time are events that one will never forget. A University brings with it new challenges, new friends and a new direction for the future. This gives any University the responsibility to create all conditions for new individuals to form.

What determines the choice of a University?

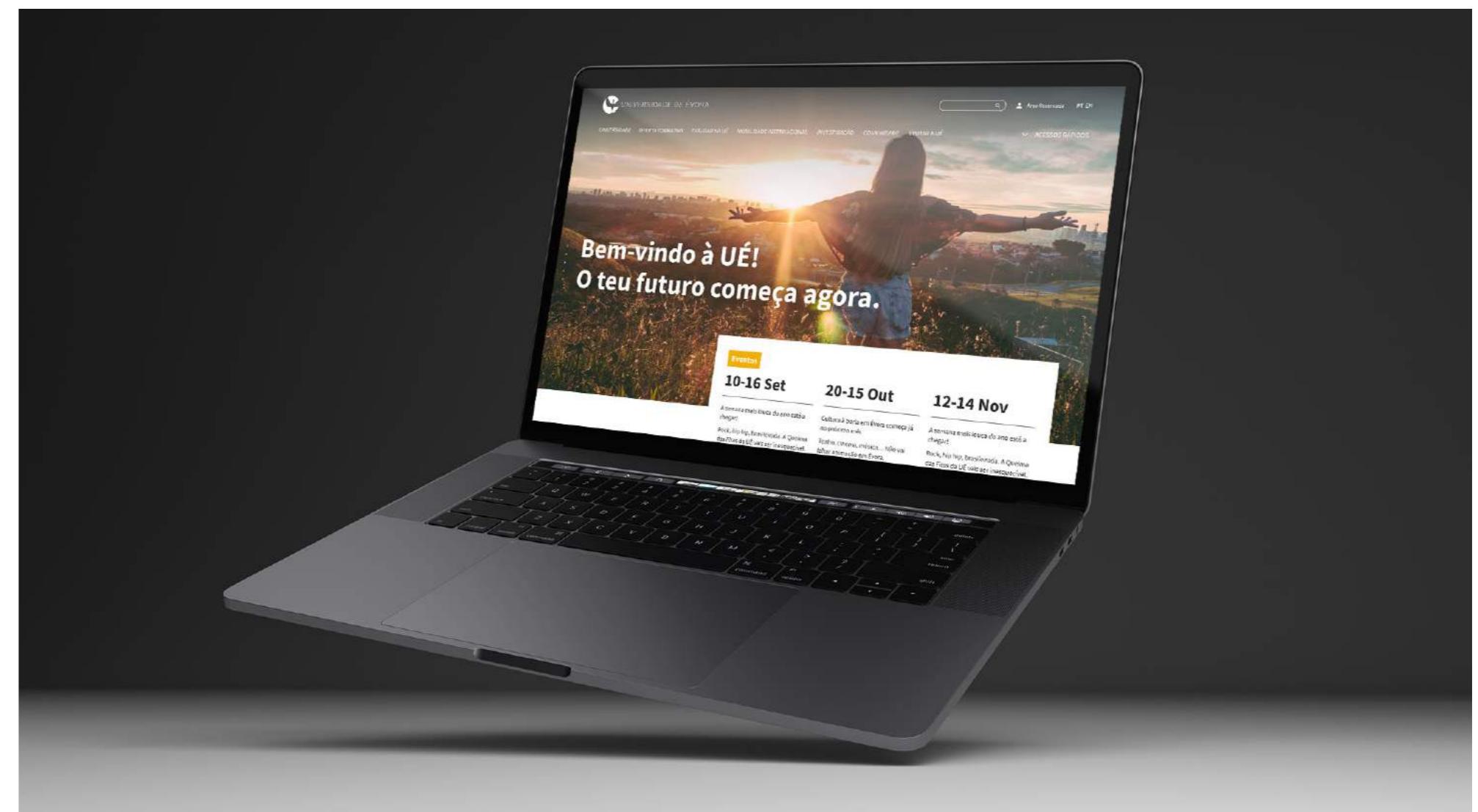
This is where the importance of building a solid brand comes in. A hand in hand with the educational offer and life in the city. The new rookies want brands that adapt to them, that reinvent themselves to provide the best conditions and education, and that think of new ways of commun-

cating and capturing attention. New forms of interaction involving your prospective students and current members of the academic community.

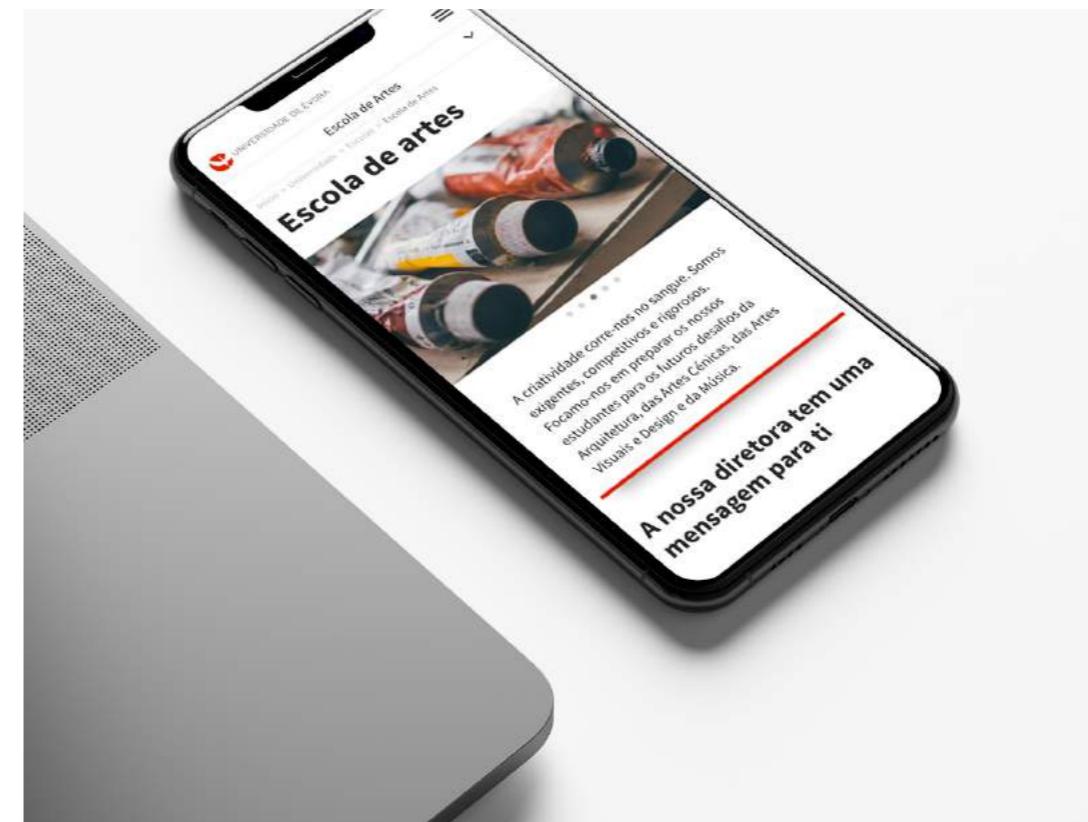
Basically, each person of a University community should be an integral part of it, in that it assumes a leading role, driving change and new ideas.

It was precisely in this sense that we were inspired to rethink the identity and image of the University of Évora, in order to attract new students and raise the brand's reputation, making it a national reference.

The main challenges were the strategic planning, conceptual proposal and concept of design for the new portal of the University of Évora, in which several actions were concretized:



Survey of the current situation of the existing institutional portals;
Definition of the user and collection of requirements;
Design strategy;
Definition of the hierarchy of information;
Definition of the minimum information for the portal;
Webdesign.



The combination of these steps resulted in a proposal capable of revitalizing the digital portal of the University of Évora, which emphasizes a more appealing design, a more intuitive navigation and a more informal discourse. We would like to place Évora in the focus of future academic students and ensure that this is a portal for all members of the UE community.

APP ÁGUAS DO PORTO

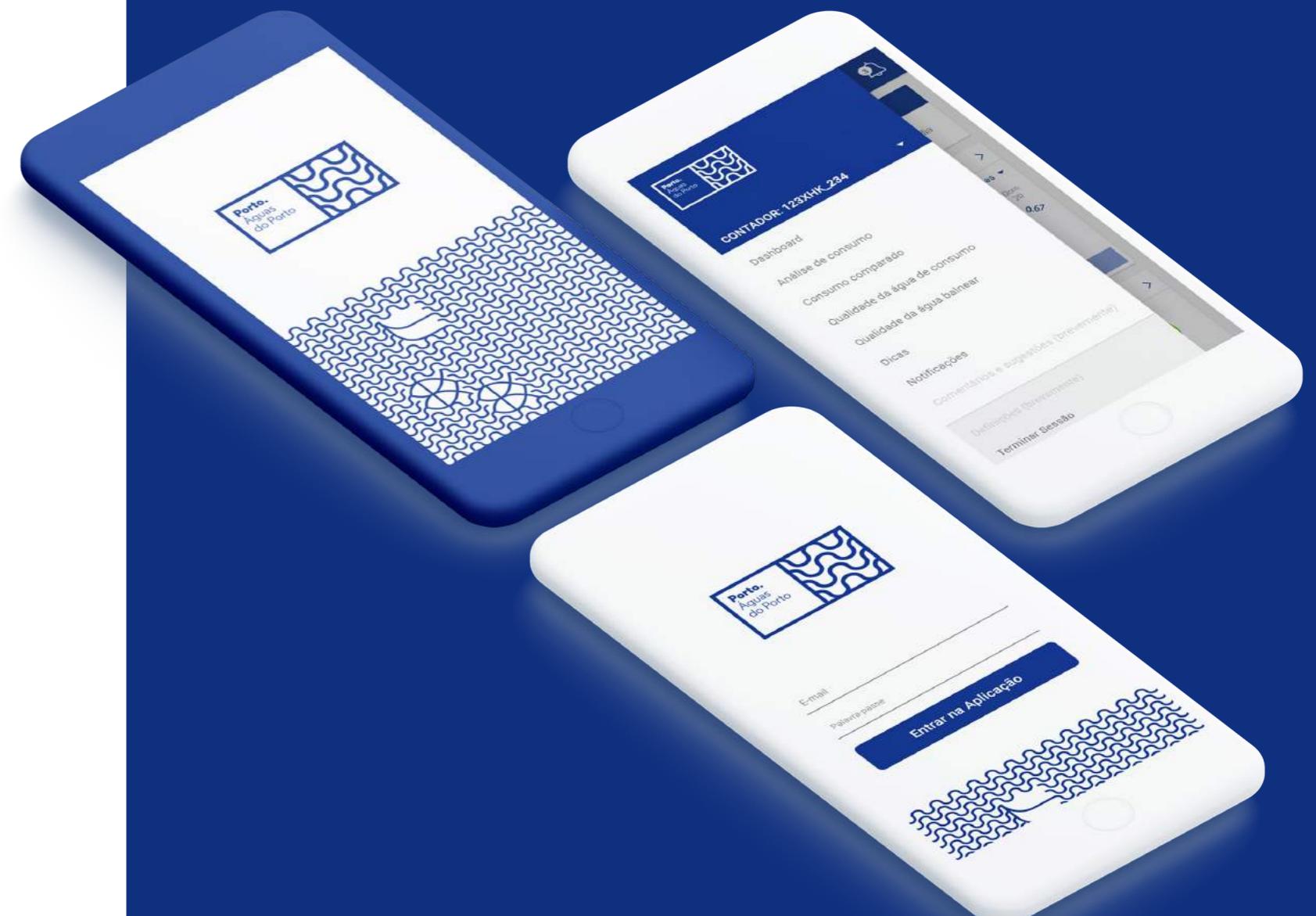
Water is a key element that we must preserve. To ensure a closer and more transparent relationship with its clients, Águas do Porto has decided to take a step forward and create a new service inherent to water consumption - an app that allows its consumers to make an efficient water consumption management.

Ubiwhere was responsible for designing and implementing this app, that, thanks to data collected from more 20.000 sensors, lets its users access all the necessary information:

Consumption evolution and analysis;
Water leakage alerts;
Consumptions' comparisons;
Tips for water consumption reduction;
Notifications and alerts;
Consumption water quality;
Bathing water quality.

Through this partnership established with Águas do Porto, there is now a tool that appeals for a greater environmental awareness from its users, with the possibility of daily monitoring the consumption of water in their houses, leading to the adoption of more environmentally friendly behaviours.

Smart Water Consumption App for Águas do Porto



QUALITY

Program for Qualification and Valorization of Local Accommodation

Portugal is one of the most desirable destinations in the world, not only to live, but also to visit. With sun and beach, river and mountain, Lusitanian lands have been annually receiving millions of tourists, who find in this country an irreproachable culture.

Therefore, local accommodation enthusiasts are gaining notoriety and they need the appropriate tools to develop their project. Based on its needs, AHRESP, Portuguese Restaurants and Hotels Association, entrusted Ubiwhere with the development of the QUALITY Portal, a Program

for Local Accommodation Qualification and Valorisation.

This initiative responds to the challenges of the sector, by offering tools to support the management and guarantee of quality of service, that are essential for the promotion and projection of the business and, consequently, for the appreciation of Portugal as a tourist destination.

Ubiwhere was responsible for designing and developing the Portal, that resulted in an appealing design project that answers adequately to the customer needs.





APP MUSEU ETNOGRÁFICO DA REGIÃO DO VOUGA

This project will lead people into the discovery of the roots and traditions of Vouga. With this mobile app it will be easy to help people making the best of their holidays. We will help them to get to know the customs and traditions of the region, involving them in the magic region of Vouga with its history. Told by the voice

of the owners of Casa dos Carrodos, now Ethnographic Museum of Vouga Region (Museu Etnográfico da Região do Vouga), the app contains information about many wonders of the region such as one of the best ethnographic collections in the country, inviting all its users to visit the place. There we can find:

- 3 theme tours and one free;**
- Interactive map;**
- Description - audio and writing;**
- Images of objects.**



SECTION THREE

New Ventures

3.1

Creating new solutions that respond to the challenges of the market is our brand image. Paying attention to the needs and demands of the next generations, we have developed highly innovative technological products in the different areas in which we operate - smart cities and telecommunications.



UNICLE

A 5G-based unified V2X Edge Cloud Platform.

How can we achieve truly global and unified V2X (Vehicle-to-everything) communication? With 5G, Mobile Network Operators (MNOs) will play a big role in providing connectivity to every single vehicle on the road. With the latest advancements of autonomous driving, the infrastructure must be able to handle the terabytes of expected data to flow daily,

while inducing extremely low latency when processing and distributing it. For this, Ubiwhere has been developing Unicle, a 5G-based Edge Cloud Platform, that aims at bridging the gap between MNOs and the whole Automotive Industry as well as Transportation Service Providers, to orchestrate a pleasant and safer driving experience.

PORSCHE

SMART LAMPPOST

Smart Lamppost (SLP) is Ubiwhere's answer to modern city's most demanding challenges regarding connectivity, e-mobility needs and telecommunications scalability (ubiquitous 5G). Through smart and modular urban furniture, Smart Lamppost allows municipalities to future-proof their city, while creating monetary value for Operators and Service Providers across different verticals. Aligned with the company's focus on 5G research and

through software-defined networks and virtualisation technology, SLP is implementing different solutions enabling a cost-effective massive Small Cell rollout. Having in mind the value of the Neutral Host approach, where Infrastructure owners (municipalities, for instance) rent out space and network capacity to Mobile Network Operators, SLP hopes to become the industry's reference for 5G Neutral Hosting, enabling easy and elegant not only pole-sharing, but also RAN sharing solutions. Such ambition and

positioning is made possible due to the synergies we share. Smart Lamppost is a joint venture created by different Portuguese companies, each with their own expertise domain, sharing a common goal: to develop an innovative ecosystem of high quality solutions.

Metalgalva, specialized in the design and manufacture of metal structures, having the capacity and skills needed to perform prototype tests, assembling level and/or structural strength.

PROEF Group, composed by more than 25 companies and currently present in 11 countries with an overall figure of 1,500 employees, capable of planning, installing and maintaining different solutions in the areas of telecommunications, electricity and renewable energy.

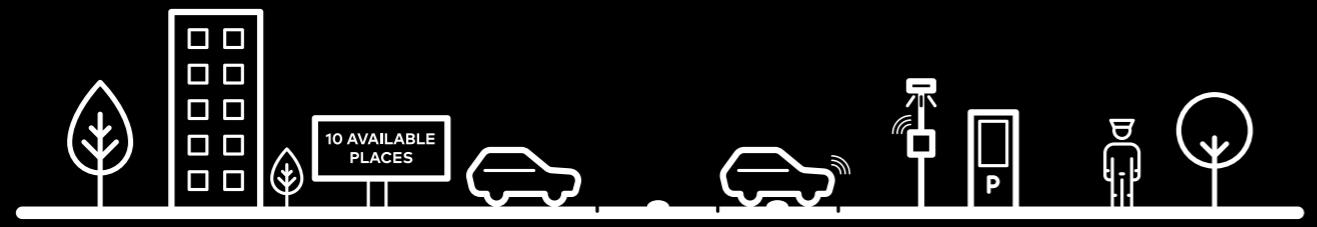
Last but not the least there's us, Ubiwhere one of the most prominent R&I SME in Europe with different commercial products worldwide, having spun off multiple other companies in the process. Through this highly valuable joint venture, Smart Lamppost hopes to scale globally, ready to tackle the ever evolving challenges cities and citizens face every day.

SLP follows a simple modular approach, with scalability in mind. It is easy to mix-and-match different modules in an elegant and clean solution: smart lighting, telecommunications (5G), EV charging and IoT sensing.



Imagine a world where a street light pole could be much more than just regular metal infrastructure scattered across a city. What if we could repurpose this highly available infrastructure to provide even more value to citizens and improve the city's layout? In fact, it could even be an opportunity to earn money and profit. It is not a dream anymore.

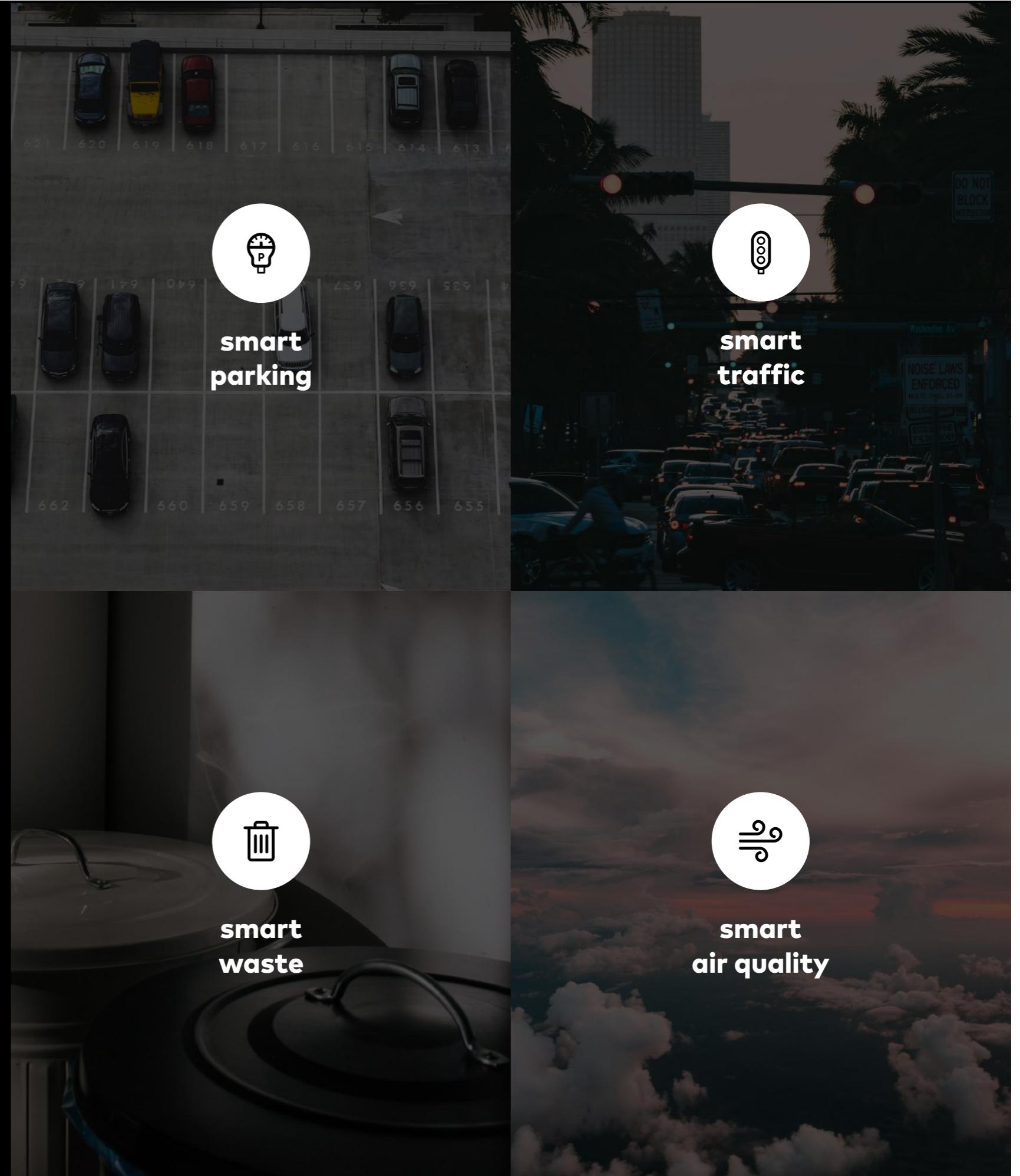
citibrain:



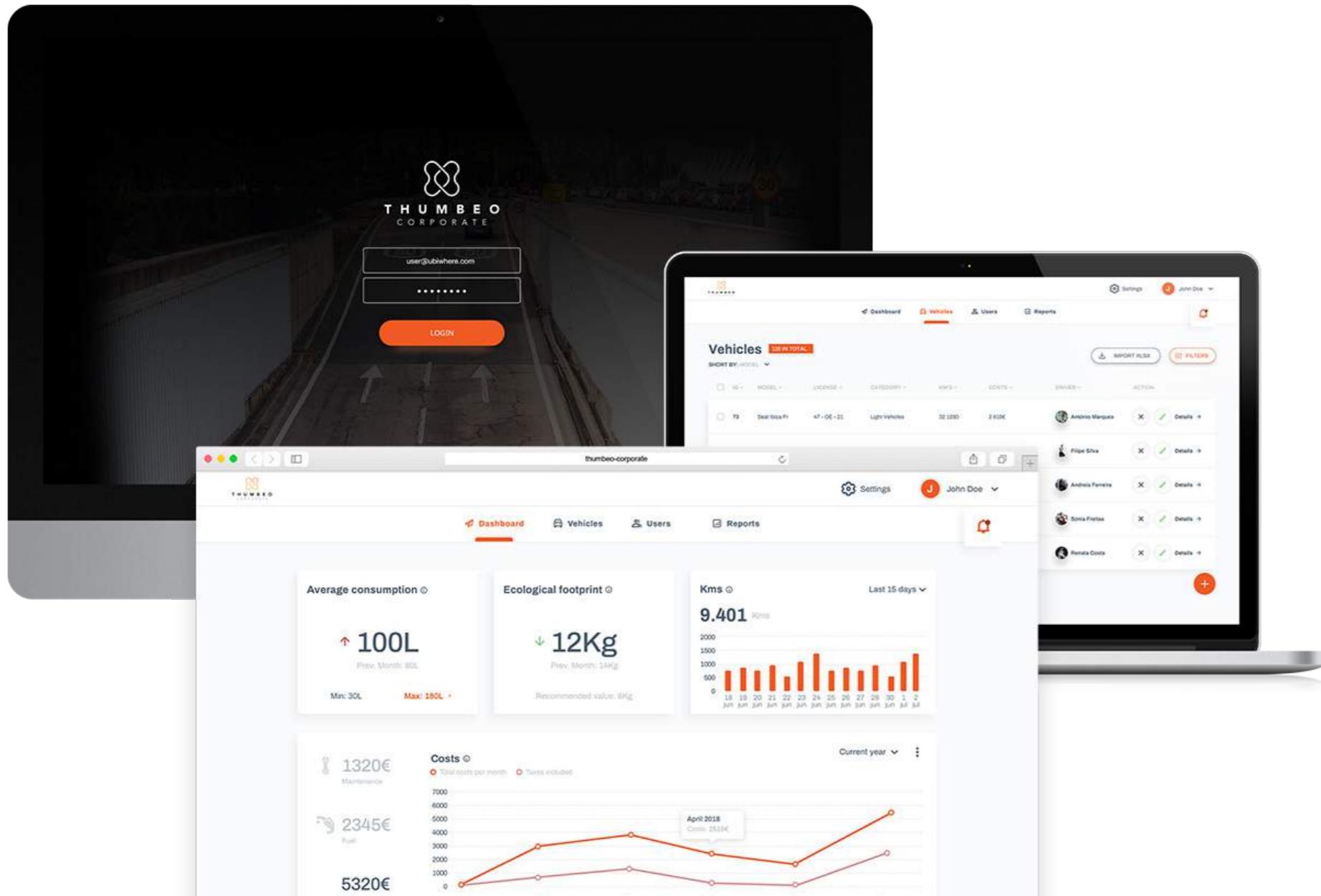
Citibrain is mainly concerned with growth initiatives - Future Internet and Smart Cities - bearing in mind the global environment and urban lifestyle. We firmly believe that a smart city is both a choice and a necessity for the wellbeing of the entire community on Planet Earth.

For that, Citibrain is specialised in creating smart solutions for the cities of today. The main purpose is to conceive pleasant places to inhabit pleasurable, joining cities and citizens in order to improve urban life.

Therefore, Citibrain has developed several innovative technologies to approach the most pressing urban issues, for instance, reducing urban resources and energy use, cutting pollution spikes, monitoring and measuring various types of signals, and preparing the community for future growth and prosperity that will guide us to create truly smart cities.



THUMBEO CORPORATE



Companies are looking for solutions that allow them to save: the environment, save money and ensure that employees remain happy. With that challenge in mind, we created Thumbeo Corporate. With a single mobile app in employees' hands, Thumbeo Corporate offers transparency over the total cost of ownership of a company's fleet, taking advantage of machine learning to provide insights and solutions to reduce TCO up to 30%. It works as a business platform that enables employees to share rides with each other, encouraging shared travel and thereby reducing CO2 emissions and fuel and toll expenses.

By being a scalable and adaptable platform, it is easily customisable to fit your needs. Join now the corporate fleet revolution!

Main features

Vehicle reservation

Pre-book the right vehicle for your needs.

Ride sharing

Save money and time by joining someone going your way or just ship goods along with theirs.

Support assistance

Report issues and get assistance when you have any trouble with your company vehicle (take pictures and store evidence for insurance purposes).

Mobility expenses' tracking

Keep track of mileage, parking, tolls, gas, extraordinary repairs, trip log and save on warranty and insurance premiums.

Eco-friendly behaviour promoter

Get rewards for saving money and engaging in eco-friendly behaviour: share rides, save fuel, drive responsibly and use alternative means of mobility when they're available.

White-label & Scalable

White-label platform totally customizable and scalable to fit all the enterprise needs.

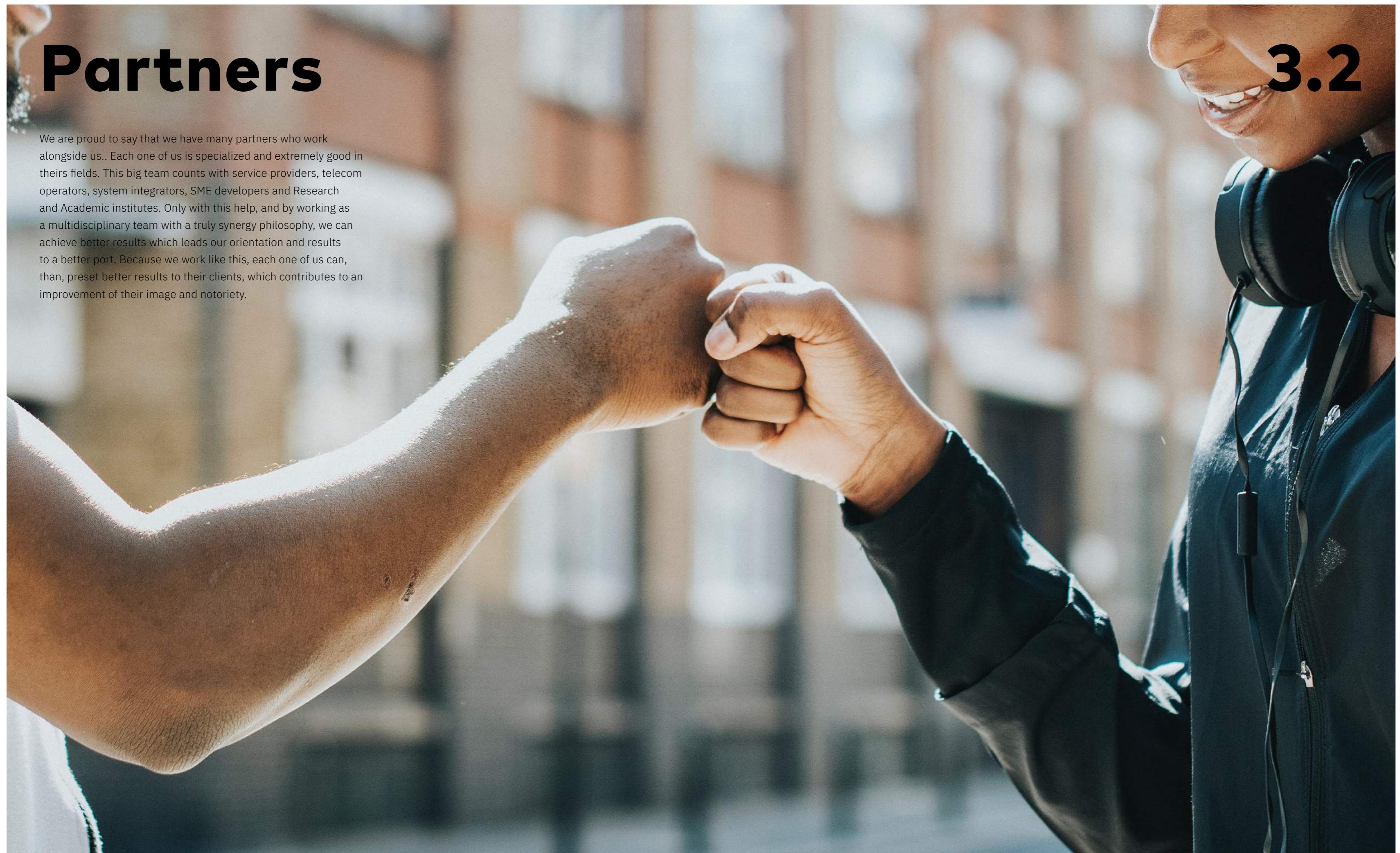


T H U M B E O
CORPORATE

Partners

We are proud to say that we have many partners who work alongside us.. Each one of us is specialized and extremely good in theirs fields. This big team counts with service providers, telecom operators, system integrators, SME developers and Research and Academic institutes. Only with this help, and by working as a multidisciplinary team with a truly synergy philosophy, we can achieve better results which leads our orientation and results to a better port. Because we work like this, each one of us can, than, preset better results to their clients, which contributes to an improvement of their image and notoriety.

3.2



Partners



Alliances

3.3

We establish strategic alliances so that we can achieve better results and see that others can also increase their performance. Therefore we both leverage our potential and become more solid and stronger companies. We all get some competitive advantage and increase. Establishing strategic partnerships has been crucial to our company, especially companies and associations and create solid and long-lasting alliances.



Alliances



PUBLIC-PRIVATE PARTNERSHIP



Research and Innovation

3.4

The successful exploitation of innovative ideas comes from our ability to imagine and develop new tools for dynamic and challenging environments.



Smart Cities and Communities



Nowadays, all over the world, cities are confronted with serious environmental and social demands, currently under global pressure to rise to the challenge of meeting them so as to ensure a balance between urban development needs and environmental sustainability. Therefore, our company has been repeatedly challenged to create smart solutions for smart cities in many areas, such as mobility,

tourism, energy and efficient resource management. Interoperability, Open Data and smart cloud-based services are all essential elements in our approach we use in our innovative solutions that seek to answer the aforementioned issues. These principles are found in the R&I projects that we are developing and also in our portfolio of Smart Cities products and services.



Connected Smart Objects and People

Connected Smart Objects have a great impact on our society and its businesses. The Internet has brought life to everyday objects, connected over fixed and wireless networks extending interaction to anywhere at anytime. People are becoming more and more connected due to the technological progress, and keeping up with

these technological advances, coupled with our strong engineering background, has enabled us to develop several key competences in IoT (Internet of Things) and M2M (Machine to Machine) technology, Embedded Systems and Cyber-Physical Systems, Internet of People and Internet of Everything.

Future Internet and Next-Generation Networks

Communication and Networking technologies have developed at an incredible speed, Future Internet and Next-Generation Networks have made a decisive impact on networked applications and services by introducing new challenges and opportunities in terms of scalability, flexibility,

security and mobility. Consequently, we have developed a number of solutions which range from areas such as QoS (Quality of Service), QoE (Quality of Experience), Opportunistic Networks, Indoor and Outdoor Positioning Systems, Networking Convergence and Future Internet Services.

Data Analytics, Open Data and Interoperability

Increasing data interoperability through new and innovative approaches is one of the current technological challenges. Interoperability removes barriers to data sharing acting as the contact point between systems and applications. At Ubiwhere, besides efficient and accurate solutions

developed to improve business and management processes, we have been working in diverse fields like Data Mining and Business Intelligence, Open Data, Open Access and Linked Data, Information Management and Interoperability, Decision Support Systems and Predictive Analytics.

Content Technologies and Connected Area

Content Technologies and Connected Media have revolutionised traditional publishing into a new digital publishing era. Technology is put to excellent use, creating, converting publishing and managing contents, bringing great benefits in time, flexibility and scalability. Our vast portfolio of mobile applications for the mass mar-

ket includes multiple mobile applications for such areas as Mobile and Ubiquitous Computing, Context-aware, Semantics, Real-Time Collaboration, Advanced User Interface, Gesture Recognition and Natural User Interfaces. We are constantly taking on new challenges on the mobile computing front.



WHAT'S NEXT



Like no otherwise, 2018 was a challenging year. And that has been a fundamental aspect since Ubiwhere was born. With challenges, we eager bigger goals. Bigger accomplishments. And above all, it makes us chase dreams.

For 2019, we will keep demanding the best of our abilities to fulfil our dreams by investing in best-in-class emergent technology. By giving the best work environment to our team evolve and get inspired to continue to research and develop the best solutions in the market. By bearing in mind that the evolution of technology should always keep humans at first and not last.

A great journey has already started. 2019, here we go!

Our **strategy** has a deep focus on improving internal **processes** in order to surpass clients' expectations.



ubiwhere

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