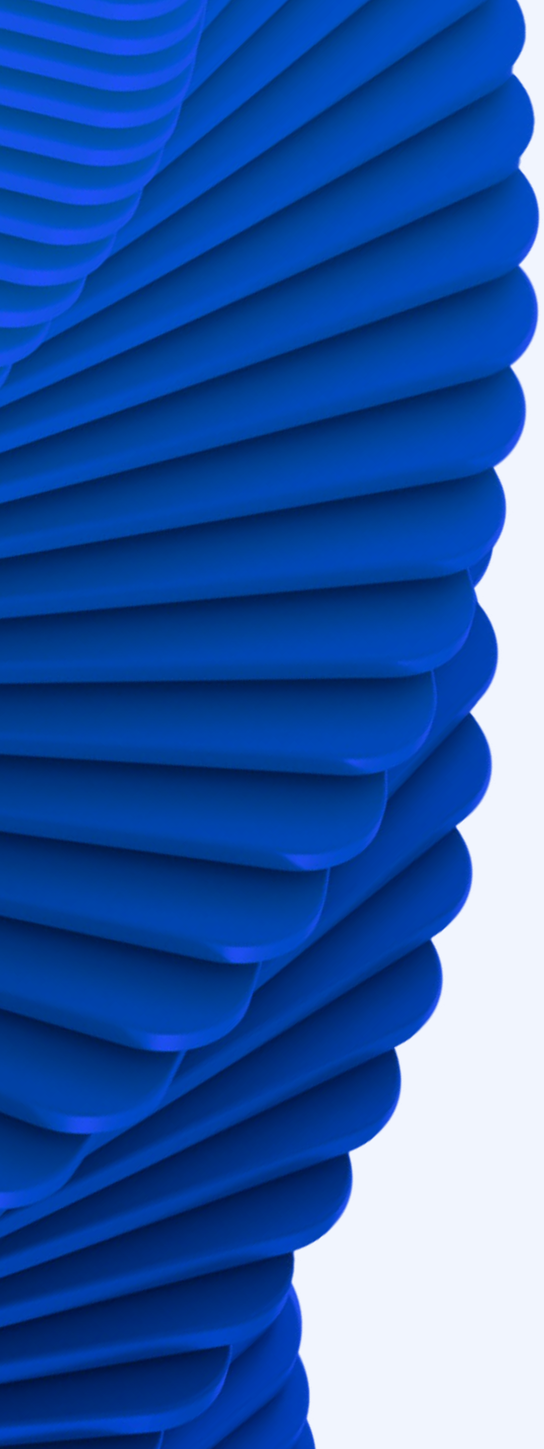
MWC2024

100 Years
Leading Change

Telefónica

PROGRESS

Transformation Handbook



MWC2024

100 Years Leading Change

We've turned 100 years old. A century of making our world more human by connecting people's lives. What a ride!

But now, it's not time to get nostalgic. It's time to prepare for a new era. Because in these times we live in, we are witnessing a strange paradox: while the life expectancy of people is getting longer and longer, the life of companies is getting shorter and shorter. For a company to survive for more than a hundred years is a complete anomaly. And this anomaly can be explained by a single reason: its ability to change.

Telefónica's history is one of anticipating change. We were born as a voice company and moved to data, from copper to fibre, from operating in a single country to becoming a global company. A company forged, from its very foundation, in change.

And now we are committed to change again. Change to lead a new era of progress. A revolution capable of rewriting history of businesses and people... and yes, also our own.

There is great value to be captured by the telco industry. Times that are opening a new world of business opportunities, where Open Networks are key to foster innovation while driving profitable and sustainable growth. With this goal ahead of us, it is not time to ask "What if..."? but "How we will make it happen".

We've been doing it for a hundred years, imagine what we can do in the next 100.

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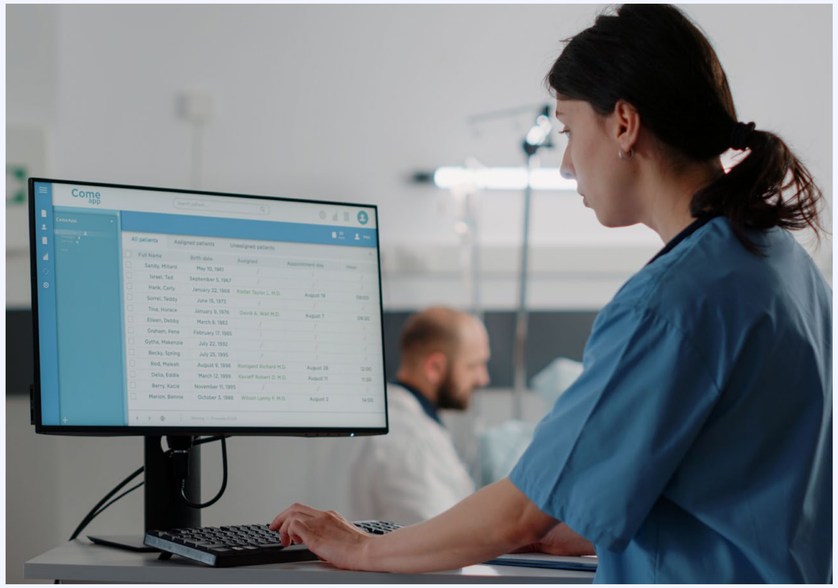
PaaS • Cybersecurity • Cloud Solutions

Oxford University Hospitals

Telefónica Tech took Oxford University Hospital's technology infrastructure to a new strategic level.



Goals

Oxford University Hospitals aimed to make use of the best possible technology to enable doctors and hospital staff to spend more time with patients while making the most of their resources.
The Service Now solution, a transformational platform-as-a-service, helped the trust achieve this goal, thanks to efficient, self-service IT support and a 360-degree view of critical transformation projects.

Results

The project has improved productivity and time spent with patients at the bedside, as well as gaining a single view of projects that could help reduce overall spend and improve speed and efficiency.
It has also led to greater operational efficiency, as clinical and support staff can spend more time with patients rather than on-call IT support. This is evidenced by the fact that 87% of the 11,000 hospitalizations recorded in the first 3 months of support were resolved through self-service.

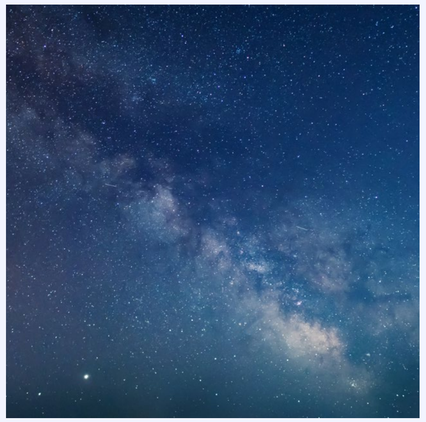
Link: Web

Cloud • BSC • Virtual Machines • High-Performance Databases

University of Barcelona

The project has been developed for the Institute of Cosmos Sciences at the University of Barcelona (ICCUB) is dedicated to research in cosmology, astrophysics, and particle physics. In its goal to unveil the secrets of the Milky Way, ICCUB embarked on the Gaia project. The Gaia Mission is a highly complex project that aims to create an accurate and detailed three-dimensional map of the Milky Way encompassing its more than two billion stars. It was necessary to analyze and store an enormous amount of astrophysical data in order to successfully achieve this goal.

Link: Web



Goals

Every day, Gaia's camera captures some 70 million images and sends back to Earth between 45 and 100 gigabytes of data. For a three-dimensional map, it is necessary to meticulously store and analyze all this interrelated astrophysical data. On the other hand, this analysis requires complex scientific exploitation using Big Data and data mining techniques. Given the high cost of on-premises data centers, the University of Barcelona sought an innovative approach in its IT strategy and found the ideal solution in the Google Cloud public cloud, with the collaboration of a partner integrator of these technologies as Altostratus, part of Telefónica Tech.

Results

This project has allowed ICCUB to provide its scientists with a customized computing environment, from high-performance virtual machines to large-scale computing in clusters scalable according to the needs, reducing in some cases the computing time from more than a year to weeks. Using Compute Engine and managed services such as BigQuery and Vertex AI, the University of Barcelona can now store and analyze 2B of Gaia satellite records and perform queries quickly, advancing its research on the evolution of the Milky Way and avoiding high investments in physical servers.

IoT • Big Data • Artificial Intelligence

DTI Diputación Ourense

The project **"There is an Ourense for you. Discover it"** is a comprehensive tourism digitization project in the province of Ourense, designed by the Ourense Provincial Council, with the aim of promoting an interactive and intelligent tourism model. It is based on the use of Information and Communication Technologies (ICTs) by local entities dedicated to tourism activities, enabling them to offer differentiated and competitive services.
"There is an Ourense for you. Discover it," focuses on changing the management of tourism resources in the region. It was selected as a beneficiary of the 'Smart Tourist Destinations Call' by Red.es, an entity under the Ministry of Economy and Enterprise.

Link: Dossier

Goals

With the implementation of this initiative, tourists will have "quick, simple, and intuitive" access to all relevant information about the main tourist resources in the province through the "Ourense within your reach" program. Personalized services will be provided to tourists on demand through the "Feel Ourense" program, featuring a unique repository of tourist information for the province of Ourense, accessible to tourists through all channels. Lastly, the third objective of the project is carried out under "Ourense guides you" to offer immersive and impactful experiences to visitors.

Results

We have successfully integrated all destination information into a comprehensive platform by deploying our Thinking City Platform in cloud mode. With this project, we have achieved the monitoring of key routes of interest and the counting of people and vehicles. Additionally, we now have a web portal and a mobile application for tourist information with a route planner. The project allows for obtaining trends in the behaviors of visitor groups collectively through multivariable analysis of mobility flows and visitor stop times. This enables the development of tourism promotion plans focused on their interests.

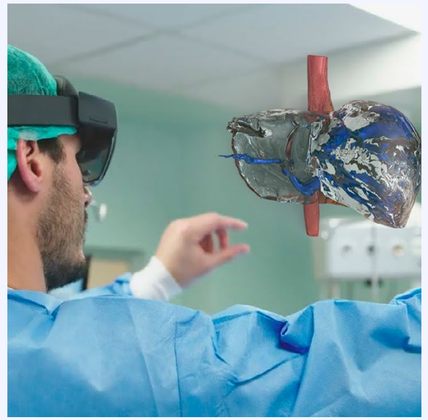
Cloud • Virtual Reality • Augmented Reality

3D Collaborative Surgical Planner

Collaborative solution based on virtual and mixed reality technology, to offer medical teams the ability to plan a surgical operation, remotely and immersively This solution allows teams of surgeons to better understand and prepare for the operation, thanks to presenting the radiological tests in a 3D format, as interactive virtual objects that can be manipulated by the surgeons participating in the session. In addition, they have collaborative tools to draw, point, include notes, or visualize additional resources.

Goals

At Telefónica we want to bring the most cutting-edge technology and provide cutting-edge tools to the health sector, to help medical teams to better develop their work, in this case through a technological solution that allows a medical team to hold a pre-surgery preparatory session, remotely and immersively, viewing and interacting with the medical information available for that intervention.



Results

A technological solution has been developed that allows working on 3D medical models to understand and plan surgeries. We worked with the Valdecilla Virtual Hospital for the development of a solution, to date in pilot mode, to understand and test the usefulness for surgeons of this type of tool, and the functionality included (videoconferencing, drawing and marking on the models, spatial manipulation of the same, segmentation and signage), with the aim of preparing a commercial product.
The solution is based on the latest advances in extended reality, and will evolve to handle very high-resolution models, captured directly from medical diagnostic equipment.

Testimonials

Oxford University Hospitals

"Telefónica Tech has helped us overcome our teams' lack of resources and time. They have given us additional capacity to move projects forward faster and deliver better results in less time. One of the benefits of implementing ServiceNow, for example, is the improvement in the time our staff has available to care for patients."

Matt Harris
Director of Digital Services, Oxford University Hospitals Foundation Trust

"In healthcare, the NHS is committed to advancing digital maturity in hospital trusts, Technologies like PaaS (Platform-as-a-Service and ITSM (Information Technology Service Management) provide hospital trusts and their ecosystems with the right foundation, offering greater control, streamlining operations, and efficiency, leading to better patient outcomes. Telefónica Tech is proud to support their implementation, helping to keep data secure, optimise operational processes, and enhance healthcare delivery to new heights".

James Anderson
Country Manager of UK & Ireland, Telefónica Tech

Hospital Virtual de Valdecilla

"Since 2017, we have been working in the innovation area of the Valdecilla Virtual Hospital to offer innovative technological solutions related to complex surgical planning. At this point we are working with our own solution (Lina) that allows us to visualize with virtual reality, but it is in the future where we think that Telefónica is the ideal partner to improve the efficiency of this technology in the cloud and to be able to develop collaborative tools that promote more detailed and safe surgical planning for the patient."

Juan Pedraja Vidal
Technological Innovation Manager, Valdecilla virtual Hospital

DTI Ourense

"With the help of Telefónica, the project 'There is a Ourense for you. Discover it' has made it possible to promote smart and sustainable tourism, improving visitor satisfaction with personalized experiences and providing the Deputation of Ourense with tools to measure the impact of the tourist destination."

Marcos Valiño
Director del Área de Transparencia y Gobierno Abierto de la Diputación de Ourense

ICCUB

"We hope that ICCUB's collaboration with Telefónica Tech and Google Cloud solutions will become the precursor step towards a widespread adoption of Cloud Computing in the scientific research community in Europe. This will open the doors to a universe of opportunities."

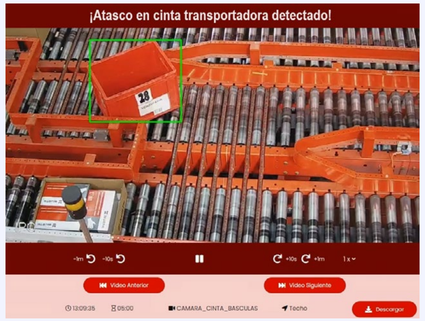
Dr. Luri
Director of ICCUB

5G • Artificial Intelligence • Computer Vision • Big Data

The revolution of AI in logistics centers

Telefónica has developed, together with Nokia, Teradata and Etiqmedia, a customized solution for Würth, a leading company in direct sales to professional customers in different sectors. This solution is based on the fusion of 5G and artificial intelligence. Specifically, a next generation 5G network has been deployed, as it incorporates artificial intelligence natively. On top of this connectivity, an artificial vision solution has been integrated, which allows our client to have control of the logistics processes thanks to the data extracted in real time.

Links: Press Release



Goals

The solution deployed can detect jams on conveyor belts, alerting operators in real time. In addition, it allows auditing any box shipped and verifying its contents against possible claims. Another use case deployed is the verification that the pallets loaded on a truck go to the correct destination while monitoring the available space at the logistics exit yard in real time. Finally, a data portal has been created, providing a holistic view of all customer use cases.

Results

At Telefónica, we help our customers to solve problems and optimize their processes, so that they can maintain their leadership. The 5G network deployed at Würth provides excellent connectivity, thanks to the artificial intelligence integrated into the network itself. Very high-quality video streams are transmitted over this network for Telefónica's computer vision solution to understand, process and convert them into data. Thanks to all the information received, which is processed by a transversal platform that brings all this data together, we enable Würth to make its logistics processes more efficient and predictable.

5G • Edge Computing • Computer Vision • Artificial Intelligence

5G Blood Diagnostics

The monitoring of patients undergoing chemotherapy or with a predisposition to severe neutropenia (reduction of white blood cells below a health risk threshold) is typically carried out through periodic blood tests and qualitative questionnaires answered by the patients themselves. With this pilot program, we provide a technological solution that enhances remote monitoring of such patients, promoting secure control without the need for frequent visits to medical centers. This approach helps avoid infection risks and even enables early detection of febrile processes that could lead to more significant health issues.

Goals

At Telefónica, we aim to bring cutting-edge technology to the field of eHealth, specifically for home monitoring using a non-invasive technique for white blood cell concentration, facilitated by AI and the capabilities of Telefónica's 5G and Edge Computing network. The primary objective is to enhance the monitoring of oncology patients or those with other pathologies, focusing on the early detection of severe neutropenia.

Results

We have a 5G PointCheck® device, developed by Leuko, that facilitates measurements by capturing high-definition video of the capillary circulation in the ring finger. This video is then transmitted to Edge Computing through a 5G connection, where it is analyzed using AI. The analysis results determine whether the patient has severe neutropenia (below 500 neutrophils/ml of blood). The device, equipped with a 5G connection, can be used on the go for outpatient care of patients at their homes, health centers, or pharmacies, providing better usability for vulnerable patients.

5G • Fiber • Nearby Cloud • Virtual Reality • Augmented Reality
Da Vinci Surgical Robot

A virtual operating room, the future of robotic surgery

mSurgery redefines the paradigm of surgery with its innovative immersive technology. Presented by Telefónica, this virtual operating room allows global real-time collaboration. The immersive platform, validated by the surgical team at Hospital Universitari Germans Trias i Pujol, marks a milestone in the transformation of training and collaboration procedures in surgery, setting a new standard for healthcare professionals worldwide.

Links: Telefónica Empresas Article · Blog Think Big Article
Press Release · People First Video report

Goals

In the medical sphere, mSurgery emerges as a response to two crucial challenges. The Telefónica pilot in collaboration with Vectorpipe and Hospital Germans Trias i Pujol has the primary goal of overcoming capacity and distance limitations in operating rooms. This facilitates remote training for surgeons, democratizing access to medical education. Its second purpose is to provide a platform for real-time collaborative surgeries, enhancing the efficiency and safety of surgical procedures.

Results

The pioneering project of immersive robotic surgery at Hospital Germans Trias i Pujol has transcended borders. mSurgery, supported by Telefónica, has achieved, for the first time, a broadcast of the stereoscopic view of the da Vinci xi robotic surgical platform, offering an immersive surgical experience in up to 4K resolution through VR glasses and tablets to professionals anywhere in the world. This achievement not only overcomes technical challenges, enabling real-time visualization and collaboration but also paves the way for a revolution in medical practice. With 5G connectivity, fiber, and nearby cloud services, mSurgery redefines robotic surgery, opening the doors to a new era of healthcare that is more accessible and collaborative.

Testimonials

Würth

"Telefónica is a key partner for the digital transformation of our logistics processes. Thanks to this project, we are taking a differential and relevant step towards intelligent and connected logistics."

Dani Guisado
CIO Würth

"Telefónica's high technology has been key to becoming an intelligent logistics company. The fusion between 5G and artificial intelligence is an innovative differential that lays the foundations for the logistics of the future."

Begoña López
Chief Operating Officer Würth

mSurgrey

"mSurgery has a vision where our technology transforms training processes and facilitates unlimited collaboration among surgeons. In this project, we have validated our 3D transmission technology, a significant step forward in the training of surgeons."

Miguel A. Rasero
CEO mSurgery

"Our main challenge has been to remotely provide the same immersive sensations that a surgeon experiences when using the da Vinci robotic console. Being able to train and collaborate at a distance in live surgeries with the same vision as the console surgeon is undoubtedly a paradigm shift."

Michel Velázquez
CTO mSurgery

mSurgrey

"We must explore the new paths that this technology opens and work hand in hand with the innovation sector to provide the best healthcare quality. And that also involves being able to offer the best training."

Jordi Tarascó
Specialist in Endocrine, Bariatric, and Metabolic Surgery at Germans Trias i Pujol Hospital in Badalona

"For us, it is a before and after. It is a great opportunity that highlights the direction of research, science, and value generation in surgery."

José M. Balibrea
Head of the Endocrine Metabolic and Bariatric section of the General and Digestive Surgery Department at Germans Trias i Pujol Hospital in Badalona

Telefónica

Find out more in our

Transformation Handbooks