HAVE YOU GOT ANY **PROJECT OR IDEA** ABOUT THIS?

ANALYTICS & AI/ML

1. Data Analysis & Visualization

Can you think of new ideas or use cases focused on data analysis and visualization related to technical processes? We help you in the transformation of data for its analysis and exploitation, whether it is your own data or generated within the laboratory. **+ INFO**

2. Advanced analytics & AI/ML models

Have you got new ideas or use cases focused on advanced analytics and machine learning models related to technical processes and their automation? We will work together in the application of different algorithms to a dataset to obtain information and knowledge of the data, as well as in the implementation of machine learning models or any other type of advanced analysis. **+ INFO**

ACCESS & TRANSPORT NETWORK

3. RAN automation use cases

We propose to share with you network data models and algorithms used between COs and test Bigdata OSS through the network data you provide us. **+ INFO**

4. Open RAN

Open RAN is a paradigm shift in the way we build our networks. Do you want to be part of this major transformation? Our lab aims to develop an ecosystem for testing and evolving disaggregated O-RAN based solutions that fulfil the connectivity requirements of operators and users. Be part of this ecosystem and help us developing a better solution to achieve our targets **+ INFO**

5. E2E 3-Play FTTH services over GPON & XGS-PON

Do you need an E2E sandbox with Triple - Play services (Internet, IPTV and VoIP)? Test on GPON OLT or XGS - PON OLT, and HGU and XHGU on a real network access to the Internet. We will be open to new services and proposals. **+ INFO**

6. Open Broadband (Advanced Apps): Network Quality and Customer Experience

Have you thought about improving the quality of the network or enhancing the customer experience? Do you need to interact with the FTTH network and PON clients to test it? We are at your disposal. **+ INFO**

7. Open Broadband: New services through Open APIs

Do you have a new project or idea about new services to residential clients, B2B, mobile backhauling, … We can work together on developing a new virtualized service over the Unica Next infrastructure. We are at your disposal. **+ INFO**

AUTOMATION & VIRTUALIZATION

8. Cloud environments

If you're looking for a replica of the UK, Vivo and UK private cloud environments to test virtual functions… you must come to the lab. **+ INFO**

HAVE YOU GOT ANY **PROJECT OR IDEA** ABOUT THIS?

BUSSINES SUPPORT

9. Fast Data and exposure of APIs through microservices on containers

Have you got service applications which can consume the Customer APIs to be integrated in the lab?. You will be able to do validation of use cases through test campaigns with us. **+ INFO**

10. BSS End to End

Do you need to test innovative solutions in business processes? In the laboratory we put at your disposal a BSS (Business Support System) that will allow you to have visibility of all the processes that are carried out in an OB, such as the sales or service process. **+ INFO**

DEVICES & TV

11. New services based on device capabilities

Do you need to develop and test new services based on the company's home devices? This is your place. **+ INFO**

12. Testing/POC in TV ecosystem

Do you want to test your ideas about the devices used in our customers' homes? Do you need access to managed networks and multicast? Let us know. **+ INFO**

13. Multidevice/Multivendor in-situ usage

In the laboratory, in addition to maintaining many consumer electronics devices, different handsets, TV... we have a wide range of devices that are part of the Telefónica portfolio in the case of connectivity (HGU...). Do you need to test your project with them, or analyze the possible differences that may appear between devices? **+ INFO**

14. TV Testing Automation consultancy

Need to run automated tests on connected TVs or STBs? In the laboratory there is great knowledge in automation, and we have some robots that could help you in your project. These robots capture the image of the STBs, and can extract various metrics that could allow you to ensure, for example, if the quality of the videos is correct... **+ INFO**

NETWORK AS A PLATFORM & NEW SERVICES

15. APIs for network capability exposure

Do you have applications that can benefit from network capabilities such as QoS on demand, adaptive managed latency, edge computing or traffic influence/policing? These capabilities can be exposed to your applications through open network APIs that may be available in the lab. You will be able to see the benefits of application-to-network integration, building up use cases and validate them through test campaigns with us. **+ INFO**

16. Integration E2E network slicing

Integration E2E Network Slicing: Do you need us to help you to perform PoCs on network slicing in multi-vendor scenarios? We can help you with the integration of network slicing solutions from different vendors, and the validation of this integration in E2E use cases. **+ INFO**

17. 5GNOW / Private 5G Networks

Send us your service proposals for Private 5G use cases / SVAs with focus on the customer experience and automated E2E implementation. We will be able to test and validate in the lab and build a service proposition around it. **+ INFO**
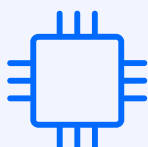
FROM THE LAB WE CAN HELP YOU WITH:

Environments & Tools

- GCP services and Tableau for Data Analytics and AI/ML
- 5G Core and Radio
- Edge computing infra
- Open Broadband with OLTs
- Video infrastructures for access to real streams
- Access to deployed OLTs in Telefonica
- Access to TEF triple play FTTH services (mock-up)

Devices

- Different models/brands/years of devices for testing
- On-site use of the devices
- Different families of Telefonica's HGUs and IPTV STBs
- Access to third party HTML APPs from the IPTV STB

Consulting, Training & Support

- Internal & External (partners and universities) Experts
- Accompaniment PoCs
- Technical documentation and standards
- Training courses, workshops, communities, datathons

Resources

- Internal or 3rd parties specialist collaborations
- Engagement with partners and industry fora (O-RAN, GSMA, Telco Global API Alliance, TIP...)
- 3rd parties agreements
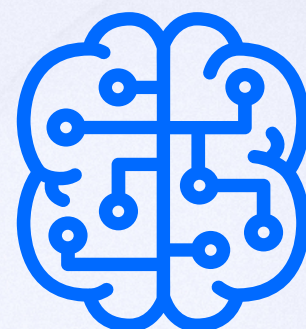- HW/SW commissioning, installation and system management services

Analytics & AI/ML

Data Analysis & Visualization

Can you think of new ideas or use cases focused on data analysis and visualization related to technical processes? We help you in the transformation of data for its analysis and exploitation, whether it is your own data or generated within the laboratory.

Environments and support to work on new ideas and use cases focused on data analysis and visualization related to technical processes. It is possible to work with data provided by the interested area or with data generated in the laboratory.

The environments can also be powered by Fast OSS / OSS Next Generation. Fast OSS / OSS Next Generation is a new OSS architecture that allows OBs to become a Data Driven Operational Company. Three phases: Foundation, Automatization (through orchestration) and Predictive with AI. Extracting data from network allows to create a data lake that is the foundation to use them to generate processes based on AI to get an autonomous network.
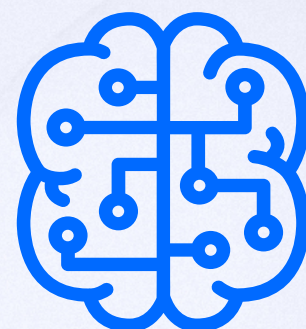
Analytics & AI/ML

Advanced analytics & AI/ML models

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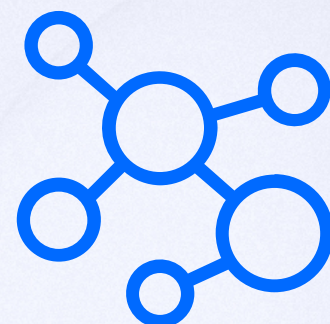
Acces & Transport Network

RAN automation use cases

We propose to share with you network data models and algorithms used between COs and test BigData OSS through the network data you provide us.

RAN automation use cases that can be developed either internal (in-house) or external (3rd parties). The interested OB should provide network data to validate the use case. Sharing network data models and algorithms used among OBs and testing BigData OSS architecture (FastOSS) should be the target. To industrialize an already developed IA/ML algorithm to create a complete and useful automated tool to be later deployed on the OBs.
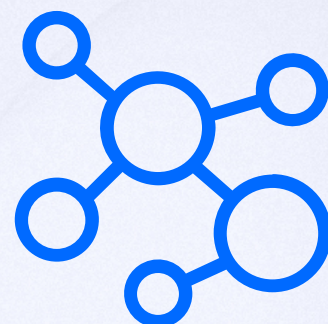
Acces & Transport Network

Open RAN

Open RAN is a paradigm shift in the way we build our networks. Do you want to be part of this major transformation? Our lab aims to develop an ecosystem for testing and evolving disaggregated O-RAN based solutions that fulfil the connectivity requirements of operators and users. Be part of this ecosystem and help us developing a better solution to achieve our targets.

Our fully virtualized test environment will help us not only to validate our current Open RAN product (based on initial selected partners) but also to understand all the opportunities enabled by the network disaggregation. We are targeting to expand the Open RAN ecosystem with new players and study future deployment options to evolve our current solution.
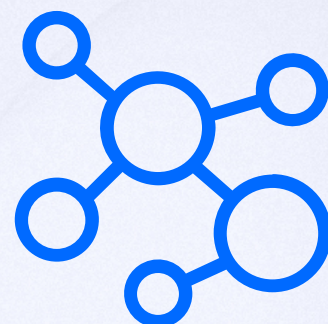
Acces & Transport Network

E2E 3-Play FTTH services over GPON & XGS-PON

Do you need an E2E sandbox with Triple – Play services (Internet, IPTV and VoIP)? Test on GPON OLT or XGS – PON OLT, and HGU and XHGU on a real network access to the Internet. We will be open to new services and proposals.

This is an E2E test environment with Triple – Play services (Internet, IPTV and VoIP), with Telefónica Spain configuration, equipment and devices. This test environment will have real network access to Internet, so it is not a standalone lab test-bed. In this test environment, it could be done all kind of tests over GPON OLT or XGS – PON OLT, and HGU and XHGU and it will be open for new services and proposals.
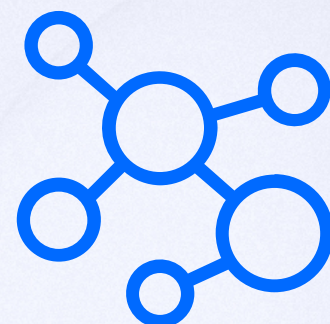
Acces & Transport Network

Open Broadband (Advanced Apps): Network Quality and Customer Experience

Have you thought about improving the quality of the network or enhancing the customer experience? Do you need to interact with the FTTH network and PON clients to test it? We are at your disposal.

This test environment is based on the Open Broadband Program. It is an open environment deployed over Unica Next, which simulates a real FTTH network. OLTs are COMBO (GPON+XGS-PON) and have open interfaces to the Element Manager System, which resides in Unica Next and has open interfaces to our OSS and BSS. This test environment is designed for the introduction of new applications over dedicated servers or over Unica Next Infrastructure to interact with the FTTH Network and PON Customers, focused on the improvement of the Fixed Access Network Quality such as monitoring, automatized maintenance, self-healing network, etc.
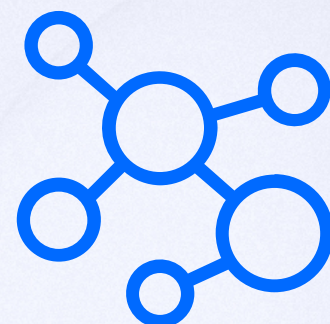
Acces & Transport Network

Open Broadband: New services through Open APIs

Have you got a new project or idea about new services to residential clients, B2B, mobile backhauling, ... We can work together on developing a new virtualized service over the Unica Next infrastructure. We are at your disposal

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Automation & Virtualization

Cloud environments

If you're looking for a replica of the UK, Vivo and UK private cloud environments to test virtual functions... you must come to the lab.

In the laboratory we have a reduced replica of the private cloud environments of the UK, Vivo and Spain operators where you can test Virtual Functions as if they were deployed in the operators' environments. For example, specific hardware in RedHat or VMWare environments, test associated with new virtualization technologies, test CNFs and VNFs, ...

Bussines Support

Fast Data and exposure of APIs through microservices on containers

Have you got service applications which can consume the Customer APIs to be integrated in the lab?. You will be able to do validation of use cases through test campaigns with us.

Telefónica's FastData is a DataStream platform based on Big Data technologies, driving company-wide digital transformation.

FastData is a means of retrieving data from its backend systems in real-time so that it can process and present it immediately in the right context for customers and channel partners.

The exposure of APIs is done through microservices on containers.

Bussines Support

BSS End to End

Do you need to test innovative solutions in business processes? In the laboratory we put at your disposal a BSS (Business Support System) that will allow you to have visibility of all the processes that are carried out in an OB, such as the sales or service process.

A BSS (Business Support System) has been deployed in the CTIO laboratory. This complete BSS allows to have the visibility of all the processes that are carried out in an OB, for example, sales or attention process. The objective is to be able to test innovative solutions in different parts of the E2E of the systems and then include them in the operators.
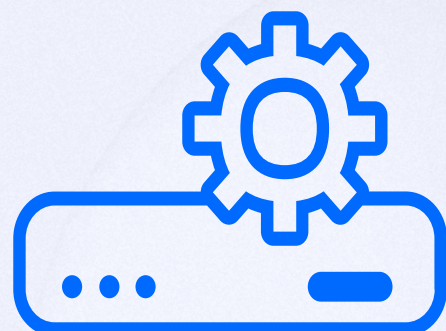
Devices & TV

New services based on device capabilities

Do you need to develop and test new services based on the company's home devices? This is your place.

We give you access to a test environment where all the domestic devices in the Telefónica portfolio are represented. You will be able to develop and test new services based on the capabilities of the device. It also offers access to service platforms.
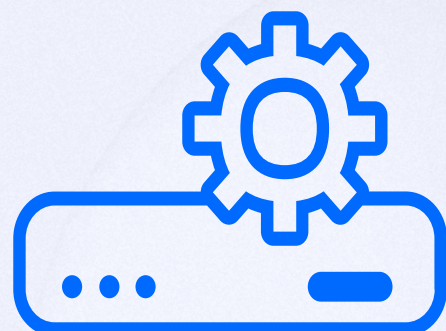
Devices & TV

Testing/POC in TV ecosystem

Do you want to test your ideas about the devices used in our customers' homes? Do you need access to managed networks and multicast? Let us know.

In the laboratory we have access and connectivity to the IPTV platforms of the Telefónica Group. This means that, in addition to have availability of the devices used in our customer's homes (STB IPTV), we can also offer you access to the managed and multicast networks that may be necessary to test your ideas.
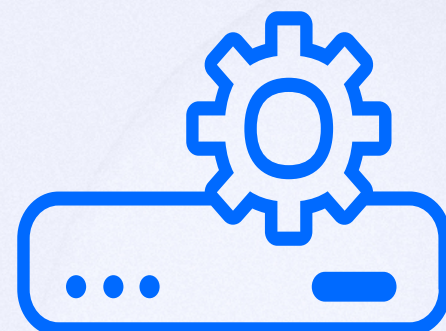
Multidevice / Multivendor in-situ usage

In the laboratory, in addition to maintaining a large number of consumer electronics devices, different mobiles, TV ... we have a wide range of devices that are part of the Telefónica portfolio in the case of connectivity (HGU ...) . Do you need to test your project with them, or analyze the possible differences that may appear between devices?

Retail devices, even if they are from the same family, do not always have the same behaviors. Depending on the brand or the specific models, it may be necessary to make some adaptations so that the operation of our products and services are the appropriate ones. In the laboratory, in addition to maintain many consumer electronics devices, different handsets, TV... we have availability of a wide range of the devices that are part of Telefónica's portfolio in the case of connectivity (HGU...). Do you need to test your project with them, or analyze the possible differences that may appear between devices?
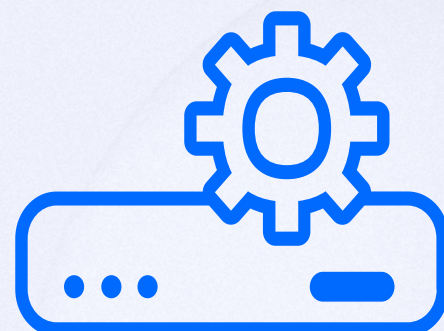
Devices & TV

TV Testing Automation consultancy

Need to run automated tests on connected TVs or STBs? In the laboratory there is great knowledge in automation, and we have some robots that could help you in your project. These robots capture the image of the STBs and are capable of extracting various metrics that could allow you to ensure, for example, if the quality of the videos is correct.

Automated testing on connected TVs or STBs is an area that still has room for evolution. Currently, in the laboratory exists a great knowledge in automation, and, additionally, some robots that could help you in your project. These robots capture the image of the STBs, and they can extract various metrics that could allow you to ensure, for example, if the quality of the videos are correct...
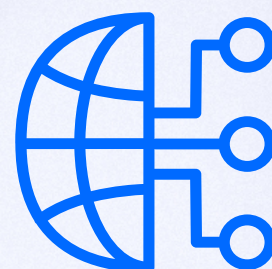
Network as a Platform & New Services

APIs for network capability exposure

Do you have applications that can benefit from network capabilities such as QoS on demand, adaptive managed latency, edge computing or traffic influence/policing? These capabilities can be exposed to your applications through open network APIs that may be available in the lab. You will be able to see the benefits of application-to-network integration, building up use cases and validate them through test campaigns with us.

Network-as-a-Service" represents a paradigm shift whereby a network operators can make network capabilities available for consumption to internal or 3rd party applications by means of APIs. Examples of these network capabilities include QoS on demand, adaptive managed latency, edge node discovery and allocation, traffic influence/policing or info on subscribed device/network events. The on-demand, secure and controlled (auditable) exposure of these network capabilities to partners and/ or customers may be a relevant business opportunity for operators, and one of the main ways to monetize upfront investment costs in fiber, edge computing and 5G. To ensure wide market adoption and attractive economy of scale for all stakeholders, it is essential for this network capability exposure to push the development and industrialization of open, global and interoperable APIs. In this regard, Telefónica in cooperation with other industry partners (operators, vendors, hyperscalers, developers)... This line of work is focused on the use of open network APIs to provide network capabilities to applications. Interested applicants may bring the applications which will consume the APIs (to be) available in the lab. The benefits that network capability exposure will bring will be validated in selected use cases, and assessed through test campaigns.

Network as a Platform New Services

Integration E2E Network Slicing

Do you need us to help you to perform PoCs on network slicing in multi-vendor scenarios? We can help you with the integration of network slicing solutions from different vendors, and the validation of this integration in E2E use cases.

To fully exploit the benefits that the network slicing technology brings, it is important to apply the (tailored) partitioning and (dynamic) allocation of resources across the entire network infrastructure. The introduction of the end-to-end (E2E) requirement forces the operator to keep consistency in slice behaviors across different network segments (RAN, core, edge and transport network). The specificities of these network segments, with different pace of technological evolution each and with solutions from multiple vendors, unveils non-neglectable integration issues for operators.

This line of work is about addressing integration aspects on the E2E network slicing solution and validate them. The focus will be on validating selected slicing aspects in multi-vendor scenarios. Examples of these scenarios include having network domains (e.g., RAN and core) or OSS pieces (NSMF/NSSMF, NFVO, data lake) from different vendors. Interested applicants could bring the vendor solutions to conduct joint PoCs to validate slicing in relevant use cases.

Network as a Platform New Services

5GNOW / Private 5G Networks

Send us your service proposals for Private 5G use cases / SVAs with focus on the customer experience and automated E2E implementation. We will be able to test and validate in the lab and build a service proposition around it.

This line of work is focused on Private 5G use cases built from 3rd party SVA integration and validation in 5GNow and Open5GNow product and platform. 5GNow is an e2e private 5g product that includes all elements required for private 5g, including radio, core and compute. The goal is both to review the service proposition of each use case/SVA presented form the point of view of the customer and technically, including automated e2e deployment and testing in lab environment (with real edge, radio, core and SVSAs). In later stages, further testing/ evaluation could be done with deployment in 'real' customer premises as part of the ongoing trials and initiatives in our area. Depending on the SVA, different deployment options will be validated (edge, cloud, hybrid).