

# Gener(AI)ting the future



## CHEMA ALONSO

Chief Digital Officer  
Telefónica

---



# SCALING AND SECURING GENERATIVE AI

---



Telefónica

Chema Alonso has sat on Telefónica's executive committee since 2016. He is Chief Digital Officer of Telefónica and CEO of Telefónica Innovación Digital.

He oversees innovation, data, platforms, and digital products and services, and leads the digitalization of sales processes and customer communication channels. In his dual role, he also aims to promote innovation of new digital products and services and internal efficiencies. In striving to attain these, he harnesses Telefónica Kernel, the organization's AI-driven core digital platform, with special focus on the digital home. He holds a PhD in Computer Security from the Universidad Rey Juan Carlos and a degree in Technical Engineering in Computer Systems from Universidad Politécnica de Madrid.

### DEPLOYING AND SCALING GENERATIVE AI

#### What has been Telefónica's experience with AI and Gen AI?

When we created Telefónica Digital back in 2011, we decided to form a lot of teams looking at data, creating machine learning (ML) algorithms for internal efficiency, network deployment, churn prediction, mobile quality, and video recommendation, among other things. We also created products that we still consume today. For instance, we created Smart Steps, a technology that maps paths around cities based on where personal devices connect to the mobile network. This allows us, among other things, to anticipate how people will move across the city at specific times, where antennas are likely to be congested, likely spots for traffic jams, and so on. We have been selling this product to law enforcement authorities and companies alike. This data enables them to create emergency plans for specific dates.

In 2016, when we started our digital transformation into Kernel, we decided that the advances in deep learning and reinforced learning and the beginning of Gen AI heralded the era of cognitive services. We created Aura, a cognitive intelligence-based digital assistant for managing our services. Aura today receives more than 37 million interactions monthly. Aura is already leveraged in the contact center in Brazil, and as a copilot in Spain. We have Aura integrated in TV remotes and inside various apps.

We also have Aura in a second-screen device that we call Movistar Home, which we are improving and relaunching soon. We are adding Gen AI capabilities.



**Chema Alonso**  
Chief Digital Officer  
Telefónica

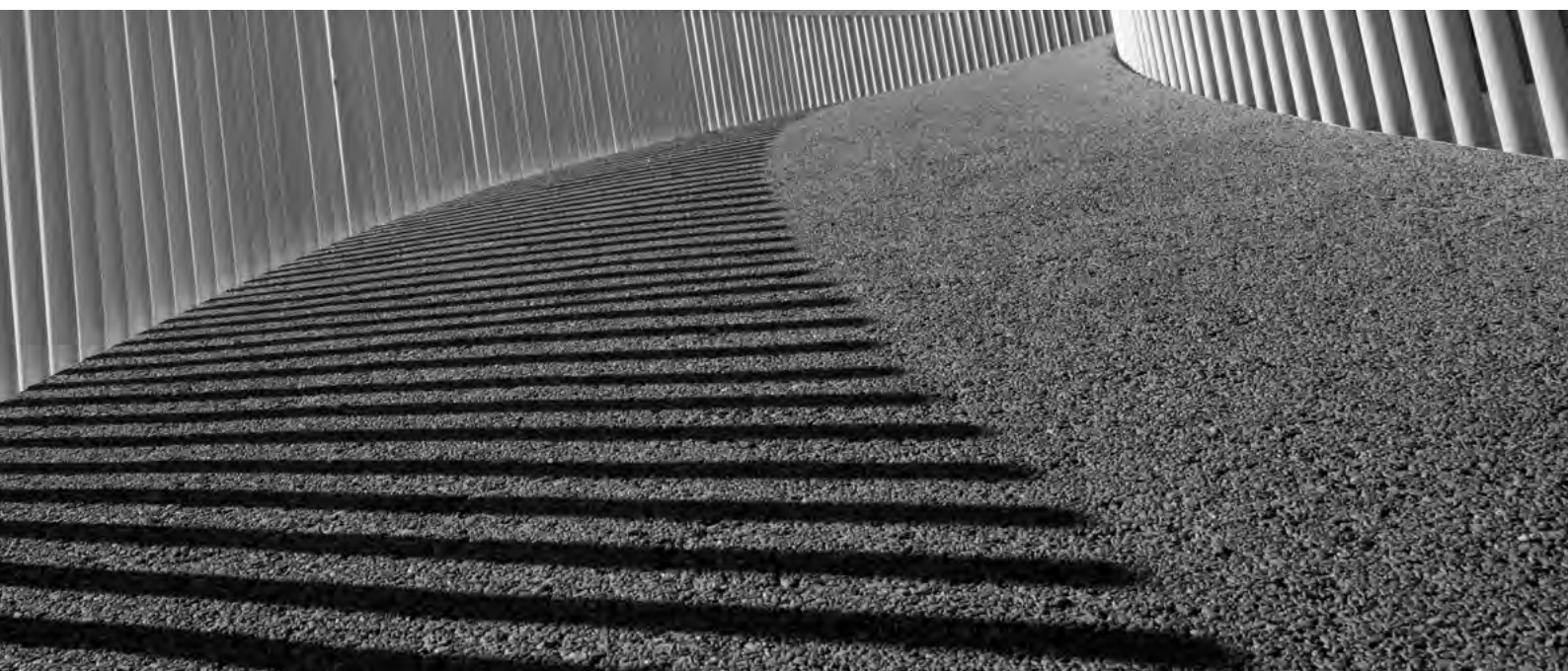


So, when the first commercial large language models (LLMs) came out, we started to work with all of them. First, we configured a copilot for our developers at the chief digital office unit. The copilot already has a 31-32% acceptance rate in the code that it suggests to developers, which is good. We have started to add Gen AI capabilities in the quality assurance pipelines for penetration testing, for security, for accessibility, etc., and as a copilot, which is also an acceleration for us.

### **How do you plan to use Gen AI in the next few years?**

We created an AI acceleration committee that currently focuses on creating agents for specific tasks using Gen AI. We are not particularly looking at training new models, but rather at specific use cases that will help us to innovate. For instance, we are creating agents to configure routers. This helps us review configuration security in our network devices at a global level. We are also creating agents that review tickets from the security operation center and double-check things on the system.

We believe Gen AI's impact is going to be massive across industries and functions.



## Executive Conversations

### How do you scale Gen AI deployments?

We defined scaling at executive committee level. We have multiple work streams and a governance committee that meets monthly. Our early steps in creating a data fabric back in 2016 have helped us address the growing demand for use cases based on ML. Another key aspect to bear in mind while scaling is the risk of prompt injection attacks. If a user manipulates an answer from an LLM about a product or service, that can be dangerous and lead to legal challenges. So, we are training our people in what is possible and the challenges around the maturity and security of the models. And a third important challenge to consider is cost. For instance, we are looking at a lot of use cases with TV. Imagine a user is watching a movie and pauses it to come back to later. When they come back, after a few hours or days, they ask the LLM to summarize the story so far, without any spoilers. And getting that right is tricky and becomes a matter of cost due to the need to process a lot of data.



---

#### GENERATIVE AI AND OPERATIONAL CHALLENGES

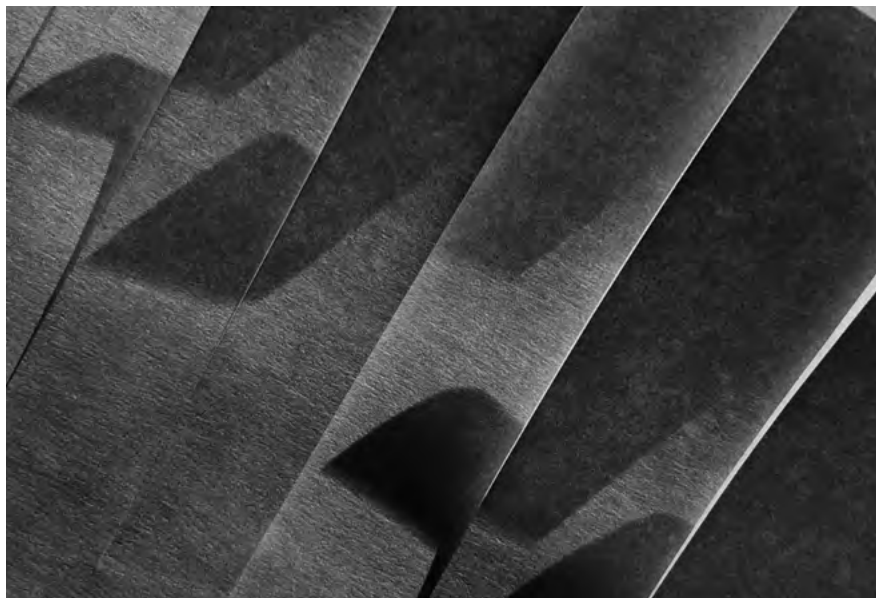
---

### As a global organization, what kind of new security challenges does Gen AI bring?

Our first priority is to secure our own operations. Second, we focus on how to increase cybersecurity operations, which is different. This is about improving our technologies with AI-driven security, improving our cybersecurity operations, and detecting new threats and attacks from adversaries using Gen AI or other technologies.

We are working a lot on ML operations in the contact center and the operations center.

We are also reviewing which areas of our operations are most vulnerable to new threats, such as deepfakes and Gen AI-created phishing emails, for spear phishing, voice cloning, etc. We are also using Gen AI to enhance personal security.



### How do you ensure responsible deployment of AI?

In Telefónica, we have a team that manages sustainability across the whole organization as a distinct key performance indicator (KPI). We have clearly defined principles on AI and responsible AI. This is sponsored directly by our chairman. Our AI principles are baked into all of our actions on privacy, accessibility, and sustainability.

I personally led a public campaign to try to eliminate the bias in the translations that come from automated systems. For instance, if you enter “world’s best tennis player,” the answer is always a male. If you ask for a country manager, it’s always a male. If you ask for a nurse, it’s always a female. We have been working to minimize such bias. The problem with models is that it’s almost impossible to discover if you are using an LLM or a small language model (SLM) with bias. We try to eliminate every single bias, especially when it’s using Gen AI, because it’s very complex. Data augmentation is going to be part of the answer but, to date, there is no clear technical solution. It’s a problem that is not resolved at industry level. We are doing our best.



### **How can organizations prepare for successful use of generative AI?**

You need to be prepared on different levels. You need to have a robust technical strategy based on cloud and sound data, and the rest will fall into place. Secondly, you need to have strong support from top management. At Telefónica, we have the support of our chairman and CEO as well as the entire executive committee.

Finally, you need sufficient budget. Once you have that, you need to make sure that your whole organization is very well trained on Gen AI – what can and cannot be done.





---

**Chema Alonso**  
Chief Digital Officer  
Telefónica

---

**"It's almost impossible to discover if you are using an LLM or a small language model (SLM) with bias."**

