

AN is not just about efficiency, it's a new way of running the business



Enrique Blanco, Group CTIO of Telefónica talks about how the operator group is “defining a new model for the whole telecoms industry”

Telefónica is well-placed to act as a beacon in the telecoms industry and much credit for that must go to Enrique Blanco who has been in his role since 2011. Global Data describes Telefónica as being #1 telco globally in digital capacities. IDC says the group is a “major player” among global providers of communications, infrastructure and digital services, while OMDIA recognises the group as the most advanced European telco in the transition to techco.

Blanco has no doubts about the critical importance of autonomous networks (ANs) in defining this new model. The industry often thinks about AN in terms of efficiency which is, “very relevant, very important,” he acknowledges, but, “You cannot build your company, your industry, looking only for efficiencies...[or] you are not analysing what you are building.” The goal is to ensure the network itself becomes easier to manage and evolve so that automation can be applied to it.

He stresses the importance of differentiating “between the technical impacts of autonomous capabilities and those of capex capillarity*...because otherwise it is impossible to understand what we are doing in Telefónica.”

Synching capex and revenue

There are interwoven strands in this approach. Firstly, autonomous capabilities combined with virtualisation avoid spending vast amounts of capex up front, rather cost is incurred when services are activated, such as a customer upgrading from 1Gbps fixed broadband to 10Gbps. At the point the service goes live, “the software licences come into play, the laser is built up from 1 to 10 Giga and we begin to support Wi-Fi 7 at their home,” Blanco says. “This is extremely important for us.”

He adds, “We are planning the network in a different way, reserving spectrum and preparing for future customer demands without extra capacity...to reduce the initial capex.”

This approach will not only synch capex and revenues but reduce total cost of ownership. The group’s strategic plan is to lower capex to about 12% of revenues in 2026, down from 13.5% currently – a huge fall in a short time. Blanco uses Telefónica España as the exemplar of where the six network domains are today. The Spanish opco is committed to having an overall average score of 2.5 to 2.7 at the end of 2024, as defined by KPIs in TM Forum’s AN model, achieving an average score of 3.5 to 3.7 in 2025, then in 2026 being “much closer to Level 4” across all domains.

Blanco states, “This will have an extremely high impact on opex, helping us to be much more agile. We will have efficiency and return on capital in a much smoother way.”

Spain as the AN exemplar

He says, “The impact on our budget for opex is amazing, but will not be the same everywhere.” For example, by the end of 2024, Telefónica España’s score for the radio component will be 3.45, which Blanco notes is this most capex-intensive part of the mobile network. He explains, “At the moment the effort is being applied to traditional or incumbent RAN but will need to be replicated for Open RAN...the initial effort now will mean it is faster and smoother. The main deployment effort for Open RAN will be between 2026 and 2030.”

The core’s score is currently below 2 and Telefonica España is pushing hard to softwarise it. He acknowledges the groundbreaking work going on in cloudifying the 5G core by Telefónica in Germany, adding that the mobile core in Spain could be hosted on-prem or a hybrid cloud, the key point is that automation can be applied.

Telefónica España’s transport network has an AN score of 3.2 overall and typically accounts for less than 20% of capex. IP is responsible for managing the traffic flow and is at 3.4. Fixed access, where major softwarisation is underway for the multi-lateral shift from 1Gbps to 10 Gbps, has an AN score of 3.2. Telco cloud is at 1.97 “because we are still designing and defining what we are doing with the different SO [service-orientated] architectures,” Blanco explains.

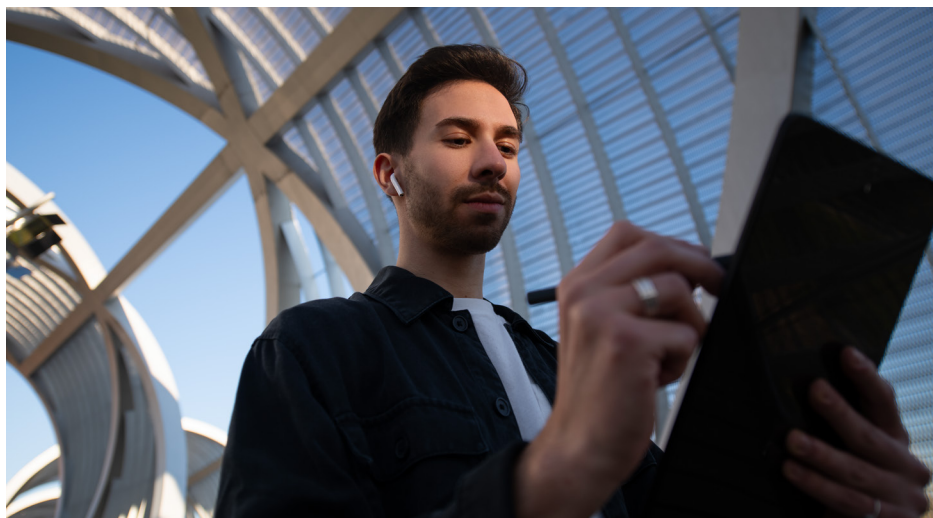
He notes the current the scores – and targets – are similar across the board in the other key markets of Germany and Brazil.

Towards 2030 – and Open RAN

Beyond 2026, Blanco believes Europe “has a massive opportunity with Open RAN and 5G deployment” to pave the way for “the 6G cycle that will be in 2030. We need to prepare the network to host all services as software so that they can be activated like the FTTH going from 1Gbps to 10Gbps.”

He emphasises that this is not a case of “replicating what we did with the 3G, 4G then 5G. That was extremely inefficient [use of] capex – first you prepare a huge amount to capex and later you monetise it – or not.”

He continues, “We are working with partners, including Ericsson, with all the main players who can help us with softwarisation and cloud.” He notes that many in the industry are talking about AI RAN but argues the big issue is how to “evolve all the tools for Open RAN architecture to help [us] through to a much easier, orchestrated network?”



Hundreds of millions of euro

In part the answer is applying automation to legacy. A dramatic example is that in Spain, Telefónica is switching off its copper infrastructure now. “That means not only are we recovering the copper, we are improving quality and reducing power consumption,” says Blanco, which is, “saving many hundreds of millions of euros”.

He continues, “Whatever we switch off, there are all the systems, the BSS and the old OSS, around the network itself. They are part of the capital. We started this journey three or four years ago and have been applying new rules to the legacy system which were managing the copper at the same time as migrating capital to fibre. The good news it is that by building these AN capabilities, we have solved 90% of the orchestration issues from scratch. Our industry is asking, why didn’t this happen in the past?”

Blanco states. “First of all, it is technology. We are designing and defining new virtual pieces for the new network functionalities. The tools are helping us to manage this network in an optimised way as part of the AN...I don’t perceive that the legacy is holding automation back. It has helped us go faster with migration.”

The timing is important. Many of those who run legacy infrastructure and their associated systems are nearing retirement – an issue for the industry at large. By apply AN tech and principles now, “You can manage the legacy, even when you don’t have the people. We solved it,” Blanco says. For most other markets, like the UK, Germany and France, copper shut down “will be 2030 best case,” he notes.

Tooling up

Like other telcos, Telefónica has mostly relied on traditional tools so far – Big Data

for planning and machine learning for basic automation – but now it is building digital twins to simulate the network. One is already in operation in Germany. Blanco explains, “Once fully commissioned, it will help in the IP layer, as we try to anticipate what performance will be like, and to help us make the right decisions, to adapt traffic to network capabilities.”

On 1 October, Telefónica started working with NVIDIA, Google and Microsoft to explore the real impact of GenAI. “I don’t know what that will be,” he says. “We are just building use cases including natural language to manage the network so we can talk to the network, such as, ‘Tell me, what is the saturation percentage of cells in Santiago?’”

In the short term, Blanco says experimentation will not improve Telefónica’s KPIs for AN, but will help the operator understand how and where Gen AI can help. For instance, as he explains, “How we can build models to help us go faster. I am convinced that with the software pieces in place, it will be easier to apply GenAI tools.”

When to cooperate, not compete

Another big area of learning is cross-industry cooperation. Blanco comments, “We were competing over everything, not getting common agreement because we are competitors. Now we are trying to change this mindset, to send a clear message...The only way for the industry to improve is to be much more coordinated and only compete where there is commercial differentiation.

“We have huge room to cooperate on the AN journey and the GSMA with Open Gateway is another good example...Everything we’ve talked about is focusing on how I can operate and improve my capex, and get closer to the customer...because if we do nothing, we will replicate the past and it is not sustainable.”

* Capillarity is a property of a phenomenon or entity which allows it to evolve in a way that is contrary to all known rules and mechanisms accepted as governing the phenomenon or entity. This explanation is adapted from here.