

PRESS RELEASE

"TELEFÓNICA HAS ONE OF THE MOST AMBITIOUS AND FORWARD-LOOKING PROGRAMMES OF NETWORK VIRTUALIZATION IN THE TELCO INDUSTRY", CLAIMS PAPER BY ANALYSYS MASON

Madrid, July 31, 2017.- Analysys Mason, the global consultancy and research firm specialized in telecoms, has just released a white paper commissioned by Telefónica that summarises the progress that the company is making in implementing its "Telco Cloud" programme. The programme includes UNICA, the foundational architecture that the company is deploying to support future networks based on network function virtualisation and software-defined networking (NFV/SDN) technologies.

The paper covers the initiative's progress from its starting point as an innovation project to the extensive programme that is today, with live deployments in four markets: Germany, Argentina, Colombia and Peru.

It also acknowledges Telefónica as one of the first operators to recognise the potential of changing network architecture to incorporate cloud technologies, general-purpose hardware and a programmable network control plane. The company understood that this combination of technologies could transform the capabilities and revenue-generating potential of the network. Telefónica envisages operating a future network that is fully virtualised and programmable, and which enables the company to cost-efficiently and flexibly align capacity with demand, simplify network complexity and reduce time to market for new service delivery.

Analysys Mason claims "Telefónica has one of the industry's most ambitious and forward-looking visions for a future network based on NFV/SDN technologies" after more than four years working on its UNICA programme. As a result, the consultancy firm also believes that "Telefónica has the authority and insights to overcome the technological challenges and complexities posed by network virtualisation".

"UNICA has a well-founded and thoughtful architecture that does not compromise on original ETSI NFV principles: independence from vendor-lock-in at every layer of the architecture; the use of commodity and, where possible, open-source, cloud technologies, and the encouragement of market innovation through UNICA's sponsorship of open-source communities" estates the paper.

However, concludes Analysys Mason, Telefónica faces two main challenges in implementing a programme as large and game-changing as UNICA. Technology challenges associated with market immaturity and challenges around the organisational, cultural and process transformations needed to implement UNICA. In this regard, the paper includes some recommendations and encourages Telefónica to step up dialogue with business stakeholders to show them the potential of UNICA and prioritise its internal operational and organizational transformations so "that its operating businesses are fully technically prepared to use the UNICA infrastructure".

You can read the White paper here.

About Telefónica

Telefónica is one of the largest telecommunications companies in the world by market capitalization and number of customers with a comprehensive offering and quality of connectivity that is delivered over world class fixed, mobile and



broadband networks. As a growing company it prides itself on providing a differential experience based both on its corporate values and a public position that defends customer interests.

The company has a significant presence in 21 countries and 346 million accesses around the world. Telefónica has a strong presence in Spain, Europe and Latin America, where the company focuses an important part of its growth strategy.

Telefónica is a 100% listed company, with more than 1.5 million direct shareholders. Its share capital currently comprises 5,037,804,990 ordinary shares traded on the Spanish Stock Market and on those in London, New York, Lima, and Buenos Aires.