TELEFONICA S A
Form 6-K
June 19, 2018

FORM 6-K
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Report of Foreign Private Issuer

Pursuant to Rule 13a-16 or 15d-16
of the Securities Exchange Act of 1934

For the month of June, 2018

Commission File Number: 001-09531

Telefónica, S.A.
(Translation of registrant's name into English)

Distrito Telefónica, Ronda de la Comunicación s/n,
28050 Madrid, Spain
3491-482 87 00
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F X Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes No X

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Yes No X

Indicate by check mark whether by furnishing the information contained in this Form, the registrant is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934:

Yes No X

If “Yes” is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): N/A

Telefónica, S.A.

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Key Objectives • Growing demand and complex technology Network Transformation • Fiber and virtualisation, pillars of Dynamic networks • Data driven networks deliver top user experience and internal efficiency • Fiber deployment success story in Spain, a key competitive advantage • Shorter time-to-market (-41% HGU installation time) Industrialisation advantage • Lower cost per premise passed (-47%) • Operational excellence (-70% failures) • Industrialised Virtualisation: Global UNICA program • CapEx peak behind us (17%/sales in 2016; 16% in 2017; 15% in 18E) Driving efficiencies • Smooth way to 5G; leverage 4G replacement • SDN delivers operational efficiency • Global scale amplifies industrialisation gain Improved ROCE • New capabilities to capture new business opportunities • Optimized CapEx allocation at network planning and operation • Facilitate scalability, data flow between platforms More sustainable • Big data tools for optimization of cost/benefit business model • More capable, agile and efficient to accelerate growth

Network and Systems Evolution Enrique Blanco Global Chief Technology and Information Officer (GCTIO)

Telefónica is a platform company Future Network and Systems as enablers that will allow us to be a reference in Digitalization 4th PLATFORM 3rd PLATFORM 2nd PLATFORM 1st PLATFORM 6

A path of great effort and consistency deploying infrastructure Source: Telefónica 2017 Integrated Annual Report 7

New customer demand and technology trends: opportunities and challenges More technologies and Greater network heterogeneity Huge increase in data traffic spectrum bands • FTTx • Macro 1 • xGPON • Small, pico, femto, Global IP traffic • 5G micro cells (EB/month) 278 • TDD • FWA (Fixed x3 • mmWave Wireless Access) • Unlicensed 96 • … 2016 2021 Higher density / capillarity New services and user demands Data traffic per smartphone2 (GB/month) • Small, pico, femto, micro cells • Virtual / Augmented • Massive IoT Reality / Video 360º 12 • Traffic density • 4K / 8K video x6 • Network sharing • Connected cars • … • Smart cities 2 • IoT explosion 2016 2022 • … 1. Source: Cisco Visual Network Index. 2. Source: Ericsson Mobility Report. 8

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Industrializing FTTH deployments

Telefónica is making a great effort in fixed Ultra Broadband deployments 46 m 11 m UBB UBB Premises Connected Passed +13% Homes +20% yoy yoy • Spain is leader in FTTH in Europe • Users and coverage in Spain > Germany + France + Italy + UK Source: Telefónica. Results Q1 2018. UBB Premises Passed includes FTTx + Cable 11 UBB Connected Homes includes FTTx + Cable + wholesale

Fiber industrialization in Spain has enabled us to deploy more efficiently in HispAm Deployment cost reduction while improving Benefiting from knowledge and scale to accelerate quality, productivity and Time to Market deployments in HispAm Cost reduction Home Passed Cost -47% Home Connected Cost -22% Increase in Premises Passed Increase in Connected Homes (2012-2015) (2012-2015) (2017/18E) (2017/18E) Improving quality +140% +150% Fault Rate (2 Play) -60% Fault rate (3 Play) -43% (2015-2017) (2015-2017) Fault rate evolution (DSL vs FTTH) DSL (%) 0.7pp* FTTH (%) Fault Rate (2 Play) -48% Fault rate (3 Play) -43% (2017) (2017) 2 2016 2017 2018 - 33% *Average improvement of fault rate (22 months) Vivo 1 –São Paulo 12

Infrastructure ready to evolve fiber technologies to achieve greater capacity in the future Hyperfast broadband means fiber FTTH deployment plans • Industrializing fiber rollout • Accelerating our coverage goals • Increasing speed • Improving user experience 2.5 Gbps 1.25 Gbps GPON Today 10 Gbps 10 Gbps XGSPON 2018 25 Gbps 25 Gbps 25G-PON Near Future 13

Guaranteeing excellent connectivity by enhancing customer's equipment... Differential connectivity: We own our home strategy and our products excellent Wi-Fi quality and Smart Wi-Fi SW stack rd • Changing the relationship model (3 parties) • Up to 1 Gbps with the industry, creating a • Total Wi-Fi coverage at home rd prosperous 3 parties ecosystem • Smart WiFi • Managing E2E residential • Facing a more complex environment Iconic device: equipment industrialization HW Home Gateway Unit components Chipset process (3rd parties) Unified and synergic home devices portfolio Improving quality ratios vs Powered by Smart voice & display assistant former equipment* > 3m FTTH INCIDENT RATE 43% HGU* *installed in TEF WiFi SUBSTITUTION RATE 82% foorprint FWA INSTALLATION TIME 41% xDSL & HFC *Average HGU vs legacy ONT + Router in Spain 30m *produced through Devices* this model (2014-2018) 14

… and moving forward to use our smart devices ecosystem as a service platform at home Improving value for our customers Same service regardless the access + Open platform at home to provide new differential B2C and Open ecosystem Smart voice assistant B2B services SW stack Apps (3rd parties) (3rd parties) HGU xHGU 4G Base Powered+ + by CLI API CAPABILITY Base Home SERVICES port 2 base FIRMWARE S.O. LINUX XVDSL Chipset HW components (3rd parties) 15

Evolving our video ecosystem to be ready for the market reality Convergent TV ecosystem Next Set Top Box generation (Open Platform) • STBs portfolio simplification • FBB (Cable, XDSL, FTTX) • Device´s evolution (UHD, HDR,..) • MBB (3G, 4G) • All video services (DTH / CATV / IPTV / OTT) Management E2E Unified video services evolution • Maximizing product sharing • Homogenous user experience in • Global and local team all devices, access networks and video commercial proposal (1) +5 million users* Service Quality Cost Sustainability Future proof ecosystem New formats and integration with 99.99% service availability Open “best of breed” solution third party platforms 16 * April 2018

Managing our legacy while advancing towards an All-IP Network All-IP transformation Transforming our Transport Network • VoIP commercial offer in a transparent way for the customer HL1 PEERING LEVEL IP over Optics technology • Compaction and shutdown plans for PSTN • Spain pioneer in Central Office decommissioning Less layers HL2 BACKBONE LEVEL (collapsing from 8 to 4) +7% +3 OBs Scalable and resilience yoy yoy PROVINCIAL HL3 LEVEL (MPLS and SDN architecture) 7 OBs 9 m VoLTE Simplification + VoIP active HL4 LOCAL LEVEL (less than half of the equipment) customers 2 OBs VoWiFi 8 4 layers layers PSTN: Public Switched Telephone Network; VoIP: Voice over IP 17 Data as Q1 2018

Advancing in LTE deployments while preparing for 5G

Telefónica is advancing in LTE deployments in all our footprint Total sites LTE 92% 66% >75k LTE Pop LTE Pop coverage coverage 3G/4G Sites with UBB 97% 19 Source: Telefónica. Results Q1 2018.

Extending coverage and capacity to offer support to new services Evolving to 5G Moving towards a convergent UBB access 4.9G 4.5G eMBB 2017 2018 2019 2020 2021 IOT V2X x 10K Cellular Coverage New services Fiber • NB-IoT / LTE-M. IoT and Industry 4.0 Mobile WiFi • Extending 4G PoP coverage in all Operators • Fixed Wireless Access (FWA) our footprint x 100K SmartHome • Vehicular comms (V2X) LTE • 5G devices (H2 19E) Fiber Cellular / WiFi FWA x 1M Convergent Operators Convergent Fixed Fiber Capacity New Architectures Operators FTTH WiFi • Spectrum management (refarming) • Single RAN • Carrier Aggregation (up to 3-5) • Heterogeneous Networks • Multi and Massive MIMO Antennas • Virtualization in the Mobile Access Possible scenarios representation K: kilo = x 1,000. M: million = x 1,000,000 (potential customers/connections) MIMO: massive input massive output IoT: Internet of Things RAN: Radio Access Network FWA: Fixed Wireless Access 20 eMBB: enhanced Mobile Broadband

A strong Network Virtualization program: UNICA, one of the first industrial Telco Clouds… • Available in 2017 in 4 Telefonica operations • Being deployed in 7 new markets along 2018 • 21 DCs in 11 local domains + 1 global domain Modular Open Secure Multi-site Elastic Multi-tenant 2017 Standard Cost Effective Multi-vendor 2018 aligned Robust Flexible 21

… enabling a future proof network designed to be agilely changed and operated in an automated fashion 2017 - 2020 2021 - 2025 5G UNICA@CO Fixed Access UNICA@MicroDC UNICA@CO OPA-F Infrastructure UNICA@DC UNICA Management UNICA@MicroDC UNICA@CO Radio Access OPA-M UNICA@CO Virtual network Virtual Core and Platforms Virtual Access and Edge Functions Transport FUSION IP/Optical SDN Transport/Backhaul Automatic Deployment and Infra Mgmt. Zero touch with OSM integration Automatic configuration Automation Edge Computing OPA: Open Access Basic Slicing E2E network slicing (Fixed and Mobile) 22

Driving additional value and bringing new business opportunities with all these new network capabilities Network Slicing Edge Computing Network as a Service (NaaS) • E2E logical (virtual) networks that • Placing computing and storage • Sale of network services to third consist of a mix of shared and assets close to the end user parties that want to deliver services dedicated virtual network functions to their customers without building • Increase efficiency in the use of their own network infrastructure • These differentiated capabilities network resources (e.g. transport (latency, performance, reliability, capacity), improve QoE, reduce • Services: availability…) are tuned for each use latency, and increase security and • Wide Area Networking (WAN) case or service privacy connectivity • Edge Computing capacity • Data-center connectivity • Bandwidth on demand (BoD) CONNECTED CARS / • Security services VIDEO AUTONOMOUS DRIVING • Content Distribution • VIRTUAL & ARTIFICIAL other applications AUGMENTED INTELLIGENCE REALITY QoE: Quality of service 23

Towards E2E Digitalization leveraging on BSS and OSS transformation

Advancing in Full Stack deployments while consolidating global management models to enhance digital experience Transforming business support processes Accelerating the migration of our and systems in all our footprint customers to Full Stack 7 OBs with > 60 % migrated 2 OBs Fully migrated % of customers migrated x2 30 14 Initial stage Full Stack Excellence Global Migration started Center Advanced state / Fully Migrated 20162016E 2018E2018E 25

Building a unified Operational Support Systems (OSS) Map Unified OSS strategy for OSS simplification and automation all Operating Business Same processes and same tools across all Common Map 17 Operating Business Best of Breed Solutions Service Management Test Management Fulfilment & Service inventory Problem Service 1,000 15 Quality Performance Resource Management management Virtualized OSS Resource Lifecycle applications to manage all Fault OSS applications Management Workforce operations (2020E) management Management Resource Domain Management 26

Transforming Global Operation levels (L1, L2 & L3) to make our Network Operation Center (NOC) more efficient… Attention levels at Network Operation Center (NOC) Global supplier model L3: Supplier support • Unified and standardized model of support contracts • Common technical and economic templates L2: Advanced remote support Internal knowledge to give support • Internal teams with deep network and systems knowledge formed by Telefónica experts Standardized and outsourced support L1: Basic support • Standard and global automation model Unified network monitoring L0: Automatic monitoring • Unified monitoring and first resolution of networks and systems 27

… and evolving towards customer centric operations through Service Operation Centers (SOC) Evolving from network centric operations to Creating value based on real-time analysis of customer centric operations customer experience Become a truly Deliver the best customer Offer high quality •Faster resolution causing 5% churn reduction Customer-Centric Telco experience services Customer •Service Monitor of VIPs, VAPs and Enterprise retention Customers (segmentation approach ARPU/VIP) •Proactive Management of user perceived quality •Marketing campaign support (MCS) Revenue •Service monetization and fast restoration Vision Revenue generation •Ability to offer premium services, CSI/NPS Increase •Reduced Call Centre and NOC workload OpEx •Proactive trend analysis and Service performance User Device & Apps Service Quality Network Traffic reduction Experience analysis Assurance Analytics •Dynamic SLA to drive operation efficiency (FCR) Phase I Phase II Improve •Improved utilization of Network resources CapEx •Analysis and Management of Service Capacity Cost allocation •Flexible Business Model MCS: marketing campaign support VAP: very annoyed person NPS: net promoter score NOC: network operation center 28 CSI: customer satisfaction index FCR: first call resolution

Evolving our operations towards extreme automation leveraging on Artificial Intelligence Evolving towards Data-Driven, Customer Centric and Zero Touch Operations +170 Data sources Artificial Intelligence Data driven & Expert zero touch +300 use cases Systems operations Machine Learning Planning & Infrastructure Devices Customer Care Capacity Mng. Management Management Automation CUSTOMER SATISFACTION Network Video Stock Maintenance Operations Management REVENUES Customer EFFICIENCY Centric Customer Purchasing operations Experience Processes 29

Building a global architecture and common data model to expose capabilities

Enabling management and operation data flow between all Telefónica’s platforms Cognitive power Products & Services IT & Systems Physical assets 31

So, which future network are we evolving towards? Network Operating Virtualized … System FUTURE Network Service Assets Customer 100% Devices CPE as a Service Platform Fixed FTTH >10Gbps Artificial Access All-IP Intelligence Mobile >1Gbps UBB Latency <5ms Backhaul Network Transport IP over Intelligence/ Attributes Virtualization Core Optics + Provisioning (T-SDN) Self- Maintenance Operating vOLT Virtualization E2E vRAN Virtualization vRouter Network Transformation Axes Transformation Network OPEN Operations Zero-Touch Agile (APIs, Standard + B2B, B2C, based) Cognitive User-Centric B2B2C, Devices … 32

Key Takeaways Laura Abasolo Chief Financial and Control Officer

Key Takeaways Differential platform 11M UBB base (+20% y-o-y) 4 OBs in UNICA We accelerate transformation and -47% cost/Fibre prem. passed (Spain) deliver spread efficiency 30m in-house home devices 61% E2E Digitalisation Customer centric ARPU uplift; +10% LTE; +20% Fiber Privileged position to capture future 53% Connectivity + SoC/Group Revenue growth Open Ecosystem 5G Artificial Intelligence Sustainable and profitable CapEx peak behind Data Analytics More resilient network and business Cutting-edge services (IoT, Edge..) SON, Zero touch Value creation through transformation

Q&A Session Laura Abasolo Enrique Blanco

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Telefónica, S.A.

Date: June 19, 2018 By: /s/ Pablo de Carvajal González

Name: Pablo de Carvajal González

Title: Secretary to the Board of Directors