VODAFONE GROUP PLC

COMPANY REPORT

TELECOMMUNICATIONS

4 JANUARY 2021

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Bringing Future Technologies Today

Digital transformation re-invents the future for MNOs

- Despite Liberty Global's acquisition negative impact of a 18.5 m€ increase in FY20 Net Debt, it will benefit the business by delivering further cost and CapEx savings, as well as an increasing number of fixed subscribers.
- Vodafone's tower business carve-out, Vantage Towers (VT), with an IPO in FY21, will allow for the monetisation of Vodafone's European tower infrastructure, while decreasing both OpEx and CapEx, and implying a greater value of Excess Cash for the year, offsetting the existing high level of debt, reaching a value of 56b€.
- The towers disposal, together with the existing network sharing agreements' synergies, will reduce pressure on the Group's capital spending and enhance focus on asset utilization.
- 5G development in Europe will shape Vodafone into a more efficient business, while shifting the main focus from B2C to B2B clients, with higher economic power, resulting in an ARPU increase of 5% in FY23, contrarily to the industry's revenue depressing tendency, given intense competition.
- Covid-19 impacted the telco industry, however, it has been exempted from major restrictions, as the increased reliance on connectivity boosted traffic growth, still enabling an increase in European Operating CFs.

Company description

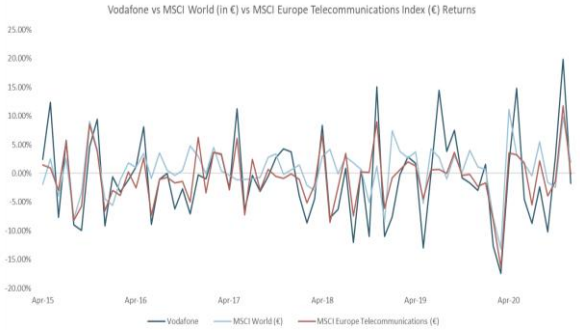
Vodafone is one of the major players in the Telco industry worldwide and one of the leaders in the European segment. It offers a wide range of products and services, such as mobile and fixed broadband, TV and voice, as well as IoT solutions. The Group is integrated in a very competitive environment and operates in two main segments, Europe and Africa.

Recommendation:	**BUY**
Price Target FY21:	**1.92 €**
Price (as of 3-Jan-21)	**1.38 €**

Bloomberg: VODI GF Equity

52-week range (€)	1.029-1.882
Market Cap (€m)	37057.8
Outstanding Shares (m)	26834.0

Source: Bloomberg



Source: investing.com

(Values in € millions)	2019	2020E	2021F	2022F
Revenues	43666	44974	39420	39049
Adjusted EBITDA	13918	14881	13726	13797
Adjusted EBITDA margin	31.9%	33.1%	34.8%	35.3%
Net Income	-7389	-455	-1608	-998
EPS	-0.27	-0.02	0.19	-0.05
P/E	-6.10	-82.77	11.76	-42.69
Dividend per Share	0.09	0.09	0.16	0.14

Source: Vodafone Annual Reports, Analysts Estimations

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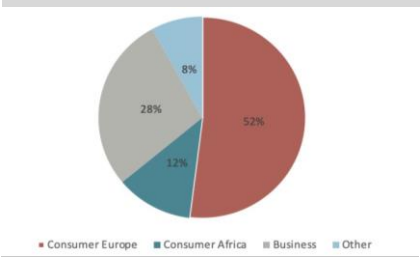


Exhibit 3 –EBITDA Margin Expansion

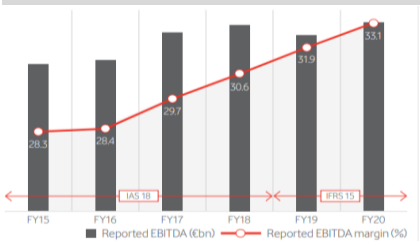
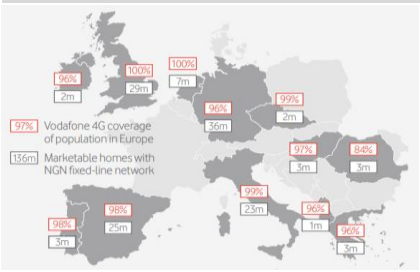


Exhibit 4 – Mobile Network Sharing and Scaled Fixed Infrastructure



Source: Vodafone Annual Report 2020

Vodafone Group Plc, founded on July 17, 1984, and headquartered in the United Kingdom, is an international telecommunications company with approximately 93.000 employees spread across its different geographic business areas. Over the last two years, through several acquisitions, mergers, and disinvestments, the company is now organized into two scaled regional platforms, Europe and Africa. Its European segment, which represents most of the Group service revenues, relies on operations based in Germany, Italy, the United Kingdom, Spain, and Other Europe, and its Rest of World (ROW) segment includes South Africa, Egypt and Other Africa. Moreover, the Group holds interests in various joint ventures in the Netherlands (VodafoneZiggo), Australia (Vodafone Hutchison), India (Vodafone Idea and Indus Towers), Italy (INWIT), and in an associate in Kenya (Safaricom).

The Group provides a wide variety of communication services to consumers and businesses, comprising voice, messaging and data across mobile and fixed networks. However, the European and African consumers' needs are clearly distinct, hence, it offers mobile, fixed, and TV services, separately or in bundles, Internet of Things' (IoT) solutions and security and insurance products in Europe, and multiple mobile services allowing to call, text, and obtain data, and a mobile payment platform, M-Pesa, to provide a simplified solution to people who own a mobile phone but do not have access to a bank account, in Africa. Regarding the Business segment, the Group offers mobile, fixed, converged communications services and IoT, cloud&security and carrier services. Additionally, Vodafone also rents wireless capacity to mobile virtual network operators (MVNOs), representing 8% of total service revenue **(Exhibit 2)**. Concerning most recent highlights, in 2019, Vodafone announced the creation of the largest European tower company, already operational, and acquired Liberty's assets, evolving into an utterly convergent player in Europe.

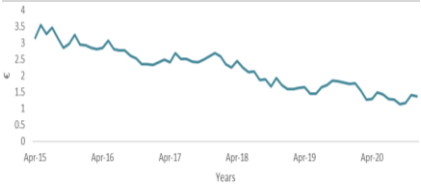
The Group's revenues and service revenues increased from FY[1]19 to FY20, reaching a value of €44.97 billion, and €37.87 billion, respectively. In FY19, Vodafone began a program to cut its cost structure while improving network quality and clients' experience, which has triggered the enterprise to obtain a fifth consecutive year of EBITDA margin increase **(Exhibit 3)**. Its main capital allocation concerns are to support infrastructure investments, reduce debt and maintain returns to shareholders.

[1] FY: fiscal year ending on 31st March of each year

SHAREHOLDER STRUCTURE

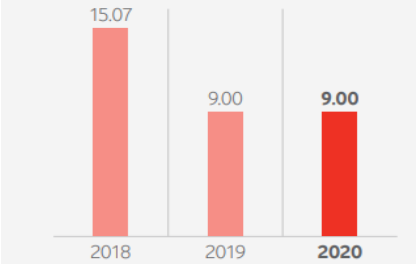
Concerning ordinary shares, Vodafone has a primary listing on the London Stock Exchange and a secondary on NASDAQ, where it is traded in the form of American Depositary Shares issued by Deutsche Bank, each representing ten Vodafone ordinary shares. Most of the shares are owned by Institutional investors (81%), followed by General Public (18%), and the remaining is split among Government, Public and Private companies, individual insiders, and employees' share schemes. Top 25 shareholders own 46% of the company, being the most significant shareholder BlackRock Inc, with 7% ownership. In general, Institutional investors have low-risk aversion, easy access to capital, and are highly concerned with shareholder value, as their performance is frequently assessed regarding financial success[2], positively affecting the firm's performance[3].

Exhibit 5 – Vodafone Share Price



Source: investing.com

Exhibit 6 –Vodafone's Dividends per share



Source: Annual Report 2020

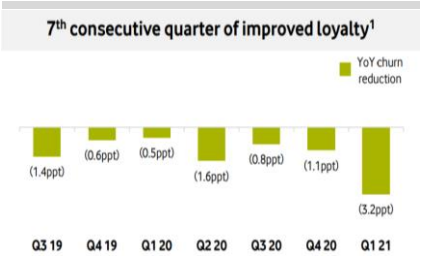
Since 2018, the shares have lost half their worth **(Exhibit 5)**. In 2019, the Board decided to rebase the dividend per share to €0.09, a 40% reduction over the previous fiscal year's dividend **(Exhibit 6)**. The Group decreased its dividend for the first time in its history[4], as it was considered imperative to increase financial margins to support the strategic targets which, ultimately, drives shareholder value. For FY20, the Board maintained total dividends per share of €0.09, implying an interim dividend of €0.045, paid in February 2020, and a final dividend of €0.045, paid in August 2020, despite revenue growth, but Vodafone intends to increase its dividends for the future, which we support, given the expected debt and profitability improvement and historical dividend policy.

STRATEGY

Vodafone's strategic plan focuses on four main strategic priorities:

Deepen Customer Engagement

Exhibit 7 – YoY Churn Reduction

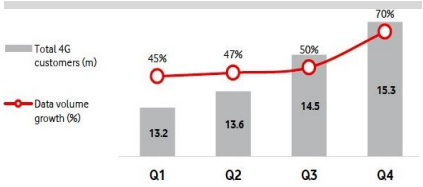


Source: Vodafone Q1 FY21 Presentation

In **Europe,** Vodafone aims to drive growth by focusing on the existing customer base, given its limited growth potential in such a mature market, through upselling converged offers and additional services, having reached 7.2 million converged customers in Europe, 0.6 million more than the year before, driving emphasis towards improved customer loyalty **(Exhibit 7)**, with mobile contract churn reaching its low record of 14.6%. Another growth opportunity comes from having

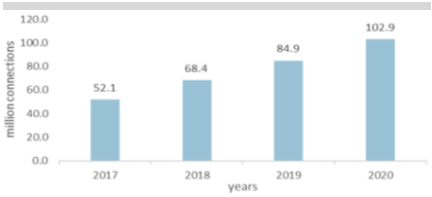
[2] Pound, 1988; Thomsen & Pedersen, 2000
[3] McConnell & Servaes, 1990; Thomsen & Pedersen, 2003; Tuggle et al., 2010
[4] "Vodafone chiefs cut bonuses in effort to prevent investor revolt", The Guardian, 2019

Exhibit 8 – Vodacom's improved performance



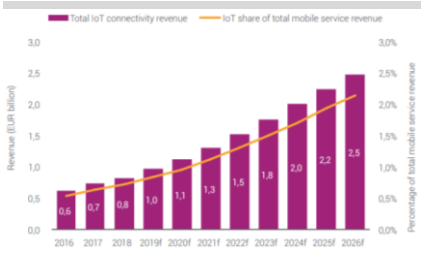
Source: Vodafone FY20 Presentation

Exhibit 9 – Vodafone's IoT SIM connections



Source: Annual Report 2020

Exhibit 10 – IoT revenue forecast Europe



Source: ETNO

"5G will be sort of the backbone of industrial tech so when we really push the digitization of our societies, the security of the 5G network is absolutely of the essence."

Commissioner Margrethe Vestager

Exhibit 11 – Digital targets for FY21

Source: Vodafone Digital First Investor Open Office

"This exponential growth will lead to a drastic change in how people manage their everyday lives. Vodafone is the world leader in this technology in the business segment and now it will leverage its know-how to enable thousands of consumers to get the most out of the next global digital revolution"

Emanuel Sousa, Private Business Division Director of Vodafone Portugal.

Europe's largest NGN fixed-line network, with growing net additions. And so, we support this trend will go on in the future for most European countries.

In **Africa**, Vodafone is a mobile data and payments provider, expecting to meet growing mobile data demand **(Exhibit 8)**, given the lack of fixed broadband access, through network coverage extension and increasing handset affordability**.** We believe there is also a substantial opportunity to grow M-Pesa and broaden it into new financial and digital services, keeping up with its transaction volume trend.

Concerning the **Business** segment, there is an opportunity to gain market share in the evolving wide area networking market, given companies increased dependence on remote working and increased investments in software defined networking, cheaper and more reliable than legacy solutions. Also, telcos will be the single network enabling the industrialization of its Internet IoT platform, leading to a technological shift on a range of industries[5], and so, we assumed Vodafone's IoT SIM connections will continue to grow **(Exhibit 9)**. Achieving such expansion of 5G connectivity, by assuming an increase in CapEx, will support AI, autonomous car systems and cloud computing, amongst other growth potential areas **(Exhibit 10)**.

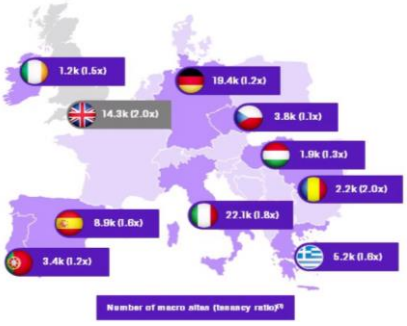
Accelerating Digital Transformation

It has been reflected in a simpler operating model, through technological developments in the channel mix and digital customer care teams, offering personalized solutions, through Vodafone's Shared Services division "_VOIS", by automating several operational processes across robotics, AI and process optimization, by continuing to invest in network infrastructure. This is assumed to increasingly reduce distribution channels' commissions, moving from mass media to a personalized contact with customers, expecting a rise in digital sales and a reduction of retail stores **(Exhibit 11)**. 5G roll-out will help building a competitive digital economy and encourage innovative new services, such as Quality of Service (QoS) differentiation, fixed wireless access (FWA) opportunities, and a range of potential consumer IoT applications, tailored to meet the increasingly specific customers' needs, while bringing a significant cost reduction and services quality improvement. However, competition stays intense and governments continue to raise more money than expected from electromagnetic spectrum, resulting in heavier capital expenditures.

[5] "To be or not to be", Monitor Deloitte, 2017

Improving Asset Utilisation

Exhibit 12–Vantage Towers' tenancy ratios

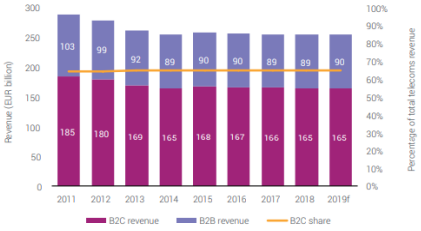


Source: Vantage Towers

"By outsourcing, MNOs can release capital so they can invest in new technologies like fiber deployment and 5G. It's going to be very capital intense in the coming years, so they have a greater interest to outsource the provision of infrastructure to independent TowerCos."

Patrick Boyeaux CEO American Tower France

Exhibit 13 – B2B and B2C revenue within Europe, 2011–2019f



Source: ETNO

Exhibit 14 – Cellnex and INWIT outperformed Vodafone and STOXX Europe 600 Index

Source: Bloomberg

In July 2019, Vodafone announced its plan to carve-out its tower business, VT, with an expected IPO in early 2021, which will allow for increased usage of Vodafone's European tower infrastructure **(Exhibit 12)**, creating a new shared network[6], and supporting the trend of MNOs reinventing themselves, moving away from infrastructure ownership[7]. In the same month, Vodafone's share price rose, with return increasing 14% being the real catalyst behind this jump the carve-out of Vodafone's tower assets. The Group intends to retain a majority stake in VT, expected to sell 25% of equity, projecting to raise €4 billion from the IPO, believed to be valued at around €20 billion[8]. These values are considered in our valuation, through impacts in the firm's financial statements. We believe there are three main reasons for this carve-out. Firstly, to capitalize its high-quality sites and build a cleaner business model; secondly, the IPO proceeds will partially offset its high debt levels; finally, to finance future high CapEx requirements to roll-out 5G[9], which will shape Vodafone towards a more profitable business, adding a huge adoption from B2B clients, shifting from the past B2C focus **(Exhibit 13)**. This will arise with the upcoming massive adoption of 5G technology by factories, being followed by Smart Cities, and later self-driving cars, once a full 5G coverage is reached, expected to have a significant positive impact in revenues.

Going deeper, the VT's IPO intends to gain from the release in value on the Group's balance sheet as infrastructure assets are valued at a higher level than telcos. For instance, tower owners, Cellnex and INWIT, have outperformed Vodafone and STOXX Europe 600 Telecommunications Index **(Exhibit 14)**. With the upsurge of 5G networks, telcos need to provide greater 5G connectivity, which implies more antennas placed and, consequently, more tower space. Instead of building themselves or acquiring more towers, telcos will progressively share them by leasing only the antennas' space. Currently, Cellnex averages 1.58 antennas per tower, while VT averages 1.37, with both tenancy ratios prone to increase, due to the demand increment.

However, it is necessary to recognize that VT will probably trade at a discount when compared to Cellnex, since, while Cellnex is a more independent tower company, VT has Vodafone as a major shareholder, which can be negatively perceived by other competitors. Vodafone is able to claim 10% of VT's towers as strategic sites, blocking other carriers, which ensures Vodafone's network quality

[6] "Vodafone Group Plc: Vantage Towers", Vodafone Group, 2020
[7] "The New Digital Landscape for Tower Companies", BCG, 2020
[8] "Europe's Best Telecoms Stock Is a Real Estate Company", Bloomberg, 2020
[9] "Towers of power: European telcos find value in masts", Financial times, 2020

and coverage. Thus, VT will probably not grow as much as Cellnex, given that this control can hold back competitors to lease from VT. Therefore, VT is probable to trade more aligned with INWIT, that presents a similar position regarding MNO's ownership and lack of independence. INWIT EV/EBITDA multiple is 24x, indicating it is traded at discount, when compared to Cellnex's EV/EBITDA multiple of 30x. Another important aspect is that Cellnex's growth has also been driven by large acquisitions, while VT is more constrained, for now, as it only has €1 billion of capacity for extra debt, according to its CEO[8].

VT holds 68000 masts across nine countries, assuming a first or second tower market share position in most of them, and an additional future 33.2% stake in INWIT joint venture with Vodafone Italia, a recently announced merger in Greece with Wind Hellas' tower assets and plans to include Vodafone's 50% owned UK joint venture company CTIL, which owns both Vodafone and Telefonica's passive tower infrastructure. VT will be supported by long-term contractual commitments with highly rated tenants, with its anchor tenant being Vodafone.

Optimising the Portfolio

The simplification of Vodafone's portfolio will help reduce financial leverage, solely focusing on Europe and Africa, supported by strategic partnerships' synergies, reducing costs and the environmental effects of its networks **(Exhibit 15)**.

Exhibit 15 – Vodafone's Portfolio Activity

Acquisitions	
Germany & CEE	Acquisition and integration of Liberty Global's assets for €18.5 billion in July 2019
Greece	Acquisition of CYTA Telecommunications Hellas for €118 million in July 2018
Albania	Acquisition of AbCom for an undisclosed amount in March 2020
Disposals	
New Zealand	Sale of 100% holding to Infratil and Brookfield for €2.0 billion in July 2019
Malta	Sale of 100% holding to Monaco Telecom for €242 million in March 2020
Qatar	Sale of 51% holding to Qatar Foundation for €301 million in March 2018
Egypt	MoU signed with Saudi Telecom in January 2020 to pursue sale of 55% holding for €2.2 billion
Mergers	
Italy	Merger of Vodafone Italy's towers into INWIT for €2.35 billion and 37.5% holding in INWIT in March 2020
India	Merger of Vodafone India and Idea Cellular in July 2018
India	Agreement on proposed merger of Indus Towers with Bharti Infratel in April 2018
Australia	Merger of our existing Vodafone Hutchison joint-venture with TPG Telecom received competition approval in March 2020
Africa	Consolidated our holdings in Safaricom and M-Pesa to be primarily held through Vodacom in April 2020

Source: Vodafone Annual Report 2020

M&A

In July 2019, Vodafone acquired Liberty's assets in Germany, Czech Republic, Hungary, and Romania for €18.5 billion, becoming the largest Gigabit-capable owner of NGN infrastructure in that region, expecting hundreds of millions of annual cost and CapEx savings, as well as a positive impact on the Group's revenues. Vodafone suffered a loss in FY20 of €0.5 billion (FY19: €7.6 billion), due to gains on the sale of Vodafone New Zealand and Vodafone Malta (€1.2 billion), the INWIT joint venture (€3.4 billion), together with a €2.5 billion loss related to Vodafone Idea.

In FY20, Net Debt was much higher than the previous year, relating to Liberty's acquisition and spectrum costs, in part offset by €4.4 billion from disposals and Vodafone Italy's towers merger with INWIT (€2.35 billion), with a 37.5% holding. Vodafone received dividends of €0.2 billion after recapitalization and later sold down 4.3% of the shareholding (€0.4 billion), creating Italy's leading tower company, jointly owned with TIM, having both agreed on an active mobile network-sharing partnership within INWIT, enabling them to roll out 5G together, reaching a wider geographic area at lower costs and expected value added from

early 2021, with rental income arising[10]. The Group also concluded several network sharing partnerships, with Deutsche Telekom in Germany, Orange in Romania and Spain, O2 in the UK, and Wind in Greece, improving network capacity and coverage.

ECONOMIC OVERVIEW

The coronavirus pandemic has brought a worldwide economic shock of colossal scale, causing recessions in several countries. In October 2020, the International Monetary Fund predicted a global GDP contraction of 4.4% in 2020, the deepest worldwide recession since the Financial Crisis of 2008, and 5.2% growth in 2021 **(Exhibit 16)**. Afterwards, the global growth will decelerate to around 3.5% until 2025, translated into a narrower development than expected before the pandemic, however, assuming a worldwide economy recovery for our projections.

Exhibit 16 – Global GDP growth rate

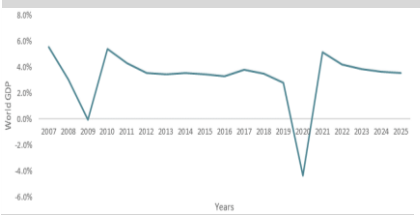


Exhibit 17 – Inflation Rate

	2019	2020	2021	2022	2023	2024	2025
Germany	1.3%	0.5%	1.1%	1.3%	1.5%	1.7%	2.0%
Italy	0.6%	0.1%	0.6%	0.9%	1.0%	1.2%	1.4%
United Kingdom	1.8%	0.8%	1.2%	1.7%	1.9%	2.0%	2.0%
Spain	0.7%	-0.2%	0.8%	1.4%	1.6%	1.6%	1.7%
European Union	**1.4%**	**0.8%**	**1.2%**	**1.4%**	**1.5%**	**1.7%**	**1.8%**
South Africa	4.1%	3.3%	3.9%	4.3%	4.5%	4.5%	4.5%
Sub-Saharan Africa	**8.5%**	**10.6%**	**7.9%**	**6.9%**	**6.5%**	**6.3%**	**6.1%**
World	**3.5%**	**3.2%**	**3.4%**	**3.2%**	**3.1%**	**3.1%**	**3.2%**

Exhibit 18 – GDP Growth Rate

	2019	2020	2021	2022	2023	2024	2025
Germany	0.6%	-6.0%	4.2%	3.1%	1.8%	1.3%	1.2%
Italy	0.3%	-10.6%	5.2%	2.6%	1.7%	0.9%	0.9%
United Kingdom	1.5%	-9.8%	5.9%	3.2%	1.9%	1.7%	1.6%
Spain	2.0%	-12.8%	7.2%	4.5%	3.4%	2.8%	1.5%
European Union	**1.7%**	**-7.6%**	**5.0%**	**3.3%**	**2.5%**	**2.0%**	**1.6%**
South Africa	0.2%	-8.0%	3.0%	1.5%	1.5%	2.1%	2.3%
Sub-Saharan Africa	**3.2%**	**-3.0%**	**3.1%**	**4.0%**	**4.4%**	**4.4%**	**4.3%**
World	**2.8%**	**-4.4%**	**5.2%**	**4.2%**	**3.8%**	**3.6%**	**3.5%**

Source: International Monetary Fund

European governments implemented sizable fiscal measures to sustain households and companies, allied with an agenda to avoid a high unemployment rate. To prevent financial markets disturbance, the ECB has reacted with a robust monetary policy and supervisory measures and launched the Pandemic Emergency Purchase Programme, valuing €1850 billion. The European Union, in a substantial exhibition of solidarity, is deploying supranational means to fund anti-pandemic facilities and complement national fiscal measures. IMF forecasted an EU GDP contraction of 7.6% in 2020, followed by a growth of 5% in the following year. Likewise, the Group's main European markets followed the same trend; their GDP declined in 2020 and is projected to rebound in the next years. Moreover, inflation is projected to remain relatively low over the forecast horizon.

The IMF outlines the considerable uncertainty regarding the growth and inflation projections since it relies on economic and public health matters, which are, by its very nature, difficult to predict.

Source: World Economic Outlook, IMF

Due to the pandemic and the decline in oil prices, the African economies have suffered both demand and supply-side shocks, intensifying economic disparities, increasing credit losses, and raising gaps between funding and liquidity[11]. The International Growth Centre considers that confinement measures may have additionally pushed 9.1% of the population into extreme poverty[12]. In many countries, central banks have proactively developed a policy response to these challenges to safeguard financial sector steadiness for both households and corporations. In 2020, South Africa's GDP is projected to contract (8%), and subsequently recover (3%) in 2021, while in Sub-Saharan Africa it is projected a decrease of 3%, and a recovery of 3.1% in 2021. Regarding Vodafone's future, we believe the African segment will have a slower economic recovery than the

[10] "Mergers: Commission clears acquisition of joint control over INWIT by Telecom Italia and Vodafone, subject to conditions", European Commission, 2020
[11] "Central Banks in Africa Are Guiding Banks Through COVID-19's Economic Fallout", S&P Global, 2020
[12] "The Mobile Economy Sub-Saharan Africa", Global System for Mobile Communications Association (GSMA), 2020

European one, given its developing nature and the less mature telco market. Therefore, we adopted a more conservative approach regarding the potential of Rest of the World's revenue forecasts, for the first few years.

INDUSTRY OVERVIEW

Europe

"5G is happening and fiber is making the European internet significantly faster"[13]

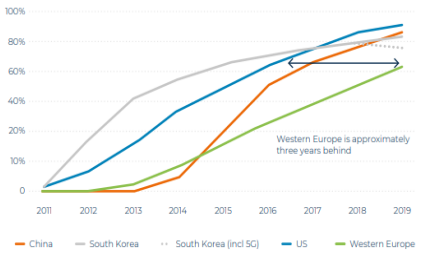
Europe benefits from advanced innovation capacity, funding mechanisms, and a global leading research base underpinning fast implementation of 5G, having one of the largest markets for consumer and business services. It is supported by two leading mobile infrastructure suppliers[14] with considerable R&D and manufacturing presence, and its industrial and economic strengths lie mainly in sectors such as automotive, manufacturing, and healthcare. The 5G value chain in Germany is estimated to generate higher economic output per capita than in China by 2035 **(Exhibit 19)**. More than the amount of connections, the real added value of 5G will result from its differentiated IoT and low-latency services, enhancing mobile broadband to deliver speeder data.

Despite that, Europe has been slower than others in providing 5G large scale commercial services, with only 13 EU Member States having launched them by September 2020, hindered by past delay in 4G migration **(Exhibit 20)**. Only 26.4% of 5G spectrum has been assigned in Europe[15], with high variance between countries**.** Europe stands above the global average in download speeds[16] and is still one of the most advanced areas for 5G placement **(Exhibit 21 & 22).**

Microwave transmission still dominates mobile backhaul, enabling 10 Gbps and beyond, with a high stabilizing market share, while fiber's share continues to grow and copper share decreases. In Europe, around 70% of towers are connected by microwave links, requiring fiber availability, to provide network diversity and coverage. 5G, not only requires both microwave links and fiber, but it also influences both the wireless and wireline wing of the network infrastructure. The 5G FWA enables operators to provide high-speed broadband and high-definition streaming services to suburban and rural areas, allowing 5G radios mobile technology to cross the fixed line services demand and prices. It provides a competitive alternative to wired broadband, more expensive to install

Exhibit 19 – Economic Contributions of the 5G Value Chain (2035)

Exhibit 20 – 4G Usage (% of subscriptions using 4G networks)



Source: ERT

Exhibit 21 – Average mobile downlink speeds in Europe, Japan and South Korea, the USA, in September 2019

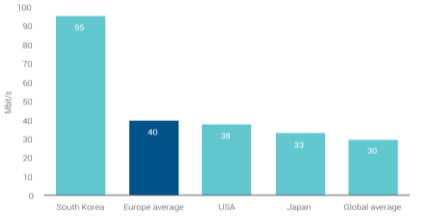
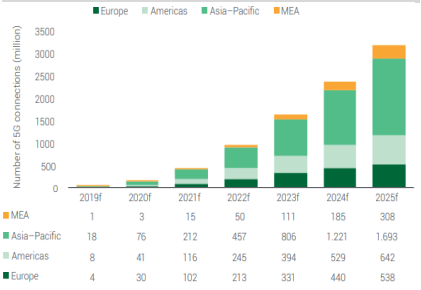


Exhibit 22 – Forecast of number of 5G connections 2018–2025



Source: ETNO

[13] "The state of digital communications 2020", European Telecommunications Network Operators' Association (ETNO), 2020
[14] "TIM and Ericsson reach new European record for 5G speed", Ericsson, 2020
[15] "European 5G Observatory", European Commission, 2020
[16] "The state of mobile network experience 2020: One year into the 5G era", Opensignal, 2020

Exhibit 23 – Price Per MHz Per Capita For Mid Band Spectrum (€ cents/3-5 GHz)

Exhibit 24 – Availability of Mid Band (3-5 GHz) Spectrum in EU-27 (share of EU-27 Member States, %)

Source: ERT

Exhibit 25 – Share of mobile service revenue by operator (2019)

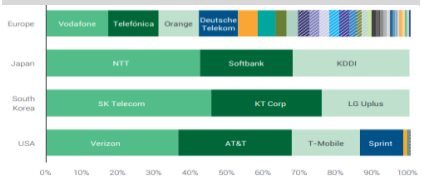
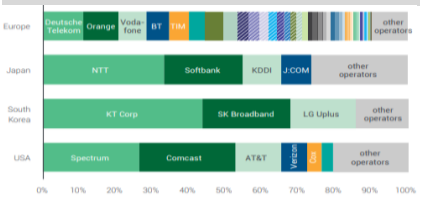


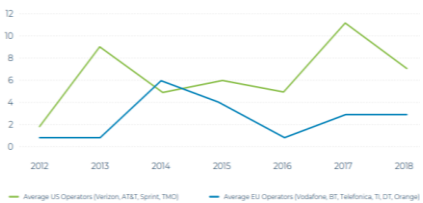
Exhibit 26 – Share of fixed service revenue by operator (2019)



Source: ETNO

Exhibit 27 – Investment Intensity (CapEx/EBITDA, %)

Exhibit 28–Return on Invested Capital (%)



Source: ERT

and maintain, accelerating bandwidth turn up pressures on the global network and allowing for a higher concentration of users without causing obstruction[17].

"Regulation and its implementation should support European investment and innovation."[13]

There are regulatory inhibitors to investment in 5G**.** Firstly, the **inflated electromagnetic spectrum prices**[18]. European governments have not been treating 5G network as critical infrastructures, having instead prioritised spectrum monetisation, instead of ensuring its availability, whereby some telco companies are being charged up to 14x more than its global competitors **(Exhibit 23 & 24).** High spectrum costs hold back the market, creating a cost opportunity related with the spending at 5G auctions, in which, unlike physical networks, operators cannot decide to postpone it, thus, regions with a riskier business environment may not benefit from 5G. Ultimately, regulatory pressures lead to uncertainty and more intense CapEx.

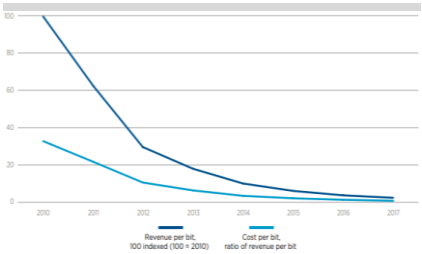
The **highly fragmented European market structure**[18], with much more MNOs in Europe than in other regions, and lack of harmonising spectrum allocation criteria, which leads European operators to be spread more thinly in comparison to global competitors, both in mobile and fixed markets **(Exhibit 25 & 26).**

Continuous support of revenue depressing measures and artificially endorsing unsustainable levels of competition[18]. While intense competition has benefited lower consumer pricing and service innovation, it has negatively impacted revenues, as well as roaming provisions. Between 2017 and 2018, the CapEx/EBITDA ratio remained nearly flat for European operators, whereas in US and South Korea decreased, meaning telcos' revenues in these countries increased faster than investments **(Exhibit 27)**, leading to a higher return on invested capital **(Exhibit 28)**. The sector has suffered a decade of deflation in Europe, with European telcos bearing 2% more deflation than telcos in US, Japan and South Korea (2008-2018), due to higher market fragmentation.

And finally, **European telcos are under a degree of regulation that big tech is not**[18]. There is a disparity of regulation concerning digital and telco sectors regarding security, privacy, and transparency, with telcos being subjected to further privacy regulations, inconsistent with the GDPR and creating an additional imbalance in terms of competitiveness.

[17] "Fixed wireless access Outlook", Ericsson, 2020
[18] "ERT Position on Regulatory Framework for 5G", European Round Table for Industry (ERT), 2020

Exhibit 29 – Revenue/Gb versus Cost/Gb for Mobile Data



Source: GSMA

Exhibit 30 – CapEx per capita, 2018

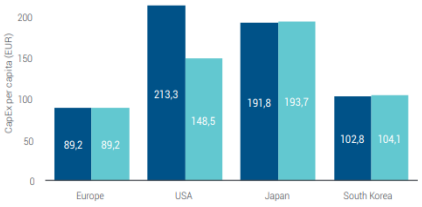


Exhibit 31 – Mobile ARPU (excluding IoT SIMs), 2018

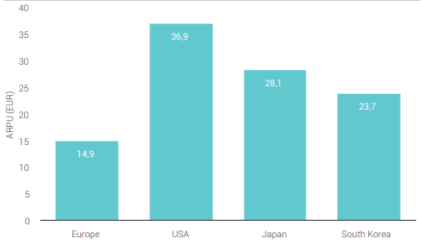


Exhibit 32 – European B2B and B2C revenues, 2011–2019f

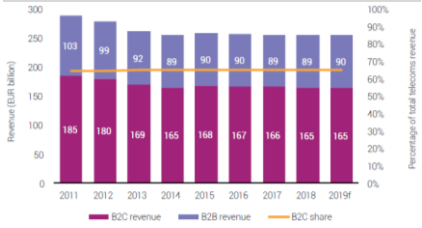
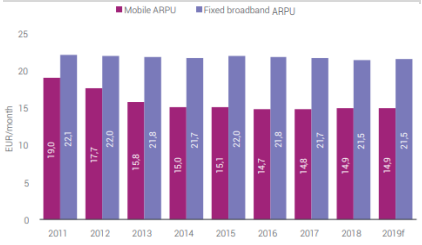


Exhibit 33 – European Mobile and Fixed broadband ARPU, 2011–2019f



Source: ETNO

"European telecom markets need to become stronger. Investment is still too low, despite high capital intensity and investment leadership by ETNO companies."[13]

The Directive on measures of rolling-out high-speed electronic communications networks seeks to make broadband deployment more cost-effective, through methods like sharing and re-using existing physical infrastructure, bringing sustainable economic and social benefits[19]. This maximises network's efficiency and utilisation. 5G will sustain the previous trend in mobile data pricing of 4G, where larger network capacities and the smaller gap between the revenue/GB and cost/GB curves[20] **(Exhibit 29)** have led to the adoption of unlimited data bundles.

European telcos invest heavily in infrastructure, more directed towards fixed, although expected some rebalancing with the deployment of 5G. There has been a strong investment in FTTP, as it presents lower OpEx and a lower environmental impact than other solutions. Though it is still far from achieving the European Gigabit Society 2025 targets[13], as it involves high CapEx**.** In Europe, one of the main reasons for the slow fiber roll-out is the lack of appropriate physical infrastructure in the old copper network. In countries such as Germany and the UK, FTTP development has been delayed because of elevated labour costs.

European telcos have higher capital intensity, but lower investment per capita, than global peers in US, Japan and South-Korea **(Exhibit 30)**, mainly impacted by low prices[18], with lower ARPU **(Exhibit 31)**, and consumer and business markets' revenues slightly decreasing **(Exhibit 32)**, supporting Vodafone's forecasted overall decreasing revenues.

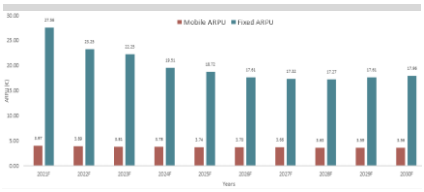
In Europe, fixed and mobile data usage keeps growing sharply. Traffic growth is mainly driven by increased demand for video content[21]. Across Europe, in 2019, 78% of households had a fixed broadband subscription, up from 70% 5 years before. Although, mobile broadband penetration is very high, with 21/37 OECD countries having over 100 subscriptions per 100 inhabitants, subscriptions grew 5% in 2019, contrasting with fiber's growth rate of 13%, being the fastest growing fixed broadband technology reaching 28% of all fixed broadband subscriptions[22]. We continue this trend with a more stable rise in mobile customers and a more robust growth in fixed customers, for Vodafone.

The shift to SIM-only plans and delayed handset refresh rates reduce revenues and contract lengths, and decrease margins, negatively impacting the uptake of

[19] "EU rules to reduce cost of high-speed broadband deployment", European Commission, 2020
[20] "The 5G guide", GSMA, 2019
[21] Digital Economy and Society Index (DESI), 2020
[22] "OECD broadband statistics update", OECD, 2020

Exhibit 34 – Vodafone's Mobile ARPU and Fixed ARPU per month (Europe)

Exhibit 35 – Vodafone's Mobile ARPU and Fixed ARPU per month (ROW)



Source: Analysts Estimations

2030 digital technologies will deliver reductions in carbon emissions equivalent to nearly seven times the size of the growth in the total information and communications technology sector emissions footprint over the same period.

Source: GeSI Digital with Purpose Report

5G services. Innovative technological solutions offered are usually sold at a discount, as premium prices are difficult to sustain, which also happened regarding the FTTP's price of entry-level, which has fallen below that of ADSL. Demand for data services remains elastic, with small shifts in price triggering significant churn in consumer services, though its growth has not been followed by an increase in revenues, given the highly competitive environment. In general, consumers have become accustomed to a specific average price for their mobile subscription and are normally reluctant to pay more[23], with a flat €22/month ARPU for fixed broadband for the last years, while mobile ARPU has stabilised at just under €15/month, after 2015 **(Exhibit 33)**. Vodafone's ARPU per month lays slightly below European average and is forecasted to decrease according to the existing trend **(Exhibit 34)**.

"Networks are becoming greener, with both carbon intensity and overall emissions decreasing and aggressive climate targets."[13]

The Information and Communications Technology sector has been estimated to produce 2% of global CO2 emissions, similar to the aviation industry, mainly due to cloud computing, which considerably augmented in previous years. Contrarily, the adoption of IoT devices is critical in tackling greenhouse gas emissions, enabling better precision to be applied to resources. Furthermore, the most critical investment fields for Vodafone in the upcoming years, fiber and 5G, have positive environmental implications. The 5G lower cost/byte and concession for several types of traffic with diverse network demands, comparing to 4G, will only be significantly efficient if past generation networks are decommissioned in a prompt manner, meaning that the respective allocated spectrum will be reused more efficiently. Higher demand for data services is influenced by the Jevons paradox, whereas technological progress rises efficiency, which simply supports a growing rate of consumption, with an increase in energy demand of 5%/year. However, by 2019, around 50% of the energy used by European operators derived from renewable resources, reducing overall emissions by 8.5%, which contributed to a lower carbon intensity[13].

In general, being economically efficient overlies with being sustainable. Network sharing, fixed-mobile convergence and upgrading network technologies will lessen the carbon footprint. On the other hand, renewables usage and recycling of consumed products, shifting energy supply to renewable, carbon offsetting, amongst other measures, come at some higher cost than less sustainable options. With the influx of investment from ESG investors, and as part of Vodafone's commitment to sustainability, the Group developed a Green Bond

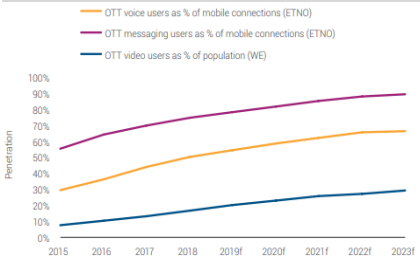
[23] "Realising 5G's full potential: Setting policies for success", GSMA, 2020

Framework and, in early 2019, issued its first green bond of €750 million to fund projects to achieve the company's environmental aims, and also to meet ESG concerns that investors may have.

"Digital services, cloud and Artificial Intelligence: telecom operators are enablers of European trust-based innovation."[13]

IT services' market has been growing with higher demand for faster and locally customized cloud services. IoT continues to grow, with telcos enabling industrial and domestic applications, expected to attain around 740 million active connections by 2026. OTTs have been growing their services due to greater resources, economies of scale and certain investment patterns, by innovating in services and products faster than telcos, making it hard for them to compete. Thus, around 70% of mobile customers also use OTT messaging **(Exhibit 36).**

Exhibit 36 –OTT services penetration, Western Europe, 2015–2023f



Telecommunications services exhibit a weak correlation to macroeconomic elements, since they are essential services. Though, a decline in discretionary income could result in a moderate drop in business revenues for cable, wireline and infrastructure suppliers, and modest postpaid wireless subscriber losses, to a rise in prepaid connections, given the large availability of similar services, offered by other telcos, indicating a tendency for low customer loyalty.

Substantial new services in video include the Disney+ and AppleTV, which have entered the market with strong advertising and superior value content, having OTT revenues both replacing traditional pay-TV revenues, and growing the market, with services now being provided either by operators or OTT providers **(Exhibit 37).** Therefore, telcos are increasingly competing with OTT video services, by releasing their own. Some Europeans are purchasing and using multiple TV services, and such trend implicates that stronger platforms will gradually control the market with almost 50% of pay TV revenues being powered by OTT services by 2024. Instead, AI has been increasingly developed to make telcos more efficient and responsive to customer needs, with service and data-driven innovation enhancing networks at their core. AI, together with automation, help ensure European operators remain competitive against non-telco competitors, reducing the subscription cost for the use of new technologies. This corroborates the highly intense level of competition environment in which Vodafone is integrated, supporting extra challenges in increasing profitability, included in our forecasts.

Exhibit 37 – Pay-TV vs OTT retail revenue, in Western Europe, 2015–2024f

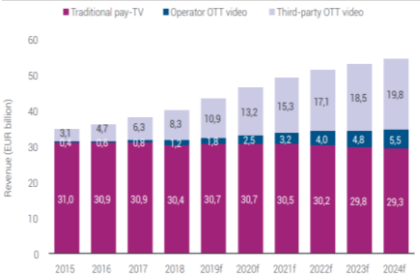
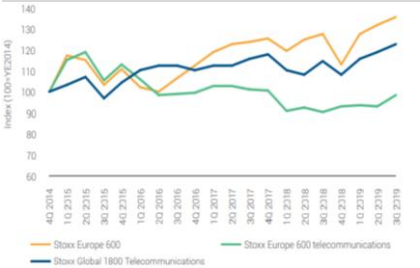


Exhibit 38–Stoxx Europe 600 index vs Stoxx Europe 600 index for telecommunications vs Stoxx Global 1800 index for telecommunications, 4Q 2014–4Q 2019



Source: ETNO

Shareholders

Telco operators are accountable to shareholders, as any other business, even when governments hold a part of it. Stock markets have not been generous on the European telcos sector in the recent past, nor expected for the near future,

presenting a lower performance than the cross-sector European index and the telcos global index **(Exhibit 38)**.

Africa

In Sub-Saharan Africa, the pandemic financial impact on the mobile industry is both characterized by the sudden rise in data consumption and mobile money transactions, with positive impact on revenues, offset by initiatives from operators, such as discounts and transaction-fee exemptions to support vulnerable consumers. Prepaid connections are more than 95% of mobile connections, suggesting that consumers are flexible to vary telcos spend when their financial situation changes. This highlights the more sensitive situation lived in the African context[12]. Even though Vodafone bears less competition, as customers are not as loyal as in Europe, the Group faces higher risks regarding the potential customers' loss, negatively impacting revenues. The digital transformation, strengthened by increasing access to broadband connectivity, has enabled remote working and education, online shopping, and digital payments, alleviating the socioeconomic pandemic effects, generating 9% of GDP across the area (2019), supporting more than 3.8 million jobs, and noticeably contributing to the public sector funding, with nearly $17 billion raised through taxation. In Sub-Saharan Africa, taxes on mobile represent 7% of income for the lowest 20% earners, comparing to the 2% affordability target set by the UN in 2019, which outlines challenges customers face regarding affordability.

The shift to 5G will gain momentum in the 2020s worldwide and the greater opportunity for 5G FWA will arise in emerging countries, where fixed broadband is still not dominant. However, there are still few operators offering 5G mobile and FWA in Sub-Saharan Africa, as 4G will continue to be their primary focus since there is a substantial unexploited 4G capacity, and its adoption is still relatively low. Hence, telco companies will have to make an effort to lower 4G devices' prices and provide appropriate digital content to raise connectivity demand **(Exhibit 40)**. That said, in a post-Covid 19 world, due to the scarcity of fixed-line infrastructure and the growing importance of the digital economy, the 5G FWA will be essential to deliver high-speed broadband connectivity **(Exhibit 41)**. Moreover, with the rapid expansion of the fintech ecosystem, operators are developing mobile money platforms to offset stagnating core earnings and expand their digital environment presence. In 2019, the amount of registered mobile money accounts in Sub-Saharan Africa reached 469 million, and it is forecasted to increase in the future. To meet this rapid expansion plan, Vodafone will significantly increase its CapEx for the future.

Exhibit 39 – Smartphones as % of total connections

Exhibit 40 – Strong medium to long-term outlook on rising 4G and mobile money adoption in Sub-Saharan Africa

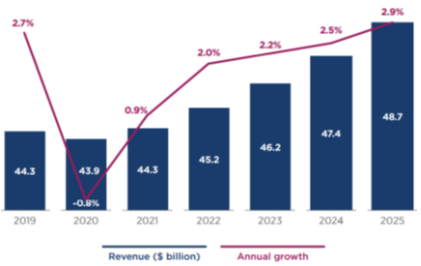
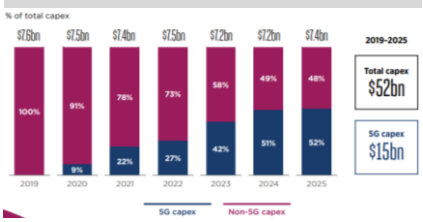
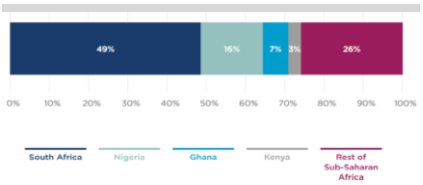


Exhibit 41 – Investment in infrastructure rollout in Sub-Saharan Africa



Source: GSMA

Exhibit 42 – IoT connections in Sub-Saharan Africa in 2020



Source: GSMA

As the pandemic affected all economic sectors, IoT solutions are crucial to enhance operational processes' productivity and efficiency **(Exhibit 42)**. However, this region faces numerous challenges due to insufficient investment and innovation in solutions that tackle local use cases, inconstant power supply, and low purchasing power. Nevertheless, the Sub-Saharan Africa mobile networks expansion, supported by policymakers, has endorsed several pay-as-you-go business models and IoT solutions, enabling the accessibility of products and services to low-income customers, which allow for innovative and reliable energy, water, and sanitation services' models, improving levels of capacity and coverage[12], however, this sector will still require major investments to meet customers' needs.

RISK ANALYSIS

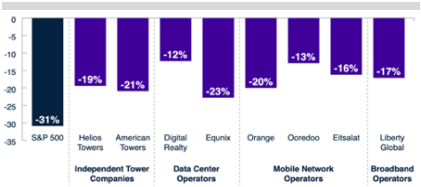
It is crucial to analyse Vodafone's major risk factors that may adversely impact the business. Strategic transformation imposes a substantial risk, as Vodafone is undertaking a massive scale incorporation of new assets, which, if not accomplished efficiently, results in additional costs. This process also requires a considerable amount of technology to be transferred prior the conclusion of the transitional services agreements, as failing to digitally transform the business sets it back from competitors and from achieving cost efficiency in its operations. Also, the Group has several joint ventures which it must ensure operate effectively. All these factors compromise the Group's profitability and shareholders' returns.

Cyber Threat and Information Security is also an imminent risk, evolving with the rise of new technologies[24]. A cyber-attack, supplier breach, or insider threat might trigger service suspension and confidential information loss, leading to a significant customer, financial and reputational impact. The implementation of GDPR[25] imposed by the EU has shown the importance of user privacy and data protection. Some European countries are following the US with Huawei's ban[26], given security concerns, which will impact the Group, as it relies on Huawei gear in most of the countries it operates, which we assume will all follow this trend.

The importance of the global economic disruption is considered, triggered by Covid-19, as it can impact cash-flows, currencies, borrowing costs and debt financing availability. However, as the Group presents long average life of debt, and a major part of its interest costs are fixed, it is not heavily affected by this. Covid-19 impacted this industry but, conversely to many others, the

[24] "Mobile Telecommunications Security Threat Landscape", GSMA, 2020
[25] General Data Protection Regulation
[26] "Vodafone 'pauses' use of Huawei equipment over security concerns", The Guardian, 2019

Exhibit 43 – Key global telecom players' performance vs S&P 500, during Covid-19 pandemic



Source: S&P Capital IQ

telecommunication sector has been normally exempted from major related restrictions. Traffic growth has demonstrated increased reliance on connectivity and digital services. Thus, S&P 500 has been more drastically affected than telcos, and hence, the risk is less severe[27] **(Exhibit 43)**, due to the nature of this crisis. Nevertheless, the first 5G enabled equipment is now becoming available, even though it has been impacted by the pandemic lockdowns, causing supply-chain disruptions. This, together with the 5G smartphones' higher reliance on chip content, causing an intensified demand, especially after Huawei's major stock buy, have been setting back chips production, which will indirectly impact Vodafone's 5G plans' adoption in the short-term.

Vodafone is also exposed to Market disruption, given the highly competitive environment, with new players pressuring prices down and offering unlimited offers, pushing down market share.

SCENARIO ANALYSIS

Exhibit 44 – Scenario Analysis

	Best Case	Most Likely Case	Worst Case
Probability of Occurence	12.50%	75.00%	12.50%
Group's Core Result Before Taxes in m€ (FY21	10883	10489	10095
Group's Statuatory Tax Rate	26.54%	27.30%	29.23%
Share Price	2.29	1.93	1.51
Shareholders Return	65.82%	39.75%	9.34%

Source: Analysts Estimations

Three scenarios were created to measure the impact of changes in the statutory tax rate, that can be influenced by numerous tax reforms such as financial reporting directives, state aid investigations, future business acquisitions and disposals and restructuring and resolution of open tax issues. The analysis also includes the impact of the abovementioned risk factors on the firm's profitability, with an EBITDA margin variation, as well as a variation of the revertion period of Deferred tax assets and Deferred tax liability (DTA&DTL) pace **(Exhibit 44)**.

The Best/Worst case assumed, considers the lowest/highest historical value of statutory tax rate since 2010, as standard for the future. Regarding risks, we assumed a 1%point increase/decrease on each country's forecasted yearly EBITDA margin. The best one reflects efficient strategic integration of new assets resulting in a more efficient business, and accomplishment of the desired digital transformation, allowing the company to keep up or surpass competitors, and achieve cost efficiency in its operations. It also assumes no more serious recessions and an overall growth environment, with higher services' demand and cash-flows, and little to no impact on currencies, borrowing costs and debt financing availability. Additionally, no significant new peer entries affecting market share were considered. Regarding Huawei ban, future cyber risk will be reduced, involving higher data protection. Contrarily, the worst case reflects the opposite effects. Finally, concerning the DTA&DTL revertion period, in the best case the pace decreases at a slower rate of -5%, while in the worst case it is reverted to 0 in FY21. The report is written under the assumptions of the most likely scenario.

[27] "COVID-19's Impact on the Global Telecommunications Industry", IFC, 2020

Exhibit 45 – FWA connections

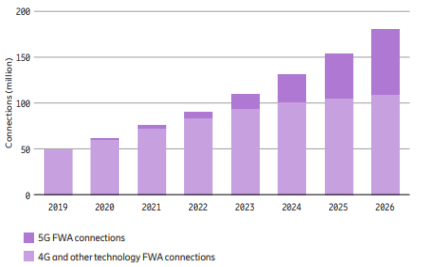
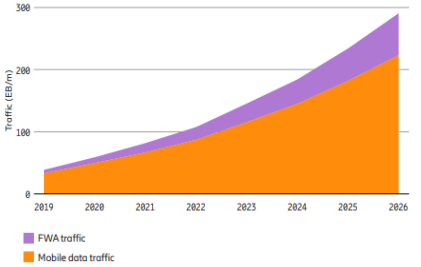


Exhibit 46 – Mobile Data and FWA traffic



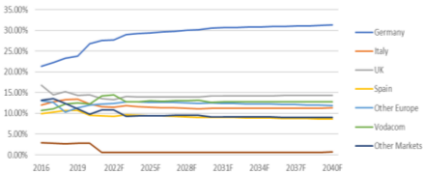
Source: Ericsson Mobility Report

Exhibit 47 – Service Revenue and Adjusted EBITDA Growth per Geography

	FY20	H1 FY21
Germany		
Service Revenue	0.00%	-0.10%
Adjusted EBITDA	2.50%	1.30%
Italy		
Service Revenue	-3.90%	-7.20%
Adjusted EBITDA	6.60%	-11.10%
UK		
Service Revenue	0.50%	-1.20%
Adjusted EBITDA	10.50%	-2.30%
Spain		
Service Revenue	-6.70%	-4.40%
Adjusted EBITDA	-1.70%	-6.00%
Other Europe		
Service Revenue	3.00%	-2.40%
Adjusted EBITDA	4.70%	-2.20%
Vodacom		
Service Revenue	3.30%	2.30%
Adjusted EBITDA	1.10%	3.60%
Other Markets		
Turkey		
Service Revenue	17.60%	13.80%
Adjusted EBITDA	27.00%	14.70%
Egypt		
Service Revenue	14.50%	5.40%
Adjusted EBITDA	14.20%	-10.40%

Source: Vodafone FY20 Preliminary Results

Exhibit 48 – Trend of % of Group Revenues per Geography



Source: Vodafone Annual Reports and Analysts' Estimations

FORECASTS

Income Statement

Revenues

Europe

In the mobile sector, Vodafone has suffered a decreasing trend in revenues, boosted by a shift in consumer mobile data demand, turning to disruptive substitute technologies such as OTTs and software providers, which together with consumers' price sensitivity, contribute to a more intensified competition, pressuring prices down, with a negative impact on ARPU. This is somewhat offset by the increase in the number of customers, but not as significant, due to market fragmentation, with increased smartphone penetration, and reduced voice use, even when offered an unlimited package, as part of SIM-only and contract subscriptions. 5G roll-out is not expected to deliver a significant price increase, but to meet consumers demand for constantly updated services. FWA connections are forecasted to keep growing **(Exhibit 45 & 46)**, resulting in synergies with mobile broadband, due to network trunking effects[17].

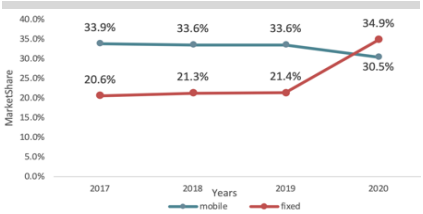
In the fixed sector, growth was led by broadband services and Vodafone's large European NGN footprint, capturing significant market share gains, with customers' moving to Gigabit capable technologies. In 2019, around 60% of households worldwide got a fixed broadband connection, expected to reach 70% in 2025, from which 10% will be attributed to FWA. In 2020, increased demand for wireless household broadband was also led by the Covid-19 disruption[17]. Therefore, we expect Vodafone to follow the respective worldwide fixed network trend, with the number of customers increasing and decreasing ARPU.

European revenues are expected to increase in FY23, boosted by increasing adoption of 5G by B2B clients, with a significant ARPU increase, given their high economic power and heightened interest in investing in IoT as part of their digital transformation. Such scenario was assumed, following the already happening consequences of the 5G release in South Korea, which enabled a higher ARPU, endorsed by the further growth in adoption from more 5G-exclusive services, and more inexpensive 5G plans[23]. Since FY30, due to the expected mass commercialization of 6G[28], an increase in ARPU is also considered. Concerning other service revenue, predominantly consisting of wholesale revenues from MVNOs, it is forecasted as 0, given VT's creation and respective loss of lease

[28] "Samsung's 6G White Paper Lays Out the Company's Vision for the Next Generation of Communications Technology", Samsung Newsroom, 2020

income from towers' rental. Other revenue, including revenue from connection fees, equipment sales, interest income and lease revenues is projected to be reduced to half of the % of total revenues also due to this effect, only reflected in Europe and Common Functions. Therefore, from FY24 onwards, NOPLAT assumes a decreasing trend.

Exhibit 49 – Vodafone's market share in Germany



Source: Vodafone Annual Reports

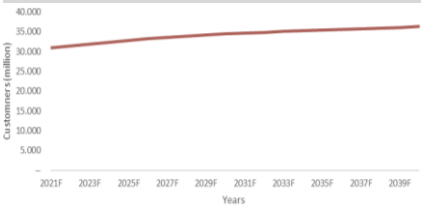
In Germany, the Government raised €6.5 billion in the multi-band 5G auction

Source: European Commission, 2019

Germany

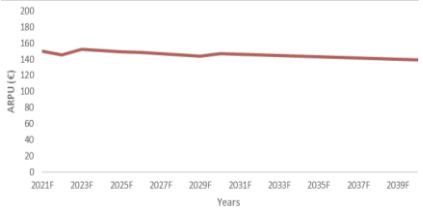
Germany is one of Europe's biggest telco markets, having witnessed strong growth recently. Alongside Vodafone, the market leaders are Telekom Deutschland and Telefonica Germany, however, there is intense competition from several MVNOs, which pressures voice and data rates, combined with regulated termination rates and roaming charges, negatively impacting ARPU. Still, leaders maintain market share by investing in innovation, varying from mass-market entertainment to high-end business connectivity.

Exhibit 50 – Germany Mobile Customers



The mobile segment is projected to be boosted by the increasing population, rising bandwidth demand, and increasing IoT, as well as rising data allowances and upgraded networks. In FY20, Germany completed its multi-band 5G spectrum auction, with the bidders being the market leaders and Drillisch Netz, a new entrant that will intensify competition and become a MNO. In H1FY21, mobile service revenue declined, due to drop in roaming, visitor and wholesale revenue, and there were contract and pre-paid customer additions given the online-only proposition 'CallYa Digital', improving contract churn to 12.1%. During FY21 the number of customers is forecasted to grow 3%, maintaining such trend at a lower rate due to high competition, stabilizing at 0.5%. Moreover, the decreasing ARPU trend will continue, excluding FY23 and FY30 effects, stabilizing at 0%.

Exhibit 51 – Germany Mobile ARPU



Despite Germany's industrial proficiency, it presents one of the lowest fiber penetration rates in Europe, however, Vodafone has started to modernize its fiber-cable network to 'GigaKabel' (Gigabit network), part of a billion-euro network expansion program in 2018. With the acquisition of Unitymedia[29] in FY20, the second-largest cable operator, after Vodafone, the Group created a strong converged national competitor to Telekom, enjoying the non-intersecting regional operations, reducing churn, and becoming the foremost Gigabit services' provider. The deal was contingent upon applying a remedy package, including a wholesale cable agreement with Telefonica, and commitment to maintain capacity for OTT services from TV broadcasters. In FY20, NGN broadband service subscriptions increased, reflecting its opportunity to upsell customers to higher speed packages. By FY22, it is predicted that the country will reach 36.9

Exhibit 52 – Germany Fixed Customers

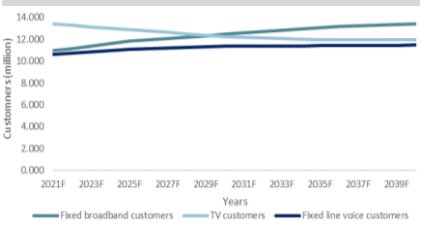
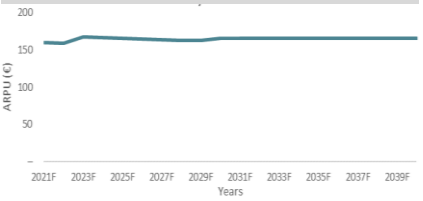


Exhibit 53 – Germany Fixed ARPU

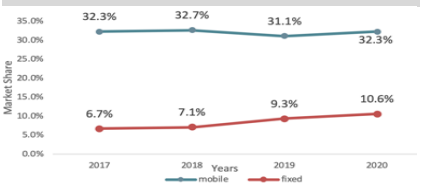


Source: Analysts Estimations

[29] Liberty Global's subsidiary

million gigabit households, of 41.5 million German households, the highest across EU[30]. Concerning competition, Telekom announced ambitious plans to accelerate fiber build-out and expanded the wholesale deal with Telefonica beyond VDSL to also include FTTH[31]. In FY20, fixed service revenue increased, with wholesale decline being partially counterbalanced by good retail growth, and cable net customer additions grew, due to the "GigaCable Max" launch, a cheaper gigabit tariff campaign, part of the Unitymedia re-branding. Although the number of fixed customers increased significantly in FY20 due to Liberty, TV customer base declined with Kabel Deutschland[32] losing primarily lower ARPU basic TV subscribers. In H1FY21, it also declined, reflecting a drop-in retail activity during the pandemic and a lower interest in Premium TV, hence, we maintained the trend but at a decreasing rate, due to the convergence plans' adherence. With the fixed-line telephony market under pressure from alternative carriers, we assumed the upward trend will continue, at a lower rate. In H1FY21, fixed service revenue continued growing supported by customer base growth and lower ARPU decrease, due to migration to high-speed plans, slightly decreasing until FY30, then stabilizing at a 0% growth, excluding FY23 and FY30.

Exhibit 54 – Vodafone's market share in Italy



Source: Vodafone Annual Reports

Exhibit 55 – Italy Mobile Customers

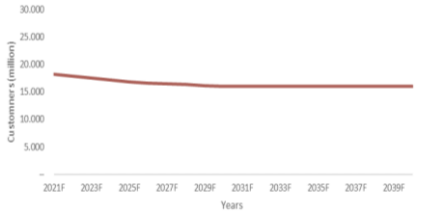
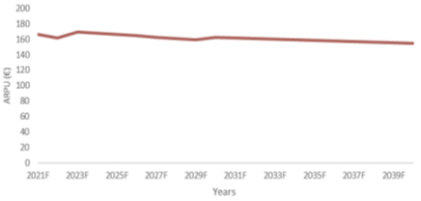


Exhibit 56 – Italy Mobile ARPU

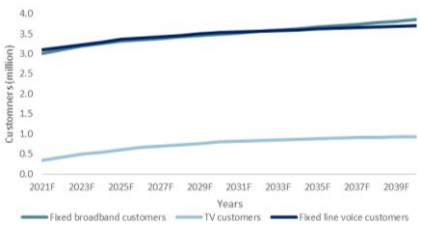


Source: Analysts Estimations

Italy is at the vanguard of 5G's developments, with spectrum auctions finalized on FY19, raising €6.5 billion, with Vodafone and TIM having spent €2.4 billion each, pressuring the participants to consider cost-cutting alternatives.

Source: European Commission, 2020

Exhibit 57 – Italy Fixed Customers



Source: Analysts Estimations

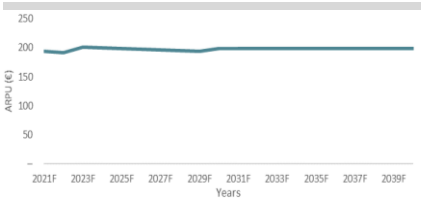
Italy

Since 2016, the market underwent considerable changes following Wind and 3 Italia's merger, resulting in a new entrant, Iliad, offering lower prices and increased mobile data allowance, forcing competitors to rethink their strategies, triggering the creation of low-price brands, Kena Mobile (TIM's) and Ho (Vodafone's). In FY19, Fastweb became an MNO and turned into the fifth Italian mobile operator following the 5G frequencies acquisition.

Italy has one of Europe's highest mobile penetration rates, although the number of subscribers has been decreasing given lower benefits from having different providers' SIM cards. In 2019, Fastweb and Wind Tre announced an agreement leveraging their assets to support 5G network deployment, and in response, Vodafone and TIM expanded their existing passive sharing agreement into an active partnership to deploy 5G infrastructure over a broader geographic scope at a lower cost, with the merger of Vodafone Italy's towers into INWIT being completed in FY20. In H1FY21, mobile service revenue declined, reflecting lower roaming and visitor revenue. There has been intense price competition in the low-value segment, however, Ho continued to grow. We consider a further decrease in ARPU, stabilizing at -0.5%, and follow subscribers' downward trend, given higher market fragmentation than in other European countries.

[30] "Germany to be Number 1 in Europe in 2022", Vodafone Institute for Society and Communications, 2020
[31] DESI country profile, European Commission, 2020
[32] Vodafone purchased Kabel Deutschland in 2013, becoming the largest cable TV operator

Exhibit 58 – Italy Fixed ARPU

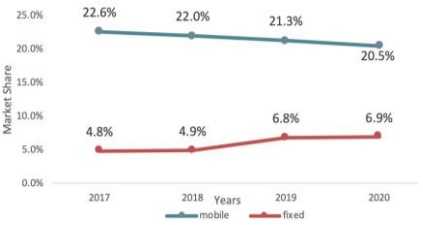


Source: Analysts Estimations

"This would leave fixed broadband providers with only one seller of wholesale access to the combined network - yet again Telecom Italia."

Nick Read, Vodafone's CEO

Exhibit 59 – Vodafone's market share in the UK



Source: Vodafone Annual Reports

Exhibit 60 – UK Mobile Customers

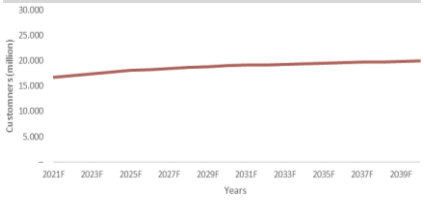
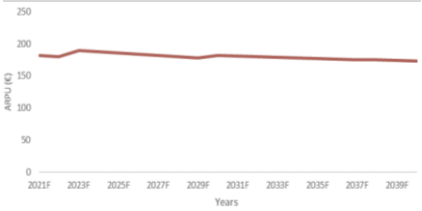


Exhibit 61 – UK Mobile ARPU



Source: Analysts Estimations

"Vodafone is in a unique position to drive forward full-fibre deployment in the UK. (…) The only way the UK will achieve its digital ambition is through strong partnerships, and Vodafone is leading the way."

Nick Jeffery, Vodafone UK CEO

Furthermore, fixed broadband will be driven by users' preference for higher-speed broadband services, assuming a slower decrease in ARPU and growing customer base. To stimulate the economy, severely affected by Covid-19, the government is pressuring TIM and Open Fiber to reach an agreement to build an all-fiber ultra-broadband network, reinventing a monopoly broadband supplier, against European regulators' requests to promote efficient competition[33]. Hence, we adopted a conservative approach, assuming broadband consumers would follow the upward trend, but at a lower rate. Vodafone introduced TV in 2017, justifying the enormous increase in customers, expected to slow down. The fixed line will continue to increase as well, stabilizing at 0.5%. ARPU will decrease for a few years, assuming the possible monopoly creation, and then stabilize its growth at 0%, given customers increasing preferences for improved services.

UK

Vodafone's major competitors are O2[34], BT, and Virgin[35]. In 2019, Vodafone, together with BT and O2, covered around 75% of overall mobile subscriptions. In FY20, mobile service revenue growth was supported by new market leading speed-tiered unlimited data plans in mobile and broadband, and launch of 5G, driving momentum in customer growth, with strong net additions in pre-paid customers through its digital sub-brand "VOXI". Contrarily, there was lower wholesale revenue and additional international call rate regulation, as well as lower out-of-bundle revenue resulting from intense competition. Vodafone also finalised its partnership with O2 to share 5G infrastructure, on joint network sites across the UK (CTIL), increasing coverage in high demand areas. Vodafone's mobile and home broadband contract prices[36] have been adjusted, with customers signing plans after 9 December 2020 experiencing yearly increases based on the Consumer Price Index + 3.9%, to support continued network investment, resulting in a lower decrease in ARPU, comparing to historical values. During H1FY21, economic pressures and minor roaming, visitor and incoming revenues decreased mobile subscriptions and had a negative effect on ARPU. Also, competition has become more intense with the new Liberty Global merger with Telefonica SA, backing the expansion of O2's 5G mobile positioning. 5G deployment will be delayed due to government's ban of Huawei gear until 2027. We assume ARPU will continue to decrease, and the number of customers to increase slowly, given this competitive reality, with growing number of low-cost MVNO operators, both further stabilizing.

[33] "Italy ups the ante in plan to create single broadband network, sources say", Reuters, 2020
[34] Telecommunications services provider owned by Telefonica UK
[35] UK cable operator owned by Liberty Global
[36] "Vodafone criticised over timing of UK price rise", Financial Times, 2020

Exhibit 62 – UK Fixed Customers

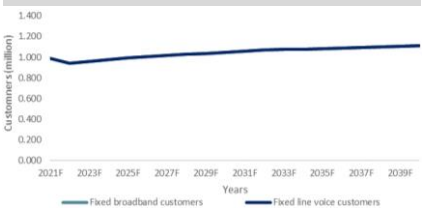
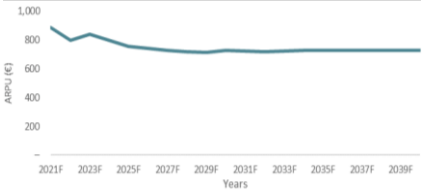


Exhibit 63 – UK Fixed ARPU

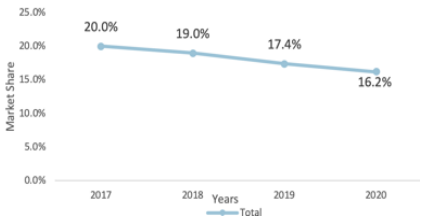


Source: Analysts Estimations

"I don't know any other market in Europe with so many brands," he said. "It is a very sophisticated and complex market that is unique in Europe."

Laurent Paillassot, Orange Spain CEO

Exhibit 64 – Vodafone's market share in Spain

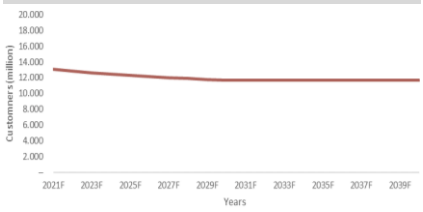


Source: Vodafone Annual Reports

Given the pandemic, Spain decided to postpone a planned auction of the 5G spectrum, not allocating additional spectrum in the 5G pioneer bands

Source: European Commission, 2020

Exhibit 65 – Spain Mobile Customers



Source: Analysts Estimations

The UK fixed market has been growing in both broadband take-up and coverage[31]. Vodafone's fixed service revenue increased given fixed broadband consumer additions, supported by the launch of "Vodafone Together" convergent plans. Vodafone's partnership with O2 will also upgrade their transmission networks with higher capacity optical fiber cables. In FY21, the company is restructuring its deal with CityFibre, to accelerate its full-fiber rollout and offer Gigafast broadband, and backing a new trial in which Openreach will replace every copper-based telephone line with more reliable optical fiber cables, resulting in a significant 32% increase in fixed customers, also supported by its 'need for speed' campaign. However, the Liberty's merger with Telefonica SA will also back the expansion of Virgin's giga-ready network, increasing competition significantly, awaiting approval from the European Commission, and expected to start having impact around FY22. Such deal will weaken Vodafone's position at a time when the industry is shifting towards converged bundles offering, and harm its business, with the loss of Virgin as a mobile wholesale client, resulting in a -5% impact in its customer base and -10% in ARPU. Though, we believe Vodafone will continue to rely on wholesale broadband arrangements with CityFibre and Openreach, leaving Pay TV to the OTT market[37]. The fiber network expansion is thus expected to continue, maintaining an increasing trend of fixed customers stabilizing at 0.5%, and ARPU decreasing at a lower rate, stabilizing at 0%, both in FY31.

Spain

Spain has turned into one of the most competitive markets in Europe, given price competition driven by a surplus of low-cost brands owned by the four biggest operators. Euskaltel's entrance in a national context has transformed the market into a five-player sector, a few years after Vodafone and Orange consolidated the sector, by buying out minor players to strongly compete with Movistar in their bundled service offers. Orange Spain CEO has warned about the unsustainability of this situation in the long run[38]. Apart from MNOs, there are also numerous resellers, which together with regulated roaming have cut mobile plans cost.

In 2019, Vodafone launched unlimited tariff offers, increasing subscribers, but, in 2020, had to reduce its price due to Telefonica's launch of its first equivalent plan. In FY20, Orange and Vodafone agreed to strengthen their existing mobile and fixed network partnerships by extending their current active mobile network sharing. In FY21, despite the growth in the contract mobile and Lowi's[39] customer base, the decrease in prepaid net addition was superior, negatively impacting the

[37] "Virgin Media and O2 owners confirm £31bn mega-merger in UK", The Guardian, 2020
[38] "Pain in Spain for telecoms groups as competition heats up", Financial Times, 2020
[39] Vodafone's low-cost secondary brand

Exhibit 66 – Spain Fixed ARPU

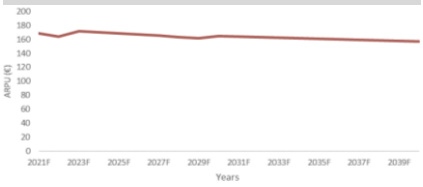


Exhibit 67 – Spain Fixed Customers

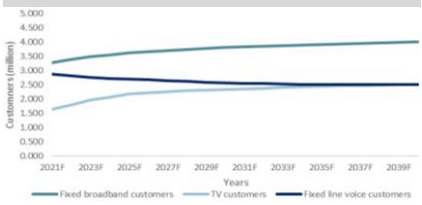
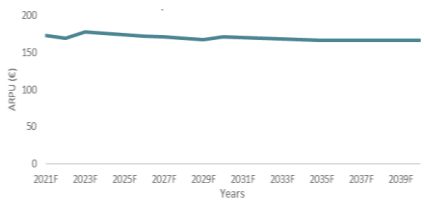


Exhibit 68 – Spain Fixed ARPU



Source: Analysts Estimations

Exhibit 69–Other Europe Mobile Customers

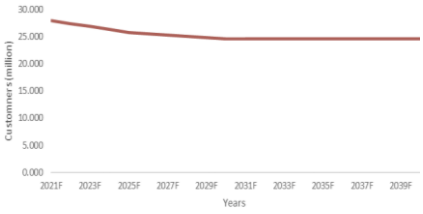


Exhibit 70 – Other Europe Mobile ARPU

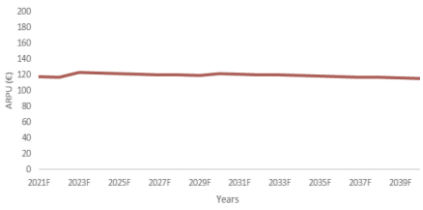
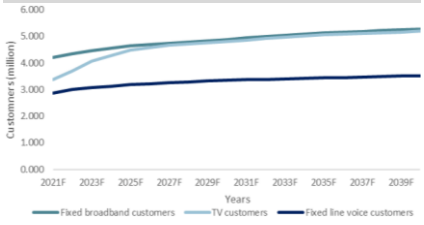


Exhibit 71–Other Europe Fixed Customers



Source: Analysts Estimations

overall number of subscribers. We consider a decreasing trend in customer base and ARPU, as the overall pricing environment remains highly competitive, similarly to Italy, partially offset by an uptake of the speed-tiered unlimited plans.

In the fixed sector, CNMC[40] reported that the three big nationwide convergent players (Telefonica, Orange and Vodafone) influence most of the market, but their common share continues to sink due to the share gained by Másmóvil and Euskaltel, with converged bundles accounting for more than 80% of the fixed broadband market. In FY20, Vodafone renewed its FTTH contract with Telefonica, and expanded its previous FTTH co-investment agreements with Orange to new geographic regions, augmenting its footprint and enabling the Group to offer its fiber and convergent services to many additional households over Orange's network[41]. Thus, in FY21, we assume an increase of 4% in fixed broadband customers, projected to continue, at a slower rate, given the high maturity of the market. In the TV and fixed-line telephony markets, there was a switch to other operators, given Vodafone's disposal of pay television football content offerings in FY19, however, there was a following improvement in TV customer base due to new movies and series' offers as well as its new 'boxless' TV proposition. The increase in TV customers is expected to be sustained, at a lower rate, and for fixed line voice, a continuing declining trend is forecasted. ARPU will decrease as well, following the highly competitive environment.

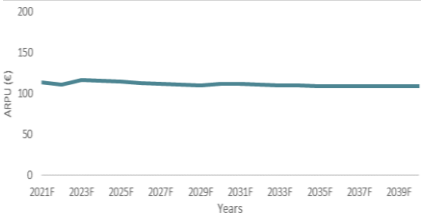
Other Europe

In other European markets, Vodafone continued to perform well, with service revenue growing in every country, except in Ireland and Albania. In four out of seven markets, the mobile contract churn was lower than 10%. The operations faced tougher competition in Romania, Czech Republic and Ireland.

In Portugal, service revenue grew, due to customer growth in both segments and ARPU growth in fixed, and in FY21, Vodafone made a mobile network sharing partnership with NOS, implying a more efficient deployment of 5G. In Ireland, revenue declined, given the slowdown in quarterly trends in both segments and, in Greece, service revenue improved, with pre-paid ARPU growth partially offset by ARPU pressure in fixed. Concerning Portugal and the Czech Republic, regulators are trying to attract a new fourth operator into their wireless market, by offering privileged access to spectrum and an open-ended right to roam on existing operators' wireless networks, negatively impacting Vodafone, by increasing competition[42]. Furthermore, at the beginning of FY21, Vodafone Albania acquired the country's largest cable operator, AbCom, enabling the

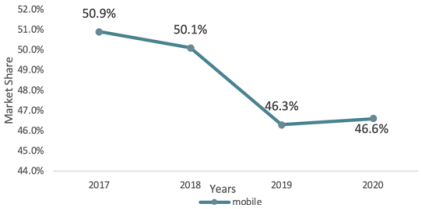
[40] National Commission on Markets and Competition
[41] "Vodafone and Orange expand network-sharing deal in Spain", Reuters, 2019
[42] "Digital infrastructure must look forward, not back", Politico, 2020

Exhibit 72 – Other Europe Fixed ARPU



Source: Analysts Estimations

Exhibit 73 – Vodafone's mobile market share in South Africa



Source: Vodafone Annual Reports

Exhibit 74 – Vodacom Mobile Customers

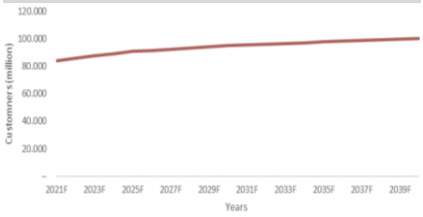
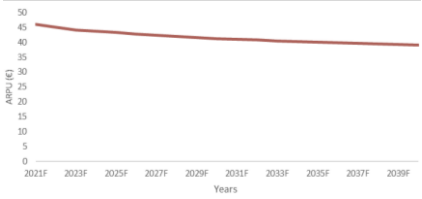
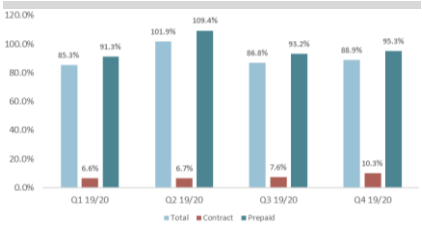


Exhibit 75 – Vodacom Mobile ARPU



Source: Analysts Estimations

Exhibit 76 – Vodacom Mobile Customer Churn Rate



Source: Vodafone Annual Spreadsheets

Group to become a full-service telcos company, supporting its market leadership position. Moreover, Liberty's acquisition in the Czech Republic, Hungary, and Romania is expected to accelerate convergence plans' offers and NGN coverage. Vodafone's and Liberty's CEE businesses are highly complementary, gathering Liberty's fixed customers with Vodafone's mobile consumers to ramp up converged services, on a national level.

Regarding mobile forecasts, the number of customers will decline due to market saturation and migration from multi-SIM pre-paid plans to contract services. Mobile ARPU will decrease 0.5% yearly, following the overall industry trend. Regarding fixed broadband, there will be an increase in customer base due to mainly Liberty's acquisition and we project an increase for the future years, also supported by Albania's acquisition, and the fixed broadband uptrend in overall countries. This also affects the TV and fixed telephony customers as well. Concerning ARPU growth, it will follow the downward trend stabilizing at 0%.

Rest of the World

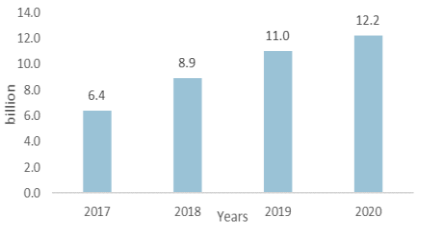
In Africa, mobile revenue growth slows down as some markets develop, while fixed broadband revenue growth accelerates, given more recent inception. Regarding Vodafone, NOPLAT decreases from FY23, given African customers' lower loyalty to the brand, with mostly prepaid connections driving higher customer churn. The Covid-19 lockdown measures increased connectivity and digital services demand, leading to a growing customer base, offset by the personal disposable income uncertainty and increasing concerns on the affordability of data, pressuring down prices, with a negative impact on the ARPU. Our predictions for this market take into consideration its high level of uncertainty, regarding consumers purchasing power and willingness to pay, as well as their response to digital interaction platforms.

Vodacom

Vodafone holds 60.5% of Vodacom, the remaining being owned by Telkom, operating mainly in South Africa, and also Tanzania, the Democratic Republic of Congo, Mozambique, Lesotho and Kenya, covering over 289 million people, providing business managed services to companies in 51 countries, through Vodacom Business Africa, and having developed M-Pesa platform, together with the Kenyan associate Safaricom[43]. After the lockdown in South Africa, data traffic rose between 35% and 60% in most networks and data costs dropped[44]. The Covid-19 has damaged public and private sector capacity to fix Africa's wide infrastructure gaps and contributed to a further slowdown in 5G progress. Despite

[43] "Vodacom Group simplifies structure; creates Vodacom South Africa as standalone", Vodafone News, 2020
[44] Mhlanga & Moloi, 2020

Exhibit 77 – M-Pesa transaction volume



Source: Vodafone Annual Spreadsheets

regulatory and macro pressures, the Group's service revenue raised, with a South African growth in service revenues, given voice usage and data traffic growth, benefiting from improved pricing combined with a new wholesale roaming agreement. In FY20, Vodacom's total mobile customer base in South Africa decreased to 45.1 million, adding 246000 contract customers but losing 1.9 million prepaid customers **(Exhibit 76)**. International operations grew, given the increasing demand for mobile data and M-Pesa services. **(Exhibit 77)**.

In FY21, competition in digital financial services is intensifying, with Telkom entering the sector and MTN offering a substitute to M-Pesa. Vodacom reduced monthly data bundle prices by up to 40%, after a 50% reduction in data price in the last two years, following an agreement with the Competition Commission. Vodacom's platform ConnectU gives free internet basic access and cheaper pricing to communities in need to support education and healthcare, all backing a declining ARPU. Nonetheless, during FY21, Vodacom service revenue will grow due to South African increased demand for voice, data and financial services, supported by a slight rise in consumer discretionary spend, resulting from the alcohol and tobacco ban during the pandemic, partially offset by revenue drop in international operations, reflecting free M-Pesa transfers in some countries. There was also an increase in contract customers, reinforced by remote working, although, in later 2019, only 45% of the Sub-Saharan Africa population subscribed to mobile services, due to mobile internet adoption major constraints, such as smartphones high cost, limited digital skills amid rural and less literate population[45]. However, we expect a higher smartphone penetration rate throughout the years, rising the number of customers, boosted by Vodafone's continuous infrastructure investment.

Orange is considering the opportunity to enter the South African market, around FY22, a possible competitive threat to Vodacom.

Source: Reuters, 2020

Exhibit 78 – Vodacom Fixed Customers

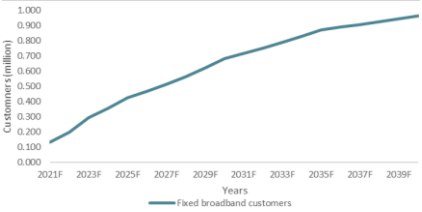
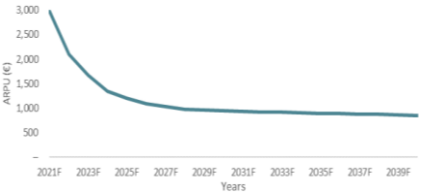
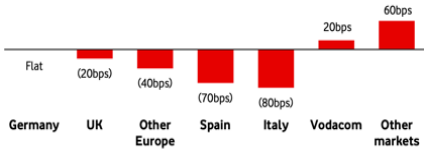


Exhibit 79 – Vodacom Fixed ARPU



Source: Analysts Estimations

Exhibit 80 – Contribution to Q1 FY21 SR growth



Source: Vodafone's presentation Q1 FY21

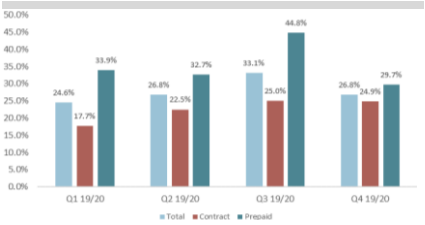
Other Markets

Other markets (Turkey, Egypt, Ghana) have made the larger contribution to the Q1FY21 short run growth **(Exhibit 80)**. In Turkey, service revenues increased given growing mobile data revenue and fixed line customer base increase. Following

[45] "Mobile Economy", GSMA, 2020

Source: Vodafone Annual Spreadsheets

Exhibit 81– Turkey Mobile Customer Churn



Source: Vodafone Annual Spreadsheets

Exhibit 82–Other Markets Mobile Customers

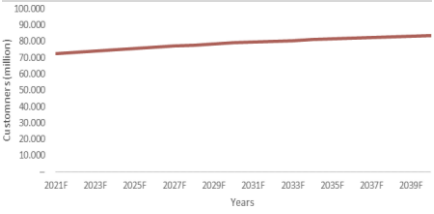


Exhibit 83 – Other Markets Mobile ARPU

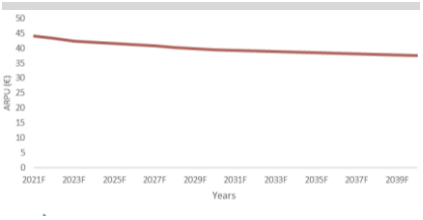


Exhibit 84–Other Markets Fixed Customers

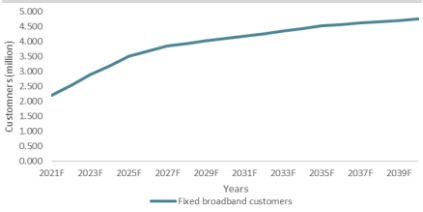


Exhibit 85 – Other Markets Fixed ARPU

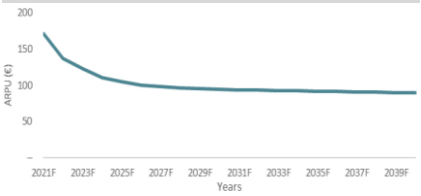
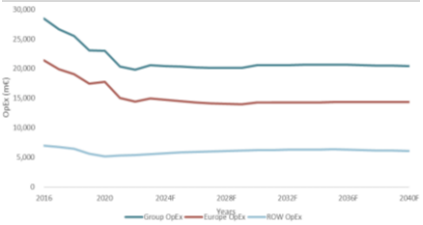


Exhibit 86 – Operating Expenses



Source: Analysts Estimations

the tendency, the prepaid churn rate surpassed the contract churn rate in every quarter of FY20 **(Exhibit 81)**. Vodafone's main competitors in Turkey are TurkCell, and Türk Telekom, with the sector ensuring over 93% of LTE coverage for the population with its fixed and mobile structure strengthening its Smart Cities Strategy.

Egypt service revenue increased during the year, mainly due to customer base expansion and data usage growth. Egypt has one of the bigger mobile telco markets in Africa, with a high penetration rate (95%) and intensive competition. It has been provided with unified licences to let operators offer fixed and mobile services, and the effective competition leads to low prices.

Overall Other Markets' ARPU is under pressure, given rising competition and economic pressures, though, offset by its importance for the daily lives of citizens, originating a steady yet reduced increase in subscriptions.

Operating Expenses

The firm has been improving its cost base structure by lowering net operating expenses. From FY19 to FY21, more than 10% of the Group's retail stores were eliminated, given digitalization of distribution channels. It has also been investing in direct marketing via internet and My Vodafone app, supporting OpEx decreasing trend. Even though 5G is more cost-efficient than 4G, upgrade is unlikely to make a huge difference to the overall operating costs, as labour costs and other overheads represent most operating expenses, thus, the true benefit comes from packing more data into bundles. Network sharing agreements are also a huge opportunity to cut costs, while contributing to a more efficient deployment of 5G networks, as there is little to be gained competitively from duplicating costs and resources on mobile infrastructure once networks reach almost full coverage. Finally, with VT, Vodafone's operating expenses will be reduced, given implied lower energy and maintenance expenses[46] **(Exhibit 86)**.

In FY20, Vodafone UK reduced operating expenses, partnered with O2, decreasing deployment costs, and did some cost reallocations from CapEx to cost of sales, following its new cloud partnership with IBM. Also, Vodafone may suffer delays of 5G rollout given the UK government's ban of Huawei 5G equipment in future networks, implying delayed decreases in operating expenses. In FY21, the company's new OpenRAN technology, allows for a diversifying supply of telco equipment, and sharing cell sites, and will enable greater flexibility, reducing risks and encouraging competition, and thus innovation, aiming to keep the cost of sourcing products and services low[47]. With

[46] Vantage Towers Capital Markets Day, Vodafone, 2020
[47] "OpenRAN: Why Vodafone is taking the lead", Vodafone UK News Centre, 2020

Vodafone shared its thoughts that competition will still drive good value for its customers, having no plans to reintroduce roaming charges, to preserve its customer base, which may imply further costs to maintain the free roaming, depending on its deals with EU counterparts.

Source: BBC News, 2020

Brexit, it is expected that in early 2021 the assurance of free mobile phone roaming will end, and UK operators will be charged to provide roaming services to their customers, since rates will not be regulated anymore. UK is the only European country in which we forecast an increase in cost of sales in FY21. In Germany and CEE, Liberty's acquisition will originate cost savings, and in Italy, there were lower operating expenses and commercial costs. In Spain, in H1FY21, 20% of its retail stores closed, 2/3 of customer calls were handled by TOBi, and there were lower football content costs, reducing operating expenses, partially offset by new series and movies offers. Overall, we assumed European countries will follow a downward trend relating to costs, mainly justified by digitalization, network sharing agreements and Liberty's purchase.

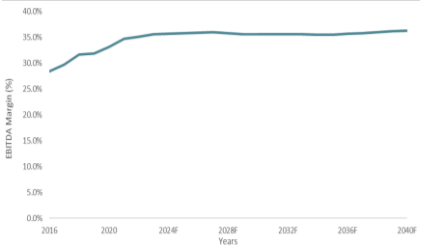
Regarding Rest of the World, in FY20, Vodacom's operating costs grew, slower than revenues, and roaming costs grew as well. In some years ahead, we assume the adoption of FWA, against limited availability of fixed services, creates a cost-efficient broadband alternative delivered over 4G or 5G, driving increased capacity through greater spectrum allocations and a higher network efficiency in terms of the cost per gigabyte[17]. Hence, costs are forecasted to slightly increase in the near future, at a lower rate, until assuming a decreasing trend.

Exhibit 87 – EBITDA Margin (%)

Adjusted EBITDA margin	ΔYoY FY20 (Δ%points)	ΔHoH H1FY21 (Δ%points)
Germany	2.8%	2.6%
Italy	-0.2%	-5.5%
UK	1.4%	-1.8%
Spain	1.3%	0.3%
Other Europe	-0.3%	-0.2%
Total Europe	**1.7%**	**0.3%**
Vodacom	-1.9%	-1.0%
Other Markets	**0.6%**	**-4.4%**
Group	**1.2%**	**-0.3%**

Source: Annual Reports & Report H1 FY21

Exhibit 88 – EBITDA Margin Forecast (%)



Source: Analysts Estimations

EBITDA Margin

In FY20, the Group delivered an increase in all EBITDA margins **(Exhibit 87)**, except for Italy, Other Europe and Vodacom. In FY20, the Group presents an EBITDA margin of 33.1%, against the European industry average[48] of 40.2%, supporting Vodafone's more unprofitable results, laying behind its peers. For the future, given previous revenues and costs' analysis, EBITDA margin is set to increase at a decreasing rate **(Exhibit 88)**.

Taxes

As the Group operates worldwide, we decided to incorporate a blended tax rate to consider the profits from each region and its different statutory tax rate, estimating the % of adjusted operating profit per region, assuming that profit per region is equivalent to the profit booked per region. As the distribution of profit in the last 2 years does not vary significantly and as it is not expected any major impact on the future tax charge, this method is considerate appropriate, reaching a total statutory tax rate of 27.3%.

[48] Bloomberg: European Incumbent Telecom Average Adjusted EBITDA Margin (%), 2020

Balance Sheet

Goodwill

Vodafone presents a high value of Goodwill, especially since FY20, due to the acquisition of Liberty, partially offset by impairment charges concerning some investments, mainly due to challenging economic conditions and intensified competition. Assuming the company will not perform significant acquisitions and disposals in the future, focusing mainly on the two main markets' development, we expect goodwill to remain constant, only decreasing by yearly impairments' amount. However, there is an exception in FY21, given VT's IPO, with an overall decrease of 5% in European Goodwill being assumed, for simplification purposes, representing the amount of previously owned towers, now sold and not leased back, resulting in a positive impact in Europe's FCFs, with a lower Investing CF in FY21, in Europe, as a result of the major disinvestment.

Right-of-use assets and lease liabilities

Under IFRS 16, a lessee is now required to recognise a "Right-of-use asset" under PPE, representing its right to use the respective leased asset, and "Lease liabilities" representing its lease payments obligation. The immediate impact of this adoption was an increase in both accounts, of €10.2 billion in right-of-use assets and €10.0 billion in lease liabilities, on 1 April 2019. Right-of-use assets and Lease Liabilities are expected to increase by the leased back towers' value from VT, while owned PPE is reduced by the total amount of towers sold. While Right-of-use assets' depreciation does not affect the Enterprise valuation of Vodafone, the change in Lease Liabilities will be reflected as an increase in the overall Net Debt, impacting the Equity value.

Assets and Liabilities held for sale

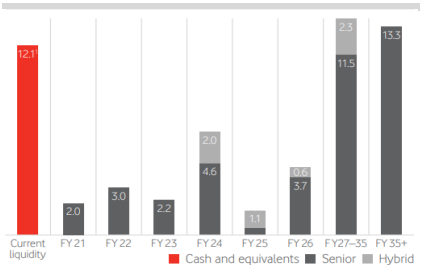
The Group considers as available for sale its 24.95% interest in Vodafone Hutchison Australia and the 55% interest in Vodafone Egypt, during FY20. Assets and liabilities held for sale balance is thus expected to be maintained in the next two years, and later expected to reach €0, assuming the future sale of both holdings, in FY22, which will be included in the Excess Cash account.

Deferred Tax Assets and Liabilities

Vodafone recognizes substantial figures regarding DTA and DTL. In FY20, the more considerable amount of the DTA refers to Luxembourg (€20544 million) and Germany (€2662 million), both projected to continue generating taxable profits, enabling the Group to use past losses' deferred tax assets, which do not expire. DTA derive mainly from tax losses and DTL results from a difference in the fiscal and accounting pace of depreciation, expected to start decreasing at a certain

point. After analysing its similar historical values, except for FY20, in which DTL increased mainly due to Liberty's acquired non-tax-deductible intangible assets, we assume a 10% decreasing rate, each year, for both captions.

Exhibit 89 – Bond Maturity Profile (€billion)



Source: Annual Report 2020

Exhibit 90 – Net Working Capital Forecast

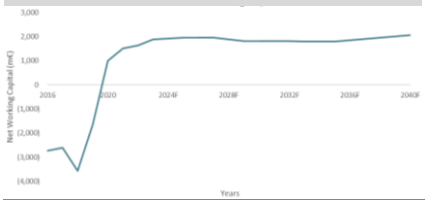
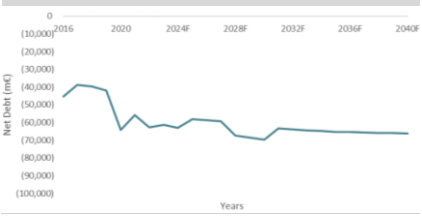


Exhibit 91 – Net Debt Forecast



Source: Analysts Estimations

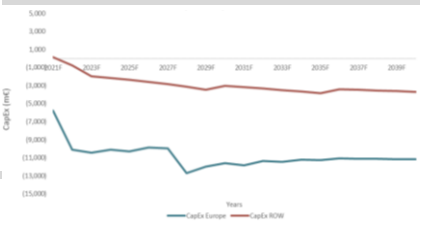
Net Debt

Net Debt's value is €64 billion at the end of FY20, significantly higher than €42 billion in FY19, mainly reflecting debt of €18.5 billion and cash outflows in relation to Liberty assets' acquisition, spectrum accruals and cash payments of €1.7 billion mostly relating to 5G spectrum acquisitions in Germany, dividends of €2.3 billion, and the completed buyback for convertible bonds issued in 2016 of €1.1 billion. Vodafone keeps a positive liquidity position, having doubled the average debt maturity to 12 years, having no significant short-term refinancing obligations **(Exhibit 89)**, focusing on deleveraging, while having an increased Net Working Capital ratio **(Exhibit 90)**. In FY21, a considerable cash inflow was added to the Excess Cash account considering the impact of VT's IPO, as well as yearly dividends paid by the new firm, respecting its policy to pay out 60% of its recurring cash flow as dividends. Such will contribute to a decrease in overall Net Debt, offsetting a slight increase in total borrowings from the smaller growth in lease liabilities and by excluding the past year's "Bank borrowings secured against Indian assets", having a positive impact on that year's share price. In the next few years, we forecast Total Borrowings as 65% of Invested Capital, due to continuous 5G roll-out, followed by a small decrease in that %, partially offset by the yearly Excess Cash account, stabilizing in FY22, at a 10% of Invested Capital, following FY19's reality. Also, a further increase in Total Borrowings was considered, from FY28 to FY30, with the deployment of 6G, decreasing afterwards, until stabilizing in FY31 as 55% of Invested Capital.

Cash Flow Map

CapEx

Exhibit 92 – Capex Forecast



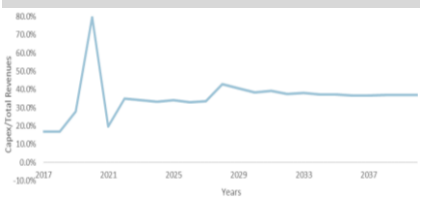
Source: Analysts Estimations

PPE and Other Intangibles are estimated jointly, net of accumulated depreciation and amortization, and are forecasted as the % of Net PPE and Other Intangibles of the respective segment.

In Europe, Vodafone has heavily invested in its networks, in the past few years, due to 4G deployment, and we expect investment in 5G to be substantially higher than past generations, since Vodafone needs extra wireless spectrum, greater fiber backhauls, and significant towers' access to deliver its benefits, all very costly. It is also necessary to roll-out gigabit networks to meet fixed customers demand[49]. For FY21, given VT's IPO, and similarly to Goodwill, an overall

[49]"Vodafone's Network Infrastructure-Sharing a Smart Move Ahead of 5G", Fitch&Ratings, 2019

Exhibit 93 – Total Capital Expenditure share of Total Revenues (%) Forecast



Source: Analysts Estimations

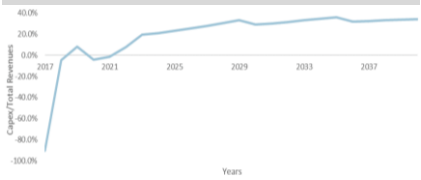
decrease of 5% in European PPE&Other Intangibles was assumed. Due to IFRS 16, the major decrease in owned PPE is offset by an also substantial increase in the Right-of-Use Assets. In the short run, we expect the abovementioned significant investment regarding 5G and fiber deployment, and afterwards a decreasing trend until 2028. 6G development is assumed to begin in 2028, triggering a higher investment rate, decreasing afterwards, stabilizing its growth at 0.2%. The CapEx/Revenues ratio **(Exhibit 93)** stabilizes at around 37% in FY34.

In Germany and CEE, due to Liberty's acquisition, the share of total PPE & Other Intangibles increased and is expected to slightly decrease in the first years due to CapEx savings. Vodafone UK is under pressure to comply with Government's deadline for the removal of Huawei's 5G equipment by the end of 2027, assumed to being followed by the rest of European countries, supporting high CapEx for this segment. In FY21, Vodafone will remove Huawei from its core network, and it also uses Huawei kit in its RAN[50], more expensive to replace, which will do by installing OpenRAN, implying high capital expenditures, while reducing hardware costs. UK regulator Ofcom will still hold a 5G spectrum auction in early 2021, rejecting calls from operators suggesting a direct allocation process rather than a traditional sale, in which Vodafone is assumed to participate, however struggling with extra costs. As Spain decided to postpone the auction of the 5G spectrum to allocate additional spectrum, we assume it will happen in near future.

For the ROW, Vodafone will focus on driving digital transformation to become a low-cost operator, while limiting spend. The region faces various challenges due to the, so far, insufficient solutions facing inconstant power supply and low purchasing power. With the increased demand, Vodafone will continue investing in network upgrades. Also, the new fixed market still requires major investments in infrastructure, such as towers and fiber, extremely costly to develop. Hence, FWA is an alternative to provide broadband in low population density areas, not covered by fixed broadband services, as it involves fewer heavy investments, driven by digital services demand along with government subsidies. Nokia will enable 5G services for Vodacom's customers, by offering such solutions[51]. The Group will also continue the rollout of 4G, followed by 5G's deployment assumed to begin until 2030. Turkey remains ahead, continuing to invest in 5G, with considerable trials being supported by Ericsson and Huawei, as well as in fiber broadband networks. In FY20, Vodafone signed a Memorandum of Understanding with Saudi Telecom relating to the sale of its 55% holding in Vodafone Egypt, for €2.2 billion, but it has expired before reaching a consensus

[50] "Vodafone UK sees Open RAN as a way to 'close the digital divide'", RCR Wireless News, 2020
[51] "Nokia enables ultra-fast 5G services for Vodacom South Africa customers with 5G radio, core and fixed wireless access", GlobeNewswire, 2020

Exhibit 94–Total Capital Expenditure share of Total Revenues (%) Forecast ROW



Source: Analysts Estimations

from both parties, with dialogue remaining open, and assumed to be fully concluded in FY22, implying a decrease of 5% in this segment's PPE&OI. ROW will involve significant investments until FY29, as the business is still in an earlier phase than in Europe, requiring major developments to build a strong infrastructure, to meet increasing demand. Afterwards, the yearly increase of PPE&OI will decline, stabilizing at 2% in FY36. Regarding the CapEx/Revenues ratio **(Exhibit 94)**, it will stabilize at around 34% in FY39.

Change in Net Working Capital

Operational cash, inventory and trade and other receivables are forecasted as a % of the Group's total revenues, and trade and other payables, as a % of the Group's total costs. Thus, the revenues' decrease from the loss of rental income originated by the towers' disposal, as well as the forecasted decrease in operating expenses, are implicit in the overall change in NWC, along the years, having a positive impact in Europe's FCFs, as a decrease in Investing CFs.

Exhibit 95 – Valuation Assumptions

Valuation Assumptions	
	March 31, 2022
Statutory Tax Rate	27.30%
Risk Free rate	-0.13%
Average MRP	6.75%
D/E (target)	90.0%
D/V (target)	47%
Beta unlevered	0.457
Beta Debt	0.141
Beta Relevered	0.742
Unlevered Cost of Capital	2.96%
Cost of Equity	4.88%
Rating for Vodafone	BBB
Probability of Default (5y)	2.35%
Loss given default	60%
YTM	2.24%
Cost of Debt	0.83%
WACC	2.85%

VALUATION ASSUMPTIONS

We used a common WACC to discount future Free Cash Flows for both Europe and ROW since Europe represents around 75% of the group's sales, and because WACC represents the systematic risk, through beta, while cash flows from Europe and ROW bear different idiosyncratic risks. To estimate the cost of equity of 4.88%, we applied the CAPM model. The estimated risk-free rate was -0.13%[52] and the market risk premium 6.75%[53]. Vodafone's return was regressed against a well-diversified market portfolio[54], obtaining the adjusted β of 0.9891, indicating the company's strong correlation with the market index, with a narrow 95% confidence interval, 0.9888 to 1.0032, and a small standard error (0.0036), indicating high accuracy. Also, to reduce the effect of idiosyncratic shocks, we studied the industry's unlevered beta median (0.413) based on the peer's group[55], which is relatively similar to Vodafone's unlevered beta (0.457), indicating similar operating risks among them. Vodafone's rolling beta **(Exhibit 96)** is behaving in a stable way, right before the Covid-19 outbreak, in March 2020, expecting the same stable trend will return in the near future, after this atypical period is overcome, backing our decision to use the calculated historical beta. All these factors support the good comparableness between firms. To estimate the cost of debt, we used a representative long-term bond[56] of the Group, maturing in 2037, with a coupon rate of 2.88% issued at 98.23%, with a current yield to

Exhibit 96 – Rolling Beta

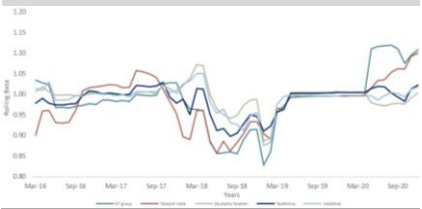
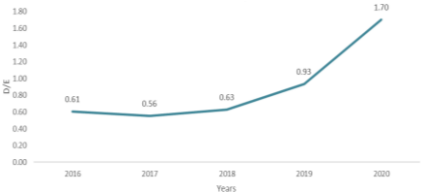


Exhibit 97 – Historical D/E



Source: Analysts Estimations

[52] 30-year AAA Government Euro Bonds spot rate, Euro area yield curves, ECB
[53] "Equity Market Risk Premium - Research Summary", KPMG, 2020
[54] MSCI World in euros, investing.com
[55] BT Group, Telecom Italia, Deutsche Telekom and Telefonica
[56] Bonds outstanding (EU and US), Vodafone website

Exhibit 98 – ROIC Forecast

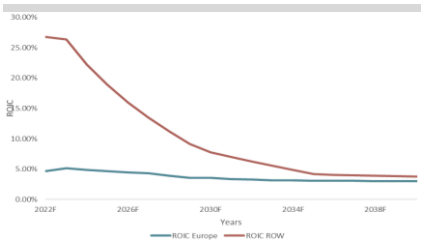


Exhibit 99 – RONIC Forecast

Exhibit 100 – RR Forecast

Exhibit 101 – Growth Rate Forecast

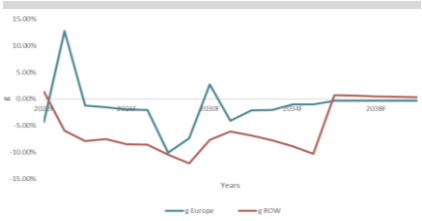


Exhibit 102 – Sensitivity Analysis

	Region	MIN	MAX
0.5% error in RONIC and RR leading to a growth rate	Europe	-0.47%	-0.23%
	Rest of the World	-0.20%	0.83%
0.1% error in after-tax cost of debt and 1% error in D/V leading to a WACC	Group	2.69%	3.00%
0.2% error in growth rate and WACC leading to a DCF (in €millions)	Europe	56382.53	145218.01
	Rest of the World	10923.81	21336.81
0.2% error in growth rate and WACC leading to a share price (in €)	Europe	1.14	3.93
	Rest of the World	1.83	2.15

Exhibit 103 – Scenario Analysis Result

	31.03.2022
Entreprise Value (m€)	95788
Non core assets/liabilities (m€)	28529
Net Debt (m€)	62864
Equity Value (m€)	**61453**
#Shares outstanding	31827
Price per Share (€)	1.93
EPS (€)	-0.05
Expected Capital Gain	
Price target 2022 (€)(from DCF)	1.93
Price target 2022 (€)(from Scenario Analysis)	**1.92**
Current Share Price (€)	1.38
Expected Capital Gain (%)	39.21%
Expected Cash Gain	
Dividend yield (%)	7.03%
Expected Cash Gain (%)	7.03%
Expected Capital Gain + Cash Gain (%)	**46.24%**
12 month Expected Capital Gain + Cash Gain (%)	**35.54%**
Cost of Equity	4.88%
Recommendation	**BUY**

Source: Analysts Estimations

maturity of 2.24%[57]. To account for the default scenario, we also used the probability of default (2.35%[57]) and the loss given default (60%[57]), according to the Group's BBB credit rating, which led to a rd of 0.83%. Afterwards, we considered a targeted lower D/E of 0.9, comparing to the high historical one for FY20 (1.70) **(Exhibit 97)**, mainly due to Liberty's acquisition, following the Group's capital allocation priorities, accomplished with the VT's IPO. We assume the ratio will be closer to the FY19 value, before the major acquisition in FY20, and considering the beginning of spectrum investments in FY19, as we believe Vodafone will still bear large investments regarding 5G, 6G, and fiber deployment, in the upcoming years. Finally, considering the constant target capital structure and tax rate, during the forecasted years, we maintain a stable WACC of 2.85%.

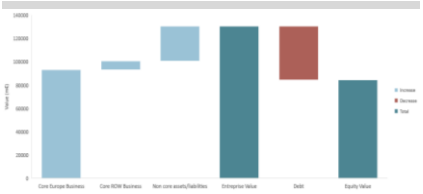
VALUATION OUTCOME

Discounted Cash Flows

From the DCF, the FY22 valuation resulted to be approximately €124317 million Enterprise Value, by estimating the Core Unlevered Free Cash Flows, from both Europe and ROW, and considering the respective Non-Core Assets/Liabilities value. We predict an overall conversion between NOPLAT and Invested Capital, across the Group's geographical segments, with return on investments being reduced, characterized by the continuous high capital intensity, with required high network investments, combined with the ongoing strong competition and pressure on prices. This results in a positive decreasing ROIC in both markets **(Exhibit 98)**, indicating a reduced efficiency in allocating capital to profitable investments, but always surpassing WACC, meaning capital is still used effectively. As such, we believe the company is mainly on a path of value loss, with RONIC mostly negative (**Exhibit 99)**, supporting Invested Capital growth while NOPLAT is mostly reduced, and RR assuming a contrary effect (**Exhibit 100)**, resulting in a negative perpetual growth rate for Europe (**Exhibit 101)**, which, according to Damodaran, is usual for a mature market, reaching its steady state in FY39 (g=-0.34%). On the other hand, regarding the ROW segment, an overturn is expected since FY36, with the business receiving its return from past heavy investments translated into a positive growth rate, later reaching its steady state in FY46 (g=0%). The Group's FCFs vary a lot in Europe, throughout the years, while mainly decreasing in the ROW, due to higher uncertainty. An Equity Value of €61453 million was reached, and by considering mandatory convertible bonds maturing in FY21 and FY22, the number of the outstanding shares will

[57] Bloomberg

Exhibit 104 – Waterfall Value in million €



Source: Analysts Estimations

increase, attaining a target price per share of €1.93 in FY22. Afterwards, the scenario analysis was applied, with the respective probabilities, reaching a final target price per share of €1.92 in FY22, from a range between €1.51 and €2.29, with a total shareholder return of 35.54%, supporting the idea that Vodafone is currently undervalued (**Exhibit 103**).

Multiples

For the comparison between peers, a group of the most similar companies to Vodafone Group Plc, within the same industry, was selected, as well as Vodafone Group Plc itself. In this case, because Vodafone operates mainly in Europe, such group is composed by BT Group Plc, Deutsche Telekom AG, Telefonica SA, and Telecom Italia SA, all strong operators in the European market, with presence in other regions as well. The average, minimum and maximum multiples[57] calculated based on the group selected were then compared to the DCF estimation. The P/E average multiple originated a €2.07 share price, with an expected total return of 43.21%, which corroborates the DCF recommendation to BUY. However, the P/E ratio has some shortfalls, as it considers Net Income, which, in the case of Vodafone, is low and sometimes negative, when compared to the selected peers, implying a higher multiple. EV/EBITDA may be more appropriate, leading to a projected share price of €1.26 and expected total return of -1.52%, however, it goes against our recommendation to BUY. We believe this happens as the values are referent to 2020 and, according to our forecasts, the EV is believed to grow in the next two years, while EBITDA decreases, leading to a higher multiple in FY21 and FY22.

Exhibit 105 – Average Multiples

	Vodafone	Average of Peers
P/E	18.82	11.33
EV/EBITDA	6.26	5.46

Source: Bloomberg

Appendix

Financial Statements

Forecasted Income Statement

	2016	2017	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F
	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m
CORE												
Germany												
Mobile customer revenue	5294	5299	5356	4453	4445	4440	4371	4659	4681	4704	4703	4703
Mobile incoming revenue	293	261	208	200	203	208	204	218	219	220	220	220
Other service revenue	475	511	523	497	436	0	0	0	0	0	0	0
Mobile service revenue	**6062**	**6071**	**6087**	**5150**	**5084**	**4647**	**4576**	**4877**	**4900**	**4924**	**4923**	**4923**
Fixed service revenue	3755	3935	4175	3995	5612	5610	5612	5926	5931	5936	5914	5892
Service revenue	**9817**	**10006**	**10262**	**9145**	**10696**	**10257**	**10188**	**10803**	**10831**	**10860**	**10837**	**10815**
Other revenue	809	594	585	1245	1380	622	617	655	656	658	657	655
Total revenue	**10626**	**10600**	**10847**	**10390**	**12076**	**10879**	**10805**	**11457**	**11487**	**11518**	**11494**	**11470**
YoY%Δ		*-0.2%*	*2.3%*	*-4.2%*	*16.2%*	*-9.9%*	*-0.7%*	*6.0%*	*0.3%*	*0.3%*	*-0.2%*	*-0.2%*
Cost of sales	-5264	-5130	-5166	-4728	-5319	-4574	-4435	-4588	-4543	-4497	-4453	-4410
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*42.0%*	*41.0%*	*40.0%*	*39.5%*	*39.0%*	*38.7%*	*38.4%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*-2.0%*	*-1.0%*	*-1.0%*	*-0.5%*	*-0.5%*	*-0.3%*	*-0.3%*
Selling and distribution expenses	-982	-968	-934	-926	-1024	-901	-873	-914	-905	-902	-900	-898
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.3%*	*8.1%*	*8.0%*	*7.9%*	*7.8%*	*7.8%*	*7.8%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*-0.2%*	*-0.2%*	*-0.1%*	*-0.1%*	*-0.1%*	*0.0%*	*0.0%*
EBITDA	**4381**	**4502**	**4747**	**4736**	**5733**	**5404**	**5497**	**5955**	**6039**	**6119**	**6141**	**6162**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*49.7%*	*50.9%*	*52.0%*	*52.6%*	*53.1%*	*53.4%*	*53.7%*
Depreciation and amortisation	(2,942)	(3,053)	(2,960)	(3,009)	(3,376)	(2,690)	(2,759)	(2,830)	(2,903)	(2,977)	(3,037)	(3,097)
Core result before taxes	**1439**	**1449**	**1787**	**1727**	**2357**	**2714**	**2738**	**3125**	**3137**	**3142**	**3104**	**3065**
YoY%Δ		*0.7%*	*23.3%*	*-3.4%*	*36.5%*	*15.2%*	*0.9%*	*14.1%*	*0.4%*	*0.2%*	*-1.2%*	*-1.3%*
Income tax expense	-1107	-1128	-238	-994	-859	-990	-999	-1140	-1144	-1146	-1132	-1118
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Germany	**332**	**321**	**1550**	**733**	**1498**	**1725**	**1740**	**1986**	**1993**	**1996**	**1972**	**1947**
Italy												
Mobile customer revenue	3685	3733	3721	3353	3083	2771	2634	2711	2630	2551	2501	2451
Mobile incoming revenue	364	360	346	328	290	266	253	260	252	245	240	235
Other service revenue	254	272	243	233	252	0	0	0	0	0	0	0
Mobile service revenue	**4303**	**4365**	**4310**	**3914**	**3625**	**3037**	**2887**	**2971**	**2882**	**2796**	**2741**	**2686**
Fixed service revenue	826	882	992	1116	1208	1252	1282	1394	1423	1445	1463	1476
Service revenue	**5129**	**5247**	**5302**	**5030**	**4833**	**4289**	**4169**	**4365**	**4305**	**4242**	**4204**	**4162**
Other revenue	856	823	902	827	696	288	280	293	289	285	282	280
Total revenue	**5985**	**6070**	**6204**	**5857**	**5529**	**4577**	**4449**	**4658**	**4594**	**4527**	**4486**	**4441**
YoY%Δ		*1.4%*	*2.2%*	*-5.6%*	*-5.6%*	*-17.2%*	*-2.8%*	*4.7%*	*-1.4%*	*-1.5%*	*-0.9%*	*-1.0%*
Cost of sales	-2965	-2938	-2955	-2665	-2435	-1924	-1826	-1865	-1817	-1767	-1738	-1708
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*42.0%*	*41.0%*	*40.0%*	*39.5%*	*39.0%*	*38.7%*	*38.4%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*-2.0%*	*-1.0%*	*-1.0%*	*-0.5%*	*-0.5%*	*-0.3%*	*-0.3%*
Selling and distribution expenses	-553	-554	-534	-522	-469	-379	-359	-372	-362	-354	-351	-348
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.3%*	*8.1%*	*8.0%*	*7.9%*	*7.8%*	*7.8%*	*7.8%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*-0.2%*	*-0.2%*	*-0.1%*	*-0.1%*	*-0.1%*	*0.0%*	*0.0%*
EBITDA	**2467**	**2578**	**2715**	**2670**	**2625**	**2274**	**2263**	**2421**	**2415**	**2405**	**2397**	**2386**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*49.7%*	*50.9%*	*52.0%*	*52.6%*	*53.1%*	*53.4%*	*53.7%*
Depreciation and amortisation	(1,210)	(1,280)	(1,280)	(1,268)	(1,255)	(1,004)	(1,034)	(1,065)	(1,097)	(1,130)	(1,153)	(1,176)
Core result before taxes	**1257**	**1298**	**1435**	**1402**	**1370**	**1270**	**1229**	**1356**	**1318**	**1275**	**1244**	**1210**
YoY%Δ		*3.2%*	*10.6%*	*-2.3%*	*-2.3%*	*-7.3%*	*-3.2%*	*10.3%*	*-2.8%*	*-3.3%*	*-2.4%*	*-2.7%*
Income tax expense	-968	-1010	-191	-807	-500	-463	-448	-494	-481	-465	-454	-441
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Italy	**290**	**288**	**1244**	**595**	**870**	**807**	**781**	**862**	**838**	**810**	**790**	**769**
UK												
Mobile customer revenue	5199	4429	4027	3056	3092	2816	2844	3045	3075	3105	3105	3105
Mobile incoming revenue	436	330	302	275	262	230	232	248	251	253	253	253
Other service revenue	390	320	300	254	264	0	0	0	0	0	0	0
Mobile service revenue	**6025**	**5079**	**4629**	**3585**	**3618**	**3046**	**3076**	**3294**	**3326**	**3359**	**3358**	**3358**
Fixed service revenue	1962	1553	1465	1367	1402	1754	1500	1606	1556	1508	1493	1477
Service revenue	**7987**	**6632**	**6094**	**4952**	**5020**	**4800**	**4575**	**4900**	**4883**	**4867**	**4851**	**4836**
Other revenue	414	264	984	1320	1464	611	582	624	621	619	617	615
Total revenue	**8401**	**6896**	**7078**	**6272**	**6484**	**5411**	**5157**	**5524**	**5504**	**5486**	**5469**	**5451**
YoY%Δ		*-17.9%*	*2.6%*	*-11.4%*	*3.4%*	*-16.6%*	*-4.7%*	*7.1%*	*-0.4%*	*-0.3%*	*-0.3%*	*-0.3%*
Cost of sales	-4161	-3338	-3371	-2854	-2856	-2491	-2375	-2543	-2507	-2471	-2447	-2423
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*46.0%*	*46.0%*	*46.0%*	*45.5%*	*45.0%*	*44.7%*	*44.4%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*2.0%*	*0.0%*	*0.0%*	*-0.5%*	*-0.5%*	*-0.3%*	*-0.3%*
Selling and distribution expenses	-776	-630	-610	-559	-550	-459	-437	-468	-467	-465	-464	-462
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*-0.2%*	*-0.2%*	*-0.1%*	*-0.1%*	*-0.1%*	*0.0%*	*0.0%*
EBITDA	**3463**	**2929**	**3098**	**2859**	**3078**	**2460**	**2345**	**2512**	**2530**	**2550**	**2558**	**2566**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*45.5%*	*45.5%*	*45.5%*	*46.0%*	*46.5%*	*46.8%*	*47.1%*
Depreciation and amortisation	(1,854)	(1,754)	(1,594)	(1,638)	(1,632)	(1,323)	(1,372)	(1,441)	(1,513)	(1,588)	(1,620)	(1,652)
Core result before taxes	**1609**	**1175**	**1504**	**1221**	**1446**	**1137**	**973**	**1071**	**1018**	**962**	**938**	**914**
YoY%Δ		*-27.0%*	*28.0%*	*-18.8%*	*18.5%*	*-21.4%*	*-14.4%*	*10.0%*	*-5.0%*	*-5.5%*	*-2.5%*	*-2.6%*
Income tax expense	-1238	-914	-200	-703	-527	-415	-355	-391	-371	-351	-342	-333
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result UK	**371**	**260**	**1304**	**518**	**919**	**722**	**618**	**681**	**646**	**611**	**596**	**581**
Spain												
Mobile customer revenue	2701	2689	2686	2469	2273	2088	1995	2064	2013	1962	1923	1885
Mobile incoming revenue	143	161	159	125	125	116	111	115	112	109	107	105
Other service revenue	190	196	185	161	175	0	0	0	0	0	0	0
Mobile service revenue	**3034**	**3046**	**3030**	**2755**	**2573**	**2204**	**2106**	**2178**	**2124**	**2071**	**2030**	**1990**
Fixed service revenue	1434	1461	1557	1448	1331	1348	1356	1464	1474	1485	1479	1474
Service revenue	**4468**	**4507**	**4587**	**4203**	**3904**	**3552**	**3462**	**3642**	**3598**	**3556**	**3509**	**3463**
Other revenue	462	428	391	466	392	170	165	174	172	170	168	166
Total revenue	**4930**	**4935**	**4978**	**4669**	**4296**	**3722**	**3627**	**3816**	**3770**	**3726**	**3677**	**3629**
YoY%Δ		*0.1%*	*0.9%*	*-6.2%*	*-8.0%*	*-13.4%*	*-2.5%*	*5.2%*	*-1.2%*	*-1.2%*	*-1.3%*	*-1.3%*
Cost of sales	-2442	-2388	-2371	-2125	-1892	-1565	-1489	-1528	-1491	-1455	-1425	-1395
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*42.0%*	*41.0%*	*40.0%*	*39.5%*	*39.0%*	*38.7%*	*38.4%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*-2.0%*	*-1.0%*	*-1.0%*	*-0.5%*	*-0.5%*	*-0.3%*	*-0.3%*
Selling and distribution expenses	-456	-451	-429	-416	-364	-308	-293	-305	-297	-292	-288	-284
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.3%*	*8.1%*	*8.0%*	*7.9%*	*7.8%*	*7.8%*	*7.8%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*-0.2%*	*-0.2%*	*-0.1%*	*-0.1%*	*-0.1%*	*0.0%*	*0.0%*
EBITDA	**2032**	**2096**	**2179**	**2128**	**2039**	**1849**	**1845**	**1983**	**1982**	**1980**	**1964**	**1950**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*49.7%*	*50.9%*	*52.0%*	*52.6%*	*53.1%*	*53.4%*	*53.7%*
Depreciation and amortisation	(1,175)	(1,180)	(1,257)	(1,258)	(1,303)	(1,042)	(1,089)	(1,122)	(1,156)	(1,190)	(1,214)	(1,238)
Core result before taxes	**857**	**916**	**922**	**870**	**736**	**807**	**756**	**861**	**826**	**789**	**750**	**711**
YoY%Δ		*6.8%*	*0.6%*	*-5.6%*	*-15.4%*	*9.5%*	*-6.3%*	*13.9%*	*-4.1%*	*-4.5%*	*-4.9%*	*-5.2%*
Income tax expense	-660	-713	-123	-501	-269	-294	-276	-314	-301	-288	-274	-259
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Spain	**198**	**203**	**799**	**369**	**468**	**513**	**480**	**547**	**525**	**501**	**477**	**452**
Other Europe												
Mobile customer revenue	4604	4185	3230	3065	3138	2961	2887	2971	2897	2825	2783	2741
Mobile incoming revenue	489	445	368	356	343	327	319	328	320	312	307	303
Other service revenue	173	160	124	149	141	0	0	0	0	0	0	0
Mobile service revenue	**5266**	**4790**	**3722**	**3570**	**3622**	**3288**	**3206**	**3299**	**3217**	**3137**	**3090**	**3044**
Fixed service revenue	714	793	746	780	1138	1186	1230	1357	1384	1412	1417	1422
Service revenue	**5980**	**5583**	**4468**	**4350**	**4760**	**4474**	**4436**	**4656**	**4601**	**4549**	**4507**	**4466**
Other revenue	540	466	313	606	648	285	283	297	293	290	287	285
Total revenue	**6520**	**6049**	**4781**	**4956**	**5408**	**4759**	**4718**	**4952**	**4894**	**4839**	**4794**	**4750**
YoY%Δ		*-7.2%*	*-21.0%*	*3.7%*	*9.1%*	*-12.0%*	*-0.9%*	*5.0%*	*-1.2%*	*-1.1%*	*-0.9%*	*-0.9%*
Cost of sales	-3230	-2928	-2277	-2255	-2382	-2001	-1937	-1983	-1935	-1889	-1858	-1826
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*42.0%*	*41.0%*	*40.0%*	*39.5%*	*39.0%*	*38.7%*	*38.4%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*-2.0%*	*-1.0%*	*-1.0%*	*-0.5%*	*-0.5%*	*-0.3%*	*-0.3%*
Selling and distribution expenses	-603	-552	-412	-442	-459	-394	-381	-395	-386	-379	-375	-372
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.3%*	*8.1%*	*8.0%*	*7.9%*	*7.8%*	*7.8%*	*7.8%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*-0.2%*	*-0.2%*	*-0.1%*	*-0.1%*	*-0.1%*	*0.0%*	*0.0%*
EBITDA	**2688**	**2569**	**2092**	**2259**	**2567**	**2364**	**2400**	**2574**	**2573**	**2571**	**2561**	**2552**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*49.7%*	*50.9%*	*52.0%*	*52.6%*	*53.1%*	*53.4%*	*53.7%*
Depreciation and amortisation	(1,370)	(1,077)	(1,090)	(1,066)	(1,237)	(990)	(1,003)	(1,017)	(1,030)	(1,043)	(1,064)	(1,085)
Core result before taxes	**1318**	**1492**	**1002**	**1193**	**1330**	**1374**	**1397**	**1557**	**1543**	**1528**	**1497**	**1467**
YoY%Δ		*13.2%*	*-32.8%*	*19.0%*	*11.5%*	*3.3%*	*1.7%*	*11.5%*	*-0.9%*	*-1.0%*	*-2.0%*	*-2.0%*
Income tax expense	-1014	-1161	-133	-687	-485	-501	-510	-568	-563	-557	-546	-535
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Other Europe	**304**	**331**	**869**	**506**	**845**	**873**	**888**	**990**	**980**	**971**	**951**	**932**
Core result Europe	**1493**	**1403**	**5765**	**2721**	**4600**	**4639**	**4507**	**5065**	**4982**	**4889**	**4787**	**4681**
Vodacom												
Mobile customer revenue	3800	3845	4000	3762	3771	3698	3697	3696	3732	3768	3749	3749
Mobile incoming revenue	225	192	167	164	157	175	174	174	176	178	177	177
Other service revenue	216	217	257	208	272	268	268	268	271	273	272	272
Mobile service revenue	**4241**	**4254**	**4424**	**4134**	**4200**	**4141**	**4140**	**4138**	**4178**	**4219**	**4198**	**4198**
Fixed service revenue	178	193	232	257	270	393	413	495	475	513	508	531
Service revenue	**4419**	**4447**	**4656**	**4391**	**4470**	**4534**	**4552**	**4633**	**4654**	**4733**	**4706**	**4729**
Other revenue	906	847	1036	1052	1061	1076	1081	1100	1105	1123	1117	1122
Total revenue	**5325**	**5294**	**5692**	**5443**	**5531**	**5610**	**5633**	**5733**	**5758**	**5856**	**5823**	**5851**
YoY%Δ		*-0.6%*	*7.5%*	*-4.4%*	*1.6%*	*1.4%*	*0.4%*	*1.8%*	*0.4%*	*1.7%*	*-0.6%*	*0.5%*
Cost of sales	-2638	-2562	-2711	-2477	-2436	-2527	-2594	-2697	-2767	-2872	-2885	-2928
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*45.0%*	*46.0%*	*47.0%*	*48.0%*	*49.0%*	*49.5%*	*50.0%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*	*0.5%*	*0.5%*
Selling and distribution expenses	-492	-483	-490	-485	-469	-487	-500	-521	-534	-555	-552	-555
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.7%*	*8.9%*	*9.1%*	*9.3%*	*9.5%*	*9.5%*	*9.5%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.0%*	*0.0%*
EBITDA	**2195**	**2248**	**2491**	**2481**	**2626**	**2596**	**2539**	**2515**	**2457**	**2429**	**2386**	**2368**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*46.3%*	*45.1%*	*43.9%*	*42.7%*	*41.5%*	*41.0%*	*40.5%*
Depreciation and amortisation	(656)	(682)	(732)	(735)	(767)	(805)	(864)	(950)	(1,045)	(1,150)	(1,265)	(1,391)
Core result before taxes	**1539**	**1566**	**1759**	**1746**	**1859**	**1791**	**1675**	**1565**	**1412**	**1279**	**1122**	**977**
YoY%Δ		*1.8%*	*12.3%*	*-0.7%*	*6.5%*	*-3.7%*	*-6.5%*	*-6.6%*	*-9.8%*	*-9.4%*	*-12.3%*	*-12.9%*
Income tax expense	-1184	-1219	-234	-1005	-678	-653	-611	-571	-515	-466	-409	-356
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Vodacom	**355**	**347**	**1525**	**741**	**1181**	**1138**	**1064**	**994**	**897**	**813**	**712**	**621**
Other Markets												
Mobile customer revenue	4100	3963	3436	2820	2865	2793	2765	2737	2736	2736	2736	2735
Mobile incoming revenue	653	603	497	401	406	413	409	405	405	405	405	405
Other service revenue	160	154	169	143	138	135	134	133	133	133	132	132
Mobile service revenue	**4913**	**4720**	**4102**	**3364**	**3409**	**3342**	**3308**	**3274**	**3274**	**3273**	**3273**	**3273**
Fixed service revenue	711	789	743	647	387	375	345	357	354	370	369	380
Service revenue	**5624**	**5509**	**4845**	**4011**	**3796**	**3717**	**3653**	**3631**	**3628**	**3643**	**3642**	**3652**
Other revenue	942	970	925	853	590	578	568	564	564	566	566	568
Total revenue	**6566**	**6479**	**5770**	**4864**	**4386**	**4295**	**4221**	**4196**	**4191**	**4209**	**4208**	**4220**
YoY%Δ		*-1.3%*	*-10.9%*	*-15.7%*	*-9.8%*	*-2.1%*	*-1.7%*	*-0.6%*	*-0.1%*	*0.4%*	*0.0%*	*0.3%*
Cost of sales	-3252	-3136	-2748	-2214	-1932	-1935	-1944	-1974	-2014	-2064	-2085	-2112
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*45.0%*	*46.0%*	*47.0%*	*48.0%*	*49.0%*	*49.5%*	*50.0%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*	*0.5%*	*0.5%*
Selling and distribution expenses	-607	-592	-497	-433	-372	-373	-375	-381	-389	-399	-399	-400
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.7%*	*8.9%*	*9.1%*	*9.3%*	*9.5%*	*9.5%*	*9.5%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.0%*	*0.0%*
EBITDA	**2707**	**2752**	**2525**	**2217**	**2082**	**1987**	**1903**	**1841**	**1789**	**1746**	**1724**	**1708**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*46.3%*	*45.1%*	*43.9%*	*42.7%*	*41.5%*	*41.0%*	*40.5%*
Depreciation and amortisation	(1,175)	(1,147)	(921)	(675)	(498)	(523)	(275)	(303)	(333)	(366)	(403)	(443)
Core result before taxes	**1532**	**1605**	**1604**	**1542**	**1584**	**1465**	**1627**	**1538**	**1456**	**1379**	**1321**	**1265**
YoY%Δ		*4.8%*	*0.0%*	*-3.9%*	*2.7%*	*-7.6%*	*11.1%*	*-5.5%*	*-5.4%*	*-5.2%*	*-4.2%*	*-4.3%*
Income tax expense	-1179	-1249	-213	-888	-578	-534	-593	-561	-531	-503	-482	-461
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Other Markets	**353**	**356**	**1391**	**654**	**1007**	**930**	**1034**	**977**	**925**	**876**	**839**	**803**
Core result Rest of the World	**708**	**703**	**2916**	**1395**	**2188**	**2068**	**2098**	**1971**	**1822**	**1689**	**1552**	**1424**
Other and eliminations												
Mobile customer revenue	193	15	20	16	35	35	35	35	35	35	35	35
Mobile incoming revenue	-2	-2	-17	-47	-47	-47	-47	-47	-47	-47	-47	-47
Other service revenue	236	425	353	264	259	0	0	0	0	0	0	0
Mobile service revenue	**427**	**438**	**356**	**233**	**247**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**
Fixed service revenue	767	618	496	143	145	152	150	161	161	162	162	162
Service revenue	**1194**	**1056**	**852**	**376**	**392**	**140**	**138**	**149**	**149**	**150**	**150**	**150**
Other revenue	263	252	369	839	872	74	73	78	78	79	79	79
Total revenue	**1457**	**1308**	**1221**	**1215**	**1264**	**214**	**211**	**227**	**227**	**229**	**228**	**228**
YoY%Δ		*-10.2%*	*-6.7%*	*-0.5%*	*4.0%*	*-83.1%*	*-1.6%*	*8.0%*	*0.0%*	*0.6%*	*-0.2%*	*0.1%*
Cost of sales	-722	-633	-581	-553	-557	-94	-93	-100	-100	-101	-101	-101
% revenues	*49.5%*	*48.4%*	*47.6%*	*45.5%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*
%points change		*-1.1%*	*-0.8%*	*-2.1%*	*-1.5%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Selling and distribution expenses	-135	-119	-105	-108	-107	-18	-18	-19	-19	-19	-19	-19
% revenues	*9.2%*	*9.1%*	*8.6%*	*8.9%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
%points change		*-0.1%*	*-0.5%*	*0.3%*	*-0.4%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**601**	**556**	**534**	**554**	**600**	**102**	**100**	**108**	**108**	**109**	**108**	**108**
% EBITDA margin	*41.2%*	*42.5%*	*43.8%*	*45.6%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*
Depreciation and amortisation	(4)	(6)	(76)	(16)	(17)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Core result before taxes	**597**	**550**	**458**	**538**	**583**	**99**	**97**	**105**	**105**	**106**	**105**	**105**
YoY%Δ		*-7.9%*	*-16.6%*	*17.3%*	*8.4%*	*-83.1%*	*-1.6%*	*8.0%*	*0.0%*	*0.6%*	*-0.2%*	*0.1%*
Income tax expense	-459	-428	-61	-310	-213	-36	-35	-38	-38	-38	-38	-38
% Tax rate	*77.0%*	*77.8%*	*13.3%*	*57.6%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Other and eliminations	**137**	**122**	**397**	**228**	**371**	**62**	**62**	**67**	**67**	**67**	**67**	**67**
Core result before taxes	**10148**	**10050**	**10471**	**10238**	**11266**	**10656**	**10494**	**11179**	**10815**	**10459**	**10082**	**9715**
Income tax expense	-7809	-7823	-1393	-5893	-4108	-3886	-3827	-4076	-3944	-3814	-3677	-3543
Core Result	**2339**	**2227**	**9078**	**4345**	**7158**	**6770**	**6667**	**7102**	**6871**	**6645**	**6406**	**6172**
NON CORE												
Administrative expenses	(5,700)	(5,491)	(5,116)	(5,410)	(5,810)	-4678	-4602	-4808	-4792	-4788	-4763	-4746
% revenues	*11.4%*	*11.5%*	*11.0%*	*12.4%*	*12.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*
Net credit losses on financial assets	(679)	(589)	(528)	(575)	(660)	(660)	(660)	(660)	(660)	(660)	(660)	(660)
Share of adjusted results in equity accounted associates and joint ventures												
Europe												
Germany	3	4	0	0	0							
Italy	0	-1	0	0	0							
UK	1	0	0	0	0							
Spain	0	0	0	0	0							
Other Europe	-11	-52	40	150	118							
Total Europe	**-7**	**-49**	**40**	**150**	**118**							
Rest of the World												
Vodacom	-16	0	123	214	248							
Other Markets	82	213	228	-712	-605							
Total Rest of the World	**66**	**213**	**351**	**-498**	**-357**							
Other and Eliminations	1	0	-2	0	-2							
Total Group	**60**	**164**	**389**	**-348**	**-241**	**831**	**822**	**814**	**805**	**797**	**788**	**780**
% Investments in associates and joint ventures	*12.5%*	*5.2%*	*15.3%*	*-8.8%*	*-4.1%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Impairment losses	(569)	0	0	(3,525)	(1,685)	(1,189)	(1,189)	(1,189)	(1,189)	(1,189)	0	0
Europe	(569)	0	0	(3,270)	(1,685)	(1,189)	(1,189)	(1,189)	(1,189)	(1,189)	0	0
% goodwill cost	*0.6%*	*0.0%*	*0.0%*	*3.7%*	*1.7%*	*1.5%*	*1.5%*	*1.5%*	*1.5%*	*1.5%*	*0.0%*	*0.0%*
Rest of the World	0	0	0	(255)	0	0	0	0	0	0	0	0
Restructuring costs	(316)	(415)	(156)	(486)	(720)	-	-	-	-	-	-	-
Amortisation of acquired customer based and brand intangible assets	(1,338)	(1,046)	(974)	(583)	(638)	-	-	-	-	-	-	-
Other income/(expense)	(286)	1,052	213	(262)	2,257	10000	-	-	-	-	-	-
Interest on lease liabilities	-	-	-	-	330	400	400	400	400	400	400	400
Non-operating expense	(3)	(1)	(32)	(7)	(3)	-	-	-	-	-	-	-
Investment income	539	474	685	433	248	241	363	279	194	201	207	210
% prior year's excess cash		*4.0%*	*8.7%*	*11.6%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*
Loss for the financial year from discontinued operations	5	(4,107)	(1,969)	(3,535)	-	-	-	-	-	-	-	-
Non Core result before taxes	**(8,287)**	**(9,959)**	**(7,488)**	**(14,298)**	**(6,922)**	**4,944**	**(4,865)**	**(5,164)**	**(5,241)**	**(5,239)**	**(4,027)**	**(4,016)**
Other Comprehensive Income	(2,522)	(1,357)	(2,389)	1,756	2,574	-	-	-	-	-	-	-
Adjusted taxes	2304	2680	1987	3837	1889	-1350	1328	1410	1431	1430	1099	1096
% Tax rate	*27.8%*	*26.9%*	*26.5%*	*26.8%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*
Non Core result	**(8,505)**	**(8,636)**	**(7,890)**	**(8,705)**	**(2,459)**	**3,595**	**(3,537)**	**(3,755)**	**(3,810)**	**(3,809)**	**(2,928)**	**(2,920)**
FINANCIAL												
Financing costs	**(2,046)**	**(1,406)**	**(1,074)**	**(2,088)**	**(3,549)**	**(4,959)**	**(3,931)**	**(4,025)**	**(3,888)**	**(4,011)**	**(3,792)**	**(3,847)**
% prior year's total debt (borrowings)		*2.5%*	*2.3%*	*4.8%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*
Financial result before taxes	**(2,046)**	**(1,406)**	**(1,074)**	**(2,088)**	**(3,549)**	**(4,959)**	**(3,931)**	**(4,025)**	**(3,888)**	**(4,011)**	**(3,792)**	**(3,847)**
Adjusted taxes	569	378	285	560	969	1354	1073	1099	1061	1095	1035	1050
% Tax rate	*27.8%*	*26.9%*	*26.5%*	*26.8%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*
Financial result	**(1,477)**	**(1,028)**	**(789)**	**(1,528)**	**(2,580)**	**(3,605)**	**(2,858)**	**(2,926)**	**(2,827)**	**(2,916)**	**(2,757)**	**(2,797)**

	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F	2037F	2038F	2039F	2040F
	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m
CORE													
Germany													
Mobile customer revenue	4703	4702	4844	4844	4844	4844	4844	4843	4843	4843	4843	4843	4843
Mobile incoming revenue	220	220	227	227	227	227	227	227	227	227	227	227	227
Other service revenue	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobile service revenue	**4922**	**4922**	**5071**	**5070**	**5070**	**5070**	**5070**	**5070**	**5070**	**5070**	**5070**	**5069**	**5069**
Fixed service revenue	5871	5850	5977	5989	6002	6014	6028	6041	6054	6066	6079	6092	6105
Service revenue	**10793**	**10772**	**11047**	**11059**	**11072**	**11085**	**11098**	**11111**	**11124**	**11136**	**11149**	**11162**	**11175**
Other revenue	654	653	669	670	671	672	673	673	674	675	676	676	677
Total revenue	**11447**	**11425**	**11717**	**11730**	**11743**	**11756**	**11770**	**11784**	**11798**	**11811**	**11825**	**11838**	**11852**
YoY%Δ	*-0.2%*	*-0.2%*	*2.6%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*
Cost of sales	-4401	-4392	-4504	-4509	-4515	-4520	-4525	-4531	-4536	-4541	-4546	-4551	-4556
% revenues	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Selling and distribution expenses	-896	-895	-917	-918	-920	-921	-922	-923	-924	-925	-926	-927	-928
% revenues	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**6150**	**6138**	**6295**	**6302**	**6309**	**6316**	**6323**	**6331**	**6338**	**6345**	**6353**	**6360**	**6367**
% EBITDA margin	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*
Depreciation and amortisation	(3,252)	(3,350)	(3,450)	(3,519)	(3,555)	(3,590)	(3,626)	(3,662)	(3,681)	(3,699)	(3,717)	(3,736)	(3,755)
Core result before taxes	**2898**	**2788**	**2844**	**2782**	**2754**	**2726**	**2697**	**2669**	**2658**	**2646**	**2635**	**2624**	**2613**
YoY%Δ	*-5.5%*	*-3.8%*	*2.0%*	*-2.2%*	*-1.0%*	*-1.0%*	*-1.0%*	*-1.1%*	*-0.4%*	*-0.4%*	*-0.4%*	*-0.4%*	*-0.4%*
Income tax expense	-1057	-1017	-1037	-1015	-1004	-994	-984	-973	-969	-965	-961	-957	-953
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Germany	**1841**	**1771**	**1807**	**1768**	**1750**	**1732**	**1714**	**1696**	**1688**	**1681**	**1674**	**1667**	**1660**
Italy													
Mobile customer revenue	2402	2354	2377	2366	2354	2342	2330	2319	2307	2295	2284	2273	2261
Mobile incoming revenue	231	226	228	227	226	225	224	223	222	220	219	218	217
Other service revenue	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobile service revenue	**2633**	**2580**	**2606**	**2593**	**2580**	**2567**	**2554**	**2541**	**2528**	**2516**	**2503**	**2491**	**2478**
Fixed service revenue	1488	1501	1553	1566	1580	1594	1608	1622	1635	1648	1661	1674	1687
Service revenue	**4121**	**4082**	**4159**	**4159**	**4160**	**4161**	**4162**	**4164**	**4164**	**4164**	**4164**	**4164**	**4165**
Other revenue	277	274	279	279	279	279	280	280	280	280	280	280	280
Total revenue	**4398**	**4356**	**4438**	**4438**	**4439**	**4440**	**4442**	**4443**	**4443**	**4443**	**4444**	**4444**	**4445**
YoY%Δ	*-1.0%*	*-1.0%*	*1.9%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Cost of sales	-1691	-1675	-1706	-1706	-1707	-1707	-1708	-1708	-1708	-1708	-1708	-1709	-1709
% revenues	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Selling and distribution expenses	-344	-341	-348	-348	-348	-348	-348	-348	-348	-348	-348	-348	-348
% revenues	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**2363**	**2340**	**2384**	**2385**	**2385**	**2386**	**2386**	**2387**	**2387**	**2387**	**2387**	**2388**	**2388**
% EBITDA margin	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*
Depreciation and amortisation	(1,234)	(1,271)	(1,310)	(1,336)	(1,349)	(1,363)	(1,376)	(1,390)	(1,397)	(1,404)	(1,411)	(1,418)	(1,425)
Core result before taxes	**1128**	**1069**	**1075**	**1049**	**1036**	**1023**	**1010**	**997**	**990**	**983**	**976**	**969**	**963**
YoY%Δ	*-6.8%*	*-5.3%*	*0.5%*	*-2.4%*	*-1.2%*	*-1.2%*	*-1.3%*	*-1.3%*	*-0.7%*	*-0.7%*	*-0.7%*	*-0.7%*	*-0.7%*
Income tax expense	-411	-390	-392	-382	-378	-373	-368	-364	-361	-359	-356	-354	-351
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Italy	**717**	**679**	**683**	**666**	**658**	**650**	**642**	**633**	**629**	**625**	**620**	**616**	**612**
UK													
Mobile customer revenue	3105	3104	3198	3198	3198	3198	3198	3198	3197	3197	3197	3197	3197
Mobile incoming revenue	253	253	261	261	261	261	261	261	261	261	261	261	261
Other service revenue	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobile service revenue	**3358**	**3357**	**3459**	**3459**	**3459**	**3459**	**3459**	**3458**	**3458**	**3458**	**3458**	**3458**	**3458**
Fixed service revenue	1477	1477	1522	1529	1537	1552	1568	1584	1592	1599	1607	1616	1624
Service revenue	**4835**	**4835**	**4981**	**4988**	**4996**	**5011**	**5026**	**5042**	**5050**	**5058**	**5066**	**5074**	**5082**
Other revenue	615	615	634	635	636	638	640	642	643	644	645	646	647
Total revenue	**5450**	**5450**	**5615**	**5623**	**5631**	**5649**	**5666**	**5684**	**5692**	**5701**	**5710**	**5719**	**5728**
YoY%Δ	*0.0%*	*0.0%*	*3.0%*	*0.1%*	*0.2%*	*0.3%*	*0.3%*	*0.3%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
Cost of sales	-2422	-2422	-2495	-2499	-2503	-2511	-2518	-2526	-2530	-2534	-2538	-2542	-2546
% revenues	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*	*44.4%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Selling and distribution expenses	-462	-462	-476	-477	-478	-479	-481	-482	-483	-484	-484	-485	-486
% revenues	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**2566**	**2565**	**2643**	**2647**	**2651**	**2659**	**2667**	**2676**	**2680**	**2684**	**2688**	**2692**	**2697**
% EBITDA margin	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*	*47.1%*
Depreciation and amortisation	(1,735)	(1,787)	(1,840)	(1,877)	(1,896)	(1,915)	(1,934)	(1,953)	(1,963)	(1,973)	(1,983)	(1,993)	(2,002)
Core result before taxes	**831**	**779**	**803**	**770**	**755**	**744**	**733**	**722**	**717**	**711**	**705**	**700**	**694**
YoY%Δ	*-9.1%*	*-6.3%*	*3.1%*	*-4.1%*	*-1.9%*	*-1.4%*	*-1.5%*	*-1.5%*	*-0.8%*	*-0.8%*	*-0.8%*	*-0.8%*	*-0.8%*
Income tax expense	-303	-284	-293	-281	-275	-271	-267	-263	-261	-259	-257	-255	-253
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result UK	**528**	**495**	**510**	**489**	**480**	**473**	**466**	**459**	**455**	**452**	**448**	**445**	**441**
Spain													
Mobile customer revenue	1848	1811	1829	1819	1810	1801	1792	1783	1774	1766	1757	1748	1739
Mobile incoming revenue	103	101	102	101	101	100	100	99	99	98	98	97	97
Other service revenue	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobile service revenue	**1950**	**1911**	**1930**	**1920**	**1911**	**1901**	**1892**	**1882**	**1873**	**1864**	**1854**	**1845**	**1836**
Fixed service revenue	1464	1456	1491	1488	1486	1484	1481	1479	1484	1490	1495	1500	1506
Service revenue	**3415**	**3367**	**3421**	**3409**	**3397**	**3385**	**3373**	**3361**	**3357**	**3353**	**3349**	**3345**	**3342**
Other revenue	163	161	164	163	162	162	161	161	160	160	160	160	160
Total revenue	**3578**	**3528**	**3584**	**3572**	**3559**	**3547**	**3534**	**3522**	**3518**	**3514**	**3509**	**3505**	**3501**
YoY%Δ	*-1.4%*	*-1.4%*	*1.6%*	*-0.4%*	*-0.4%*	*-0.3%*	*-0.3%*	*-0.3%*	*-0.1%*	*-0.1%*	*-0.1%*	*-0.1%*	*-0.1%*
Cost of sales	-1376	-1356	-1378	-1373	-1368	-1364	-1359	-1354	-1352	-1351	-1349	-1348	-1346
% revenues	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Selling and distribution expenses	-280	-276	-281	-280	-279	-278	-277	-276	-275	-275	-275	-274	-274
% revenues	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**1922**	**1895**	**1926**	**1919**	**1912**	**1905**	**1899**	**1892**	**1890**	**1888**	**1885**	**1883**	**1881**
% EBITDA margin	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*
Depreciation and amortisation	(1,300)	(1,339)	(1,379)	(1,407)	(1,421)	(1,435)	(1,450)	(1,464)	(1,472)	(1,479)	(1,486)	(1,494)	(1,501)
Core result before taxes	**622**	**556**	**546**	**512**	**491**	**470**	**449**	**428**	**418**	**409**	**399**	**390**	**380**
YoY%Δ	*-12.6%*	*-10.6%*	*-1.8%*	*-6.3%*	*-4.1%*	*-4.3%*	*-4.5%*	*-4.7%*	*-2.3%*	*-2.3%*	*-2.4%*	*-2.4%*	*-2.5%*
Income tax expense	-227	-203	-199	-187	-179	-171	-164	-156	-153	-149	-146	-142	-139
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Spain	**395**	**353**	**347**	**325**	**312**	**299**	**285**	**272**	**266**	**260**	**254**	**247**	**241**
Other Europe													
Mobile customer revenue	2700	2660	2686	2672	2659	2646	2633	2619	2606	2593	2580	2567	2555
Mobile incoming revenue	298	294	296	295	293	292	291	289	288	286	285	283	282
Other service revenue	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobile service revenue	**2998**	**2953**	**2982**	**2967**	**2953**	**2938**	**2923**	**2908**	**2894**	**2879**	**2865**	**2851**	**2837**
Fixed service revenue	1422	1422	1465	1470	1476	1481	1487	1492	1499	1507	1514	1522	1530
Service revenue	**4420**	**4375**	**4447**	**4438**	**4428**	**4419**	**4410**	**4400**	**4393**	**4386**	**4380**	**4373**	**4366**
Other revenue	282	279	283	283	282	282	281	280	280	280	279	279	278
Total revenue	**4702**	**4654**	**4731**	**4720**	**4710**	**4700**	**4691**	**4681**	**4673**	**4666**	**4659**	**4651**	**4644**
YoY%Δ	*-1.0%*	*-1.0%*	*1.6%*	*-0.2%*	*-0.2%*	*-0.2%*	*-0.2%*	*-0.2%*	*-0.2%*	*-0.2%*	*-0.2%*	*-0.2%*	*-0.2%*
Cost of sales	-1808	-1789	-1819	-1815	-1811	-1807	-1803	-1800	-1797	-1794	-1791	-1788	-1786
% revenues	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*	*38.4%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Selling and distribution expenses	-368	-364	-370	-370	-369	-368	-367	-367	-366	-365	-365	-364	-364
% revenues	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*	*7.8%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**2526**	**2500**	**2541**	**2536**	**2531**	**2525**	**2520**	**2515**	**2511**	**2507**	**2503**	**2499**	**2495**
% EBITDA margin	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*	*53.7%*
Depreciation and amortisation	(1,139)	(1,174)	(1,209)	(1,233)	(1,245)	(1,258)	(1,270)	(1,283)	(1,289)	(1,296)	(1,302)	(1,309)	(1,315)
Core result before taxes	**1387**	**1327**	**1333**	**1303**	**1285**	**1267**	**1250**	**1232**	**1221**	**1211**	**1200**	**1190**	**1180**
YoY%Δ	*-5.5%*	*-4.3%*	*0.4%*	*-2.2%*	*-1.4%*	*-1.4%*	*-1.4%*	*-1.4%*	*-0.8%*	*-0.9%*	*-0.9%*	*-0.9%*	*-0.9%*
Income tax expense	-506	-484	-486	-475	-469	-462	-456	-449	-445	-442	-438	-434	-430
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Other Europe	**881**	**843**	**847**	**828**	**817**	**805**	**794**	**783**	**776**	**769**	**763**	**756**	**750**
Core result Europe	**4362**	**4141**	**4194**	**4076**	**4016**	**3959**	**3901**	**3842**	**3815**	**3787**	**3759**	**3731**	**3703**
Vodacom													
Mobile customer revenue	3749	3748	3748	3748	3748	3747	3747	3747	3747	3747	3747	3747	3747
Mobile incoming revenue	177	177	177	177	177	177	177	177	177	177	177	177	177
Other service revenue	272	272	272	272	272	272	272	272	272	272	272	272	272
Mobile service revenue	**4197**	**4197**	**4196**	**4196**	**4196**	**4196**	**4196**	**4196**	**4196**	**4196**	**4196**	**4195**	**4195**
Fixed service revenue	555	598	645	670	697	724	753	783	791	798	806	814	822
Service revenue	**4752**	**4795**	**4841**	**4867**	**4893**	**4921**	**4949**	**4979**	**4986**	**4994**	**5002**	**5009**	**5017**
Other revenue	1128	1138	1149	1155	1161	1168	1175	1182	1184	1185	1187	1189	1191
Total revenue	**5880**	**5933**	**5991**	**6022**	**6055**	**6088**	**6124**	**6160**	**6170**	**6179**	**6189**	**6198**	**6208**
YoY%Δ	*0.5%*	*0.9%*	*1.0%*	*0.5%*	*0.5%*	*0.6%*	*0.6%*	*0.6%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
Cost of sales	-2972	-3029	-3088	-3104	-3121	-3138	-3157	-3175	-3149	-3123	-3097	-3071	-3045
% revenues	*50.5%*	*51.0%*	*51.5%*	*51.5%*	*51.5%*	*51.5%*	*51.5%*	*51.5%*	*51.0%*	*50.5%*	*50.0%*	*49.5%*	*49.0%*
%points change	*0.5%*	*0.5%*	*0.5%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*-0.5%*	*-0.5%*	*-0.5%*	*-0.5%*	*-0.5%*
Selling and distribution expenses	-557	-563	-568	-571	-574	-577	-581	-584	-579	-573	-568	-563	-558
% revenues	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.4%*	*9.3%*	*9.2%*	*9.1%*	*9.0%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*-0.1%*	*-0.1%*	*-0.1%*	*-0.1%*	*-0.1%*
EBITDA	**2351**	**2342**	**2335**	**2347**	**2360**	**2373**	**2387**	**2401**	**2442**	**2482**	**2523**	**2565**	**2606**
% EBITDA margin	*40.0%*	*39.5%*	*39.0%*	*39.0%*	*39.0%*	*39.0%*	*39.0%*	*39.0%*	*39.6%*	*40.2%*	*40.8%*	*41.4%*	*42.0%*
Depreciation and amortisation	(1,530)	(1,683)	(1,767)	(1,856)	(1,948)	(2,046)	(2,148)	(2,256)	(2,368)	(2,487)	(2,611)	(2,663)	(2,717)
Core result before taxes	**820**	**659**	**567**	**491**	**411**	**327**	**239**	**145**	**73**	**-4**	**-88**	**-99**	**-111**
YoY%Δ	*-16.0%*	*-19.7%*	*-13.9%*	*-13.4%*	*-16.3%*	*-20.5%*	*-27.1%*	*-39.0%*	*-49.6%*	*-105.8%*	*1952.6%*	*12.7%*	*12.1%*
Income tax expense	-299	-240	-207	-179	-150	-119	-87	-53	-27	2	32	36	40
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Vodacom	**521**	**418**	**360**	**312**	**261**	**208**	**151**	**92**	**46**	**-4**	**-36**	**-63**	**-70**
Other Markets													
Mobile customer revenue	2735	2735	2735	2735	2735	2734	2734	2734	2734	2734	2734	2734	2734
Mobile incoming revenue	405	405	405	405	405	405	405	405	405	405	405	405	405
Other service revenue	132	132	132	132	132	132	132	132	132	132	132	132	132
Mobile service revenue	**3272**	**3272**	**3272**	**3272**	**3272**	**3271**	**3271**	**3271**	**3271**	**3271**	**3271**	**3271**	**3271**
Fixed service revenue	379	383	387	393	398	404	410	417	419	421	423	425	427
Service revenue	**3652**	**3655**	**3659**	**3664**	**3670**	**3676**	**3682**	**3688**	**3690**	**3692**	**3694**	**3696**	**3698**
Other revenue	568	568	569	570	570	571	572	573	573	574	574	574	575
Total revenue	**4219**	**4223**	**4227**	**4234**	**4240**	**4247**	**4254**	**4261**	**4263**	**4266**	**4268**	**4270**	**4273**
YoY%Δ	*0.0%*	*0.1%*	*0.1%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*
Cost of sales	-2133	-2156	-2179	-2182	-2186	-2189	-2193	-2196	-2176	-2156	-2136	-2116	-2096
% revenues	*50.5%*	*51.0%*	*51.5%*	*51.5%*	*51.5%*	*51.5%*	*51.5%*	*51.5%*	*51.0%*	*50.5%*	*50.0%*	*49.5%*	*49.0%*
%points change	*0.5%*	*0.5%*	*0.5%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*-0.5%*	*-0.5%*	*-0.5%*	*-0.5%*	*-0.5%*
Selling and distribution expenses	-400	-400	-401	-401	-402	-403	-403	-404	-400	-396	-392	-388	-384
% revenues	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.4%*	*9.3%*	*9.2%*	*9.1%*	*9.0%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*-0.1%*	*-0.1%*	*-0.1%*	*-0.1%*	*-0.1%*
EBITDA	**1687**	**1667**	**1648**	**1650**	**1653**	**1655**	**1658**	**1661**	**1687**	**1714**	**1740**	**1767**	**1793**
% EBITDA margin	*40.0%*	*39.5%*	*39.0%*	*39.0%*	*39.0%*	*39.0%*	*39.0%*	*39.0%*	*39.6%*	*40.2%*	*40.8%*	*41.4%*	*42.0%*
Depreciation and amortisation	(488)	(536)	(563)	(591)	(621)	(652)	(685)	(719)	(755)	(792)	(832)	(849)	(866)
Core result before taxes	**1199**	**1131**	**1084**	**1059**	**1032**	**1003**	**973**	**942**	**932**	**921**	**908**	**918**	**928**
YoY%Δ	*-5.2%*	*-5.7%*	*-4.1%*	*-2.4%*	*-2.5%*	*-2.8%*	*-3.0%*	*-3.2%*	*-1.0%*	*-1.2%*	*-1.4%*	*1.1%*	*1.0%*
Income tax expense	-437	-412	-395	-386	-376	-366	-355	-343	-340	-336	-331	-335	-338
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Other Markets	**762**	**718**	**689**	**673**	**656**	**637**	**618**	**598**	**592**	**585**	**577**	**583**	**589**
Core result Rest of the World	**1283**	**1137**	**1049**	**985**	**917**	**845**	**770**	**690**	**639**	**582**	**541**	**521**	**519**
Other and eliminations													
Mobile customer revenue	35	35	35	35	35	35	35	35	35	35	35	35	35
Mobile incoming revenue	-47	-47	-47	-47	-47	-47	-47	-47	-47	-47	-47	-47	-47
Other service revenue	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobile service revenue	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**	**-12**
Fixed service revenue	162	162	167	167	168	169	170	171	172	173	174	174	175
Service revenue	**150**	**150**	**155**	**155**	**156**	**157**	**158**	**159**	**160**	**161**	**162**	**162**	**163**
Other revenue	79	79	81	82	82	83	83	84	84	85	85	85	86
Total revenue	**229**	**229**	**236**	**237**	**239**	**240**	**242**	**243**	**244**	**246**	**247**	**248**	**249**
YoY%Δ	*0.1%*	*0.3%*	*3.0%*	*0.6%*	*0.6%*	*0.6%*	*0.7%*	*0.7%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.5%*
Cost of sales	-101	-101	-104	-105	-105	-106	-106	-107	-108	-108	-109	-109	-110
% revenues	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*	*44.0%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Selling and distribution expenses	-19	-19	-20	-20	-20	-20	-21	-21	-21	-21	-21	-21	-21
% revenues	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*	*8.5%*
%points change	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**109**	**109**	**112**	**113**	**113**	**114**	**115**	**116**	**116**	**117**	**117**	**118**	**118**
% EBITDA margin	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*	*47.5%*
Depreciation and amortisation	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Core result before taxes	**105**	**106**	**109**	**109**	**110**	**111**	**112**	**112**	**113**	**113**	**114**	**114**	**115**
YoY%Δ	*0.1%*	*0.3%*	*3.0%*	*0.6%*	*0.6%*	*0.6%*	*0.7%*	*0.7%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.5%*
Income tax expense	-38	-39	-40	-40	-40	-40	-41	-41	-41	-41	-41	-42	-42
% Tax rate	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*	*36.5%*
Core result Other and eliminations	**67**	**67**	**69**	**70**	**70**	**70**	**71**	**71**	**72**	**72**	**72**	**73**	**73**
Core result before taxes	**8991**	**8414**	**8361**	**8075**	**7875**	**7672**	**7463**	**7248**	**7123**	**6991**	**6851**	**6806**	**6761**
Income tax expense	-3279	-3068	-3049	-2945	-2872	-2798	-2721	-2643	-2597	-2549	-2498	-2482	-2465
Core Result	**5712**	**5346**	**5312**	**5131**	**5003**	**4874**	**4742**	**4605**	**4525**	**4441**	**4353**	**4324**	**4295**
NON CORE													
Administrative expenses	-4730	-4717	-4805	-4809	-4814	-4820	-4827	-4834	-4836	-4839	-4842	-4845	-4848
% revenues	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*	*11.9%*
Net credit losses on financial assets	(660)	(660)	(660)	(660)	(660)	(660)	(660)	(660)	(660)	(660)	(660)	(660)	(660)
Total Group	**771**	**763**	**755**	**746**	**738**	**729**	**721**	**712**	**704**	**695**	**687**	**678**	**670**
% Investments in associates and joint ventures	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Impairment losses	0	0	0	0	0	0	0	0	0	0	0	0	0
Europe	0	0	0	0	0	0	0	0	0	0	0	0	0
% goodwill cost	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Rest of the World	0	0	0	0	0	0	0	0	0	0	0	0	0
Restructuring costs	-	-	-	-	-	-	-	-	-	-	-	-	-
Amortisation of acquired customer based and brand intangible assets	-	-	-	-	-	-	-	-	-	-	-	-	-
Other income/(expense)	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on lease liabilities	400	400	400	400	400	400	400	400	400	400	400	400	400
Non-operating expense	-	-	-	-	-	-	-	-	-	-	-	-	-
Investment income	213	219	223	228	231	233	235	237	240	242	244	246	247
% prior year's excess cash	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*	*1.9%*
Loss for the financial year from discontinued operations	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Core result before taxes	**(4,005)**	**(3,995)**	**(4,087)**	**(4,096)**	**(4,106)**	**(4,118)**	**(4,131)**	**(4,144)**	**(4,153)**	**(4,162)**	**(4,171)**	**(4,181)**	**(4,191)**
Other Comprehensive Income	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted taxes	1093	1091	1116	1118	1121	1124	1128	1131	1134	1136	1139	1141	1144
% Tax rate	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*
Non Core result	**(2,912)**	**(2,905)**	**(2,971)**	**(2,978)**	**(2,985)**	**(2,994)**	**(3,003)**	**(3,013)**	**(3,019)**	**(3,026)**	**(3,033)**	**(3,039)**	**(3,047)**
FINANCIAL													
Financing costs	**(3,909)**	**(4,378)**	**(4,466)**	**(4,556)**	**(4,230)**	**(4,269)**	**(4,309)**	**(4,350)**	**(4,393)**	**(4,431)**	**(4,469)**	**(4,510)**	**(4,530)**
% prior year's total debt (borrowings)	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*	*6.5%*
Financial result before taxes	**(3,909)**	**(4,378)**	**(4,466)**	**(4,556)**	**(4,230)**	**(4,269)**	**(4,309)**	**(4,350)**	**(4,393)**	**(4,431)**	**(4,469)**	**(4,510)**	**(4,530)**
Adjusted taxes	1067	1195	1219	1244	1155	1165	1176	1187	1199	1209	1220	1231	1236
% Tax rate	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*	*27.3%*
Financial result	**(2,842)**	**(3,183)**	**(3,247)**	**(3,313)**	**(3,076)**	**(3,104)**	**(3,133)**	**(3,163)**	**(3,194)**	**(3,221)**	**(3,249)**	**(3,279)**	**(3,293)**

Forecasted Balance Sheet

	2016	2017	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F	2037F	2038F	2039F	2040F
at 31 March	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m
Core Invested Capital																									
Assets																									
Intangible Assets	58,564	46,220	43,257	41,005	53,523	30,572	32,081	34,000	35,947	37,937	38,612	39,328	40,620	41,624	42,449	43,102	43,575	44,063	44,567	45,088	45,522	45,973	46,441	46,700	46,963
Goodwill	28,238	26,808	26,734	23,353	31,271	12,647	13,836	15,025	16,213	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402	17,402
Cost	93,990	90,221	89,913	89,563	99,063	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250	79250
Impairment losses	(65,752)	(63,413)	(63,179)	(66,210)	(67,792)	-66603	-65414	-64226	-63037	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848	-61848
% Cost goodwill	70.0%	70.3%	70.3%	73.9%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%	68.4%
Other intangible assets	30,326	19,412	16,523	17,652	22,252	17925	18245	18975	19733	20535	21210	21926	23218	24222	25047	25700	26172	26660	27165	27686	28120	28571	29039	29298	29561
% Other intangible assets and PPE	46.1%	39.1%	36.8%	39.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%
Licence and Spectrum fees	23,845	13,821	11,420	12,602	12,007	9672	9845	10239	10648	11081	11445	11831	12528	13070	13515	13867	14122	14386	14658	14939	15173	15416	15669	15809	15951
% Other intangible assets	78.6%	71.2%	69.1%	71.4%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%	54.0%
Cost	40,973	30,775	28,797	31,606	32,012	24793	25235	26245	27294	28403	29337	30327	32113	33502	34643	35546	36200	36875	37572	38293	38893	39517	40165	40523	40887
Accumulated amortisation	(17,128)	(16,954)	(17,377)	(19,004)	(20,005)	-15121	-15390	-16006	-16646	-17322	-17892	-18496	-19585	-20432	-21128	-21679	-22077	-22489	-22915	-23354	-23720	-24100	-24496	-24714	-24936
% Cost Licence and Spectrum fees	41.8%	55.1%	60.3%	60.1%	62.5%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%
Computer software	4,802	4,814	4,872	4,977	4,974	4007	4078	4241	4411	4590	4741	4901	5190	5414	5599	5745	5850	5959	6072	6189	6286	6386	6491	6549	6608
% Other intangible assets	15.8%	24.8%	29.5%	28.2%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%	22.4%
Cost	15,729	16,962	17,413	17,209	16,584	13741	13986	14545	15127	15741	16259	16807	17798	18567	19200	19700	20062	20436	20823	21223	21555	21901	22260	22459	22660
Accumulated amortisation	(10,927)	(12,148)	(12,541)	(12,232)	(11,610)	-9734	-9907	-10304	-10716	-11151	-11518	-11906	-12608	-13153	-13601	-13955	-14212	-14477	-14751	-15034	-15270	-15514	-15769	-15909	-16052
% Cost Computer software	69.5%	71.6%	72.0%	71.1%	70.0%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%
Other	1,679	777	231	73	5,271	4246	4322	4495	4674	4864	5024	5194	5500	5738	5933	6088	6200	6315	6435	6558	6661	6768	6879	6940	7002
% Other intangible assets	5.5%	4.0%	1.4%	0.4%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%	23.7%
Cost	7,446	7,430	7,345	7,187	12,411	9998	10176	10583	11006	11453	11830	12229	12950	13510	13970	14334	14598	14870	15151	15442	15684	15935	16197	16341	16488
Accumulated amortisation	(5,767)	(6,653)	(7,114)	(7,114)	(7,140)	-5752	-5854	-6088	-6332	-6589	-6806	-7035	-7450	-7772	-8037	-8246	-8398	-8555	-8716	-8884	-9023	-9167	-9318	-9401	-9485
% Cost Other	77.5%	89.5%	96.9%	99.0%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%	57.5%
Property, plant and equipment	35,515	30,204	28,325	27,432	39,197	31575	32139	33424	34761	36173	37362	38623	40898	42667	44120	45270	46103	46962	47851	48769	49533	50327	51153	51609	52072
% Other intangible assets and PPE	53.9%	60.9%	63.2%	60.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%
Right of use assets	-	-	-	-	11688																				
Property, plant and equipment (owned assets)	35,515	30,204	28,325	27,432	27,509																				
Land and buildings	1,252	1,125	1,060	1,014	955																				
% Property, plant and equipment (owned assets)	3.5%	3.7%	3.7%	3.7%	3.5%																				
Cost	2,393	2,266	2,225	2,267	2,201																				
Accumulated depreciation and impairment	(1,141)	(1,141)	(1,165)	(1,253)	(1,246)																				
% Cost Land and buildings	47.7%	50.4%	52.4%	55.3%	56.6%																				
Equipment, fixtures and fittings	34,263	29,079	27,265	26,418	26,554																				
% Property, plant and equipment (owned assets)	96.5%	96.3%	96.3%	96.3%	96.5%																				
Cost	74,486	68,204	68,532	71,382	70,022																				
Accumulated depreciation and impairment	(40,223)	(39,125)	(41,267)	(44,964)	(43,468)																				
% Cost Equipment, fixtures and fittings	54.0%	57.4%	60.2%	63.0%	62.1%																				
Non current Trade and other receivables	5,793	4,569	4,026	5,170	10,378	9107	8958	9360	9329	9320	9272	9240	9208	9184	9354	9363	9373	9384	9397	9410	9415	9421	9426	9432	9438
% revenues	11.6%	9.6%	8.6%	11.8%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%	23.1%
Inventory	716	576	581	714	585	499	486	503	500	499	495	492	492	493	503	504	504	505	506	507	506	504	503	502	501
Average Holding Period	10.6	9.1	9.6	13.1	10.8	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Current Trade and other receivables	11,561	9,861	9,975	12,190	11,411	9363	9210	9623	9591	9582	9532	9500	9467	9442	9617	9626	9636	9648	9661	9675	9680	9686	9691	9697	9703
Average Collection Period	84.7	75.6	78.2	101.9	92.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
Operational Cash	996	953	931	873	899	789	776	811	809	808	804	801	798	796	811	812	812	813	814	816	816	817	817	817	818
Liabilities																									
Non current Trade and other payables	1,899	1,737	2,843	2,938	5,189	4483	4372	4526	4499	4484	4451	4428	4428	4432	4525	4530	4536	4543	4550	4557	4547	4536	4525	4514	4504
% Cost of sales	7.7%	7.5%	12.8%	14.8%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%	26.2%
Current Trade and other payables	19,896	16,834	16,242	17,653	17,085	13757	13419	13892	13806	13762	13660	13589	13589	13603	13887	13903	13921	13942	13964	13987	13954	13921	13888	13855	13822
Average Payable Period	294.3	266.5	267.3	324.2	314.8	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4	293.4
Total	**91,350**	**73,812**	**68,010**	**66,793**	**93,719**	**63,666**	**65,859**	**69,304**	**72,631**	**76,073**	**77,966**	**79,968**	**83,467**	**86,171**	**88,443**	**90,244**	**91,546**	**92,892**	**94,283**	**95,720**	**96,972**	**98,271**	**99,619**	**100,389**	**101,169**
Non Core invested capital																									
Assets																									
Investments in associates and joint ventures	479	3,138	2,538	3,952	5,831	20,621	20,411	20,201	19,991	19,781	19,571	19,361	19,151	18,941	18,731	18,521	18,311	18,101	17,891	17,681	17,471	17,261	17,051	16,841	16,631
Investment in associates	450	449	441	553	508	1797	1778	1760	1742	1723	1705	1687	1668	1650	1632	1614	1595	1577	1559	1540	1522	1504	1485	1467	1449
% Investments in associates and joint ventures	93.9%	14.3%	17.4%	14.0%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%
Investment in joint ventures	29	2,689	2,097	3,399	5,323	18824	18633	18441	18249	18058	17866	17674	17483	17291	17099	16907	16716	16524	16332	16141	15949	15757	15566	15374	15182
% Investments in associates and joint ventures	6.1%	85.7%	82.6%	86.0%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%	91.3%
Non current Other investments	4,631	3,459	3,204	870	792	741	729	761	759	758	754	751	749	747	761	761	762	763	764	765	766	766	767	767	768
% revenues	9.3%	7.3%	6.9%	2.0%	1.8%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
Debt securities	4,524	3,374	3,157	822	715	669	658	687	685	684	681	678	676	674	687	687	688	689	690	691	691	692	692	693	693
% Non current Other investments	97.7%	97.5%	98.5%	94.5%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%	90.3%
Equity securities	107	85	47	48	77	72	71	74	74	74	73	73	73	73	74	74	74	74	74	74	74	74	75	75	75
% Non current Other investments	2.3%	2.5%	1.5%	5.5%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%
Deferred tax assets	28,306	24,300	26,200	24,753	23,606	7302	7094	7971	7842	7695	7534	7368	6866	6519	6600	6416	6321	6231	6140	6048	6004	5960	5916	5873	5829
Post employment benefits	224	57	110	94	590	89	89	90	91	92	93	94	95	96	97	97	98	99	100	101	102	103	104	105	106
#employees		92200	91980	92005	92866	93755	94652	95558	96473	97397	98329	99270	100220	101180	102148	103126	104113	105110	106116	107132	108157	109192	110238	111293	112358
% #employees		0.06%	0.12%	0.10%	0.64%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%
Taxation recoverable	1,402	150	106	264	275	988	356	381	353	330	383	361	316	280	271	252	239	225	211	196	188	179	170	166	163
%EBIT	75.3%	164.8%	3.6%	-6.5%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%
Current Other investments	5,337	6,120	8,795	13,012	7,089	6221	6119	6394	6372	6367	6333	6312	6290	6273	6390	6396	6402	6410	6419	6428	6431	6435	6439	6443	6447
% revenues	10.7%	12.8%	18.9%	29.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%	15.8%
Assets held for sale	3,657	17,195	13,820	(231)	1,607	1,607	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Liabilities																									
Deferred tax liabilities	564	535	644	478	2,043	1839	1655	1489	1340	1206	1086	977	879	792	712	641	577	519	467	421	379	341	307	276	248
Post employment benefits	565	651	520	551	438	584	590	596	601	607	613	619	625	631	637	643	649	655	662	668	674	681	687	694	700
#employees		92200	91980	92005	92866	93755	94652	95558	96473	97397	98329	99270	100220	101180	102148	103126	104113	105110	106116	107132	108157	109192	110238	111293	112358
% #employees		0.71%	0.57%	0.60%	0.47%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%
Non-Current Provisions	1,619	1,130	1,065	1,242	1,474	1108	1089	1138	1134	1133	1128	1124	1120	1117	1138	1139	1140	1141	1143	1144	1145	1146	1146	1147	1148
% revenues	3.3%	2.4%	2.3%	2.8%	3.3%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Asset retirement obligations	555	596	566	729	927	697	685	716	713	713	709	707	704	702	715	716	717	718	719	720	720	721	721	721	722
% Non-Current Provisions	34.3%	52.7%	53.1%	58.7%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%	62.9%
Legal and regulatory	909	334	242	233	183	138	135	141	141	141	140	140	139	139	141	141	142	142	142	142	142	142	142	142	142
% Non-Current Provisions	56.1%	29.6%	22.7%	18.8%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%
Other	155	200	257	280	364	274	269	281	280	280	278	277	277	276	281	281	281	282	282	283	283	283	283	283	283
% Non-Current Provisions	9.6%	17.7%	24.1%	22.5%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%	24.7%
Taxation liabilities	683	661	541	596	671	2410	869	929	861	806	935	880	770	683	660	615	582	549	515	479	459	437	414	406	397
%EBIT	36.7%	726.4%	18.1%	-14.7%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%
Current Provisions	958	1,049	891	1,160	1,024	866	852	890	887	886	882	879	876	873	890	890	891	892	894	895	895	896	896	897	898
% revenues	1.9%	2.2%	1.9%	2.7%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Asset retirement obligations	16	10	17	28	23	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
% Current Provisions	1.7%	1.0%	1.9%	2.4%	2.2%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Legal and regulatory	306	300	280	274	292	250	246	257	256	255	254	253	252	252	256	257	257	257	258	258	258	258	258	259	259
% Current Provisions	31.9%	28.6%	31.4%	23.6%	28.5%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%
Other	636	739	594	858	709	601	591	617	615	615	611	609	607	606	617	617	618	619	620	621	621	621	622	622	622
% Current Provisions	66.4%	70.4%	66.7%	74.0%	69.2%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%	69.3%
Liabilities held for sale	438	11,794	10,999	0	1,051	1051	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	39,209	38,599	40,113	38,687	33,089	29,710	29,743	30,755	30,584	30,384	30,026	29,768	29,196	28,760	28,813	28,516	28,294	28,072	27,845	27,613	27,411	27,205	26,996	26,776	26,552
Net Financial Assets																									
Excess cash	11,926	7,882	3,743	12,764	12,385	18,675	14,340	10,006	10,321	10,646	10,799	10,974	11,266	11,493	11,726	11,876	11,984	12,096	12,213	12,333	12,438	12,548	12,662	12,716	12,772
Long-term borrowings	37,089	34,523	32,908	48,685	62,892																				
Bonds	27,993	31,477	30,473	44,439	47,500																				
Bank loans	8,799	2,741	2,157	1,780	1,500																				
Lease liabilities	0.00	0.00	0.00	0.00	9,077																				
Bank borrowings secured against Indian assets	0.00	0.00	0.00	0.00	1,346																				
Other long-term borrowings	297	305	278	2,466	3,469																				
Short-term borrowings	20,260	10,214	8,513	4,270	11,826																				
Bonds	2,571	2,904	3,477	53	1,912																				
Commercial paper	9,353	3,648	2,712	873	0																				
Bank loans and overdrafts	2,862	867	1,159	1,220	1,228																				
Lease liabilities	0	0	0	0	2,986																				
Other short-term borrowings	5,474	2,795	1,165	2,124	5,700																				
Financial liabilities under put option arrangements	0	1,837	1,838	1,844	1,850																				
Total borrowings	57,349	46,574	43,259	54,799	76,568	60695	62142	60036	61929	58551	59395	60355	67598	68959	70353	65318	65912	66530	67170	67833	68410	69012	69638	69941	70247
% Invested Capital	43.9%	41.4%	40.0%	52.0%	60.4%	65.0%	65.0%	60.0%	60.0%	55.0%	55.0%	55.0%	60.0%	60.0%	60.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%
Total	**(45,423)**	**(38,692)**	**(39,516)**	**(42,035)**	**(64,183)**	**(40,110)**	**(45,892)**	**(50,030)**	**(51,607)**	**(47,905)**	**(48,596)**	**(49,381)**	**(56,331)**	**(57,465)**	**(58,628)**	**(53,442)**	**(53,928)**	**(54,434)**	**(54,957)**	**(55,500)**	**(55,972)**	**(56,464)**	**(56,977)**	**(57,224)**	**(57,475)**
Equity																									
Called up share capital	4,796	4,796	4,796	4,796	4,797																				
Additional paid-in capital	151,694	151,808	150,197	152,503	152,629																				
Treasury shares	(8,777)	(8,610)	(8,463)	(7,875)	(7,802)																				
Accumulated losses	(95,683)	(105,851)	(106,695)	(116,725)	(120,349)																				
Accumulated other comprehensive income	31,295	30,057	27,805	29,519	32,135																				
Total attributable to owners of the parent	83,325	72,200	67,640	62,218	61,410																				
Non-controlling interests	1,817	1,525	967	1,227	1,215																				
Put options over non controlling interest	(6)	(6)	0	0	0																				
Total non-controlling interests	1,811	1,519	967	1,227	1,215																				
Total	**85,136**	**73,719**	**68,607**	**63,445**	**62,625**	**53,266**	**49,710**	**50,030**	**51,607**	**58,551**	**59,395**	**60,355**	**56,331**	**57,465**	**58,628**	**65,318**	**65,912**	**66,530**	**67,170**	**67,833**	**68,410**	**69,012**	**69,638**	**69,941**	**70,247**

Forecasted Cash Flow Map

	2016	2017	2018	2019	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F	2037F	2038F	2039F	2040F
FY 31 March	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m	€m
Core																									
Europe																									
EBIT	6480	6329	6650	6412	7240	7302	7094	7971	7842	7695	7534	7368	6866	6519	6600	6416	6321	6231	6140	6048	6004	5960	5916	5873	5829
Taxes	-4987	-4927	-885	-3691	-2640	-2663	-2587	-2907	-2860	-2806	-2747	-2687	-2504	-2377	-2407	-2340	-2305	-2272	-2239	-2205	-2189	-2173	-2158	-2142	-2126
NOPLAT	**1493**	**1403**	**5765**	**2721**	**4600**	**4639**	**4507**	**5064**	**4982**	**4889**	**4787**	**4681**	**4362**	**4142**	**4194**	**4076**	**4016**	**3959**	**3901**	**3842**	**3815**	**3787**	**3759**	**3731**	**3703**
Depreciation and Amortisation	8551	8344	8181	8239	8803	7049	7257	7474	7698	7928	8087	8249	8661	8921	9188	9372	9466	9561	9656	9753	9802	9851	9900	9949	9999
Operating CFs	**10044**	**9747**	**13946**	**10960**	**13403**	**11688**	**11765**	**12538**	**12680**	**12817**	**12874**	**12930**	**13023**	**13062**	**13382**	**13448**	**13482**	**13519**	**13557**	**13595**	**13616**	**13637**	**13659**	**13680**	**13702**
- Capex		(5,802)	(5,743)	(8,958)	(26,931)	3,405	(8,512)	(8,767)	(9,029)	(9,299)	(9,028)	(9,209)	(11,109)	(10,463)	(10,777)	(10,463)	(10,022)	(10,123)	(10,224)	(10,326)	(10,091)	(10,141)	(10,192)	(10,243)	(10,294)
- change Goodwill		1,430	74	111	(9,603)	17,435	(2,378)	(2,378)	(2,378)	(2,378)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-change NWC		-103	704	-1389	-1961	-378	-85	-195	-30	-24	-20	-15	54	55	-2	3	3	3	3	3	-40	-40	-40	-40	-40
Investment CFs		**(4,475)**	**(4,965)**	**(10,236)**	**(38,495)**	**20,462**	**(10,975)**	**(11,339)**	**(11,436)**	**(11,700)**	**(9,048)**	**(9,224)**	**(11,056)**	**(10,408)**	**(10,779)**	**(10,460)**	**(10,019)**	**(10,120)**	**(10,221)**	**(10,323)**	**(10,131)**	**(10,181)**	**(10,232)**	**(10,283)**	**(10,334)**
FCFs Core Europe Business		**5272**	**8981**	**725**	**-25092**	**32150**	**790**	**1200**	**1244**	**1117**	**3825**	**3706**	**1968**	**2654**	**2603**	**2988**	**3463**	**3400**	**3336**	**3272**	**3486**	**3456**	**3427**	**3397**	**3368**
Rest of the world (including Other and Eliminations)																									
EBIT	3668	3721	3821	3826	4026	3354	3400	3208	2973	2764	2548	2347	2125	1895	1761	1660	1553	1441	1324	1200	1119	1030	934	934	932
Taxes	-2822	-2896	-508	-2202	-1468	-1223	-1240	-1170	-1084	-1008	-929	-856	-775	-691	-642	-605	-566	-526	-483	-437	-408	-376	-341	-340	-340
NOPLAT	**845**	**825**	**3313**	**1624**	**2558**	**2131**	**2160**	**2038**	**1889**	**1756**	**1619**	**1491**	**1350**	**1204**	**1119**	**1054**	**987**	**916**	**841**	**762**	**711**	**655**	**594**	**593**	**592**
Depreciation and Amortisation	1835	1835	1729	1426	1282	1331	1142	1256	1381	1519	1671	1837	2021	2223	2334	2450	2573	2701	2836	2978	3126	3282	3446	3515	3586
Operating CFs	**2680**	**2660**	**5042**	**3050**	**3840**	**3462**	**3302**	**3294**	**3270**	**3275**	**3289**	**3329**	**3371**	**3427**	**3452**	**3505**	**3559**	**3617**	**3677**	**3740**	**3837**	**3937**	**4040**	**4109**	**4178**
- Capex		11,848	601	(943)	481	163	(770)	(1,980)	(2,145)	(2,362)	(2,594)	(2,854)	(3,139)	(3,454)	(3,022)	(3,163)	(3,321)	(3,487)	(3,661)	(3,844)	(4,035)	(4,236)	(4,448)	(3,937)	(4,016)
- change Goodwill		0	0	(255)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-change NWC		-14	255	-539	-682	-141	-36	-46	-13	-16	-8	-10	14	14	7	-1	-1	-1	-1	-1	-14	-14	-15	-15	-15
Investment CFs		**11,834**	**856**	**(1,737)**	**(201)**	**22**	**(806)**	**(2,025)**	**(2,158)**	**(2,378)**	**(2,602)**	**(2,864)**	**(3,125)**	**(3,440)**	**(3,015)**	**(3,164)**	**(3,322)**	**(3,488)**	**(3,662)**	**(3,845)**	**(4,049)**	**(4,251)**	**(4,462)**	**(3,952)**	**(4,030)**
FCFs Core ROW Business		**14494**	**5898**	**1313**	**3639**	**3484**	**2496**	**1269**	**1111**	**897**	**687**	**464**	**246**	**-13**	**437**	**341**	**238**	**129**	**15**	**-105**	**-212**	**-314**	**-422**	**157**	**147**
FCF Core Business		**19766**	**14879**	**2037**	**-21453**	**35635**	**3286**	**2468**	**2356**	**2015**	**4513**	**4170**	**2214**	**2641**	**3040**	**3329**	**3701**	**3529**	**3351**	**3167**	**3273**	**3142**	**3004**	**3554**	**3515**
Non Core																									
Non Operating Income	(8,287)	(9,959)	(7,488)	(14,298)	(6,922)	4,944	(4,865)	(5,164)	(5,241)	(5,239)	(4,027)	(4,016)	(4,005)	(3,995)	(4,087)	(4,096)	(4,106)	(4,118)	(4,131)	(4,144)	(4,153)	(4,162)	(4,171)	(4,181)	(4,191)
Notional Taxes on Non Operating EBIT	2304	2680	1987	3837	1889	-1350	1328	1410	1431	1430	1099	1096	1093	1091	1116	1118	1121	1124	1128	1131	1134	1136	1139	1141	1144
Other Comprehensive Income	(2,522)	(1,357)	(2,389)	1,756	2,574	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non Core Result	**(8,505)**	**(8,636)**	**(7,890)**	**(8,705)**	**(2,459)**	**3,595**	**(3,537)**	**(3,755)**	**(3,810)**	**(3,809)**	**(2,928)**	**(2,920)**	**(2,912)**	**(2,905)**	**(2,971)**	**(2,978)**	**(2,985)**	**(2,994)**	**(3,003)**	**(3,013)**	**(3,019)**	**(3,026)**	**(3,033)**	**(3,039)**	**(3,047)**
Impairment Losses		-	-	3525	1685	1,189	1,189	1,189	1,189	1,189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Europe		-	-	3270	1685	1,189	1,189	1,189	1,189	1,189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of the World including Other and Eliminations		-	-	255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Change in Investment in associates and joint ventures		(2,659)	600	(1,414)	(1,879)	(14,790)	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
Change in Other investments		389	(2,420)	(1,883)	6,001	919	114	(307)	24	6	37	24	24	19	(130)	(7)	(7)	(9)	(10)	(10)	(4)	(4)	(4)	(4)	(4)
Non current		1,172	255	2,334	78	51	12	(33)	3	1	4	3	3	2	(14)	(1)	(1)	(1)	(1)	(1)	(0)	(0)	(0)	(0)	(0)
Current		(783)	(2,675)	(4,217)	5,923	868	102	(275)	22	6	33	22	22	17	(116)	(6)	(6)	(8)	(9)	(9)	(4)	(4)	(4)	(4)	(4)
Change in deferred tax assets/liabilities		3,977	(1,791)	1,281	2,712	16,100	24	(1,042)	(21)	13	40	58	404	259	(161)	114	30	33	39	45	2	6	10	13	16
Change in post employment assets/liabilities		253	(184)	47	(609)	648	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6
Change in taxation recoverable/liabilities		1,230	(76)	(103)	64	1,026	(909)	35	(40)	(32)	76	(32)	(65)	(52)	(13)	(27)	(19)	(20)	(20)	(21)	(12)	(13)	(14)	(5)	(5)
Change in Assets/Liabilities held for sale		(2,182)	2,580	3,052	(787)	0	556	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Change in Provisions		(398)	(223)	446	96	(524)	(32)	87	(7)	(2)	(11)	(7)	(7)	(5)	37	2	2	3	3	3	1	1	1	1	1
Non Current		(489)	(65)	177	232	(366)	(18)	49	(4)	(1)	(6)	(4)	(4)	(3)	21	1	1	1	2	2	1	1	1	1	1
Current		91	(158)	269	(136)	(158)	(14)	38	(3)	(1)	(5)	(3)	(3)	(2)	16	1	1	1	1	1	1	1	1	1	1
FCF Non Core Business		**-8026**	**-9404**	**-3754**	**4824**	**8162**	**-2381**	**-3578**	**-2450**	**-2420**	**-2570**	**-2662**	**-2340**	**-2469**	**-3024**	**-2681**	**-2764**	**-2772**	**-2776**	**-2781**	**-2817**	**-2820**	**-2824**	**-2819**	**-2823**
Unlevered FCF		**11740**	**5475**	**-1717**	**-16629**	**43797**	**905**	**-1109**	**-94**	**-405**	**1943**	**1508**	**-127**	**173**	**17**	**649**	**937**	**756**	**575**	**387**	**456**	**322**	**180**	**736**	**692**
Financial																									
Interest	(2,046)	(1,406)	(1,074)	(2,088)	(3,549)	(4,959)	(3,931)	(4,025)	(3,888)	(4,011)	(3,792)	(3,847)	(3,909)	(4,378)	(4,466)	(4,556)	(4,230)	(4,269)	(4,309)	(4,350)	(4,393)	(4,431)	(4,469)	(4,510)	(4,530)
Tax Shield	569	378	285	560	969	1354	1073	1099	1061	1095	1035	1050	1067	1195	1219	1244	1155	1165	1176	1187	1199	1209	1220	1231	1236
Financial Result	**(1,477)**	**(1,028)**	**(789)**	**(1,528)**	**(2,580)**	**(3,605)**	**(2,858)**	**(2,926)**	**(2,827)**	**(2,916)**	**(2,757)**	**(2,797)**	**(2,842)**	**(3,183)**	**(3,247)**	**(3,313)**	**(3,076)**	**(3,104)**	**(3,133)**	**(3,163)**	**(3,194)**	**(3,221)**	**(3,249)**	**(3,279)**	**(3,293)**
Change in Financial Debt		-6732	825	2519	22148	-24073	5782	4138	1578	-3702	691	785	6950	1134	1162	-5186	487	506	523	542	472	492	513	247	250
Change Excess Cash		-4043	-4140	9021	-379																				
Change in Long Term Borrowings		-2566	-1615	15777	14207																				
Change in Short Term Borrowings		-10046	-1701	-4243	7556																				
Change in Financial Liabilities under Put options arrangements		1837	1	6	6																				
Change in Shareowners funds (in cash)		-3981	-5511	726	-2939	-16118	-3828	-102	1344	7023	123	504	-3982	1876	2068	7850	1652	1841	2034	2234	2265	2407	2556	2296	2351
Change in Equity		-11417	-5112	-5162	-820	-9359	-3556	319	1578	6944	844	959	-4023	1134	1162	6690	595	618	640	663	577	601	627	302	306
Change in Total attributable to owners of the parent		-11125	-4560	-5422	-808																				
Change in Called up share capital		0	0	0	1																				
Change in Additional paid-in capital		114	-1611	2306	126																				
Change in Treasury shares		167	147	588	73																				
Change in Accumulated losses		-10168	-844	-10030	-3624																				
change in Accumulated other comprehensive income		-1238	-2252	1714	2616																				
Change in Total non-controlling interests		-292	-552	260	-12																				
Change in Non-controlling interests		-292	-558	260	-12																				
Change in Put options over non controlling interest		0	6	0	0																				
Total Comprehensive Income	(7,436)	399	(5,888)	2,119	6,760	272	422	234	(79)	721	456	(41)	(742)	(906)	(1,160)	(1,058)	(1,223)	(1,394)	(1,571)	(1,688)	(1,806)	(1,930)	(1,994)	(2,045)	
FCFs Financial		**(11,740)**	**(5,475)**	**1,717**	**16,629**	**(43,797)**	**(905)**	**1,109**	**94**	**405**	**(1,943)**	**(1,508)**	**127**	**(173)**	**(17)**	**(649)**	**(937)**	**(756)**	**(575)**	**(387)**	**(456)**	**(322)**	**(180)**	**(736)**	**(692)**

Others

Valuation Assumptions and Discounted Cash Flows Method

Core	2021F €m	2022F €m	2023F €m	2024F €m	2025F €m	2026F €m	2027F €m	2028F €m	2029F €m	2030F €m	2031F €m	2032F €m	2033F €m	2034F €m	2035F €m	2036F €m	2037F €m	2038F €m	2039F €m	2040F €m	Terminal value (2040) €m
Europe																					
EBIT	5981	5734	6569	6487	6391	6266	6138	5978	5194	5339	5130	5024	4921	4871	4821	4805	4788	4771	4755	4739	
Taxes	-2181	-2091	-2395	-2366	-2330	-2285	-2238	-2034	-1894	-1947	-1871	-1832	-1794	-1776	-1758	-1752	-1746	-1740	-1734	-1728	
NOPLAT	**3800**	**3643**	**4174**	**4122**	**4060**	**3981**	**3900**	**3544**	**3300**	**3392**	**3259**	**3192**	**3126**	**3095**	**3063**	**3053**	**3042**	**3031**	**3021**	**3011**	
Depreciation and Amortisation	8370	8618	8876	9053	9233	9325	9418	9885	10186	10390	10598	10754	10911	10865	10919	10941	10963	10985	11007	11029	
Operating CFs	**12170**	**12261**	**13049**	**13174**	**13293**	**13306**	**13318**	**13434**	**13486**	**13782**	**13857**	**13895**	**13937**	**13959**	**13982**	**13993**	**14005**	**14016**	**14028**	**14039**	
YoY%Δ		0.7%	6.4%	1.0%	0.9%	0.1%	0.1%	0.9%	0.4%	2.2%	0.5%	0.3%	0.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	
- Capex	-5757	-10108	-10410	-10106	-10308	-9873	-9972	-12685	-11947	-11599	-11831	-11333	-11446	-11186	-11241	-11070	-11093	-11115	-11137	-11159	
- Δ Goodwill	2130	-2823	-2823	-2823	-2823	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
- Δ NWC	-378	-85	-195	-30	-24	3	8	53	55	0	3	3	3	3	3	-40	-40	-40	-40	-40	
Investment CFs	**-4005**	**-13016**	**-13428**	**-12959**	**-13154**	**-9870**	**-9964**	**-12632**	**-11892**	**-11600**	**-11828**	**-11330**	**-11443**	**-11183**	**-11239**	**-11110**	**-11132**	**-11155**	**-11177**	**-11199**	
YoY%Δ		225.0%	3.2%	3.5%	1.5%	-25.0%	1.0%	26.8%	-5.9%	-2.5%	2.0%	-4.2%	1.0%	-2.3%	0.5%	-1.1%	0.2%	0.2%	0.2%	0.2%	
FCFs Core Europe Business	**8165**	**-756**	**-379**	**215**	**139**	**3436**	**3354**	**892**	**1594**	**2182**	**2029**	**2566**	**2494**	**2777**	**2744**	**2883**	**2872**	**2862**	**2851**	**2840**	**2831**
		-109.3%	-49.9%	-156.7%	-35.5%	2377.8%	-2.4%	-76.1%	78.8%	36.9%	-7.0%	26.5%	-2.8%	11.4%	-1.2%	5.1%	-0.4%	-0.4%	-0.4%	-0.4%	
DCF @WACC	**78512**	**81507**	**84210**	**86397**	**88722**	**87817**	**86967**	**88646**	**89580**	**89952**	**90489**	**90904**	**90591**	**90359**	**90233**	**89923**	**89615**	**89310**	**89006**	**88704**	
With Goodwill																					
WACC	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%
ROIC		4.64%	5.12%	4.87%	4.66%	4.44%	4.32%	3.91%	3.53%	3.56%	3.38%	3.27%	3.18%	3.13%	3.09%	3.07%	3.05%	3.04%	3.02%	3.00%	
RONIC		-5.25%	16.90%	-2.08%	-2.45%	-14.55%	-14.84%	-12.98%	-14.29%	7.58%	-10.78%	-10.81%	-10.35%	-9.91%	-9.83%	-9.35%	-9.26%	-9.17%	-9.08%	-8.98%	
Reinvestment Rate		81.99%	75.25%	60.54%	61.82%	13.69%	13.99%	77.37%	51.70%	35.67%	37.75%	19.62%	20.23%	10.28%	10.43%	5.54%	5.57%	5.60%	5.64%	5.67%	
Growth Rate		-4.31%	12.72%	-1.26%	-1.52%	-1.99%	-2.08%	-10.04%	-7.39%	2.71%	-4.07%	-2.12%	-2.09%	-1.02%	-1.03%	-0.35%	-0.35%	-0.35%	-0.34%	-0.34%	-0.34%
Without Goodwill																					
WACC	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%
ROIC		7.17%	7.97%	7.62%	7.36%	7.07%	6.86%	6.18%	5.49%	5.49%	5.17%	4.97%	4.82%	4.72%	4.65%	4.61%	4.59%	4.56%	4.53%	4.51%	
RONIC		-9.96%	30.70%	-4.78%	-5.60%	-14.55%	-14.84%	-12.98%	-14.29%	7.58%	-10.78%	-10.81%	-10.35%	-9.91%	-9.83%	-9.35%	-9.26%	-9.17%	-9.08%	-8.98%	
Reinvestment Rate		42.24%	41.43%	26.29%	27.05%	13.69%	13.99%	77.37%	51.70%	35.67%	37.75%	19.62%	20.23%	10.28%	10.43%	5.54%	5.57%	5.60%	5.64%	5.67%	
Growth Rate		-4.31%	12.72%	-1.26%	-1.52%	-1.99%	-2.08%	-10.04%	-7.39%	2.71%	-4.07%	-2.12%	-2.09%	-1.02%	-1.03%	-0.35%	-0.35%	-0.35%	-0.34%	-0.34%	-0.34%

Core	2021F €m	2022F €m	2023F €m	2024F €m	2025F €m	2026F €m	2027F €m	2028F €m	2029F €m	2030F €m	2031F €m	2032F €m	2033F €m	2034F €m	2035F €m	2036F €m	2037F €m	2038F €m	2039F €m	2040F €m	Terminal value (2040) €m	
Rest of the world (including Other and Eliminations)		1.4%	-5.6%	-7.3%	-7.0%	-7.8%	-7.9%	-9.5%	-10.8%	-7.1%	-5.7%	-6.4%	-7.2%	-8.2%	-9.4%	0.7%	0.6%	0.5%	0.4%	0.3%		
EBIT	3354	3400	3208	2973	2764	2548	2347	2125	1895	1761	1660	1563	1441	1324	1200	1208	1215	1221	1226	1230		
Taxes	-1223	-1240	-1170	-1084	-1008	-929	-856	-775	-691	-642	-605	-566	-526	-483	-437	-440	-443	-445	-447	-449		
NOPLAT	**2131**	**2160**	**2038**	**1889**	**1756**	**1619**	**1491**	**1350**	**1204**	**1119**	**1054**	**997**	**916**	**841**	**762**	**767**	**772**	**776**	**779**	**782**		
Depreciation and Amortisation	1331	1142	1258	1381	1515	1671	1837	2031	2223	2334	2465	2577	2701	2858	2978	3037	3088	3140	3212	3287		
Operating CFs	**3462**	**3302**	**3294**	**3270**	**3275**	**3289**	**3329**	**3371**	**3427**	**3452**	**3505**	**3559**	**3617**	**3677**	**3740**	**3804**	**3870**	**3935**	**4002**	**4069**		
YoY%Δ		-4.6%	-0.2%	-0.7%	0.2%	0.4%	1.2%	1.3%	1.7%	0.7%	1.5%	1.6%	1.6%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%		
- Capex	163	-770	-1980	-2145	-2362	-2594	-2854	-3139	-3454	-3022	-3163	-3321	-3487	-3661	-3844	-3402	-3470	-3539	-3610	-3682		
- Δ Goodwill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
- Δ NWC	-141	-36	-46	-13	-16	0	2	14	14	7	-1	-1	-1	-1	-1	-14	-14	-14	-15	-15		
Investment CFs	**22**	**-806**	**-2025**	**-2158**	**-2378**	**-2594**	**-2856**	**-3125**	**-3440**	**-3015**	**-3164**	**-3322**	**-3488**	**-3662**	**-3845**	**-3416**	**-3484**	**-3553**	**-3624**	**-3696**		
YoY%Δ		-3736.7%	151.3%	6.6%	10.2%	9.1%	10.1%	9.4%	10.1%	-12.4%	4.9%	5.0%	5.0%	5.0%	5.0%	-11.1%	2.0%	2.0%	2.0%	2.0%		
FCFs Core ROW Business	**3484**	**2496**	**1269**	**1111**	**897**	**695**	**472**	**246**	**-13**	**437**	**341**	**238**	**129**	**15**	**-105**	**388**	**386**	**382**	**378**	**372**	**374**	
		-28.4%	-49.2%	-12.4%	-19.3%	-22.6%	-32.1%	-47.9%	-105.3%	3484.6%	-22.1%	-30.3%	-45.7%	-88.4%	-799.7%	-472.2%	-0.7%	-0.9%	-1.1%	-1.4%		
DCF @ WACC	**16312**	**14281**	**13420**	**12691**	**12155**	**11807**	**11671**	**11758**	**12106**	**12014**	**12016**	**12121**	**12337**	**12674**	**13141**	**13127**	**13116**	**13108**	**13104**	**13105**	**13105**	
With Goodwill																						
WACC	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	
ROIC		26.75%	26.34%	22.20%	18.92%	15.96%	13.48%	11.17%	9.13%	7.76%	6.99%	6.25%	5.53%	4.85%	4.20%	4.03%	3.98%	3.92%	3.86%	3.80%		
RONIC		-6.60%	-15.81%	-19.24%	-15.43%	-14.87%	-12.51%	-12.79%	-11.98%	-12.57%	-9.01%	-9.03%	-9.04%	-9.06%	-9.08%	1.37%	1.18%	0.99%	0.80%	0.62%		
Reinvestment Rate		-15.55%	37.75%	41.15%	48.90%	57.05%	68.34%	81.78%	101.07%	60.89%	67.66%	75.90%	85.90%	98.21%	113.76%	49.39%	50.04%	50.76%	51.52%	52.35%		
Growth Rate		1.34%	-5.97%	-7.92%	-7.54%	-8.48%	-8.55%	-10.46%	-12.11%	-7.65%	-6.09%	-6.85%	-7.76%	-8.90%	-10.33%	0.68%	0.59%	0.50%	0.41%	0.33%	0.33%	
Without Goodwill																						
WACC	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	2.85%	
ROIC		26.75%	26.34%	22.20%	18.92%	15.96%	13.48%	11.17%	9.13%	7.76%	6.99%	6.25%	5.53%	4.85%	4.20%	4.03%	3.98%	3.92%	3.86%	3.80%		
RONIC		-6.60%	-15.81%	-19.24%	-15.43%	-14.87%	-12.51%	-12.79%	-11.98%	-12.57%	-9.01%	-9.03%	-9.04%	-9.06%	-9.08%	1.37%	1.18%	0.99%	0.80%	0.62%		
Reinvestment Rate		-15.55%	37.75%	41.15%	48.90%	57.05%	68.34%	81.78%	101.07%	60.89%	67.66%	75.90%	85.90%	98.21%	113.76%	49.39%	50.04%	50.76%	51.52%	52.35%		
Growth Rate		1.34%	-5.97%	-7.92%	-7.54%	-8.48%	-8.55%	-10.46%	-12.11%	-7.65%	-6.09%	-6.85%	-7.76%	-8.90%	-10.33%	0.68%	0.59%	0.50%	0.41%	0.33%	0.33%	
DCF Core Business	**94824**	**95788**	**97630**	**99088**	**100878**	**99624**	**98638**	**100404**	**101686**	**101967**	**102505**	**102625**	**102929**	**103073**	**103374**	**103050**	**102731**	**102417**	**102110**	**101809**		

Discounted CFs Core Business (m€)	94824	95788
Non core assets/liabilities (m€)	28530	28529
Enterprise Value (m€)	**123354**	**124317**
Net Debt (m€)	55650	62864
Equity Value (m€)	**67703**	**61453**
#Shares outstanding	30.625	31.827
Price per Share (€)	2.21	1.93
EPS (€)	0.19	-0.05
Expected Capital Gain		
Price target (€) (**31st March**)	2.21	1.93
Current Share Price (€)	1.28	1.32
Expected Capital Gain (%)	72.72%	39.82%
Expected Cash Gain		
Dividend yield (%)	7.03%	7.03%
Expected Cash Gain (%)	7.03%	7.03%
Expected Capital Gain + Cash Gain (%)	**79.75%**	**46.85%**
Cost of Equity	4.88%	4.88%
Recommendation	**BUY**	**BUY**

Our investment recommendation is based on a 15-month return starting on the 1st January 2021 (**Current Price**) and ending on the 31st December 2022 (**Price Target**), and so we annualized the total shareholder return to only consider the period from 31st March 2021 - 31st March 2022.

Total Return (Jan21-March22) =	**46.85%**
Total Return (March21-March22) =	**35.99%**
Cost of Equity	4.88%
Recommendation	**BUY**

Annuity (2042-2045) = 1245

Perpetuity (2046-...) = 11861

Disclosures and Disclaimers

Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by *Francisca Pinto & Maria Coutinho*, a Master in Finance student of Nova School of Business and Economics ("Nova SBE"), within the context of the Field Lab – Equity Research.

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A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

Bringing Future Technologies Today

Business Overview

MARIA FRANCISCA BARROS DE ALMEIDA PINTO
Nº29042

A Project carried out on the Master in Finance Program, under the supervision of:

Nuno Quartin Bastos de Vasconcelos e Sá

04/01/2021

Abstract

The Vodafone Group Plc is a multinational telecommunications company that operates in two main geographic segments: Europe and Africa. Since this firm entered in the run for 5G development and has surrender to its towers carve-out during the financial year of 2021, there is some uncertainty relating to the future of its stock price.

This thesis includes a thorough analysis of the company's past performance, and since Vodafone is a complex company, with two very different markets, it was essential to consider different value drivers for each segment. The report submits detailed prospects for the Group's future performance, and consequently, the presentation of Discounted Cash Flow and Multiple analysis valuation methods, deducing the company's share price by the 31st March 2022, and respective recommendation for potential investors.

Keywords

MNOs, 5G roll-out, Tower carve-out, M&A

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This report is part of the Vodafone Group Plc report (annexed) and should be read has an integral part of it.

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Exhibit 2 – % of Vodafone Service Revenues per Segment in 2020

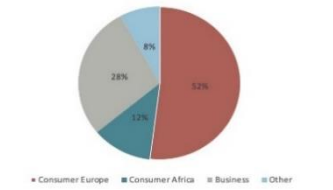


Exhibit 3 –EBITDA Margin Expansion

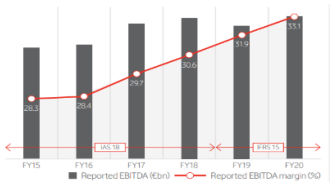
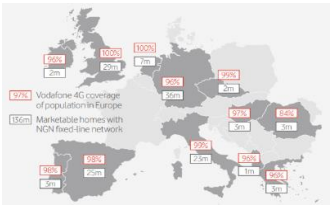


Exhibit 4 – Mobile Network Sharing and Scaled Fixed Infrastructure



Source: Vodafone Annual Report 2020

Vodafone Group Plc, founded on July 17 1984, and headquartered in the United Kingdom, is an international telecommunications company with approximately 93.000 employees spread across its different geographic business areas. Over the last two years, through several acquisitions, mergers, and disinvestments, the company is now organized into two scaled regional platforms, Europe and Africa. Its European segment, which represents most of the Group service revenues, relies on operations based in Germany, Italy, the United Kingdom, Spain, and Other Europe, and its Rest of World (ROW) segment includes South Africa, Egypt and Other Africa. Moreover, the Group holds interests in various joint ventures in the Netherlands (VodafoneZiggo), Australia (Vodafone Hutchison), India (Vodafone Idea and Indus Towers), Italy (INWIT), and in an associate in Kenya (Safaricom).

The Group provides a wide variety of communication services to consumers and businesses, comprising voice, messaging and data across mobile and fixed networks. However, the European and African consumers' needs are clearly distinct, hence, it offers mobile, fixed, and TV services, separately or in bundles, Internet of Things' (IoT) solutions and security and insurance products in Europe, and multiple mobile services allowing to call, text, and obtain data, and a mobile payment platform, M-Pesa, to provide a simplified solution to people who own a mobile phone but do not have access to a bank account, in Africa. Regarding the Business segment, the Group offers mobile, fixed, converged communications services and IoT, cloud&security and carrier services. Additionally, Vodafone also rents wireless capacity to mobile virtual network operators (MVNOs), representing 8% of total service revenue **(Exhibit 2)**. Concerning most recent highlights, in 2019, Vodafone announced the creation of the largest European tower company, already operational, and acquired Liberty's assets, evolving into an utterly convergent player in Europe.

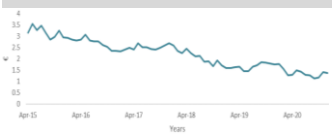
The Group's revenues and service revenues increased from FY[1]19 to FY20, reaching a value of €44.97 billion, and €37.87 billion, respectively. In FY19, Vodafone began a program to cut its cost structure while improving network quality and clients' experience, which has triggered the enterprise to obtain a fifth consecutive year of EBITDA margin increase **(Exhibit 3)**. Its main capital allocation concerns are to support infrastructure investments, reduce debt and maintain returns to shareholders.

SHAREHOLDER STRUCTURE

Concerning ordinary shares, Vodafone has a primary listing on the London Stock Exchange and a secondary on NASDAQ, where it is traded in the form of American Depositary Shares issued by Deutsche Bank, each representing ten Vodafone ordinary shares. Most of the shares are owned by Institutional investors (81%), followed by General Public (18%), and the remaining is split among Government, Public and Private companies, individual insiders, and employees' share schemes. Top 25 shareholders own 46% of the company, being the most significant shareholder BlackRock Inc, with 7% ownership. In general, Institutional investors have low-risk aversion, easy access to capital, and are highly concerned with shareholder value, as their

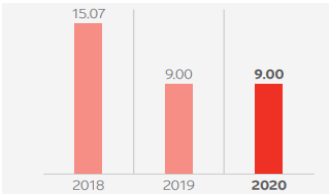
[1] FY: fiscal year ending on 31st March of each year

Exhibit 5 – Vodafone Share Price



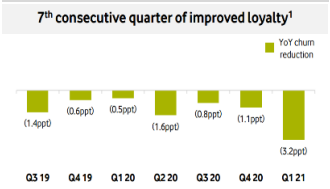
Source: investing.com

Exhibit 6 –Vodafone's Dividends per share



Source: Annual Report 2020

Exhibit 7 – YoY Churn Reduction

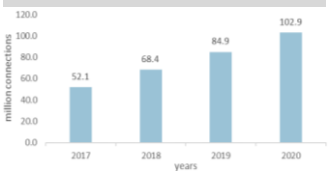


Source: Vodafone Q1 FY21 Presentation

Exhibit 8 – Vodacom's improved performance

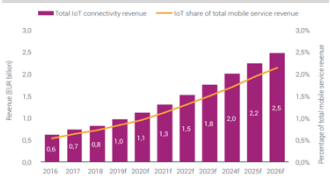
Source: Vodafone FY20

Exhibit 9 – Vodafone's IoT SIM connections



Source: Annual Report 2020

Exhibit 10 – IoT revenue forecast Europe



Source: ETNO

performance is frequently assessed regarding financial success[2], positively affecting the firm's performance[3].

Since 2018, the shares have lost half their worth **(Exhibit 5)**. In 2019, the Board decided to rebase the dividend per share to €0.09, a 40% reduction over the previous fiscal year's dividend **(Exhibit 6)**. The Group decreased its dividend for the first time in its history[4], as it was considered imperative to increase financial margins to support the strategic targets which, ultimately, drives shareholder value. For FY20, the Board maintained total dividends per share of €0.09, implying an interim dividend of €0.045, paid in February 2020, and a final dividend of €0.045, paid in August 2020, despite revenue growth, but Vodafone intends to increase its dividends for the future, which we support, given the expected debt and profitability improvement and historical dividend policy.

STRATEGY

Vodafone's strategic plan focuses on four main strategic priorities:

Deepen Customer Engagement

In **Europe,** Vodafone aims to drive growth by focusing on the existing customer base, given its limited growth potential in such a mature market, through upselling converged offers and additional services, having reached 7.2 million converged customers in Europe, 0.6 million more than the year before, driving emphasis towards improved customer loyalty **(Exhibit 7)**, with mobile contract churn reaching its low record of 14.6%. Another growth opportunity comes from having Europe's largest NGN fixed-line network, with growing net additions. And so, we support this trend will go on in the future for most European countries.

In **Africa**, Vodafone is a mobile data and payments provider, expecting to meet growing mobile data demand **(Exhibit 8)**, given the lack of fixed broadband access, through network coverage extension and increasing handset affordability**.** We believe there is also a substantial opportunity to grow M-Pesa and broaden it into new financial and digital services, keeping up with its transaction volume trend.

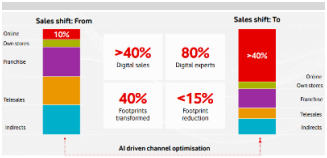
Concerning the **Business** segment, there is an opportunity to gain market share in the evolving wide area networking market, given companies increased dependence on remote working and increased investments in software defined networking, cheaper and more reliable than legacy solutions. Also, telcos will be the single network enabling the industrialization of its IoT platform, leading to a technological shift on a range of industries[5], and so, we assumed Vodafone's IoT SIM connections will continue to grow **(Exhibit 9)**. Achieving such expansion of 5G connectivity, by assuming an increase in CapEx, will support AI, autonomous car systems and cloud computing, amongst other growth potential areas **(Exhibit 10)**.

[2] Pound, 1988; Thomsen & Pedersen, 2000
[3] McConnell & Servaes, 1990; Thomsen & Pedersen, 2003; Tuggle et al., 2010
[4] "Vodafone chiefs cut bonuses in effort to prevent investor revolt", The Guardian, 2019
[5] "To be or not to be", Monitor Deloitte, 2017

"5G will be sort of the backbone of industrial tech so when we really push the digitization of our societies, the security of the 5G network is absolutely of the essence."

Commissioner Margrethe Vestager

Exhibit 11 – Digital targets for FY21



Source: Vodafone Digital First Investor Open Office

"This exponential growth will lead to a drastic change in how people manage their everyday lives. Vodafone is the world leader in this technology in the business segment and now it will leverage its know-how to enable thousands of consumers to get the most out of the next global digital revolution"

Emanuel Sousa, Private Business Division Director of Vodafone Portugal.

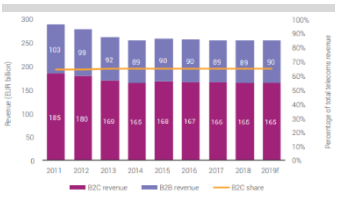
Exhibit 12–Vantage Towers' tenancy ratios

Source: Vantage Towers

"By outsourcing, MNOs can release capital so they can invest in new technologies like fiber deployment and 5G. It's going to be very capital intense in the coming years, so they have a greater interest to outsource the provision of infrastructure to independent TowerCos."

Patrick Boyeaux CEO American Tower France

Exhibit 13–B2B and B2C revenue within Europe, 2011–2019f



Source: ETNO

Accelerating Digital Transformation

It has been reflected in a simpler operating model, through technological developments in the channel mix and digital customer care teams, offering personalized solutions, through Vodafone's Shared Services division "_VOIS", by automating several operational processes across robotics, AI and process optimization, by continuing to invest in network infrastructure. This is assumed to increasingly reduce distribution channels' commissions, moving from mass media to a personalized contact with customers, expecting a rise in digital sales and a reduction of retail stores **(Exhibit 11)**. 5G roll-out will help building a competitive digital economy and encourage innovative new services, such as Quality of Service (QoS) differentiation, fixed wireless access (FWA) opportunities, and a range of potential consumer IoT applications, tailored to meet the increasingly specific customers' needs, while bringing a significant cost reduction and services quality improvement. However, competition stays intense and governments continue to raise more money than expected from electromagnetic spectrum, resulting in heavier capital expenditures.

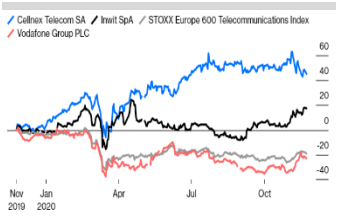
Improving Asset Utilisation

In July 2019, Vodafone announced its plan to carve-out its tower business, VT, with an expected IPO in early 2021, which will allow for increased usage of Vodafone's European tower infrastructure **(Exhibit 12)**, creating a new shared network[6], and supporting the trend of MNOs reinventing themselves, moving away from infrastructure ownership[7]. In the same month, Vodafone's share price rose, with return increasing 14% being the real catalyst behind this jump the carve-out of Vodafone's tower assets. The Group intends to retain a majority stake in VT, expected to sell 25% of equity, projecting to raise €4 billion from the IPO, believed to be valued at around €20 billion[8]. These values are considered in our valuation, through impacts in the firm's financial statements. We believe there are three main reasons for this carve-out. Firstly, to capitalize its high-quality sites and build a cleaner business model; secondly, the IPO proceeds will partially offset its high debt levels; finally, to finance future high CapEx requirements to roll-out 5G[9], which will shape Vodafone towards a more profitable business, adding a huge adoption from B2B clients, shifting from the past B2C focus **(Exhibit 13)**. This will arise with the upcoming massive adoption of 5G technology by factories, being followed by Smart Cities, and later self-driving cars, once a full 5G coverage is reached, expected to have a significant positive impact in revenues.

Going deeper, the VT's IPO intends to gain from the release in value on the Group's balance sheet as infrastructure assets are valued at a higher level than telcos. For instance, tower owners, Cellnex and INWIT, have outperformed Vodafone and STOXX Europe 600 Telecommunications Index **(Exhibit 14)**. With the upsurge of 5G networks, telcos need to provide greater 5G connectivity, which implies more antennas placed and, consequently, more tower space. Instead of building themselves or acquiring more towers, telcos will progressively share them by leasing only the

[6] "Vodafone Group Plc: Vantage Towers", Vodafone Group, 2020
[7] "The New Digital Landscape for Tower Companies", BCG, 2020
[8] "Europe's Best Telecoms Stock Is a Real Estate Company", Bloomberg, 2020
[9] "Towers of power: European telcos find value in masts", Financial times, 2020

Exhibit 14 – Cellnex and INWIT outperformed Vodafone and STOXX Europe 600 Index



Source: Bloomberg

Exhibit 15 – Vodafone's Portfolio Activity

Acquisitions	
Germany & CEE	Acquisition and integration of Liberty Global's assets for €18.5 billion in July 2019
Greece	Acquisition of CYTA Telecommunications Hellas for €118 million in July 2018
Albania	Acquisition of AbCom for an undisclosed amount in March 2020
Disposals	
New Zealand	Sale of 100% holding to Infratil and Brookfield for €2.0 billion in July 2019
Malta	Sale of 100% holding to Monaco Telecom for €242 million in March 2020
Qatar	Sale of 51% holding to Qatar Foundation for €301 million in March 2018
Egypt	MoU signed with Saudi Telecom in January 2020 to pursue sale of 55% holding for €2.2 billion
Mergers	
Italy	Merger of Vodafone Italy's towers into INWIT for €2.35 billion and 37.5% holding in INWIT in March 2020
India	Merger of Vodafone India and Idea Cellular in July 2018
India	Agreement on proposed merger of Indus Towers with Bharti Infratel in April 2018
Australia	Merger of our existing Vodafone Hutchison joint-venture with TPG Telecom received competition approval in March 2020
Africa	Consolidated our holdings in Safaricom and M-Pesa to be primarily held through Vodacom in April 2020

Source: Vodafone Annual Report 2020

antennas' space. Currently, Cellnex averages 1.58 antennas per tower, while VT averages 1.37, with both tenancy ratios prone to increase, due to the demand increment.

However, it is necessary to recognize that VT will probably trade at a discount when compared to Cellnex, since, while Cellnex is a more independent tower company, VT has Vodafone as a major shareholder, which can be negatively perceived by other competitors. Vodafone is able to claim 10% of VT's towers as strategic sites, blocking other carriers, which ensures Vodafone's network quality and coverage. Thus, VT will probably not grow as much as Cellnex, given that this control can hold back competitors to lease from VT. Therefore, VT is probable to trade more aligned with INWIT, that presents a similar position regarding MNO's ownership and lack of independence. INWIT EV/EBITDA multiple is 24x, indicating it is traded at discount, when compared to Cellnex's EV/EBITDA multiple of 30x. Another important aspect is that Cellnex's growth has also been driven by large acquisitions, while VT is more constrained, for now, as it only has €1 billion of capacity for extra debt, according to its CEO[8].

VT holds 68000 masts across nine countries, assuming a first or second tower market share position in most of them, and an additional future 33.2% stake in INWIT joint venture with Vodafone Italia, a recently announced merger in Greece with Wind Hellas' tower assets and plans to include Vodafone's 50% owned UK joint venture company CTIL, which owns both Vodafone and Telefonica's passive tower infrastructure. VT will be supported by long-term contractual commitments with highly rated tenants, with its anchor tenant being Vodafone.

Optimising the Portfolio

The simplification of Vodafone's portfolio will help reduce financial leverage, solely focusing on Europe and Africa, supported by strategic partnerships' synergies, reducing costs and the environmental effects of its networks **(Exhibit 15)**.

M&A

In July 2019, Vodafone acquired Liberty's assets in Germany, Czech Republic, Hungary, and Romania for €18.5 billion, becoming the largest Gigabit-capable owner of NGN infrastructure in that region, expecting hundreds of millions of annual cost and CapEx savings, as well as a positive impact on the Group's revenues. Vodafone suffered a loss in FY20 of €0.5 billion (FY19: €7.6 billion), due to gains on the sale of Vodafone New Zealand and Vodafone Malta (€1.2 billion), the INWIT joint venture (€3.4 billion), together with a €2.5 billion loss related to Vodafone Idea.

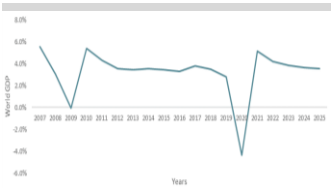
In FY20, Net Debt was much higher than the previous year, relating to Liberty's acquisition and spectrum costs, in part offset by €4.4 billion from disposals and Vodafone Italy's towers merger with INWIT (€2.35 billion), with a 37.5% holding. Vodafone received dividends of €0.2 billion after recapitalization and later sold down 4.3% of the shareholding (€0.4 billion), creating Italy's leading tower company, jointly owned with TIM, having both agreed on an active mobile network-sharing partnership within INWIT, enabling them to roll out 5G together, reaching a wider geographic area at lower costs and expected value added from early 2021, with rental income arising[10]. The Group

[10] "Mergers: Commission clears acquisition of joint control over INWIT by Telecom Italia and Vodafone, subject to conditions", European Commission, 2020

also concluded several network sharing partnerships, with Deutsche Telekom in Germany, Orange in Romania and Spain, O2 in the UK, and Wind in Greece, improving network capacity and coverage.

ECONOMIC OVERVIEW

Exhibit 16 – Global GDP growth rate



The coronavirus pandemic has brought a worldwide economic shock of colossal scale, causing recessions in several countries. In October 2020, the International Monetary Fund predicted a global GDP contraction of 4.4% in 2020, the deepest worldwide recession since the Financial Crisis of 2008, and 5.2% growth in 2021 **(Exhibit 16)**. Afterwards, the global growth will decelerate to around 3.5% until 2025, translated into a narrower development than expected before the pandemic, however, assuming a worldwide economy recovery for our projections.

Exhibit 17– Inflation Rate

	2019	2020	2021	2022	2023	2024	2025
Germany	1.3%	0.5%	1.1%	1.3%	1.5%	1.7%	2.0%
Italy	0.6%	0.1%	0.6%	0.9%	1.0%	1.2%	1.4%
United Kingdom	1.8%	0.8%	1.2%	1.7%	1.9%	2.0%	2.0%
Spain	0.7%	-0.2%	0.8%	1.4%	1.6%	1.6%	1.7%
European Union	**1.4%**	**0.8%**	**1.2%**	**1.4%**	**1.5%**	**1.7%**	**1.8%**
South Africa	4.1%	3.3%	3.9%	4.3%	4.5%	4.5%	4.5%
Sub-Saharan Africa	**8.5%**	**10.6%**	**7.9%**	**6.9%**	**6.5%**	**6.3%**	**6.1%**
World	**3.5%**	**3.2%**	**3.4%**	**3.2%**	**3.1%**	**3.1%**	**3.2%**

Exhibit 18 – GDP Growth Rate

	2019	2020	2021	2022	2023	2024	2025
Germany	0.6%	-6.0%	4.2%	3.1%	1.8%	1.3%	1.2%
Italy	0.3%	-10.6%	5.2%	2.6%	1.7%	0.9%	0.9%
United Kingdom	1.5%	-9.8%	5.9%	3.2%	1.9%	1.7%	1.6%
Spain	2.0%	-12.8%	7.2%	4.5%	3.4%	2.8%	1.5%
European Union	**1.7%**	**-7.6%**	**5.0%**	**3.3%**	**2.5%**	**2.0%**	**1.6%**
South Africa	0.2%	-8.0%	3.0%	1.5%	1.5%	2.1%	2.3%
Sub-Saharan Africa	**3.2%**	**-3.0%**	**3.1%**	**4.0%**	**4.4%**	**4.4%**	**4.3%**
World	**2.8%**	**-4.4%**	**5.2%**	**4.2%**	**3.8%**	**3.6%**	**3.5%**

Source: International Monetary Fund

European governments implemented sizable fiscal measures to sustain households and companies, allied with an agenda to avoid a high unemployment rate. To prevent financial markets disturbance, the ECB has reacted with a robust monetary policy and supervisory measures and launched the Pandemic Emergency Purchase Programme, valuing €1850 billion. The European Union, in a substantial exhibition of solidarity, is deploying supranational means to fund anti-pandemic facilities and complement national fiscal measures. IMF forecasted an EU GDP contraction of 7.6% in 2020, followed by a growth of 5% in the following year. Likewise, the Group's main European markets followed the same trend; their GDP declined in 2020 and is projected to rebound in the next years. Moreover, inflation is projected to remain relatively low over the forecast horizon.

The IMF outlines the considerable uncertainty regarding the growth and inflation projections since it relies on economic and public health matters, which are, by its very nature, difficult to predict.

Source: World Economic Outlook, IMF

Due to the pandemic and the decline in oil prices, the African economies have suffered both demand and supply-side shocks, intensifying economic disparities, increasing credit losses, and raising gaps between funding and liquidity[11]. The International Growth Centre considers that confinement measures may have additionally pushed 9.1% of the population into extreme poverty[12]. In many countries, central banks have proactively developed a policy response to these challenges to safeguard financial sector steadiness for both households and corporations. In 2020, South Africa's GDP is projected to contract (8%), and subsequently recover (3%) in 2021, while in Sub-Saharan Africa it is projected a decrease of 3%, and a recovery of 3.1% in 2021. Regarding Vodafone's future, we believe the African segment will have a slower economic ecovery than the European one, given its developing nature and the less mature telco market. Therefore, we adopted a more conservative approach regarding the potential of Rest of the World's revenue forecasts, for the first few years.

[11] "Central Banks in Africa Are Guiding Banks Through COVID-19's Economic Fallout", S&P Global, 2020
[12] "The Mobile Economy Sub-Saharan Africa", Global System for Mobile Communications Association (GSMA), 2020

INDUSTRY OVERVIEW

Europe

"5G is happening and fiber is making the European internet significantly faster"[13]

Europe benefits from advanced innovation capacity, funding mechanisms, and a global leading research base underpinning fast implementation of 5G, having one of the largest markets for consumer and business services. It is supported by two leading mobile infrastructure suppliers[14] with considerable R&D and manufacturing presence, and its industrial and economic strengths lie mainly in sectors such as automotive, manufacturing, and healthcare. The 5G value chain in Germany is estimated to generate higher economic output per capita than in China by 2035 **(Exhibit 19)**. More than the amount of connections, the real added value of 5G will result from its differentiated IoT and low-latency services, enhancing mobile broadband to deliver speeder data.

Despite that, Europe has been slower than others in providing 5G large scale commercial services, with only 13 EU Member States having launched them by September 2020, hindered by past delay in 4G migration **(Exhibit 20)**. Only 26.4% of 5G spectrum has been assigned in Europe[15], with high variance between countries**.** Europe stands above the global average in download speeds[16] and is one of the most advanced areas for 5G placement **(Exhibit 21 & 22)**.

Microwave transmission still dominates mobile backhaul, enabling 10 Gbps and beyond, with a high stabilizing market share, while fiber's share continues to grow and copper share decreases. In Europe, around 70% of towers are connected by microwave links, requiring fiber availability, to provide network diversity and coverage. 5G, not only requires both microwave links and fiber, but it also influences both the wireless and wireline wing of the network infrastructure. The 5G FWA enables operators to provide high-speed broadband and high-definition streaming services to suburban and rural areas, allowing 5G radios mobile technology to cross the fixed line services demand and prices. It provides a competitive alternative to wired broadband, more expensive to install and maintain, accelerating bandwidth turn up pressures on the global network and allowing for a higher concentration of users without causing obstruction[17].

"Regulation and its implementation should support European investment and innovation." [13]

There are regulatory inhibitors to investment in 5G**.** Firstly, the **inflated electromagnetic spectrum prices**[18]. European governments have not been treating 5G network as critical infrastructures, having instead prioritised spectrum monetisation, instead of ensuring its availability, whereby some telco operators are being charged up to 14x more than its global competitors **(Exhibit 23 & 24).** High spectrum costs hold back the market, creating a cost opportunity related with the spending at 5G auctions, in which, unlike physical networks, operators cannot

Exhibit 19 – Economic Contributions of the 5G Value Chain (2035)

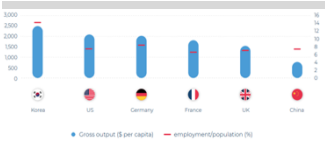
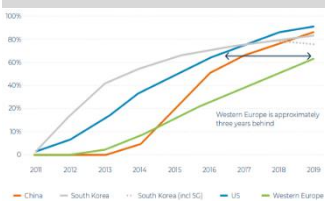


Exhibit 20 – 4G Usage (% of subscriptions using 4G networks)



Source: ERT

Exhibit 21 – Average mobile downlink speeds in Europe, Japan and South Korea, the USA, in September 2019

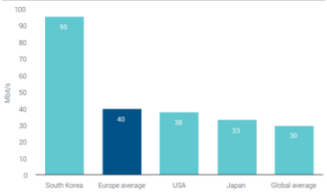
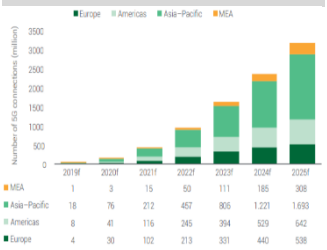


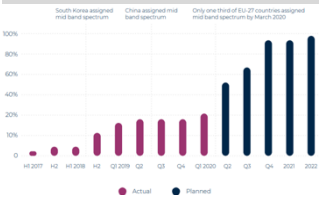
Exhibit 22 – Forecast of number of 5G connections 2018–2025



Source: ETNO

Exhibit 23 – Price Per MHz Per Capita For Mid Band Spectrum (€ cents/3-5 GHz)

Exhibit 24 – Availability of Mid Band (3-5 GHz) Spectrum in EU-27 (share of EU-27 Member States, %)



Source: ERT

[13] "The state of digital communications 2020", European Telecommunications Network Operators' Association (ETNO), 2020
[14] "TIM and Ericsson reach new European record for 5G speed", Ericsson, 2020
[15] "European 5G Observatory", European Commission, 2020
[16] "The state of mobile network experience 2020: One year into the 5G era", Opensignal, 2020
[17] "Fixed wireless access Outlook", Ericsson, 2020
[18] "ERT Position on Regulatory Framework for 5G", European Round Table for Industry (ERT), 2020

Exhibit 25 – Share of mobile service revenue by operator (2019)

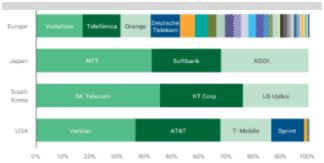


Exhibit 26 – Share of fixed service revenue by operator (2019)

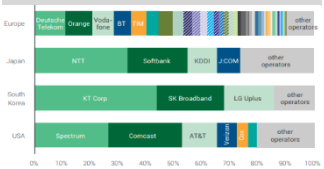


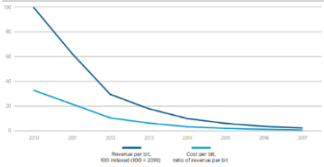
Exhibit 27 – Investment Intensity (CapEx/EBITDA, %)

Source: ERT

Exhibit 28–Return on Invested Capital (%)

Source: ERT

Exhibit 29 – Revenue/Gb versus Cost/Gb for Mobile Data



Source: GSMA

Exhibit 30 – CapEx per capita, 2018

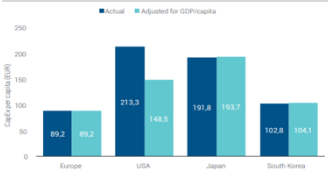
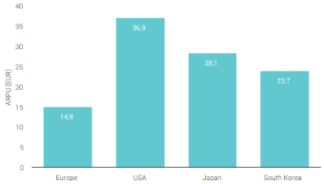


Exhibit 31 – Mobile ARPU (excluding IoT SIMs), 2018



Source: ETNO

decide to postpone it, thus, regions with a riskier business environment may not benefit from 5G. Ultimately, regulatory pressures lead to uncertainty and more intense CapEx.

The **highly fragmented European market structure**[18], with much more MNOs in Europe than in other regions, and lack of harmonising spectrum allocation criteria, which leads European operators to be spread more thinly in comparison to global competitors, both in mobile and fixed markets **(Exhibit 25 & 26).**

Continued support of revenue depressing measures and artificially endorsing unsustainable levels of competition[18]. While intense competition has benefited lower consumer pricing and service innovation, it has negatively impacted revenues, as well as roaming provisions. Between 2017 and 2018, the CapEx/EBITDA ratio remained nearly flat for European operators, whereas in US and South Korea decreased, meaning telcos' revenues in these countries increased faster than investments **(Exhibit 27)**, leading to a higher return on invested capital **(Exhibit 28)**. The sector has suffered a decade of deflation in Europe, with European telcos bearing 2% more deflation than telcos in US, Japan and South Korea (2008-2018), due to higher market fragmentation.

And finally, **European operators are under a degree of regulation that big tech is not**[18]. There is a disparity of regulation concerning digital and telco sectors regarding security, privacy, and transparency, with telcos being subjected to further privacy regulations, inconsistent with the GDPR and creating an additional imbalance in terms of competitiveness.

> ***"European telecom markets need to become stronger. Investment is still too low, despite high capital intensity and investment leadership by ETNO companies."***[13]

The Directive on measures of rolling-out high-speed electronic communications networks seeks to make broadband deployment more cost-effective, through measures such as sharing and re-using existing physical infrastructure, bringing sustainable economic and social benefits[19]. This maximises network's efficiency and utilisation. 5G will sustain the previous trend in mobile data pricing of 4G, where larger network capacities and the smaller gap between the revenue/GB and cost/GB curves[20] **(Exhibit 29)** have led to the adoption of unlimited data bundles.

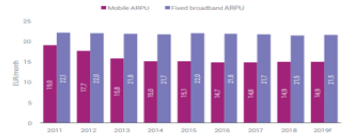
European telcos invest heavily in infrastructure, more directed towards fixed, although expected some rebalancing with the deployment of 5G. There has been a strong investment in FTTP, as it presents lower OpEx and a lower environmental impact than other solutions. Though it is still far from achieving the European Gigabit Society 2025 targets[13], as it involves high CapEx**.** In Europe, one of the main reasons for the slow fiber roll-out is the lack of appropriate physical infrastructure in the old copper network. In countries such as Germany and the UK, FTTP development has been delayed because of elevated labour costs.

European telcos have higher capital intensity, but lower investment per capita, than global peers in US, Japan and South-Korea **(Exhibit 30)**, mainly impacted by low prices[18], with lower ARPU **(Exhibit 31),** and consumer and business markets' revenues slightly decreasing **(Exhibit 32)**, supporting Vodafone's forecasted overall decreasing revenues.

[19] "EU rules to reduce cost of high-speed broadband deployment", European Commission, 2020
[20] "The 5G guide", GSMA, 2019

Exhibit 32 – European B2B and B2C revenues, 2011–2019f

Exhibit 33 – European Mobile and Fixed broadband ARPU, 2011–2019f



Source: ETNO

Exhibit 34 – Vodafone's Mobile ARPU and Fixed ARPU per month (Europe)

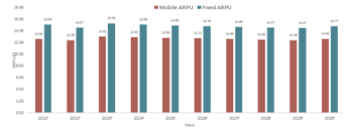
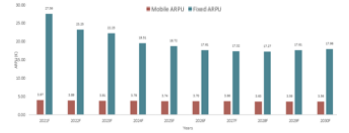


Exhibit 35 – Vodafone's Mobile ARPU and Fixed ARPU per month (ROW)



Source: Analysts Estimations

2030 digital technologies will deliver reductions in carbon emissions equivalent to nearly seven times the size of the growth in the total information and communications technology sector emissions footprint over the same period.

Source: GeSI Digital with Purpose

In Europe, fixed and mobile data usage keeps growing sharply. Traffic growth is mainly driven by increased demand for video content[21]. Across Europe, 78% of households had a fixed broadband subscription in 2019, up from 70% 5 years ago. Although, mobile broadband penetration is very high, with 21/37 OECD countries having over 100 subscriptions per 100 inhabitants, subscriptions grew 5% in 2019, contrasting with fiber's growth rate of 13%, being the fastest growing fixed broadband technology reaching 28% of all fixed broadband subscriptions[22]. We continue this trend with a more stable rise in mobile customers and a more robust growth in fixed customers, for Vodafone.

The shift to SIM-only plans and delayed handset refresh rates reduce revenues and contract lengths, and decrease margins, negatively impacting the uptake of 5G services. Innovative technological solutions offered are usually sold at a discount, as premium prices are difficult to sustain, which also happened regarding the FTTP's price of entry-level, which has fallen below that of ADSL. Demand for data services remains elastic, with small shifts in price triggering significant churn in consumer services, though its growth has not been followed by an increase in revenues, given the highly competitive environment. In general, consumers have become accustomed to a specific average price for their mobile subscription and are normally reluctant to pay more[23], with a flat €22/month ARPU for fixed broadband for the last years, while mobile ARPU has stabilised at just under €15/month, after 2015 **(Exhibit 33)**. Vodafone's ARPU per month lays slightly below European average and is forecasted to decrease according to the existing trend **(Exhibit 34)**.

"Networks are becoming greener, with both carbon intensity and overall emissions decreasing and aggressive climate targets."[13]

The Information and Communications Technology sector has been estimated to produce 2% of global CO2 emissions, similar to the aviation industry, mainly due to cloud computing, which considerably augmented in previous years. Contrarily, the adoption of IoT devices is critical in tackling greenhouse gas emissions, enabling better precision to be applied to resources. Furthermore, the most critical investment fields for Vodafone in the upcoming years, fiber and 5G, have positive environmental implications. The 5G lower cost/byte and concession for several types of traffic with diverse network demands, comparing to 4G, will only be significantly efficient if past generation networks are decommissioned in a prompt manner, meaning that the respective allocated spectrum will be reused more efficiently. Higher demand for data services is influenced by the Jevons paradox, whereas technological progress rises efficiency, which simply supports a growing rate of consumption, with an increase in energy demand of 5%/year. However, by 2019, around 50% of the energy used by European operators derived from renewable resources, reducing overall emissions by 8.5%, which contributed to a lower carbon intensity[13].

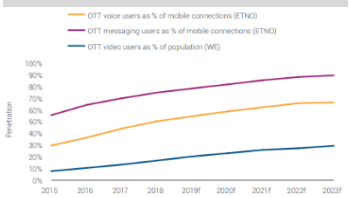
In general, being economically efficient overlies with being sustainable. Network sharing, fixed-mobile convergence and upgrading network technologies will lessen the carbon footprint. On the other hand, renewables usage and recycling of consumed products, shifting energy supply to renewable, carbon offsetting, amongst other measures, come at some higher cost than less

[21] Digital Economy and Society Index (DESI), 2020
[22] "OECD broadband statistics update", OECD, 2020
[23] "Realising 5G's full potential: Setting policies for success", GSMA, 2020

sustainable options. With the influx of investment from ESG investors, and as part of Vodafone's commitment to sustainability, the Group developed a Green Bond Framework and, in early 2019, issued its first green bond of €750 million to fund projects to achieve the company's environmental aims, and also to meet ESG concerns that investors may have.

"Digital services, cloud and Artificial Intelligence: telecom operators are enablers of European trust-based innovation."[13]

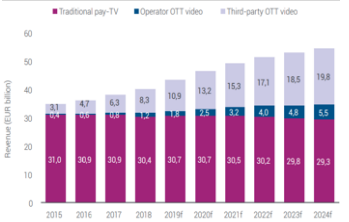
Exhibit 36 –OTT services penetration, Western Europe, 2015–2023f



IT services' market has been growing with higher demand for faster and locally customized cloud services. IoT continues to grow, with telcos enabling industrial and domestic applications, expected to attain around 740 million active connections by 2026. OTTs have been growing their services due to greater resources, economies of scale and certain investment patterns, by innovating in services and products faster than telcos, making it hard for them to compete. Thus, around 70% of mobile customers also use OTT messaging **(Exhibit 36).**

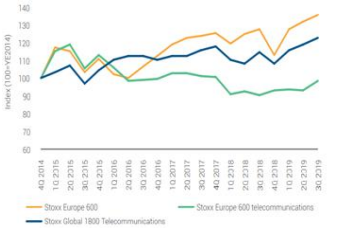
Telecommunications services exhibit a weak correlation to macroeconomic elements, since they are essential services. Though, a decline in discretionary income could result in a moderate drop in business revenues for cable, wireline and infrastructure suppliers, and modest postpaid wireless subscriber losses, to a rise in prepaid connections, given the large availability of similar services, offered by other telcos, indicating a tendency for low customer loyalty.

Exhibit 37 – Pay-TV vs OTT retail revenue, in Western Europe, 2015–2024f



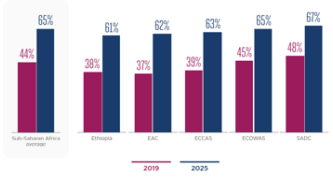
Substantial new services in video include the Disney+ and AppleTV, which have entered the market with strong advertising and superior value content, having OTT revenues both replacing traditional pay-TV revenues, and growing the market, with services now being provided either by operators or OTT providers **(Exhibit 37).** Therefore, telcos are increasingly competing with OTT video services, by releasing their own. Some Europeans are purchasing and using multiple TV services, and such trend implicates that stronger platforms will gradually control the market with almost 50% of pay TV revenues being powered by OTT services by 2024. Instead, AI has been increasingly developed to make telcos more efficient and responsive to customer needs, with service and data-driven innovation enhancing networks at their core. AI, together with automation, help ensure European operators remain competitive against non-telco competitors, reducing the subscription cost for the use of new technologies. This corroborates the highly intense level of competition environment in which Vodafone is integrated, supporting extra challenges in increasing profitability, included in our forecasts.

Exhibit 38–Stoxx Europe 600 index vs Stoxx Europe 600 index for telecommunications vs Stoxx Global 1800 index for telecommunications, 4Q 2014–4O 2019



Source: ETNO

Exhibit 39 – Smartphones as % of total connections



Source: GSMA

Shareholders

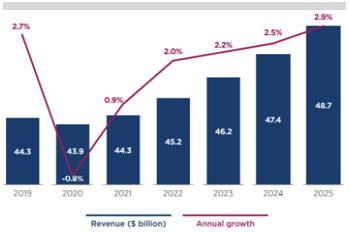
Telco operators are accountable to shareholders, as any other business, even when governments hold a part of it. Stock markets have not been generous on the European telcos sector in the recent past, nor expected for the near future, presenting a lower performance than the cross-sector European index and the telcos global index **(Exhibit 38).**

Africa

In Sub-Saharan Africa, the pandemic financial impact on the mobile industry is both characterized by the sudden rise in data consumption and mobile money transactions, with positive impact on revenues, offset by initiatives from operators, such as discounts and transaction-fee exemptions to support vulnerable consumers. Prepaid connections are more than 95% of mobile connections,

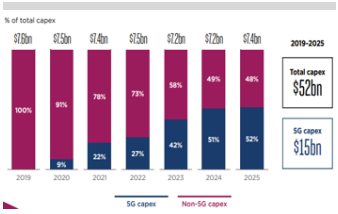
suggesting that consumers are flexible to vary telcos spend when their financial situation changes. This highlights the more sensitive situation lived in the African context[12]. Even though Vodafone bears less competition, as customers are not as loyal as in Europe, the Group faces higher risks regarding the potential customers' loss, negatively impacting revenues. The digital transformation, strengthened by increasing access to broadband connectivity, has enabled remote working and education, online shopping, and digital payments, alleviating the socioeconomic pandemic effects, generating 9% of GDP across the area (2019), supporting more than 3.8 million jobs, and noticeably contributing to the public sector funding, with nearly $17 billion raised through taxation. In Sub-Saharan Africa, taxes on mobile represent 7% of income for the lowest 20% earners, comparing to the 2% affordability target set by the UN in 2019, which outlines challenges customers face regarding affordability.

Exhibit 40 – Strong medium to long-term outlook on rising 4G and mobile money adoption in Sub-Saharan Africa



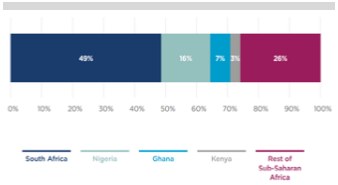
The shift to 5G will gain momentum in the 2020s worldwide and the greater opportunity for 5G FWA will arise in emerging countries, where fixed broadband is still not dominant. However, there are still few operators offering 5G mobile and FWA in Sub-Saharan Africa, as 4G will continue to be their primary focus since there is a substantial unexploited 4G capacity, and its adoption is still relatively low. Hence, telco companies will have to make an effort to lower 4G devices' prices and provide appropriate digital content to raise connectivity demand **(Exhibit 40)**. That said, in a post-Covid 19 world, due to the scarcity of fixed-line infrastructure and the growing importance of the digital economy, the 5G FWA will be essential to deliver high-speed broadband connectivity **(Exhibit 41)**. Moreover, with the rapid expansion of the fintech ecosystem, operators are developing mobile money platforms to offset stagnating core earnings and expand their digital environment presence. In 2019, the number of registered mobile money accounts in Sub-Saharan Africa reached 469 million, and it is forecasted to increase in the future. To meet this rapid expansion plan, Vodafone will significantly increase its CapEx for the future.

Exhibit 41 – Investment in infrastructure rollout in Sub-Saharan Africa



As the pandemic affected all economic sectors, IoT solutions are crucial to enhance operational processes' productivity and efficiency **(Exhibit 42)**. However, this region faces numerous challenges due to insufficient investment and innovation in solutions that tackle local use cases, inconstant power supply, and low purchasing power. Nevertheless, the Sub-Saharan Africa mobile networks expansion, supported by policymakers, has endorsed several pay-as-you-go business models and IoT solutions, enabling the accessibility of products and services to low-income customers, which allow for innovative and reliable energy, water, and sanitation services' models, improving levels of capacity and coverage[12], however, this sector will still require major investments to meet customers' needs.

Exhibit 42 – IoT connections in Sub-Saharan Africa in 2020



Source: GSMA

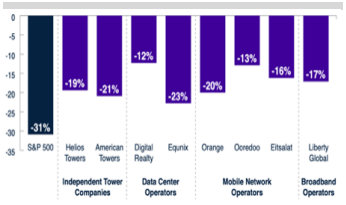
RISK ANALYSIS

It is crucial to analyse Vodafone's major risk factors that may adversely impact the business. Strategic transformation imposes a substantial risk, as Vodafone is undertaking a massive scale incorporation of new assets, which, if not accomplished efficiently, results in additional costs. This process also requires a considerable amount of technology to be transferred prior the conclusion of the transitional services agreements, as failing to digitally transform the business sets it back from competitors and from achieving cost efficiency in its operations. Also, the Group has several

joint ventures which it must ensure operate effectively. All these factors compromise the Group's profitability and shareholders' returns.

Cyber Threat and Information Security is also an imminent risk, evolving with the rise of new technologies[24]. A cyber-attack, supplier breach, or insider threat might trigger service suspension and confidential information loss, leading to a significant customer, financial and reputational impact. The implementation of GDPR[25] imposed by the EU has shown the importance of user privacy and data protection. Some European countries are following the US with Huawei's ban[26], given security concerns, which will impact the Group, as it relies on Huawei gear in most of the countries it operates, which we assume will all follow this trend.

Exhibit 43 – Key global telecom players' performance vs S&P 500, during Covid-19 pandemic



Source: S&P Capital IQ

The importance of the global economic disruption is considered, triggered by Covid-19, as it can impact cash-flows, currencies, borrowing costs and debt financing availability. However, as the Group presents long average life of debt, and a major part of its interest costs are fixed, it is not heavily affected by this. Covid-19 impacted this industry but, conversely to many others, the telecommunication sector has been normally exempted from major related restrictions. Traffic growth has demonstrated increased reliance on connectivity and digital services. Thus, S&P 500 has been more drastically affected than telcos, and hence, the risk is less severe[27] **(Exhibit 43)**, due to the nature of this crisis. Nevertheless, the first 5G enabled equipment is now becoming available, even though it has been impacted by the pandemic lockdowns, causing supply-chain disruptions. This, together with the 5G smartphones' higher reliance on chip content, causing an intensified demand, especially after Huawei's major stock buy, have been setting back chips production, which will indirectly impact Vodafone's 5G plans' adoption in the short-term.

Vodafone is also exposed to Market disruption, given the highly competitive environment, with new players pressuring prices down and offering unlimited offers, pushing down market share.

SCENARIO ANALYSIS

Exhibit 44 – Scenario Analysis

	Best Case	Most Likely Case	Worst Case
Probability of Occurence	12.50%	75.00%	12.50%
Group's Core Result Before Taxes in m€ (FY21	10883	10489	10095
Group's Statuatory Tax Rate	26.54%	27.30%	29.23%
Share Price	2.29	1.93	1.51
Shareholders Return	65.82%	39.75%	9.34%

Source: Analysts Estimations

Three scenarios were created to measure the impact of changes in the statutory tax rate, that can be influenced by numerous tax reforms such as financial reporting directives, state aid investigations, future business acquisitions and disposals and restructuring and resolution of open tax issues. The analysis also includes the impact of the abovementioned risk factors on the firm's profitability, with an EBITDA margin variation, as well as a variation of the revertion period of Deferred tax assets and Deferred tax liability (DTA&DTL) pace **(Exhibit 44)**.

The Best/Worst case assumed, considers the lowest/highest historical value of statutory tax rate since 2010, as standard for the future. Regarding risks, we assumed a 1%point increase/decrease on each country's forecasted yearly EBITDA margin. The best one reflects efficient strategic integration of new assets resulting in a more efficient business, and accomplishment of the desired digital transformation, allowing the company to keep up or surpass competitors, and achieve cost efficiency in its operations. It also assumes no more serious recessions and an overall growth environment, with higher services' demand and cash-flows, and

[24] "Mobile Telecommunications Security Threat Landscape", GSMA, 2020
[25] General Data Protection Regulation
[26] "Vodafone 'pauses' use of Huawei equipment over security concerns", The Guardian, 2019
[27] "COVID-19's Impact on the Global Telecommunications Industry", IFC, 2020

little to no impact on currencies, borrowing costs and debt financing availability. Additionally, no significant new peer entries affecting market share were considered. Regarding Huawei ban, future cyber risk will be reduced, involving higher data protection. Contrarily, the worst case reflects the opposite effects. Finally, concerning the DTA&DTL revertion period, in the best case the pace decreases at a slower rate of 5%, while in the worst case it is reverted to 0 in FY21. The report is written under the assumptions of the most likely scenario.