A Work Project, presented as part of the requirements for the Award of a Master's degree in Finance from the Nova School of Business and Economics.

WIRED FOR SUCCESS - CAN NOS COPE WITH A KILLER PRICE COMPANY?

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Abstract

The following Work Project consists of an Equity Research report on NOS SGPS S.A., one of the largest telecommunications and media and entertainment companies operating in Portugal. The report offers an overview of the company's business model, industries, strategy and an analysis on the historical financial performance. Afterwards, a valuation for each of the company's business segments was performed, from which the group issues a BUY recommendation considering a calculated upside of 36.37%. Furthermore, the report scrutinizes NOS SGPS's readiness in the face of a possible disruptive entrant in the telecommunications sector, drawing parallels to Free Mobile's impact in France.

Keywords: Telecommunications, Valuation, Forecast, Disruptive company

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NOVA SCHOOL OF BUSINESS & ECONOMICS

Group Part

MASTER IN FINANCE

"NOS, SGPS,SA" (NOS:LIS)

COMPANY REPORT

"TELECOMMUNICATIONS"

20 DECEMBER 2023

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Wired for Success

Harvesting Gains

- NOS SGPS's reported strong Q3 results on 2nd of November, with revenues of €407.9 million vs. €381.5 million in Q3 of FY 22, representing 5.3% YoY growth. EBITDA AL was 171.7 million vs. 152.9 million in Q3 FY 22, with a growth of 9.5%.

- NOS's telecommunication sector growth in the past two years has been averaging 4% due to NOS's successful implementation of 5G technology. Until 2026, we expect this growth to decelerate, mirroring their strategic shift in investment focus as it is prioritizing harvesting gains.

- NOS's Media and Entertainment (M&E) sector has been progressively recovering to pre-pandemic levels, with ticket sales in Q3 soaring to a new all-time high, beating the previous quarterly record of Q3 of 2019.

- With this, we see NOS as an undervalued company, and we believe that its long-term revenue and EBITDA are likely to exceed consensus estimates. Our recommendation is to **BUY** NOS, considering a target price of **€4.28** as of 31-12-2023 with an estimated return of 36.37% to the current share price.

Company description

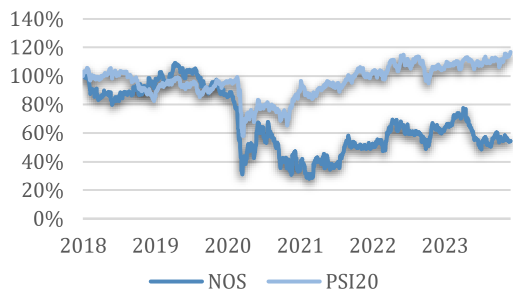
NOS SGPS, S.A. is one of the largest telecommunications and media entertainment companies based in Portugal. With a strong presence in the country, NOS offers a wide range of services, including mobile, fixed voice, and broadband communications, as well as television and content offerings. NOS also operates in the audiovisuals and cinema market, where it is leader.

Recommendation:	**BUY**
Price Target FY23:	**€ 4.28**
Upside	*+36. 37%*
Price (as of 18-Feb-24)	**€ 3.14**

Refinitiv

52-week range (€)	3.21-4.46
Market Cap (€m)	1.742
Outstanding Shares (m)	515,161
Volatility Risk	High

Source Refinitiv



Source: *Refinitiv*

(Values in € millions)	2022	2023E	2024F
Revenues	1519.3	1594.8	1639.8
Telco	1425.7	1488.9	1528.0
M&E	93.6	105.9	111.8
EBITDA	649.3	714.9	718.1
EBIT	268.5	224.4	246.6
Net Profit	222.7	143.1	153.3
EPS	0.44	0.28	0.30
FCF	108.2	102.5	272.1
Capex	495.9	397.2	377.0

Source: NOS's Annual Report, analysis estimates

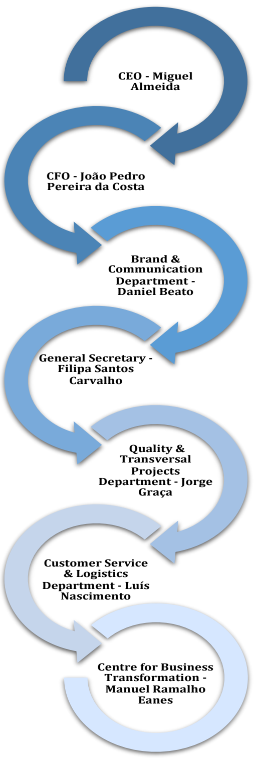
Table of Contents

Figure 1 *– NOS' Portfolio of Companies*

Companies Entirely Owned
NOS Comunicações, S.A.
NOS Audiovisuais, SGPS
NOS Lusomundo Audiovisuais, S.A.
NOS Lusomundo Cinemas, S.A.
NOS Audio-Sales and Distribution, S.A.
NOS Wholesale, S.A.
NOS TECHNOLOGY, S.A.
NOS Sistemas, S.A.
NOS Sistemas España, S.L.
NOS Property, S.A.
NOS Internacional, SGPS, S.A.
NOS Inovação, S.A.
NOS Corporate Center, S.A.
NOS Mediação de Seguros, S.A.
Empracine, LDA.
Fundo de Capital de Risco N5G
Lusomundo, SGPS., S.A.
Lusomundo Imobiliária 2, S.A.
Lusomundo Moçambique, Lda.
Per-Mar – Sociedade de Construções, S.A.
Sontária - Empreendimentos Imobiliários, S.A.
Teliz Holding, S.A.
Companies Partially Owned
NOS Açores Comunicações , S.A. (84%)
NOS Madeira Comunicações , S.A. (78%)
Ten Twenty One, S.A.
Joint Ventures
Sport Tv Portugal, S.A
Dreamia - Serviços de Televisão, S.A
Finstar
Mstar
Upstar
Dualgrid
Dreamia S.L.

Source: *Company's annual reports*

Figure 2 *– NOS' Management Team*



Source: *Company's annual reports*

Company Description

Founded in 1994 under the name T.V. Cabo Portugal S.A. ("TV Cabo"), the third cable operator founded in Portugal, NOS SGPS S.A. ("NOS") is a publicly listed Portuguese company in Euronext Lisbon.

In 2008, after a failed takeover bid of Portugal Telecom and PT Multimédia by the Sonaecom Group, ZON Multimédia – Serviços de Telecomunicações e Multimédia, SGPS, S.A. ("ZON") was created. Later, in 2013, ZON, which incorporated TV Cabo, merged with OPTIMUS – SGPS, S.A. ("OPTIMUS"), leading to the creation of ZON OPTIMUS, SGPS, S.A. Finally, ZON OPTIMUS was rebranded as NOS.

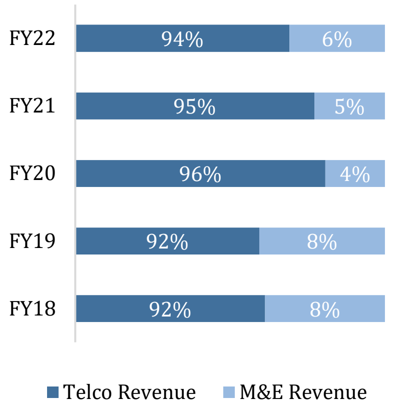
NOS has developed an extensive portfolio of companies and businesses throughout its history, including fully and partially owned companies as well as several joint ventures (*Figure 1*). Its management team boasts extensive qualifications and experience in the sector (*Figure 2*).

Business Units

NOS operates in the market under two primary business segments: Telecommunications (Telco) and Media and Entertainment (M&E). The most relevant for the company is the Telco segment, consisting in 94% of consolidated revenue, on average, from 2018 to 2022 (*Figure 3*).

The Telco segment provided by NOS Comunicações offers fixed and mobile solutions catering to television, internet, voice, data, and IT needs across all market segments, including residential (B2C), private (B2C), corporate (B2B), and wholesale (B2B). Additionally, it enhances its offerings with ICT (Information and Communication Technologies), such as mobile networks and hardware, and IoT (Internet of Things) representing the digital interconnection of quotidian objects with the internet, such as Smart TVs, and Cloud data storage services. Functioning as a convergent operator, i.e., offering several services in a single network, its mission is to deliver an unparalleled user experience nationwide within the Portuguese market.

Figure 3 *– Segment Revenue Distribution*



Source: *Company's annual reports*

As a parallel brand to NOS Telecommunications, the company established WOO, a 100% digital mobile operator. WOO offers cheaper mobile bundles that enable clients to change their internet packages for their phones at any time, exclusively through its app. NOS also has WTF, which offers mobile bundles more directed towards younger users. It provides packages with more internet data and partnerships with NOS Cinemas, Uber, Adidas, and others while maintaining affordable prices.

In addition to its telecommunications offerings, NOS has made significant strides in the M&E segment. A key player in this domain is NOS Cinemas, which operates 214 screens nationwide. According to Instituto do Cinema e do Audiovisual (ICA), it holds the top position in the realm of domestic cinema exhibition as well as in showcasing alternative content in cinema settings, encompassing opera, ballet, theatre, football, concerts and various other live or delayed events. Furthermore, NOS Audiovisuais marks its presence strongly in the audiovisual distribution landscape, serving as the primary content distributor in the Portuguese market. It ensures the distribution of films and series from major studios and independent producers by acquiring and managing exhibition rights, which are available across various platforms, including cinema, audiovisual platforms, and television.

Figure 4 *- Ownership stake in each joint venture*

Joint Venture	Ownership
Sport TV	25%
Dreamia S.A.	50%
Dreamia S.L.	50%
FINSTAR	30%
MSTAR	30%
Upstar	30%
Dualgrid	50%
BrightCity	50%
ZAP Media	30%

Source: *Company's annual reports*

Finally, as stated previously, NOS has several joint ventures with strategic partners to maximise the potential of its content business, with different ownership stakes in each one (*Figure 4*). However, there has been recent news in 2023. In June, NOS sold its position in Big Picture 2 Films, and in September, the company acquired a 50% stake in BrightCity's equity.

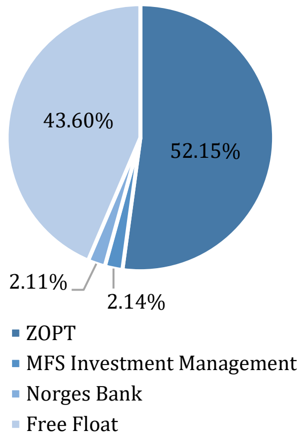
Figure 5 *– Ownership stake in each joint venture multiplied by proportion over specific segment revenue*

Joint-Venture	Stake (%) * Revenue (%)
Sport TV	2.81%
FINSTAR/ZAP	4.41%
Dreamia	0.54%
MSTAR	0.51%
Upstar	0.38%
Dualgrid	0.02%

Source: *Company's annual reports*

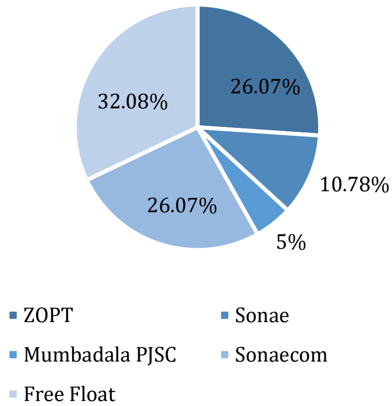
Currently, the joint ventures contributing most significantly to NOS's consolidated revenue are Sport TV and Finstar (*Figure 5*). Sport TV, a premium sports-focused cable, and satellite TV network in Portugal, is a collaborative venture equally owned by MEO, Vodafone, Olivedesportos, and NOS. Meanwhile, Finstar is an Angolan company holding 100% of the capital of ZAP Media, the largest operator of satellite television in Angola

Figure 6 – Shareholder structure as of December 2019



Source: *Company's annual reports*

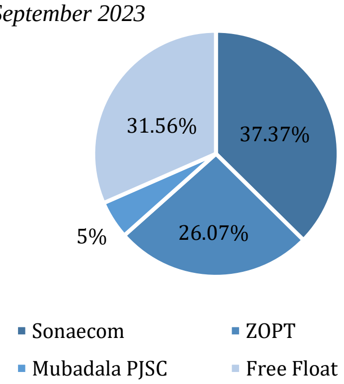
Figure 7 – Shareholder structure as of December 2022



Source: *Company's annual reports*

The shareholder structure changed significantly after scandals involving Isabel Soares dos Santos

Figure 8 – Shareholder structure as of September 2023



Source: *Company's annual reports*

and Mozambique, offering internet and phone services, as well as a wide content portfolio, including entertainment, news, and educational contents.

Shareholder Structure & Stock Returns

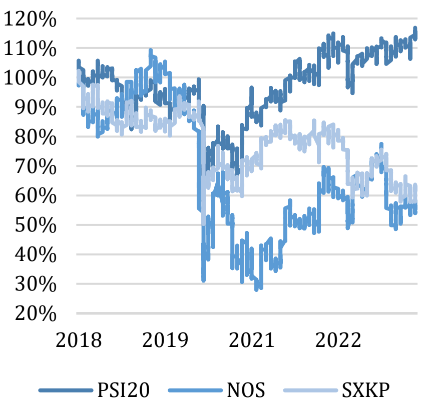
The shareholder structure of NOS underwent significant changes between 2018 and 2023. In 2019, Blackrock no longer had an equity stake in NOS compared to a 2,24% stake in 2018 (*Figure 6*). Subsequently, in 2020, MFS Investment Management and Norges Bank also divested from NOS' equity. However, from 2020 until the first half of 2023, NOS got new shareholders: Sonae, SGPS, S.A., Mubadala Investment Company PJSC, and Sonaecom, SGPS, S.A. which have taken a large position in the company (42.37%). NOS' current shareholder structure is composed by ZOPT, SGPS, S.A. holding a 26.07% equity stake, Mumbadala Investment Company PJSC holding 5% of NOS' equity, and Sonaecom, SGPS, S.A. holding 37.37% of NOS' shares (*Figures 7 & 8*).

In September 2022, following numerous controversies and investigations into Isabel dos Santos, the Portuguese judiciary authorized the negotiation of her previously frozen shares, which had been subject to a court ruling. Consequently, Sonaecom dissolved its partnership with her due to her involvement in several corruption scandals. This dissolution involved terminating the agreement that governed the relationship between ZOPT shareholders - Sonaecom and Isabel dos Santos' companies, Unitel International Holding and Kento Holding Ltd. As a result, Sonaecom now holds a majority stake in NOS, effectively ending the company's association with Isabel dos Santos.

The restructuring of NOS' shareholder framework has had tangible repercussions on the company's market performance. This shift in equity has coincided with a notable divergence in NOS' stock trajectory, especially when examined alongside the Portuguese stock market.

NOS' stock performance, compared to the PSI-20 index and the Euro Stoxx Telecommunications index over various investment periods, highlights its challenges in the market. Over five years, NOS' stock has seen a significant

Figure 9 – *Returns comparison between NOS, Psi-20 & STOXX 600 Europe Telecommunications Index 2018-2023*



Source: *Refinitiv*

decline, dropping by 36.08%. This downward trend persists in the 1-year and year-to-date (YTD) periods. In stark contrast, the PSI-20 index exhibited a robust 5-year return of 34.95%, with also positive outcomes in the 1-year and YTD frames. The STOXX Europe 600 Telecommunications index, while mirroring NOS's downward trajectory, experienced less drastic movements, recording a 5-year decrease of 4.9%. This pattern is also evident in its 1-year and YTD performances (*Figure 9*).

Environment, Social and Governance (ESG)

ESG plays a significant role in NOS' current strategic cycle (2021-2025)

Backed by a PWC survey, 83% of consumers advocate for active corporate ESG involvement, 91% of business leaders feel responsible, and 86% of employees prefer socially responsible companies. NOS, recognised by Bloomberg GEI, CDP, and Moody's ESG Solution, aims to lead by example in Portugal. The company has structured its ESG efforts across Environmental, Social, and Governance pillars, with specific commitments and strategies aligned with the United Nations Sustainable Development Goals, which can be confirmed by analyzing the metrics provided by Refinitiv and Bloomberg (*Figures 10 & 11*). Both platforms have reliable ESG data, although they have different quantitative styles. First, Bloomberg has ratings on a 0-10 scale whereas Refinitiv is on a 0-100 scale, in which both 0 represent the lowest score possible, and, on the other hand, 10 and 100, respectively to each platform, represent the highest score possible that is possible to obtain. Secondly, Bloomberg provides a ranking of the company in comparison to its industry peers, ranging from "lagging against peers" to "leading against peers", while Refinitiv employs a qualitative grading system that ranges from "D-", indicating the lowest rating, to "A+", representing the highest. In overall terms, NOS presents very positive ESG scores and ratings.

Figure 10 – *NOS ESG overall scores and ratings as of December 2022 according to Refinitiv*

Metrics	2022	Rating
ESG Combined Score	61	B
ESG Score	61	B
ESG Controversies	100	A+

Source: *Refinitiv*

Figure 11 – *NOS ESG overall score and peer rank as of December 2022 according to Bloomberg*

Metrics	Score	Peer Rank
ESG Overall Score	4.73	Leading

Source: *Bloomberg*

Environment – on behalf of the Planet

NOS scores very positively in the Environment Pillar with its initiatives

This pillar has very positive numbers when looking at the Environment Scores and the company's initiatives. The firm invested in becoming more climate-friendly, halving Telco per unit energy consumption and reducing

Figure 12 – NOS Environment Pillar scores and peer ranks as of December 2022 according to Bloomberg

Metrics	Score	Peer Rank
Environmental Pillar	**3.75**	**Above Median**
Energy Management	6.81	Leading
Sustainable Product	0.00	Lagging
Waste Management	10.00	Leading
Climate Exposure	6.67	Leading

Source: *Bloomberg*

Figure 13 – NOS Environment Pillar scores and ratings as of December 2022 according to Refinitiv

Metrics	2022	Rating
Environment Pillar	**77**	**A-**
Resource Use	80	A-
Emissions	89	A
Environmental Research	60	B

Source: *Refinitiv*

The Social pillar is the one NOS has developed and improved the most

The information provided by NOS to investors is corroborated by Bloomberg

Figure 14 – NOS Social Pillar scores and peer ranks as of December 2022 according to Bloomberg

Metrics	Score	Peer Rank
Social Pillar	**5.35**	**Leading**
Operational Risk Management	3.00	Leading
Ethics & Compliance	10.00	Leading
Data Security & Customer Privacy	2.34	Above Median
Marketing & Labeling	10.00	Leading
Labor & Employment Practices	4.39	Leading
Access & Affordability	10.00	Leading

Source: *Bloomberg*

Refinitiv also attributes a very positive score to this pillar

Figure 15 – NOS Social Pillar scores and ratings as of December 2022 according to Refinitiv

Metrics	2022	Rating
Social Pillar	**70**	**B+**
Workforce	85	A
Human Rights	35	C
Community	76	A-
Product Responsibility	83	A

Source: *Refinitiv*

CO2 emissions. While progress towards 2025 goals is positive, two more years are needed to meet targets. Notably, it has achieved a 98% waste circularity rate, showcasing solid environmental commitment.

In addition, according to Bloomberg, NOS is overperforming competitors in environmental metrics, with an overall score of **3.75**. Specifically, the firm is leading against its peers in energy management, waste management and climate exposure with scores of 6.81, 10, and 6.67, respectively (*Figure 12*). Moreover, according to Refinitiv, NOS has a very high overall score of **77** for the environment pillar, especially in terms of emissions, with a score of 89 (*Figure 13*).

Social – more for the Future and the People

Following NOS's Strategic Plan, the ESG pillar where they developed the most was the Social, which is divided into two different sections: "More for the People", where the goals set for 2025 have already been achieved and "More for the Future.", where they are still trying to further their improvement.

According to Bloomberg, NOS is leading against its peers with an overall score for this pillar of **5.35**. This is due to the high scores of the different sub-pillars, except for the Data Security & Customer Privacy pillar. In this specific sub-pillar, NOS is positioned above the median with a score of 2.34 but does not lead against its peers.

It is noteworthy to highlight NOS's outstanding performance in Ethics & Compliance, Marketing & Labelling, and Access & Affordability, where the company achieved perfect scores. However, despite still leading against its peers, the pillars of Operational Risk Management and Labour & Employment Practices still present relatively low scores of **3** and **4.39**, respectively, in which according to NOS' strategic plan still has the opportunity to improve further (*Figure 14*). On the other hand, according to Refinitiv, this is not the best pillar in terms of performance for NOS; instead, it takes second place with an overall score of **70** in 2022 (*Figure 15*).

The slight difference between the data provided by the two companies may be explained by differences in data collection and treatment methodologies as well as different the different sub-pillars and weights attributed to each one that compose the overall pillar.

Governance – Ethical and Responsible Management

The Governance Pillar is the one in which NOS scores the lowest

Lastly, Governance is the pillar in which NOS performs the worst. According to Refinitiv, NOS has a significantly low overall score of **30**, primarily due to the impact of the poor 17 score in the management pillar (*Figure 16*). According to Bloomberg, NOS' Governance Pillar is below the median compared to its peers, with an overall score of **4.75**. This is mainly affected by the Board Composition and Audit sub-pillars in which NOS is lagging with scores of 4.19, and 3.43, respectively (*Figure 17*). Regarding the audit sub-pillar, Refinitiv and Bloomberg attribute shallow scores for external audit, with scores of 4 and 0.16, respectively.

***Figure 16** – NOS Governance Pillar scores and ratings as of December 2022 according to Refinitiv*

Metrics	2022	Rating
Governance Pillar	**30**	**C-**
Management	17	D+
Shareholders	63	B
CSR Strategy	46	C+

***Source:** Refinitiv*

***Figure 17** – NOS Governance Pillar scores and peer ranks as of December 2022 according to Bloomberg*

Metrics	Score	Peer Rank
Governance Pillar	**4.75**	**Below Median**
Board Composition	4.19	Lagging
Director Roles	5.53	Below Median
Diversity	1.58	Lagging
Independence	2.08	Lagging
Refreshment	9.22	Leading
Executive Compensation	5.03	Above Median
Incentive Structure	8.43	Leading
Pay Governance	0.99	Lagging
Pay for performance	7.33	Above Median
Shareholder Rights	6.23	Above Median
Shareholder Policies	6.67	Below Median
Director Voting	5.00	Median
Audit	3.43	Lagging
Audit Committee	5.37	Lagging
External Auditor	0.16	Lagging
Audit Outcome	10.00	Median

***Source:** Bloomberg*

In order to improve the Governance Pillar, NOS has established some very rigid objectives to fulfil in 2025, namely a 100% responsible value chain. In 2022, the company already started using an evaluation tool to evaluate the supplier's commitment to ESG matters, determining whether they can enhance value for NOS or potentially misalign with NOS's ESG responsibilities. Furthermore, NOS also guarantees employees continued training on a vast scale of skills that may be valuable for the company and can ensure improved business ethics.

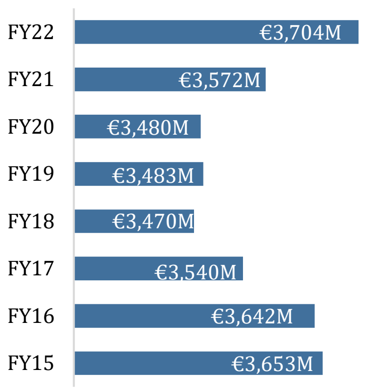
Nevertheless, there are also some positive aspects. The company has already accomplished several of the commitments established for the strategic plan 2021-2025, helping NOS to regain the trust of employees and shareholders.

Industry Overview

Portuguese Telco Sector

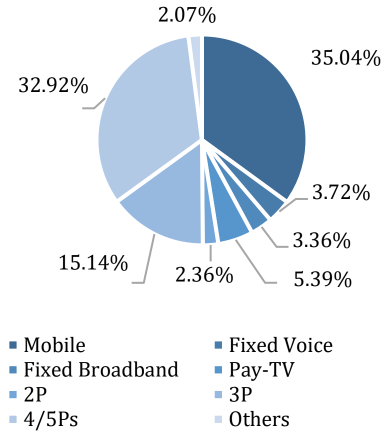
The Portuguese telecommunications sector is a very mature industry composed of companies specialising in television and communications networks' production, distribution, and post-sales services. According to Autoridade Nacional de Comunicações (ANACOM), the Portuguese telco sector revenue grew at a compound annual growth rate (CAGR) of 0.20% from 2015 to 2022, reaching a market size of €3,704 million (*Figure 18*).

***Figure 18** – Portuguese Telco Sector Revenue 2015-2022 in €'million*



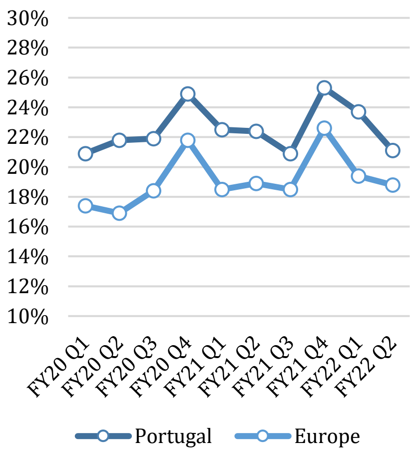
***Source:** ANACOM*

Figure 19 – Portuguese Telco Sector Revenue distribution by service provided as of December 2022



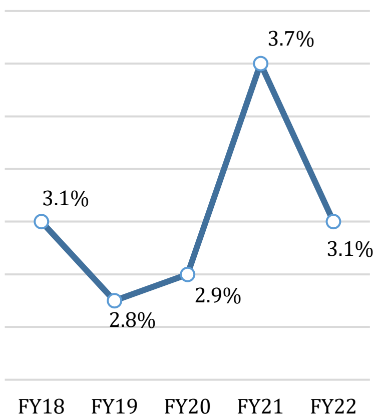
Source: *ANACOM*

Figure 20 – Capex over Telco Sector Revenue in Portugal versus Europan average



Source: *Company's annual reports*

Figure 21 – Weight of global investment in the Electronic Communications sector in GFCF



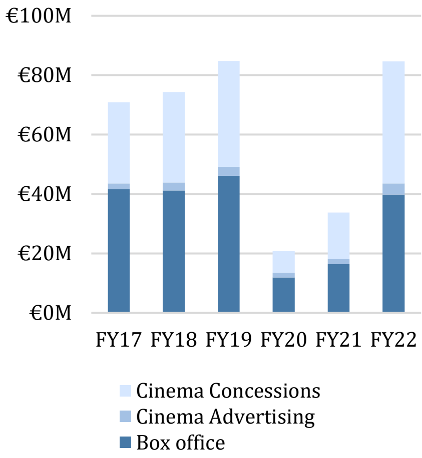
Source: *Company's annual reports*

Regarding sector revenue distribution by service provided, as of 2022, bundled services, including 2P, 3P, and 4/5Ps offers, accounted for 50.42% of the overall sector revenue. The simplest package is the 2P including either fixed voice and fixed broadband or fixed voice and Pay-TV. The 3P package includes Pay-TV, fixed broadband, and fixed voice. 4P includes the services provided by the 3P package plus one mobile service, either mobile data or mobile phone service. Finally, 5P is the most complete package, including all services provided by the 3P package in addition to both mobile services. In 2022, 4/5Ps service packages accounted for 32.92% of overall sector revenue. Following service packages, Mobile services come next, accounting for 35.04% of total revenue, followed by Pay-Tv representing 5.39% (*Figure 19*).

According to Broker Research and stated in NOS annual management reports, in Portugal, the ratio of Capex over telecommunications sector revenues by quarter between 2020 and the first half of 2022 has been consistently above when compared to European levels (*Figure 20*). The intense investment made in the sector can also be verified by the relatively high weight of global investment in the Electronic Communications sector in Gross Fixed Capital Formation (GFCF) in Portugal between 2018 and 2022, consistently around 3% (*Figure 21*). These two ratios suggest that the Portuguese telco market is targeting efforts to be at the vanguard of the European one.

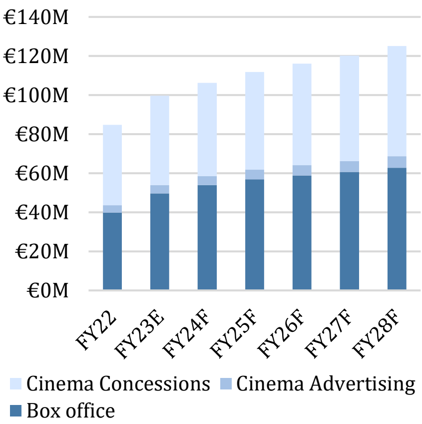
It is also worth noting that the market structure will suffer some changes. In September 2022, Vodafone announced a purchase agreement with NOWO. The merger has not happened yet, as firms are still waiting for the final decision on the operation by Autoridade da Concorrência. In addition, Digi, a European telecommunications service provider operating in Romania, Spain and Italy, is about to enter the Portuguese market in 2024, having already acquired 5G licenses in the last auction in Portugal and installed the first Giber optic cables in Lisbon in March of the last year. Even though WOO is prepared to compete with this new operator, the entrance of Digi in the Portuguese telco sector may represent a threat for the remaining

Figure 22 *– Portuguese cinema sector revenue 2017-2022 in €'million*



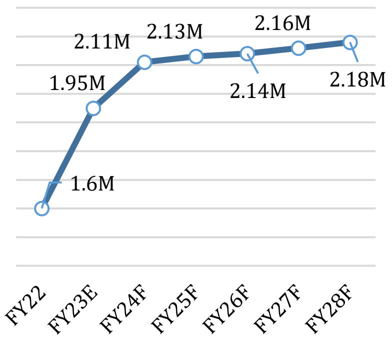
Source: *Statista*

Figure 23 *– Forecasted Portuguese cinema sector revenue 2022-2028 in €'million*



Source: *Statista*

Figure 24 *– Forecasted Portuguese cinema sector users 2022-2028 in million*



Source: *Statista*

operators in terms of market share as, according to NOS' CEO statement provided in an interview to ECO, the company is very likely to offer services at much lower prices compared to the ones practiced by others in Portugal.

Given the high investment made in the sector, it is not surprising the future positive outlook. According to Market Research, the Portuguese Telco market is expected to grow marginally at a CAGR of 0.6% between 2022 and 2027, driven by local government and operators' efforts to expand 5G and fixed broadband network infrastructure, with the mobile segment expected to face very high growth of 6.5% CAGR over the analysed period.

Portuguese Media and Entertainment Sector

The M&E industry encompasses a diverse range of companies that produce and organise several shows and events, such as cinema, concerts, football games, and other types of entertainment and content. The industry saw an immediate slowdown in overall market revenue during 2020, as the COVID-19 pandemic and the resultant lockdowns restricted public gatherings, impacting revenues (*Figure 22*). Despite that, it has immediately recovered in 2022, growing at a CAGR of 3.61% between 2017 and 2022.

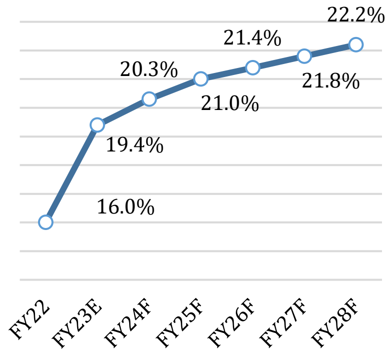
The outlook is very positive for this sector. According to Statista, the Portuguese cinema market is expected to grow at a CAGR of 4.79% between 2023 and 2028, with revenue projected to move from €99.7 million in 2023 to €125 million (*Figure 23*). Users are expected to amount to 2.2 million by 2028, with user penetrations expected to achieve 22.2% by 2028 against 19.4% in 2023 (*Figures 24 & 25*). The average revenue per viewer is expected to grow from €50.86 in 2023 to €56.6 in 2028 (*Appendix 1*).

Competitive Positioning

Portuguese Telco Sector

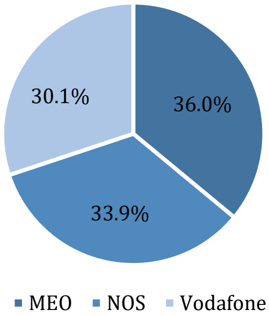
NOS development and value creation strategy has several key points. One is leading the 5G network experience. This strategic leadership position elevates NOS to the forefront of transformative technology, granting it a

Figure 25 *– Forecasted Portuguese cinema penetration rates 2022-2028*



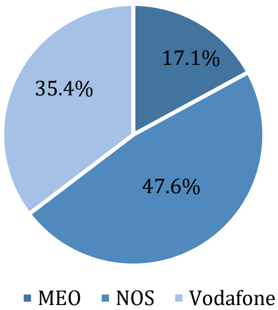
Source: *Statista*

Figure 26 *– Share of 4G towers deployed by operator as of June 2023*



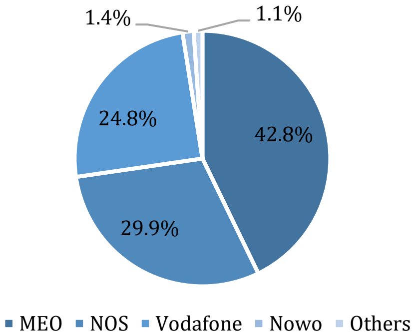
Source: *ANACOM*

Figure 27 *– Share of 5G towers deployed by operator as of June 2023*



Source: *ANACOM*

Figure 28 *– Mobile segment market share by operator as of 2022*



Source: *ANACOM*

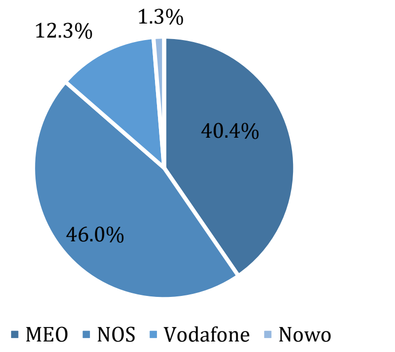
pivotal role in shaping the digital landscape and providing significantly enhanced connectivity compared to 4G. These initiatives reflect the company's proactive response to past challenges in retaining market share in the telecommunications sector. To improve service quality and enhance its offerings' distinctive characteristics, NOS Inovação achieved a notable milestone in August 2023 by securing a patent in the United States for an innovative zapping system. This technology analyses user zapping patterns, predicts channel changes, and enables pre-tuning for faster and improved zapping experiences.

The Portuguese telco sector is very concentrated among NOS, MEO, Vodafone Portugal and NOWO, the four largest players in the market. In terms of the number of stations deployed by technology type, NOS is behind MEO, the incumbent firm, in most cases. As of the first semester of 2023, in terms of 4G stations, NOS is responsible for 34% of all towers deployed in the country (*Figure 26*). However, when it comes to 5G stations, the most recent technology available, NOS is the clear market leader responsible for 48% of all stations deployed (*Figure 27).*

In terms of market share, NOS is also lagging behind MEO, in most services provided. As of 2022, in the mobile segment, NOS holds the second position with a market share of 29.9% (*Figure 28*). Regarding fixed voice, once again, NOS is in the second place with a market share of 34.3% (*Appendix 2*). Fixed broadband and Pay-Tv follow the same trend as the previous listed services with NOS holding a market share position of 34% and 37%, respectively (*Appendix 3 & 4*). Finally, there is a slight deviation from the pattern in terms of bundled services. Even though in the 2P and 3P service packages NOS is still lagging behind MEO with market share positions of 30.5% and 29%, respectively, the case turns around in the 4/5Ps service packages with NOS holding a market share position of 46% (*Figure 29*).

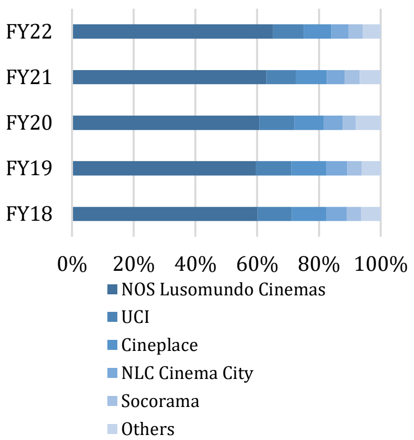
Bundle subscriptions constitute a significant revenue stream, representing 50.42% of the total Telco industry revenue in the Portuguese market. Therefore, to assess NOS' service positioning relative to its competitors, an analysis of the price services offered within each company's bundle is

***Figure 29** – 4/Ps service packages market share by operator as of 2022*



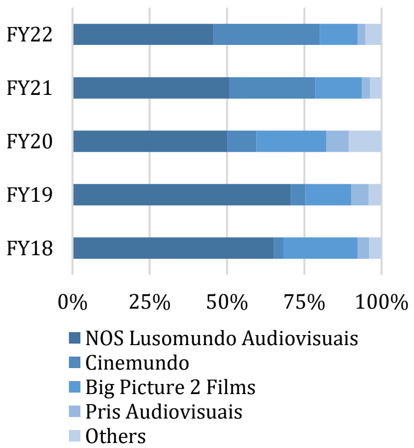
***Source:** ANACOM*

***Figure 30** – Market share in terms of admissions by distributor 2018-2022*



***Source:** ICA*

***Figure 31** – Market share in terms of spectators 2018-2022*



***Source:** ICA*

essential (*Appendix 5*). For comparative analysis, we specifically examined the 4P bundles, which reveals distinctive strategies. NOWO, with its cost leadership, provides the lowest price for this bundle, although with a more limited selection of paid TV channels. Conversely, NOS, MEO, and Vodafone present comparable bundles with a 24-month loyalty period, while also offering the option of loyalty-free bundle contracts at a higher cost. In conclusion, NOS has a strategic focus on innovation and technological leadership to provide superior services at a similar cost compared to its competitors.

Portuguese Media and Entertainment Sector

The M&E segment has numerous players, as festival promoters, cinemas, theatres, and more. Each of these players offers a variety of products and services that target distinct customer segments. However, this fragmented landscape poses significant challenges in accurately describing the market structure and calculating its growth trajectory.

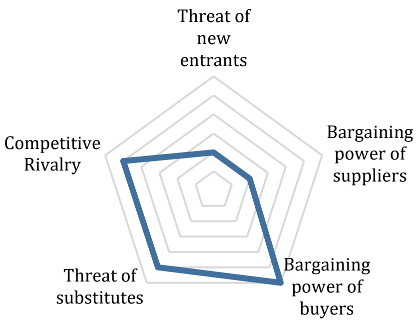
Despite the challenges, a few key players have emerged as industry leaders, namely NOS Lusomundo Audiovisuais, Cinemundo, Big Picture 2 Films, and Pris Audiovisuais. These companies command a significant share of the market and influence industry trends.

To gain insights into the market's performance, ICA regularly publishes valuable data on the number of spectators visiting cinemas by company. Despite NOS being the clear market leader, its growth trajectory has not been consistent. For instance, regarding the distribution of films, even though the company stills holds the number one position, market share in terms of admissions by distributor has decreased from 65.2% in 2018 to 45.7% in 2022 (*Figure 30*). On the other hand, when considering film exhibitions, from 2018 to 2022, NOS Lusomundo cinemas has improved its market share in terms of spectators from 60.1% to 65.1% (*Figure 31*).

Telco Porter's Five Forces

Threat of new entrants (Moderately Low): Firstly, establishing telecommunications networks and tower deployments require very high

Figure 32 – *Porter's 5 forces on the Portuguese Telco sector*



Source: *Group analysis*

Capex investments. Secondly, the already existing telco operators in the sector usually benefit from economies of scale, making it difficult for new entrants to compete in terms of costs. In addition, the telco sector is highly regulated by ANACOM, with complex and time-consuming license auction processes and approvals. All these factors reduce the likelihood of new entrants in the market. However, one-way new telco operators may enter the market is by paying for operating the already existent service providers' towers (*Figure 32*)

Various suppliers for equipment, licenses, and others

Bargaining power of suppliers (Moderately Low): NOS relies on various suppliers for equipment, content licenses, and technology. Thus, the bargaining power of suppliers is moderately low, except when looking into advanced network technology. For the latter, NOS may not have the possibility to bargain as there are fewer competitors. Nevertheless, most of the business is undoubtedly leveraged to NOS's advantage (*Figure 32*).

Low consumer loyalty and low switching costs

Bargaining power of buyers (Very High): To start with, in addition to consumer loyalty being very low in this sector, there are very low switching costs in changing between the different operators in Portugal as all of them provide similar services, making customers opt for the cheapest options for the same service. Large corporations within the B2B segment typically hold substantial contracts, providing them with enhanced negotiation leverage to discuss pricing with the company (*Figure 32*).

Services provided are very similar

Threat of substitutes (High): The availability of substitutes is significant in this industry since the services provided by the three largest operators are very similar. Furthermore, as the telco sector is very Capex dependent and with constant technological innovations, there are always new products on the lookout with better quality, ready to replace the already existing ones. Good examples would be streaming services substituting cable movies and series channels, sports channels, and other Pay-TV offers. These platforms can be used in PC, smartphones, smart TVs, and tablets. Also, some messaging and call services have also been substituting traditional cell phone calls using phone signal (*Figure 32*).

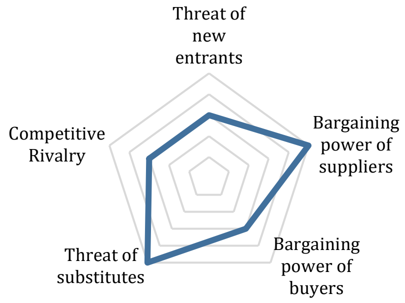
Competitive Rivalry (High): Competitive rivalry in the Portuguese telco sector is also quite high. As stated before, the market is mainly concentrated in the three largest operators, which are always competing between each other for acquiring new prosper customers and retaining already existing ones. Also, the main competitors of NOS, MEO and Vodafone, are part of very large international groups with more financial resources than NOS, giving these operators an advantage in resource availability against NOS (*Figure 32*).

Customer acquisition and retention is key in this sector

In conclusion, NOS operates in a highly competitive market with significant challenges but also opportunities. While the bargaining power of suppliers is moderately low and the threat of new entrants is low, the high bargaining power of buyers in the Telco sector, the constant presence of substitutes, and the intense competitive rivalry are vital factors NOS must consider when shaping its positioning and how to approach the market. NOS must continue to focus on innovation, content differentiation, and customer satisfaction to thrive in this dynamic industry.

Media and Entertainment Porter's Five Forces

***Figure 33** – Porter's 5 forces on the Portuguese M&E sector*



Source: *Group analysis*

Threat of new entrants (Moderate): The Cinema market requires a high initial investment to enter, from cinema rooms to innovative technologies like 4DX and ScreenX. Non-cinema shows often require specialized teams and access to theatres and other suitable locations. However, companies that offer streaming services can use their much less expensive online platforms (*Figure 33*).

Limited amount of suppliers

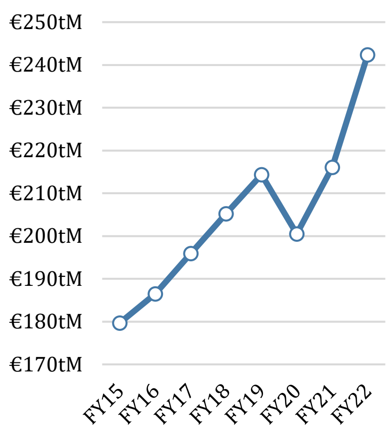
Bargaining power of suppliers (High): In Portugal, the audiovisual equipment industry is characterized by a limited number of companies, resulting in heightened market power for these entities due to reduced competition. Additionally, the dominance of movie copyrights, particularly those originating from the United States, contributes significantly to their substantial bargaining power in the market (*Figure 33*).

Bargaining power of buyers (Moderate): Media & Entertainment clients in Portugal have lot from where to choose from. From streaming services,

Streaming services represent a significant threat

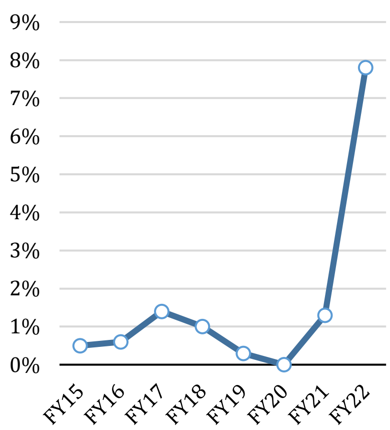
In the cinema segment, NOS is the clear leader

Figure 34 – *Portuguese GDP 2015-2022*



Source: *PORDATA*

Figure 35 – *Portuguese inflation rate 2015-2022*



Source: *PORDATA*

to cinema, concert promotors and other varieties, this extensive offer gives choice power to buyers. So, buyers can choose more efficiently. Despite that, not every Cinema offers innovative technology, and not every promotor can organize and make larger shows such as festivals or events with international artists in Portugal, which limits consumers in this spectrum (*Figure 33*).

Threat of substitutes (High): Although it does not offer the same Cinema experience, streaming companies offer the same movies or series for a lower price in the comfort of the consumer's house. Documentaries, Sitcoms, and other types of shows are also available on those platforms. Thus, it can also replace other types of events (*Figure 33*).

Competitive Rivalry (Moderate): In the cinema sector, NOS holds a market leadership position with low rivalry since it has a larger number of screens and a dedicated customer base. Conversely, the competition is intense in non-cinema offerings, where the market is more saturated with numerous competitors. Consequently, the overall level of rivalry is moderate (*Figure 33*).

Macroeconomic Overview

As indicated in the Industry Overview, NOS primarily operates within the Portuguese market. Therefore, several factors can influence the regular running of NOS's business.

In the last few years, Portugal's GDP has consistently increased, reaching €242.3 million in 2022, despite a slowdown in 2020 due to the Covid-19 pandemic and resultant lockdowns (*Figure 34*). The European Commission forecasts a positive outlook for Portugal's real GDP, expecting growth rates of 1.3% and 1.8% in the next two years. This relatively low growth is primarily attributed to high inflation levels in Portugal, which have not been observed in recent years (*Figure 35*). However, favourable economic conditions are anticipated, with inflation expected to decrease to 3.2% and 2.4% in 2024 and 2025, according to the European Commission.

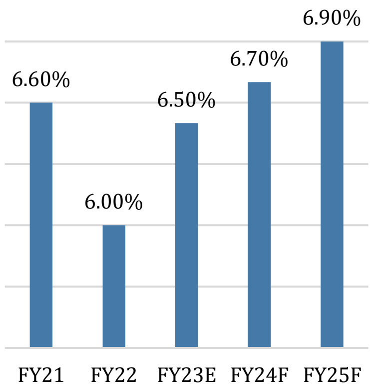
Inflation has impacted the purchasing power of consumers and increased

***Figure 36** – Portuguese inflation rate 2015-2022*

Historical EURIBOR 6-months rates	
FY15	0,17%
FY16	(0,04%)
FY17	(0,22%)
FY18	(0,27%)
FY19	(0,24%)
FY20	(0,32%)
FY21	(0,53%)
FY22	(0,54%)
FY23	2,73%

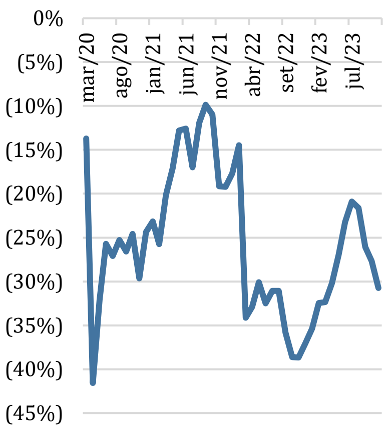
***Source:** European Union*

***Figure 37** – Portuguese historical and forecasted unemployment rate*



***Sources:** PORDATA, European Commission*

***Figure 38** – Portuguese historical consumer confidence indicator*



***Source:** Instituto Nacional de Estatística*

costs for businesses. Consequently, the ECB has been raising interest rates to bring it back to the 2% target level, further reducing consumer purchasing power (*Figure 36*). The Portuguese unemployment rate has also risen to its highest level since March and, according to the European Commission, is projected to remain at constant levels of 6.5% and 6.4% in 2024 and 2025, respectively (*Figure 37*). Moreover, in November 2023, Portugal's consumer confidence indicator dropped to a six-month low of -30.8%, down from -27.7% in the previous month (*Figure 38*). This reflects a negative shift in consumer sentiment toward the country's economic outlook for the next 12 months, with concerns about price evolution and unemployment. Finally, the savings rate of Portuguese households showcases a concerning trend. In 2022, the country experienced a 10-year low with a savings rate of 6.2% (*Figure 39*). This indicates that the Portuguese population, to meet its expenses, had to compromise its savings.

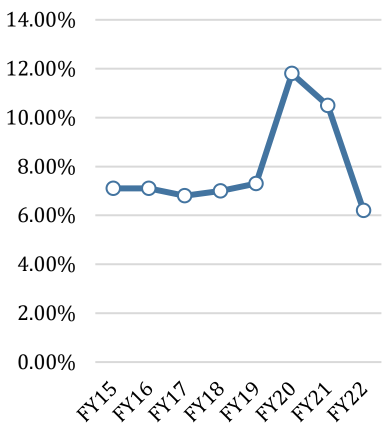
Finally, we also calculated the realised volatility from PSI-20 as a proxy for Portuguese market volatility. The realised volatility has decreased from 2020 (26.79%) to the current level of 12.98%, reaching similar levels observed in 2018 and 2019. This suggests investors' current market conditions are relatively stable and comparable to those experienced before the heightened volatility of 2020.

In summary, NOS may encounter short-term challenges due to decreased household savings and purchasing power. Nevertheless, the medium-term outlook appears more favourable, with anticipated positive effects from reduced inflation and the observed decrease in market volatility, as reflected in the PSI-20.

Financial Analysis

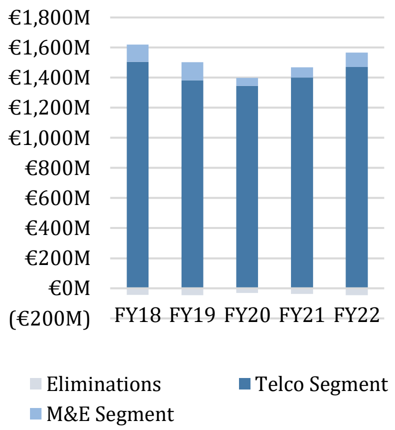
Since NOS operates under two business units with different financial statements, two separate financial analyses were performed. Despite that, a consolidated analysis is also very relevant to understand what has happened historically.

Figure 39 – *Savings rate of Portuguese households*



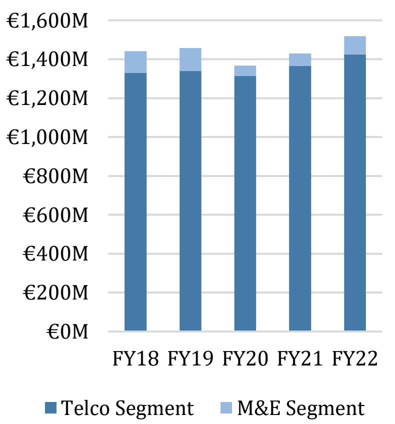
Source: *PORDATA*

Figure 40 – *NOS revenue per segment, including eliminations*



Source: *Company's annual management reports*

Figure 41 – *NOS revenue per segment*



Source: *Group analysis*

Before starting the analysis, it is important to note that some discrepancies were found in documented data provided by the company to investors, especially regarding historical telco segment revenue. As such, the following two approaches were taken for valuation purposes. First, regarding telco segment revenue, the one used to implement in the model was obtained from annual results in Excel datasets provided by NOS, segregating between consumer, business, and wholesale revenue. Second, operating costs were the most detailed in annual management reports.

Eliminations

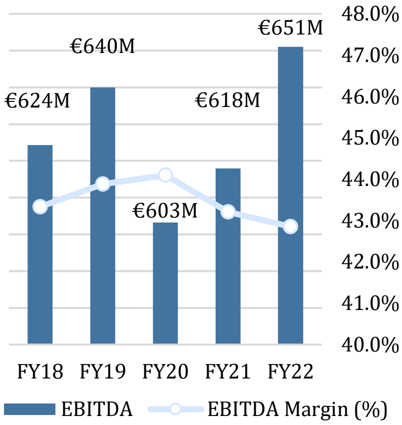
NOS recognises an additional segment named "eliminations" when recording its financial statements, consisting of intercompany transactions, which, when consolidated, are taken out of the Telco and M&E segments (*Figure 40*). As such, for the sake of valuation, eliminations were separated from historical Telco and M&E financial statements prior to forecasting each segment to later consolidate them.

For the items provided in income statements, the proportions of eliminations segregated for each year from the Telco segment consisted in the weight of Telco revenue over Telco and M&E revenue, excluding eliminations. Accordingly, the remaining proportion was attributable to the M&E segment. On the other hand, for balance sheet items, eliminations were retrieved for each line item according to the different weights for every line item for each different year.

NOS Consolidated

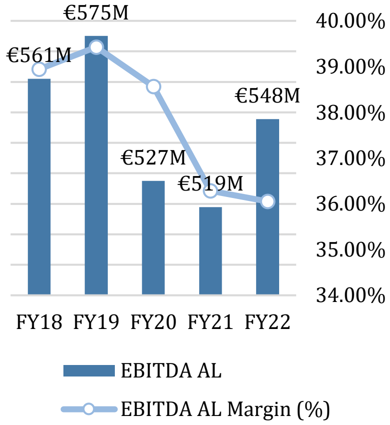
Considering the way data was treated (referred to as "group analysis" in figures), NOS' consolidated revenue grew at a 1.34% CAGR from €1,440.6 million in 2018 to €1,519.3 million in 2022. This period included a challenging phase in 2020 caused by the Covid-19 pandemic, impacting both business segments, particularly the M&E division (*Figure 41*). Regarding EBITDA, there was an overall increase from €624.3 million in 2018 to €651.1 million in 2022, nevertheless decreasing significantly in 2020 as expected. However, the EBITDA margin followed the opposite

Figure 42 – NOS consolidated EBITDA and EBITDA Margin



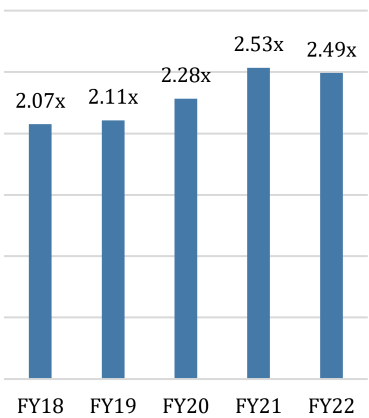
Source: *Group analysis*

Figure 43 – NOS EBITDA AL and EBITDA AL margin



Source: *Group analysis*

Figure 44 – NOS consolidated Net Debt-to-EBITDA ratio



Source: *Group analysis*

trend. Initially it rose from 43.34% in 2018 to 44.10% in 2020 but subsequently declined to 42.85% by 2022 (*Figure 42*). This decrease in EBITDA Margin may be explained by inflationary pressure felt more heavily in cost lines than in revenues, especially in direct costs and cost of goods sold (COGS), which increased significantly from 2020 to 2021 (*Appendix 6*).

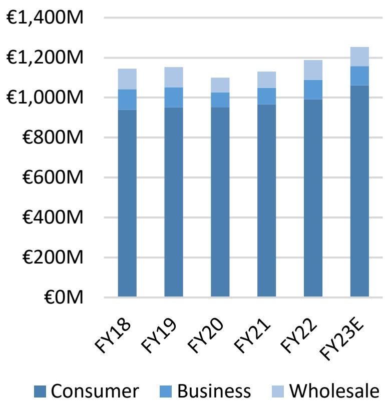
Moreover, it is also important to analyse historical EBITDA after leasing payments (EBITDA AL), as leases correspond mainly to rental agreements for telco towers, movie theatres, and others which are crucial for the main business operations of the company. For this case, the trend observed was slightly different compared to EBITDA. In fact, EBITDA AL did not recover in 2021 explained by the significant increase in leases with the purchase of Spectrum Licenses to operate 5G networks in that same year. As such, EBITDA AL has decreased at a CAGR of 0.6% between 2018 and 2022 from €561 million to €547.7 million, respectively (*Figure 43*).

Regarding year-end results and distribution to shareholders, earnings per share (EPS) have improved from €0.27 in 2018 against €0.44 in 2022, following the same trend as net income (*Appendix 7*). Regarding dividend payments, NOS pays ordinary dividends of €0.278 and an extraordinary one depending on year-end results. For instance, in 2022, the company distributed an additional €0.152 of extraordinary dividends due to the completion of the capital gain resulting of the sale of towers to Cellnex (*Appendix 8*).

Regarding capital structure, NOS has been increasing leverage over time, reflected by an increase in the consolidated debt/equity ratio from 1.23x in 2018 to 1.56x in 2022 (*Appendix 9*). As a result, the consolidated Net Debt to EBITDA increased from 2.07x to 2,49x in the same period, still being able to meet its internal target of 2.5x (*Figure 44*). In contrast, the cash flow ratio from operating activities to Debt has decreased significantly from 0.51x to 0.39x from 2018 to 2022, respectively (*Appendix 10*).

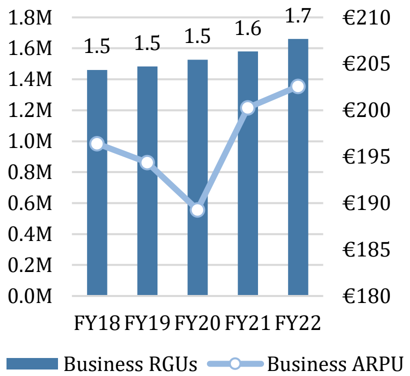
Telco Segment

Figure 45 – NOS Telco Revenue by segment in €'million



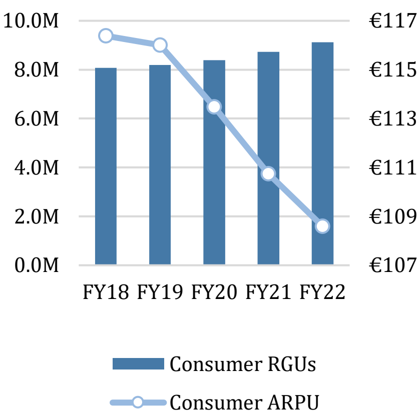
Source: *Group analysis*

Figure 46 – Historical Business ARPU and RGUs



Source: *Group analysis*

Figure 47 – Historical Consumer ARPU and RGUs



Source: *Group analysis*

The Telco segment corresponds to NOS' major business. From 2018 onwards, the revenue of the Telco segment has increased overall from €1,329.2 million in 2018 to €1,425.7 million in 2022 at a CAGR of 1.77%. However, the growth trajectory has not been constant throughout all periods. In fact, Telco revenue fell in 2020 to €1,315.3 million impacted by a sharp decline of 27% in Wholesale Revenue to almost €30 million (*Figure 45*).

When looking at the surface, both B2C and B2B Telco revenue have been consistently increasing. However, that has not been the case for some specific drivers. First, B2B revenue has consistently increased from 2018 to 2022, especially in the last two years, by 9.46% in 2021 and 6.3% in 2022, due to an exceptional rise of the Business ARPU and the steady rise of Business RGUs (*Figure 46*). However, the same has not occurred with consumer ARPU, which has been decreasing since 2018. This decline in consumer ARPU has been compensated by a constant increase in consumer RGUs which allowed B2C revenue to grow at a CAGR of 1.34% (*Figure 47*).

Operating costs as a percentage of overall segment revenue were following a downward trend, as demonstrated by the decrease from 2018 to 2019. However, due to COVID-19, they increased in 2020 and 2021. In 2022, operating costs showed signs of recovery but still failed to return to pre-pandemic levels due to inflationary pressures, especially felt by the increase in supplies, external services, and COGS.

As a result of the small fluctuations in operating costs, EBITDA margin has also been relatively stable around 42.6%. As such, given the increases in operating costs in 2021 and 2022 relative to 2020, EBITDA margin for these years was slightly below recorded levels in previous years (*Figure 48*). In addition, in 2021 and 2022, D&A in absolute values was above previous levels due to the increases in tangible fixed assets and intangible assets resulting from the high investments made to become the 5G leader in the market (*Figure 49*). Finally, Net Income saw a significant increase from 2018 to 2022, having yet decreased in 2020 due to the global economic slow-down caused by the Covid-19 pandemic. More precisely, it doubled from 2021 to 2022 due to other net gains of around €100 million which resulted from selling a portfolio of towers to Cellnex, still regarding the long-term partnership announced in 2020 (*Figure 50*).

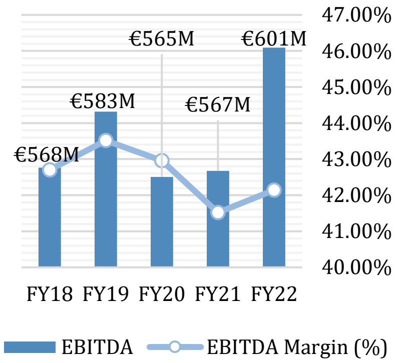
Drivers Telco

The synergies resulting from the strategic merger between ZON and OPTIMUS, allowed NOS to effectively establish its market strength. In 2013, facilitated by ZON, NOS had the largest market share in Pay-TV. Recognizing growth potential in the Mobile sector, NOS made significant progress, boosting its Mobile market share to 29.2% by 2023 (Appendix 11). This achievement resulted in a total of 5,895.6 thousand mobile RGUs in the third quarter of 2023, signifying a 4.75-year CAGR of 4.57% and a remarkable 23.7% increase compared to 2018 (*Figure 51*). However, the growth in the Mobile RGU came at the expense of a marginal decline in Pay-TV and Fixed Broadband market shares. Even with the increase in both RGUs, with a 0.59% and 2.44% 4.75-year CAGR, respectively, it has proven insufficient to match the pace of competitors' growth.

The overall growth trajectory, highlighted by a 15.2% increase in total RGUs in the third quarter of 2023 since 2018, underscores NOS' commitment to affirming itself in this competitive industry (*Figure 52*). Moreover, convergent and integrated customers also represent a key driver of revenue growth, as evidenced by the increase from 45 thousand customers in 2013 to 1,126 thousand customers in the most recent quarter. This expansion of NOS' customer base was facilitated by the two-year loyalty agreement imposed by ANACOM on June 17, 2016.

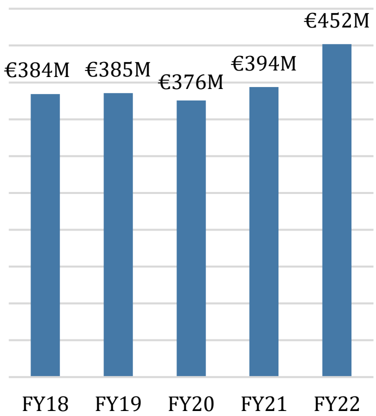
The Residential ARPU / Unique Subscriber with Fixed Access has demonstrated consistent growth, rising from 44.6€ in 2018 to 50.8€ in the third quarter of 2023 explained by inflation felt in the telco sector. This upward trend corresponds to a 4.75-year CAGR of 2.78% (*Appendix 12)*.

***Figure 48** – Telco EBITDA and EBITDA Margin*



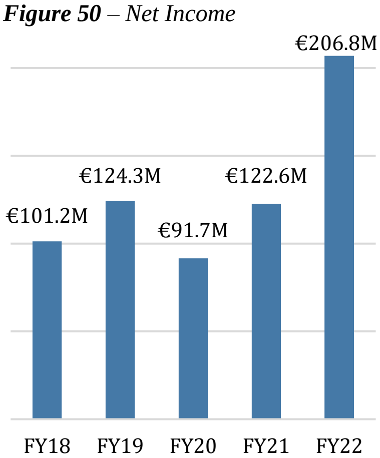
Source: *Group analysis*

***Figure 49** – Telco D&A*



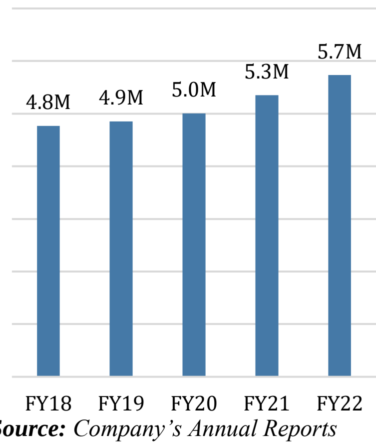
Source: *Company's Annual Reports*

***Figure 50** – Net Income*



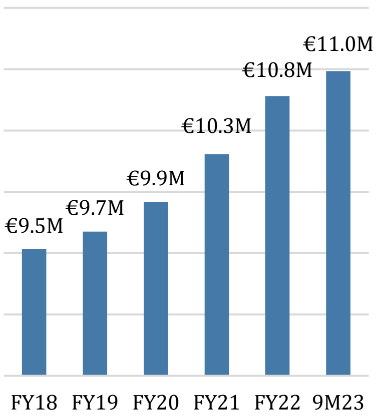
Source: *Company's Annual Reports*

Figure 51 – Mobile RGUs



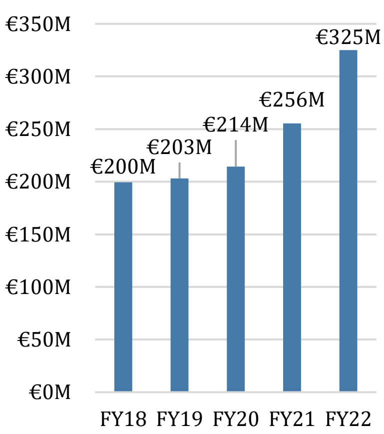
Source: *Company's Annual Reports*

Figure 52 – Total RGUs



Source: *Company's Annual Reports*

Figure 53 – Telco Technical Capex



Source: *Company's Annual Excel*

NOS strategically allocates its Telco Capex towards maintaining the current level of service to keep the business running (baseline Capex), technological advancements (network expansion Capex), notably exemplified in their recent investments in 5G technology, and the acquisition of new customers and retention of existing ones (customer-related Capex).

Between 2020 and 2022, the company witnessed a substantial increase in overall Telco Capex, especially in technical Capex (*Figure 53*). This surge propelled the Telco Capex percentage to be around 33% of revenues, a significant rise since 2020, 28% of revenues. In 2022, Capex from the Telco segment peaked at €473 million (*Figure 54*).

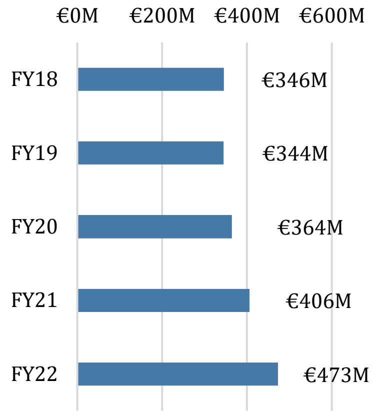
However, in 2023, NOS underwent a considerable slowdown in investment spending. They allocated only €278.7 million of Telco Capex in the initial nine months, down from €347.4 million in the same period of 2022. This decline correlated with the culmination of the 5G deployment, achieving over 91% population coverage by September 2023.

Media and Entertainment Segment

Despite the slight decline from 2017 to 2018, in most years, the M&E segment demonstrated overall consistent revenue growth from 2015 to 2019, reaching €118.3 million in that year, a testament to its strong market presence. However, the onset of the Covid-19 pandemic in 2020 led to a sharp decline of 55.6% in revenues, plummeting to €52.6 million as cinemas faced closures and the industry grappled with widespread disruptions. Notably, there was a significant recovery in 2021 and 2022, with revenues climbing to €65.3 million and €93.6 million, respectively, signalling a robust comeback for the segment (*Figure 55).*

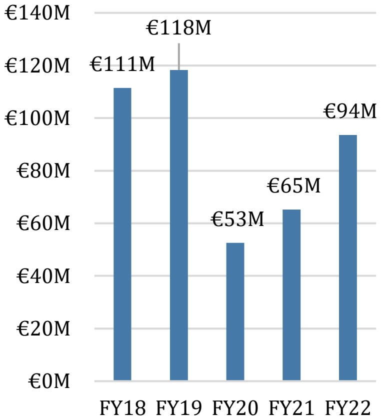
During non-COVID years, the M&E segment maintained an EBITDA margin averaging around 47%, reflecting its solid operational performance and profitability (*Figure 56)*. However, the pandemic-induced challenges in 2020 severely impacted the segment, which is evident in the negative net income of (€25 thousands). Subsequent years showed signs of recovery, with net income of €21.3 million (32.56% of revenue) and €17.6 million (18.8% of revenue) in 2021 and 2022, respectively. Nevertheless, they fell short of

Figure 54 – Telco Capex



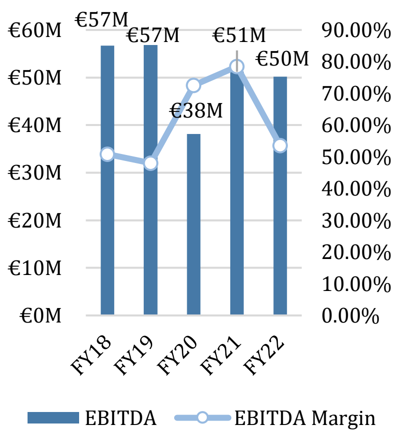
Source: *Company's Annual Excel*

Figure 55 – M&E Revenues



Source: *Company's Annual Reports*

Figure 56 – M&E EBITDA and EBITDA Margin



Source: *Company's Annual Reports*

reaching the previous profitability peaks attained before the pandemic struck (*Appendix 13*).

Drivers Media and Entertainment

The forecasting of cinema revenue heavily relies on various attendance metrics, encompassing film popularity (measured through box-office hits), release schedules, marketing strategies, and consumer behaviour. Audience demographics, preferences, and cultural shifts notably impact ticket sales, directly contributing to revenue projections. Between 2015 and 2019, NOS demonstrated adeptness in capturing these factors, with ticket sales increasing from 8,85 million to 9,27 million pre-Covid-19 (*Appendix 14*). Despite a slight reduction in displayed screens from 215 to 214 within the same period, potentially impacting revenues, NOS's reluctance to open new cinema spaces could influence future revenue growth.

Notably, changes in pricing strategies are pivotal in revenue forecasts. NOS's ticket prices have risen from €4.7 in 2015 to €5.9 in 2022, predominantly attributable to inflationary pressures (*Appendix 15*). Simultaneously, revenue from concession sales, including snacks, beverages, and merchandise, significantly contributes to cinema revenue, primarily influenced by inflation. An observation of the Consumer Price Index (CPI) for food and non-alcoholic beverages reveals consistent growth, notably peaking at 19.9% in 2022, indicative of the impact on cinema concession sales *(Appendix 16)*.

Furthermore, the evolving landscape of consumer preferences favouring digital streaming and online content consumption directly influences DVD sales trends. This shifting paradigm in entertainment consumption patterns could significantly impact the future trajectory of DVD sales within the industry.

Univariate Analysis

It is also important to understand how the company positions itself against its peers and the industry. For these purposes, a univariate analysis was performed against a set of 9 European telecommunications operators' part

Figure 57 – List of peers used in the univariate analysis

Company Name	Ticker
Vodafone PLC	VOD
Deutsche Telekom	DTE GR
Telefonica	TEF
Elisa Corporation	ELISA.HE
Orange	ORA
Cellnex Telekom	CLNX SM
KPN	KPN NA
INWIT	INW IM
Telecom Italia	TIT IM

Source: *Group analysis*

of the top-10 components of the STOXX Europe 600 Telecommunications index whose business models are closest to NOS, which NOS uses as a benchmark for its share price performance (*Figure 57*).

To begin with, the telecommunications sector showcases very low liquidity ratios, with NOS underperforming in this section. The median current, quick and cash ratios of the analysed peers were all lower than 1.00x in 2022, and NOS did not make the exception, with current, quick, and cash ratios in 2022 of 0.52x, 0.46x, and 0.01x, respectively (*Figure 58*). In terms of activity ratios, cash conversion cycle of both the industry and NOS are negative meaning that inventories are sold first compared to when these have to be paid for (*Figure 59*). Regarding solvency ratios, NOS is financially healthier when compared to the industry peers with both interest coverage ratio and EBITDA-to-Interest ratio above the median of peers analysed, represented by 8.56x versus 3.31x and 20.62x versus 8.89x, respectively (*Figure 60*). In addition, profitability-wise, when compared to the sector, NOS is significantly more profitable with a ROA of 6.48% compared to 1.96% representative of the sector and a ROE of 21.33% versus 6.34% (*Figure 61*) of the sector, which is explained by the fact that the proportion of liabilities NOS is higher compared to its peers associated with the fact NOS also has a higher net income margin.

Figure 58 – Liquidity ratios

FY 2022	NOS	Peers
Liquidity Ratios		
Current Ratio	0.52x	0.86x
Quick Ratio	0.46x	0.80x
Cash Ratio	0.01x	0.22x

Source: *Group analysis*

Figure 59 – Cash conversion cycle

FY 2022	NOS	Peers
Cash Conversion Cycle	(95,12)	(136,50)
Average Holding Period	44,17	15,57
Average Collection Period	96,13	81,98
Average Payable Period	235,42	234,72

Source: *Group analysis*

Figure 60 – Solvency ratios

FY 2022	NOS	Peers
Solvency Ratios		
Interest Coverage Ratio	8,56x	3,31x
EBITDA-to-Interest Ratio	20,62x	8,89x

Source: *Group analysis*

With respect to capital structure, NOS has lower leverage levels compared to its industry peers, which is surprising given the telecommunications sector is very Capex intensive with requiring high levels of investment. In 2022, NOS presented net debt-to-EBITDA ratio below the industry, 2.49x against 2.99x, respectively (*Figure 62*).

Figure 61 – Profitability ratios

FY 2022	NOS	Peers
Profitability Ratios		
Return on Assets (ROA)	6,48%	1,96%
Return on Equity (ROE)	21,33%	6,34%

Source: *Group analysis*

Finally, regarding efficiency ratios, NOS is more efficient when compared to the telco sector in terms of its assets generating revenue, with an asset turnover ratio of 0.44x compared to 0.36x representative of the sector. However, in terms of inventory efficiency, NOS is less efficient compared to the industry an inventory turnover ratio of 1.70x versus 21.75x, respectively (*Figure 63*).

Figure 62 – Capital structure ratios

FY 2022	NOS	Peers
Capital Structure Ratios		
Debt-to-Equity Ratio	1.56x	1.29x
Net Debt-to-EBITDA	2.49x	2.99x

Source: *Group analysis*

Figure 63 – Efficiency ratios

FY 2022	NOS	Peers
Efficiency Ratios		
Asset Turnover Ratio	0.44x	0.36x
Inventory Turnover Ratio	1.70x	21.75x

Source: *Group analysis*

Financial Forecasts

A seasonality analysis was performed for 2023

For 2023, a seasonality analysis was performed for all elements of each business unit's income statement and balance sheet. We have decided to opt for this methodology in forecasting 2023 instead of a raw forecast based on assumptions since NOS has already reported three quarterly reports for that same year which allow to have a better of understanding of what has been occurring in 2023 and what is expected for the rest of the year.

As such, the seasonality analysis consisted in analyzing the impact of the last quarter of each element of the balance sheet and income statement, understanding the existing pattern for each item, and forecasting it according to the same trend observed.

Telco Forecast

Income Statement

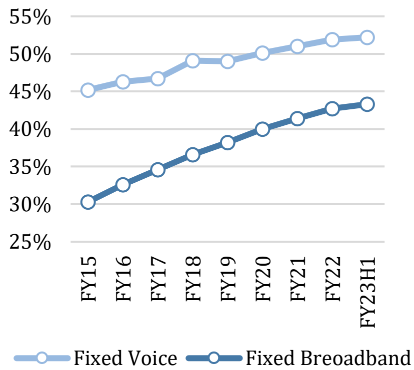
Revenue

6G is expected to appear in 2031 and NOS will capitalize on this opportunity

In developing the Telco Segment Forecast, our revenue projections rely on key drivers, including Consumer RGUs, Business RGUs, Consumer ARPU, and Business ARPU. The differentiation between these segments is crucial, leading to the development of an alternative ARPU calculated historically by dividing revenues by the respective RGUs. This approach allows us to discern and apply distinct assumptions for each segment, ensuring a more accurate analysis.

Looking ahead, the expectation is for NOS to anticipate the emergence of 6G technology, intending to implement it around 2031. Based on their historical timeline with 5G deployment, wherein they initiated it two years after its worldwide launch, NOS is expected to adopt a more aggressive schedule for 6G, aiming for a breakthrough within a year, following the success it is having with 5G.

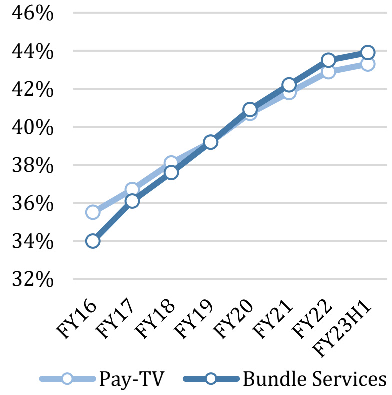
***Figure 64** – Fixed voice and fixed broadband penetration rates*



***Source:** ANACOM*

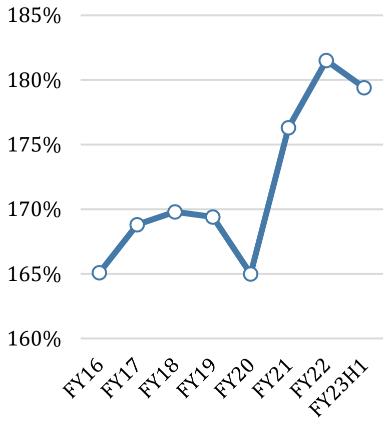
As described in a market study developed by KPMG, the Portuguese telecommunications market is characterized as a "mature market, with steady growth and high penetration". An in-depth analysis of data from

***Figure 65** – Pay-TV and bundle services penetration rates*



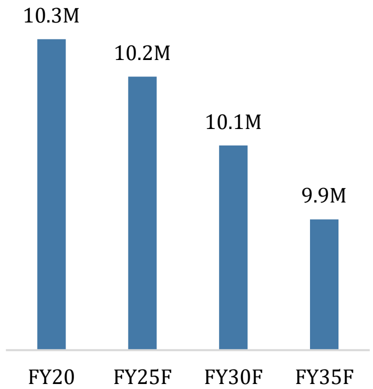
***Source:** ANACOM*

***Figure 66** – Mobile penetration rate*



***Source:** ANACOM*

***Figure 67** – Portuguese population forecasted*



***Source:** Eurostat*

ANACOM, spanning from 2016 to early 2023, reveals a consistent upward trend across various segments: Fixed Voice, Mobile, Fixed Broadband, Pay-TV, and Bundle Services (*Figures 64 & 65*). Mobile and Bundle Services are the primary contributors to the overall revenue market size, and it is apparent that the mobile sector is already extensively saturated, boasting a penetration rate of 179.4%, compared to the European average penetration rate of 146.5%, meaning that, on average, one person already holds more than one SIM card (*Figure 66*).

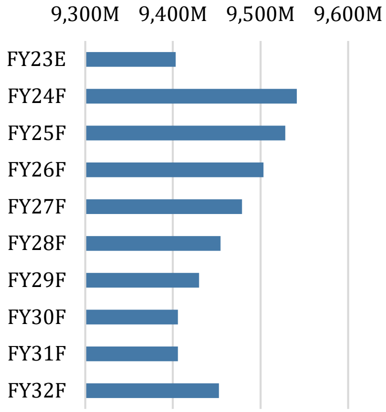
In addition to the very high penetration rates, the size of Portuguese population is expected to continue decreasing in the future. In fact, according to the Eurostat, Portuguese population is forecasted to be 10.2 million in 2025, 10.1 million in 2030 and 9.9 million in 2035 (*Figure 67*). As a result, the necessity to retain current customers has become crucial.

Consumer RGUs are projected to diminish in sync with Portugal's declining population, particularly considering the country's already substantial market penetration. However, a significant upswing in growth is anticipated around 2031, aligning with the projected introduction of 6G technology. This anticipation stems from our expectation that NOS will persist in its strategy of technological leadership, potentially attracting customers away from other companies (*Figure 68*).

Due to the lack of detailed granularity on **Business RGUs** in terms of distinguishing the number of companies and their dimensions, allowing us to comprehend the impact of new firms' entrants or exits, we anticipate the continued expansion of Business RGUs, as they have shown a positive trend since 2018, aligning with the projected growth of the Portuguese Gross Domestic Product (GDP). This expectation is rooted in the observed high correlation (76%) over the last 20 years between Portuguese real GDP and total number of Portuguese firms (*Figure 69*).

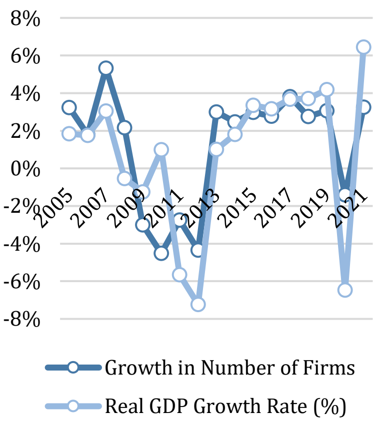
As evidenced by the observed high correlation over the last 20 years between Portuguese real GDP and the number of firms, during periods of economic expansion, GDP growth stimulates increased business activities

***Figure 68** – Consumer RGUs forecasted*



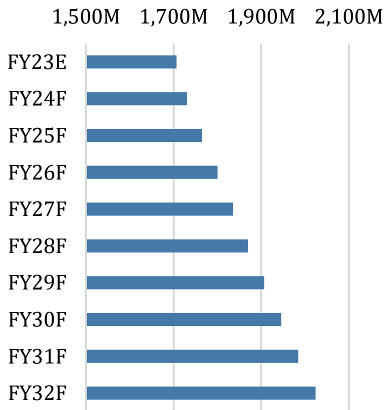
***Source:** Group estimates*

***Figure 69** – Growth in number of firms versus real GDP growth*



***Sources:** PORDATA, Group analysis*

***Figure 70** – Forecasted business RGUs*



***Source:** Group estimates*

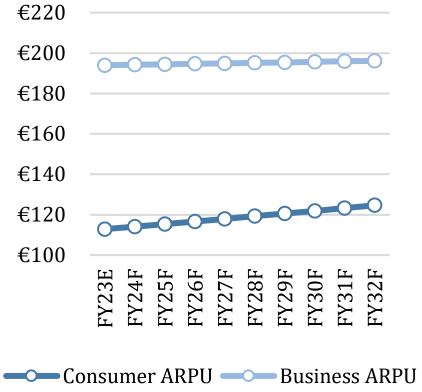
and the influx of new firms, thereby shaping market competition dynamics and altering the balance of bargaining power. In an expanding economy characterized by a higher number of firms, competition intensifies, potentially diminishing the bargaining power of individual companies.

In aligning with economic projections, we have derived our expectations for the years 2024 and 2025 from a consensus between the International Monetary Fund (IMF) and the European Commission's estimates for the real GDP growth rate in Portugal. This approach ensures that NOS' business strategies are closely linked to the overall economic climate, providing a foundation for sustainable growth. Looking ahead to the period beyond 2029, our assumption is rooted in the notion that real GDP will grow at a steady rate of 2%, as forecasted values by the IMF have been averaging towards this rate. As such, business RGUs are expected to grow at this same rate (*Figure 70*).

Furthermore, it is noteworthy that the B2B segment remains an area with significant growth potential for NOS. The Covid-19 pandemic and evolving working trends have led to the creation of new opportunities for the business sector, including a greater emphasis on remote work, prompting companies to enhance their investments in business tools like remote communication platforms. Additionally, there has been a notable surge in the incorporation of cloud infrastructure, artificial intelligence, and data analytics capabilities within organizations. Recognising the low level of exploration in this sector, NOS is prepared to capitalise on the untapped opportunities within the B2B market thanks to the recent significant investments the company has made.

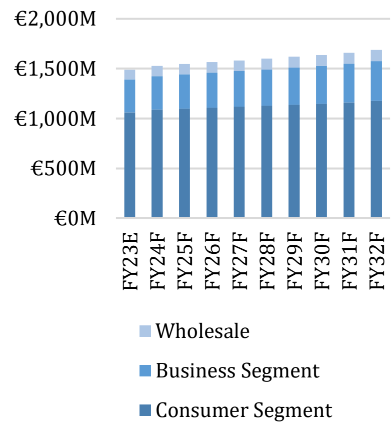
In line with NOS investor relations, there is an explicit commitment to the growth of residential ARPU closely with inflation rates. Recent data from ANACOM reveals that telco inflation over the last 13 years has been recorded at 14.4%, equating to an average annual inflation rate of 1.11%. This information underscores NOS's strategic commitment to a sustainable and inflation-linked approach, ensuring that **Consumer ARPU** grows in tandem with the prevailing economic conditions (*Figure 71*).

***Figure 71** – Forecasted consumer and business ARPU*



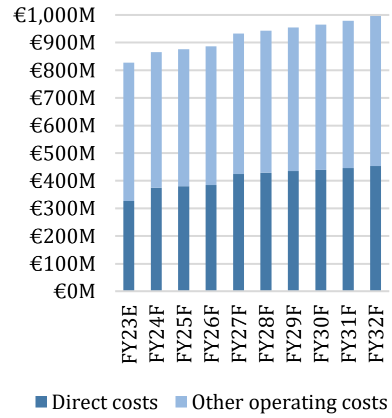
***Source:** Group estimates*

***Figure 72** – Forecasted Telco Revenue*



***Source:** Group estimates*

***Figure 73** – Forecasted operating costs for the Telco segment*



***Source:** Group estimates*

Based on an analysis of seasonality trends, the outlook for **Business ARPU** in 2023 suggests an anticipated decrease of 4.24%. Historical data indicates considerable volatility in Business ARPU, with declines observed in 2019 and 2020, followed by subsequent increases in 2021 and 2022. The unpredictable nature of these fluctuations, coupled with a lack of specific information regarding the events that precipitated them, has led us to adopt a cautious forecasting approach. Considering this, our projection foresees a positive trajectory for Business ARPU, anticipating an upward trend that aims to reach a target of €196 by the year 2032, representing an average derived from the data of the last five years (*Figure 71*). This forecast takes into account the need to mitigate the impact of past volatility, providing a more stabilized and targeted outlook for the coming years.

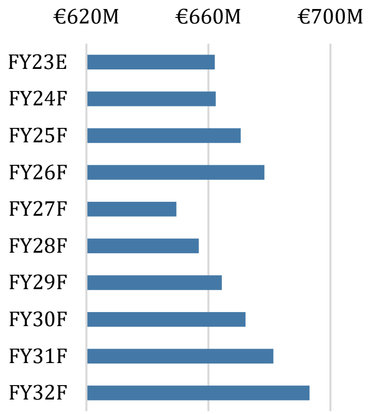
Overall, we expect revenues to increase at a CAGR of 1.71% for the next ten years (*Figure 72)*.

Operating Costs

In terms of costs, we expect to achieve cost efficiencies in 2023 and over the following three years until 2026, which stands in contrast to what was observed between 2018 and 2022 (*Figure 73*). The efficiency gains primarily result from a strategic arrangement on energy prices, with NOS having fixed approximately one third of its energy consumption at a set price through a long-term power purchase agreement (PPA) in 2021, before the current energy crisis. Direct costs that include exhibition costs, traffic costs, costs related to corporate customers services, capacity costs and shared advertising revenues constitute the largest portion of NOS' cost structure, having decreased from 2021 to 2022 due to the PPA contract signed. Recorded within costs lines are leases and other contractual rights and the spectrum licences acquired in 2021 amounting to €151.3 million.

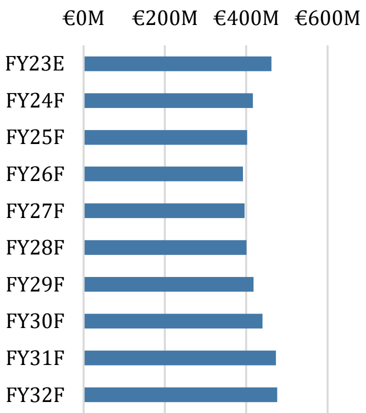
The reduction in direct costs will continue to play a pivotal role in enhancing EBITDA margins to be around 43.35% for the referring period, 2024-2026. When looking further from 2026, we anticipate all cost lines to closely align with the average percentages observed in the last six years

Figure 74 – *Forecasted EBITDA for the Telco segment*



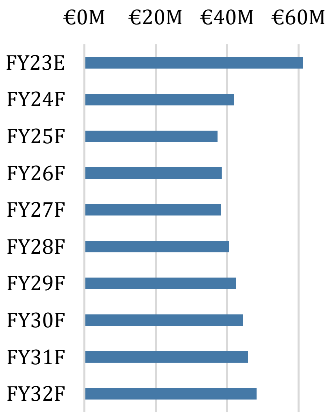
Source: *Group estimates*

Figure 75 – *Forecasted D&A for the Telco segment*



Source: *Group estimates*

Figure 76 – *Forecasted financial costs for the Telco segment*



Source: *Group estimates*

(2018-2023) relative to revenues, leading to an EBITDA Margin of 41.04%, not only reflecting the higher costs associated with leases and spectrum licenses resulting from 6G investments but also the ending of the PPA contract (*Figure 74*).

Depreciation & Amortization

NOS records depreciation & amortisation (D&A) in its tangible fixed assets (TFA), intangible assets, contract costs and rights of use. Looking at historical values, D&A in the Telco business unit as a proportion of these items has been stable at around 16,37%. As such, D&A was forecasted at this same rate for the future years until 2032, decreasing in absolute value in periods of lower investment and vice-versa. Notably, there is a significant expected increase from 2030 to 2032, corresponding to anticipated investments in 6G, aligning with historical trends (*Figure 75*).

Financial Costs

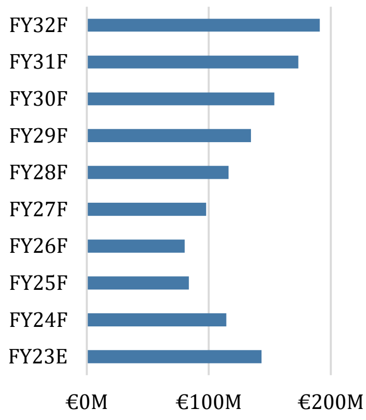
The effective interest rate NOS has been paying on its balance sheet debt has been increasing over the past two years, reaching a level of 3.9% in the third quarter of 2023, explained by the recent cycle in interest rate hikes with the global aim of taming inflation back to target levels as stated previously. Although yields have already begun to fall by the end of 2023, interest rates are expected to start decreasing from 2024 onwards.

It is also worth mentioning that the effective interest rate on NOS' book-value debt has followed historical Euribor rates, as banks charge the Euribor rate plus a premium on NOS' debt, and NOS sells bonds with variable rates plus a premium. As such, assuming a Net Debt to EBITDA target of 2.59x for this segment, as explained further in the *Debt* section, interest payments were forecasted with 6-month Euribor forward rates, moving from €31.4 million in 2022 to €48.3 million € in 2032 (*Figure 76*).

Income Tax Payments

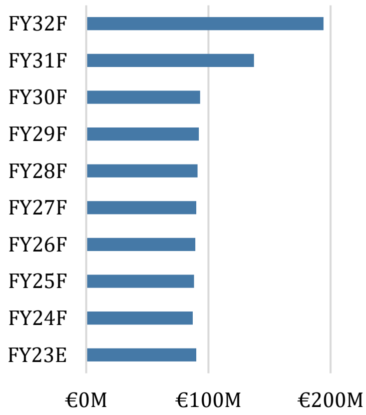
In terms of income taxes paid, NOS is expected to pay a statutory income tax rate of 22.5% every year, consisting of a 21% corporate income tax (CIT) rate plus an additional local surtax of 1.5% of taxable income. Despite that,

Figure 77 – Baseline Capex forecasted



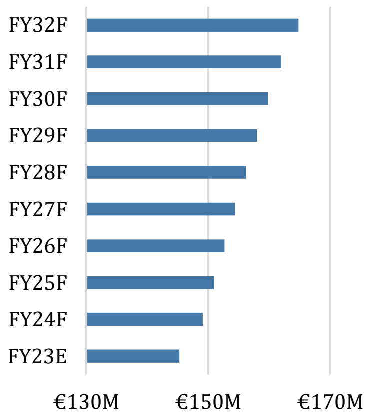
Source: *Group estimates*

Figure 78 – Network expansion Capex forecasted



Source: *Group estimates*

Figure 79 – Customer-related Capex forecasted



Source: *Group estimates*

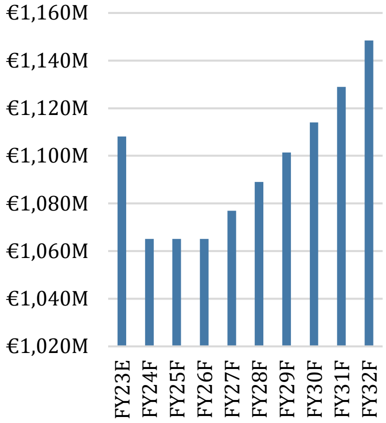
in the past, NOS always has had tax deductions and has never fully paid the applicable 22.5% rate. However, as there are no clear instructions on the steps proceeded enabling these tax deductions and the effective income tax rate has not been smooth over time, the effective income tax rate was forecasted equal to the statutory income tax rate of 22.5%.

Capex

The forecast for Telco Capex involves the subdivision into Technical Capex, including baseline and network expansion Capex, and Customer-Related Capex. NOS aims to persist in reducing its investment over the forthcoming years, planning to scale down its overall Capex to €350 million for 2025 and 2026. This strategic shift aligns with the company's post-5G deployment focus. The primary driver for the reduction in these years is expected to be the baseline Capex, which emerges as the most affected subsegment due to an anticipated slowdown in the company's research initiatives (*Figure 77*). Additionally, the network expansion Capex will also have a slight impact, as evidenced by the reduction observed in 2023, indicating a return to historical values of divestment as a percentage of revenues (*Figure 78*).

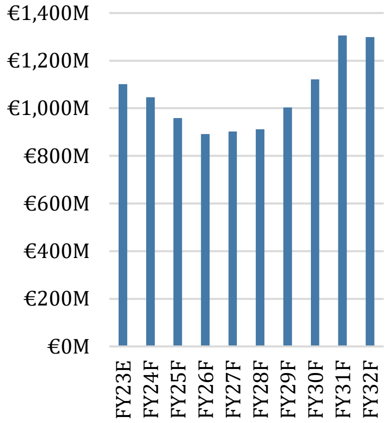
In contrast, Customer-Related Capex is expected to exert a more stable influence, representing 9.76% of revenues for the following years (*Figure 79*). This stability is attributed to the declining trend observed in the past, marked by commercial strength and the maintenance of historically low levels of churn. Therefore, we anticipate the company's continued efforts to provide superior technology to its customers, resulting in a sustained churn rate. By 2032, it is anticipated that Capex will peak again, allocating approximately 32.56% of its revenues towards telecommunication Capex. This rise is primarily driven by technical Capex, mirroring historical values as a percentage of revenues from previous technology cycles. NOS's investment strategy reflects their intention to heavily invest in 6G technology, underscoring their commitment to lead in future technological advancements and, consequently, ensure sustained growth.

***Figure 80** – Telco segment TFA forecasted*



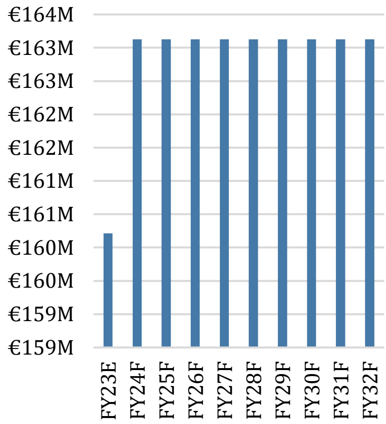
***Source:** Group estimates*

***Figure 81** – Telco segment intangible assets forecasted*



***Source:** Group estimates*

***Figure 82** – Telco segment contract costs forecasted*



***Source:** Group estimates*

It is worth mentioning again that Capex excludes leases and other contractual rights as well as spectrum licenses, being instead recorded in OPEX and distributed along direct costs, support services and other cost lines.

Balance Sheet

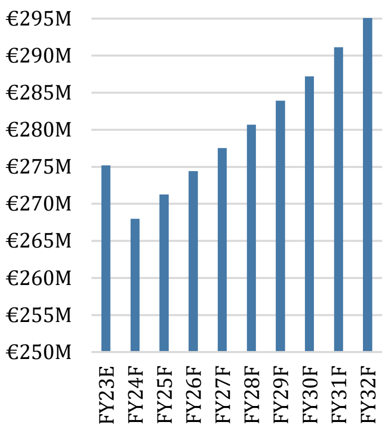
TFA, Intangible Assets, Contract Costs and Rights of use

The line items on the Balance Sheet, namely TFA, Intangible Assets, Contract Costs, and Rights of Use, are crucial elements for calculating depreciation. NOS' depreciation accounting policy involves applying a percentage to these items. In the case of TFA, we anticipate a slight decrease over the next three years, attributed to the disposal of NOS towers to Cellnex in 2020 and the company's inclination to sell more towers from 2024 to 2026, as this period is characterized for divestment and cash-in (*Figure 80*).
Intangible assets, particularly affected by the reduction in Capex investment due to the completion of R&D for 5G, are modelled in 2025-2027 to replicate the values from 2017-2019, that reflect lower Capex investment. This approach accounts for a lag effect and anticipates a subsequent recovery attributable to the adoption of new technology, 6G (*Figure 81*).
Contract costs have consistently fallen within a range of €160 million to €171 million historically. As such, we anticipate that this established trend will persist in the foreseeable future, growing from €160.2 million in 2023 to €163.1 million in 2032 (*Figure 82*).
For the Rights of Use, we are using a historical average as a percentage of revenues from the last three years, considering the tower sale to Cellnex. We believe that rental agreements for telecommunications towers, equipment, shops, and vehicles, as well as the exclusive acquisition of satellite capacity, will remain similar to the previous period (*Figure 83*).

Net Working Capital

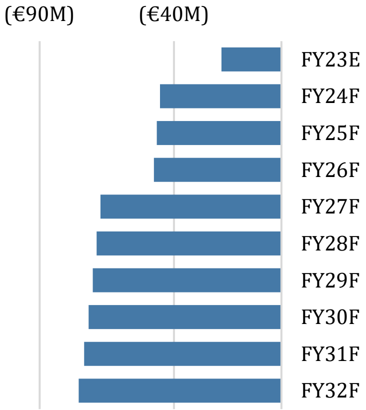
Net Working Capital items include all current assets net of current liabilities, excluding short-term debt. All components of NWC were determined as stable percentages of revenues obtained from historical analysis, apart from Inventories, Accounts Receivables, and Accounts Payable. These latter three

Figure 83 – *Telco segment rights of use forecasted*



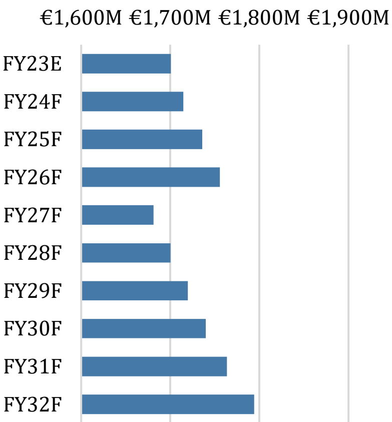
Source: *Group estimates*

Figure 84 – *Telco segment NWC forecasted*



Source: *Group estimates*

Figure 85 – *Telco segment Debt forecasted*



Source: *Group estimates*

items were calculated based on average holding periods, average collection periods, and average payable periods, respectively (*Appendix 17*).

Historically, NOS Telco has maintained a negative NWC except for 2020, which saw a significant increase due to the sale of its towers. Despite having accounts receivable exceeding accounts payable, the NWC remains negative, mainly impacted by accrued expenses. These costs are primarily driven by short-term investments in tangible and intangible assets, along with outstanding invoices pending issuance by operators. As a result, NWC projected to remain negative for all forecasted periods, gradually converging towards the historical average target in 2032. Overall, the negative NWC reflects the company's short-term significant investments in growth and expansion. This is not a cause for concern as long as the company maintains its ability to pay its short-term debt obligations (*Figure 84*).

Debt

NOS has two internal targets concerning financial health. The first consists in maintaining a Net Debt to EBITDA AL ratio maximum of 2x whilst the second regards keeping the Net Debt to EBITDA ratio below 2.5x on a consolidated basis. Consequently, our projections align with the firm's objectives, indicating a forecasted Net Debt to EBITDA value of 2.59x for the next 9 years for this segment, representing the average of the four previous years (*Figure 85*). These projections consider the firm's goal to increase its level of debt in the short term. Despite shareholder pressure to increase leverage and potential fluctuations in the economic cycle, NOS is committed to maintain the specified target on a consolidated basis.

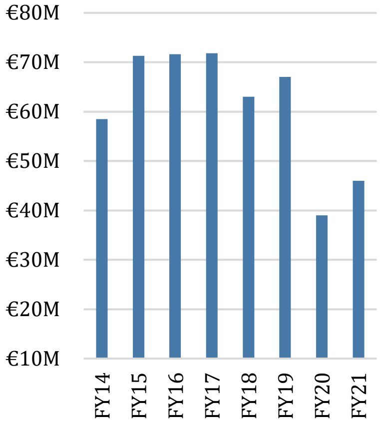
Media and Entertainment Forecast

Income Statement

Revenue

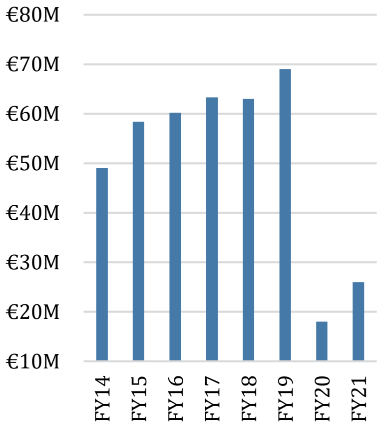
As stated before, Covid-19 had a substantial impact on the M&E segment, especially in the subsegment cinema, which took a massive hit in revenues, going from €69 million in 2019 to €18 million in 2020 (a decrease of 74%). On the other hand, the revenue from the audiovisuals' subsegment

***Figure 86** – Audiovisuals subsegment Revenues*



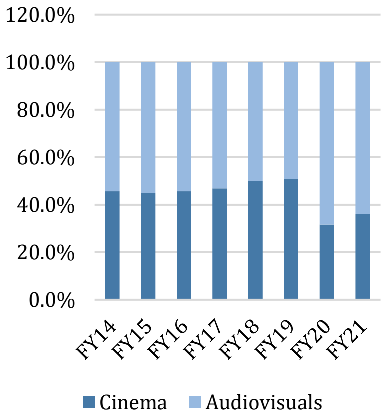
***Source:** Company's annual management reports*

***Figure 87** – Cinema subsegment Revenues*



***Source:** Company's annual management reports*

***Figure 88** – Revenue distribution between audiovisuals and cinema*

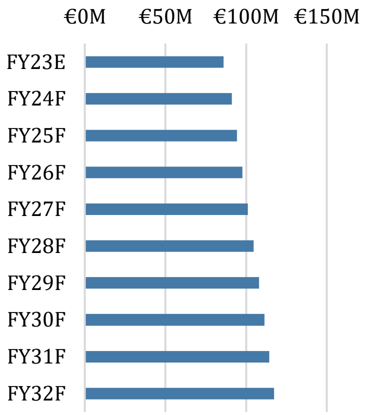


***Source:** Group analysis*

decreased from €67 million to €39 million (a decrease of 42%) during the same period (*Figures 86 & 87*). Before this hit, the cinema subsegment had been improving its revenues compared to the audiovisuals subsegment reflected by the increase in the ratio of cinema & audiovisuals to 1pp per year to reach the same revenues by 2018 and surpass it in 2019 (*Figure 88*). This hit caused the cinema's subsegment to go from having 50.7% of total segment revenue to 31.6%. Consequently, from 2021 onwards, NOS decided to merge the revenues of both subsegments, and it became no longer possible to have accurate numbers of both subsegment's revenues separately. Before the pandemic hit, Cinemas' subsegment revenue growth rate averaged around 5.51% between 2014 and 2019, excluding intra-group eliminations with the Audiovisuals' one. The Audiovisuals subsegment in the last couple of years has been more unpredictable regarding revenues. However, even before the pandemic hit, it showed signs of decreasing growth, averaging around 2.52% historical growth in the same time frame, also excluding eliminations.

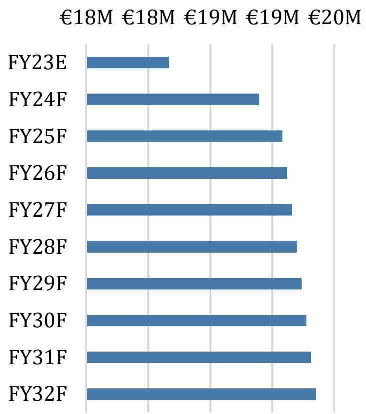
Both subsegments have two main lines consolidated in the income statement that account for revenues, i.e., services rendered and sales, in addition to a third one consisting in other operating revenue with lower impact. Services Rendered includes box office revenue from NOS Cinemas, revenue relating to film distribution to other cinema exhibitors in Portugal, advertising revenues on cinemas, revenues related to the production of audiovisual content through the compilation of acquired contents, and distribution of channels and others. Secondly, the sales line includes sales of bar products by NOS Cinemas and DVD sales. Looking at consolidated operating revenues given by NOS in their reports (*Appendix 18*), we can have a better overview of these revenues as they are shown net of inter-company eliminations. However, before 2018, inclusively, NOS was not reporting a breakdown of their services rendered sources and only divided it by segments, making it impossible to have a look at the growth of each source in the previous years, especially before the pandemic hit.

***Figure 89** – Services Rendered Forecast*



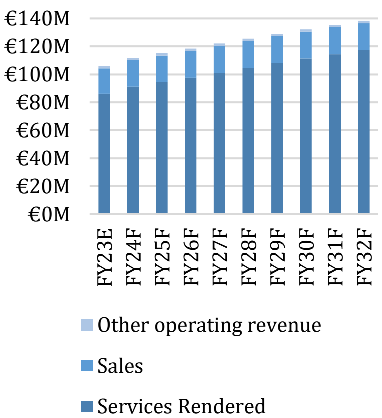
***Source:** Group estimates*

***Figure 90** – Sales Forecast*



***Source:** Group estimates*

***Figure 91** – M&E Total Revenues Forecast*



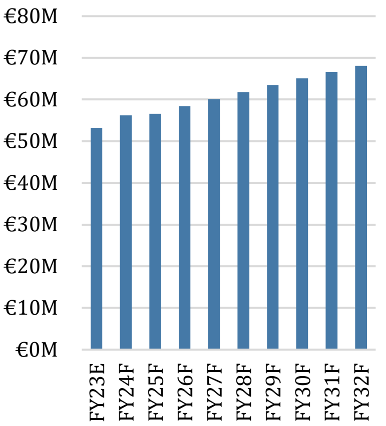
***Source:** Group estimates*

Services Rendered: We expect that the Audiovisuals and cinemas sub-segment will return to near pre-pandemic revenue levels by 2026, with each subsegment having around the same levels of revenues again. NOS cinema ticket prices, since 2015, have increased on average 3.33% per year, which is in line with the worldwide price increase of 3% over the years, increasing from €4.7 to €5.9 in the last eight years. This, together with the increase in the number of tickets sold in Portugal, that averaged an increase of 1.62% per year between 2015 and 2019, alongside the assumption that cinemas advertising is proportional to the revenue coming from the box offices, makes us expect the services rendered of cinema to increase on average 4.6% per year. The growth of the audiovisual subsegment revenues during 2015-2019 (2.52%) was smaller than the one observed in the cinema subsegment (5.51%), so we expect the audiovisuals segment to grow around 2.1%, following the growth proportion observed in the past. With this, we expect that after 2026, services rendered from all segments of M&E (including both sub-segments) will increase by around 3.5% per year, as we also expect the cinema subsegment to recover and surpass the audiovisuals one. After 2029, we expect this growth to start decreasing as the market gets more mature (*Figure 89*).

Sales: The pandemic significantly impacted NOS Cinemas' bar product sales. With cinema closures in 2020, DVD sales became the primary revenue source. While NOS's DVD sales were not heavily affected, they continued declining due to the shift towards digital distribution and streaming platforms. This trend is expected to persist in the upcoming years. Considering the average sales growth of -0.77% from 2015 to 2019, the recent period of high inflation is unlikely to sustain the previous growth surge. As a result, minimal sales growth is anticipated post-2025 following this inflationary period (*Figure 90*).

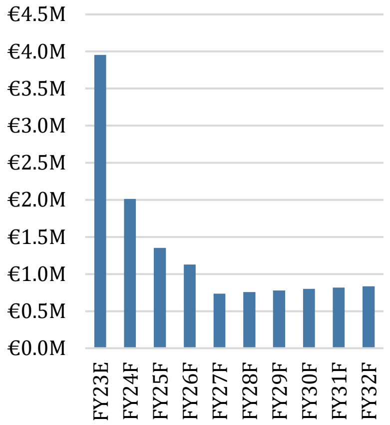
Other operating revenues: We expect this item to follow its historical average, excluding the pandemic year of 2020, of -0.07%.

Figure 92 – *M&E Operating Costs Forecast*



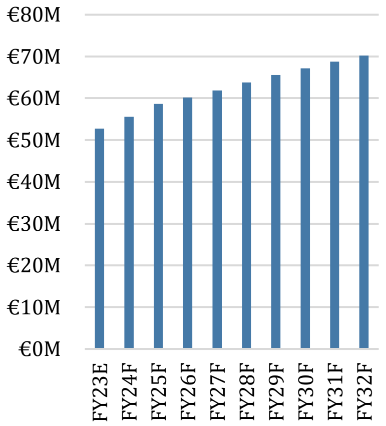
Source: *Group estimates*

Figure 93 – *M&E COGS Forecast*



Source: *Group estimates*

Figure 94 – *M&E EBITDA Forecast*



Source: *Group estimates*

Overall, we expect revenues to increase at a CAGR of 3.98% for the next ten years until 2032, hugely influenced by the years of recovering 2023 and 2024 (*Figure 91*).

Operating Costs

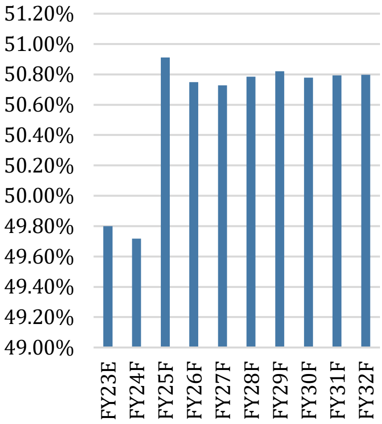
Regarding the cost forecast, we assumed the historical proportion of revenue over past years without considering the years affected by Covid-19, as we expect costs to return to pre-pandemic levels in subsequent years (*Figure 92*). It is important to note that, in 2020 and 2021, the proportion of wages and salaries expenses to revenue substantially increased. This was a consequence of the decrease in revenues and the fact that these costs did not decrease proportionally, mainly due to layoffs during lockdown periods. As a result, we anticipate a recovery just in 2024, also influenced by the prevailing inflationary pressures. For the cost of products sold, since 2021, there has been an increase in the price of raw materials in general, including energy, generating a chain effect and leading to a very generalised increase in the price of goods and services and the consequent increase in inflation, so we expect in next years these prices to fall when inflation returns to normal levels (*Figure 93*). Another aspect to mention is the supplies and external services, that given the application of IFRS 16 (practical expedient to consider the changes/concessions related to COVID-19 as not being a modification to the lease), discounts from rents were recognised on this item.

Following the implementation of IFRS 16 and considering the existing forecasts for operating cost lines, EBITDA is expected to grow from €52.8 million to €70.3 million from 2023 to 2032, respectively (*Figure 94*). EBITDA margin is expected to stabilize at approximately 50% in the coming years, aligning with the most recent trend observed in the sector (*Figure 95*).

Depreciation & Amortization

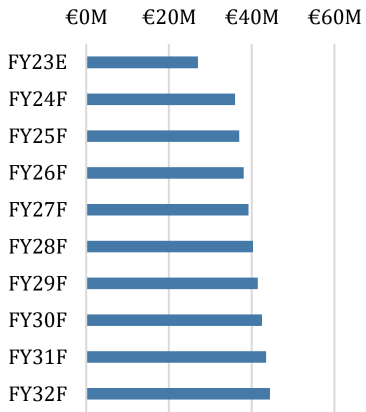
As explained previously, D&A results from TFA, intangible assets, contract costs and rights of use. Excluding 2020 and 2021, in which this segment was heavily affected, from 2018 until the expected level of 2023, D&A as a proportion of these items has been fluctuating around 24.12%. As such,

Figure 95 – M&E EBITDA Margin Forecast



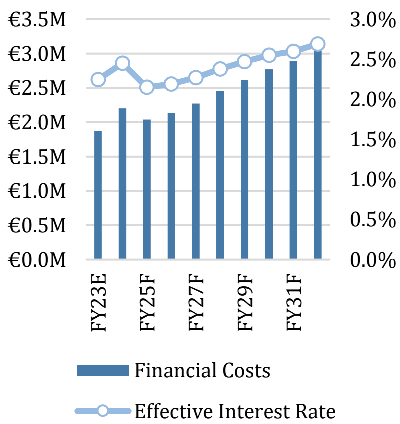
Source: *Group estimates*

Figure 96 – M&E D&A Forecast



Source: *Group estimates*

Figure 97 – M&E Financial Costs Forecast



Source: *Group estimates*

given that the expected level of investment in this segment is expected to remain relatively stable in revenue proportions, as explained with more detail in the *Capex* section, this same rate of 24.12% was used to forecast D&A for the M&E segment. As such, D&A is expected to move from €27 million in 2023 to €44.4 million in 2032 (*Figure 96*).

Financial Costs

As explained above, the effective interest rate NOS is expected to pay on its book-value debt equals 6-month forward Euribor rates. Consequently, assuming a Debt to EBITDA ratio of 1.62x as explained in more detail in the *Debt* section for this segment, interest payments for the M&E segment are expected to move from €1.9 million in 2022 to €3.1 million in 2032 (*Figure 97*).

Income Tax Payments

As stated previously, the forecasted effective income tax rate charged to NOS is 22.5% equal to the statutory income tax rate.

Capex

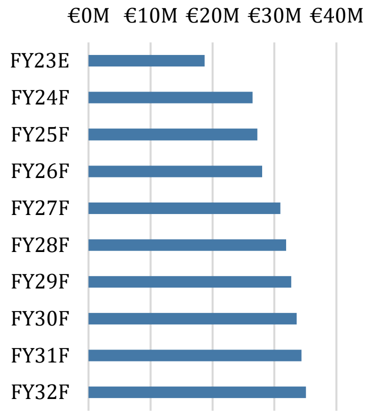
M&E Capex is anticipated to align with revenue percentage weight in most years, except for a deviation in 2020 due to pandemic-induced revenue drops. This consistent alignment signifies a stable approach to investment within this segment, totalling 23.65% during the period of Capex divestment and 25.37% for the subsequent periods (*Figure 98*).

Balance Sheet

TFA, Intangible Assets and Rights of use

There was a temporary decline in tangible fixed assets during the pandemic period. However, we anticipate a return to pre-pandemic levels, followed by an increase aligned with revenue. This increase will be a fixed percentage of 9.92% in terms of revenues, calculated based on the historical average weight of these assets as proportions of revenues.

***Figure 98** – M&E CAPEX Forecast*



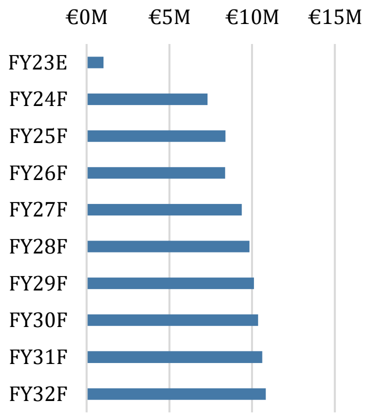
***Source:** Group estimates*

Similarly, the pandemic impacted intangible assets, and we are employing a similar approach, i.e., anticipating a recovery to previous levels and subsequent growth correlated with revenues based on historical percentages. For Rights of Use, in 2022, NOS invested €27.2 million in acquiring usage rights for movies and television series. In the first nine months of 2023, an additional €8.5 million were spent, significantly higher than previous years (*Appendix 19*). We foresee this trend of increased spending to continue.

Net Working Capital

The components constituting NWC were also derived as percentages of revenue, except for Inventories, Accounts Receivables, and Accounts Payable, which were calculated according to average holding period, average collection period, and average payable periods formulas, respectively (*Appendix 20*). We anticipate a gradual recovery and a consistent uptrend in net working capital for this segment, indicating a positive enhancement in the NWC position, reflecting improved operational liquidity and efficiency (*Figure 99*).

***Figure 99** – M&E NWC Forecast*



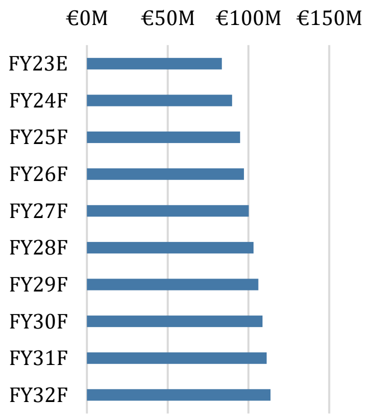
***Source:** Group estimates*

Debt

Having in mind the consolidated Debt to EBITDA target of 2.5x NOS sets in consolidated terms, the assumed target level of leverage for the M&E segment goes in accordance with management's expectations.

Having mentioned it previously, due to shareholder pressure exerted on NOS to increase leverage associated with the recent increasing trend regarding the increased proportion of debt on the capital structure observed for this segment, a Debt to EBITDA ratio of 1.62x was assumed. This ratio is higher than the one observed since 2021, allowing the firm to increase leverage whilst, at the same time, being able to maintain the consolidated Net Debt to EBITDA ratio at 2.49x, i.e., slightly below the company's internal target. As such, debt is expected to move from €78.1 million in 2022 to €113.6 million in 2032 (*Figure 100*).

***Figure 100** – M&E Debt Forecast*



***Source:** Group estimates*

Valuation

Telco DCF Valuation

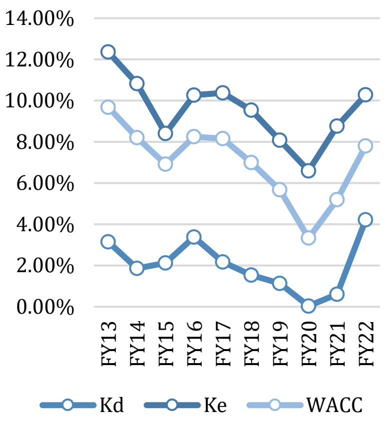
WACC

According to Bloomberg, NOS' WACC evolution may be divided in two main periods. The first happens between 2016 and 2020, when it consistently decreased year-on-year due to the constant decreases in interest rates. However, in 2021 and 2022, NOS' cost of capital increased. This rise was more significant in the latter due to the significant rise in cost of debt, associated to the increases in interest rates (*Figure 101*).

To obtain the post-tax WACC, a target capital structure, after-tax cost of debt, and cost of equity were first determined.

Cost of debt (Kd) was computed as the sum of risk-free rate (r_f), country risk premium (CRP) and the synthetic credit spread according to NOS credit rating. The r_f assumed was the 10-year German bond yield at 2.03%, as these are the most risk-free bonds in Europe. CRP used was 0.74% consisting in the difference between Portugal's 10-year government bond yields of 2.77% and the 10-year German bond yield. NOS' credit spread of 2% was obtained by directly converting NOS' credit rating of BBB according to Damodaran's estimates. Consequently, using the 22.5% statutory tax rate NOS faces yearly, an after-tax Kd of 3.7% was obtained. For the target capital structure, there were two options available: analysing NOS' historical capital structure and understanding whether there was a pattern versus making a consensus with other European Telco operators with mixed capital structures, i.e., some players more levered than others, given NOS' intention to increase debt whilst being cautious about solvency issues. Given that the past showcases NOS to have had very low leverage levels, the historical analysis was not reasonable. Consequently, the target capital structure used was a D/E ratio of 0.97x, obtained by taking the median D/E of the peers analysed, including NOS (*Figure 102*). Finally, cost of equity (Ke) was computed with the CAPM formula. The r_f used was 2.03%. Using NOS raw beta of 0.85 and its current D/E ratio of 0.69x, NOS' unlevered beta obtained was 0.64, leading to a re-levered beta of 0.94 according to the new target capital structure. Equity risk-premium (ERP) used was 8.2% equal to the median ERP for Portugal obtained from estimates conducted by 40 finance professors,

Figure 101 *– NOS historical cost of capital*



Source: *Bloomberg*

Figure 102 *– Telco peers D/E ratio as of 2022*

Ticker	D/E 2022
NOS	0.69x
VOD	1.67x
DTE GR	6.28x
TEF	1.68x
ELISA.HE	0.17x
ORA	1.52x
CLNX SM	1.01x
KPN NA	0.54x
INW IM	0.46x
TIT IM	6.90x
SCMN SW	0.30x
TEL NO	0.93x
Target	**0.97x**

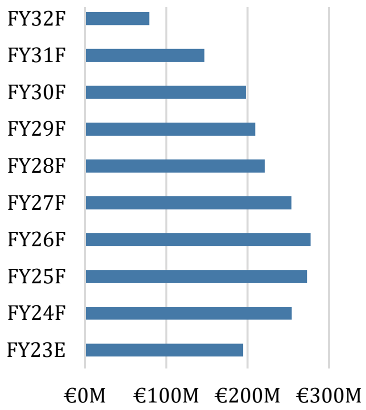
Source: *Bloomberg, Group analysis*

Figure 103 *– Telco segment post-tax WACC*

Telco Segment Post-Tax WACC	
D/E Target	**0.97x**
D/E 2022	0.69x
NOS Raw Beta	0.85
Unlevered Beta	**0.64**
Tax Rate	22.50%
Rf	2.03%
Portugal 10-Year Gov Bond Yield	2.77%
CRP	0.74%
Credit Spread (BBB)	2.00%
Kd	4.77%
After-Tax Kd	**3.70%**
Debt Beta	0.33
Relevered Equity Beta	**0.94**
Rf	2.03%
ERP	8.20%
Ke	**9.70%**
WACC (Post-Tax)	**6.75%**

Source: *Group estimates*

Figure 104 – *Telco FCF forecasted*



Source: *Group estimates*

Figure 105 – *Telco Estimated EV (Base-Case)*

Telco Enterprise Value (Base-Case)	
Sum of Discounted Free Cashflow	€1,459M
Present Value of Terminal Value	€2,100M
Telco Enterprise Value	**€3,559M**

Source: *Group estimates*

Figure 106 – *Telco WACC range*

	Min	Median	Max
Rf	2.03%	2.03%	2.03%
βd	0.33	0.33	0.33
βu	0.64	0.64	0.64
Target D/E	0.17x	0.97x	1.67x
Relevered βe	**0.69**	**0.94**	**1.15**
ERP	8.20%	8.20%	8.20%
Ke	**7.68%**	**9.70%**	**11.48%**
Kd	4.77%	4.77%	4.77%
Tax Rate	22.50%	22.50%	22.50%
Post-Tax WACC	**7.10%**	**6.75%**	**6.61%**

Source: *Group estimates*

Figure 107 – *Telco EV sensitivity analysis*

€3,558.6M	7.10%	6.75%	6.61%
0.81%	€3,262.1M	€3,446.6M	€3,523.9M
0.96%	€3,309.4M	€3,501.1M	€3,581.6M
1.11%	€3,359.1M	**€3,558.6M**	€3,642.5M
1.26%	€3,411.3M	€3,619.2M	€3,706.9M
1.41%	€3,466.3M	€3,683.2M	€3,774.9M

Source: *Group estimates*

Figure 108 – *M&E peers D/E ratio as of 2022*

Ticker	D/E
NOS	0.69x
IMAX US	0.35x
MAJOR.BK	0.30x
AMC	4.76x
CNK	3.62x
Target	**0.69x**

Source: *Bloomberg, Group analysis*

available on Statista. Consequently, the Ke and after-tax WACC obtained were 9.7% and 6.75 %, respectively (*Figure 103*).

Terminal Growth Rate

The telecommunications industry is characterized by the constant emergence of new technologies, causing significant disruptions in company cash flows. Due to the absence of a clear steady state, an average from the entire FCF cycle was employed to mitigate the risk of an unrepresentative final cash flow. This precaution is particularly relevant in our valuation due to the expected investment in 6G, in the last two forecasted years.

Given that the telecommunications sector in Portugal is already too saturated, penetration rates are hitting all-time records, and the size of the Portuguese population is expected to decline over time, a terminal growth rate (TGR) of 1.11% was used considering inflation cyclicality of the sector and all significant fluctuations that may happen in the sector as verified in the past.

Enterprise Value & Sensitivity Analysis

After forecasting all relevant items, it was possible to forecast unlevered free cash cashflow (FCF) (*Figure 104*). With a post-tax WACC of 6.75% and TGR of 1.11%, the obtained enterprise value (EV) for this business unit was €3,558.6 million (*Figure 105*).

By assuming different target capital structures according to the minimum, quartiles, median and maximum of comparable firms analysed, post-tax WACC may vary between 6.61% and 7.10% (*Figure 106*). In addition to the possible range of values for WACC, TGR may also vary between 0.81% and 1.41% (i.e., 0.3% below or above, respectively). Consequently, according to the different ranges for the post-tax WACC and TGR, EV for the Telco business may vary from €3,262.1 million to €3,774.9 million (*Figure 107*).

Media and Entertainment DCF Valuation

WACC

The M&E business unit faces a different level of systematic risk from the Telco one. As such, a distinct post-tax WACC was estimated.

Figure 109 *– M&E peers βu*

Ticker	βu
NOS	0.64
IMAX US	1.19
MAJOR.BK	0.82
AMC	1.79
CNK	0.90
Target	**1.06**

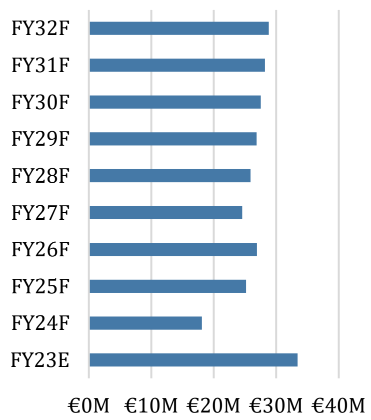
Source: *Group estimates*

Figure 110 *– M&E segment post-tax WACC*

M&E Segment Post-Tax WACC	
D/E Target	**0.69**
Unlevered Beta	**1.06**
Tax Rate	22.50%
Rf	2.03%
Portugal 10-Year Gov Bond Yield	2.77%
CRP	0.74%
Credit Spread (BBB)	2.00%
Kd	4.77%
After-Tax Kd	**3.70%**
Debt Beta	0.33
Levered Equity Beta	1.57
Rf	2.03%
ERP	8.20%
Ke	**14.91%**
WACC (post-tax)	**10.32%**

Source: *Group estimates*

Figure 111 *– M&E FCF forecasted*



Source: *Group estimates*

Figure 112 *– M&E EV (base-case)*

M&E Eenterprise Value (Base-Case)	
Sum of Discounted Free Cashflow	€143M
Present Value of Terminal Value	€150M
M&E Enterprise Value	**€293M**

Source: *Group estimates*

The target 0.69x D/E ratio used was obtained according to an analysis performed on a list of comparable firms with similar business operations (*Figure 108*). Instead of unlevering NOS raw beta, the unlevered beta used was 1.06 corresponding to the target of its peers' unlevered betas obtained according to each company's capital structure (*Figure 109*). After-tax Kd obtained was 3.70%, using a r_f of 2.03%, CRP of 0.74%, credit spread of 2%, and statutory tax rate of 22.5%. Using the 1.06 unlevered beta, a levered beta of 1.55 was obtained according to the new assumed target capital structure. Consequently, with a levered beta of 1.57, r_f of 2.03% and ERP of 8.2%, Ke and post-tax WACC were estimated to be 14.91% and 10.32%, respectively (*Figure 110*).

Terminal Growth Rate

The Media and Entertainment (M&E) segment is anticipated to experience healthy and gradual growth, reaching a steady state by 2032. As such, the TGR used for this business was 2.23%, since it reflects a long-term growth rate that is consistent with the company's historical performance and industry trends. It's noteworthy that this forecast aligns with the Nominal GDP growth rate estimated by the IMF and the Portuguese inflation rate, underscoring its alignment with broader economic indicators.

Enterprise Value & Sensitivity Analysis

Having forecasted NOPLAT, D&A, Capex, and changes in NWC, unlevered FCF were forecasted for the M&E segment (*Figure 111*). With a post-tax WACC of 10.32% and TGR of 2.23%, the obtained EV for this business unit was €293.2 million (*Figure 112*).

Assuming different target D/E ratios according to the minimum, quartiles, median and maximum of comparable firms analysed, post-tax WACC may vary between 9.76% and 10.40% (*Figure 113*). TGR may also vary between 2% and 2.45% (i.e., 0.125% up and down variations, respectively). Consequently, according to the different ranges for the post-tax WACC and TGR, EV for the M&E business may vary between €288.8 million and €297.9 million (*Figure* 114).

Figure 113 – *M&E WACC range*

	Min	Median	Max
Rf	2.03%	2.03%	2.03%
βd	0.33	0.33	0.33
βu	1.06	1.06	1.06
Target D/E	0.30x	0.69x	4.76x
Relevered βe	**1.28**	**1.57**	**4.56**
ERP	8.20%	8.20%	8.20%
Ke	**12.56%**	**14.91%**	**39.45%**
Kd	4.77%	4.77%	4.77%
Tax Rate	22.50%	22.50%	22.50%
Post-Tax WACC	**10.50%**	**10.32%**	**9.90%**

Source: *Group estimates*

Figure 114 – *M&E EV sensitivity analysis*

€293.2M	10.50%	10.32%	9.90%
2.00%	€288.8M	€288.8M	€288.8M
2.11%	€291.0M	€291.0M	€291.0M
2.23%	€293.2M	**€293.2M**	€293.2M
2.34%	€295.6M	€295.6M	€295.6M
2.45%	€297.9M	€297.9M	€297.9M

Source: *Group estimates*

Figure 115 – *Factor used to forecast FCF of each joint-venture*

Joint Venture	Factor
Sport TV	2.81%
FINSTAR/ZAP	4.41%
Dreamia	0.54%
MSTAR	0.51%
Upstar	0.38%
Dualgrid	0.02%

Source: *Group analysis*

The level of risk for ZAP Media is significantly different

Joint Ventures

Given the lack of information available and the low significance level of each joint-venture's revenue, the valuation performed here was more simplistic. Initially, using data provided by SABI, a traditional DCF valuation was conducted for Sport TV. However, when forecasting, we encountered vital issues related with high volatility in historical figures that could not be overlooked or solved. Therefore, we decided not to continue this path, and opted to value this joint-venture with the same methodology used for the remaining ones.

Besides Dreamia which operates in the M&E segment, all the remaining joint ventures operate in the Telco segment. Due to the inexistence of more precise financial data about each company, the traditional DCF valuation was not attainable. Instead, the methodology used consisted in bundling-up all joint-ventures and calculating their valuation combined as explained below. Knowing the equity stake NOS holds in each company as well as the proportion of each joint-venture's revenue in terms of NOS Telco and M&E revenue depending on the segment in which they operate, each joint-venture's unlevered FCF was forecasted as a proportion of NOS Telco or M&E businesses' FCF by a factor equal to the multiplication of the two variables mentioned before. As such, Dreamia's unlevered FCF was forecasted as 0.54% of the M&E segment unlevered FCF, equal to the equity stake NOS holds in Dreamia (50%) multiplied by the proportion of its revenue in terms of NOS audiovisuals business revenue (1.09%). All the remaining joint ventures' unlevered FCF were forecasted using the same approach explained previously, but instead using the unlevered FCF of the Telco segment (*Figure 115*).

Besides ZAP Media and Finstar, the remaining joint-ventures FCF were discounted at the post-tax WACC of NOS Telco and M&E segments, depending on the segment in which they operate. However, for ZAP Media and Finstar, a post-tax WACC of 16.10% was used as this is a relevant joint venture with a systematic risk very different from NOS' Telco business.

Figure 116 *– List of African Telco operators*

Company Name
MTN Group
Safaricom
Vodacom Group
Sonatel
Telkom SA SOC Limited
Blue Label Telecom
Maroc Telecom
Airtel Africa

Source: *Group analysis*

Figure 117 *– African Telco operators D/E ratios and βu*

Company Name	D/E	βu
MTN Group	0.87x	0.62
Safaricom	0.23x	0.50
Vodacom Group	0.39x	0.57
Sonatel	0.25x	0.40
Telkom SA SOC Limited	0.17x	0.93
Blue Label Telecom	0.34x	0.65
Maroc Telecom	0.25x	0.37
Airtel Africa	0.91x	0.74
Target	**0.29x**	**0.58**

Source: *Bloomberg, Group estimates*

Figure 118 *– ZAP Media estimated post-tax WACC*

ZAP Media Post-tax WACC	
D/E Target	**0.29x**
Unlevered Beta	**0.58**
Tax Rate	35%
Rf	9.77%
CRP	6.95%
Credit Spread	1.22%
Kd	17.94%
After-Tax Kd	**11.66%**
Debt Beta	0.55
Relevered Equity Beta	0.59
Rf	9.77%
MMP	6%
ERP	12.95%
Ke	**17.41%**
WACC (Post-Tax)	**16.10%**

Source: *Group estimates*

Figure 119 *– Joint-ventures EV (base-case)*

Joint-Ventures Enterprise Value	
ZAP Media & Finstar Enterprise Value	€48M
Telco Joint-Ventures Enterpise Value	€71M
Dreamia Enterprise Value	€8M
Total Joint-Ventures EV	**€127M**

Source: *Group estimates*

The WACC mentioned previously was computed based on comparable publicly traded African Telco operators (*Figure 116*). A r_f of 9.77% was used corresponding to the yield of South Africa 10-year government bonds, due to the low credit rating on its debt with a rating of Ba2. A CRP of 6.95% consisted in Angola's default rate according to its sovereign rate of B3 attributed by Moody's, and the credit spread of 1.22% used consisted in the median of comparable firms' analysis. The tax rate assumed was 35% equal to the CIT rate for Angola, according to PwC. Consequently, a 11.66% after-tax Kd was estimated. The target D/E ratio of 0.29x used was obtained by taking the median of the comparable firms' D/E ratio. Finally, Ke used was computed using the CAPM equation. The r_f used was 9.77%. The 0.59 re-levered beta was obtained by re-levering the median unlevered beta of 0.58 computed from comparable firms to the assumed target D/E ratio (*Figure 117*). Finally, the ERP used was 12.95% computed by our team as Angola's CRP of 6.95% added to a mature market premium (MMP) of 6%. As such, a Ke and post-tax WACC of 17.41% and 16.10% were obtained, respectively (*Figure 118*).

For the Telco joint-ventures, the TGR used to estimate terminal value was 1.11% equal to the TGR assumed for NOS Telco business. On the other hand, a TGR of 2.23% was used to obtain Dreamia's terminal value, equal to the one assumed for NOS' M&E segment.

Finally, having obtained the EV for each joint-venture individually, the overall EV attributable to NOS was estimated at €127 million (*Figure 119*).

Scenarios

Following establishing a base-case scenario, we opted to develop both an optimistic and a pessimistic case, incorporating various assumptions to account for potential alternative outcomes and to complement our analysis. Leveraging historical data on Portugal's real GDP growth from 1982 to 2022, we applied a methodical approach to assign probabilities to these scenarios. Our analysis revealed that the average growth rate of Portuguese real GDP over this period stood at 2.41%, so we considered a threshold of approximately 3.5pp deviation from this average to delineate between positive and negative deviations. Upon examining the historical data, we identified six years with growth inferior to -1.09% and seven years with growth superior to 5.91%, thereby allowing us to quantify these extreme scenarios as 67.5% for the base-case, 17.5% for a better-case, and 15.0% for a worse-case scenario (*Figure 120*).

Figure 120 *– Scenario probabilities*

Scenario	Probability
Base-Case	67.50%
Better-Case	17.50%
Worse-Case	15.00%

Source: *Group estimates*

It is crucial to emphasize that only the assumptions mentioned below undergo changes, while all other variables remain consistent across each scenario.

Telco Segment

In the better-case scenario, we project that the introduction of 6G technology will accelerate the growth of Consumer RGUs at a faster rate compared to our base scenario, specifically with an additional increase of 0.5% in both 2031 and 2032. This implies a new 10-year revenue CAGR of 1.78% and an EV of €3,570.2 million (*Figure 121*).

Figure 121 *– Telco segment EV (better-case scenario)*

Telco Enterprise Value (Better-Case)	
Sum of Discounted Free Cashflow	€1,463M
Present Value of Terminal Value	€2,107M
Telco Enterprise Value	**€3,570M**

Source: *Group estimates*

In the worse-case scenario, we anticipate a further deceleration in the growth of NOS's customer base in the coming years, with an additional decrease of 0.25% in both 2024 and 2025. This slowdown is attributed to the possible entry of a new low-cost competitor in the market and the potential merger between NOWO and Vodafone. Regarding Business ARPU, as mentioned earlier, a detailed seasonal analysis predicts a significant 4.24 percentage decrease in 2023. Historical data underscores the volatility of business ARPU, with declines in 2019 and 2020 followed by increases in 2021 and 2022. Due to the lack of specific information about these events and their inherent volatility, our projection for this line relies on the average of past growth rates (-0.19%) rather than an absolute value. Taking these adjustments into account, our revised forecast predicts a new 10-year revenue CAGR of 1.57%, leading to an EV of €3,493.1 million (*Figure 122*).

Figure 122 *– Telco segment EV (worse-case scenario)*

Telco Enterprise Value (Worse-Case)	
Sum of Discounted Free Cashflow	€1,430M
Present Value of Terminal Value	€2,063M
Telco Enterprise Value	**€3,493M**

Source: *Group estimates*

Media and Entertainment Segment

For the better-case scenario, we anticipate the pre-pandemic revenue levels by 2025, propelled by robust industry adaptability and that sales growth will be minimal following 2026. The expected 10-year revenue CAGR is 4.29%.

Figure 123 *– M&E segment EV (better-case scenario)*

M&E Enterprise Value (Better-Case)	
Sum of Discounted Free Cashflow	€153M
Present Value of Terminal Value	€155M
Telco Enterprise Value	**€308M**

Source: *Group estimates*

Figure 124 – *M&E segment EV (worse-case scenario)*

M&E Eenterprise Value (Worse-Case)	
Sum of Discounted Free Cashflow	€140M
Present Value of Terminal Value	€147M
Telco Enterprise Value	**€287M**

Source: *Group estimates*

For the worst-case scenario, we expect a more prolonged recovery until 2027 and slightly negative sales growth post-2024, achieving an expected 10-year revenue CAGR of 3.67%.

In the end, we expect in the better-case scenario the enterprise value to be €308 million and in the worst-case scenario to be €287 million (*Figures 123 & 124*).

NOS Consolidated

Figure 125 – *NOS estimated EV for different scenarios*

NOS Valuation	Base	Better	Worse
Telco EV	€3,558.6M	€3,570.2M	€3,493.1M
M&E EV	€293.2M	€308.0M	€287.0M
Telco JV EV	€119.1M	€120.1M	€116.4M
M&E JV EV	€7.9M	€8.0M	€7.8M
Total EV	**€3,978.9M**	**€4,006.2M**	**€3,904.4M**

Source: *Group estimates*

Figure 126 – *NOS estimated share price for different scenarios*

NOS Valuation	Base	Better	Worse
Equity Value	**€2,212.2M**	**€2,239.6M**	**€2,137.8M**
# Shares	515.16M	515.16M	515.16M
Share Price	**€ 4.29**	**€ 4.35**	**€ 4.15**

Source: *Group estimates*

The extensive valuation and scenario analysis conducted for NOS, covering its Telecommunications and Media and Entertainment segments alongside joint ventures, offers a comprehensive outlook for potential investors. Combining the valuations for both segments in different scenarios, the base-case valuation for NOS stands at an EV of €3,978.9 million, while the optimistic scenario forecasts an EV of €4,006.2 million, and the pessimistic scenario projects an EV of €3,904.4 million (*Figure 125*). Factoring in estimated 2023 cash equivalents of €17.6 million, total debt of €1,784.2 million, and a constant share count of approximately 515.16 million, as NOS stopped with its share buyback approach, the derived target share prices for NOS are €4.29 in the base-case, €4.35 in the better-case, and €4.15 in the worst-case (*Figure 126*). Considering the probabilities computed earlier for each scenario, 67.5% for the base case, 17.5% for the optimistic scenario, and 15.0% for the pessimistic scenario, the calculated NOS implied share price stands at an encouraging €4.28 (*Figure 127*).

Figure 127 – *NOS target share price accounting for different scenarios*

Scenario	Valuation	Probability
Base-Case	€4.29	67.5%
Better-Case	€4.35	17.5%
Worse-Case	€4.15	15.0%
Target Share Price		**€ 4.28**
Current Share Price		€3.14
Upside / (Downside)		**36.37%**

Source: *Group estimates*

Relative Valuation

Multiples used in the relative valuation are forward-looking

A Sum of Parts relative valuation was also performed by valuing NOS Telco and M&E businesses individually against each segment's set of peers. The relative valuation was conducted using forward-looking (FWL) multiples of 2023, 2024 and 2025, with the last two ones having to be discounted to 2023 according to each business unit's WACC. The list of multiples used includes EV/Revenue, EV/EBITDA, EV/EBIT, and P/E. The levels of revenue, EBITDA, EBIT, and EPS are forecasted values for 2023, 2024 and 2025 for each business unit according to the multiple used.

Base-case scenario valuations were obtained using the median of each multiple analysed, while the better-case and worse-case scenarios were obtained with the third and first quartiles of each multiple, respectively. The different scenario probabilities are in line with the reasoning provided previously in the DCF valuation, i.e., 67.5% for the base-case, 17.5% for the better, and, finally, 15% for the worse-case scenario.

Telco Segment

Figure 128 *– List of peers used for the Telco segment relative valuation*

Company Name	Ticker
Vodafone PLC	VOD
Deutsche Telekom	DTE GR
Telefonica	TEF
Elisa Corporation	ELISA.HE
Orange	ORA
Cellnex Telekom	CLNX SM
KPN	KPN NA
INWIT	INW IM
Telecom Italia	TIT IM

Source: *Group analysis*

Figure 129 *– Median of multiples analysed for the Telco segment*

Median	2023 FWL	2024 FWL	2025 FWL
EV/Revenue	2.42x	2.35x	2.31x
EV/EBITDA	6.68x	6.07x	5.93x
EV/EBIT	16.61x	15.26x	15.64x
P/E	11.91x	10.83x	10.53x

Source: *Group analysis*

Figure 130 *– Implied valuation using forward-looking multiples for the Telco segment (base-case)*

Valuation	2023 FWL	2024 FWL	2025 FWL
EV/Revenue	€3.72	€3.52	€3.32
EV/EBITDA	€5.31	€4.34	€4.06
EV/EBIT	€3.15	€3.30	€3.92
P/E	€2.87	€2.84	€3.09

Source: *Group estimates*

Figure 131 *– Implied valuation using forward-looking multiples for the Telco segment accounting for all different scenarios*

Valuation	2023 FWL	2024 FWL	2025 FWL
EV/Revenue	€4.23	€4.03	€3.81
EV/EBITDA	€6.19	€4.46	€5.06
EV/EBIT	€3.48	€3.78	€4.19
P/E	€3.05	€3.08	€3.30

Source: *Group estimates*

Despite the various set of multiples, the two most important ones to value the Telco business are the EV/EBIT and P/E multiples, as this is a very Capex intensive sector, resulting in very high D&A levels and unrealistic, usually overvalued, valuations using the EV/EBITDA multiple.

The list of comparable firms used to perform the relative valuation for the Telco business were the ones composing the STOXX 600 Europe Telecommunications Index for the reason provided previously in the univariate analysis section (*Figures 128 & 129*). Valuations obtained using 2024 and 2025 multiples were discounted back to 2023 by the 6.75% post-tax WACC for this segment. Regarding the base-case scenario, the valuation using 2023 FWL multiples leads to mixed results. As explained above, using the EV/EBITDA multiple leads to very high, unrealistic valuations. On the other hand, the remaining multiples indicate a much lower valuation, closer to the ones obtained in the DCF valuation. Using 2024 FWL multiples, the scenario repeats itself with EV/EBITDA leading to much higher valuations compared to EV/Revenue, EV/EBIT and P/E multiples. Finally, when using 2025 FWL multiples, the valuation obtained using the EV/EBIT multiple increases significantly, reflecting the decrease in Telco Capex NOS is aiming for (*Figure 130*).

The same process was repeated for the better-case and worse-case scenarios of each multiple, the difference being in using third and first quartile values of each multiple, instead of taking the median. Considering the different valuations of each scenario and probabilities of occurrence, the same trends are observed as for the base-case scenario, now resulting in higher final valuations for this business unit compared to the base-case, given that the probability of occurrence of a better-case scenario is higher compared to the worse-case one (*Figure 131*).

Media and Entertainment Segment

Figure 132 *– List of peers used for the M&E segment relative valuation*

Company Name	Ticker
IMAX US	IMAX US
Major Cineplex Group	MAJOR.BK
AMC Entertainment	AMC
Cinemark Holdings	CNK

Source: *Group analysis*

Figure 133 *– Median of multiples analysed for the M&E segment*

Median	2023 FWL	2024 FWL	2025 FWL
EV/Revenue	1.98x	1.94x	2.09x
EV/EBITDA	8.40x	7.89x	8.43x
EV/EBIT	17.73x	17.83x	17.78x
P/E	15.60x	15.22x	13.92x

Source: *Group analysis*

Figure 134 *– Implied valuation using forward-looking multiples for the M&E segment (base-case)*

Valuation	2023 FWL	2024 FWL	2025 FWL
EV/Revenue	€[illegible].25	€[illegible].25	€[illegible].29
EV/EBITDA	€[illegible].70	€[illegible].67	€[illegible].75
EV/EBIT	€[illegible].71	€[illegible].49	€[illegible].54
P/E	€[illegible].58	€[illegible].42	€[illegible].42

Source: *Group estimates*

Figure 135 *– Implied valuation using forward-looking multiples for the M&E segment accounting for all different scenarios*

Valuation	2023 FWL	2024 FWL	2025 FWL
EV/Revenue	€[illegible].26	€[illegible].26	€[illegible].29
EV/EBITDA	€[illegible].73	€[illegible].69	€[illegible].75
EV/EBIT	€[illegible].82	€[illegible].56	€[illegible].62
P/E	€[illegible].60	€[illegible].42	€[illegible].42

Source: *Group estimates*

For the M&E business, the list comparable firms to perform the relative valuation was the same used in the WACC estimation for this segment (*Figures 132 & 133*). The multiples used were 2023, 2024 and 2025 forward-looking EV/Revenue, EV/EBITDA, EV/EBIT, and P/E. As explained previously, valuations obtained using 2024 and 2025 multiples were discounted back to 2023 according to the 10.32% post-tax WACC for NOS M&E segment. Regarding the base-case scenario, the valuation using 2023 FWL multiples indicates a positive outlook for this business. On the one hand, the results obtained using the EV/Revenue and P/E multiples are the closest to the obtained in the DCF valuation. When using EV/EBITDA and EV/EBIT multiples, the valuation for this segment leads to much more positive values. The same replicates when looking at 2024 and 2025 FWL multiples, except for the EV/EBIT multiple in 2024 and 2025 that leads to lower results compared to 2023 due to higher levels of Capex (*Figure 134*). After accounting for all the different scenarios and probabilities associated to them, the findings obtained replicate the ones verified in the base-case scenario, but, once again, resulting in slightly higher valuations explained by the higher weight attributed to the better-case scenario (*Figure 135*).

NOS Consolidated

Having obtained the valuation for each business unit, NOS final valuation resulted as the sum of the final implied share prices of each segment.

Figure 136 *– Implied consolidated valuation using forward-looking multiples accounting for all different scenarios*

Valuation	2023 FWL	2024 FWL	2025 FWL
EV/Revenue	€[illegible].48	€[illegible].29	€[illegible].10
EV/EBITDA	€[illegible].91	€[illegible].14	€[illegible].81
EV/EBIT	€[illegible].31	€[illegible].34	€[illegible].81
P/E	€[illegible].65	€[illegible].51	€[illegible].72

Source: *Group estimates*

In general terms, the different valuations according to each FWL multiple relative to each specific year are in accordance with our DCF valuation, indicating NOS to be under-valued. However, as explained previously, if considering the results obtained using EV/EBITDA FWL multiples, one would be obtaining unrealistic results explained by the inner characteristics of the telecommunications sector.

However, when considering EV/Revenue, EV/EBIT and P/E, which are more representative of reality, the results obtained indicate there is a significant upside potential in investing in NOS stock (*Figure 136*).

Monte-Carlo

A Monte Carlo Simulation was also performed

To have one more valuation method, a Monte Carlo Simulation was developed. Even though it is not the most precise model when performing a valuation, it can still bring an interval of values where the NOS share price can range between, giving a proxy to our evaluation.

Therefore, we used the daily returns since 03/01/2018, where we used a Brownian motion to simulate five thousand 252-trading day price paths starting at Nos share price from the sixteenth of December, closing price (*Appendix 21*). Daily volatility was calculated through log returns, and daily price was calculated, fluctuating the historical daily volatility.

***Figure 137** – Different share prices calculated with the Monte Carlo Simulation*

Monte Carlo Valuation Statistics	
Average	€3.53
Median	€3.51
Maximum	€4.73
Minimum	€2.70

***Source:** Group estimates*

Furthermore, we can see from the figure "frequencies" that NOS in this model has an average price of €3.53, where the maximum could fluctuate to some extent, but where we found that the max price would be around 4.73€ and the minimum price of around would be €2.70 (*Figure 137*).

Investment Risks

Investors must be aware of the risks involved with investing in NOS

Even though the outlook is very positive when considering investing in NOS stock, investors should also consider all risks associated with the investment in order to make the best decision possible and not get surprised if the investment does not turn out to be as expected.

Market Risk | Geopolitical Instability (High Probability, Moderate Impact)

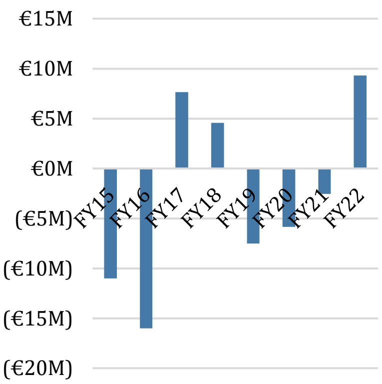
This risk stems from external factors that could constrain NOS' operations, including demographic changes, labour disruptions, economic fluctuations, and rising costs. Notably, inflation, driven by factors like the Ukraine-Russia conflict and increased energy expenses, presents a significant challenge. Also, the ongoing war in the Middle East poses more risks to the current economic instability that Europe is subject to. The geopolitical instability in this region, coupled with the potential for the conflict to escalate even further and involve major oil-producing countries, adds to the uncertainty and volatility in the oil market. Portugal heavily relies on imported fossil fuels, accounting for 60.5% of its primary energy supply in 2022 (42% oil and 18.4% natural gas), according to Pordata. Therefore, higher oil prices can lead to increased costs for goods and services throughout the economy, as oil is a key input in many industries, which will reduce consumers' purchasing power. All these macroeconomic factors can cause a higher volatility in the stock market. **Valuation Impact**: The impact of these economic environment risks on NOS's valuation is substantial, with a potential decrease of approximately 1.85% in the event of adverse economic conditions leading to cost increases and reduced purchasing power (*Figure 138*). **Mitigation**: With strategies such as supply chain optimisation, cost control measurement, and energy efficiency initiatives, the company aims to mitigate the adverse impacts on its cost structure and overall financial performance. Additionally, NOS seeks to maintain flexibility in pricing strategies to adapt to changing economic conditions.

Market Risk | Increased Competitive Intensity (High Probability, High Impact):

Digi has the potential to become a significant threat to NOS

The entry of new competitors into the Telco communications sector, driven by auctions for the acquisition of 5G frequencies, will cause the erosion of market share, customer loss, the growth of challenges in attracting and retaining customers (Herfindahl-Hirschman Index (HHI) 2022: 33,71% using Telco packages market shares). For example, the entrance of Digi is a severe threat to the leaders of the Portuguese Telco market because, if it keeps the same price models from other countries, it will offer very competitive prices.

***Figure 139** – Sport TV historical EBIT*



***Source:** SABI*

This is not only directly related to NOS but to one of its joint ventures, Sport TV. Sport TV's KPIs, namely EBIT, have been significantly volatile in the past few years, making it difficult to predict the future (*Figure 139*). Sport TV's main competitor in the Portuguese market, Eleven Sports, has been recently acquired by the group DAZN, translating into a threat for Sport TV by possibly losing market share. Also, Sport TV has been losing the television rights of the leading football leagues and is expected to lose the television rights of Formula 1, which may result, once again, into market share and revenue losses. **Valuation Impact**: The impact of heightened competition on NOS' valuation is high, leading to declines in revenue and lower free cash flow generation if the company were to lose market share every year (*Figure 140*). **Mitigation**: NOS has implemented a strategy centred on continuous improvement in product and service quality, innovation, and differentiation. The company also aims to protect its market position and diversify offerings.

Figure 140 *– Impact on NOS due to intense competition*

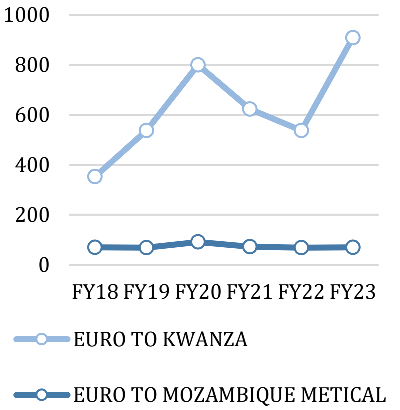
Telco Segment	EV
Intense competition (worse-case)	€3,493M
Normal competition (base-case)	€3,559M
Impact	**(1.8%)**

Source: *Group estimations*

Market Risk | Exchange Rate Movements (Moderate Probability, Low Impact):

As stated previously, one of NOS' joint-ventures operates in Angola and Mozambique, whose currencies are very volatile. In fact, between 2018 and 2023, the Euro to Kwanza and Euro to Mozambican Metical exchange rates faced very significant variations averaging to 26.91% and 1.14%, respectively (*Figure 141*). These shifts can impact revenue, expenses, and profitability, with the potential for revenue reductions or higher expenses when converting these currencies to Euros. **Valuation Impact**: Despite the large fluctuations, the impact suffered on the valuation may be regarded as low. This is due to the fact that, even though ZAP Media and Finstar consolidated financials represent the largest joint-venture NOS holds, the proportion of revenue in terms of NOS Telco revenue is significantly low, with a factor of 4.41% mentioned previously.

Figure 141 *– Exchange rates Euro to Kwanza and Euro to Mozambique Metical*



Source: *Google Finance*

Operational Risk | Aggressive R&D spending not translated in revenue enhancement (Moderate Probability, High Impact):

Aggressive R&D spending may involve allocating a significant portion of resources without guaranteed returns or the possibility of negatively impacting short-term financial results. **Valuation Impact:** The impact on NOS' valuation due to aggressive R&D spending is relatively high. A 10% increase in R&D spending might lead to a significant reduction in valuation, approximately 20% (*Figure 142*). **Mitigation**: The use of Tax Subsidies

Figure 142 *– Impact of higher Capex not translated into revenue enhancements*

NOS EV	Valuation Impact
€3,978.9M	0.00%
€3,899.9M	(1.98%)
€3,742.1M	(5.95%)
€3,505.2M	(11.90%)
€3,189.5M	(19.84%)

Source: *Group estimates*

from the Portuguese Government with the sole purpose of investing in R&D decreases the use of NOS' own resources and representation on R&D spending is less risky.

Operational Risk | Corporate Governance Risk (Moderate Probability, Low Impact):

It is proven that lower ESG scores are reflected in higher cost of capital

The lowest ESG rating in NOS is the Governance Pillar Score. More precisely, the Management Score (30%) and Shareholders Score (10%). Therefore, it can be assumed that the company has not been following the best corporate governance principles and that shareholders are not being treated equally. These can generate power asymmetries inside the company and untrustworthiness among the investors, which can cause problems in the company's administration, reputation, and equity financing. **Valuation Impact:** If the company does not improve in this pillar, the overall ESG score might worsen, and cost of capital is very likely to increase. **Mitigation:** As a top advocate in Portugal of responsible management and governance structure, NOS ensures that there is a course being plotted towards a culture that focuses on meritocracy and on diversification with help of the Diversion and Inclusion Committee, implemented in 2021. This will not only affect the unfairness that is being felt by the shareholders but also the entire firm staff.

Operational Risk | Customer Concentration Risk (Low probability, Moderate Impact):

One client holding the majority of revenue may be worrying

The concentration of customers in the B2B segment of NOS could expose the firm to the risk of low diversification among customers. If a client holds a significant portion of NOS' total revenue and decides to end the contract, then NOS is very likely to suffer severely from it. **Mitigation:** Fortunately for NOS, the consumer segment is the one with the largest weight on overall revenue and their individual bargaining power is very low.

Operational Risk | Talent Recruitment and Retention (Low Probability, Low Impact):

Human talent is key for future performance

The current environment introduces new challenges, notably the scarcity of technological and digital profiles due to labour market globalization and increased demand for these profiles by various companies. The failure to draw new talent into its ranks could potentially deprive the company of one of its primary driving forces. **Mitigation**: NOS proactively addresses talent recruitment and retention risks through process refinements, team investments, online platform enhancements, NOS Alfa programs, flexible work models, strategic education, and the "Leadershift" program.

Financial Risk | Liquidity and Interest Rates Risk (Moderate Probability, Moderate Impact):

NOS's current ratio has been consistently below 1 (0.90x in 2022), indicating that in severe cases, NOS may need to resort to non-current assets to meet short-term obligations. Liquidity ratios, including the current ratio, quick ratio, and cash ratio, remain very low. The cash conversion cycle has been increasing, signifying a longer time to generate cash. Despite a decrease in the debt-to-equity ratio from 2021 to 2022, NOS still maintains relatively high leverage (1.56x in 2022 and 1.88x in the first nine months of 2023). In the current environment of high interest rates, high debt levels can increase interest expenses, making it challenging to service debt obligations and secure favourable financing. These factors could impact the company's financial health and credit rating, potentially affecting NOS's BBB credit rating from Standard & Poor's, which is on the verge of investment-grade bonds. **Valuation Impact:** The potential reduction in valuation is significant, potentially decreasing by 5% if financial stability is adversely affected and NOS' credit rating moves to BB (*Figure 143*). **Mitigation:** NOS has undertaken measures to manage liquidity and interest rate risk. These include strengthening its capital structure, extending debt hedging, and issuing sustainable financing lines.

***Figure 143** – Impact of a credit rating downgrade*

Credit Rating	NOS EV	Impact
BBB	€3,978.9M	0.00%
BB+	€3,902.3M	(1.92%)
BB	€3,780.1M	(5.00%)
B+	€3,560.0M	(10.53%)
B	€3,460.6M	(13.03%)

Source: *Group estimates*

Legal Risk | Legal and Regulatory Risk (Low Probability, Low Impact):

Human talent is key for future performance

This risk consists of the impact of Portuguese and European legislative changes on NOS. One example was when in 2021, the BEREC (Body of European Regulators for Electronic Communications) issued amendments to the guidelines on the execution of the Net Neutrality Regulation. They prohibited the application of non-agnostic zero-rating offers and price differentiation. **Mitigation:** NOS actively manages legal and regulatory risks through its Legal and Regulation departments.

Recommendation

After conducting thorough valuations and assessing investment risks associated with NOS, our comprehensive analysis culminates in a final **BUY** recommendation for NOS stock. Our target price stands at €4.28, presenting an upside potential of 36.37% from NOS's current share price.

The primary basis for our target price recommendation stems from the discounted cash flow (DCF) model, which we consider to be the most precise and realistic valuation method. Relative and Monte Carlo valuation methods were secondary while utilized as complementary analyses due to the absence of perfect comparable firms to NOS and the nuanced nature of Monte Carlo simulations.

Our reliance on the DCF model signifies our confidence in NOS's fundamentals and future cash flow projections.

In conclusion, our **BUY** recommendation aligns with the substantial potential for growth reflected in our target price, emphasizing the opportunities we foresee in investing in NOS stock.

Can NOS cope with a killer price company?

I. Introduction

The telecommunications industry is an active and competitive arena where companies compete for market share, customer loyalty, and sustainable profitability. Within this landscape, NOS SGPS has established itself as a prominent player. However, the industry's evolution is marked by technological advancements and the emergence of low-cost operators that disrupt traditional market dynamics.

As seen in *Appendix 28*, in Portugal's telecom market, Altice holds the leading position across various sectors, including mobile, fixed voice, fixed broadband, and pay TV. NOS is a close second with substantial shares in each category, while Vodafone is notably strong in the mobile sector. NOWO also participate but have relatively minor market shares.

Looking at these companies' prices in *Appendix 29*, we understand the high competitiveness of the Portuguese telecom industry, with very similar pricing for comparable packages across major companies. This indicates stable pricing strategies despite occasional fluctuations due to discounts. NOWO stands out by offering slightly lower prices, positioning itself as the low-price alternative in the market. With Digi Communications' imminent arrival on the telecommunications scene in Portugal, it is expected to intensify competition with its reputation for quality services at competitive prices. Even without TV offers, as in Spain, its entry could reshape the market dynamics, emphasizing accessibility and quality concerning traditional bundled services. This approach would challenge established players, potentially changing pricing strategies and stimulating innovative service offerings. Digi's pending entry marks a pivotal moment destined to redefine consumer choices and drive industry-wide adaptations. By evaluating NOS's current strategies and examining Free Mobile's case in France, this study aims to predict NOS's competitive stance against a potential price-driven rival and a scenario where NOS is forced to decrease its pricing strategy and answer to a disruptive company entry.

II. Literature Review

This chapter presents a comprehensive literature review as the foundation for subsequent assumptions and scenario creation. Divided into sectors, it explores key topics vital to understanding the telecom landscape.

1. Telecommunication Industry Dynamics

When entering the market, new firms offer below-market prices to attract customers, which prompts the incumbents to respond with discounts, resulting in a price war. This war ends when new entrants start “locking in” their customers, price warfare stops, and price increases. Generally, the market price is lower during these price wars, and the goods sold / services rendered are greater. In the case of the telecommunication sector, the story is not different.

In Western telecom industries, innovation plays a crucial role in driving revenues. NOS SGPS, despite not being the most affordable provider, has solidified its market position through substantial investments in Research and Development (R&D) since its establishment. This strategic focus on innovation is a key factor behind NOS's ability to remain competitive as one of the leading telecom companies in Portugal, as seen in *Appendix 30*. Another factor is the existence of loyalty contracts that are typically found in the telecommunications business. These contracts offer customers favorable financial terms, such as discounted service rates, in exchange for their commitment to remain with the provider for a predetermined period. This arrangement typically includes the cost of network connection equipment. Loyalty campaigns featuring attractive discounts are frequently used to extend customer retention and discourage switching to competitors. There has been, in Portugal, a strong desire by ANACOM to reduce the length of these contracts, which typically is two years. According to them, one of the reasons is that it keeps the prices higher as it forces consumers to remain at a specific price for too long, and many times, these contracts are auto-renewable contracts which keep clients enrolled for an extended period. According to ANACOM, this practice is a contributing factor to Portuguese consumers paying 20% higher when compared to other EU countries.

2. Disruptive Operators

The success of low-cost carriers, which revolutionized the airline industry, serves as a notable example of how disruptive business models can transform a sector. Just as these airlines evolved from new entrants to established players, the telecom industry similarly experiences disruption from innovative business models. Advances in technology, both in aviation and telecommunications, continue to drive this trend of market transformation by new and emerging companies. Disruptive companies increase the competitiveness and rivalry in markets dominated by a handful of large companies, thereby allowing consumers to obtain more benefits in terms of price and quality.

Telecom services offer very similar services, which is why there is such an emphasis on these companies having lower prices than each other or acting collusively in an anti-competitive manner to keep their revenues high. For this reason, having a disruptive company is crucial for sector regulators, as it disturbs this anti-competitive dynamic.

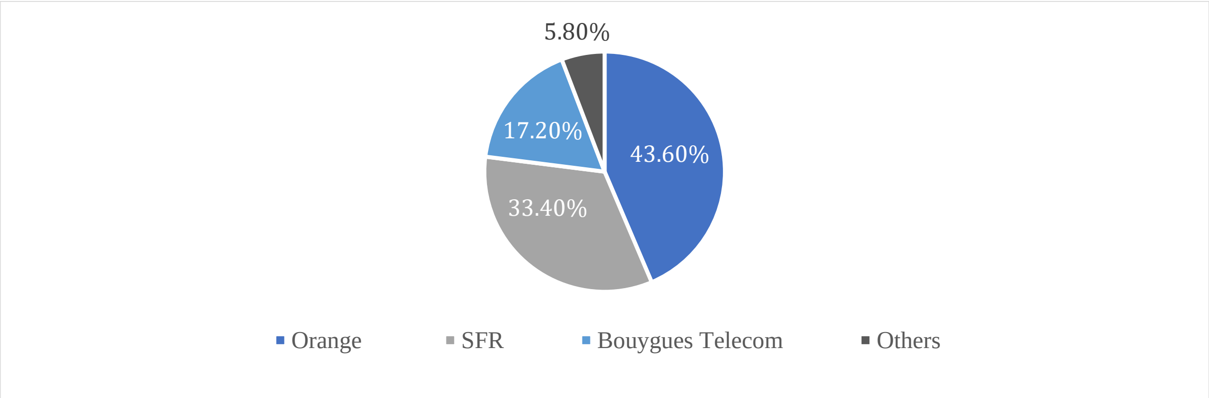
According to a 2016 Ofcom study, prices in countries with disruptive mobile operators are between 10.7% and 12.4% lower than in countries without such operators. The study also found that prices were 17.2% to 20.5% lower in markets with at least four network providers, highlighting the importance of having these types of companies in the market. The absence of a disruptive operator in Portugal capable of competing with major companies is mainly due to industry entry barriers, as the licensing process is expensive and time-consuming. This underscores new companies' difficulty establishing themselves in a well-consolidated market.

3. The Free Mobile Case

The emergence of Free Mobile S.A.S. in the French telecommunications market is a case study in disruptive innovation, offering insights into how a new entrant reshaped an industry similar to the Portuguese telecom market, as explored in the article "An analysis of the disruptive impact of the entry of Free Mobile into the French mobile telecommunications market".

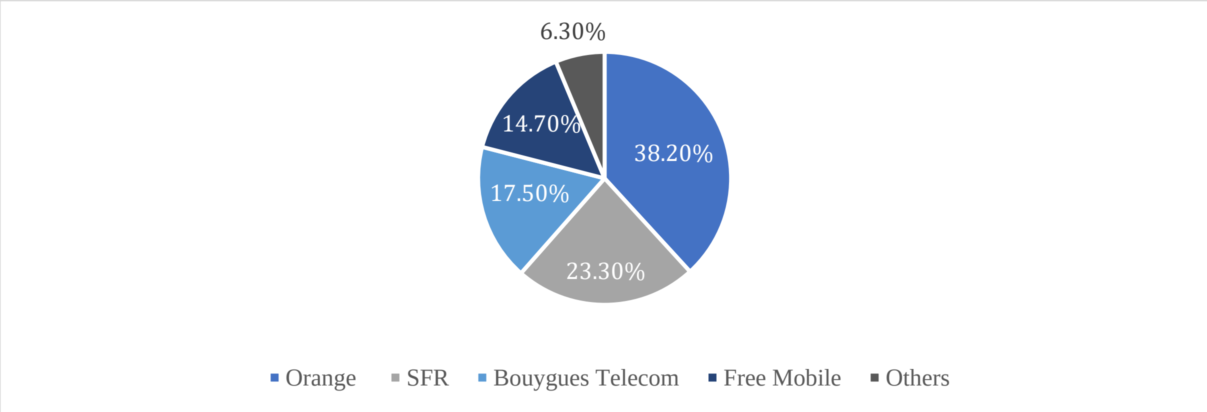
In 2009, Free Mobile obtained its 3G license, becoming the fourth licensed operator in France, amid a national rationale to increase competition, lower exorbitant prices, and address a market that lacked adequate competitive dynamics. At the time, France's telecom market was very concentrated, with Orange holding 43.6%, SFR holding 33.4%, and Bouygues Telecom holding 17.2% of the market share, quite similar to Portugal's actual one (*Figure 144*).

Figure 144: *French telecom companies market share in 2009*



In 2012, Free Mobile launched its disruptive product offering, introducing services priced at nearly half the rate of its established competitors, instantly triggering a high demand for their offerings. This triggered a rapid response from competitors who swiftly introduced similar packages to counter Free Mobile's disruptive impact. Consequently, the sector experienced a pronounced decline in revenues. This downturn coincided with a substantial reduction in telecommunications prices, plummeting by -15% between 2011 and 2013. Over the period spanning from the end of 2009 to 2021, telecom prices in France witnessed a notable 22.1% decline. Free Mobile's aggressive pricing and strategic approach facilitated the acquisition of approximately 5 million subscribers in its inaugural year, claiming an impressive 8% market share. On the contrary, Free mobile competitors saw their revenues decrease around 17.9% on average, two years after Free’s entry and a 9.4% decrease in their EBITDA margin. Currently, Orange, SFR, Bouygues Telecom, and Free Mobile are France's four major telecom operators, having a market share of 38.2%, 23.3%, 17.5%, and 14.7%, respectively (*Figure 145*).

Figure 145*: French telecom companies market share in 2023*



The case of Free Mobile underscores a transformative influence in the telecom industry, mirroring potential impacts and disruptions within a market comparable to the Portuguese telecom landscape. The company's pricing strategies, immediate market response from competitors, and subsequent fluctuations in the ARPU and industry revenues stand as critical focal points in understanding the disruptive nature of Free Mobile's entry.

The impending arrival of Digi Communications in the Portuguese telecommunications arena bears striking resemblances to the disruptive entry of Free Mobile in the French market. Much like Free Mobile, Digi is poised to introduce quality services at competitive prices, set to challenge established market dynamics. As Digi prepares to enter Portugal, drawing parallels with Free Mobile's approach offers valuable insights into potential market shifts, competitive responses from existing players, and the anticipated reshaping of consumer choices within the Portuguese telecom sphere.

III. Scenario Assumptions

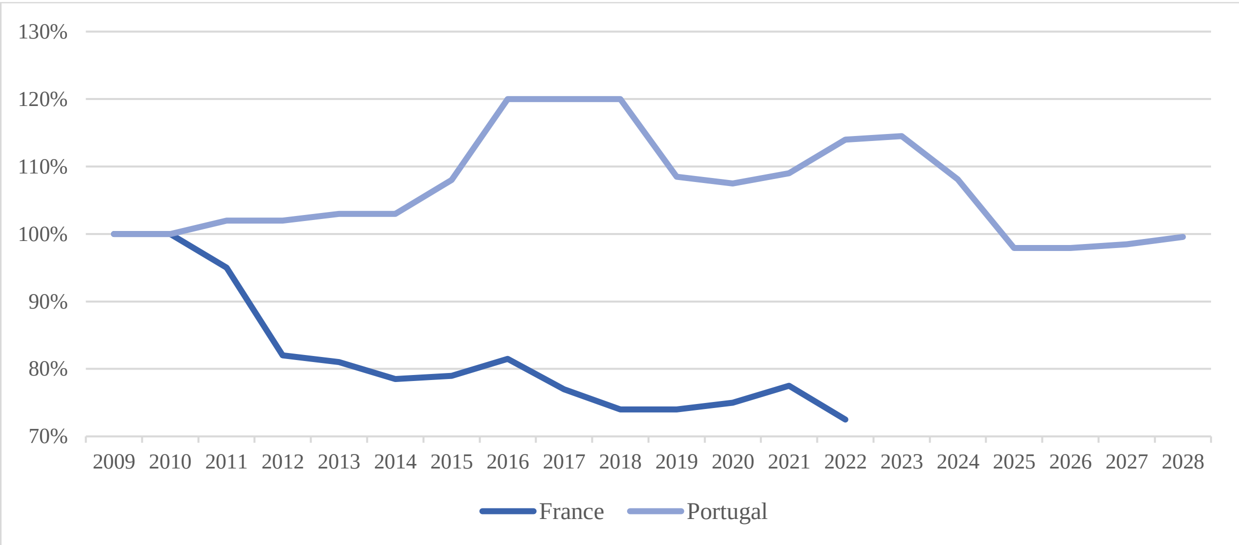
The following chapter builds on the knowledge obtained from the literature review to create two scenarios for NOS in the case of the arrival of a disruptive firm on the market in 2024.

Scenario 1: Free Mobile Comparative Scenario

Within the first scenario, I assumed the same circumstances that happen when Free Mobile entered the France market, creating three short-term and one long-term assumptions to assess the potential impacts on NOS.

Price War Initiation - Short-Term Assumption 1: Following the introduction of a price-competitive operator into the Portuguese telecommunications landscape, NOS will experience a significant 15% decline in the ARPU over the first two years, just like what happened at the France's telecom market ARPU. This decline will be around 5.7% in the first year and 9.5% in the second year, resembling the impact seen among competitors in France after Free Mobile's introduction. This initial dip is expected to be followed by a stabilization phase, similar to what was observed in the French market (*Figure 146*).

Figure 146: *Telecommunication prices evolution in Free Mobile Comparative Scenario in France and Portugal (2009M12 = Base 100)*



Market Share Fluctuation - Short-Term Assumption 2: Analyzing the historical impact on established operators in France, specifically Orange and Bouygues, after Free Mobile's entry, we observed that their revenue decreased beyond the 15% ARPU reduction in the two years post-entry. Orange experienced a decline of 15.5% in revenues, while Bouygues faced a 17.1% decrease. However, the overall market's revenues only decreased by 11.9%, indicating a growth in RGUs of 3.61% on average for the sector. This growth reflects the typical response to price reductions leading to increased demand, which in this case was primarily absorbed by the new operator (*Appendix 32*).

Considering the established market position of NOS, it is assumed that the RGU growth will follow the trend seen in established operators post-disruptive entry. Therefore, NOS' RGUs will decline approximately 2.5% in two years, an average of both companies decrease following the entry of a competitive operator. This decline accounts for the redirection of consumer demand toward the new entrant while affecting the established player's RGUs.

EBITDA Margin Fluctuation - Short-Term Assumption 3: Following the disruption caused by Free Mobile's entry into the French market, established operators such as Orange and Bouygues experienced a distinctive trend in EBITDA margins. Initially, both companies faced a significant average decline of -19.1% in the first year, followed by a noteworthy recovery of 9.8% in the subsequent year. Their growth paths diverged thereafter (*Table 1*).

Table 1A: *Orange EBITDA margin in France from 2011 to 2018*

Orange EBITDA margin in France from 2011 to 2018								
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
EBITDA margin	36.19%	30.10%	33.77%	33.72%	33.86%	33.72%	33.86%	34.58%
Growth	n.a	-16.83%	12.19%	-0.15%	0.42%	-0.41%	0.42%	2.13%

Source: Refinitiv

Table 1B: *Bouygues Telecom EBITDA margin in France from 2011 to 2018*

Bouygues Telecom EBITDA margin in France from 2011 to 2018								
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
EBITDA margin	22.28%	17.50%	18.79%	17.71%*	16.62%	19.14%	21.57%	23.52%
Growth	n.a	-21.45%	7.37%	-5.77%	-6.13%	15.16%	12.70%	9.04%

Source: Refinitiv, *value missing in Refinitiv, calculated the average between periods

Applying a similar trend to NOS in the aftermath of a disruptive market entry, we anticipate a comparable fluctuation in EBITDA margin. Consequently, projecting NOS's third-year post-entry, its EBITDA margin is estimated to mirror the average growth rate observed in Orange and Bouygues during the four years following the disruptive event, which stands at 2.7%.

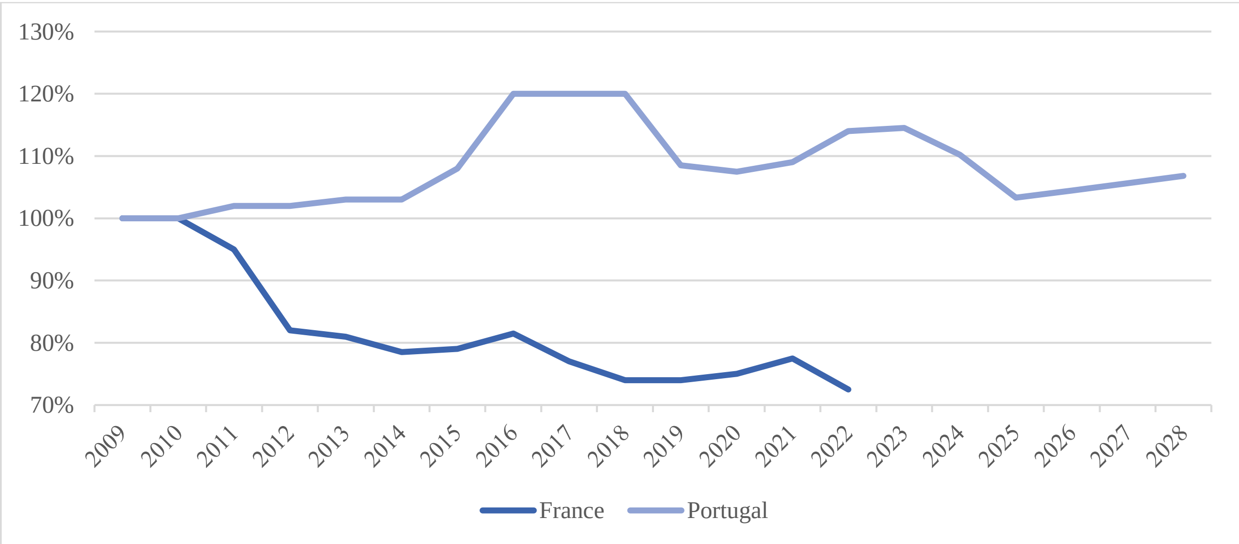
Competitive Adaptation - Long-Term Assumption: Three years after a disruptive market entry, NOS is projected to continue experiencing a notable reduction in its RGUs, aligning with the observed trend in established operators' post-entry of a competitive player. The RGU decline persists by approximately 4.27%. However, moving beyond this initial period, a trend of market recovery emerges. By the fourth-year post-entry, NOS anticipates a gradual increase of 1% per year in consumer RGU numbers, aligning with the average growth rate observed among two major French companies since 2015. Business RGUs are also expected to resume growth, consistent with the baseline scenario. The recovery indicates the market's adjustment to the new competitive landscape and reestablishing growth prospects for established players like NOS. The company's EBITDA margin will follow its historical trend after the third year.

<u>Scenario 2: Adjusted Scenario for NOS 2023</u>

In modelling the impact of a disruptive entrant in Portugal's telecommunications market in 2024 in this scenario, I adopted a more conservative approach, considering the unique aspects of the Portuguese market and using Free Mobile's entry in France as a reference while accounting for differences in timing and market dynamics. This scenario will involve assumptions suited explicitly to the Portuguese telecom landscape.

Short-Term Assumption 1: Based on historical instances such as the introduction of low-cost operators like NOWO in Portugal, the effect of a new disruptive entrant is expected to be less severe compared to other markets. The market's reaction to price cuts will vary due to the presence of an existing low-cost operator, leading to a more restrained impact on NOS's ARPU compared to past scenarios. As a result, the projected decline in NOS's ARPU over the initial two years post-entry is estimated to be more conservative, at approximately 10%, with an anticipated decrease of 3.91% in the first year and 6.46% in the second year (*Figure 147*).

Figure 147: *Telecommunication Prices evolution in Adjusted Scenario for NOS 2024 in France and Portugal*



Short-Term Assumption 2: Considering Portugal's older average population of 45.8 years compared to France's 39.3 in 2012, along with a higher mobile penetration rate (130.20% vs. France's 104.7% during Free Mobile's entry), the response to new market entrants in Portugal will likely differ. The older demographic may lead to a slower technology adoption rate, and the high penetration rate suggests strong consumer satisfaction. Therefore, the projected RGU decline for NOS is expected to be relatively moderate, estimated at about 1.5% in the first two years post-entry.

Short-Term Assumption 3: Applying a proportional reduction analogous to the one used in Assumption 1, the EBITDA margin for NOS is forecasted to undergo a decline of 13% in the initial year post the disruptive entry. Subsequently, a recovery is expected with an increase of 6.7% in the second year, followed by a further rise of 1.9% in the third year.

Long-Term Assumption: In the third year following the disruptive entry, NOS will continue to witness a decrease in RGUs, but with a more conservative rate of decline at 1%. Beyond this initial phase, a trend of gradual market recovery is expected, mirroring the previous scenario but with a more cautious growth of consumer RGUs at 0.67% per year. This recover trend is expected to gain further momentum following the introduction of 6G technology. In line with these developments, business RGUs are also projected to return to growth, aligning with the established baseline scenario.

The provided assumptions, including the projected 10% decrease in NOS's ARPU over two years and the 1.5% reduction in RGUs, will be further scrutinized through sensitivity analysis to ensure that our strategy does not rely solely on these initial projections.

IV. Valuation and Results

In the Scenario 1, the projected revenue CAGR sharply declines to -0.46%, a stark contrast to the base scenario's healthier 1.71% revenue CAGR (*Table 2*). This decline underscores the substantial impact of heightened competition and pricing pressures. Utilizing the same EV estimations derived for M&R and joint ventures, the resultant EV stands at €2.476,575 million. Consequently, the implied share price in this scenario registers at €2.19, marking a significant deviation of -49% from the base scenario's target price of €4.29 (*Appendix 33*).

Table 2: *Free Mobile Comparative Scenario Revenues and EBITDA (the wholesale line is not shown)*

Free Mobile Comparative Scenario Revenues and EBITDA (in thousands €)							
	FY22	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F
Revenues	1,425,692.54 €	1,488,890.47 €	1,410,683.99 €	1,294,479.84 €	1,239,608.59 €	1,226,171.87 €	1,251,826.79 €
Growth Rate (%)	*4.44%*	*4.43%*	*-5.25%*	*-8.24%*	*-4.24%*	*-1.08%*	*2.09%*
Consumer Segment Revenue	990,620.18 €	1,061,359.44 €	988,219.21 €	883,470.01 €	845,741.15 €	836,510.44 €	854,218.03 €
Growth Rate (%)	*2.52%*	*7.14%*	*-6.89%*	*-10.60%*	*-4.27%*	*-1.09%*	*2.12%*
Consumer RGUs	9122	9403	9287	9173	8781	8638	8724
Growth Rate (%)	*4.54%*	*3.08%*	*-1.23%*	*-1.23%*	*-4.27%*	*-1.64%*	*1.00%*
Consumer ARPU (in €)	108.60 €	112.87 €	106.40 €	96.31 €	96.31 €	96.84 €	97.92 €
Growth Rate (%)	*-1.93%*	*3.94%*	*-5.73%*	*-9.49%*	*0.00%*	*0.55%*	*1.11%*
Business Segment Revenue	336,314.47 €	331,109.03 €	327,441.44 €	323,813.97 €	310,367.70 €	307,066.78 €	313,286.00 €
Growth Rate (%)	*6.30%*	*-1.55%*	*-1.11%*	*-1.11%*	*-4.15%*	*-1.06%*	*2.03%*
Business RGUs	1660	1707	1686	1665	1594	1575	1605
Growth Rate (%)	*5.09%*	*2.81%*	*-1.23%*	*-1.23%*	*-4.27%*	*-1.19%*	*1.90%*
Business ARPU (in €)	202.57 €	193.99 €	194.23 €	194.47 €	194.71 €	194.95 €	195.19 €
Growth Rate (%)	*1.15%*	*-4.24%*	*-5.73%*	*-9.49%*	*0.00%*	*0.06%*	*0.12%*
EBITDA	600,882.00 €	662,110.13 €	507,253.90 €	511,001.67 €	502,744.74 €	500,270.33 €	513,774.70 €
EBITDA Margin (%)	*42.15%*	*44.47%*	*35.96%*	*39.48%*	*40.56%*	*40.80%*	*41.04%*

Conversely, the Scenario 2, tailored to the unique characteristics of the Portuguese market, shows that the disruptive company's entry yields a more modest effect. NOS' projected revenue CAGR sees a marginal increase to 0.22% (*Table 3*), signaling a subtle but positive growth trajectory. The calculated EV in this scenario amounts to €2.696,639 million, yielding an implied target price of €2.62. This scenario presents a more tempered impact on NOS performance compared to the stark decline observed in Scenario 1 (*Appendix 34*).

Table 3: *Adjusted Scenario for NOS 2024 Revenues and EBITDA (the wholesale line is not shown)*

Adjusted Scenario for NOS 2024 Revenues and EBITDA (in thousands €)							
	FY22	FY23	FY24F	FY25F	FY26F	FY27F	FY28F
Revenues	1,425,692.54 €	1,488,890.47 €	1,424,001.66 €	1,321,993.20 €	1,308,773.26 €	1,314,212.77 €	1,338,377.84 €
Growth Rate (%)	*4.44%*	*4.43%*	*-4.36%*	*-7.16%*	*-1.00%*	*0.42%*	*1.84%*
Consumer Segment Revenue	990,620.18 €	1,061,359.44 €	1,012,282.57 €	939,767.63 €	930,369.96 €	933,957.62 €	950,586.34 €
Growth Rate (%)	*2.52%*	*7.14%*	*-4.62%*	*-7.16%*	*-1.00%*	*0.39%*	*1.78%*
Consumer RGUs	9122	9403	9333	9263	9170	9155	9216
Growth Rate (%)	*4.54%*	*3.08%*	*-0.75%*	*-0.75%*	*-1.00%*	*-0.17%*	*0.67%*
Consumer ARPU (in €)	108.60 €	112.87 €	108.47 €	101.45 €	101.45 €	102.02 €	103.15 €
Growth Rate (%)	*-1.93%*	*3.94%*	*-3.91%*	*-6.46%*	*0.00%*	*0.55%*	*1.11%*
Business Segment Revenue	336,314.47 €	331,109.03 €	315,798.67 €	293,176.41 €	290,244.65 €	291,730.09 €	297,638.68 €
Growth Rate (%)	*6.30%*	*-1.55%*	*-4.62%*	*-7.16%*	*-1.00%*	*0.51%*	*2.03%*
Business RGUs	1660	1707	1694	1681	1665	1672	1704
Growth Rate (%)	*5.09%*	*2.81%*	*-0.75%*	*-0.75%*	*-1.00%*	*0.45%*	*1.90%*
Business ARPU (in €)	202.57 €	193.99 €	186.41 €	174.36 €	174.36 €	174.47 €	174.68 €
Growth Rate (%)	*1.15%*	*-4.24%*	*-3.91%*	*-6.46%*	*0.00%*	*0.06%*	*0.12%*
EBITDA	600,882.00 €	662,110.13 €	550,655.74 €	545,286.13 €	549,909.58 €	545,787.13 €	549,296.98 €
EBITDA Margin (%)	*42.15%*	*44.47%*	*38.67%*	*41.25%*	*42.02%*	*41.53%*	*41.04%*

The sensitivity analysis (*Table 4*) demonstrates that the stock price of NOS could vary within the range of €1.92 to €3.12. This is based on the interplay between ARPU reduction and RGU decrease over the first two years, highlighting the stock's potential fluctuation in response to these key business metrics.

***Table 4:** Sensitivity Analysis*

		ARPU Decrease								
	€2.62	-7%	-8%	-9%	-10%	-11%	-12%	-13%	-14%	-15%
RGU Decrease	0%	€3.12	€2.99	€2.86	€2.73	€2.60	€2.47	€2.34	€2.21	€2.08
	-0.5%	€3.08	€2.95	€2.82	€2.69	€2.56	€2.43	€2.31	€2.18	€2.05
	-1%	€3.05	€2.92	€2.79	€2.66	€2.53	€2.40	€2.27	€2.14	€2.02
	-1.5%	€3.01	€2.88	€2.75	€2.62	€2.49	€2.36	€2.24	€2.11	€1.98
	-2%	€2.97	€2.84	€2.71	€2.59	€2.46	€2.33	€2.20	€2.08	€1.95
	-2.5%	€2.93	€2.81	€2.68	€2.55	€2.42	€2.30	€2.17	€2.04	€1.92

V. Conclusion

The looming entry of a disruptive force into Portugal's telecommunications landscape, reminiscent of Free Mobile's impact in France, presents a formidable challenge for established operators like NOS. This comprehensive exploration scrutinized potential scenarios and assumptions, unveiling NOS's strategic positioning amidst this profound market shift.

Titled "Can NOS SGPS Cope with a Killer Price Company?" this study delved into critical facets, emphasizing NOS's pivotal role in weathering the disruptive storm. The answer pivots on NOS's adeptness in recalibrating strategies, embracing proactive responses to evolving market dynamics, and harnessing technological prowess to sustain growth in a fiercely competitive environment. The entry of a killer company will almost certainly cause a drop in NOS's EV, so it is up to NOS to rebound. Notably, even in the worst-case scenario, NOS appears to maintain a positive net income, indicating some financial stability if the same event happens. Moreover, ANACOM's assertion that Portuguese consumers already bear a 20% higher cost than their EU counterparts underscores NOS's urgency to navigate this transformative juncture strategically. While challenges loom, NOS's historical resilience, technological investments, and potential strategic adaptations position it favourably to withstand the disruptive waves and emerge more vital in its sector.

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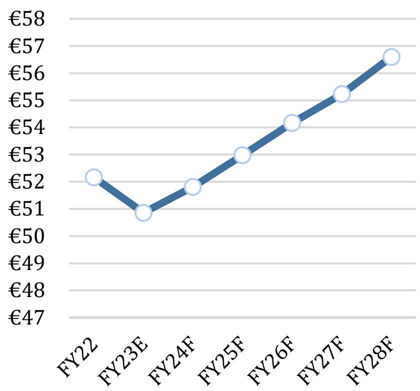
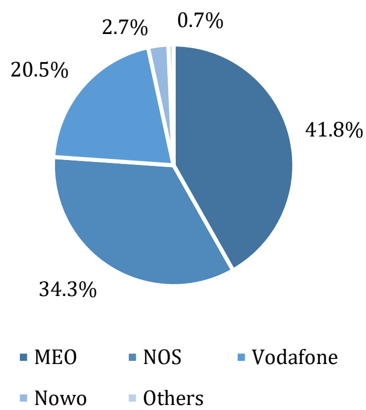
Appendix

Appendix 1: *Forecasted Portuguese Cinema Sector ARPU*



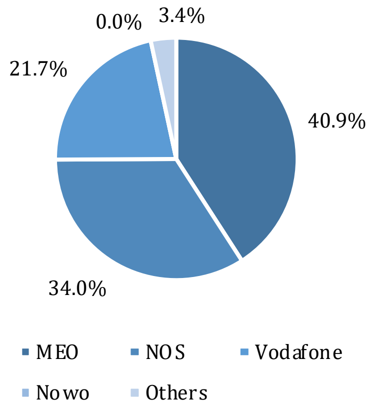
Source: *Statista*

Appendix 2: *Fixed Voice Market share by operator in 2022*



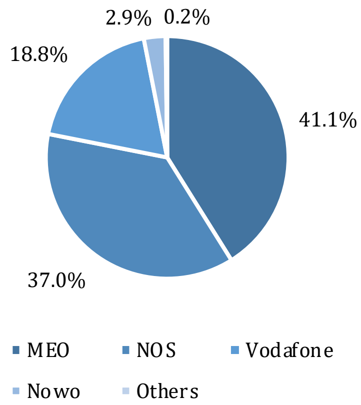
Source: *ANACOM*

Appendix 3: *Fixed Broadband Market share*



Source: *ANACOM*

Appendix 4: *Pay-TV Market Share by Operator in 2022*



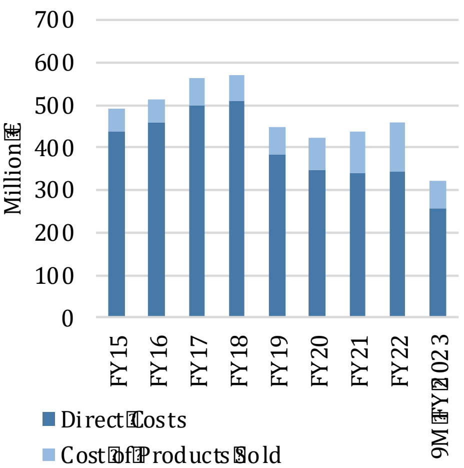
Source: *ANACOM*

Appendix 5: *Pay-TV Market Share by Operator in 2022*

Company	Cheapest 4P Bundle - Prices from	Brief Description of the Bundles
nowo	20 €	48 TV Channels, 500/100 Mbps internet, one sim card with 10GB of internet per month, and fixed telephone.
NOS	57.99 €	180 TV Channels, 500/100 Mbps internet, one sim card with 10GB of Internet per month, and fixed telephone.
MEO	57.99 €	200 TV Channels, 500/100 Mbps internet, one sim card with 10GB of Internet per month, and fixed telephone.
vodafone	58.90 €	170 TV Channels, 500/100 Mbps internet with Disney+, one sim card with 10GB of internet per month, and fixed telephone.

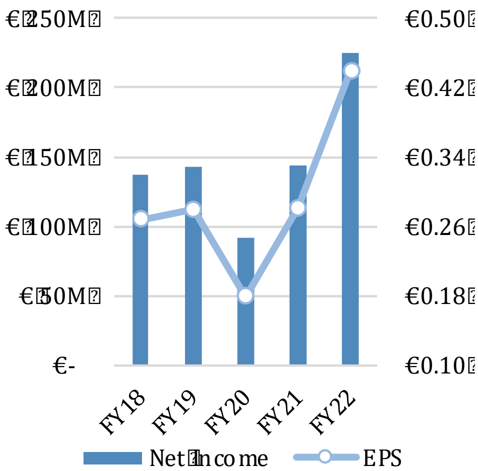
Source: *Company's Own Websites*

Appendix 6: *Cost Structure*



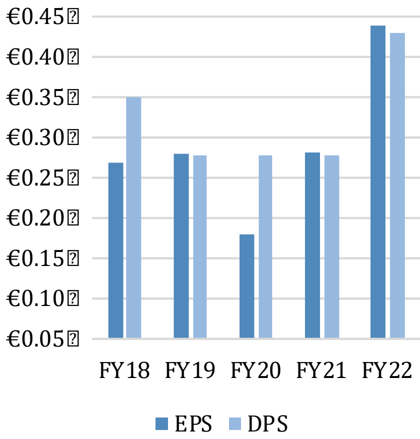
Source: *Group Analysis*

Appendix 7: *Net Income and EPS*



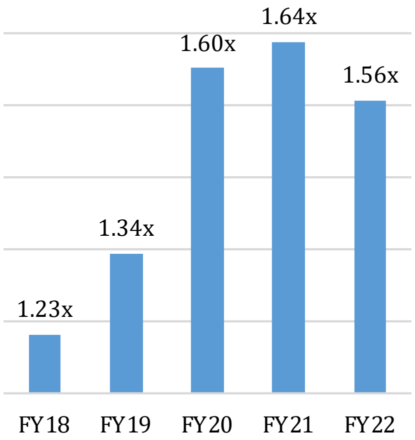
Source: *Group Analysis*

Appendix 8: *Dividend per Share*



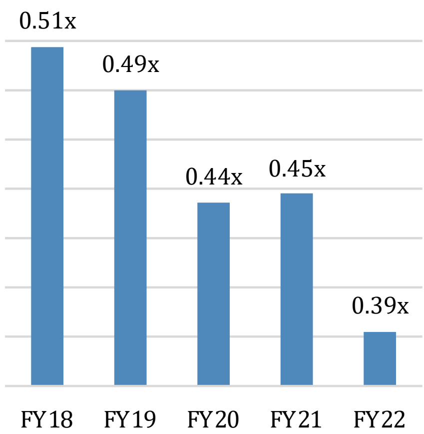
Source: *Group Analysis*

Appendix 9: *Debt to Equity Ratio*



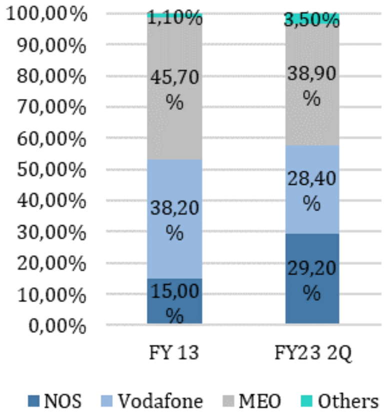
Source: *Group Analysis*

Appendix 10: *Cash Flow from operating activities to Debt*



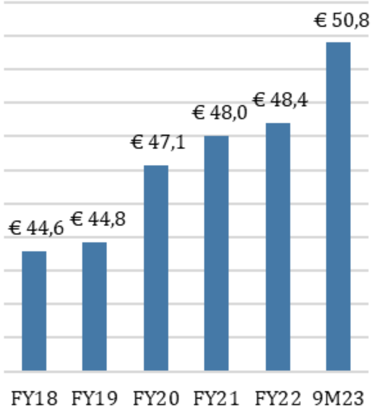
Source: *Group Analysis*

Appendix 11: *Market Share Mobile 1H 2023*



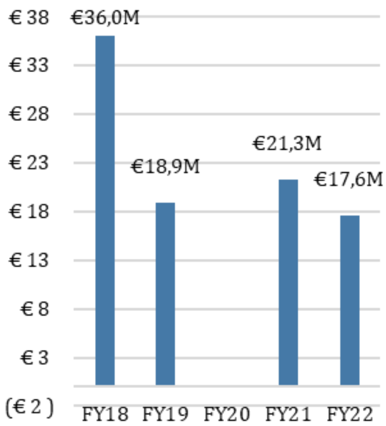
Source: *Group Analysis*

Appendix 12: *Residential ARPU / Unique Subscriver with Fixed Access*



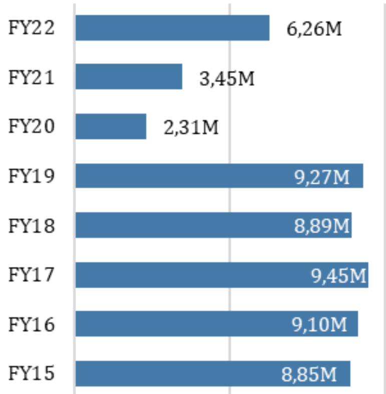
Source: *Group Analysis*

Appendix 13: M&E Net Income in Million



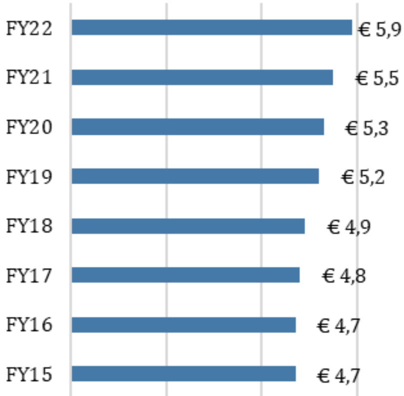
Source: *Group Analysis*

Appendix 14: *Cinema Ticket Sales*



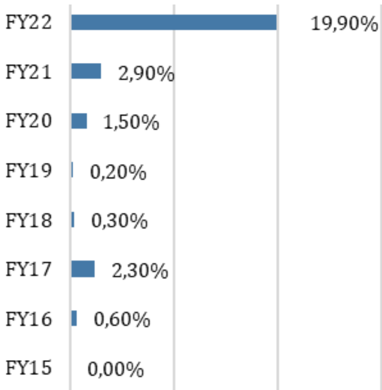
Source: *ICA*

Appendix 15: *Ticket Prices*



Source: *NOS Report*

Appendix 16: *CPI for food and non-alcoholic Beverages*



Source: *ICA*

Appendix 17: *Net Working Capital for the Telco Business*

In Thousand €	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
(+) Operating Cash	€ 15,807	€ 11,590	€ 11,733	€ 11,868	€ 12,003	€ 12,139	€ 12,280	€ 12,422	€ 12,591	€ 12,811
% of revenue	*1.06%*	*0.76%*	*0.76%*	*0.76%*	*0.76%*	*0.76%*	*0.76%*	*0.76%*	*0.76%*	*0.76%*
(+) Inventories	€ 68,092	€ 71,966	€ 69,378	€ 66,660	€ 68,680	€ 65,589	€ 62,437	€ 59,204	€ 55,998	€ 52,891
Average Holding Period	*58.77*	*56.10*	*53.42*	*50.74*	*48.07*	*45.39*	*42.71*	*40.04*	*37.36*	*34.68*
(+) Accounts Receivable	€ 378,537	€ 387,846	€ 391,995	€ 395,855	€ 399,697	€ 403,557	€ 407,561	€ 411,616	€ 416,530	€ 423,082
Average Collection Period	*92.80*	*92.65*	*92.49*	*92.34*	*92.19*	*92.04*	*91.89*	*91.74*	*91.58*	*91.43*
(+) Contract Assets	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -
% of revenue	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
(+) Prepaid Expenses	€ 56,263	€ 57,465	€ 57,895	€ 58,279	€ 58,655	€ 59,030	€ 59,422	€ 59,817	€ 60,331	€ 61,077
% of revenue	*3.78%*	*3.76%*	*3.74%*	*3.72%*	*3.71%*	*3.69%*	*3.67%*	*3.65%*	*3.63%*	*3.62%*
(+) Other Current Assets	€ 6,929	€ 7,141	€ 7,259	€ 7,372	€ 7,486	€ 7,602	€ 7,721	€ 7,842	€ 7,981	€ 8,153
% of revenue	*0.47%*	*0.47%*	*0.47%*	*0.47%*	*0.47%*	*0.48%*	*0.48%*	*0.48%*	*0.48%*	*0.48%*
(-) Accounts Payable	€ 280,051	€ 307,992	€ 309,657	€ 311,056	€ 335,974	€ 337,397	€ 338,899	€ 340,400	€ 342,565	€ 346,019
Average Payable Period	*241.73*	*240.08*	*238.44*	*236.79*	*235.14*	*233.49*	*231.85*	*230.20*	*228.55*	*226.90*
(-) Tax Paybale	€ 41,814	€ 42,267	€ 42,135	€ 41,959	€ 41,768	€ 41,564	€ 41,362	€ 41,151	€ 41,010	€ 41,011
% of revenue	*2.81%*	*2.77%*	*2.72%*	*2.68%*	*2.64%*	*2.60%*	*2.55%*	*2.51%*	*2.47%*	*2.43%*
(-) Accrued Expenses	€ 202,296	€ 205,916	€ 206,744	€ 207,388	€ 207,991	€ 208,570	€ 209,192	€ 209,807	€ 210,822	€ 212,621
% of revenue	*13.59%*	*13.48%*	*13.37%*	*13.25%*	*13.14%*	*13.03%*	*12.92%*	*12.81%*	*12.70%*	*12.59%*
(-) Other Current Liabilities	€ 23,763	€ 25,075	€ 26,082	€ 27,087	€ 28,108	€ 29,147	€ 30,214	€ 31,303	€ 32,477	€ 33,804
% of revenue	*1.60%*	*1.64%*	*1.69%*	*1.73%*	*1.78%*	*1.82%*	*1.87%*	*1.91%*	*1.96%*	*2.00%*
Net Working Capital	**(€ 22,296)**	**(€ 45,242)**	**(€ 46,359)**	**(€ 47,456)**	**(€ 67,318)**	**(€ 68,761)**	**(€ 70,247)**	**(€ 71,760)**	**(€ 73,443)**	**(€ 75,440)**

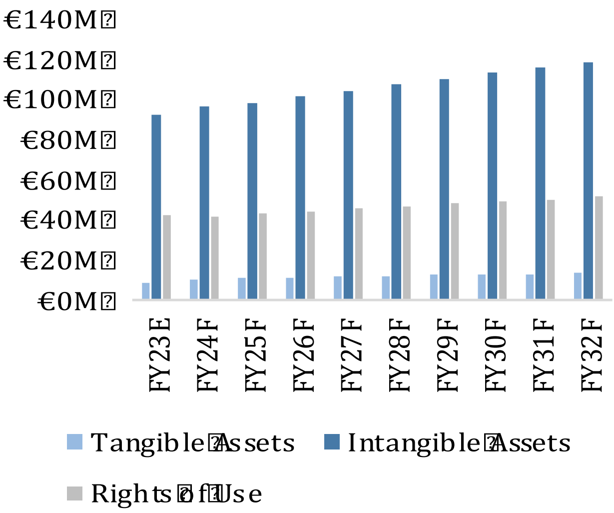
Source: *Group Analysis*

Appendix 18: *M&E Historical Operating Revenues*

In Thousand €	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Services Rendered	**€ 1,362,988**	**€ 1,425,163**	**€ 1,480,102**	**€ 1,464,349**	**€ 1,345,108**	**€ 1,262,980**	**€ 1,295,248**	**€ 1,362,741**
Communications service revenues	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible],233,344	€ [illegible],202,436	€ [illegible],226,432	€ [illegible],276,828
Revenue distribution and cinematograph	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]4,216	€ [illegible]2,626	€ [illegible]9,139	€ [illegible]5,539
Advertising revenue	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]4,792	€ [illegible]6,653	€ [illegible]0,745	€ [illegible]9,883
Production and distribution of content	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]9,767	€ [illegible]8,541	€ [illegible]6,074	€ [illegible]5,767
Others	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible],989	€ [illegible],724	€ [illegible],858	€ [illegible],724
Telco	€ [illegible],288,343	€ [illegible],350,527	€ [illegible],403,621	€ [illegible],398,282	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]
Audiovisuals and cinema exhibition	€ [illegible]4,645	€ [illegible]4,636	€ [illegible]6,481	€ [illegible]6,067	€ [illegible]	€ [illegible]	€ [illegible]	€ [illegible]
Sales	**€ 66,880**	**€ 71,609**	**€ 68,833**	**€ 87,682**	**€ 89,141**	**€ 86,309**	**€ 109,186**	**€ 128,044**
Telco	€ [illegible]8,751	€ [illegible]3,682	€ [illegible]1,008	€ [illegible]0,521	€ [illegible]1,579	€ [illegible]1,303	€ [illegible]03,404	€ [illegible]15,771
Audiovisuals and cinema exhibition	€ [illegible]8,129	€ [illegible]7,927	€ [illegible]7,825	€ [illegible]7,161	€ [illegible]7,562	€ [illegible],006	€ [illegible],782	€ [illegible]2,273
Other Operating Revenues	**€ 14,437**	**€ 18,197**	**€ 12,847**	**€ 24,130**	**€ 24,155**	**€ 18,597**	**€ 25,865**	**€ 30,222**
Telco	€ [illegible]3,181	€ [illegible]6,785	€ [illegible]1,957	€ [illegible]3,106	€ [illegible]3,365	€ [illegible]7,774	€ [illegible]4,741	€ [illegible]9,150
Audiovisuals and cinema exhibition	€ [illegible],256	€ [illegible],412	€ [illegible]90	€ [illegible],024	€ [illegible]90	€ [illegible]23	€ [illegible],124	€ [illegible],072
Total	**€ 1,444,305**	**€ 1,514,969**	**€ 1,561,782**	**€ 1,576,161**	**€ 1,458,404**	**€ 1,367,886**	**€ 1,430,299**	**€ 1,521,007**

Source: *Group Analysis*

Appendix 19: *TFA, Intangible Assets and Rights of Use for M&E Business*



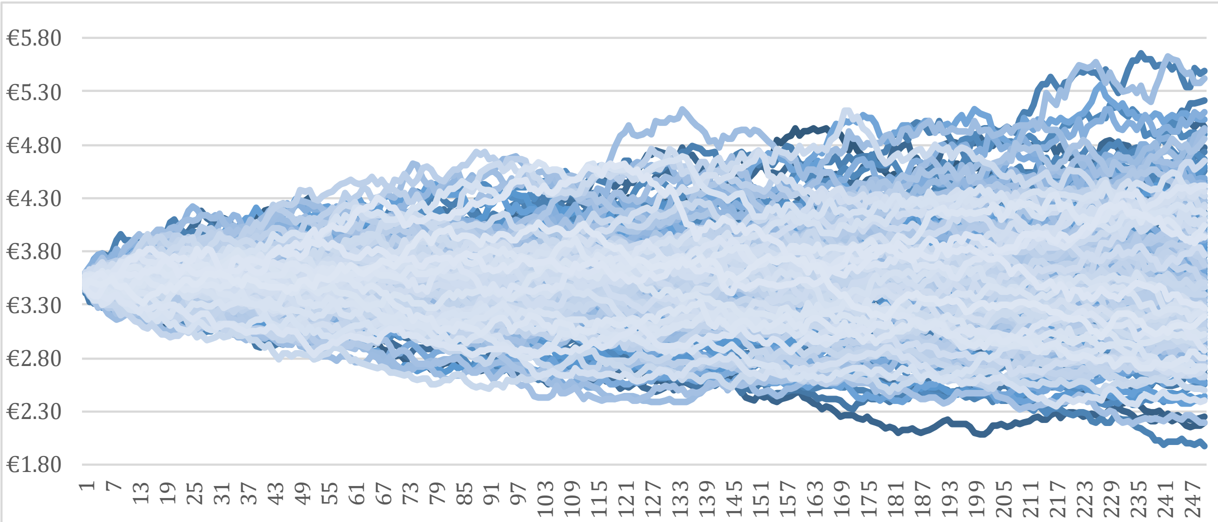
Source: *Group Analysis*

***Appendix 20:** M&E Net Working Capital*

In Thousand €	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
(+) Operating Cash	€ 1,814	€ 1,255	€ 1,293	€ 1,331	€ 1,369	€ 1,410	€ 1,448	€ 1,485	€ 1,520	€ 1,552
% of revenue	*1.71%*	*1.12%*	*1.12%*	*1.12%*	*1.12%*	*1.12%*	*1.12%*	*1.12%*	*1.12%*	*1.12%*
(+) Inventories	€ 692	€ 717	€ 703	€ 734	€ 759	€ 746	€ 767	€ 786	€ 805	€ 822
Average Holding Period	*9.22*	*9.89*	*9.46*	*9.46*	*9.61*	*9.18*	*9.18*	*9.18*	*9.18*	*9.18*
(+) Accounts Receivable	€ 36,711	€ 49,412	€ 50,906	€ 52,382	€ 53,910	€ 55,491	€ 57,011	€ 58,460	€ 59,829	€ 61,110
Average Collection Period	*126.49*	*161.28*	*161.28*	*161.28*	*161.28*	*161.28*	*161.28*	*161.28*	*161.28*	*161.28*
(+) Contract Assets	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -
% of revenue	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
(+) Prepaid Expenses	€ 1,458	€ 1,906	€ 1,963	€ 2,020	€ 2,079	€ 2,140	€ 2,199	€ 2,255	€ 2,307	€ 2,357
% of revenue	*1.38%*	*1.70%*	*1.70%*	*1.70%*	*1.70%*	*1.70%*	*1.70%*	*1.70%*	*1.70%*	*1.70%*
(+) Other Current Assets	€ 1,748	€ 1,542	€ 1,589	€ 1,635	€ 1,683	€ 1,732	€ 1,779	€ 1,825	€ 1,867	€ 1,907
% of revenue	*1.65%*	*1.38%*	*1.38%*	*1.38%*	*1.38%*	*1.38%*	*1.38%*	*1.38%*	*1.38%*	*1.38%*
(-) Accounts Payable	€ 17,901	€ 19,640	€ 19,338	€ 20,176	€ 20,011	€ 20,369	€ 20,927	€ 21,459	€ 21,962	€ 22,432
Average Payable Period	*238.52*	*270.70*	*260.13*	*260.13*	*253.31*	*250.50*	*250.50*	*250.50*	*250.50*	*250.50*
(-) Tax Paybale	€ 1,599	€ 2,517	€ 2,594	€ 2,669	€ 2,747	€ 2,827	€ 2,905	€ 2,978	€ 3,048	€ 3,113
% of revenue	*1.51%*	*2.25%*	*2.25%*	*2.25%*	*2.25%*	*2.25%*	*2.25%*	*2.25%*	*2.25%*	*2.25%*
(-) Accrued Expenses	€ 17,641	€ 20,130	€ 20,738	€ 21,340	€ 21,962	€ 22,606	€ 23,225	€ 23,816	€ 24,374	€ 24,895
% of revenue	*16.65%*	*18.00%*	*18.00%*	*18.00%*	*18.00%*	*18.00%*	*18.00%*	*18.00%*	*18.00%*	*18.00%*
(-) Other Current Liabilities	€ 4,267	€ 5,234	€ 5,392	€ 5,549	€ 5,711	€ 5,878	€ 6,039	€ 6,193	€ 6,338	€ 6,473
% of revenue	*4.03%*	*4.68%*	*4.68%*	*4.68%*	*4.68%*	*4.68%*	*4.68%*	*4.68%*	*4.68%*	*4.68%*
Net Working Capital	**€ 1,015**	**€ 7,311**	**€ 8,392**	**€ 8,368**	**€ 9,369**	**€ 9,838**	**€ 10,107**	**€ 10,364**	**€ 10,607**	**€ 10,834**

***Source:** Group Analysis*

***Appendix 21:** Monte Carlo Simulation*



***Source:** Group Analysis*

Appendix 22: *Media & Entertainment Income Statement Forecast*

M&E Segment Income Statement In Thousand €	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Revenues	**€ 105,938**	**€ 111,828**	**€ 115,209**	**€ 118,551**	**€ 122,008**	**€ 125,586**	**€ 129,025**	**€ 132,306**	**€ 135,405**	**€ 138,302**
Services Rendered	€ 86,068	€ 91,232	€ 94,425	€ 97,730	€ 101,151	€ 104,691	€ 108,093	€ 111,336	€ 114,398	€ 117,258
Sales	€ 18,167	€ 18,893	€ 19,082	€ 19,120	€ 19,159	€ 19,197	€ 19,235	€ 19,274	€ 19,312	€ 19,351
Other Operating Revenue	€ 1,703	€ 1,702	€ 1,701	€ 1,700	€ 1,699	€ 1,698	€ 1,697	€ 1,695	€ 1,694	€ 1,693
Operating Costs Excluding D&A	**€ 53,182**	**€ 56,230**	**€ 56,554**	**€ 58,387**	**€ 60,117**	**€ 61,808**	**€ 63,453**	**€ 65,124**	**€ 66,627**	**€ 68,048**
Wages and Salaries	€ 11,514	€ 11,430	€ 11,090	€ 11,153	€ 11,256	€ 11,586	€ 11,903	€ 12,206	€ 12,491	€ 12,759
Direct Costs	€ 23,439	€ 24,471	€ 25,782	€ 27,183	€ 28,098	€ 28,922	€ 29,714	€ 30,470	€ 31,183	€ 31,851
Cost of Products Sold	€ 3,954	€ 2,011	€ 1,351	€ 1,127	€ 736	€ 758	€ 779	€ 798	€ 817	€ 835
Marketing and Advertising	€ 3,559	€ 5,740	€ 5,656	€ 6,209	€ 6,676	€ 6,872	€ 7,060	€ 7,240	€ 7,409	€ 7,568
Support Services	€ 2,758	€ 2,718	€ 2,539	€ 2,552	€ 2,558	€ 2,633	€ 2,705	€ 2,774	€ 2,839	€ 2,900
Supplies and External Services	€ 8,344	€ 10,004	€ 10,173	€ 10,137	€ 10,707	€ 10,950	€ 11,202	€ 11,544	€ 11,792	€ 12,039
Other Operating Losses / (Gains)	€ 167	€ 139	€ 112	€ 97	€ 88	€ 91	€ 93	€ 96	€ 98	€ 100
Indirect Taxes	€ 93	€ 109	€ 179	€ 187	€ 203	€ 209	€ 214	€ 220	€ 225	€ 230
Provisions and Adjustments	(€ 645)	(€ 392)	(€ 327)	(€ 258)	(€ 206)	(€ 212)	(€ 217)	(€ 223)	(€ 228)	(€ 233)
EBITDA	**€ 52,756**	**€ 55,598**	**€ 58,655**	**€ 60,163**	**€ 61,891**	**€ 63,778**	**€ 65,572**	**€ 67,181**	**€ 68,778**	**€ 70,254**
Depreciation Amortization and Impairment Loss	€ 27,027	€ 35,984	€ 37,022	€ 38,096	€ 39,207	€ 40,357	€ 41,462	€ 42,516	€ 43,512	€ 44,443
Other Losses / (Gains) net	€ 412	€ 463	€ 376	€ 363	€ 361	€ 372	€ 382	€ 392	€ 401	€ 410
EBIT	**€ 25,318**	**€ 19,151**	**€ 21,257**	**€ 21,704**	**€ 22,323**	**€ 23,049**	**€ 23,728**	**€ 24,274**	**€ 24,865**	**€ 25,402**
Financial Costs	€ 1,876	€ 2,203	€ 2,040	€ 2,131	€ 2,272	€ 2,455	€ 2,620	€ 2,771	€ 2,892	€ 3,057
Other Financial Costs / (Gains), net	€ 41	(€ 1,950)	(€ 2,009)	(€ 2,067)	(€ 2,127)	(€ 2,190)	(€ 2,250)	(€ 2,307)	(€ 2,361)	(€ 2,411)
Net Losses / (Gains) of Affiliated Companies	(€ 219)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net Foreign Exchange Losses / (Gains)	(€ 21)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net Losses / (Gains) on Financial Assets	€ 464	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net Other Financial Expenses / (Income)	€ 17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EBT	**€ 23,400**	**€ 18,898**	**€ 21,226**	**€ 21,640**	**€ 22,178**	**€ 22,784**	**€ 23,358**	**€ 23,810**	**€ 24,334**	**€ 24,757**
Income Taxes	€ 4,325	€ 4,252	€ 4,776	€ 4,869	€ 4,990	€ 5,126	€ 5,256	€ 5,357	€ 5,475	€ 5,570
Net Income from continuing operations	**€ 19,075**	**€ 14,646**	**€ 16,450**	**€ 16,771**	**€ 17,188**	**€ 17,657**	**€ 18,103**	**€ 18,453**	**€ 18,859**	**€ 19,186**
Net Income from discontinued operations	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Net Income	**€ 19,075**	**€ 14,646**	**€ 16,450**	**€ 16,771**	**€ 17,188**	**€ 17,657**	**€ 18,103**	**€ 18,453**	**€ 18,859**	**€ 19,186**
CAPEX	**€ 18,751**	**€ 26,451**	**€ 27,250**	**€ 28,041**	**€ 30,955**	**€ 31,862**	**€ 32,735**	**€ 33,567**	**€ 34,354**	**€ 35,089**

Source: *Group Analysis*

Appendix 23: *Telco Income Statement Forecast*

Telco Segment Income Statement - Net of eliminations In Thousand €	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Revenues	**€ 1,488,890**	**€ 1,528,005**	**€ 1,546,841**	**€ 1,564,680**	**€ 1,582,466**	**€ 1,600,381**	**€ 1,618,929**	**€ 1,637,741**	**€ 1,660,034**	**€ 1,688,947**
Consumer Segment Revenue	€ 1,061,359	€ 1,088,903	€ 1,099,444	€ 1,108,748	€ 1,118,131	€ 1,127,593	€ 1,137,135	€ 1,146,758	€ 1,159,460	€ 1,178,165
Consumer RGUs	9403	9541	9528	9504	9479	9454	9430	9406	9406	9453
Consumer ARPU (in €)	€ 13	€ 14	€ 15	€ 17	€ 18	€ 19	€ 21	€ 22	€ 23	€ 25
Business Segment Revenue	€ 331,109	€ 336,176	€ 343,239	€ 350,536	€ 357,741	€ 364,987	€ 372,744	€ 380,665	€ 388,754	€ 397,015
Business RGUs	1707	1731	1765	1800	1835	1870	1907	1945	1984	2024
Business ARPU (in €)	€ 194	€ 194	€ 194	€ 195	€ 195	€ 195	€ 195	€ 196	€ 196	€ 196
Wholesale Revenue	€ 96,422	€ 102,926	€ 104,198	€ 105,396	€ 106,595	€ 107,801	€ 109,051	€ 110,318	€ 111,820	€ 113,767
Operating Costs Excluding D&A	**€ 826,780**	**€ 865,552**	**€ 876,244**	**€ 886,327**	**€ 932,991**	**€ 943,552**	**€ 954,488**	**€ 965,579**	**€ 978,723**	**€ 995,770**
Wages and Salaries	€ 81,923	€ 85,757	€ 86,817	€ 87,816	€ 88,814	€ 89,819	€ 90,860	€ 91,916	€ 93,167	€ 94,790
Direct Costs	€ 328,096	€ 375,159	€ 379,793	€ 384,164	€ 425,119	€ 429,932	€ 434,915	€ 439,969	€ 445,958	€ 453,725
Cost of Products Sold	€ 94,767	€ 93,084	€ 94,234	€ 95,318	€ 96,401	€ 97,493	€ 98,623	€ 99,769	€ 101,127	€ 102,888
Marketing and Advertising	€ 34,332	€ 32,812	€ 33,217	€ 33,599	€ 33,981	€ 34,366	€ 34,764	€ 35,168	€ 35,647	€ 36,268
Support Services	€ 90,896	€ 92,580	€ 93,724	€ 94,802	€ 95,880	€ 96,965	€ 98,089	€ 99,229	€ 100,580	€ 102,331
Supplies and External Services	€ 141,354	€ 130,772	€ 132,388	€ 133,911	€ 135,433	€ 136,966	€ 138,554	€ 140,164	€ 142,072	€ 144,546
Other Operating Losses / (Gains)	€ 731	€ 660	€ 668	€ 676	€ 684	€ 691	€ 699	€ 707	€ 717	€ 730
Indirect Taxes	€ 35,663	€ 37,195	€ 37,655	€ 38,088	€ 38,521	€ 38,957	€ 39,409	€ 39,867	€ 40,409	€ 41,113
Provisions and Adjustments	€ 19,021	€ 17,532	€ 17,749	€ 17,953	€ 18,157	€ 18,363	€ 18,575	€ 18,791	€ 19,047	€ 19,379
EBITDA	**€ 662,110**	**€ 662,453**	**€ 670,637**	**€ 678,354**	**€ 649,476**	**€ 656,828**	**€ 664,441**	**€ 672,162**	**€ 681,311**	**€ 693,178**
Depreciation Amortization and Impairment Losses	€ 462,098	€ 416,209	€ 402,410	€ 391,922	€ 396,043	€ 400,194	€ 417,742	€ 439,679	€ 472,889	€ 475,769
Other Losses / (Gains) net	€ 962	€ 18,840	€ 19,072	€ 19,292	€ 19,511	€ 19,732	€ 19,961	€ 20,192	€ 20,467	€ 20,824
EBIT	**€ 199,050**	**€ 227,405**	**€ 249,155**	**€ 267,140**	**€ 233,921**	**€ 236,902**	**€ 226,738**	**€ 212,290**	**€ 187,955**	**€ 196,585**
Financial Costs	€ 61,204	€ 42,009	€ 37,321	€ 38,453	€ 38,160	€ 40,463	€ 42,479	€ 44,365	€ 45,850	€ 48,264
Other Financial Costs / (Gains), net	(€ 3,287)	€ 6,536	€ 6,536	€ 6,536	€ 6,536	€ 6,536	€ 6,536	€ 6,536	€ 6,536	€ 6,536
Net Losses / (Gains) of Affiliated Companies	(€ 6,540)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net Foreign Exchange Losses / (Gains)	(€ 82)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net Losses / (Gains) on Financial Assets	(€ 229)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Net Other Financial Expenses / (Income)	€ 3,563	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EBT	**€ 141,133**	**€ 178,859**	**€ 205,298**	**€ 222,152**	**€ 189,225**	**€ 189,903**	**€ 177,723**	**€ 161,389**	**€ 135,569**	**€ 141,785**
Effective Income Taxes	€ 17,080	€ 40,243	€ 46,192	€ 49,984	€ 42,576	€ 42,728	€ 39,988	€ 36,313	€ 30,503	€ 31,902
Net Income from continuing operations	**€ 124,053**	**€ 138,616**	**€ 159,106**	**€ 172,167**	**€ 146,649**	**€ 147,175**	**€ 137,735**	**€ 125,077**	**€ 105,066**	**€ 109,883**
Net Income from discontinued operations	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Net Income	**€ 124,053**	**€ 138,616**	**€ 159,106**	**€ 172,167**	**€ 146,649**	**€ 147,175**	**€ 137,735**	**€ 125,077**	**€ 105,066**	**€ 109,883**

Source: *Group Analysis*

Appendix 24: *Consolidated Income Statement Forecast*

Consolidated Income Statement *In Thousand €*	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Revenues	**€ 1,594,829**	**€ 1,639,833**	**€ 1,662,089**	**€ 1,683,231**	**€ 1,704,475**	**€ 1,725,966**	**€ 1,747,955**	**€ 1,770,047**	**€ 1,795,439**	**€ 1,827,249**
Operating Costs Excluding D&A	**€ 879,962**	**€ 921,782**	**€ 932,797**	**€ 944,714**	**€ 993,107**	**€ 1,005,361**	**€ 1,017,942**	**€ 1,030,703**	**€ 1,045,350**	**€ 1,063,818**
Wages and Salaries	€ 93,436	€ 97,187	€ 97,906	€ 98,969	€ 100,069	€ 101,405	€ 102,763	€ 104,122	€ 105,659	€ 107,549
Direct Costs	€ 351,535	€ 399,630	€ 405,576	€ 411,346	€ 453,218	€ 458,854	€ 464,629	€ 470,438	€ 477,141	€ 485,576
Cost of Products Sold	€ 98,720	€ 95,094	€ 95,585	€ 96,445	€ 97,138	€ 98,251	€ 99,401	€ 100,567	€ 101,944	€ 103,723
Marketing and Advertising	€ 37,890	€ 38,552	€ 38,873	€ 39,808	€ 40,657	€ 41,238	€ 41,824	€ 42,408	€ 43,056	€ 43,835
Support Services	€ 93,654	€ 95,298	€ 96,263	€ 97,354	€ 98,438	€ 99,598	€ 100,794	€ 102,003	€ 103,419	€ 105,231
Supplies and External Services	€ 149,697	€ 140,776	€ 142,561	€ 144,048	€ 146,140	€ 147,916	€ 149,756	€ 151,708	€ 153,864	€ 156,586
Other Operating Losses / (Gains)	€ 898	€ 799	€ 780	€ 773	€ 772	€ 782	€ 793	€ 803	€ 815	€ 830
Indirect Taxes	€ 35,756	€ 37,304	€ 37,834	€ 38,275	€ 38,724	€ 39,166	€ 39,623	€ 40,087	€ 40,634	€ 41,343
Provisions and Adjustments	€ 18,375	€ 17,140	€ 17,421	€ 17,695	€ 17,951	€ 18,151	€ 18,358	€ 18,568	€ 18,819	€ 19,146
EBITDA	**€ 714,867**	**€ 718,051**	**€ 729,292**	**€ 738,517**	**€ 711,367**	**€ 720,606**	**€ 730,013**	**€ 739,343**	**€ 750,089**	**€ 763,432**
Depreciation Amortization and Impairment Losses	€ 489,125	€ 452,193	€ 439,432	€ 430,018	€ 435,250	€ 440,551	€ 459,204	€ 482,195	€ 516,401	€ 520,212
Other Losses / (Gains) net	€ 1,374	€ 19,302	€ 19,448	€ 19,655	€ 19,872	€ 20,104	€ 20,343	€ 20,584	€ 20,868	€ 21,233
EBIT	**€ 224,367**	**€ 246,556**	**€ 270,412**	**€ 288,844**	**€ 256,245**	**€ 259,951**	**€ 250,467**	**€ 236,564**	**€ 212,820**	**€ 221,987**
Financial Costs	€ 63,080	€ 44,213	€ 39,361	€ 40,584	€ 40,433	€ 42,918	€ 45,099	€ 47,136	€ 48,743	€ 51,321
Other Financial Costs / (Gains), net	(€ 3,246)	€ 4,586	€ 4,527	€ 4,469	€ 4,409	€ 4,346	€ 4,286	€ 4,229	€ 4,175	€ 4,125
EBT	**€ 164,534**	**€ 197,757**	**€ 226,524**	**€ 243,792**	**€ 211,403**	**€ 212,687**	**€ 201,081**	**€ 185,199**	**€ 159,902**	**€ 166,542**
Effective Income Taxes	€ 21,405	€ 44,495	€ 50,968	€ 54,853	€ 47,566	€ 47,855	€ 45,243	€ 41,670	€ 35,978	€ 37,472
Net Income from continuing operations	**€ 143,129**	**€ 153,262**	**€ 175,556**	**€ 188,939**	**€ 163,837**	**€ 164,832**	**€ 155,838**	**€ 143,529**	**€ 123,924**	**€ 129,070**
Net Income from discontinued operations	€	€	€	€	€	€	€	€	€	€
Net Income	**€ 143,129**	**€ 153,262**	**€ 175,556**	**€ 188,939**	**€ 163,837**	**€ 164,832**	**€ 155,838**	**€ 143,529**	**€ 123,924**	**€ 129,070**
Amount of Shares Outstanding (in thousand)	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38
EPS	€ 0.28	€ 0.30	€ 0.34	€ 0.37	€ 0.32	€ 0.32	€ 0.30	€ 0.28	€ 0.24	€ 0.25
EBITDA AL	**€ 589,543**	**€ 614,505**	**€ 624,341**	**€ 632,231**	**€ 603,740**	**€ 611,621**	**€ 619,640**	**€ 627,575**	**€ 704,667**	**€ 607,221**

Source: *Group Analysis*

Appendix 25: *Telco Balance Sheet Forecast*

Telco Segment Balance Sheet - Net of Eliminations *In Thousand €*	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Business										
(+) Operating Cash	€ 15,807	€ 11,590	€ 11,733	€ 11,868	€ 12,003	€ 12,139	€ 12,280	€ 12,422	€ 12,591	€ 12,811
(+) Inventories	€ 68,092	€ 71,966	€ 69,378	€ 66,660	€ 68,680	€ 65,589	€ 62,437	€ 59,204	€ 55,998	€ 52,891
(+) Accounts Receivable	€ 378,537	€ 387,846	€ 391,995	€ 395,855	€ 399,697	€ 403,557	€ 407,561	€ 411,616	€ 416,530	€ 423,082
(+) Contract Assets	€	€	€	€	€	€	€	€	€	€
(+) Prepaid Expenses	€ 56,263	€ 57,465	€ 57,895	€ 58,279	€ 58,655	€ 59,030	€ 59,422	€ 59,817	€ 60,331	€ 61,077
(+) Other Current Assets	€ 6,929	€ 7,141	€ 7,259	€ 7,372	€ 7,486	€ 7,602	€ 7,721	€ 7,842	€ 7,981	€ 8,153
(-) Accounts Payable	€ 280,051	€ 307,992	€ 309,657	€ 311,056	€ 335,974	€ 337,397	€ 338,899	€ 340,400	€ 342,565	€ 346,019
(-) Tax Paybale	€ 41,814	€ 42,267	€ 42,135	€ 41,959	€ 41,768	€ 41,564	€ 41,362	€ 41,151	€ 41,010	€ 41,011
(-) Accrued Expenses	€ 202,296	€ 205,916	€ 206,744	€ 207,388	€ 207,991	€ 208,570	€ 209,192	€ 209,807	€ 210,822	€ 212,621
(-) Other Current Liabilities	€ 23,763	€ 25,075	€ 26,082	€ 27,087	€ 28,108	€ 29,147	€ 30,214	€ 31,303	€ 32,477	€ 33,804
Net Working Capital	**(€ 22,296)**	**(€ 45,242)**	**(€ 46,359)**	**(€ 47,456)**	**(€ 67,318)**	**(€ 68,761)**	**(€ 70,247)**	**(€ 71,760)**	**(€ 73,443)**	**(€ 75,440)**
Tangible Assets	€ 1,108,093	€ 1,065,064	€ 1,065,064	€ 1,065,064	€ 1,076,988	€ 1,088,996	€ 1,101,431	€ 1,114,041	€ 1,129,015	€ 1,148,484
Intangible Assets	€ 1,100,966	€ 1,046,683	€ 959,066	€ 891,868	€ 902,006	€ 912,217	€ 1,003,736	€ 1,121,853	€ 1,305,867	€ 1,298,923
Contract Costs	€ 60,215	€ 63,128	€ 63,128	€ 63,128	€ 63,128	€ 63,128	€ 63,128	€ 63,128	€ 63,128	€ 63,128
Rights of Use	€ 275,202	€ 267,973	€ 271,283	€ 274,405	€ 277,524	€ 280,665	€ 283,918	€ 287,218	€ 291,127	€ 296,198
Investments in Jointly Controlled Companies and Associated Companies	€ 22,925	€ 18,044	€ 18,266	€ 18,477	€ 18,687	€ 18,898	€ 19,117	€ 19,339	€ 19,603	€ 19,944
Accounts Receivable - Other	€ 1,555	€ 5,035	€ 5,098	€ 5,156	€ 5,215	€ 5,274	€ 5,335	€ 5,397	€ 5,471	€ 5,566
Deferred Income Tax Assets	€ 83,769	€ 82,874	€ 83,898	€ 84,864	€ 85,828	€ 86,800	€ 87,806	€ 88,826	€ 90,035	€ 91,604
Other Non-Current Assets	€ 27,960	€ 10,231	€ 10,357	€ 10,476	€ 10,595	€ 10,715	€ 10,840	€ 10,966	€ 11,115	€ 11,308
Provisions	€ 68,817	€ 81,893	€ 82,905	€ 83,859	€ 84,812	€ 85,772	€ 86,766	€ 87,775	€ 88,969	€ 90,519
Accrued Expenses	€	€	€	€	€	€	€	€	€	€
Other Non-Current Liabilities	€ 38,642	€ 39,798	€ 40,290	€ 40,753	€ 41,216	€ 41,683	€ 42,166	€ 42,656	€ 43,237	€ 43,990
Deferred Income Tax Liabilities	€ 54,270	€ 35,761	€ 36,203	€ 36,620	€ 37,036	€ 37,455	€ 37,889	€ 38,330	€ 38,851	€ 39,528
Business Invested Capital	**€ 2,596,661**	**€ 2,456,337**	**€ 2,370,404**	**€ 2,304,749**	**€ 2,309,589**	**€ 2,333,023**	**€ 2,438,244**	**€ 2,570,248**	**€ 2,770,860**	**€ 2,785,677**
Financial	**(€ 1,700,707)**	**(€ 1,714,669)**	**(€ 1,735,851)**	**(€ 1,755,825)**	**(€ 1,681,078)**	**(€ 1,700,109)**	**(€ 1,719,814)**	**(€ 1,739,798)**	**(€ 1,763,480)**	**(€ 1,794,195)**
Excess Cash	€	€	€	€	€	€	€	€	€	€
Debt	**€ 1,700,707**	**€ 1,714,669**	**€ 1,735,851**	**€ 1,755,825**	**€ 1,681,078**	**€ 1,700,109**	**€ 1,719,814**	**€ 1,739,798**	**€ 1,763,480**	**€ 1,794,195**
Non-current Borrowings	€ 1,440,186	€ 1,437,527	€ 1,455,285	€ 1,472,031	€ 1,409,366	€ 1,425,321	€ 1,441,840	€ 1,458,594	€ 1,478,449	€ 1,504,199
Current Borrowings	€ 260,521	€ 277,142	€ 280,565	€ 283,794	€ 271,713	€ 274,789	€ 277,973	€ 281,203	€ 285,031	€ 289,996
Non-Controling Interests	€ 5,328	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Equity	**€ 895,954**	**€ 741,668**	**€ 634,553**	**€ 548,925**	**€ 628,510**	**€ 632,914**	**€ 718,430**	**€ 830,450**	**€ 1,007,379**	**€ 991,482**
Amount of Shares outstanding	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38

Source: *Group Analysis*

Appendix 26: *M&E Balance Sheet Forecast*

M&E Segment Balance Sheet - Net of Eliminations *In Thousand €*	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Business										
(+) Operating Cash	€ ,814	€ ,255	€ ,293	€ ,331	€ ,369	€ ,410	€ ,448	€ ,485	€ ,520	€ ,552
(+) Inventories	€ 692	€ 717	€ 703	€ 734	€ 759	€ 746	€ 767	€ 786	€ 805	€ 822
(+) Accounts Receivable	€ 6,711	€ 9,412	€ 0,906	€ 2,382	€ 3,910	€ 5,491	€ 7,011	€ 8,460	€ 9,829	€ 1,110
(+) Contract Assets	€	€	€	€	€	€	€	€	€	€
(+) Prepaid Expenses	€ ,458	€ ,906	€ ,963	€ 2,020	€ 2,079	€ 2,140	€ 2,199	€ 2,255	€ 2,307	€ 2,357
(+) Other Current Assets	€ ,748	€ ,542	€ ,589	€ ,635	€ ,683	€ ,732	€ ,779	€ ,825	€ ,867	€ ,907
(-) Accounts Payable	€ 17,901	€ 19,640	€ 19,338	€ 20,176	€ 20,011	€ 20,369	€ 20,927	€ 21,459	€ 21,962	€ 22,432
(-) Tax Paybale	€ ,599	€ 2,517	€ 2,594	€ 2,669	€ 2,747	€ 2,827	€ 2,905	€ 2,978	€ 3,048	€ 3,113
(-) Accrued Expenses	€ 17,641	€ 20,130	€ 20,738	€ 21,340	€ 21,962	€ 22,606	€ 23,225	€ 23,816	€ 24,374	€ 24,895
(-) Other Current Liabilities	€ 4,267	€ 5,234	€ 5,392	€ 5,549	€ 5,711	€ 5,878	€ 6,039	€ 6,193	€ 6,338	€ 6,473
Net Working Capital	**€ 1,015**	**€ 7,311**	**€ 8,392**	**€ 8,368**	**€ 9,369**	**€ 9,838**	**€ 10,107**	**€ 10,364**	**€ 10,607**	**€ 10,834**
Tangible Assets	€ 9,084	€ 10,339	€ 11,424	€ 11,755	€ 12,098	€ 12,453	€ 12,794	€ 13,119	€ 13,426	€ 13,713
Intangible Assets	€ 92,765	€ 96,972	€ 98,925	€ 101,794	€ 104,763	€ 107,835	€ 110,789	€ 113,605	€ 116,266	€ 118,754
Contract Costs	€	€	€	€	€	€	€	€	€	€
Rights of Use	€ 42,793	€ 41,847	€ 43,112	€ 44,363	€ 45,657	€ 46,996	€ 48,283	€ 49,510	€ 50,670	€ 51,754
Investments In Jointly Controlled Companies and Associated Companies	€ 9,325	€ 8,505	€ 8,762	€ 9,016	€ 9,279	€ 9,551	€ 9,813	€ 10,062	€ 10,298	€ 10,519
Accounts Receivable - Other	€ 109	€ ,345	€ ,386	€ ,426	€ ,467	€ ,511	€ ,552	€ ,591	€ ,629	€ ,663
Deferred Income Tax Assets	€ 7,558	€ 10,864	€ 11,192	€ 11,517	€ 11,853	€ 12,200	€ 12,534	€ 12,853	€ 13,154	€ 13,435
Other Non-Current Assets	€ 459	€ 600	€ 619	€ 636	€ 655	€ 674	€ 693	€ 710	€ 727	€ 742
Provisions	€ 8,823	€ 7,643	€ 7,875	€ 8,103	€ 8,339	€ 8,584	€ 8,819	€ 9,043	€ 9,255	€ 9,453
Accrued Expenses	€	€	€	€	€	€	€	€	€	€
Other Non-Current Liabilities	€	€	€	€	€	€	€	€	€	€
Deferred Income Tax Liabilities	€ 552	€ 576	€ 594	€ 611	€ 629	€ 647	€ 665	€ 682	€ 698	€ 713
Business Invested Capital	**€ 153,734**	**€ 169,563**	**€ 175,343**	**€ 180,162**	**€ 186,174**	**€ 191,826**	**€ 197,081**	**€ 202,091**	**€ 206,825**	**€ 211,250**
Financial	**(€ 83,540)**	**(€ 89,927)**	**(€ 94,872)**	**(€ 97,312)**	**(€ 100,107)**	**(€ 103,158)**	**(€ 106,060)**	**(€ 108,663)**	**(€ 111,245)**	**(€ 113,633)**
Excess Cash	€	€	€	€	€	€	€	€	€	€
Debt	€ 83,540	€ 89,927	€ 94,872	€ 97,312	€ 100,107	€ 103,158	€ 106,060	€ 108,663	€ 111,245	€ 113,633
Non-current Borrowings	€ 71,404	€ 72,936	€ 76,947	€ 78,925	€ 81,192	€ 83,667	€ 86,021	€ 88,132	€ 90,226	€ 92,163
Current Borrowings	€ 12,136	€ 16,991	€ 17,926	€ 18,386	€ 18,915	€ 19,491	€ 20,039	€ 20,531	€ 21,019	€ 21,470
Non-Controling Interests	€	€	€	€	€	€	€	€	€	€
Equity	**€ 70,194**	**€ 79,636**	**€ 80,471**	**€ 82,850**	**€ 86,067**	**€ 88,669**	**€ 91,020**	**€ 93,427**	**€ 95,579**	**€ 97,617**
Amount of Shares outstanding	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38

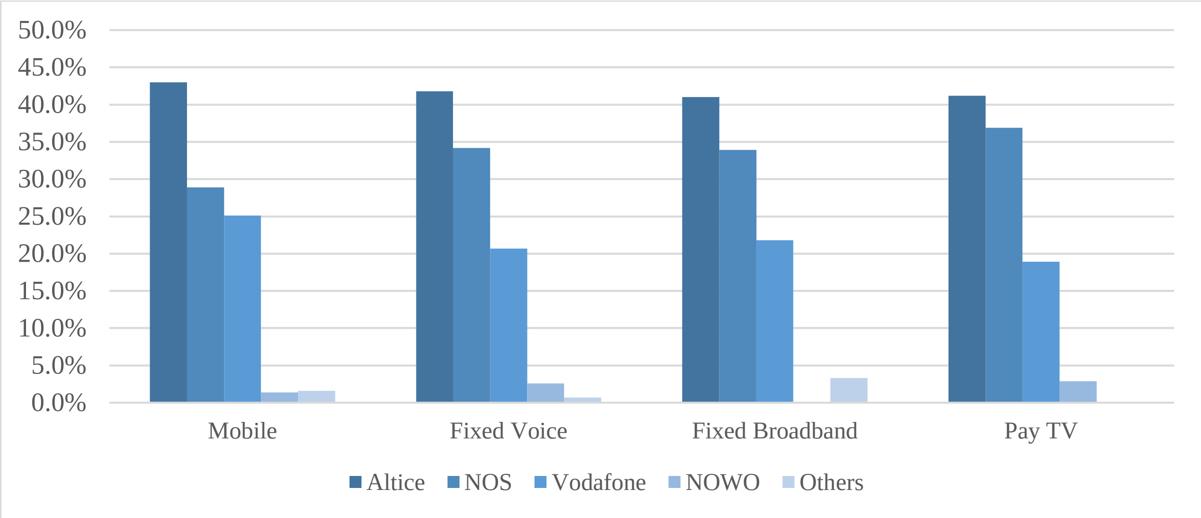
Source: *Group Analysis*

Appendix 27: *Consolidated Balance Sheet Forecast*

Consolidated Balance Sheet *In Thousand €*	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Business										
(+) Operating Cash	€ 7,621	€ 12,845	€ 13,026	€ 13,199	€ 13,372	€ 13,548	€ 13,728	€ 13,907	€ 14,111	€ 14,363
(+) Inventories	€ 68,784	€ 72,683	€ 70,081	€ 67,394	€ 69,439	€ 66,336	€ 63,203	€ 59,990	€ 56,802	€ 53,713
(+) Accounts Receivable	€ 415,248	€ 437,258	€ 442,900	€ 448,237	€ 453,607	€ 459,048	€ 464,572	€ 470,076	€ 476,359	€ 484,192
(+) Contract Assets	€	€	€	€	€	€	€	€	€	€
(+) Prepaid Expenses	€ 57,720	€ 59,370	€ 59,858	€ 60,299	€ 60,735	€ 61,170	€ 61,621	€ 62,071	€ 62,639	€ 63,434
(+) Other Current Assets	€ 8,677	€ 8,683	€ 8,847	€ 9,007	€ 9,169	€ 9,334	€ 9,501	€ 9,667	€ 9,848	€ 10,060
(-) Accounts Payable	€ 297,952	€ 327,632	€ 328,994	€ 331,232	€ 355,985	€ 357,766	€ 359,826	€ 361,860	€ 364,526	€ 368,450
(-) Tax Paybale	€ 3,412	€ 44,784	€ 44,729	€ 44,628	€ 44,514	€ 44,392	€ 44,267	€ 44,130	€ 44,058	€ 44,124
(-) Accrued Expenses	€ 219,938	€ 226,046	€ 227,482	€ 228,728	€ 229,953	€ 231,176	€ 232,417	€ 233,622	€ 235,195	€ 237,516
(-) Other Current Liabilities	€ 28,029	€ 30,309	€ 31,474	€ 32,636	€ 33,819	€ 35,025	€ 36,253	€ 37,496	€ 38,815	€ 40,277
Net Working Capital	**(€ 21,280)**	**(€ 37,932)**	**(€ 37,967)**	**(€ 39,088)**	**(€ 57,949)**	**(€ 58,923)**	**(€ 60,139)**	**(€ 61,395)**	**(€ 62,836)**	**(€ 64,606)**
Tangible Assets	€ 1,117,177	€ 1,075,402	€ 1,076,487	€ 1,076,819	€ 1,089,086	€ 1,101,449	€ 1,114,225	€ 1,127,160	€ 1,142,441	€ 1,162,198
Intangible Assets	€ 1,193,731	€ 1,143,655	€ 1,057,991	€ 993,662	€ 1,006,769	€ 1,020,052	€ 1,114,525	€ 1,235,458	€ 1,422,133	€ 1,417,677
Contract Costs	€ 160,215	€ 163,128	€ 163,128	€ 163,128	€ 163,128	€ 163,128	€ 163,128	€ 163,128	€ 163,128	€ 163,128
Rights of Use	€ 317,995	€ 309,820	€ 314,395	€ 318,767	€ 323,181	€ 327,661	€ 332,201	€ 336,728	€ 341,797	€ 347,952
Investments In Jointly Controlled Companies and Associated Companies	€ 22,251	€ 26,549	€ 27,029	€ 27,493	€ 27,966	€ 28,450	€ 28,930	€ 29,402	€ 29,901	€ 30,463
Accounts Receivable - Other	€ 1,665	€ 6,380	€ 6,483	€ 6,582	€ 6,682	€ 6,784	€ 6,887	€ 6,988	€ 7,099	€ 7,229
Deferred Income Tax Assets	€ 91,326	€ 93,738	€ 95,090	€ 96,380	€ 97,681	€ 99,000	€ 100,340	€ 101,679	€ 103,189	€ 105,039
Other Non-Current Assets	€ 28,419	€ 10,831	€ 10,976	€ 11,113	€ 11,250	€ 11,390	€ 11,532	€ 11,676	€ 11,842	€ 12,051
Provisions	€ 77,640	€ 89,537	€ 90,780	€ 91,962	€ 93,151	€ 94,356	€ 95,585	€ 96,818	€ 98,224	€ 99,972
Accrued Expenses	€	€	€	€	€	€	€	€	€	€
Other Non-Current Liabilities	€ 38,642	€ 39,798	€ 40,290	€ 40,753	€ 41,216	€ 41,683	€ 42,166	€ 42,656	€ 43,237	€ 43,990
Deferred Income Tax Liabilities	€ 54,822	€ 36,338	€ 36,797	€ 37,231	€ 37,665	€ 38,102	€ 38,554	€ 39,011	€ 39,549	€ 40,241
Business Invested Capital	**€ 2,771,674**	**€ 2,663,832**	**€ 2,583,714**	**€ 2,523,999**	**€ 2,553,711**	**€ 2,583,772**	**€ 2,695,463**	**€ 2,833,734**	**€ 3,040,520**	**€ 3,061,534**
Financial	**(€ 1,784,247)**	**(€ 1,804,596)**	**(€ 1,830,723)**	**(€ 1,853,137)**	**(€ 1,781,185)**	**(€ 1,803,267)**	**(€ 1,825,874)**	**(€ 1,848,461)**	**(€ 1,874,726)**	**(€ 1,907,828)**
Excess Cash	€	€	€	€	€	€	€	€	€	€
Debt	€ 1,784,247	€ 1,804,596	€ 1,830,723	€ 1,853,137	€ 1,781,185	€ 1,803,267	€ 1,825,874	€ 1,848,461	€ 1,874,726	€ 1,907,828
Non-current Borrowings	€ 1,511,589	€ 1,510,463	€ 1,532,232	€ 1,550,956	€ 1,490,558	€ 1,508,987	€ 1,527,861	€ 1,546,726	€ 1,568,675	€ 1,596,362
Current Borrowings	€ 272,657	€ 294,133	€ 298,491	€ 302,180	€ 290,627	€ 294,279	€ 298,013	€ 301,735	€ 306,050	€ 311,466
Non-Controling Interests	€ 6,328	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Equity	**€ 966,148**	**€ 821,304**	**€ 715,024**	**€ 631,775**	**€ 714,577**	**€ 721,582**	**€ 809,450**	**€ 923,877**	**€ 1,102,959**	**€ 1,089,099**
Amount of Shares outstanding	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38	515161.38

Source: *Group Analysis*

***Appendix 28:** Telecommunications Market Share in Q2 2023*



Source: Anacom

***Appendix 29a**: Telecommunication operators prices (19-11-2023)*

Pack (4P)	Operator	Price
Mobile (1 - 5GB), 200 Mbps, TV, Fixed Voice	Altice	60.99 €
Mobile (1 - 5GB), 200 Mbps, TV, Fixed Voice	NOS	60.99 €
Mobile (1 - 5GB), 200 Mbps, TV, Fixed Voice	Vodafone	61.90 €
Mobile (1 - 15GB), 250 Mbps, TV, Fixed Voice	NOWO	45.00 €
*NOWO includes WI-FI 360º MESH		

Pack (4P) - With discounts	Operator	Price
Mobile (1 - 5GB), 200 Mbps, TV, Fixed Voice	Altice	52.99 €
Mobile (1 - 5GB), 200 Mbps, TV, Fixed Voice	NOS	57.99 €
Mobile (1 - 5GB), 200 Mbps, TV, Fixed Voice	Vodafone	53.90 €
Mobile (1 - 15GB), 250 Mbps, TV, Fixed Voice	NOWO	41.25 €

Pack (4P) - With discounts	Operator	Price
Mobile (2 - 20GB), 500 Mbps, TV, Fixed Voice	Altice	66.99 €
Mobile (2 - 20GB), 500 Mbps, TV, Fixed Voice	NOS	69.99 €
Mobile (2 - 20GB), 500 Mbps, TV, Fixed Voice	Vodafone	67.50 €
Mobile (1 - 15GB), 500 Mbps, TV, Fixed Voice	NOWO	62.50 €

Appendix 29b: *Telecommunication operators prices (19-11-2023)*

Pack (4P) - With discounts	Operator	Price
Mobile (2 - 20GB), 500 Mbps, TV, Fixed Voice	Altice	63.99 €
Mobile (2 - 20GB), 500 Mbps, TV, Fixed Voice	NOS	66.99 €
Mobile (2 - 20GB), 500 Mbps, TV, Fixed Voice	Vodafone	64.50 €
Mobile (1 - 15GB), 500 Mbps, TV, Fixed Voice	NOWO	57.50 €

Pacote (3P)	Operator	Price
200 Mbps, TV, Fixed Voice	Altice	40.49 €
200 Mbps, TV, Fixed Voice	NOS	40.49 €
200 Mbps, TV, Fixed Voice	Vodafone	40.50 €
250 Mbps, TV, Fixed Voice	NOWO	35.00 €

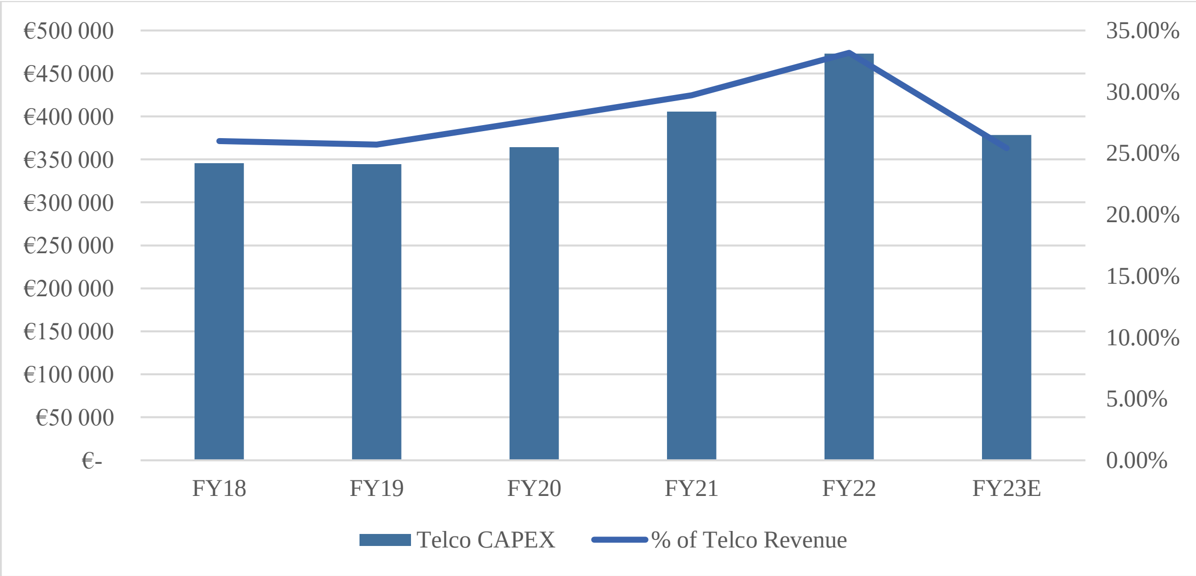
Pacote (3P) - With Discounts	Operator	Price
200 Mbps, TV, Fixed Voice	Altice	34.49 €
200 Mbps, TV, Fixed Voice	NOS	38.49 €
200 Mbps, TV, Fixed Voice	Vodafone	34.50 €
250 Mbps, TV, Fixed Voice	NOWO	31.25 €

Pacote (3P)	Operator	Price
500 Mbps, TV, Fixed Voice	Altice	43.49 €
500 Mbps, TV, Fixed Voice	NOS	43.49 €
500 Mbps, TV, Fixed Voice	Vodafone	44.50 €
500 Mbps, TV, Fixed Voice	NOWO	37.50 €

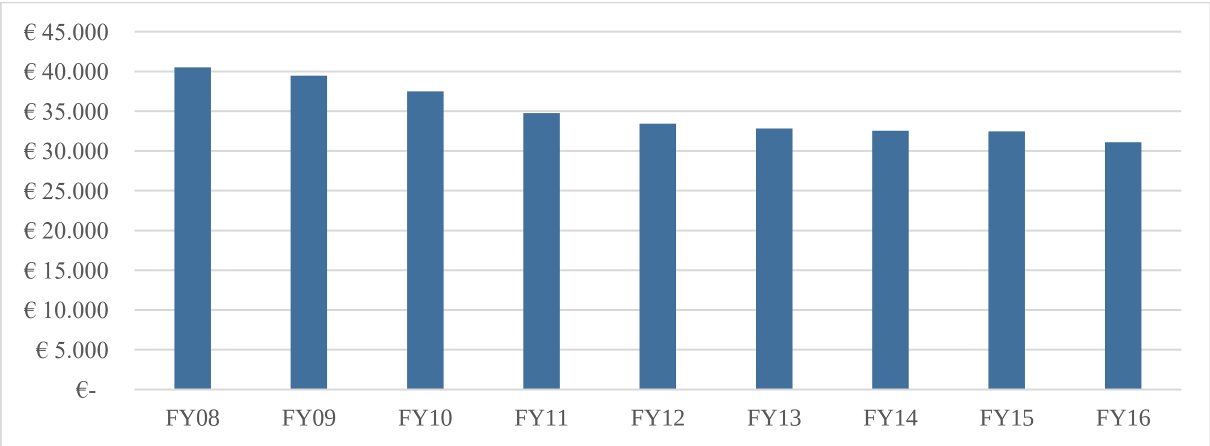
Pacote (3P) - With Discounts	Operator	Price
500 Mbps, TV, Fixed Voice	Altice	37.49 €
500 Mbps, TV, Fixed Voice	NOS	41.49 €
500 Mbps, TV, Fixed Voice	Vodafone	38.50 €
500 Mbps, TV, Fixed Voice	NOWO	33.75 €

Source: Companies website on 19-11-2023

***Appendix 30:** CAPEX without leasings and spectrum licenses (in thousands €)*

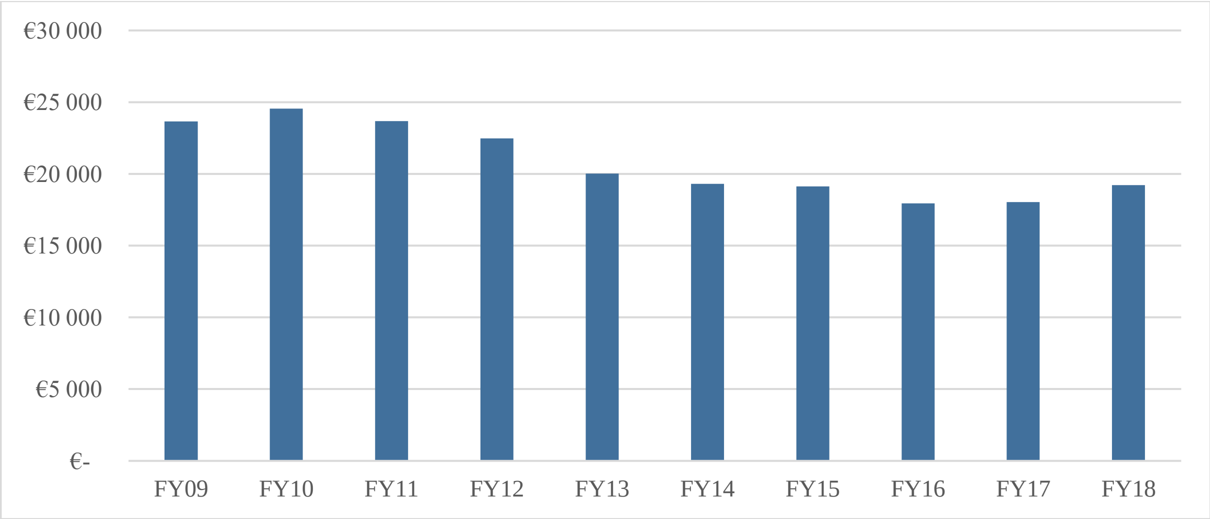


***Appendix 31**: Telecom market revenue in France from 2008 to 2019 (in billion €)*



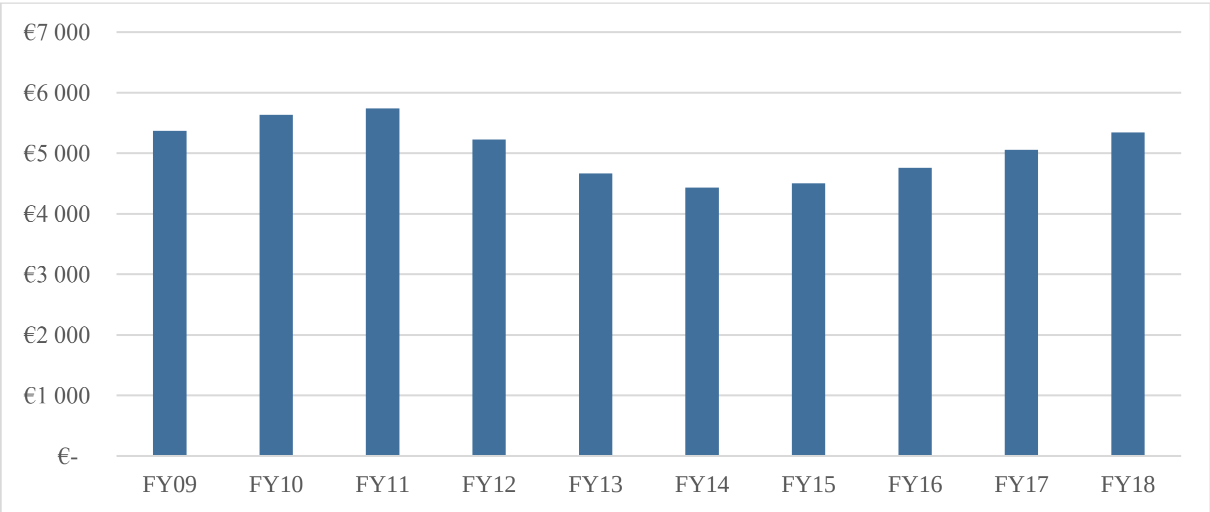
Source: Statista

***Appendix 32a**: Orange Turnover in France from 2008 to 2018 (in million €)*



Source: Refinitiv

***Appendix 32b**: Bouygues Turnover in France from 2008 to 2018 (in million €)*



Source: Statista

Appendix 33: *Free Mobile Comparative Scenario Free Cash Flow to Firm (in thousands)*

Free Cashflow to Firm *In Thousand €*	FY22	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Revenues	€ 1,425,693	€ 1,488,890	€ 1,410,684	€ 1,294,480	€ 1,239,609	€ 1,226,172	€ 1,251,827	€ 1,278,354	€ 1,305,444	€ 1,333,107	€ 1,361,355
Growth Rate (%)	4.44%	4.43%	-5.25%	-8.24%	-4.24%	-1.08%	2.09%	2.12%	2.12%	2.12%	2.12%
Operating Costs	€ 826,531	€ 826,780	€ 903,430	€ 783,478	€ 736,864	€ 725,902	€ 738,052	€ 753,692	€ 769,664	€ 785,973	€ 802,628
% of Revenues	57.97%	55.53%	64.04%	60.52%	59.44%	59.20%	58.96%	58.96%	58.96%	58.96%	58.96%
EBITDA	€ 599,161	€ 662,110	€ 507,254	€ 511,002	€ 502,745	€ 500,270	€ 513,775	€ 524,662	€ 535,780	€ 547,134	€ 558,727
EBITDA Margin (%)	42.03%	44.47%	35.96%	39.48%	40.56%	40.80%	41.04%	41.04%	41.04%	41.04%	41.04%
Depreciation Amortization	€ 452,126	€ 462,098	€ 399,687	€ 369,551	€ 352,262	€ 348,710	€ 355,424	€ 372,828	€ 394,027	€ 422,871	€ 386,939
% of TFA, IA, CC & RU	17.09%	17.47%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%
Other Losses / (Gains) net	(€ 100,488)	€ 962	€ 17,393	€ 15,960	€ 15,284	€ 15,118	€ 15,434	€ 15,761	€ 16,095	€ 16,437	€ 16,785
% of Revenue	-7.05%	0.06%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%
EBIT	€ 247,523	€ 199,050	€ 90,174	€ 125,491	€ 135,199	€ 136,442	€ 142,916	€ 136,073	€ 125,658	€ 107,826	€ 155,003
EBIT Margin (%)	17.36%	13.37%	6.39%	9.69%	10.91%	11.13%	11.42%	10.64%	9.63%	8.09%	11.39%
Adjusted Taxes	€ 29,712	€ 44,786	€ 20,289	€ 28,235	€ 30,420	€ 30,699	€ 32,156	€ 30,616	€ 28,273	€ 24,261	€ 34,876
Tax Rate (%)	12.00%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%
NOPLAT	€ 217,811	€ 154,264	€ 69,885	€ 97,255	€ 104,779	€ 105,742	€ 110,760	€ 105,456	€ 97,385	€ 83,565	€ 120,128
% of Revenues	15.28%	10.36%	4.95%	7.51%	8.45%	8.62%	8.85%	8.25%	7.46%	6.27%	8.82%
Depreciation & Amortization	€ 452,126	€ 462,098	€ 399,687	€ 369,551	€ 352,262	€ 348,710	€ 355,424	€ 372,828	€ 394,027	€ 422,871	€ 386,939
% of TFA, IA, CC & RU	17.09%	17.47%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%
CaPex	€ 473,045	€ 378,438	€ 350,594	€ 322,750	€ 321,959	€ 265,371	€ 284,263	€ 303,908	€ 324,259	€ 379,625	€ 443,287
% of Revenues	33.18%	25.42%	24.85%	24.93%	25.97%	21.64%	22.71%	23.77%	24.84%	28.48%	32.56%
Δ in Net Working Capital	(€ 9,011)	€ 43,496	€ 198,431	(€ 13,857)	(€ 6,254)	(€ 1,073)	(€ 208,736)	(€ 1,684)	(€ 1,731)	(€ 1,779)	(€ 1,829)
Net Working Capital	(€ 65,791)	(€ 22,296)	€ 176,135	€ 162,278	€ 156,024	€ 154,951	(€ 53,785)	(€ 55,469)	(€ 57,200)	(€ 58,979)	(€ 60,808)
Free Cash Flow to Firm (FCFF)	€ 205,904	€ 194,428	(€ 79,452)	€ 157,913	€ 141,336	€ 190,155	€ 390,658	€ 176,060	€ 168,884	€ 128,591	€ 65,609

Appendix 34: *Adjusted Scenario for NOS 2024 Free Cash Flow to Firm (in thousands)*

Free Cashflow to Firm *In Thousand €*	FY22	FY23E	FY24F	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F	FY31F	FY32F
Revenues	€ 1,425,693	€ 1,488,890	€ 1,424,002	€ 1,321,993	€ 1,308,773	€ 1,314,213	€ 1,338,378	€ 1,363,308	€ 1,388,706	€ 1,419,917	€ 1,457,291
Growth Rate (%)	4.44%	4.43%	-4.36%	-7.16%	-1.00%	0.42%	1.84%	1.86%	1.86%	2.25%	2.63%
Operating Costs	€ 826,531	€ 826,780	€ 873,346	€ 776,707	€ 758,864	€ 768,426	€ 789,081	€ 803,779	€ 818,753	€ 837,155	€ 859,190
% of Revenues	57.97%	55.53%	61.33%	58.75%	57.98%	58.47%	58.96%	58.96%	58.96%	58.96%	58.96%
EBITDA	€ 599,161	€ 662,110	€ 550,656	€ 545,286	€ 549,910	€ 545,787	€ 549,297	€ 559,529	€ 569,953	€ 582,762	€ 598,101
EBITDA Margin (%)	42.03%	44.47%	38.67%	41.25%	42.02%	41.53%	41.04%	41.04%	41.04%	41.04%	41.04%
Depreciation Amortization	€ 452,126	€ 462,098	€ 401,563	€ 373,133	€ 360,701	€ 327,821	€ 334,349	€ 352,248	€ 374,116	€ 405,240	€ 411,222
% of TFA, IA, CC & RU	17.09%	17.47%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%
Other Losses / (Gains) net	(€ 100,488)	€ 962	€ 17,557	€ 16,299	€ 16,136	€ 16,204	€ 16,502	€ 16,809	€ 17,122	€ 17,507	€ 17,968
% of Revenue	-7.05%	0.06%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%
EBIT	€ 247,523	€ 199,050	€ 131,536	€ 155,854	€ 173,072	€ 201,763	€ 198,446	€ 190,472	€ 178,715	€ 160,016	€ 168,912
EBIT Margin (%)	17.36%	13.37%	9.24%	11.79%	13.22%	15.35%	14.83%	13.97%	12.87%	11.27%	11.59%
Adjusted Taxes	€ 29,712	€ 44,786	€ 29,596	€ 35,067	€ 38,941	€ 45,397	€ 44,650	€ 42,856	€ 40,211	€ 36,004	€ 38,005
Tax Rate (%)	12.00%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%
NOPLAT	€ 217,811	€ 154,264	€ 101,940	€ 120,787	€ 134,131	€ 156,366	€ 153,796	€ 147,616	€ 138,504	€ 124,012	€ 130,907
% of Revenues	15.28%	10.36%	7.16%	9.14%	10.25%	11.90%	11.49%	10.83%	9.97%	8.73%	8.98%
Depreciation & Amortization	€ 452,126	€ 462,098	€ 401,563	€ 373,133	€ 360,701	€ 327,821	€ 334,349	€ 352,248	€ 374,116	€ 405,240	€ 411,222
% of TFA, IA, CC & RU	17.09%	17.47%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%
CaPex	€ 473,045	€ 378,438	€ 350,594	€ 322,750	€ 321,959	€ 284,425	€ 303,916	€ 324,105	€ 344,940	€ 404,345	€ 474,526
% of Revenues	33.18%	25.42%	24.62%	24.41%	24.60%	21.64%	22.71%	23.77%	24.84%	28.48%	32.56%
Δ in Net Working Capital	(€ 9,011)	€ 43,496	€ 200,093	(€ 12,070)	(€ 998)	€ 1,347	(€ 223,581)	(€ 1,651)	(€ 1,693)	(€ 1,972)	(€ 2,273)
Net Working Capital	(€ 65,791)	(€ 22,296)	€ 177,798	€ 165,727	€ 164,730	€ 166,077	(€ 57,504)	(€ 59,155)	(€ 60,848)	(€ 62,820)	(€ 65,093)
Free Cash Flow to Firm (FCFF)	€ 205,904	€ 194,428	(€ 47,184)	€ 183,240	€ 173,870	€ 198,415	€ 407,809	€ 177,410	€ 169,372	€ 126,878	€ 69,876

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Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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