# ISCTE S Business School Instituto Universitário de Lisboa

# AN EVALUATION OF THE POSSIBLE MERGER BETWEEN ZON AND SONAECOM

Daniel Valério Martins Valbom

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Supervisor: Prof. Pedro Inácio, Prof. Auxiliar, ISCTE Business School, Departamento de Finanças

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#### Resumo

Ao longo dos últimos cinco anos, a possibilidade de fusão entre a ZON e a Sonaecom tem sido alvo de especulação proveniente dos média, políticos e ambos os directores das empresas. Esta dissertação consiste num caso prático sobre uma eventual fusão entre estas duas empresas portuguesas do sector de telecomunicações

O enquadramento teórico foi definido em relação a este tema, monstrando como as empresas envolvidas serão financeiramente avaliadas, assim como a teoria associada a um processo de fusão.

Uma análise detalhada sobre a dinâmica do sector das telecomunicações em Portugal foi realizada (incluindo uma análise histórica e as novas tendências em termos de concorrência, clientes e tecnologia), demonstrando como a situação actual indicia uma boa oportunidade para a consolidação, o que é igualmente suportado pelas últimas mudanças na estrutura de accionistas da ZON e Sonaecom.

De forma a avaliar correctamente as empresas envolvidas, foi realizada uma avaliação por múltiplos permitindo uma visão comparativa com empresas do sector na Europa, e posteriormente foi aplicado o método *Discounted Cash Flow* (mais especificamente o *Free Cash Flow to the Firm*) para uma análise mais detalhada sobre as duas empresas.

Após a avaliação individual das empresas, é verificado que um eventual acordo seria financeiramente recompensador para os accionistas de ambas as empresas, através do cálculo do valor da nova empresa e das sinergias provenientes da operação.

Finalmente, é concebido o processo de uma aquisição por Consolidação; a proposta justa por troca de acções é demonstrada, assim como a resultante estrutura de accionistas da empresa criada.

Palavras-Chave: Telecomunicações, Fusões, Sinergias, Free Cash Flows to the firm

JEL Classification: G32; G34



#### Abstract

Over the last five years, a possible deal between Zon and Sonaecom has being target of speculation from the media, opinion makers, politicians and both companies' executives. This research consists in a practical case over an eventual merger between these two Portuguese telecom companies.

The theoretical framework was defined regarding this topic, elucidating how both companies would be financial evaluated, as well as the theory behind a merger process appraisal.

A detailed analysis over the Portuguese telecom market dynamics was made (including prior and actual trends of the competition, clients and technology); illustrating as the current situation indicates a good opportunity for consolidation, which is also supported by the last events regarding the capital structures of ZON and Sonaecom.

In order to properly evaluate the firms involved, it was applied a relative valuation for a comparative analysis over other telecom companies in Europe, and then the Discounted Cash Flow method (more specifically the Free Cash Flow to the Firm) for a more detailed assessment of the enterprises under valuation.

After the individual valuation of the firms, it was verified that a possible deal would financially compensate the shareholders of both companies, through the achievement of the hypothetic new firm value and synergies from the operation.

Finally, the process of an acquisition by the Consolidation type approach is devised; the fair share exchange proposal is delivered as well as the resulting shareholders' structure of the new created company.

Key words: Telecom, Mergers, Synergies; Free Cash Flow to the Firm

JEL Classification: G32; G34



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# 1. Theory

# 1.1 Discount Cash Flow methodology

The Free Cash Flow to the Firm (FCFF) methodology<sup>1</sup>, designed by Rappaport (1998) is one of the existents valuation methods that can be applied to the forecasts of the analyst in order to access the intrinsic value of a company.

These models access the capacity of the company to make earnings in the future in order to repay the debt and remunerate its shareholders. It is based in the calculation of Discounted Cash Flows, or, by other words, the present value of the future cash flows generated by the company.

#### Free Cash Flow to the Firm

First of all, it is crucial a detailed and critical analysis over the historical data available, involving the past Company Reports as well as the market sector dynamics including prior and current trends on the competition, clients and products.

With this taken into consideration, the income statement forecasts are constructed, usually for a period around 5 years, a time frame in which the analyst can have a more precise prediction over the evolution of the business.

The FCFF calculation embraces at the same time the components of profitability and investment of the company: Basically, it is, on a yearly basis, the remaining cash-flow in the firm, after taking into account taxes (NOPLAT<sup>2</sup>); and the reinvestment needs (CAPEX Investment in excess of depreciation and amortization, and Working Capital Investment).

Then, a continuing or horizon value is calculated, which considers the ability of the company to produce cash-flows after the time frame chosen, by applying an expected stable growth rate (g) over the inputs of the prior year cash-flow.

<sup>&</sup>lt;sup>1</sup> The formula calculations of the referred technical terms in this chapter are shown in Annex 1

<sup>&</sup>lt;sup>2</sup> NOPLAT (Net Operating Profit Less Adjusted Taxes) is used as an input of the DCF model, representing the profits generated by the company's core operations after subtracting the income taxes related to the core operations. Rather than Net Income, EBIT is used since it removes the effects of the capital structure (not considering the interests costs or minority interests as Net Income would).



#### Weighted Average Cost of Capital

The prior cash-flows, as well as the continuing value, in order to take into consideration the time value of money and the implicit risk, are discounted to the present time through a discount rate. The discount rate generally used is the Weighted Average Cost of Capital (WACC).

The WACC discount rate considers the capital structure of the company, taking into account the weight of each category of capital in the firm: Equity and Debt<sup>3</sup>.

#### **Cost of Equity**

The Cost of Equity (Re) can be calculated through various models as the Arbitrage Pricing Model, the Multi Factor Model or the Proxy model, but the most known model is the Capital Asset Pricing Model (CAPM). The CAPM model relates the risk with the expected return, being used to pricing the risky securities or in this perspective, the investment on a company.

CAPM states that "the expected return on any investment can be written as the sum of the risk-free rate and an extra return to compensate for the risk" (Aswath Damodaran, page, 1998; Investment Valuation, page 159).

While the risk-free rate(Rf) compensates the time value of money, the risk premium consists on the second half of the formula, representing the compensation needed to lead an investor to take additional risk: The risk measure (beta or  $\beta$ i) and the market risk premium which is determined from the slope of the Security Market Line<sup>4</sup>.

However, Damodaran (1998) argues that a beta estimated from a regression is noisy and sometimes the standard error can be so large that the estimation should be considered useless. He also defends that using historical data is the bigger error, since firms do change over time (business mix, or leverage, or at least simply growing over time which implies a different beta).

<sup>&</sup>lt;sup>3</sup> Regarding the use of Debt in the capital structure, one can see on the WACC formula (Annex 1) that it takes into account the tax savings provided from that choice.

<sup>&</sup>lt;sup>4</sup>The Security Market Line (SML) plots the results of the expected return for the different risks levels/measures (betas).

#### Levered Beta

The alternative suggested by Copeland, Koller and Murin (2000), supporting the theory of Kapland and Peterson (1998), is the search for published estimates of betas in various reliable sources for a group of similar companies (comparables), ending in the calculation of the industry average levered beta.

Taking into account the average industry capital structure as the average interest rate, one can achieve the Unlevered beta of the sector. Then, applying the tax rate and the current capital structure of the company under valuation, the beta levered of the company is finally reached.

Market Risk Premium

Regarding market risk premium, Damodaran suggests in his paper "Equity Risk Premiums", a methodology entitled as the country premium risk approach.

Basically the base mature market premium consists in the use of the geometric average premium earned by stocks over treasury bonds with sufficient historical data in order to reduce standard error.

The country risk Premium calculation starts from the country rating from Moody's, and a default spread in basis point<sup>5</sup> is estimated based on the difference from the rating and the respective Treasury bond rate. This default spread is then multiplied by the relative equity market volatility.

Damodaran "Measuring company exposure to country risk" paper suggests the adding of the use of the variable Y (lambdas) to the country risk, reflecting the exposure of a company in the countries where it is present, which was measured based upon the proportion of the profit in that country.

<sup>&</sup>lt;sup>5</sup> Basis Point is a unit that is commonly used to denote the change in a financial instrument, or calculating changes in interest rates, equity indexes or yield of a fixed-income security: 1 basis point = 0,01% (www.investopedia.com/terms/b/basispoint.asp#axzz27y6vIQSF)



#### **Cost of Debt**

The methodology usually used consists in the sum of the risk free plus a credit spread corresponding to the rating of the company.

Risk-Free Rate

For the Risk-free rate, Damodaran suggests the gathering of the 10 years Treasury Bonds issued by countries whose rating is triple A, and, in order to pursuit a yield error minimization, instead of a simple average calculation, the median should be used, since it has the advantage of not being influenced by individual erratic values.

Spread

Damodaran approach suggests the change of the credit spread to an estimated spread based on the company's Interest Coverage Ratio: He created 15 ranges of values, based in historical and forecasted costs of debt by non-financial large firms, assigning a rating to each one and finally an estimated Spread.

For large manufacturing firms							
If interest coverage ratio is							
>	≤to	Rating is	Spread is				
-100000	0,20	D	12,00%				
0,2	0,65	С	10,50%				
0,65	0,80	CC	9,50%				
0,8	1,25	CCC	8,75%				
1,25	1,50	B-	6,75%				
1,5	1,75	В	6,00%				
1,75	2,00	B+	5,50%				
2	2,25	BB	4,75%				
2,25	2,50	BB+	3,75%				
2,5	3,00	BBB	2,50%				
3	4,25	А-	1,65%				
4,25	5,50	Α	1,40%				
5,5	6,50	A+	1,30%				
6,5	8,50	AA	1,15%				
8,50	100000	AAA	0,65%				

#### **Equity Value**

The equity value is the value of a company available to the shareholders. Equity value allows to compare the valuation of the company with its actual value on the Financial market (Market Capitalization), where the last only reflects the common shares outstanding while Equity value incorporates all the equity interests in a firm.



Starting from the discounted free cash-flows to the firm, the Enterprise Value is calculated, which is no more than a simple sum of all the discounted cash flows including the discounted continuing value, representing an economic measure reflecting the market value of the whole business.

To reach the firm value, the market value of non-operating assets, basically cash and equivalents, is added to the Enterprise value.

Since the Equity value only accounts the ownership interest in a firm, therefore, the Market Value of Debt as minority interests or preferred stock must be reduced from the Firm value.

Dividing the Equity value by the common shares currently outstanding, it is achieved, according to the assumptions and valuation output, the fair price per share of the company. Thereby, being comparable to the actual price per share, it is named as the "price target", providing an insight of the potential future upside or downside of the price of share.



#### **1.2 Relative valuation**

The relative valuation is a valuation using multiples or ratios. It is also known as market valuation or comparable company analysis. This valuation is important because it allows, regardless of its size, a direct comparison between the value of a company with other comparable company (peer) or with the sector/industry average value.

Through the use of ratios (known as multiples), it is an easy and intuitive method to control for differences between companies, as the growth potential and the risk.

Based on the premise that the performance of a company in the future will tend towards the industry average (Damodaran, 2002), an average comparable multiple is compared with the one of the company. If the one from the company is lower, thus, the value of this company is undervalued, and therefore it has a growth potential on the share price (and vice versa).

To amount that underestimation, the average multiple is applied to the used variable of control and then is obtained the implied market equity value of the company that is undebr evaluation. Comparing the new implied market equity value to the actual equity market value, one can see for how much that, according to that specific multiple, this company is underestimated by the market.

It is argued that relative valuation should be seen as a complementary method and not a substitute for methods such as DCF (Discounted Cash-flow).

This argument is associated with one of the biggest criticisms of relative valuation: Its subjectivity presented in the selection of comparable companies and in the choice of which multiples to be used: As Goedhart, Koller and Wessels (2005) states, *"finding the right companies to the comparable set is challenging; indeed, the ability to choose appropriate comparables distinguishes sophisticated veterans from newcomers"*.

To counter this criticism it is important to carefully screen the companies to compare, and always take into account that multiple analyses should be separated by specificity. Below, the three general types of existent multiples are indicated, with alternative ratios for each type:



#### **Earnings Multiples:**

- PER ratio= Equity market value/Net income
- EPS Earning per shares= Net Income/Number of shares
- Enterprise value/EBITDA or EBIT

#### **Book value Multiples:**

- PBV price to book value=Equity Market Value/Equity Book Value
- Enterprise Value/Invested Capital

#### **Revenues Multiples**

- Price to Sales ratio= Equity Market Value/Revenues
- Enterprise Value/Revenues

From the prior ratios, it is highlighted the EV/EBITDA multiple, since it is considered one of the most accurate and reliable multiple used in the financial markets. This specific multiple has some advantages over some other ratios:

-There are companies that cannot be compared through multiples using net income figure- PER or EPS ratios- (when they have that value as negative). Therefore EBITDA extends the number of companies available to be compared, since they can have the EBITDA figure as a still positive value and thus be included in the peer group.

- Multiples using figures after taking into consideration depreciation costs, as the figures EBT, EBIT or Net Income, are subject to suffer modifications regarding depreciation methods, leading to misleads. Taking this into account, it was concluded by Marc Goedhart (2005) that EBITDA is a more accurate figure.
- The Enterprise Value figure in the ratio ensures independence of the ratio in changes of capital structure (between the % of Equity and Debt) since it has no direct impact in this multiple, when it does have on multiples with Market capitalization figure in the ratio, for instance.

Still, is important to note that Fernandez, P. (2001) indicated some limitations of this multiple, as being subject to changes in capital investments and working capital variations.



# **1.3 Merger and Acquisitions**

The term mergers and acquisitions, usually abbreviated as M&A, broadly refer to a set of complex operations regarding the acquirement of a company by other. These operations are triggered by various reasons; being classified within different forms, and can be carried forward by different legal procedures.

#### Acquisitions Reasons

The major reasons behind this kind of operations, usually applied by high dimension companies, are the following:

- Synergies Gain (to enterprises of the same sector it enables the improvement of the supply chain as the client and/or suppliers base, representing the possibility of revenue enhancement with marketing gains and/or substantial costs reductions with economies of scale or the achievement of complementary resources).
- Strategic Benefits (it allows the compensation of the lack of the know-how in the company or a client or supplier base, needed in order to develop a new strategy ,to access to new businesses, or to enable a faster entry in new country markets).
- Gain of Market Share (it consists of an easier way to reduce competition, conquering fidelity clients in mature markets with stabilized market shares; it increases its pricing power, since there is less industry capacity in the market, improving the monopoly profits).
- Business Restructuring (it permits to take the control of a company that has experience and a name on the market, and somehow is now in a bad moment, mainly due to financial or liquidity issues. Injecting money, and after some restructuring decisions, the acquiring company could eventually sell it in parts, or even the whole company for a better price than the one originally paid).
- Assets or business divestment (it allows the application of aggressive strategies as the acquisition of a company with the aim of, in the future, divide it by businesses or sectors, selling it in parts)

#### **Acquisitions Forms**

Acquisitions can take 3 primary forms (Brealey, 2004):

• Conglomerate: Engaging companies with dissimilar types of business operations.



- Vertical: Involving companies in different stages of production, taking place along the supply chain (in manufacturing, distributing or selling part).
- Horizontal: Involves companies that have the same activity or industry, taking place between former competitors.

#### **Acquisitions Types**

There are three basic legal procedures that one firm can use to acquire another firm (Ross, Westerfield and Jaffe, 2005).

Merger or Consolidation

Acquisition by merger is when one firm completely absorbs the other, acquiring all the assets and liabilities of the acquired firm (which ceases the activity), and retains its name and identity.

In a consolidation, the assets and liabilities of the companies are also integrally combined, but the difference from a merger is the fact that both the acquiring and the acquired firms terminate their legal existence, being part of a new created firm. The distinction between acquiring and acquired firm is not relevant in this approach.

- Legally straightforward and less costly as the other forms

-Must have the approval of the shareholders of both firms<sup>6</sup>.

-In a merger, shareholders of the acquired firm have appraisal rights<sup>7</sup>

Acquisition of Stock

One firm acquires other by purchasing that firm's voting stock by cash, shares of stock or other securities. It is communicated an OPA (acquisition public offer) to buy shares of that target firm.

-No shareholder meetings have to be held, no vote is required and target's firm management and board of directors can be bypassed<sup>8</sup>.

 $<sup>^{6}</sup>$  Usually, 2/3 of the votes of each firm are required for the approval.

<sup>&</sup>lt;sup>7</sup> Appraisal rights means the possibility that the acquired shareholders have to demand a fair price for the purchase of their shares (which, when not easy agree, often leads to expensive legal proceedings) <sup>8</sup> The acquiring firm can directly deal with the shareholders (that are not required to accept the offer).



-The acquisition is often unfriendly and the cost of acquisition tends to be higher than in a merger<sup>9</sup>

Acquisition of Assets

One firm acquires the other by buying all its assets (transferring titles).

-Legal procedures of transfer assets are costly

- Must have the approval of the acquired firm shareholders
- -It avoids the potential problem of having minority shareholders<sup>10</sup>

#### **Merger Valuation**

To check if a merger or consolidation increases value for both shareholders of the companies involved, a direct comparison has to be made between the earnings and the costs that would result from the process.

The word synergy, in general could be defined as a situation where the result of a combination of two elements is greater than the sum of the results that these two elements would have separately.

Based on this premise, in other words, a merger would make sense if new company value (taking also into account all the process for its creation) would be bigger than the value of firm A and firm B separately: The total value of synergies is defined by the Equity value of the new company, less the individual equity values of both companies less the restructuring costs associate to the merger process (as legal, investment bank consultant, integration or possible termination costs).

Other type of cost that has to be taken into consideration is the premium paid to the bought company and, comparing the synergies with this premium, if a positive result is reached, the conclusion is that the merger process should go forward.

<sup>&</sup>lt;sup>9</sup> If the target firm's management do not agree, they will resist, contacting the shareholders with packages of benefits trying to convince them to not accept the tender offer, which probably will lead to a second more costly offer from the bidding firm.

<sup>&</sup>lt;sup>10</sup>In the acquisition by stock approach, some shareholders can hold out of the offer, and therefore, the target firm is not completely absorbed.



#### **Merger Process**

This acquisition could be financed whether by cash or by shares of stock.

Financing by cash, has some disadvantages when compared to a share exchange or common stock approach:

- It usually results in a taxable transaction, whether by exchanging stock is tax free.
- When discussing a big transaction, having cash available or raising cash can be a problem.
- If cash is used to finance an operation, the selling firm's shareholders receive a fixed price, whether the share exchange approach allows the sharing of gains and risks associated with the new company business (meaning additional gains if there is a successful merger).



# 2. Portuguese Telecom Sector

#### 2.1 Technology

There are different access networks available in the Portuguese telecommunication market as the wireless, Xdsl, HFC and FTTx. A brief explanation will be done about the last two since are the ones used by ZON, PT and Sonaecom (the main operators in the telecommunication sector).

HFC technology is used mainly by ZON whereas FTTx, considered the new generation network, is mainly used by PTC, but ZON and SONAECOM also have some access points that permit the use of that technology.

The ZON's FTTx network were achieved by the acquisition of TvTel in 2008<sup>11</sup>, and by the celebration of a contract with Alcatel-Lucent in 2010 (together will install and construct more km in a network based in that technology).

- About FTTx (fiber to the x) is a connection done by optical fiber and then metallic cables depending on each situation. Ordered in terms of quality connection, there are different variants: FTTH, FTTB<sup>12</sup>; FTTC<sup>13</sup> and FTTN<sup>14</sup>. These quality variants differ according to the last point of optical fiber installation.

The best would be FTTH (fiber to the home), meaning that the digital information all the way since the central to the home of the client is carried by optic fiber; however, that would also mean the most expensive option since the cost of the installation of optic fiber in the last meters until the client's home increases a lot.

It is important to explain that this technology is believed to be the future trend, The optic fibers represent a lot of advantages against the other types of metallic cables (copper, coaxial and fiber), as its higher carrying capacity, its thinner volume, the less power required and less signal degradation which are translated in more quality,

<sup>&</sup>lt;sup>11</sup> TVTel was a regional Pay-Tv and internet provider company.

<sup>&</sup>lt;sup>12</sup> FTTB means fiber to the building, which imply the installation of optical fiber since the central until the client's building, and then it would exist metallic cables(cooper or coaxial) to carry the digital information these remaining last meters from the building to the client's home

<sup>&</sup>lt;sup>13</sup> FTTC (fiber to the curb): the optical fiber is installed since the central until 200 to 400 meters of the home of the client

<sup>&</sup>lt;sup>14</sup> FTTN (fiber to the node): the optical fiber is installed since the central until near the neighborhood - few km from the client's home.



reliability and speed. All these advantages are associated to a lengthy implementation process and obviously a more expensive investment.

-HFC (hybrid fiber-coaxial) as the first word suggests, mixes fiber optic cables with coaxial cables. Its network is defined by the DOCSIS (data over cable service interface specification), which represents the possible speed provided for a cell. ZON made a big investment and passed the majority of its network (80%) from DOCSIS 1.0 to DOCSIS 3.0 which allowed an evolution from 50Mbps to 400 Mbps for downloads and 9mbps to 108 on up streams per cell (speed that will be shared by a set of clients). Being available to these kinds of upgrades for a relatively low cost is one advantage of HFC.

The big disadvantage of the HFC is the fact of the cell speed is shared by a set of costumers which means that the speed achieved by one client depends not just from its use but also on the use of the other clients that share the same cell: heavy users & rush hours could imply a problem. The solution passes by, wherever is needed, the installation of more nodes/cells, which decreases the number of users per cell, and consequently will normalize the speed close to the contract ones.

It can be concluded that both technologies have their advantages and disadvantages associated with the different levels of service quality, implementing-cost and revenue generating potential; therefore, the choice of one in favor of another cannot be defined as correct or wrong, it just depends on the perspective and strategy point of view of the company which is making that decision.



# 2.2 Market paradigm

The telecommunications sector can be divided in two segments: The fixed and the mobile service. The fixed segment is constituted by the Pay-Tv; the fixed voice and the fixed internet. The mobile segment is composed by the mobile voice and mobile internet.

Although they all play a role in the telecommunication sector, it is important to start to distinguish the Pay-Tv market, considered the most important market of the fixed telecommunications sector. This is due to the fact that it is increasingly seen as a basic need, it has the bigger number of subscribers and over the last few years has become the main driver for multiple-play or package offers.

These multiplay-offers, translated in cross-selling<sup>15</sup> are the new paradigm of the telecommunication business, since in general, as a matter of convenience, clients tend to sign different conjugations of the Pay-Tv, phone and internet fixed service from the same operator instead of choosing each service from a different operator.

This strategy started by ZON in 2008 that, with the creation of the fixed voice service, became pioneer in the triple-play market.

In result of that move, PT soon created services to play in the tripled fixed telecommunication market, and since then, with the help of other players, telecommunications sector is being involved in a big intense competition conducted by the constant demand for innovation.

More recently, some quadruple-play offer were available for clients, besides PT with its TMN brand, ZON entered in the Mobile sector and Vodafone into the fixed one. However, from the client's perspective there is still no big correlation between the fixed and mobile options.

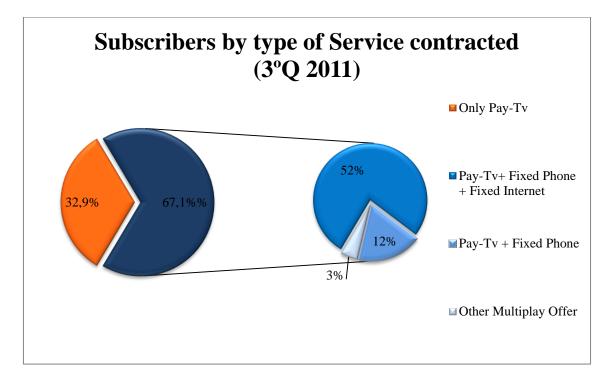
At the 3°quarter of 2011, in Pay-Tv market, from the total of Pay-Tv subscribers, 32,9% were only Pay-Tv subscribers, whereas 67,1% had the TV integrated in a multiplay package.

From the multiplay package, the triple-play offer (TV+ fixed phone + fixed internet) is the most popular offer with 51,5%, followed by the 2 play (TV + fixed phone) with

<sup>&</sup>lt;sup>15</sup> Cross-selling is the practice of selling an additional product or service to an existing customer.



12,3%. The remaining 3%, is composed by different conjugations of multiplay offer as TV+ fixed Internet; TV+ mobile internet and TV + fixed phone + mobile internet.



# Figure 1.Source: ANACOM

Contributing to this paradigm, at the 3°quarter of 2011, 80% of the fixed internet subscribers purchased that service in a multiplay offer. 11% of them in a double-play pack (adding TV or Fixed phone to the internet purchase) and 69% were triple play, the whole package.

These multiple-play offers also contributed significantly for the fixed phone market, which won a new pace, and moved for a positive trend since the end of 2008.

This new paradigm of services integration associated to the demand for the client fidelity, led to an intense competition from the operators to conquer the Pay-Tv market, since who conquers this market has the way facilitated to attract those clients to sign with them the remaining fixed options - the fixed phone and the fixed internet.



#### 2.2.1 Fixed Service

#### The Pay-Tv

Despite of Portugal going through a difficult time, with difficult measures and consequently lower income, the Pay-Tv national market has been growing with increasing penetration rates during the last years (Annex 6). This is justified by the fact that TV service is increasingly seen as a basic need. Thus, is expected a common trend for the next years with a slow increase in the number of subscribers.

In the last 4 years, the national Pay-Tv service market has been target by an intense competition through a lot of innovation in quality of contents and upgrades in technologies, mainly from the two stronger operators- ZON and PTC.

The graph bellow shows the evolution of the market shares of the different players since 2008 until 2011. After the spin-off from PT (end of 2007), ZON was an undisputed leader. But PT sooner started to strongly attack this Market (surpassing Cabovisão and conquering the 2<sup>nd</sup> position in the end of 2008). According to the latest data-3<sup>rd</sup> quarter of 2011- ZON is leader of the Pay-Tv market with 54,9 % market share followed by 33,2% PT.

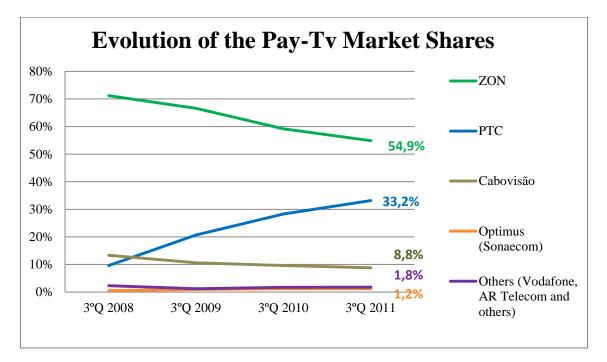


Figure 2.Source: ANACOM

As one can see ZON is losing market share to PT, but ZON is not being stolen in its client base: these changes in the market shares are mainly due to investments and aggressive campaigns of PT which is successfully picking up the new clients in this continuous growing market.

As it was stated before, it is known that Pay-Tv is the main driver for triple offers (clients tend to sign for Tv, phone and internet fixed service from the same operator), and ZON's strategy consists in the defense of its subscribers clients<sup>16</sup> at the same time intending to convince them to sign multiple offers which leads to an increase in its ARPU<sup>17</sup>.

In this growing market, it is expected that the dominance from these 2 will be even bigger compared to the other operators, and the tendency in short/medium term is to an approximation and probably an overtaking of the PT against the ZON market share.

The past and future predicted evolution is strongly associated with the service technology used which will influence the quality of the provided product/service by the operators and consequently will lead or not to the achievement of new clients and capacity to keep the old ones.

#### The Technology Offer in Pay-Tv Segment

There are different technologies available to support national Pay-Tv market as the CATV (cable), DTH (satellite), FTTH (optical fiber), xDSL/IP (public telephone), FWA (radio fixed access) and the DTT (digital way- the alternative for the switch-off of the analogical signal that happened in January 2012, which did not directly affect the subscribed clients of the Pay-Tv).

-The CATV (Cable TV) associated to the HFC technology (which is mainly used by ZON) is the most representative of the total subscribers in  $3^{rd}$  Q 2011 (its 1.428 thousands clients are 49,4% of the total). However, it is visible that since  $2^{nd}$  Q 08, the number of clients using CATV has been decreasing and it is expected a similar behavior in the future.

<sup>&</sup>lt;sup>16</sup> Based on the actual advertisement campaign "stay with the leader".

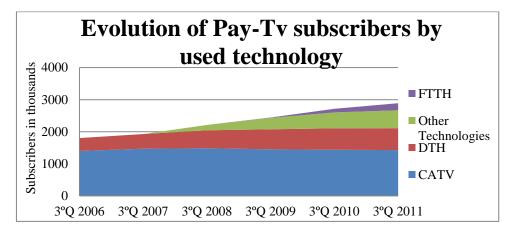
<sup>&</sup>lt;sup>17</sup> ARPU states for Average Revenue per User, meaning the average net revenue per user (or costumer), being commonly used on the telecom sector, in order to describe the revenue per month of a service.



-About DTH service (direct to home service television by satellite) according to the last data reached 683 subscribers, representing 23,6%. A gradual positive evolution as the one it can already be seen is awaited.

-The number of subscribers by other means had also a fast growth. Around 559 thousand clients are now using the Pay-Tv service distributed by FWA-fixed wireless access- technology (Ar telecom clients) and by xDSL/IP –public telephone network-(clients from PT, Sonaecom and Vodafone). The prospect is the continuation of the past trend and increase its actual share of 19,4%.

-Finally the TV service distributed by FTTH has the most recent technology-optical fiber- and had a fast expansion since it was launched in 1Q09, achieving now 220 subscribers representing already 7,6% of the total subscribers. It is believed that the future will be based in this service, so this positive trend is to remain in the coming years. An important note is that this superior technology is mainly used by PT (but as it is said in market paradigm chapter, ZON and Sonaecom also have some access points that permit the use of that technology).



#### Figure 3.Source:ANACOM

The general market is growing, and PT is the one taking mostly of it: It has been doing big investments in the FTTH and xDsl technologies with represent almost 100% of the new clients. This explains why PT market share is growing so fast.

On the other hand ZON aside from not competing in xDSL, has a small participation in FTTH growth and their services are mainly directed by CATV, which has led to its decreasing market share and to a negative preview for the future.

#### **Fixed Voice**

According to ANACOM, and represented on the graph in Annex 7 the fixed voice system had achieved more than 4.5 million accesses registered. The penetration rate has also been gradually increasing, reaching 42,5 accesses per 100 habitants in the 3° quarter of 2011.

The majority of access are done by analogue access (52,2%) which has been decreasing its percentage in the last few years. RDIS and Digital Access also have now less accesses number than had before. In opposition to the last ones, the two remaining type of access has been growing and supporting the small growth of the general market, having more relevance the VoIP/VoB access (Voice over internet protocol/Voice over broadbrand).

This last one, after 5 years of existence, already represents 22,6% of the total access and includes the xDSL, fiber optic based-access and the VoB access supported by cable network.

Analyzing the fixed voice segment with more detail, the chart bellow indicates a general negative evolution in the last years:

- A significant decrease year after year of the "number of calls" denounces the less use of the fixed voice. This is due to the recent growth of the Mobile segment, which is cannibalizing<sup>18</sup> the clients of the fixed one;
- The "number of minutes" also has started to have a negative evolution. Fixed Voice segment is more and more seen as a secondary product and, according to that new perception, in 2008 there was a general change in the pricing system: the providers started to apply fixed and really cheap tariffs for it and/or selling it with "free calls" in a multiplay pack offer, which helped the figure.

<sup>&</sup>lt;sup>18</sup> Cannibalization means the negative impact of a new service/ product on the performance of an existing one. In this case, the new mobile service is stealing clients from the existing fixed phone service.



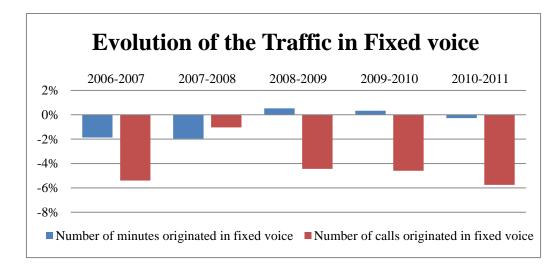


Figure 4.Source:ANACOM

PT dominates this market with 59,1% of market share, ZON is second with 40,9%. As it can be seen on the graph bellow these 2 are approaching themselves:

On the one hand, in the last 4 years PT had a negative evolution loosing 9,8 percentage points of the prior market share, on the other hand, ZON, in the same period achieved the same amount of percentage points (9,8%) but in growth. This is due to the success that ZON is having with its sell of multiplay offers. In third place Sonaecom has been decreasing its market share, now with 12,5%. Cabovisão has 5,7% and is quite stable with its client base.

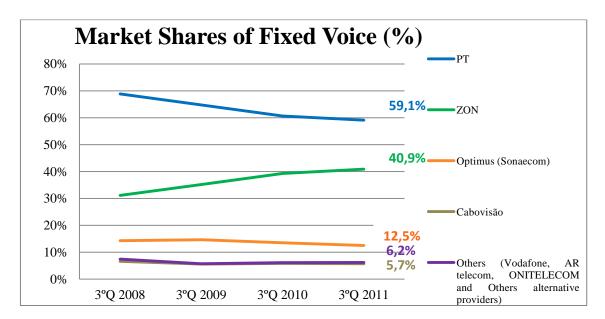


Figure 5.Source:ANACOM



#### **Fixed Broadband**

This market segment is increasing in the last years, achieved 2.194 thousands of clients in the  $3^{rd}$  quarter of 2011 (Annex 9).

Nowadays the clients have two ways to own fixed internet: Almost 99% of the clients access through broadband and the remaining by Dial-up access (which has been decreasing and it is believed that will be inexistent in the next coming years).

The growth on the general market was supported by the growth on both residential and non-residential broadband access, maintaining a stable relation around respectively 88% and 12% of the total broadband access.

Going along with the general increase in people using internet, the number of existing fixed broadband accesses attached to the technologies ADSL and Cable modem growth in the last years, representing respectively 50% and 40,1% of the total access (Annex 11).

Is important to highlight the increasingly less use of "others" technologies, and, since 2009, the growth at strong pace of the optic fiber accesses (ffth/b- fiber to the home /building).

About the last one, fiber optic, it was already stated in the technology chapter about its advantages and as it is believed to be the future trend, thus a growth in the next coming years was forecasted, which will mean a future decrease in the use of the technologies ADSL and Cable modem.

It is possible to confirm how the Portuguese market is continuously growing, first checking the growth of the two most important penetration rates in the graph bellow, and secondly noticing that there is still growth potential when doing the comparison between the Portuguese penetration rate (20,9% at  $2^{nd}$  quarter of 2011) and the European Union average (around 25,6%), portrayed in the Annex 10.



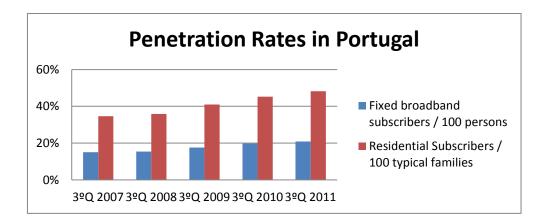


Figure 6.Source: ANACOM

According to the chart bellow, PTC is the leader of this segment with a market share of 48,5%, followed by ZON with 32,6%.

Since 2008 one can recognize the trend of this market: on the one hand the sustained growth from ZON and mainly from PTC, on the other hand the continuous decrease of Cabovisão, Sonaecom and others alternative provider market shares.

The continuation of this trend is forecasted in the future, which will generate a market more and more dominated by the 2 stronger operators (PTC and ZON).

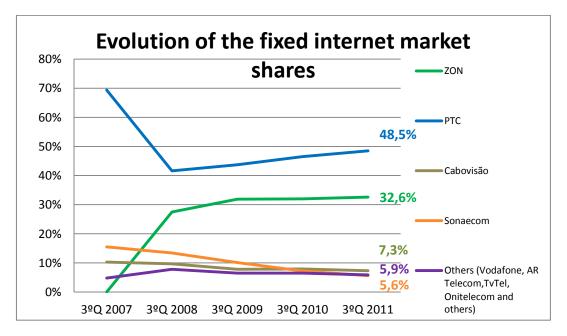


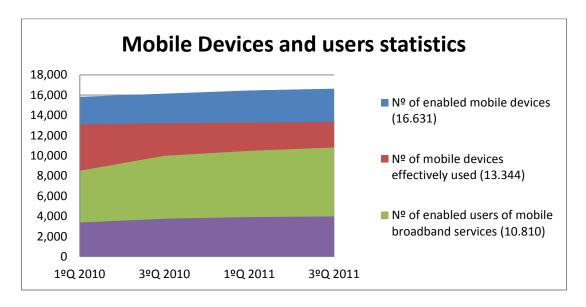
Figure 7. Source: ANACOM



#### 2.2.2 Mobile Service

#### Voice & Broadband services

The mobile service industry in Portugal is well developed and it is in a positive trend. The Annex 8 shows the penetration rates of this sector, which, are growing over the years: Existing more cellphones than persons, we have now 156,3 cellphones by 100 habitants. If it would be consider only the devices effectively used (used in the last month of the 3°quarter), the value would be 125,4 cellphones which is still a significant value.



The following chart confirms a good industry signal indicated:

#### Figure 8.Source:ANACOM

In the 3<sup>rd</sup> Quarter of 2011, there were 16.631 thousands of enabled mobile devices. These equipment are associated with a tariff plan, which in most is Pre-paid (71% of the total enabled mobile devices), but there are also others as post-paid, combined or hybrid services and other specific situations plans that share among them more or less equally the rest of the enable devices.

Over the last value, 80% were actually or "effectively used" in the last month of the 3<sup>rd</sup> quarter: 13.344 thousand devices.

There were 10.810 thousand equipments that permit the use of the mobile broadband services, but just 36,8% (3.977 thousands) actually had traffic in the last month with the



use of 3G services as the video-telephony, transmission of data by broadband, mobile Tv, etc. And from them, 2.695 in that month also used internet.

The mobile market is mainly disputed by 3 operators. At the 3<sup>rd</sup> quarter of 2011, TMN (that belongs to PT group) was the leader with 43,10% of market share, closely followed by Vodafone 40,20%, and then Optimus (Sonaecom) with 15,50%.

The "Other" market share corresponds to CTT with 0,4% and ZON with 0,8%. These two are competing in the market as MNVO (mobile virtual network operators).

Basically, to increase the competition in the sector, ANACOM allowed these MNVO contracts that permit to the new player the use of radio frequencies of some already existing operator, so they did not have to do large investments to acquire license and the infrastructure needed as the other players did before them.

CTT celebrated a contract with TMN in 2007, and ZON started in 2008 a 5 year contract with Vodafone.

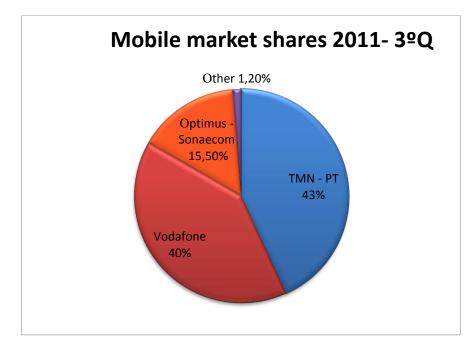


Figure 9. Source:ANACOM

Clients tend to choose their operator depending on which operator that their relatives or



friends have. This is due to the fact of the recent emergence of special tariff plans that allow the clients from same network and same tariff to have free calls and SMS/MMS between them<sup>19</sup>.

Since the launch of these plans, there was an increase by 9,5% of the number of conversation minutes done in the same operator, representing now 78,5% of the total weight of traffic in Portugal. Consequently there was a substantial reduction in calls offnet and from cellphone to fixed phone.

This new market paradigm translates into a difficulty for the smaller which do not possess in the moment so many clients as the Vodafone and TMN, and therefore, it will be more difficult to attract new clients and increase market share.

With this in mind, Anacom, supported by the Troika memorandum of understanding announced, in November 8, 2011, the will to reduce the mobile termination rates.

This is traduced in the fee that one player has when its client terminate a call in another operator's network, which being lower, will favor the smaller players (costs reduction) and therefore will improve the general competition.

The Annex 12 shows the future evolution of the mobile termination rates implied in the Anacom's proposal for the tariffs contemplating quarterly adjustments to be implemented starting in 1 February  $2012^{20}$ .

<sup>&</sup>lt;sup>19</sup> Regarding Special Tariff plans; Vodafone has Extreme, TMN has the MOCHE, Optimus has the Tag <sup>20</sup> The new rates are set based on a LRIC cost model ("Long Run Incremental Costs"), published simultaneously with the proposal. This model is in line with the recommendations of the European Comission to the mobile termination rates.



# 3. ZON and Sonaecom Valuation

#### 3.3 Valuation

A brief overview of Zon and Sonaecom history and source of revenues can be seen in Annex 2 and Annex 4, respectively.

In order to properly evaluate ZON and Sonaecom, a relative valuation for a broader view of the Europe telecom market was done (Relative Valuation Chapter), and then the Discounted Cash Flow method was applied for an individual and more detailed assessment of the enterprises under valuation (Discounted Cash Flow Valuation Chapter).

On the first methodology, a group of comparable companies was carefully chosen, and some multiples were used, in order to do a proper peer analysis.

Regarding the second methodology, it is important to state that the last historical data of Sonaecom and ZON results was from their 9m11 reports.

First, these values were converted into 2011 final year results. This was done in a very simple way known as trailing estimate: For the last quarter of 2011, the same evolution that happened on the last quarter of 2010 was assumed for the whole year (comparing the values of 9m 2010 and FY 2010 reports of the respective company). Having then the FY 2011 results, a more complex preview for the FY results of the coming years was made, through the construction of the forecasted income statements for a 5 years time frame (Income Statement Preview chapter).

It was decided not to extend the period of 5 years to a larger one, since it was believed that it would result in a more subjective analysis and therefore a valuation with less accuracy at a general level.

Then, over that forecasted years, where a terminal value was added, it was achieved the discounted free cash flows. This method is divided in two chapters, on the cash-flows calculation (Free Cash-flows chapter) and finally, the discount rate calculation and its application (Discounted Cash-Flows chapter).

Finally, the Enterprise, Firm and Equity value of each company were calculated, where the farthest output was the price target of Sonaecom and ZON (Equity Value chapter).



#### 3.3.1 Relative Valuation

#### 3.3.1.1 The Peer Group

As it was explained before, to get a more realistic output on relative valuation, is determinant a careful choice of the companies which will belong to the peer group and therefore, will influence the average multiple to be used to the evaluation.

Regarding this topic, the research was performed using the database provided in Damodaran website<sup>21</sup>: The information available was updated in January 2012 according to the prices and values of 31-December-2011 that were collected from a variety of sources, mainly Capital IQ data and Bloomberg.

Damodaran (2002) recommends analysts to choose comparable firms with similar values in terms of cash flows, growth and risk. In order to get the best possible comparable firms according to Damodaran perspective, the best way to deal with the growth and risk influences is to choose companies within the same industry and same region of the companies under evaluation, in this case, ZON and Sonaecom.

The goal was to include in this group 10 companies, in this way, a bad choice of one specific company wouldn't have such a great impact as it would have if the chosen group was just 5 enterprises for instance

Selecting companies from Europe, and then filtering them for 4 industries (Cable TV, Telecom Equipment, Telecom Services and Telecom Wireless) it reduced the statistical universe to 148 firms. After this, it was excluded companies from European countries that are not considered so mature and developed as the Portuguese one.

Then, the way to elect the final group of companies was a short research about the telecom leader (market share in the cable-Tv and wireless networking sector) in the remaining mature countries.

Finally, it was reached the peer group, as well as the rubrics necessary to the calculation of the multiples, as it is showed on the Annex 13.

<sup>&</sup>lt;sup>21</sup> The website is the following: http://pages.stern.nyu.edu/~adamodar/.



#### **3.3.1.2** The Multiples

In the table bellow one can see the alternative ratios for each of the 3 multiple group for the peer analysis. The Enterprise Value, used to the most of the ratios, was calculated from the prior table as equal to the Equity market value plus Debt market value minus Cash and equivalents. In the last row, a simple average was made over the respective multiples of each company:

	Enterprise Value	Earning Multiples			Book Value Multiples		<b>Revenues Multiples</b>		
Name of the company		<b>Per ratio</b> (Price- Earnings ratio)	EPS ratio (Earnings per Share)	EV/EBIT	EV/ EBITDA	PBV (Price- to-Book Value)	EV/IC	PS ratio (Price to Sales)	EV/ Revenues
ZON	1.549,5	22,4	0,1	17,3	4,9	3,1	1,1	0,8	1,8
Sonaecom	703,0	5,4	0,2	5,5	2,8	0,4	0,8	0,5	0,8
Portugal Telecom	13.323,0	0,6	7,1	14,7	8,8	0,9	1,0	1,0	3,4
Telefonica	121.052,7	5,8	2,3	9,3	5,1	2,5	2,2	0,9	1,9
Belgacom	9.358,4	5,9	4,1	8,0	4,8	2,3	3,6	1,1	1,4
Deutsche Telekom	87.992,9	21,8	0,4	12,0	4,7	0,9	1,2	0,6	1,4
British Sky Broadcasting Group	18.094,5	15,1	0,6	13,1	10,2	12,2	4,4	1,9	2,2
France Telecom	68.333,3	6,3	1,9	7,5	4,3	0,9	1,8	0,7	1,4
Swisscom	23.111,6	10,2	29,0	9,8	6,2	3,5	3,4	1,5	2,3
Telecom Italia	51.347,3	4,7	0,2	7,4	4,2	0,5	2,1	0,5	1,8
Telekom Austria	7.842,9	20,2	0,5	14,6	5,1	5,1	2,5	0,8	1,6
Average	36.609,9	10,8	4,2	10,8	5,6	2,9	2,2	0,9	1,8

Table 2.Enterprise Value in millions and in Euro currency.

Peer comparison analysis has one big assumption: The peer group is, on average, fairly valued. This intuitive method allows an analyst to evaluate a company in a faster way by choosing a multiple from a company and comparing with the average.

One can easily see, that, in general the relative valuation indicates that Sonaecom is quite underestimated when compared with the average, while ZON depends more on the analyzed ratio.

For a more detailed analysis, the calculated average comparable multiple were applied to the financial data of ZON or Sonaecom (Sales, EBITDA, EBIT, Net income, book values) obtaining the implied market equity value of the respective company.



Doing the comparison between the implied and the real market equity<sup>22</sup> of the company, it is possible to verify if, when compared with its peers, and according with that specific multiple, the company is overvalued or undervalued in the Stock Exchange.

The peer analysis is going to be focused in 4 different multiples that are considered the best ones and the most appropriate to cover this theme:

		Sonaecom					
Multiples	Average	Implied Enterprise Value	Implied Equity Market value	Equity Market Value 30-06-2011	Sonaecom Potential		
EV/EBITDA	5,6	1.393,9	1.135,9		155,3%		
PER (Price-Earnings Ratio)	10,8	1.151,1	893,1	445,0	100,7%		
PS (Price-to-Sales)	0,9	1.118,7	860,7	443,0	93,4%		
PBV (Price-to-Book Value)	2,9	3.246,7	2.988,7		571,6%		

Table 3.Values in Millions (average multiples are in units)

		ZON						
Multiples	Average	Implied Enterprise	Implied Equity Market value	Equity Market Value	ZON Potential			
EV/EBITDA	5,6	1747,3	915,3		27,6%			
PER (Price-Earnings Ratio)	10,8	-486,9	345,1	717,5	-51,9%			
PS (Price-to-Sales)	0,9	1642,0	810,0	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	12,9%			
PBV (Price-to-Book Value)	2,9	1510,9	678,9		-5,4%			

Table 4. Values in Millions (average multiples are in units)

Looking to table 11, over EV/EBITDA ratio, it is possible to conclude that, while Portugal Telecom is beating the peer group, both ZON and Sonaecom are undervalued by the market, since they are below the average.

Regarding the same ratio, on the table 12 and 13, is presented which fair price (implied equity market value), according to the peer analysis, they would have: ZON 915,3 M € and Sonaecom 1.135,9 M €, both higher than the real equity market value. To highlight the supposedly fair price of Sonaecom; which is more than the

 $<sup>^{22}</sup>$  In this case, the real market to equity is the multiplication between the price per share at 31/12/2011 by the number of outstanding shares in the same day.

double of its actual price (445 M  $\in$ ), meaning that, according to its achieved EBITDA (FY 2011); assuming that it is an amount to be maintained and not an exceptional performance, the Sonaecom share price should be twice the price they are being negotiated (155,3% potential), representing a good investment opportunity.

- Analyzing the Price-to-Earnings ratio, while the poor net income achieved by ZON suggests now that its stock is overvalued, Sonaecom once more outperforms the market peers: It is easy to verify that, considering the amount of net Income generated by Sonaecom, the implied equity market value is higher than the real market value (893,1 M € versus 445 M €), indicating a growth potential on the share price.
- From revenues perspective, according to the Price-to-Sales multiple, the findings over Sonaecom and ZON indicate that both are undervalued by the market, but especially Sonaecom, since it had achieved higher revenues than ZON in 2011 TE (909,6 M € versus 856 M €), when its real market value is just 62% of its comparable. Once more, this multiple clearly shows that Sonaecom deserves to be higher priced.
- According to the Price to Book value ratio calculated, ZON is overvalued by the market whereas SONAECOM is, once more, priced below its implied value. This happens due to the fact this ratio takes into consideration the book value of equity: Unlike ZON, Sonaecom presents high values in the financial statements rubrics of Capital and Reserves and Retained Earnings.

#### Concluding:

 On the one hand, no relevant findings can be taken from ZON evaluation, since depending on the studied multiple, different directions are indicated:

Looking for the obtained Sales and EBITDA values, comparing to the peer group ZON price should be higher, but analyzing the ZON's EBIT or Net income figure, the share price would now be overvalued, meaning that the presented level of depreciations and amortizations and the amount of financial costs are too high and the market should end to punish that.



 On the other hand, regarding Sonaecom; even considering different rubrics of the income sheet, they all suggest that Sonaecom performance results are not well illustrated in its current real price:

They tell an investor that, assuming that the peer group was well chosen, and if it is fairly priced, Sonaecom should be priced higher. This represents a good opportunity of investment, since it is believed a growth potential for its shares price.



## **3.3.2 Discounted Cash-Flow method**

## 3.3.2.1 Income Statement Preview

## 3.3.2.1.1 Operating Revenues

#### Telecommunication Revenues (ZON and Sonaecom)

Regarding the telecommunication revenues, it was not possible to access to the revenues disaggregation which difficult the general forecast. Obviously due to strategy and marketing reasons, neither ZON nor Sonaecom reports provide information about the amount of revenues originated by the different multi-play offers available, or by each of the individual segment.

Therefore, to facilitate the preview of the Telecom revenues, some assumptions were made:

- The telecom revenue was divided in 4 single segments: Pay-Tv, Fixed Broadband, Fixed Voice and Mobile (which includes Voice & Broadband services). Meaning that each segment has its portion of revenues; and, ignoring existent multiplay-offers, these 4 segments would totalize the telecom revenues of the firm.
- Having the 2011 total telecom revenues (by trailing estimate), and knowing the number of clients by each segment (provided by the firm report), it was assumed that the individual revenue was directly proportional to the % of costumers in that segment, ignoring different prices each service would have.
- For the revenues forecast of each individual segment it was assumed two inputs, with the same level of importance:

a) The expected evolution in terms the Market Value of that segment (taking into account the price variation and growth of number of subscribers)

b) The expected evolution of the Firm service market share in the Portuguese telecom market.

To estimate the evolution of the Market Value (a), 3 inputs were into account, also discussed throughout the market analysis chapter:

 Historical and actual trend of the Portuguese Market (evolution on the number of subscribers and penetration rates);



- Growth potential of the Portuguese Market (comparison between Portuguese penetration rates versus the European average penetration rate);
- Importance of the segment for the clients (associated also to the macroeconomic scenario) which influences the client growth as well the variation in the price product.

The preview for the evolution of the market share of each firm (b), came from the analysis of the historical market share evolution of the players in that service (Annex 14 and 15). It was considered that the last years trend<sup>23</sup> can fairly reflect the service technology used by the firm, when compared with the competition technology<sup>24</sup>.

The table 14 presents the annual growth forecast by general Market value, and by each firm Market Share.

	A	Annual Growth						
	Market	Zon	Sonaecom					
	Value	Market	Market					
	(General)	Share	Share					
Pay-Tv	3,0%	-7,5%	4,5%					
Fixed Broadband	4,0%	2,1%	-22,8%					
Fixed Voice	-2,0%	4,9%	-7,2%					
Mobile (Voice & Broadband)	2,0%	1,0%	-2,0%					

Table 5.

<sup>&</sup>lt;sup>23</sup> For the market share evolution preview it was considered data from 2008 to 2011, and three different levels of importance were given for each year growth: 2008-2009:2,5%; 2009-2010:7,5%; 2010-2011:90% (Annex 20 and 21)

<sup>&</sup>lt;sup>24</sup> The service technology is directed associated with the provided service quality and therefore, to the satisfaction of the client with that service compared with the competition.



Considering the two inputs, the result was the final growth per year by segment, which was directly applied<sup>25</sup> to the respective revenues of the firm over the years.

Sonaecom Telecom Revenues	Growth Per year	2012 P	2013 P	2014 P	2015 P	2016 P
Pay-Tv	7,6%	17,3	18,6	20,0	21,6	23,2
Fixed Broadband	-19,7%	61,7	49,6	39,8	32,0	25,7
Fixed Voice	-9,0%	111,0	101,0	91,9	83,6	76,0
Total of Fixed Revenues		190,1	169,2	151,7	137,1	124,9
Mobile (Voice & Broadband)	0,0%	578,3	578,1	577,9	577,6	577,4

Table 6.Values in Millions and in Euro currency

ZON Telecom Revenues	Growth per year	2012 P	2013 P	2014 P	2015 P	2016 P
Pay-Tv	-4,76%	352,4	335,6	319,7	304,4	290,0
Fixed Broadband	6,20%	183,3	194,7	206,7	219,5	233,1
Fixed Voice	2,77%	206,5	212,2	218,1	224,2	230,4
Mobile (Voice & Broadband)	3,02%	32,6	33,6	34,6	35,7	36,7
Total of Telecom Revenues		774,8	776,1	779,1	783,8	790,2

Table 7. Values in Millions and in Euro currency

In general the preview for Sonaecom telecom revenues is slightly negative. For the mobile segment, the most important for Sonaecom, maintenance is expected, thus the negative impacts come from the Fixed segment (CAGR<sup>26</sup>: -10,3%). The fixed broadband revenues decrease reflects the lack of Sonaecom' quality technology in this segment, whil the general market of fixed voice is declining and, Optimus is going along with the movement.

On the other side, Zon telecom revenues are slowly increasing (CAGR: +0,4%), and that fact is directly associated to the segments mentioned above. Note that Zon revenues are increasing in 3 of 4 segments, but the general output it is not so fascinating. This happens due to the the huge decline showed in its Pay-tv Market Share, which is still its largest source of sales.

<sup>&</sup>lt;sup>25</sup> Growth per year by segment "A"= ((1+growth in the Market Value segment "A") X (1+ growth in the Firm Market Share segment "A"))-1

<sup>&</sup>lt;sup>26</sup> CAGR: Compound Annual Growth Rate: Is the year-over-year growth rate of an item over a specified period of time. It is calculated by taking the nth root of the total percentage growth rate, where n is the number of years in the period being considered.



#### ZON- Other Operational Revenues

Beyond, the telecom revenues, ZON is present on the Cinema and Audivisuals revenues. The table 17 shows the future behavior expected in ZON other operational revenues:

	Growth Per year	2011 Trailing Estimate	2012 P	2013 P	2014 P	2015 P	2016 P
Audiovisuals	-4,0%	69,9	67,1	64,4	61,9	59,4	57,0
Cine ma Exhibition	1,0%	59,2	59,8	60,4	61,0	61,6	62,3
Others and Eliminations	-1,0%	-48,4	-47,9	-47,4	-47,0	-46,5	-46,0

Table 8. Values in Millions and in Euro currency

#### **Cinema and Audiovisuals Revenues**

The business unit ZON Lusomundo, subdivided in the Cinema and Audiovisuals areas was already described in the ZON overview chapter. The revenues from these two segments could be forecasted from the evolution of the general market and the actual/historical position of ZON in these markets<sup>27</sup>.

About the distribution segment –Audiovisuals- had a negative evolution associated with the strong drop of DVD sales, directly affected by the actual crisis moment that is happening in Portugal. ZON also had a negative evolution (-2,5% in gross revenues), however not as bad as the general market, reinforcing it as the big reference in the national market (Annex 16).

In the management of the film exhibition spaces- Cinemas - not being a basic need, the evolution was negative from 2010 to 2011: there was a decrease of 5,2% at number of admissions and of 2,9% in gross revenues.

ZON followed the trend with a negative evolution of 3,9% of assistants in the last year. However, the 3D technology allowed to an increase in the price and therefore, ZON beat the market and achieved a positive growth of 0,6% in gross revenues in the last

<sup>&</sup>lt;sup>27</sup> Cinema and Audiovisuals market data was taken from ICA (Instituto do Cinema e Audiovisual) website as from "Anuário Estatístico do ICA" 2010.



year. ZON was pioneer in the development of digital 3D platforms in the cinemas theatres which contributed to its current leadership as it can be seen in Annex16.

By the gathering both segment information, as the past evolution of gross revenues and number of admissions, a forecast of revenue decrease of 4% for ZON Audiovisuals and a growth of 1% for ZON Cinema was made.

#### **Other and Eliminations**

The other and eliminations include ZON Conteúdos, Publicty and other corrections of prior periods and it was not possible to gather either actual or historical detailed information. It was assumed a small degradation (-1%) of this item particularly due to the fact that Tv advertisement and the contracts of premium contents are being affected by the actual situation in Portugal.



#### Sonaecom- Other Operational Revenues

Appart from the telecom revenues, Sonaecom includes companies in the Software Systems Market as in Media segment. It also has other sources of revenues, as it can be seen in the table 18.

	Growth per year	2011 TE	2012 P	2013 P	2014 P	2015 P	2016 P
SSI (Information Software Systems)	-7%	116,0	107,9	100,4	93,3	86,8	80,7
Other revenues	0%	11,2	11,2	11,2	11,2	11,2	11,2
Others and Eliminations		0,0	-4,2	-7,7	-10,6	-13,1	-15,2
Online and Media business	-16%	26,1	22,0	18,4	15,5	13,0	10,9
Other Items	0%	-26,1	-26,1	-26,1	-26,1	-26,1	-26,1

Table 9.Values in Millions and in Euro currency

#### SSI (Information Software Systems)

The Information Software Systems division includes 4 companies (WeDo, Mainroad<sup>28</sup>, Saphety<sup>29</sup> and Bizdirect<sup>30</sup>). Standing out from the remaining ones, there is the WeDo Technologies (business assurance solutions, allowing to optimize the business performance as processes and risk management systems); representing already 68,5% of the SSI revenues, it continues to increase its international presence as Revenue Assurance (148 clients in 78 countries).

SSI general revenues had a negative evolution in the last years: the growth on service revenues has not been enough to compensate the huge fall on the equipment sales mainly due to the cancelation of the e-initiatives program<sup>31</sup> (which was reflected in the negative indicators of business performance from Bizdirect). A common trend is expected (-7%).

#### **Others & Eliminations and Other Revenues**

Online and Media business area is included in "Other & Eliminations" on the Sonaecom's Income Statement.

<sup>&</sup>lt;sup>28</sup> Mainroad is a company of IT management and security.

<sup>&</sup>lt;sup>29</sup> Saphety is a company focused in services of automating business processes, electronic invoicing and safety in B2B transactions)

<sup>&</sup>lt;sup>30</sup> Bizdirect is a company essentially dedicated to selling solutions of multi-brand IT equipment.

<sup>&</sup>lt;sup>31</sup> The e-initiatives program aimed to equip students and their teachers with technology platforms, including mobile and broadband Internet. Began in 2007 but it was canceled by the Portuguese government which partially contributed to the purchase of the equipments



Regarding the sub-area, mainly represented by Público newspaper, the market segment of the general daily press is going through a very negative period of sales, justified by an increasingly number of internet access by the general costumers.

Lower the sales, adding the macroeconomic environment, lower the publicity announcements on the newspaper.

Already with negative evolutions on the last years, Online and media business has a quite negative forecast for the coming years (-16%).

Besides Online and Media business, there is no further information regarding other items of "Other and Eliminations", so it was assumed that the rest of it will maintain equal to the FY2011 result. The same problem of lack of information emerged with the "Other revenues" item, therefore the assumption of the maintenance of the FY2011 value over the coming years was made.



# **3.3.2.1.2 Operating Costs**

Both ZON or Sonaecom report decomposes their operational costs in the same five main categories:

- Wages and salaries;
- Direct costs from the provided services;
- Commercial Costs;
- Other operational costs;
- Amortizations

#### **Zon Operating Costs**

The following table indicates the preview for the operational costs for the coming years:

	Growth Per year	2011 Trailing Estimate	2012 P	2013 P	2014 P	2015 P	2016 P
Operating Costs		-766,0	-753,5	-741,6	-730,3	-719,5	-709,4
Wages and Salaries	4,0%	-60,6	-63,0	-65,6	-68,2	-70,9	-73,8
Direct Costs from Provided Services	-3,0%	-245,3	-237,9	-230,8	-223,9	-217,1	-210,6
Commercial Costs	-5,0%	-57,8	-54,9	-52,2	-49,6	-47,1	-44,7
Other Operational Costs	-2,0%	-177,7	-174,1	-170,6	-167,2	-163,9	-160,6
Amortizations		-224,7	-223,5	-222,4	-221,5	-220,5	-219,7

Table 10.Values in Millions and in Euro currency

#### Wages and Salaries

Associated with the expected growth in the triple-play clients base, it will be required a bigger operational employee's team, therefore it is expected a slowly and continuous increase in the costs with wages and salaries is expected as it was seen in the recent years (+4%).

#### Direct Costs from the Provided Services

About the direct costs from the provided services, there are the programming costs associated to the Pay-Tv service, and costs linked to the traffic and capacity costs of the voice and broadband services.

The strong decrease on the programming costs due to the reduction of the number of channels subscripts (mainly movie and sport channels) has more than compensated the increase on the voice and broadband service costs; so it is expected the continuation of a general decrease in the direct costs (-3%).



#### Commercial Costs

This item includes commissions, marketing, advertisement and Cost of goods sold.

The commercial costs have already registered significant decreases in the last years (from 2010 to 2011 was -22,7%) due to several measures applied by the administration, therefore it was forecasted the continuation of the trend , but slightly lower (-5%), mainly associated to the goal of having a more efficient use of the sales channels and to the actual less aggressive promotional environment which requires less spending on advertisement and commercial costs in general.

#### Other Operational Costs

Other operational costs item has also been decreasing over the years (around -4%) and it expected the same in the coming years (-2%), associated with a better cost control over items such as service to the client's cost and maintenance & repair costs, resulting from the implementation of different measures, such as "Unified Front-End" on the contact center.

#### Amortizations

The Amortization item tends to maintain as a fixed percentage of the Non-Current Assets (Balance Sheet) plus Capex value, which in 2011 was defined as 18,3%. Whereas it was assumed the maintaining of the same amount on Non-Current Assets for the next coming years, it was forecasted a decrease on the future Capex values (the preview is explained on the Capital Expenditures chapter), thereby, the amortization costs will be lowers than the current ones.



## **Sonaecom Operating Costs**

As Sonaecom costs should be following the trend of the last years, the past behavior of each type of cost is analyzed in this chapter, which is reflected on the forecasted evolution.

The following table indicates the preview for the operational costs for the coming years:

	Growth Per year	2011 Trailing Estimate	2012 P	2013 P	2014 P	2015 P	2016 P
Operating Costs		-793,6	-776,6	-760,0	-743,9	-728,2	-712,9
Wages and Salaries	-3,0%	-93,1	-90,3	-87,6	-84,9	-82,4	-79,9
Direct Costs from Provided Services	-3,0%	-246,6	-239,2	-232,0	-225,1	-218,3	-211,8
Commercial Costs	-3,0%	-171,1	-165,9	-160,9	-156,1	-151,4	-146,9
Other Operational Costs	0,0%	-159,1	-157,5	-155,9	-154,3	-152,8	-151,3
Amortizations		-123,8	-123,7	-123,5	-123,4	-123,2	-123,1

Table 11.Values in Millions and in Euro currency

#### Wages and Salaries

As a result of the optimization process on the fixed residential unit, significant decreases took place in the last years and it is expected the continuation of this process (-3%).

#### Direct Costs from the Provided Services

Direct costs from the Provided Services include interconnections and contents, leased lines and other costs of network operations.

This kind of costs are expected to decrease (-3%) mainly due to the recently implemented "Efficiency Optimus Program", this program allowed Optimus to reduce substantially its leased lines and decrease its network costs.

Helping this figure, the mobile termination rates policy (lower rates) also led to reductions on the costs of interconnection.

#### Commercial Costs

Commercial costs include costs of goods sold, marketing and sales costs.

With the decision of the abandon of the acquisition of customers in the residential sector through PT infrastructure, and the cancelation of the E-initiatives program, the costs of goods sold will diminish over the years.



Marketing and sales costs are expected to increase accompanying the need of Optimus to continuously fight for its client's base and market shares, forced by the intense competition in the different segments, however this figure will not have a great impact in the total commercial costs, estimating just a slightly costs savings (-3%).

#### Other Operational Costs

Other operational costs involve subcontracted services, general and administrative expenses, provisions and other costs.

On the one hand, the ongoing operational efficiency plan, has allowed decreases in general and administrative expenses and also in terms of outsourcing (related to call center and IT costs) in Optimus. On the other hand, in the last years SSI area presented higher costs for maintenance contracts, equipment rental and other costs related to full outsourcing contracts done by WeDo and Mainroad; compensating the rubric preview (0%).

#### Amortizations

The Amortization item tends to maintain as a fixed percentage of the Non-Current Assets (Balance Sheet) plus Capex value, which in 2011 was defined as 7,9%. Whereas it was assumed the maintaining of the same amount on Non-Current Assets for the next coming years, it was forecasted a decrease on the future Capex values (the preview is explained on the Capex Expenditures chapter), thereby, the amortization costs will be lower than the current ones.



## **3.3.2.1.5** Financial Results

There is an exaggerated negative value of 42,1 millions of net financial results of ZON. This value resulted partially from the negative contribution of the consolidation of the Angolan operation (9,1 M  $\in$  by trailing, since official values point for 7,2 M  $\in$  at the third quarter), which tend to have less impact over the next years as a consequence of the sustained growth and expected success of the operation.

According to the ZON report, the all-in financial costs were 4,02%. Taking into account the actual and preview of the Portuguese financial situation, the borrowing costs are expected to increase. Therefore, considering both financing costs and Angola operation, it is expected a small decrease (-5%) over the years in the financial costs of ZON.

Regarding Sonaecom, its all-in cost of financial debt was around 2,85%; which is a small amount for interests according to the current market rates (its financing costs are just 1,5 time bigger than the financial revenues), therefore it is expected a slightly increase on the future financial costs of Sonaecom (+2%).

	Growth per year	2011 Trailing Estimate	2012 P	2013 P	2014 P	2015 P	2016 P
ZON Net Financial Results	-5%	-42,3	-40,2	-38,2	-36,3	-34,5	-32,8
Soneacom Net Financial Results	2%	-6,6	-6,7	-6,9	-7,0	-7,1	-7,3

Table 12.Values in Millions and in Euro currency



#### **3.3.2.1.6 Income Tax and Minority Interests**

Regarding the income tax, based in the austerity measure approved in the legislation at December 2011, the application in ZON and Sonaecom has the same reasoning<sup>32</sup>: The corporate income tax of 25%, to which is added a municipal surcharge of 1,5%, resulting an aggregate rate of 26,5%, and then, a state surcharge of 3% and 5%, due to the high level of taxable income presented by both companies, is also applied on the result of the continuing operations or, in other words, the taxable income.

The additional state surcharge of 3% is applied to the amount of taxable income between the range of 1,5 M  $\in$  and 10M  $\in$ . In the case of ZON and Sonaecom, the rate of 3% is always applied over the maximum value of 8,5 M  $\in$ , since their taxable income always exceed the top value of 10 M  $\in$ . Finally, the 5% surcharge is then applied to the part of the taxable income of the company that exceeds 10 M  $\in$ .

Those new measures took by the government will influence negatively the net income presented by the companies since it was forecasted for both EBT values always over 50 M  $\in$ , having part of the taxable income being subject to the new hardest tax policy<sup>33</sup>. In practical terms this change can be seen as an increase around 3% in tax costs when compared to prior years.

After taking into account the income tax calculations and finding the result of the continuing operations, the minority interests are then considered, in order to reach the Net Consolidated Result.

Regarding the Minority interests it was assumed the maintenance of the obtained value for FY2011, according to the trailing estimate.

<sup>&</sup>lt;sup>32</sup> Regarding the affiliates of the companies under valuation, there are some exceptions as ZON TV Cabo Açoriana, which, instead of 25%, the corporate income tax is 17,5%, although it was considered to be immaterial, and therefore, the reasoning explained above, was applied to the Net Consolidated Result of the companies, ignoring some possible exceptional cases.

 $<sup>^{33}</sup>$  The maximum rate added to the tax corporate rate was 1,5% in the past, then, the alterations mentioned on the text were added by the law n°12-A/2010 at September 30 and later, were approved in the 2012 State Budget, by the law n° 64-B/2011 in December 30.



#### **3.3.2.1.7 Income Statement**

With the explained assumptions above it was achieved the 2011 trailing estimate Income Statement, and then the forecast preview of the Income Statements of both companies under valuation, in a 5 years time frame, as presented in the Annex 17 and 18.

Zon Revenues are slightly increasing over the next years with a CAGR (Compound Annual Growth Rate) of 0,2% due to the positive expectations on its main business activity (the triple play).

But is the significant decrease expected on the costs directly associated with its business activity that allows ZON to present a EBITDA positive CAGR around 3,5% .Its margin, in relation with the operating revenues is growing, achieving 40% in 2014, which indicates that ZON will be able to retain a good amount of the revenues.

The EBIT is also growing (CAGR:11,4%), achieving EBIT margins in average of 14%.

One of the biggest problems in ZON; is definitely the fact that is quite indebted, and therefore, has been presenting exaggerated amounts of financial costs for its business. However, as it was explained a significant part of them were due to the consolidation in Angola, which tend to have less impact from now on, which permits a growth around 20% per year in the EBT and Net Income.

All in all, the Net Consolidated result preview has a quite positive evolution expected, mainly due to costs reduction, concluding in a favorable future for ZON.

Regarding Sonaecom preview is not so favorable. It starts with the Operating Revenues, which present a negative CAGR of 3,3%; mainly due to the poor expected performance of the Fixed Segment (-10,3%) and SSI area (-7%).

To counteract this evolution, all the constituents of the costs associated to the Sonaecom operations, are expected to decline in a CAGR around 2,2%. This fact spared a totally disastrous evolution of the EBITDA (which decreased around 5,5% per year).

The EBIT and EBT indicators, as the Net Consolidated Result, influenced by EBITDA evolution, had even a more negative forecast performance (around -13% per year), since Sonaecom is expected to maintain the amortizations and financial results level.



Concluding, the negative forecast for the Operating Revenues over the analyzed time frame, cannot be recovered by the expected savings in different types of costs along the income statement, leading to a decrease in the Net Results, indicating not such a favorable general preview for Sonaecom.



#### **3.3.2 Free Cash Flows to the Firm**

With these forecasts explained above it is achieved part of the inputs needed for the preview of the free cash flows to the firm of ZON and Sonaecom.

Regarding ZON valuation, there is a favorable preview. The positive FCFFs are increasing in a CAGR of 8,3% for the 5 years in analysis. The mainly contributor for this positive evolutions was the EBIT, translated in the NOPLAT high values. Moreover, CAPEX also have a positive evolution toward the FCFF indicator since it is decreasing over the years.

The continuing or horizon value, representing, after 2016, all the following future cashflow is 7,7x more the 2016 ZON FCFF.

ZON Valuation	2012	2013	2014	2015	2016	
NOPLAT (EBIT * (1-T))	68,8	76,7	85,4	95,0	105,5	Continuing Value
Amortizations	223,5	222,4	221,5	220,5	219,7	
CAPEX Investment	145,5	139,7	134,3	129,3	124,6	
Working Capital Investment	1,1	0,0	0,0	-0,1	-0,1	
Free Cash-Flow to the Firm	145,8	159,5	172,7	186,4	200,7	1.545,3

Table 13. Values in Millions and in Euro currency

Sonaecom FCFFs have a negative evolution, showing a negative CAGR of -5,6% in the time frame considered. The negative evolution is mainly due to the NOPLAT. The difference from the Amortizations and Capex amounts is also higher than it is in Zon.

The continuing value consists in 9,7x more than the 2016 FCFF.

Sonaecom Valuation	2012	2013	2014	2015	2016			
NOPLAT (EBIT * (1-T))	73,4	62,7	54,8	49,2	45,6	Continuing		
Amortizations	123,7	123,5	123,4	123,2	123,1	Continuing Value		
CAPEX Investment	96,6	94,7	92,8	90,9	89,1	value		
Working Capital Investment	1,5	1,3	1,1	1,0	0,8	1		
Free Cash-Flow to the Firm	99,0	90,3	84,3	80,6	78,7	764,1		

Table 14. Values in Millions and in Euro currency



#### **3.3.2.1 Capital Expenditures**

Since 2008, to assure its long-term competitiveness, ZON started larges investments:

• A project called "ZON-IN" which corresponded to the end of use of rented infrastructure and the start of the construction of its own primary network in optical fiber<sup>34</sup>; the upgrade for Eurodocsis 3.0 in 80% of its network - upgrade on the speed provided for cell; and the installation of extra-cells needed certain zones- due to heavier traffic levels.

These investments were translated into high values in Non-Recurring Capital Expenditures item over the last 3 years. With these investments practically concluded throughout 2011, a big reduction was achieved, and it is expected to be reduced even more since ZON's administration didn't announce any relevant investment plan regarding the coming years.

About the Recurring Capex evolution, in 2011 also took place a significant reduction in the investment in both triple-play infrastructure and terminal equipment due to the higher level of penetration of set top "ZON HD" boxes and new generation modems. Still, the new service "IRIS" is associated to a new box, implying a need for substitution, so the baseline Capex it is expected to maintain around 2011 values.

Sonaecom reports are quite limited, it does not differentiate the non-recurring from Recurring Capital expenditures, and it is not given any introspection either over the past and future regarding this theme. It is assumed a slowly decrease in its Capex Investment in line to the Sonaecom expected costs saving in general (-2%).

	Growth per year	2011 Trailing Estimate	2012 P	2013 P	2014 P	2015 P	2016 P
Pay-tv, Broadband, Voice Infrastructure	-3%	80,3	77,9	75,6	73,3	71,1	69,0
Terminal Equipment	-3%	48,3	46,9	45,5	44,1	42,8	41,5
Other Recurring items	-1%	7,6	7,5	7,4	7,3	7,3	7,2
Recurring or baseline CAPEX		136,23	132,29	128,48	124,77	121,17	117,68
Non-Recurring CAPEX	-15%	15,49	13,17	11,19	9,51	8,09	6,87
Total ZON Capex Investment		151,72	145,46	139,67	134,28	129,26	124,56
Total Sonaecom Capex Investment	-2%	98,58	96,61	94,68	92,79	90,93	89,11

Table 15. Values in millions and in Euro currency

<sup>&</sup>lt;sup>34</sup> ZON-in project allowed more flexibility and independence of ZON, since after that, no more decisions would have first to be approved by the rented infrastructure's player, and will permit more cost efficiency in the future.



#### 3.3.2.2 Investment in Working Capital

The mobile telecommunications sector is characterized by a low Average Collection Period: customers pay early (many through prepaid tariffs in voice and mobile internet).

To support with enough liquidity the high investment level period of 2008-2010, both ZON and Sonaecom increased the average payment period of suppliers.

Following the working capital formula reasoning, the historical negative working capital values are justified, since both things contributed for the negative conversion cycle.

Regarding ZON the last report informs the payment of some balances owed, and, given the forecast Capex reductions in general, it is expected the stabilization of the investment in WC at a more normalized level. The trailing Investment in working capital was -21,7 M  $\in$ , and an improvement in this item is forecasted, becoming less negative at 5% on 2012. Then it was considered that the working capital evolution would directly vary with the behavior of the revenues indicator (as a fixed % defined in 2012).

Regarding Sonaecom, it is expected a trend continuation, also varying with the growth rate revenues; since its report does not bring any useful insights over this theme.

It can be concluded that the working capital investment does not strongly affect the FCFF calculation of both firms, due to their predicted immaterial levels.

		2011 TE	2012 P	2013 P	2014 P	2015 P	2016 P
5	Working Capital	-36,5	-34,98	-33,69	-32,58	-31,62	-30,80
	Working Capital Investment defined as % of 2011 Sales		1,5	1,3	1,1	1,0	0,8
	Working Capital	-21,7	-20,57	-20,57	-20,60	-20,68	-20,80
	Working Capital Investment defined as % of 2012 Sales	-2,4%	1,1	0,0	0,0	-0,1	-0,1

Table 16. Values in Millions and in Euro currency



#### **3.3.2.3** Continuing Value

The continuing values achieved were 1.545,3 M € for Zon and 764,1 M €for Sonaecom.

The residual value of working capital (working capital of 2017) took into consideration the presumable continuation of the investment in working capital trend (negative) for same year.

The nominal growth rate of 1,86% (Annex 1 for calculation) was used to the valuation of both companies.

It is the result from the combination of the historical and forecasted % of change of Portuguese GDP (Gross Domestic Product) at constant prices with the Portuguese inflation rates (average consumer price) preview.

Despite of the fact that this growth rate was only applied to the continuing value, number that is considering the ability of the company to produce cash-flows after 2016, it was considered the rates preview since 2009 until that year were considered (summing two simple averages in the end), having this way a more conservative input for the future of the telecom market.

Both data were taken from the World Economic Outlook database, September 2011 Edition, since it contained selected macroeconomic data series from the IMF (International Monetary Fund) staff's analysis and projections of economic developments for the Portuguese country.

	2009	2010	2011	2012	2013	2014	2015	2016	Average	Nominal Growth Rate
Portuguese GDP (% change)	-2,51%	1,33%	-2,16%	-1,84%	1,19%	2,45%	1,55%	1,63%	0,21%	1,86%
Inflation Rate	-0,90%	1,39%	3,44%	2,11%	1,46%	1,53%	2,22%	2,00%	1,66%	



#### **3.3.3 Discounted cash flows**

The prior 5 years cash-flows, as the continuing value are now discounted until the moment zero, taking into consideration the time value of money.

This discount effect is achieved by the application of the weighted average cost of capital (WACC) as discounted rate.

To reach the WACC there were different inputs that had to be calculated, based in some assumptions, showed bellow:

	ZON	Sonaecom		
WACC	8,96%	8,10%		
	r			
Re or Cost of Equity	14,87%	13,09%		
Rd or Cost of Debt	8,05%	4,45%		
Market Debt Value	1.242,4	441,0		
N° of Outstanding Shares	309,0	366,2		
Price per share $\in$ (30/12/2011)	2,32	1,22		
Market Equity Value	717,5	445,0		
Total Market Value	1.959,9	886,0		
	1			
BL or Beta Leverage	1,23	0,94		
BU or Beta Unlevered	0,56			
Country Premium risk of Portugal	4.1	30/		
· · · · · · · · · · · · · · · · · · ·	4,13%			
Country Premium risk of Angola				
Portuguese Lambda	0,90	1,00		
Angolan Lambda	0,10	NA		
Risk Premium of the market	6,0	0%		
Risk-Free Rate	3,30%			
Income Tax Rate	31,21%	31,17%		

Table 18.-Market Debt Value, Market Equity Value and Total Market values are in Millions and in Euro currency. Number of Outstanding shares value are in millions.



#### 3.3.3.1 Cost of Debt

In order to calculate the cost of Debt, the risk-free rate and a default spread is needed. The risk-free rate was based on the methodology Bloomber (2009), whereas the default spread was estimated following the Aswath Damodaran approach.

With the 2011 estimated values it was reached an interest coverage ratio of 2,10 and 7,7 for ZON and Sonaecom respectively. The lower ratio of ZON clearly shows how ZON, in proportion by the earnings accomplished, is having more trouble to meet its financial expenses This is easily justified by the level of Debt in the ZON's capital structure compared with Sonaecom's capital structure: 63,4% to 49,8%.

Following A.Damodaran reasoning, both ZON and Sonaecom are considered nonfinancial large firms, since are both in telecom industry and their turnover (sales) are higher than 40m  $\in$ . Based on the prior ratios obtained, the estimated spread of ZON is 4,75% and the Sonaecom 1,15%.

To reach the risk free rate of 3,304%, it was calculated the median of the yield-tomaturity (YTM) of Euro currency bonds<sup>35</sup> with 10years of maturity, issued by countries whose rating is triple  $A^{36}$ .

Finally, summing the estimated spread with the risk free rate, it was reached the final values of cost of debt for ZON 8,05% and Sonaecom 4,45%.

<sup>&</sup>lt;sup>35</sup> The paper developed by Aswath Damodaran "Estimating Risk-free rates" advocates the Risk free rate should be calculated by inputs with the same currency of the cash flows generated by the valuated company.

<sup>&</sup>lt;sup>36</sup>Data gathered from the European Central Bank (ECB) website



# **3.3.3.2** Cost of Equity

The cost of equity was obtained through the CAPM model adapting the Copeland, Koller and Murim, as the Aswath Damodaran approaches, for the beta calculation and for the market risk premium, respectively.

The Beta levered of the company was defined based on a peer analysis where it was discovered the Beta unlevered of the sector by a small group of comparable companies to ZON and Sonaecom<sup>37</sup>.

Country	Company	Levered Beta	Capital Structure (D/E)	Debt Market Value	Equity Market Value
Portugal	ZON	1,22	1,73	1242,4	717,5
Portugal	Sonaecom	1,27	0,99	441,0	445,0
Spain	Telefonica	1,23	1,05	63.772,0	60.777,0
Italy	Telecom Italia	1,13	2,64	40.372,9	15.292,1
	Average	1,21	1,60		

One can see bellow the elements considered:

Average tax rate	27,4%
Unlevered Beta	0,56

Table 19.Debt Market Value and Equity Market Value data are in Millions and in Euro currency

The levered Beta of the companies was provided in Bloomberg, and the capital structures were calculated from Debt and Equity market values. The average Levered Beta and capital structure were calculated, and then, applying the average tax rate, the Beta of the sector was unlevered (0,56).

<sup>&</sup>lt;sup>37</sup> The entire group considered for the relative valuation chapter is composed by 11 companies; however, for this estimation the group was reduced to 4 elements: the under valuation companies plus 2 peer companies representing the countries with similar general financial situation to Portugal: Spain and Italy, having an identical levered beta among the other constituents of the peer group.



Applying the Portuguese tax rate and the respective actual structures of ZON and Sonaecom to the unlevered beta of the sector, we reach a Beta levered of 1,23 to ZON and 0,94 for Sonaecom.

Regarding the equity risk premium, the country risk premium approach was used. For the base mature market premium, Damodaran applied the system in US equity market, reaching a value of 6%.

About the country risk premium, taking into account the ratings from Moody's as the treasury bond rates from Portugal and Angola, the default spread was achieved and then multiplied by the ratio of the relative equity market volatility.

It was used the global average of equity to bond market volatility of 1.5 to estimate the country equity risk premium of each country.

Country	Rating	Spread in basis point	Std dev. Equity Market/ Std dev. in Country Bond	Country Risk Premium
Portugal	Ba3	275	1.5	4,13%
Angola	Ba2	325	1,5	4,88%

Table 20.Source: A. Damodaran Spreadsheet

Regarding Sonaecom it was considered just the Premium of Portugal where  $\lambda$ =1, since all the revenues are originated in Portugal. Although, in ZON, apart from Portugal, it was considered the premium risk of Angola, and the lambdas variable were defined based on forecasting of the EBT and the financial consolidation of ZAP (which is still negative contributing for the ZON profit).

With this assumptions taken into consideration, a cost of equity of 14,87% for ZON and 13,09% for Sonaecom were achieved.



## 3.3.3.3 Weighted Average Cost of Capital

Finally, the weighted average cost of capital can be calculated. Using the market values of Debt<sup>38</sup> and Equity<sup>39</sup> and taking into consideration the tax savings<sup>40</sup> of Debt capital in place of Equity Capital, it was reached a WACC of 8,96% for ZON and 8,10% for Sonaecom.

Having now the discount rate WACC, it is possible to consider the time value in the free cash-flows of the companies under valuation, where the discount effect will be higher in ZON.

		2012	2013	2014	2015	2016	Continuing Value
ZON	FCFF	145,8	159,5	172,7	186,4	200,7	1.545,3
ZON	Discounted FCFF	133,8	134,3	133,5	132,2	130,7	1.006,3
	FCFF	99,0	90,3	84,3	80,6	78,7	764,1
Sonaecom	Discounted FCFF	91,5	77,3	66,7	59,0	53,3	517,7

Table 21.Values-Data in Millions and in Euro currency

<sup>&</sup>lt;sup>38</sup> For the Market value of Debt it is simply the sum of current debt plus non-current debt on the balance sheet, since the book value is roughly equal to the market value of Debt, the first is used as a proxy.

 $<sup>^{39}</sup>$  It was considered the price of the share on 30/12/2011 in order to be related with the temporal scope of the valuation.

<sup>&</sup>lt;sup>40</sup>For effects of tax savings, the income tax used to the WACC of each of the companies was the simple average of the income tax rates applied over the 5 years of forecasts.



# 3.3.4 Equity value

On the following table one can see the Enterprise Value, the Firm Value and the Equity Value of the companies under valuation.

Knowing that the achieved Enterprise Value and Firm Value of ZON are around the double of the values reached by Sonaecom, it is easy to see how the exaggerated amount of debt is affecting ZON potential, approaching it to the competitor in terms of Equity Value (838,5M  $\in$  against Sonaecom 607,4M  $\in$ ).

According to the valuation made, the price target also known as the fair price of ZON and Sonaecom shares, indicate there is a potential future upside on both companies, mainly to Sonaecom (36,5% of potential upside).

	ZON	Sonaecom
Enterprise Value	1.670,9	865,6
+Market value of extra-operating assets	410,4	183,0
=Firm Value	2.081,3	1.048,6
-Market Value of Debt	1.242,4	441,0
-Minority interests	0,4	0,2
=Equity Value	838,5	607,4
Price target €	2,71	1,66
Price per share € (30/12/2011)	2,32	1,22
Potential upside of share price	16,9%	36,5%

Table 22. Values Data in Millions (with the exception of the price targets) and in Euro currency



# 4. M&A Valuation

The speculation around possible mergers and acquisitions has increased last months, when different investment bank researchers started to consider that the segment of fixed telecommunications is in consolidation, enabling some opportunities connected with that kind of strategic movements.

Over the last 5 years, a possible deal between Zon and Sonaecom has being target of speculation from the media, opinion makers, politicians and both companies' executives.

In the next chapters, it is described as a horizontal consolidation type of acquisition has good chances to go ahead between these companies.

As it was described in the "Mergers and Acquisitions" chapter, in the consolidation approach, "both the acquiring and the acquired firm terminate their legal existence, being part of a new created firm". This new firm, combining the assets and liabilities from Sonaecom and ZON will be hereinafter named as "SonaeZon".

The consolidation approach "needs the approval from the shareholders of the companies involved", therefore, in "Shareholders and capital structures" chapter, an overview regarding the historical, current and possible movements on the capital structures of ZON and Sonaecom is made, supporting the idea that both companies are willing to pursue a merger with the establishment of a new company, and therefore, the approval from shareholders of both firm would be achieved.

Moreover, a good reasoning must exist behind a consolidation decision and the chapters "SonaeZon Forecasts"; "SonaeZon Valuation" and "SonaeZon Synergies" aim to demonstrate as an eventual deal, would financially compensate the shareholders of both companies.

Furthermore, the hypothetical situation of an acquisition by the Consolidation type approach was devised, being described in the "Share Exchange Proposal" chapter how it would happen and the resulting capital structure of the new company.

# 4.1 Shareholders and Capital Structures overview

Paulo Azevedo, CEO and the main shareholder of Sonaecom, since the separation from PT, has commented publicly more than once that he is favorable to the union. He agrees with some analysts that defend the new company would be worth more than the two individual and the level of synergies would have a great impact in costs savings, which would be the best way to protect against the desire from PT to obtain the monopoly in the Pay-Tv segment.

Rodrigo Costa, ZON CEO, was always cautious about this issue, and the last answer in this topic was: "we are talking about people and teams, and the bigger the company, the less creation of jobs; we have been discussing this for four years, but still here we are"(Jornal de negócios 24 Novembro 2011).

The point here is that the shareholders are the owners and never came to any conclusion if the business fusion would make them better off. And that is why a possible marriage has now more possibility to come true, given recent changes as some expectations about the future movements in the capital structure of both companies.

Regarding the main ZON's shareholders is important to take into account several information, which will influence the future of ZON.

Kento Holding LTD is a company 100% controlled by Ms. Isabel dos Santos who is daughter of José Eduardo dos Santos –President of republic in Angola, which will have a determinant influence in both nationally and internationally future of ZON.

In December 2009, Kento acquired 10% of ZON Capital, percentage that remains equal nowadays. This 10% were achieved from ZON own shares (4,53%), Cinvest (2,97%) and finally CGD (2,5%). This big investment (around 163,8 Million Euros ) was more than half financed by CGD, which demonstrates the good business relation between CGD (the state-owned bank) and Kento<sup>41</sup>. The other side of the partnership between ZON and Kento is the Angolan ZAP, in the Angolan Pay-Tv market, a joint venture constituted by 30% from ZON and 70% from Kento.

CGD is now the major shareholder with 10,88%, however in the last months there were some expectations around ZON actual capital structure (see Annex 3 for detail). In July

<sup>&</sup>lt;sup>41</sup> WWW.expresso.sapo.pt/isabel-dos-santos-compra-10-da-ZON-multimedia=f554126



of 2011, pressed by the Troika rescue plan, in order to increase strength in the bank's capital ratios, the Portuguese government indicated to CGD to proceed with the sale of its "non-strategic holdings " in companies such as PT, Galp; EDP or ZON.

It is known that there is no official calendar and the state bank pretends to do it over two years in order to avoid rushed deals, but Expresso journal in 26/11/2011 already reported that CGD is in negotiations with the company of Isabel dos Santos to sell its part in the Capital of ZON and that will be just a question of time. If that happens, Kento would pass for the major shareholder in ZON with more than 20% in its control with Grupo Espiríto Santo and BPI<sup>42</sup> quite behind.

About Sonaecom capital structure (see Annex 5 for detail), since September 2011 is publicly known about the intention of France Telecom who owns Atlas service Belgium (and is the second-largest shareholder, just behind SONAE itself with 53,17 %) to sell its 20% stake in the company which was confirmed by Gervais Pelisser, the CFO, quoted by Reuter, that they "don't pretend to continue as shareholders in assets which they have minority positions as in Austria or Portugal". This stake could be sold to SONAE<sup>43</sup>, or an investor that could potentially take a more active role for an agreement with ZON.

Other possibly favorable factor to the merger could the fact that government was changed in 21 of June 2011, since José Socrates (ex prime minister) was then against the fusion, having being criticized several times by Belmiro de Azevedo (founder and chairman of SONAE group), since it should not even raise major issues in the Competition Authority.

Concluding, there have been described some relevant capital structures changes, which, added some expectations over new strategic movements from different players, will define the new major shareholders of both companies, and that fact might conduct to a friendly consolidation deal between ZON and Sonaecom, with the approval vote from both sides.

<sup>&</sup>lt;sup>42</sup>Other relevant fact for the ZON Capital structure is the fact that Ms Isabel dos Santos holds 10% of the BPI capital structure through Santoro Finance, from Financial Holdings SGPS (which Ms Isabel dos Santos is the major shareholder).

<sup>&</sup>lt;sup>43</sup> There are also good relationships between SONAE and Ms Isabel dos Santos. In April 2011 was established a partnership between Sonae(49%) and Condis(51%) which is owned by Ms Isabel dos Santos and its husband Sindika Dokolo, in order to bring Continente supermarkets chain to Angola.



#### 4.2 SonaeZon Forecasts

The consolidation deal would involve a due diligence process, in order to verify that this operation would be financially beneficial for both shareholders.

Therefore, to identify the value of the new company SonaeZon, a direct sum of the P&L previews of the individual companies was done, with exception of some rubrics which deserve a consideration over the possible impacts of a future merger between ZON and Sonaecom.

On the revenues side, it was assumed that the fixed segment, apart from the direct sum, it would increase in 2% due to the fact that, having now other possibilities regarding the Pay-Tv, broadband and voice services, new kind of packs could be sold, enabling an increase on the "cross-selling" sales based on the higher convergence between mobile and fixed costumers.

It is important to highlight that, a merger between those companies would create a new integrated telecom player in Portugal, leading the Pay-Tv segment, with a solid position in mobile sector, and with a growing footprint in terms of Broadband and Fixed Voice.

Moreover, this new structure, taking into account these revenues possibilities would be much stronger in the medium/long term, where the 4-play could eventually be a decisive factor.

Obviously, the improving of profit margin is the main reason behind the idea of mergers and acquisitions and in this case, as usual, the potential costs saving are more material than the revenues synergies. Regarding costs, the following assumptions per year were done:

- Reduction in 6,4% of Wages and Salaries;
- Reduction in 10% in Direct Costs from provided services;
- Reduction in 10% in Commercial Costs;
- Reduction in 5% in Other operational Costs;
- Reduction in 5% in Amortization Costs



Those values are linked to the fact that, with an increase on the enterprise dimension as consequent department reorganization, would certainly led to different types of costs saving.

The competitively quality on ZON's fixed segment suggests that, being the merger a reality, there would be a transfer of Sonaecom's fixed segment costumers to the ZON dynamic, which would increase a general cost efficiency in the direct costs of this segment. The direct costs would also be influenced by a reduction in general support services, less use of external networks for interconnection purposes and merging call centers units.

Linked to the costumers transfer, is also an expected reduction in employees of the Sonaecom's fixed segment commercial area, which will improve the contribution of personnel costs (wages and salaries) on the results of the new company.

Regarding commercial costs, mainly marketing and sale costs, would also have a positive effect by obvious reasons: A single brand would permit a substantial rationalization of distribution channels through a lower number of own stores and a reduction in general advertisement costs.

Adding to that, it is believed that an increased pricing power would reduce costs in suppliers and external services sphere.

There should be a reduction in depreciation and amortizations rubric justified by a certainly lower investment in Capital Expenditures, since from now on, there would be no need to invest separately.

Assuming that the merger would happen in the end of December 2011, it was constructed the Income statement forecast, presented in the Annex 19.



#### 4.3 SonaeZon valuation

Following the same reasoning of the individual valuation, the free cash flows to the firm were calculated with a direct sum of the rubrics in consideration; highlighting the fact that there was assumed a 20% reduction in Capex Investment (relative to a part of Capex Investment, which , in individual condition, Sonaecom would invest in the fixed segment).

For the discounted cash-flows, a weighted discounted rate based on the market capitalization of Sonaecom and ZON was calculated.

In the end a premium for the risk of execution of the merger is added (10%) to the Weighted WACC, resulting the SonaeZon WACC: 9,49%

	ZON	Sonaecom	Sama Zan
WACC of the individual company	8,96%	8,10%	Sonae Zon
Market capitalization	717,5	445,0	1.162,5
Weighting measure	61,7%	38,3%	100%
Weighted WACC of Sonaezon	8,63%		
Premium for execution risk	10%		
Sonae Zon WACC	9,49%		

Table 23. Market Capitalization is in Millions and in Euro currency

In the following table one can see the Enterprise value; Firm Value and Equity value of SonaeZon, simply by directly summing the constituents from both individual.

	Sonae ZON
Enterprise Value	3.183,6
+Market value of extra-operating assets	593,4
=Firm Value	3.777,0
-Market Value of Debt	1.683,4
-Minority interests	0,6
=Equity Value	2.093,0

Table 24.Values in Millions and in Euro currency



## 4.4 SonaeZon Synergies

A consolidation would make sense if SonaeZon value (taking also into account all the process for its creation) would be bigger than the value of Sonaecom and ZON separately: The total value of synergies is defined by the Equity value of the SonaeZon, (recording the achieved value of  $2.093M \in$ ), less the individual equity values of both companies less the restructuring costs associate to the merger process.

There are three types of costs that comprise the restructuring costs of this deal: Termination Costs; Consulting Costs and Integration Costs, totaling 156,4 M  $\in$  after tax rate consideration<sup>44</sup>.

As it was already described, there would be a transfer of the costumers on the fixed segment from Sonaecom to ZON and thereby the focus would be on ZON's business, which results in the possibility to reduce workers from Sonaecom and therefore personnel costs with wages and salaries.

The dismissal of employees obviously entails responsibilities for the company: Termination Costs. It was assumed a dismissal of 40% of the employees in the Telecommunications fixed area of Sonaecom, representing 260 elements.

Taking into account the total cost of Sonaecom in 2011 with wages and salaries, it was achieved an average cost per employee per year around 45,3 k  $\in$ . According to the labor law in Portugal, the compensation for the employees with contract is one month of wage by each year that the person was on the company. However, SonaeZon, certainly having the intention of avoid harming its image near the clients, the referred law would not be taken strictly into account, and a fair compensation for each of the employee that would leave the company would be made. The total of terminations cost would be approximately 64,8 M  $\in$ .

There would also be costs associated with the integration of both companies work dynamic in one; costs as establishing a unique network, computer systems, red tape, and training in view of adapting and connecting the workers from the erstwhile rivals;

<sup>&</sup>lt;sup>44</sup> In order to access the real value of the transaction, the restructuring costs should take into consideration the tax rate. These costs are tax deductible, and may even be amortized over several years, therefore they should be deducted from their tax savings.



totaling 103,9 M € of integration costs (assumption of 7% of the total 1°year SonaeZON costs)

At last but not least; it was assumed that Consulting costs related with the Audit & Legal advisory, as the transaction support itself, would be 4% of the total costs of the first year of SonaeZon, resulting in 59,3M  $\in$ .

Equity value of Sonae Zon	2.093,0
-Equity value of Zon	838,5
-Equity value of Sonaecom	607,4
-Restructuring Costs (Taxes considered)	156,4
Termination Costs	64,8
Consulting Costs	59,3
Integration Costs	103,9
Synergies	490,8
-Costs (premium paid)	187,9
Equivalent Payment in cash	632,9
Current value of Sonaecom in the Market	445,0
Merger should go forward - $>$	302,9

Table 25. Values in Millions and in Euro currency

As it is shown above, the total Synergies are about 490,8M  $\in$ , which represents an amount higher than the premium associated with the operation (187,9 M  $\in$ ) demonstrating how the idea of merger have financial reasons to be accepted and go forward (Annex 1 for premium calculation).



## 4.5 Share Exchange Proposal

As it was explained in the "Merger and Acquisitions" chapter, the acquisition could be financed in two distinct ways.

Financing by cash is a taxable transaction, and moreover, ZON has not enough cash to support this big transaction, having the need to raise funds from banks or stock market.

But, more important than that, is a known fact that Sonae intends to continue in the telecom business, and therefore, the share exchange approach would be the unique option for the goal of doing a consolidation between companies.

In the consolidation approach, "the distinction between acquiring and acquired firm is not relevant", however, for a matter of operational reason, it is considered that ZON is the aquiring or issuing company simply due to its dimension, which is considerably higher than Sonaecom (ZON's enterprise value is 1,9x bigger than Sonaecom Enterprise value).

Since ZON is the acquiring company, each ZON share will be directly converted into one SonaeZon share, while the Sonaecom Shareholders will be subject to the exchange ratio calculation:

The Synergies created by the combination effect of both companies are distributed by weighting the respective market capitalization.

Thereby, the attributed value to each company will be its market capitalization added by the individual distributed synergies. In this way, ZON would be valued in 1.020,5M  $\in$  and Sonaecom in 632,9M  $\in$ , meaning that the value of the SonaeZon would be established in 1.653,3 M  $\in$  for the share exchange ratio calculation.

Exchange ratio is defined by the fair number of shares that SonaeZon will exchange for each Sonaecom share initially held by Sonaecom shareholders.

Therefore, take into account the prior valuations with the synergies division, knowing that currently there are 309 M of common outstanding shares of ZON which correspond to 1.020,5 M $\in$  the same reasoning is applied in order to discover how much new "ZON" shares have to be issued to represent the valuation of Sonaecom (632,9M  $\in$ ).



Thus, representing a 0,52 share exchange ratio; it will be needed the issue of 191,6M new shares.

Concluding, SonaeZon, would have 500,7M outstanding shares priced at  $3,3 \in$  reaching 1.653,3 M  $\in$  of market capitalization where 61,7% corresponds to older ZON's shareholders, and the remaining 38,3% the Sonaecom shareholders participation in the new firm.

Multiplying that participation on SonaeZon by the current shareholder position it is reached the new shareholder participation in SonaeZon, as the following circular graph presents<sup>45</sup>:

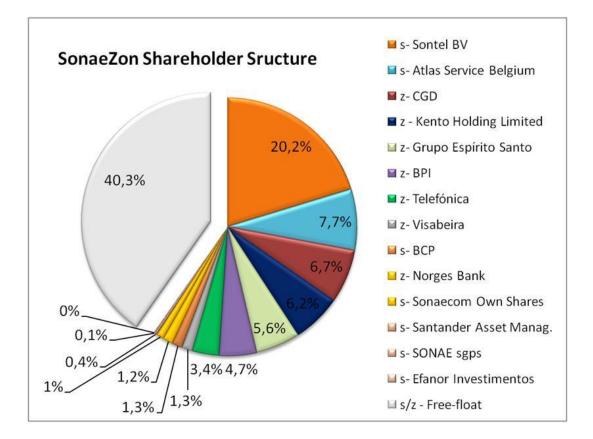


Figure 10.SonaeZon capital structure

In the Annex 20 it is possible to ascertain the evolution from the shareholder structure of the individual companies to the new shareholder structure of SonaeZon.

<sup>&</sup>lt;sup>45</sup> In order to assist the analysis, one "s" or "z" can be seen right behind the name of the shareholder, representing which company the shareholder had participation before the merger, Sonaecom or ZON, respectively.



Resulting a free-float of 40,27%, SonaeZon structure shows that Sontel (around 20,28%), an entity entire owned by Sonae SGPS, which, adding its position (0,07%) and Sonaecom own shares (0,95%) would stay as the major shareholder. This is important to Sonae SGPS, since it ensures the continuation on the telecom sector and now stronger than ever to compete with the remaining important players in Portugal: Portugal Telecom on the fixed segment and Vodafone on the mobile area.

Sontel is followed by Atlas Service Belgium with approximately 7,6%, also prior Sonaecom shareholder. Then, CGD, Kento holding Limited, Grupo Espirito Santo, BPI and Telefónica, all representing the old shareholders of ZON have the remain important participations, equilibrating the future power decision of the new company.



## 5. Conclusion

Portugal Telecom, the biggest telecom player in the Portugal has definitely more financial capacity to critical technology investments, being one level above its competition in the Portuguese Telecom market.

The analysis over the market dynamics indicates that Sonaecom and ZON, are, in general losing market share against Portugal Telecom, with higher relevance in the Pay-Tv segment, considered the most important market of the fixed telecommunications sector:

It is increasingly seen as a basic need, it has the bigger number of subscribers and over the last few years has become the main driver for multiple-play or package offers.

And that is the new telecom paradigm: The capacity to have integrated services and the possibility of launch consistent multiple play offers.

Due to the existent complementarities, the idea of a merger between ZON and Sonaecom, resulting a stronger integrated player has being target of speculation from the media, opinion makers, politicians and both companies' executives over the years.

Between the existent types of acquisitions; the acquisition by consolidation is the one who fits in this case: Both prior firms would terminate their legal existence, being part of a new created firm. It has the advantage of being legally straightforward and less costly as the other forms; moreover, the fact that it must have the approval of the shareholders of both companies should not raise any issues in the future:

Due to various reasons, there have been some relevant changes in both ZON and Sonaecom capital structures, which, added some expectations over new strategic movements from the Ms Isabel dos Santos should sooner or later conclude in major positions in accordance with this operation.

However, this operation must be carefully studied and concluding in the benefit for both shareholders, thus it can support the risk of the transition from simple theory to action.

According to the relative valuation, Sonaecom; even considering different rubrics, they all suggest that Sonaecom performance results are not well illustrated in its current real



price, whereas no relevant findings can be taken from ZON evaluation, since depending on the studied multiple, different directions are indicated

Through the Discounted Cash Flow methodology, more specifically, the Free Cash Flow to the Firm, the price target calculated suggest potential future upside on both companies (with relevance for Sonaecom (+36,5%)).

The new created firm would early benefit by costs savings, and in long term from the revenues integration possibilities. It would emerge a new player, leading in the Pay-Tv segment, with a solid position in mobile sector, and with a growing footprint in terms of Broadband and Fixed Voice, which would enable the possibility to compete as an equal against Portugal Telecom.

According to the valuation; the new firm equity value, after considering typical restructuring costs would be higher than the sum of both firms equity value, meaning there would be creation of Synergies. Furthermore, the synergies achieved presented an amount bigger than the premium to be paid; which verifies that the hypothetical deal would financially compensate the shareholders of both companies.

The consolidation should take place by a share exchange proposal, with a exchange of 0,52 new firm' shares by each Sonaecom share initially held by Sonaecom shareholders.

It is indeed a better option than make a cash offer, since it ensures that Sonae SGPS, would stay as the major shareholder, assuring its desired continuation on the telecom sector.



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## Annex

## 1.Formulas

1. WACC = Re $\times \frac{E}{(D+E)}$ + Rd $\times (1-t) \times \frac{D}{(D+E)}$
2. Continuing Value = $\frac{\text{NOPLAT}_{n-1} \times (1+g) - \text{Residual Value WC}_{n-1} \times g - (\text{Inv.Capex}_{n-1} - \text{Amortizations}_{n-1}) \times g}{\text{WACC} - g}$
3. Working Capital Investment = (Current assets <sub>n</sub> – Current liabilities <sub>n</sub> ) – (Current assets <sub>n-1</sub> –
Current liabilities <sub>n-1</sub> )
4.Working Capital= Account Receivable – Accounts Payable= Stocks + Clients – Suppliers +- State and Other Public Entities
5. FCFF = NOPLAT + Amortizations – Capex Investment – Working Capital Investment
6. $Re = Rf + Levered Beta \times Equity Risk Premium$
<b>7.</b> NOPLAT (Net Operating Profit Less Adjusted Taxes) = EBIT $\times (1 - t)$
<b>8.</b> CAPM: $E(Ri) = Rf + \beta i \times (E(Rm) - Rf)$
<b>9.</b> Beta ( $\beta$ i) = $\frac{\sigma_{im}}{\sigma^2 m}$ = Covariance between the return of the asset i and the market rate of return
divided by the variance of the market rate of return. It is considered as a risk measure, comparing
the returns of an asset against the market over a period of time.
<b>10.</b> Market Risk Premium = E(Rm) – Rf
<b>11.</b> sector $\beta_{\rm U} = \frac{\text{sector } \beta_{\rm L}}{(1+(1-\text{sector average } t)\times(\text{sector average } \frac{\rm D}{\rm E})}$
<b>12.</b> $\beta_{\rm L} = \operatorname{sector} \beta_{\rm U} + \operatorname{sector} \beta_{\rm U} \times (1 - t) \times \frac{D}{E}$
<b>13.</b> Equity risk premium = Base premium for mature equity market + Country risk premium
<b>14.</b> Country risk Premium =
$\lambda_{Portugal}$ × Portugal Country risk + $\lambda_{Angola}$ × Angola Country risk Premium
<b>15.</b> Equity market volatility $=$ $\frac{\text{Standard deviation in equity market}}{\text{Standard deviation in the country bond}}$
<b>16.</b> Interest Coverage Ratio $= \frac{\text{EBIT}}{\text{Interests and other financial expenses}}$
<b>17.</b> Market Capitalization = number of outstanding shares × price per share
<b>18.</b> Firm value = Enterprise Value + Cash and Equivalents
<b>19.</b> Nominal or Current Growth Rate = (1+ Real or Constant Growth Rate) × (1+ Inflation Rate))1
<b>20.</b> Invested Capital=Current Assets – Non-Interest Bearing Liabilities + Tangible Assets +



#### Intangible Assets



**22**.Premium Paid= Equivalent Payment in Cash –Current Value of Acquired company in the market

 $23. \mbox{Equivalent Payment in Cash=N^{o}}$  of new shares issued  $\times \mbox{ Price per new firm share}$ 

## 2. ZON overview

ZON Multimédia is a Portuguese company listed in the Portuguese stock market included in its main index (Psi-20).

In 1999, within the Portugal Telecom group, PT Multimedia was created to deal with, among other issues, the Pay-Tv and internet national services.

In September of 2007, a new executive commission was elected: Zeinal Bava that was CEO of PT Multimédia, of TMN and vice president of Portugal Telecom group, became CEO of Portugal Telecom, and Rodrigo Costa substituted him in PT Multimedia, facts that remain equal nowadays. After this change, two months later, PT Multimedia emerged as an independent company resulted from a spin-off from the mother-company: All in all, PTM stopped being a complementary enterprise and became a competitor of PT

In January 2008, approved in a shareholders general meeting, "ZON Multimédia" was the new name chosen to substitute the old "PTM" name, in order to gain visibility and reassert the new identity as its new business strategy.

This strategy is essentially focused in the development, integration and creation of synergies for the different business areas in the telecommunications, thus ZON created a fixed voice service, becoming pioneer in the triple-play market (Pay-Tv, fixed voice and fixed internet).

ZON became bigger with the acquisition in 2008 of several regional TVs and internet providers as TVTel, Bragatel and Pluricanal, and being the brand applied to its services has now more than 1.6 millon national clients: It is leader in Pay-Tv service (ZON TVCABO), has an important role in Broadband (ZON Netcabo) and Fixed Telephone services (ZON phone), and also operates in the Mobile service (ZON mobile).

Besides that, it also has other business units as ZON Lusomundo (Audiovisuals and Cinema) and ZON conteúdos:

-ZON Lusomundo Audiovisuals is the big reference in the national market, having



partnerships with prestigious brands of film and editing video production and distribution; this enterprise has the responsibility to negotiate and buy the rights to the broadcast and management of the movies (sell the rights to cinema or Tv and video graphic distribution-DVD).

-ZON Lusomundo cinemas is the market leader in the management of the spaces of film exhibition and it was pioneer on the introduction of digital 3D platforms in these spaces.

-ZON Conteúdos is engaged in the wholesale of channels and premium content, ensuring its negotiation, acquisition, aggregation and resale. It is in charge for the management of programming grids and advertising in the Pay-Tv service. It also manages companies that are proprietary of few Pay-Tv channels like TV cine (100%), Dreamia (50%) and Sport TV (50%).

-**ZAP**: A joint venture in Angola (70% SOCIP and 30% ZON) created in 2009 consisting in the ZON<sup>-</sup> first step towards internalization, acting in Angolan TV-pay market<sup>1</sup>.

The following image shows the different affiliates of ZON:



<sup>2</sup>With the deal, it was attributed 0,16 shares of PT Multimédia (ZON) for each share that the sha owned in Portugal Telecom capital structure:



## **3.ZON Capital Structure**

ZON emerged from a spin-off from PT few years ago, so regarding its shareholder structure; naturally there are some common shareholders between them since the separation process<sup>2</sup> (Caixa geral de depósitos -CGD, Telefónica, Visabeira and Norges Bank).

In the table bellow is the actual ZON shareholder structure considering the number of shares and the respectively percentage of the different shareholders over the total equity capital of ZON (and PT if common):

Name of the ZON shareholders		ZON Shareholder Structure		
	%	%		
CGD	10,88%	33.621.289	6,23%	
Kento Holding Limited	10,00%	30.901.920	N/A	
Grupo Espírito Santo	9,00%	27.811.728	11,89%	
BPI	7,56%	23.361.851	N/A	
Telefónica	5,46%	16.872.448	2,02%	
Visabeira	2,15%	6.643.913	2,64%	
Norges Bank	2,06%	6.365.795	5,13%	
ZON Institutional shareholders	47,11% 145.578.943		N/A	
Zon Free-float	52,89%	N/A		
ZON Total	100,00%	309.019.196	N/A	

-Data at 30-Set-2011 according to the third-quarter 2011 report of ZON and Portugal Telecom.



## 4.Sonaecom Overview

Sonaecom is one of the 5 sub-holding of the Portuguese Sonae SGPS<sup>1</sup>, and such as ZON, Sonaecom is listed in the Portuguese stock market and included in the main (Psi-20).

Sonaecom is the sub-holding in charge for the telecommunications, media, and SSI (Information Software Systems) areas. It owns several companies that are presented and described below:

**-In the telecommunication sector**, Sonaecom operates by Optimus which is an integrated telecommunications operator. Covering all the segment types (Pay-Tv, Voice and Internet) is present in both fixed (514 thousand clients) and Mobile market (3.3 million clients, having its own network infrastructure).

This growth and amplitude come from several events that occurred in the years of 2006 and 2007, as the acquisition of the portuguese Tele2 and ONI (just residential clients) or the integration in the Optimus base of Novis (fixed phone and internet for business segment) and Clix (fixed phone and internet for residental). This fact allows the existence of significant commercial synergies and cross-selling opportunities, creating added value for the customers.

-In the Media area, also known as Online and Media area, Sonaecom owns a wellknown Portuguese daily newspaper called "Público". Among other daily newspapers it is fourth in terms of circulation, and is the leader in number of registers and online views. Also in this division belongs Miau.pt, the largest auction site in Portugal.

**-The Information Software Systems area** was created in 2002 and has several companies with different roles, namely the Saphety, BizDirect, WeDo technologies, and Mainroad.

The following image shows the different companies that belong to Sonaecom:





#### Observations:

<sup>1</sup> Sonae SGPS has 5 sub-holdings: Sonaecom; Sonae Indústria (wood panels, forestry and sawmilling), Sonae investments (food and non-food retail), Sonae Sierra (Ownerships, management and development of shopping centers) and Sonae Capital (tourism, construction, transport and risk capital).

## 5.Sonaecom Capital Structure

Bellow one can see the actual Sonaecom shareholder structure considering the number of shares and the respectively percentage of the different shareholders over the total equity capital of Sonaecom.

Name of the Sonaecom shareholders	Sonae com Share holde r Structure			
	%	N° of shares		
Sontel BV	52,99%	194.063.119		
Atlas Service Belgium	20,00%	73.249.374		
BCP-Banco Comercial Português	3,41%	12.500.998		
Sonaecom Own shares	2,47%	9.045.200		
Santander Asset Management	1,02%	3.732.774		
SONAE sgps	0,18%	650.000		
Efanor Investimentos	0,00%	1.000		
Sonaecom Institutional Shareholders	80,07%	293.242.465		
Sonaecom Free-float	19,93% 73.004.403			
Sonaecom Total	100,00%	366.246.868		

-Data at 30-Set-2011, according to the third-quarter 2011 report of Sonaecom.

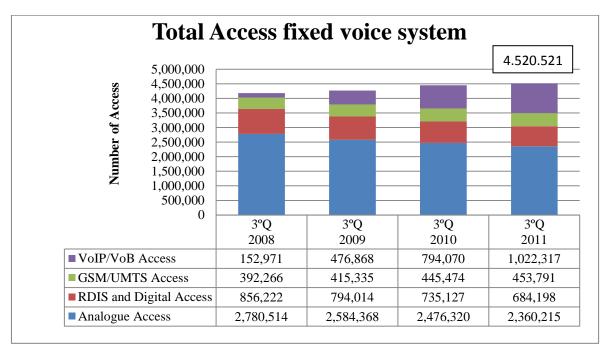
Due to tax reasons, Sontel BV, is a Dutch company that was constituted and is owned by SONAE SGPS, thereby, SONAE GPS is the largest shareholder of Sonaecom with 53,17% of the total shares. Atlas Service Belgium, owned by France Telecom is ranked in second place with 20%.



## 6.Pay-TV Subscribers Evolution

Pay-Tv Subscribers Evolution	3°Q 2008	3°Q 2009	3°Q 2010	3°Q 2011
<b>N° total subscribers</b> (in thousands)	2.212	2.443	2.716	2.890
Penetration rate (number of subscribers /number of households)	39,5%	43,1%	47,5%	50,3%

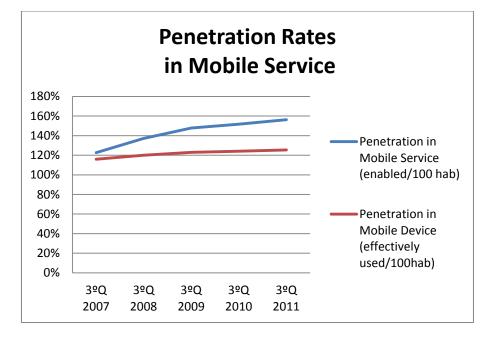
## 7.Access fixed voice system



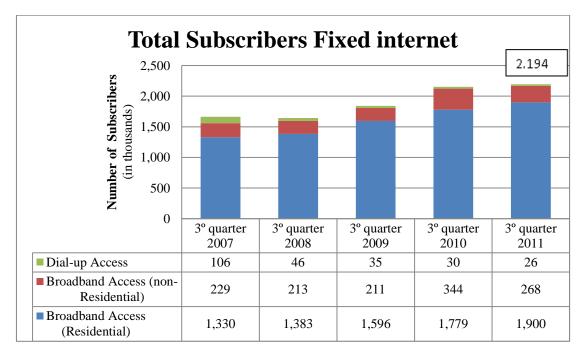




#### 8. Penetration Rates in Mobile Service

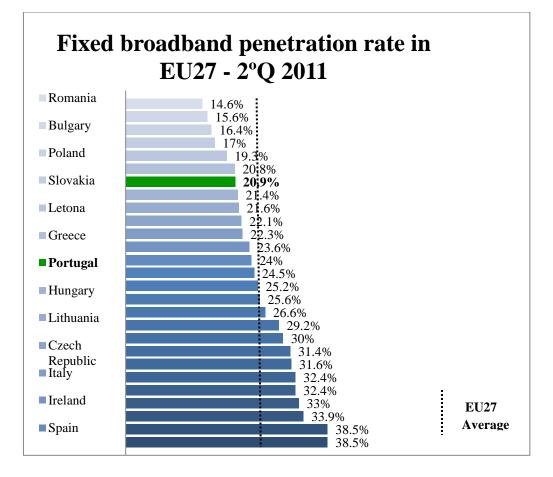


#### 9 Fixed Broadband Market evolution

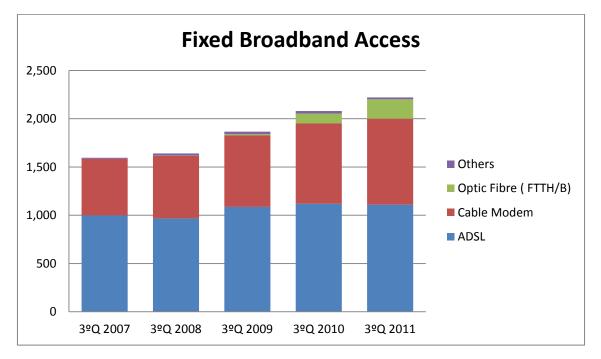




## **10. Fixed Broadband Penetration Rate in Europe**



## 11. Fixed Broadband Access Technologies





## 12. Anacom Mobile Termination Rates Proposal

Anacom MTR Proposal	Tariff €
1 February 2012	0,0275
1 May 2012	0,0225
1 August 2012	0,0175
1 November 2012	0,0125

### 13. The Peer Telecom Group

Name of the company	Country	Revenues	EBITDA	EBIT	Net Income	Debt Market value	Equity Book Value	Equity Market Value	Number of Shares	Cash and equivalents	Invested Capital
ZON	Portugal	856,0	314,6	89,4	32,1	1.242,4	230,4	717,5	309,0	410,4	1.405,6
Sonaecom	Portugal	909,6	251,0	127,2	83,0	441,0	1.014,2	445,0	366,2	183,0	927,5
Portugal Telecom	Portugal	3.890,0	1.510,9	904,7	5.896,1	12.934,0	3.940,5	3.728,4	832,1	3.339,4	13.535,1
Telefonica	Spain	64.818,0	23.546,4	13.038,5	10.568,4	63.772,0	24.148,7	60.777,0	4.508,5	3.496,3	54.767,7
Belgacom	Belgium	6.810,7	1.959,5	1.172,7	1.316,0	2.401,7	3.452,5	7.806,3	319,8	849,5	2.574,8
Deutsche Telekom	Germany	64.885,5	18.768,9	7.334,3	1.761,9	51.886,4	42.416,0	38.327,0	4.299,3	2.220,4	75.925,5
British Sky Broadcasting	United Kingdom	8.213,2	1.779,1	1.384,2	1.008,4	2.827,8	1.254,5	15.266,7	1.727,5	0,0	4.082,3
France Telecom	France	47.299,5	15.823,0	9.138,0	5.072,6	41.789,0	33.989,2	32.166,2	2.632,9	5.621,9	37.796,8
Swisscom	Switzerland	9.946,5	3.747,0	2.356,0	1.502,6	8.082,8	4.355,5	15.290,2	51,8	261,4	6.862,4
Telecom Italia	Italy	28.659,5	12.207,7	6.936,3	3.244,2	40.372,9	31.082,8	15.292,1	18.265,6	4.317,7	24.852,3
Telekom Austria	Austria	4.880,6	1.544,4	537,1	203,1	4.082,2	800,1	4.092,9	442,6	332,2	3.098,8

Values in millions and Euro currency at 30/12/2011

**Observations:** 

-These rubrics were extracted from Damodaran website, available in USD currency at 30/12/2011, therefore it was considered the EUR/USD exchange rate of 1,29 (30/12/2012) for calculations.

-It is important to note that, in order to the relative valuation be consistent with the valuations done with other valuations, ZON and Sonaecom data (from Damodaran website) was substituted by the respective trailing rubrics for 2011 from both companies

-Invested Capital rubric was calculated from an operating approach (see in Annex Formulas)



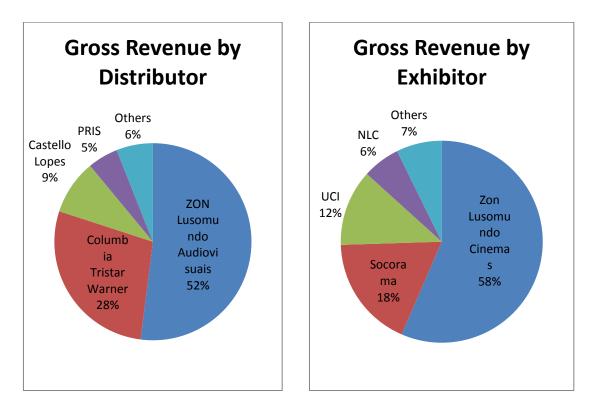
## **14. ZON Market Share Evolution (input for revenue growth per year)**

	Evolution of	Evolution of the Market Share of ZON by segment of telecom						
	2008-2009	2009-2010	2010-2011	P 2011-2012 and next years				
Pay-Tv	-6,5%	-11,1%	-7,3%	-7,5%				
Fixed Broadband	16,0%	0,3%	1,9%	2,1%				
Fixed Voice	13,2%	11,6%	4,1%	4,9%				
Mobile (Voice & Broadband)	NA	NA	NA	0%				
% of influence given	2,5%	7,5%	90,0%					

#### **15. Sonaecom Market Share evolution (input for revenue growth per year)**

	Evolution	n of the Mark segment	ket Share of S t of telecom	onaecom by
	2008-2009	2009-2010	2010-2011	P 2011-2012 and next years
Pay-Tv	80,0%	33,3%	0,00%	4,5%
Fixed Broadband	-24,6%	-28,7%	-22,2%	-22,8%
Fixed Voice	2,1%	-7,5%	-7,4%	-7,2%
Mobile (Voice & Broadband)	NA	NA	NA	-2,0%
% of influence given	2,5%	7,5%	90,0%	

#### 16. Cinema and Audiovisuals Gross Revenue





## **17. ZON Income Statement Forecast**

ZON Income Statement	2011 Trailing Estimate	2012 P	2013 P	2014 P	2015 P	2016 P
Operating revenues	856,0	853,9	853,6	855,0	858,3	863,4
Pay-tv, Broadband and Voice	775,2	774,8	776,1	779,1	783,8	790,2
Audiovisuals	69,9	67,1	64,4	61,9	59,4	57,0
Cinema Exhibition	59,2	59,8	60,4	61,0	61,6	62,3
Others and Eliminations	-48,4	-47,9	-47,4	-47,0	-46,5	-46,0
<b>Operating Costs, Excluding Amortizations</b>	-541,4	-530,0	-519,1	-508,8	-499,0	-489,7
wages and salaries	-60,6	-63,0	-65,6	-68,2	-70,9	-73,8
Direct costs from provided services	-245,3	-237,9	-230,8	-223,9	-217,1	-210,6
Commercial costs	-57,8	-54,9	-52,2	-49,6	-47,1	-44,7
Other operational costs	-177,7	-174,1	-170,6	-167,2	-163,9	-160,6
EBITDA	314,6	323,9	334,4	346,2	359,3	373,7
EBITDA margin	36,8%	37,9%	39,2%	40,5%	41,9%	43,3%
Amortizations	-224,7	-223,5	-222,4	-221,5	-220,5	-219,7
Operational Result	90,0	100,4	112,0	124,8	138,8	154,1
Other Costs / Income	-0,5	-0,5	-0,5	-0,5	-0,5	-0,5
EBIT	89,4	99,8	111,4	124,2	138,2	153,5
EBIT margin	10,4%	11,7%	13,1%	14,5%	16,1%	17,8%
Net Financal Results	-42,3	-40,2	-38,2	-36,3	-34,5	-32,8
<b>Result before Taxes and Minority Interests</b>	47,1	59,6	73,2	87,9	103,8	120,8
Income tax	-14,6	-18,5	-22,8	-27,4	-32,4	-37,8
Result of the Continuing Operations	32,5	41,1	50,4	60,5	71,3	83,0
Minority interests	-0,4	-0,4	-0,4	-0,4	-0,4	-0,4
Net consolidated Result	32,1	40,7	50,0	60,1	70,9	82,6

Values in Millions and in Euro currency

## 18. Sonaecom Income Statement Forecast

Sonaecom Income Statement	2011 Trailing Estimate	2012 P	2013 P	2014 P	2015 P	2016 P
Operating revenues	909,6	872,1	839,9	812,3	788,4	767,8
Mobile Segment (Broadband and Voice)	578,5	578,3	578,1	577,9	577,6	577,4
Fixed Segment (Pay-TV; BroadBand and Voice)	215,0	190,1	169,2	151,7	137,1	124,9
SSI (Information Sotware System)	116,0	107,9	100,4	93,3	86,8	80,7
Others and Eliminations	0,0	-4,2	-7,7	-10,6	-13,1	-15,2
Other Revenues	11,2	11,2	11,2	11,2	11,2	11,2
Operating Costs, Excluding Amortizations	-669,8	-652,9	-636,5	-620,5	-605,0	-589,9
wages and salaries	-93,1	-90,3	-87,6	-84,9	-82,4	-79,9
Direct costs from provided services	-246,6	-239,2	-232,0	-225,1	-218,3	-211,8
Commercial costs	-171,1	-165,9	-160,9	-156,1	-151,4	-146,9
Other operational costs	-159,1	-157,5	-155,9	-154,3	-152,8	-151,3
EBITDA	251,0	230,4	214,7	203,0	194,7	189,2
EBITDA margin	27,6%	26,4%	25,6%	25,0%	24,7%	24,6%
Amortizations	-123,8	-123,7	-123,5	-123,4	-123,2	-123,1
EBIT	127,2	106,8	91,2	79,7	71,5	66,1
EBIT margin	14,0%	12,2%	10,9%	9,8%	9,1%	8,6%
Net Financal Results	-6,6	-6,7	-6,9	-7,0	-7,1	-7,3
Result before Taxes and Minority Interests	120,6	100,0	84,3	72,7	64,4	58,9
Income tax	-37,7	-31,3	-26,3	-22,6	-20,0	-18,3
Result of the Continuing Operations	82,8	68,8	58,0	50,0	44,3	40,6
Minority interests	0,2	0,2	0,2	0,2	0,2	0,2
Net consolidated Result	83,0	69,0	58,2	50,2	44,5	40,8

Vaues in Millions and in Euro currency



## 19. SonaeZON Income Statement Forecast

SONAEZON Income Statement	2012 P	2013 P	2014 P	2015 P	2016 P
Operating Revenues	1.745,3	1.712,4	1.685,9	1.665,2	1.649,6
Pay-tv, Broadband and Voice	984,2	964,2	949,5	939,3	933,4
s- Mobile Segment	578,3	578,1	577,9	577,6	577,4
s- SSI (Information Software Systems)	107,9	100,4	93,3	86,8	80,7
z- Cinema Exhibition	59,8	60,4	61,0	61,6	62,3
z- Audiovisuals	67,1	64,4	61,9	59,4	57,0
Others and Eliminations	-52,1	-55,1	-57,6	-59,6	-61,2
s- Other Revenues	11,2	11,2	11,2	11,2	11,2
<b>Operating Costs, Excluding Amortization</b>	-1.106,3	-1.081,5	-1.057,6	-1.034,6	-1.012,4
Wages and Salaries	-163,2	-163,0	-162,9	-163,1	-163,5
Direct Costs from Provided Services	-429,4	-416,5	-404,0	-391,9	-380,2
Commercial Costs	-198,8	-191,8	-185,1	-178,7	-172,5
Other Operational Costs	-315,0	-310,2	-305,5	-300,8	-296,3
EBITDA	650,2	642,1	639,6	641,9	648,4
EBITDA margin	37,3%	37,5%	37,9%	38,5%	39,3%
Amortizations	-329,8	-328,7	-327,6	-326,6	-325,6
Operational Result	320,3	313,5	312,0	315,3	322,8
z- Other Costs/ Income	-0,5	-0,5	-0,5	-0,5	-0,5
EBIT	319,8	312,9	311,5	314,7	322,2
EBIT margin	18,3%	18,3%	18,5%	18,9%	19,5%
Net Financial Results	-46,9	-45,1	-43,3	-41,6	-40,0
EBT	272,9	267,9	268,2	273,1	282,2
Income tax	-85,7	-84,1	-84,2	-85,8	-88,6
Result of the Continuing Operations	187,1	183,7	183,9	187,3	193,6
Minority Interests	-0,2	-0,2	-0,2	-0,2	-0,2
Net Consolidated Result	186,9	183,5	183,7	187,1	193,4

-Data in Millions and in Euro currency



# **20.**Evolution from the shareholder structure of the individual companies to the new shareholder structure of SonaeZon

		Shareholder Structure (Before acquisition)Sharehold (After ac Sona		
Name of the ZON shareholders	%	N° of shares	%	Equivalent n° of shares on SonaeZon
CGD	10,88%	33.621.289	6,72%	33.621.289
Kento Holding Limited	10,00%	30.901.920	6,17%	30.901.920
Grupo Espírito Santo	9,00%	27.811.728	5,56%	27.811.728
BPI	7,56%	23.361.851	4,67%	23.361.851
Telefónica	5,46%	16.872.448	3,37%	16.872.448
Visabeira	2,15%	6.643.913	1,33%	6.643.913
Norges Bank	2,06%	6.365.795	1,27%	6.365.795
ZON Institutional shareholders	47,11%	145.578.943	29,08%	145.578.943
Zon Free-float	52,89%	163.440.253	32,64%	163.440.253
ZON Total	100,00%	309.019.196	61,72%	309.019.196

	Shareholder Structure (before acquisition)		Shareholder Structure (After being acquired by ZON)	
Name of the Sonaecom shareholders	%	N° of shares	%	Equivalent n <sup>o</sup> of shares on SonaeZon
Sontel BV	52,99%	194.063.119	20,28%	101.544.655
Atlas Service Belgium	20,00%	73.249.374	7,66%	38.328.161
BCP-Banco Comercial Português	3,41%	12.500.998	1,31%	6.541.220
Sonaecom Own shares	2,47%	9.045.200	0,95%	4.732.953
Santander Asset Management	1,02%	3.732.774	0,39%	1.953.196
SONAE sgps	0,18%	650.000	0,07%	340.116
Efanor Investimentos	0,00%	1.000	0,00%	523
Sonae com Institutional Shareholders	80,07%	293.242.465	30,65%	153.440.825
Sonaecom Free-float	19,93%	73.004.403	7,63%	38.199.978
Sonae com Total	100,00%	366.246.868	38,28%	191.640.803