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Equity Valuation – Ramada Investimentos e Indústria

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Dissertation written under the supervision of Professor José Carlos Tudela Martins

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Abstract

The object of this dissertation is to provide a general valuation of Ramada Investimentos e Indústria, a company that has served as a paragon of good business at the national level, able to diversify its business portfolio while staying focused on its core businesses in the steel industry. For our purposes, two distinct methods were relied upon throughout this paper – Discounted Cash Flow valuation and Relative valuation. Through the application of the former, Ramada Investimentos e Indústria's returned a yield and equity valuation of €148,8 million. The application of Relative valuation was then used to gain insight into current market valuations of similar companies, rather simply as a support for investment recommendations. Finally, the results of our work were compared and found to be concurrent to JB Capital Market's recommendation dated August 2019, despite different valuation results.

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Keywords: Ramada, Investimentos, Indústria, Equity Valuation, Discounted Cash Flow, Relative Valuation

Sumário

O objetivo desta dissertação é apresentar uma avaliação da Ramada Investimentos e Indústria, uma empresa de referência nacional, cuja base de negócio é o aço, mas que tem vindo a diversificar o seu portefólio de negócios. Para isso, dois métodos de avaliação foram usados - o modelo de Fluxos de Caixa Descontados e modelo de Avaliação Relativa. Através da aplicação do primeiro método a Ramada Investimentos e Indústria alcançou uma avaliação do capital próprio de € 148,8 milhões. O método de Avaliação Relativa é utilizado exclusivamente por forma a melhor perceber como o mercado avalia atualmente empresas similares ao invés de servir de suporte para a recomendação de investimento. Por fim, os resultados desta dissertação são comparados e analisados com os resultados reportados pelo Banco de Investimento JB Capital Markets em agostos de 2019, chegando à mesma recomendação de investimento apesar das consideráveis diferenças entre os valores das avaliações.

Equity Valuation- Ramada Investimentos e Indústria

Inês Pereira da Silva

Palavras-Chave: Ramada, Investimentos, Indústria, Avaliação de Empresas, Fluxos de Caixa Descontados, Avaliação Relativa

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Contents

1. Literature Review

1.1 What is Valuation?

Oscar Wilde famously described a cynic as one who “knows the price of everything, but the value of nothing”. Wilde’s remark could just as easily apply to those equity research analysts and investors who believe that the value of an asset is irrelevant as long as there is another individual willing to buy the asset from them. Disagreements over the meaning of valuation have taken on a life of their own, but there is one point on which there can be no discussion. Asset prices cannot simply be justified through the willingness of other investors to pay that price.

Valuation plays a key role in a wide range of finance areas, ranging from corporate finance, mergers and acquisitions, or portfolio management. Damodaran (2005) considers valuation to be the foundational element of finance. Understanding the factors which determine the value of a firm, and how to estimate these factors, is a prerequisite for making sensible decisions.

Luehrman (1997) believes that "how a company estimates value is a critical determinant of how it allocates resources" and "the allocation of resources, in turn, is a key driver of a company's overall performance". As such, valuation is a key financial analytical tool that managers should learn in order to master the decision making process necessary for corporate leadership. A common theme is thus shared by both authors, emphasizing the importance of valuation in managers’ attempts to maximize shareholders’ value.

For the purposes of performing asset valuations, Damodaran (2002) proposes three distinct approaches: Discounted Cash Flow (DCF) valuation, Relative valuation, and Contingent Claim valuation through the use of option pricing models. The ultimate goal of each of these methods is constant, while their main differences are contained within the assumptions relied upon for each one (Young et al. (1999)). In this following section, we will provide some additional insight into and a detailed breakdown of each of these methods.

1.2 Discounted Cash Flow Model

We can trace the roots of the Discounted Cash Flow valuation back to the present value rule. Under this concept, the value of a company is equal to all of its expected cash flows, discounted at a rate that incorporates the riskiness of these same cash flows. A DCF valuation requires the forecasting of the expected cash flow for a set future timeframe, referred to as the 'explicit period'. Beyond this period, firms find it harder to maintain high levels of growth, and will typically grow at a rate similar to or below nominal GDP growth, including both inflation and the real growth rate (Kaplan and Ruback (1996)). Such a growth rate, assuming stability, can be sustained in perpetuity, thereby allowing us to estimate the value of all cash flow from that point onward as a terminal value for a given concern (Damodaran (2002)). Since the terminal value represents the largest part of a valuation total, its importance in a DCF valuation cannot be overstated. The final value is a sum of the present value of cash flows from the explicit period, and the terminal value.

$$Value = \sum_{t=1}^{T} \frac{CF_t}{(1+k)^t} + \frac{Terminal\ Value}{(1+k)^t}$$

$$Terminal\ Value = \frac{CF_{t+1}}{k-g}$$

CF_t – Cash flow at time t
k – Discount rate
g – Growth rate

When performing a Discounted Cash Flow valuation there are two procedures one can follow – The first is to value the entire firm's value as the amount of excess cash available for distribution among its equity and debt holders. The second is to only place value on the business's equity stake. While both approaches discount expected cash flows, each approach provides different results and utilizes different discount rates. The first of these is referred to as the Free Cash Flow to the Firm (FCFF), and yields the Enterprise Value (EV) discounted by the Weighted Average Cost of Capital (WACC). The latter of these is defined as the Free Cash

Flow to Equity (FCFE) and gives us the equity value of the firm with equity costs being discounted.

$$FCFF = EBIT * (1 - \tau) + Depreciations - Capex - \Delta NWC$$
$$FCFE = FCFF + Net\ Borrowing - Interest * (1 - \tau)$$

τ – Corporate Tax Rate
ΔNWC – Change in Net Working Capital
Net Borrowing – Debt principal paid minus debt principal raised

In order to perform a reasonably accurate company valuation there are thus three main errors one must necessarily avoid: 1) Errors when forecasting the expected cash flows; 2) Errors in the discount rate calculation and 3) Errors in the calculation of the residual value (Fernandez 2004).

1.2.1 WACC Method

Luehrman (1997) defines a discount rate as the opportunity cost of funds. In other words, the return an investor could expect to earn on an alternative investment with the same characteristics and risk as the one undergoing evaluation. Any DCF valuation relies on the relationship between cash flow forecasts and opportunity cost. Once the forecast is performed (while deliberately excluding cash flows associated with the financing program), one must adjust discount rates to reflect the value created or destroyed from using an operation's debt capacity. WACC is by far the most common example of such an adjustment.

Fernandez (2010) states that WACC should not be perceived as the cost of capital, nor as a required return, but rather as a weighted average of a cost and a required return. The pratical virtue of relyong on the WACC method is that it allows for a constant rate while discounting all cash flows, thus reducing calculations to a minimum. This relies on the assumption that the firm's capital structure remains constant for the foreseeable future.

$$WACC = \frac{E}{V} * k_e + \frac{D}{V} * k_d * (1 - \tau)$$

E - Company's equity value

D - Company's debt value

V - Company's total value

k_e – Cost of equity

k_d – Cost of debt

We are now provide a summary of the different inputs that should be defined before applying the WACC formula.

1.2.1.1 Cost of Debt

The cost of debt, defined by Damodaran (2011), "measures the current cost to the firm of borrowing funds to finance projects". Simply put, this factor stands for the effective rate a company pays on debt securities, while providing for interest payments. There are three main approaches to calculating the cost of debt. The first is to interpret it as a proxy value for the yield-to-maturity rate of all outstanding long-term bonds. A second alternative approach in case a firm does not have outstanding long-term bonds or its debt is not of the long maturity variety, is to compute the cost of debt necessary to add a default spread to the risk-free rate - Damodaran (2011). The default spread given by the credit rating of a company's debt should represent the level of risk for the company's investors. The final possible approach to this calculation, is the creation of a credit rating that reaches the default spread of companies whose debt is not rated by credit rating agencies.

$$k_d = r_f + default\ spread$$

r_f – Risk-free rate

1.2.1.2 Cost of Equity

The cost of equity is not a cost *per se*, rather it should be seen as the required rate of return for shareholders. The most common way to estimate this cost is through the Capital Asset Pricing Model (CAPM). According to this model, the cost of equity is determined by three separate components: 1) the risk-free rate (r_f); 2) the Market Risk Premium (MRP) and 3) the sensitivity of the securities market (β). Investors are thus shielded from risk – represented by the risk-free rate – and from the passage of time – given by the risk premium (β multiplied by MRP)

$$k_e = r_f + \beta * MRP$$

The CAPM assumes investors are well diversified and the specific risk, associated with a specific company, can be mitigated. A section of the literature however, proposes instead that investors, particularly in small and volatile equity markets, are also exposed to a country's risk levels. Consequently, the CAPM formula should reflect the Country Risk Premium (CRP). The optimum way of calculating this premium following on Damodarn (2010)'s work, is to compare the volatility of the equity market to the volatility of the country's government bond.

$$k_e = r_f + CRP + \beta * MRP$$

1.2.2 Adjusted Present Value (APV) Method

The WACC'S virtue comes with a downside, as it is only suitable for the simplest and most static of capital structures. In most real-life situations, it requires adjusting for tax shields, issuing costs, and dynamic capital stuctcures. The APV method allows us to overcome WACC's flaws. As stated by Myers (1974), APV relies on the principles of value additivity. The basic DCF relationship allows us to value each of a project's various and different kinds of cash flows before adding up present values. Splitting a business into projects for analysis becomes thus acceptable and conducive to our methods. Any value created by financial movements – tax savings and risk management – bears its own cash flow impact. This method determines the levered value of a company by first calculating its unlevered value, before adding the present value of the Interest Tax Shield (ITS) and financial distress costs, while taking into account the probability of default (PD) and all costs inherent to filling for bankruptcy.

$$Value = Unlevered\ Firm\ Value + PV\ (ITS) - PV(Bankruptcy\ Costs)$$

PV(ITS) – Present value of Interest Tax Shields

$$Unlevered\ Firm\ Value_t = \frac{FCFF_{t+1}}{k_e^U - g}$$

K_e^U- Unlevered cost of equity (computed with the resource of the CAPM model and with the unlevered beta)

$$\beta^U = \frac{B^{Levered}}{1 + (1 - \tau) * \frac{D}{E}}$$

$$PV\ (ITS) = \tau * D$$

$$PV\big(E(Bankruptcy\ Costs)\big) = \pi_d * BC$$

π_d – Probability of default

BC – Present value of bankruptcy costs

APV adds managerially relevant information regarding not only the value of an asset, but also on its origins.

1.2.3 Dividend Discount Method

The Dividend Discount model is the simplest approach to evaluating equity – "the value of a stock is the present value of expected dividends on it" (Damodaran (2002)). To calculate the value of the share itself, the Gordon Growth model is applied, requiring the inclusion of three distinct variables: dividends per share (DPS), equity cost, and the rate of DPS growth.

$$Price = \sum_{t=!}^{T} \frac{DPS_t}{(1 + k_e)^t}$$

$$Price = \frac{DPS_{t+1}}{k_e - g}$$

While the Gordon Growth model is a simple approach to evaluating equity, its use is limited to firms experiencing stable levels of growth – "firms growing at a rate comparable to or lower than the nominal growth in the economy" – and firms that have stable dividend pay-out policies that they intend to maintain into the near future. "The model is also extremely sensitive to the inputs for the growth rate. Used incorrectly it can yield misleading results, as the growth rate converges on the discount rate, the value goes to in infinity" (Damodaran (2002)).

While many analysts consider the dividend discount model outdated, the contemporary and widespread change in how companies remunerate shareholders is intrinsically linked to DCF valuations based on this model. As such, the dividend discount model undoubtedly remains a useful tool for value estimations for dividend paying companies.

1.3 Relative Valuation

In a Relative valuation, asset valuation is based on the pricing of alternative assets with comparable characteristics within the same market (Damodaran (2005)).

Milicevic (2009) demonstrates that the popularity of multiples in valuation models is very much owed to their simplicity. "A multiple is simply the ratio of a market price variable (e.g. stock price) to a particular value driver (e.g. earnings) of a firm". Multiples are thus applied in analysts' research reports and stock recommendations, forming an important basis for investment and transaction choices. Analysts can quickly come up with an estimate of a firm's equity value based on how the market prices comparable firms within the same industry. Milicevic further suggests a four step process to applying this method. The first two steps focus on choosing value drivers and a peer group for comparison. The third step concentrates on the creation of a single number for the multiple we have chosen in order to apply it in our valuation. Finally, the fourth step is the application of the multiple to the value driver we have chosen in order to compare our company and gain a useful market-based valuation. Multiples can be divided into two main categories: 1) Enterprise multiples are related to the value of a firm as a whole while 2) Equity multiples are solely related to equity holders. There is a great number of different multiples, but the most commonly relied upon are EV/EBITDA, and P/E (Price-to-Earnings ratio), typically applied to the first and second categories respectively. The multiples can also be forward looking or historically based, with forward looking multiples based on a company's expected cash flows, while the latter are based on the historical cash flows of the company.

Nevertheless, multiples are often mis-read, and mis-applied, an expected complication given that different multiples are meaningful in different contexts. Four basic principles can help analysts and companies to apply multiples correctly: selecting peers with similar ROIC and growth projections, using forward-looking multiples, picking enterprise-value multiples, and adjusting enterprise-value multiples for non-operating items.

1.4 Contingent Claim Valuation

So far, we have observed that the "value of an asset is the present value of the expected cash flows on that asset". In this section, we will examine an exception to the present-value rule when we evaluate assets with two specific characteristics: their value depends on an underlying asset and their cash flows are dependent on the occurrence of specific events. These assets are

called options and Damorand (2002) states that option pricing theory can be useful for their evaluation, since the present value of expected cash flows on these assets will typically understate their true value.

The two principal models to value these types of assets are the Black-Scholes model and the binomial model. The Black-Sholes model shares some inputs with DCF valuations, which allows for a simpler comparison between the two. Luehrman (1997) proposes the usage of the Black-Scholes rather than the binomial model. The option pricing theory should not be solely relied upon, it should instead be considered as a complement to other valuation models.

1.5 Valuation Model Choices

Following this brief overview on the different approaches which can be relied upon for the purposes of equity valuation, we conclude that there is no clear consensus on a best approach, nor is there a one-fits-all model ready for use. In this section, we will select the models that best fit Ramada's criteria's. We start by excluding the option pricing model, as Ramada assets don´t present the characteristics intrinsic to options. Furthermore, we have reason to believe we would be unable to derive Ramada equity value from another traded asset. If we decided to apply this model, we would be forced to estimate the value of the underlying assets and the volatility involved, consequently leading to a higher probability of incurring valuation errors. Concerning the Dividend Discount model, we decided to exclude this method also, despite the company's provision of a stable dividend pay-out policy. Our rationale for this exclusion is centred on the extreme sensitivity of the model to inputs for the growth rate. Incorrect inclusion of such inputs can easily lead to an unusable and inaccurate valuation.

The first model presented, the DCF (relying upon the WACC method), will be the main method used in our valuation. As previously mentioned, the DCF method is known to be the best approach for the estimation of a company's intrinsic, with free cash flows which serving as a main input, allowing for the elimination of accounting policies that may affect other variables. The main assumption underlying this method, is that firms should have a stable capital structure, which is the case for Ramada. Furthermore, the firm is already mature, making it easier to estimate expected cash flows with higher levels of confidence. As such we believe this method to be suitable for our purposes. We refrained from relying upon the APV method due to its predictions resulting in no change to the capital structure of the firm.

Finally, Relative valuation will be used as a complement to the DCF approach. We will rely upon the P/E multiple, which is easily calculated and generally understandable. The application of this multiple yields better results when dealing with stable firms, as the capital structure is not expected to change, meaning that results driven from this multiple are expected to be rational. The other multiple to be used throughout our work will be EV/EBITDA. This is a more demanding multiple to calculate as the EV factor is not entirely straightforward and simple. Nevertheless, despite the challenges associated with its use, we believe this multiple to be an appropriate measure of Ramada value. EV/EBITDA is also a more stable multiple for our purposes than P/E, since earnings are more volatile and can manipulated with relatively more ease. The Relative valuation will allow to better understand how the market values similar companies and to what extent differs to the results givens by the DCF valuation.

2. Economic Outlook

2.1 International Environment

At the global outlook level, contemporary suggestions project a period of low prospects in the near future, with global growth expected to decline to 2,9% in 2019, and 3% in 2020, before gradually recovering, reaching 3,4% by 2022. According to OECD data, these will be the weakest annual growth rates experienced by global markets since the financial crisis. Manufacturing and investment, among deepening trade policy and rising geopolitical tensions, along with disruptions to oil supply in Saudi Arabia, continue to present themselves as key risks within the global economy. These are only partially offset by stimulus policies provided in several countries to counteract weakening outlooks. In 2019, growth has been revised downwards for most G20 economies, particularly those most exposed to the decline in global trade and investment. While China's performance is expected to moderate these trends, risks of a sharper slowdown persist. The economic atmosphere is highly volatile and filled with uncertainty, translating into low levels of confidence and investment in financial markets.

Global trade has declined significantly during 2020, amid recurring escalations of trade tensions and a widespread slowing of industrial activity. Across advanced economies, trade is expected to recover to moderate growth rates in the third and fourth quarters of 2019, supported by a normalisation of imports into the United Kingdom. Across emerging market economies, trade is forecast to decline, owing to trade headwinds in China, an economic slowdown in India, and continuing political instability in Latin America. However, trade outlooks for these markets lead us to expect some stabilisation in the fourth quarter.

	December 2019			
	2019	2020	2021	2022
World (excluding euro area) real GDP	2,9	3,1	3,3	3,4
Global (excluding euro area) trade	0,0	0,8	2,4	2,7
Euro area foreing demad	0,7	1,0	2,3	2,6

Table 1: The International Environment (annual % changes); Source: European Central Bank

2.2 EU Environment

Following weak growth in the second and third quarters of 2019, the European Union's growth is expected to remain subdued in the short-term. This observed slowdown reflects the ongoing weakness in global trade in an environment of continued global uncertainties, related to increased protectionism, concerns over a potentially sharper slowdown in China, and a no-deal Brexit. The moderate growth in exports is the result of these global headwinds, particularly with the strong impact of these global trends and factors on the EU's manufacturing sector. Private consumption growth however, remained resilient in the third quarter and remained the main driver of growth.

Nevertheless, favourable financing conditions (fostered by the ECB's accommodative monetary policy) and the dissipation of some global uncertainties over the near future along with subsequent increases in foreign demand, should all support a sustained recovery in growth over the medium term. Overall, real GDP growth is expected to decline to 1,1% in 2020, before increasing to 1,4% in 2021 and 2022.

Export growth is projected to remain weak until the end of 2019, consistent with the persisting slowdown in global trade. Euro area exports are expected to recover and to grow broadly in line with foreign demand over the medium term. Following strong numbers in the second quarter of 2019, as well as moderate growth in the third quarter, imports are expected to evolve in line with total demand within current projections for the medium term. Overall, the contribution of net trade to real GDP growth is projected to be neutral over the projection horizon between 2020-2022.

	December 2019			
	2019	2020	2021	2022
Real GDP	1,2	1,1	1,4	1,4
Private consumption	1,3	1,4	1,3	1,2
Government consumption	1,5	1,6	1,5	1,5
Gross fixed capital formation	4,5	1,7	1,9	2,1
Exports	2,3	1,9	2,5	2,6
Imports	3,1	2,5	2,8	2,8
Employment	1,1	0,6	0,5	0,4
Unemployment rate	7,6	7,4	7,2	7,1
HICP	1,2	1,1	1,4	1,6

Table 2: Macroeconomic projections for the euro area (annual % changes); Source: European Central Bank

2.3 Domestic Environment

The Portuguese economy decelerated to some extent in the first half of 2019, with GDP increasing by 2% year-on-year (y-o-y) (0.2 pp less than in the second half of the previous year) according to the Economic bulletin from Banco de Portugal. Economic activity in Portugal has remained relatively resilient nevertheless, particularly when compared to developments in the Euro area as a whole. The deceleration of GDP growth in Portugal reflects the slowdown of external demand due to external factors, marked by a rise in uncertainty and protectionism. Portuguese exports recorded further market share gains as well, building on positive trends in car and tourism exports, although these grew at a slower rate when compared to previous periods. Overall imports also outpaced exports in growth rates, leading to a deterioration of the goods and services account balance.

The slight decline in the y-o-y rate of change in Portugal's GDP is underlined by a stabilisation of the contribution made to growth by domestic demand, combining the slowdown in public and private consumption with a strong acceleration of investments.

In the first half of 2019, investments in Portugal recorded growth levels at a y-o-y rate of 11%. This expenditure component represented the largest single contributor to GDP growth over the first half of the year. The acceleration in investment was largely driven by Gross Fixed Capital Formation (GFCF), mainly due to the performance of the machinery and equipment, and construction tools industries. GFCF grew above GDP, with a y-o-y rate change of 9,5%.

	% of GDP in 2018	Annual rate of change 2016	2017	2018	Y-o-y rate of change 2018 H1	2018 H2	2019 H1
GDP	100	2	3,5	2,4	2,6	2,2	2
Domestic demand	99,9	2,2	3,3	3,3	3,1	3,4	3,5
Private consumption	64,8	2,6	2,1	3,1	3	3,2	2,3
Public consumption	17	0,8	0,2	0,9	0,9	0,8	0,5
Investment	18,1	2,5	11,9	6,2	2,1	6,3	11
GFCF	17,6	2,5	11,5	5,8	6,2	5,5	9,5
Change in inventories	0,6	0	0,1	0,1	0	0,2	0,3
Exports	43,5	4,4	8,4	3,8	5,9	1,8	2,3
Imports	43,4	5	8,1	5,8	7,3	4,4	5,8
Contribution of domestic demand net of inports		1,1	1,6	1,7	1,5	1,9	1,7
Contribution of net exports		0,9	1,9	0,8	1,1	0,4	0,3

Table 3: GDP and its main components (annual % changes); Source: Statistic Portugal (Banco de Portugal calculations)

Business GFCF is expected to increase over the forecast period, contingent on the maintenance and stability of a set of favourable factors. These include the implementation of large-scale infrastructure projects; capacity utilisation rates close to pre-crisis levels; and the need to recover and renew capital stock. Ambiguity over prospects for the world economy, in particular international trade developments, may restrain firm's investment decisions and could hinder such an increase.

Over the first semester of 2019, Gross Value Added (GVA) grew, by 1,6% in real terms, compared with the homologous period. GVA growth mainly reflects the performance of the service sector and, to a lesser extent, that of the construction industry. The deceleration of GVA growth, a trend that has taken place since early 2018, reflects less stable and productive activity in manufacturing.

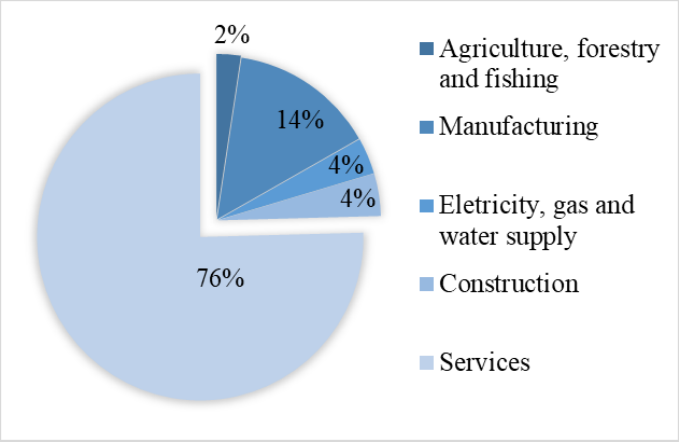

Figure 1: GVA by activity sector in 2018; Source: Eurostat and Statistical Portugal

			2018		2019
	2017	2018	H1	H2	H1
GVA	3,3	2,1	2,7	1,5	1,6
Agriculture, forestry and fishing	2	-0,7	-0,4	-1	0,7
Manufacturing	5,9	1,6	3,4	-0,1	-0,9
Electricity, gas and water supply	-3,6	6,2	2,3	6,1	-0,5
Construction	5,3	3,1	2,6	3,6	8,5
Services	3,1	2	2,5	1,6	1,8

Table 4: GVA by activity sector (annual % changes); Source: Eurostat and Statistical Portugal

3. Steel Market Overview

This section will seek to provide some further insight into the steel market. The steel industry is a demanding sector, with the material being integrated into virtually the entirety of the manufacturing industry and subject to different types of sub-segments. As such, we will also analyse steel-reliant sectors relevant for our Ramada analysis. Finally, our research will be extended to the mould and tool industry, since the majority of the steel commercialized by the Group is intended for the production of moulds and tools.

3.1 Crude Steel Production

According to World Steel Association (WSA) data, global steel production rose by 4,5% to 1,712 million tonnes (Mt) in 2018. Steel production increased throughout all regions in 2018, with the notable exception of the EU, which faced a contraction of 0,3%. China's total steel production in 2018 increased by 6,6%, largely leading the overall increase in the industry's global growth rate. The first 9 months of 2019 saw world steel production levels reach 1,390 Mt, an increase of 3,9% compared to the first 9 months of 2018, a result driven mainly from rising Asian steel production. Nevertheless, steel prices are expected to continue to decline in 2019 and 2020, a trend that is likely to lead to production growth slowing to 1,3%. The Economist Intelligence Unit (EIU) is forecasting a 0,9% fall in global production in 2020.

The price of ferrous steel scrap has consistently decreased since 2018, resulting in a knock-on decrease in the prices of all steel products. While we observed a recovery in the prices of raw materials over the third quarter of 2019, price movement forecasts remain significantly volatile.

	12 M		%	9 M		%
	2017	2018	change	2018	2019	change
EU	168,5	168,0	*-0,3*	125,9	122,4	*-2,8*
Other Europe	40,6	40,8	*0,5*	30,6	27,9	*-8,8*
CIS	100,9	101,0	*0,1*	76,1	76,0	*-0,1*
North America	115,7	120,5	*4,1*	90,3	90,6	*0,3*
South America	43,6	44,2	*1,3*	33,7	31,2	*-7,4*
Africa	13,6	14,5	*6,6*	10,8	10,4	*-3,4*
Middle East	32	36,0	*12,5*	26,4	27,6	*4,6*
Asia	1 191,3	1 257,9	*5,6*	940,4	1 000,1	*6,3*
Oceania	5,9	6,3	*6,8*	4,8	4,6	*-4,2*
World	1 712,1	1 789,2	*4,5*	1 339,0	1 390,8	*3,9*

Table 5: Crude steel production (Mt); Source: WorldSteel Association

3.2 Steel-Using Sectors

Total production activity in the EU's steel-reliant sectors fell by 0,2% y-o-y in the first semester of 2019. Production activity in the EU has been losing momentum over the past months since manufacturing output has been falling on a y-o-y trend. Manufacturing activity is being impacted by the downturn in international trade, leading to a significant loss of confidence in the sector and to the current automotive slump and weakening business investment. However, overall production activity has performed better than expected due to continuing resilience in the construction sector, which has managed to maintain solid growth rates. This continued strength in construction will undoubtedly compensate for negative trends in other steel-using sectors, with the output in the EU's steel-reliant sectors forecast to grow by 0,4% until the end of 2019, and by a further 0,6% in 2020. Even though most sectors are expected to improve their production activity in 2020, the overall outlook remains negative to enduring uncertainty felt in the global economic environment.

	2018	2019	2020
Construction	4,6	3,5	1,2
Automotive	0,1	-3,8	0,9
Mechanical engineering	3,8	-0,2	0,2
Metal goods	3,2	-1,3	-1
Tubes	-1,4	0,1	1
Domestic appliances	-1,5	-1,9	0,8
Miscellaneous	1,7	-0,3	-0,2
Other transport	8,4	6,3	0

Table 6: Annual % change EU Steel Weighted Industrial Production (SWIP) index; Source: Eurofer

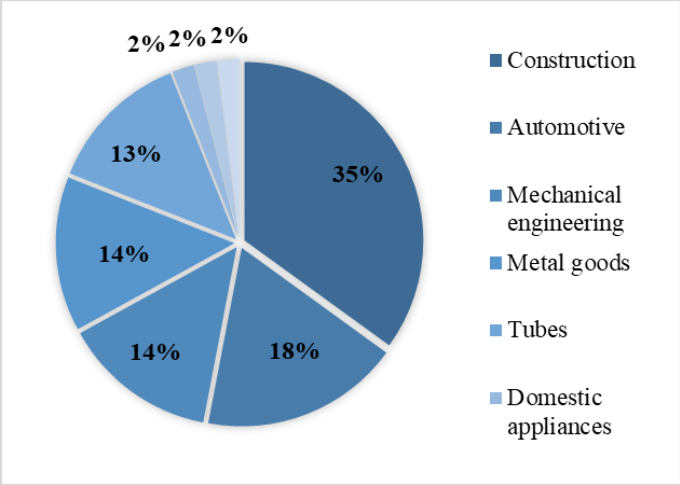

Figure 2: % Share of steel-using sectors in total consumption, in 2018; Source: Eurofer

3.2.1 Construction Industry

EU production activity in the construction sector rose by 4,3% y-o-y in the second quarter of 2019, marking the tenth consecutive quarter of robust expansion for the sector in the European Union. This increase in construction activity throughout 2019 was experienced by all reporting countries, and remained in line with actual construction production volumes, along with a growth in gross fixed investment in real terms by 3,1% y-o-y. This translated into a marginal drop of 0,2% over the homologous period, serving as the first sign of the cooling-off of the sector, following the strong cycle observed in previous quarters.

Prospects for the construction sector however, remain relatively positive, despite some slowdown being expected for 2020, leading to lower growth rates in construction production for most countries in Europe. Nevertheless, this industry will continue to outperform other steel-reliant sectors with regards to expected production trends and activity. Total EU construction production is forecast to rise by 1,2% in 2020, with the civil engineering serving as an engine for continued growth. In terms of the domestic market, Portugal will experience growth rates above the 7,1% average, propped up by the residential construction market. (Source: Eurofer and Euroconstruct)

3.2.2 Automotive Industry

The automotive sector on the other hand, is facing a downgrade scenario due to the lack of activity at the domestic level, slowing export demand, the threat of U.S import tariffs, the possibility of a no-deal Bexit, stricter emissions policies, and shifting patterns in overall ownership and model ranges. Moody's suggests that global auto sales should be expected to grow by 0,5%, down from previous forecasts of 1,2%. The industry is also facing declining sales, with auto manufacturers investing in new transportation technologies, hybrid and electric vehicles, along with alternative options for passengers and freight.

The EU automotive sector is experiencing its worst decline since the 2008 economic crisis. In the second quarter of 2019, production activity fell by 7,2% year-on-year, largely due to decreased levels of demand for new passenger cars in Europe and other key exports markets, such as China, the US, and Turkey. The finalized guidelines of *Worldwide Harmonised Light Vehicle Test Procedure* (*WLTP*) further aided the decline. Production in Germany, Italy and UK registered a severe contraction, whereas in Central Europe output still showed growth compared to the homologous period in 2018. Overall, EU production in the automotive industry saw a decrease of over 6% y-o-y during the first semester of 2019.

There is a distinct possibility that the EU passenger car market could register a modest increase in 2020 as demand continues to recover from the extremely weak performance in the fourth quarter of 2018. Additionally, with the impact of the WLTP distortion clearing out over time, the launch of new hybrid and electric vehicles could become a driving force. As such, the commercial vehicle segment should remain stable until the end of 2019 and 2020. Demand for light vehicles is expected to show some resilience, whereas demand for heavy commercial vehicles may lose momentum. Across all market segments, demand for low-emission vehicles will undoubtedly continue to increase.

The overall outlook for the EU automotive sector remains uncertain. Automotive OEMS in the EU will face challenges related to the demand-side market, along with tighter emissions regulations, leading to possible extreme changes in model ranges.

The car production sector in Portugal has shown resilience since 2017, with production of passengers' cars rising by 22,3% y-o-y in the first half of 2019, countering the trend observed elsewhere in the Euro area.

Overall automotive production is forecast to fall by 3,8% in 2019 and to increase by 0.9% in 2020.

3.2.3 Mechanical Engineering Industry

Production activity in the mechanical engineering industry within the EU fell by 0,8% y-o-y in the second quarter of 2019, mostly due to lower levels of capital investment, weak international trade, slowing global economic growth, and protectionist policies. As a result, production activity has decreased, with orders that were still in the production pipeline coming to a halt. With production requirements decreasing and efforts being made to reduce supply chain stocks, manufacturer's purchase orders and amounts are falling sharply.

Production activity is forecast to stagnate between this year and the next, with output likely to experience a drop of 0,2% in 2019, before rising by 0,2% in 2020**.**

3.3 Steel Use & Market Supply

3.3.1 Real Steel Consumption

WSA figures show that global steel demand, the quantity of steel that consumed by steel using sectors in their production processes, rose by 4% to 1,705 Mt in 2018, the third consecutive year of rising steel consumption. Despite the economic slowdown, global steel demand is still forecast to grow by 3,9% to 1,775 Mt in 2019, and by a further 1,7% to 1,805 Mt in 2020, driven by developing and emerging countries. This forecast faces significant downside risks if current uncertainty levels continue into the near future.

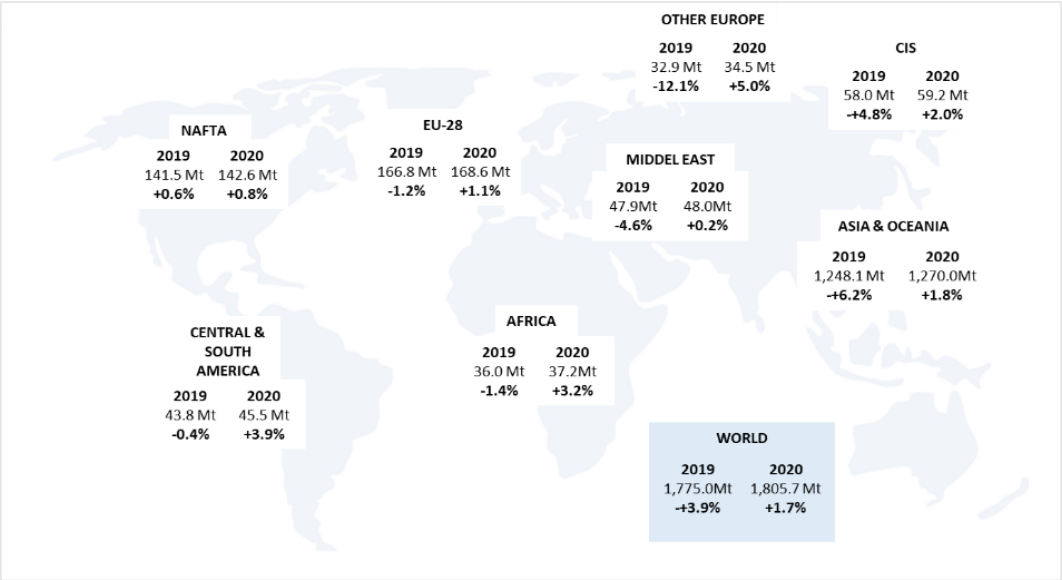

Figure 3: Steel demand, finished steel, in million tonnes (y-o-y growth rate in %); Source: Wordlsteel Association

Despite the delecerating Chinese economy, steel demand is still expecteded to grow by 7,8% in 2019, mainly driven by real estate investment. China´s manufacturing sector is also going through a decline due to the slowing economy and continuing trade tensions, leading to contractions, particularly in the automotive industry. The overall outlook for developing economies (excluding China) provides for a more mixed picture. Forecasts point to high growth in Asia in 2020, due to an ongoing expansion in production capacity in the region, offseting the impact of the trade war between China and the US.

Real steel consumption in the EU fell by 1,5% y-o-y in the second quarter of 2019, amounting to a 41,4 million tonnes total, mostly due to a continued decline and slowing down in production acitivy in steel-reliant sectors in the region. This economic cooling down has led to a decrease in steel intensity, reflecting the tendency of steel-reliant industries to reduce their steel content per production unit during economic downturns. The combination of flatenning output growth in the EU's steel-using sectors, along with the downward trend in steel intensity, should result in a decrease of 0,5% in real steel consumption in the EU during 2019.

				2019				2020			
	2018	2019	2020	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rate of change	1,2	-0,5	0,1	1	-1,5	-0,8	-0,6	-0,8	0,1	0,2	1

Table 7: Forecast for real consumption (annual % changes); Source: Eurofer

3.3.2 Apparent Steel Consumption

Second quarter figures for 2019 have shown a decline in the EU's apparent steel consumption[1] of 7,7% y-o-y, amounting to 39,3 Mt. These figures concern the supply of all steel products delivered to the EU market by both domestic producers and third country exporters. Uncertainty regarding short-term business conditions and relative high stock levels of steel supply at the end of the first quarter resulted in stock reductions. Contrary to expected seasonal patterns, the stock cycle turned negative in the second quarter of the current year, leading to a further decline in the demand for final steel use. The present downturn in steel demand has in turn preempted a 4% y-o-y decrease in domestic deliveries within the EU during the second quarter of 2019. This decline was followed by a decrease of 19% in third country imports, amouting to 8,5 Mt, accounting for 21,7% of the EU's total demand for steel. These negative trends in steel demand are expected to persist over the coming quarters, with apparent consumption expected to rise by only 1,4% from the second quarter of 2020 onward.

Total imports of steel products into the EU – including semi-finished products – fell by 19% in in the second quarter of 2019. This fall was followed by a decrease of 3% in total EU exports of steel products to third countries over the same time frame.

[1] Steel demand or market supply – is the total of all steel delivered to the steel market, including steel products that are being stocked rather than consumed immediately by the steel-using sectors.

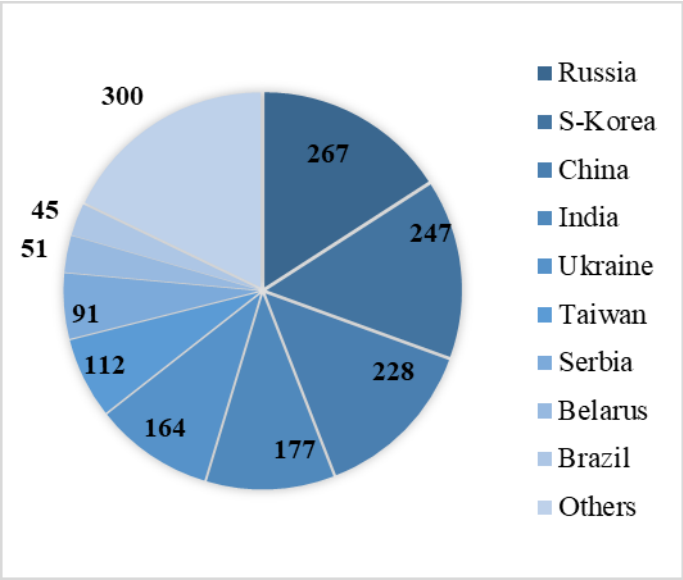

Figure 4: EU finished steel imports by country of origin, average tonnage 9M-2019 in thousand tonnes; Soure: Eurofer

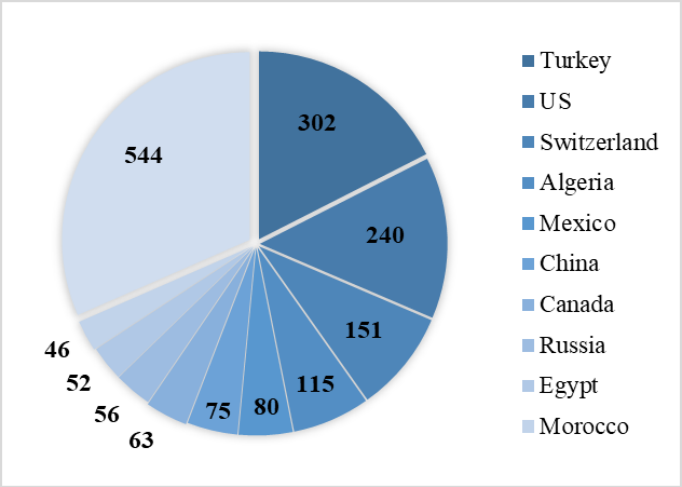

Figure 5: EU finished steel exports by country of origin, average tonnage 9M-2019 in thousand tonnes; Source: Eurofer

3.4 Mould Industry

The market size for the industrial mould manufacturing industry is expected to increase by 2022, growing at a steady and significant growth rate. This growth will be mainly due to external factors such as population growth, shale oil exploration, manufacturing industry investments, and low fuel prices. Moreover, sectors such as consumer electronics, infrastructure development, mass engineering projects, and national energy development, will support the

growth of the global die and mould industries for the near future. While the global mould market is poised for growth in this scenario, trends in the automotive sector should be carefully analysed and could adversely affect these predictions, given the weighted contribution of this activity in the mould industry.

The world's leading producers of tools, moulds and dies are China, the US, and Japan, whose total combined production reaches values of around € 44,47 billion, while Europe's leading producer in the sector is Germany. Asia dominates the rankings of largest exporters: China exports products worth € 4,14 million, exports from the Republic of Korea total € 2,36 million, and Japan's exports total € 2,18 million. Combined, these countries represent the most important competitors to European tool and mould-makers.

Portugal is 3rd in Europe and 8th worldwide in mould manufacturing, particularly in the area of injection moulds for plastics, currently exporting over 85% of total domestic production. Exports reached a value of € 668 million in 2018, with total production amounting to over € 794 million, underlining the Portuguese sector's capacity to adapt to client needs and to outside developments, whether of technology or demand The main markets for export in the sector are Spain, Germany, France, Czech Republic, Poland, USA and Mexico.

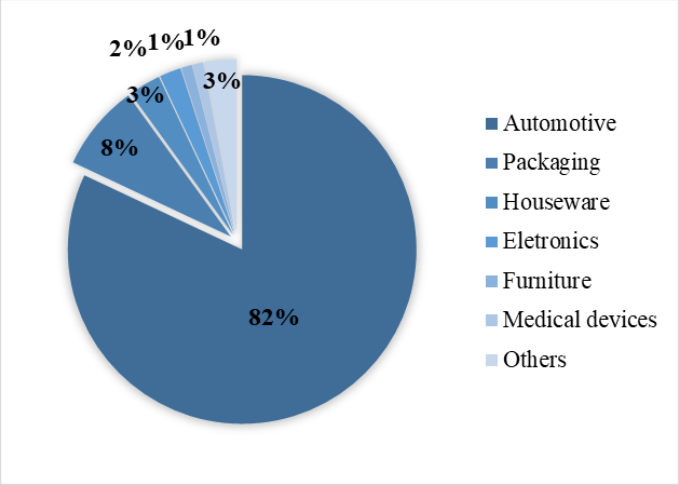

Figure 6: Main industries served by the mould sector in Portugal; Source: ISTMA – International Special Tooling and Machining Association

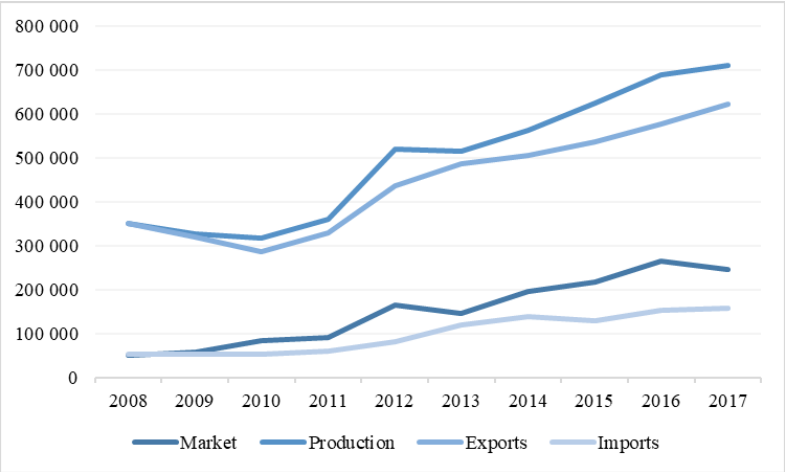

Figure 7: Injection and compression mould for plastic or rubber, in Portugal (€ thousands); Source: ISTMA – International Special Tooling and Machining Association

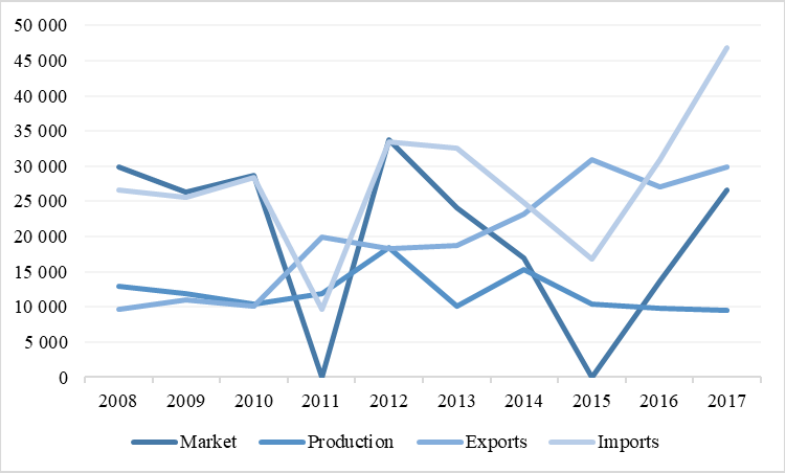

Figure 8: Tools for pressing, stamping, punching and forming, in Portugal (€ thousands); Source: ISTMA – International Special Tooling and Machining Association

4. Company Overview

Ramada Investimentos e Indústria S.A., ("Ramada Investimentos e Indústria", "Ramada Investimentos" or "Grupo Ramada") previously known as F. Ramada - Investimentos, SGPS, S.A, ("F. Ramada – Investimentos" or "F.Ramada"), is a leading national company that has been diversifying its business portfolio, while maintaining a central core business in special steel from the outset. The company has greatly impacted all economic sectors in which it has participated throughout the 80 years since its inception, consistently providing the market with innovative solutions.

1935 marked the year in which Francisco F. Ramada founded the company of F. Ramada in the town of Ovar in Northern Portugal, with the aim of creating a business for the production and distribution of woodworking tools. A business opportunity presented itself in 1940, with the creation of a business district for the distribution of special steels from Sweden. This development led to a partnership with Uddeholm, a Swedish multinational producer of high alloyed tool steel, and an exclusive representation in Portugal. A few years later, the company also started providing Heat Treatment services.

By 1970, Industrial expansion had become concentrated in large-scale enterprises applying the latest technology. During this period, the company began investing in its production capacity, leading to the acquisition of Universal Aços Máquinas e Ferramentas, SARL (1973) and Afir - Aços Finos e Representações, Lda (1997), two of its competitors in the sector. These two companies were merged in 1999, resulting in the creation of Universal Afir, Aços e Ferramentas, S.A..

The year of 2001 saw F.Ramada Aços e Indústrias S.A. being fully acquired by Altri, SGPS, S.A. ("Altri"), at the time still under the domain of COFINA, SGPS., S.A.

In 2004, F.Ramada II-Imobiliária, S.A., was created, with an intended core business dedicated to the real estate activity of the group, mainly through the acquisition of forest assets, an activity that has taken place continuously since.

June 1st 2008 marked the day in which F. Ramada – Investimentos was incorporated, having resulted from the spin-off of F.Ramada – Investimentos from Altri. The constitution of the company was the result of a reorganization plan that sought to separate the two autonomous business units followed by Altri, in the pulp and paper sector and in the steel and storage systems sector. Altri remained with the management of the former unit, while F. Ramada –

Investimentos, a new company, would have full autonomy while focusing on steel and storage systems activities.

2016 saw the company acquiring Planfuro Global, S.A., a company seeking to concentrate the activities of machining and manufacturing mould structures for the Ramada group. This company is recognized as a leader in its operating markets, standing out among its competitors in the sector.

In the following year of 2017, Socitrel – Sociedade Industrial de Trefilaria, S.A., ("Socitrel") a company operating in the large scale industrial production of wire, was acquired by Ramada Group. This particular acquisition followed the post-economic crisis special revitalization process put in place from 2015 onward. The success of this process stood as proof of the strength and resilience of the company and the quality of its products, factors which led the Ramada Group to choose incorporate the company as part of its business portfolio.

The Ramada Group was also able to dedicate to the storage solutions business through its wholly-owned subsidiary, Ramada Storax,S.A., This subsidiary company carried out the manufacturing of storage products in 1958, nearly 60 years prior, with a strong presence in Portugal, and a growing footprint throughout Europe. May 2018 saw the signing of an agreement between Ramada Group and Stow International (Belgian Law Company) concerning the sale of this subsidiary to potential new Belgian owners. Upon its sale, Ramada left the group's business portfolio, allowing Ramada Investimentos to focus on its core business, continuing to provide the market with different and innovative products, while strengthening its leadership position.

4.1 Shareholder Structure

Ramada Group is currently owned by several shareholders, with Caderno Azul as the shareholder with the highest percentage in the company, with a total stake 20,67% in the group, followed by Promendo with 18,90%, Actium Capital, Sa., with 15,64%, and Livrefluxo with 12,12%. Another notable owner is 1 Thing- Investments, with a stake of 10%. The remaining 22,63% are distributed amongst individual and institutional investors (16%), Magallanes value investors (3,49%) and Santander asset managements (2,46%).

Ramada Group assumes a position of holding company of the group. The subsidiaries under the holding company domain are Ramada Aços, Universal Afir, F.Ramada Imobiliária, Planfuro, and Socitrel, all of which are 100% owned by Ramada Investmentos e Industria.

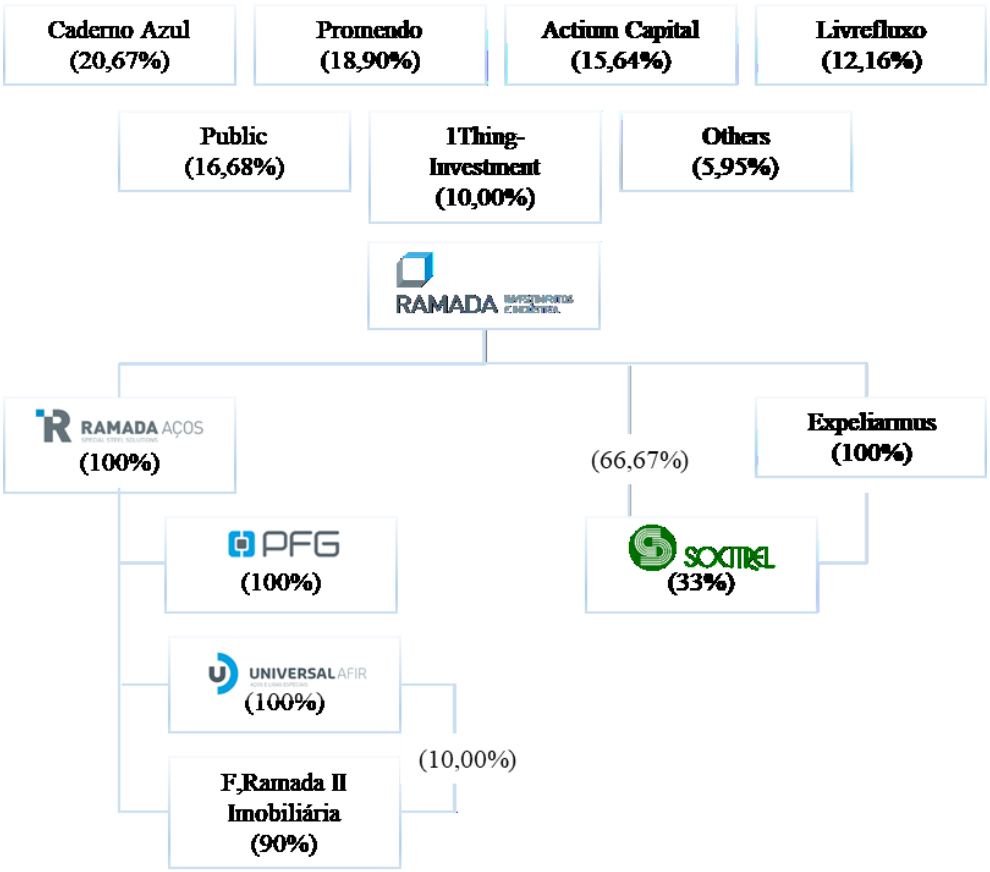

Figure 9: Ramada Shareholder Structure; Source: Company Data

4.2 Stock Price Performance

The market price of Ramada Investimentos (RAMA)'s shares at 16th December 2019 was € 5,88 per share, suggesting an overall market capitalisation of € 150 771 000. These shares experienced a significant devaluation of 31% over the last 12-months. The share price reached a maximum value of € 13,20 per share in March 2018, prior to the announcement made by the Group of the sale of its wholly owned subsidiary, Ramada Storax.

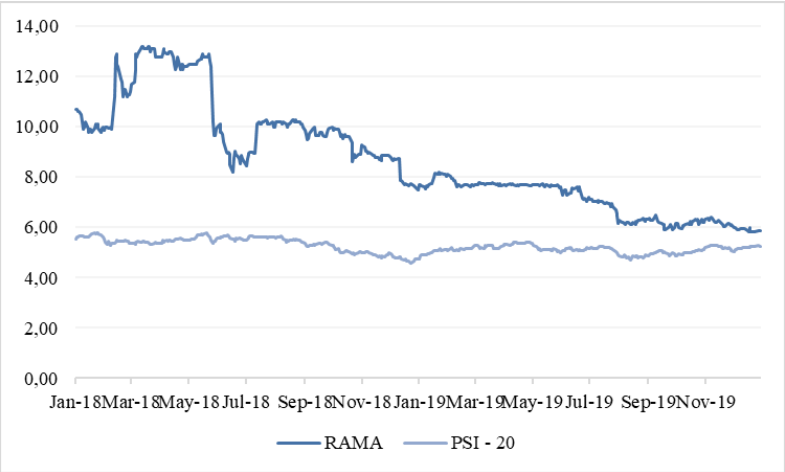

Figure 10: Ramada stock price performance vs PSI-20 market evolution, €; Source: Thomson Reuters

4.3 Group's Business Activity Overview

The Ramada Group currently focuses its activity in two separate business segments, these are nominally the (i) Industry segment, and (ii) the Real Estate segment.

4.3.1 Industry Segment

The Industry segment covers the special steel and drawing mill activity, along with the management of further financial investments, particularly in holdings where the Group owns positions as a minority shareholder. This Industry segment represents 95% of the Group's EBITDA, and as such can be considered to be the company's core business activity.

4.3.1.1 Special Steel Activity

The special steel business currently holds a prominent position in the domestic market, represented by its three subsidiary companies: Ramadas Aços S.A., Universal Afir S.A., and Planfuro Globar S.A., with Steel Group being defined as the group of these listed companies.

The Steel Group offers a wide range of special steels and alloys in blocks, bars, tubes, rods, and coils, which are all divided into classes. Each class groups together steels with common applications in their most regular usage, particularly within two main areas of application: metalworking; and moulds & tools. Some of the main products the Group offers include Plastic Injection Mould Steels for the mould industry, High-Speed Steels for the production of tools, or for instance, Structural Carbon Steels for mechanical construction. The Group further

provides finished industrial and cutting tools for use throughout the manufacturing industry as a whole.

Moulds and tools serves as perhaps the most important segment for the group's business, allowing it to focus on the plastic mould industry and the automotive industry as its core markets.

The Steel Group primarily operates in the domestic market, providing total coverage to the country's industrial areas with six separate points of sale and distribution. The European market is the main destination for exports of the Group's production, with Germany being the country that has contributed the most to the significant growth in sales, while England and Spain have had a marginal effect. Exports currently have the same impact as the domestic market in the moulds and tools sectors, which until now had been a growth factor in these segments. The Group is nevertheless committed to improving its presence in foreign markets by seeking to increase its export capacity. Furthermore, the company provides high quality services, such as machining, heat treatment, and technical support solutions.

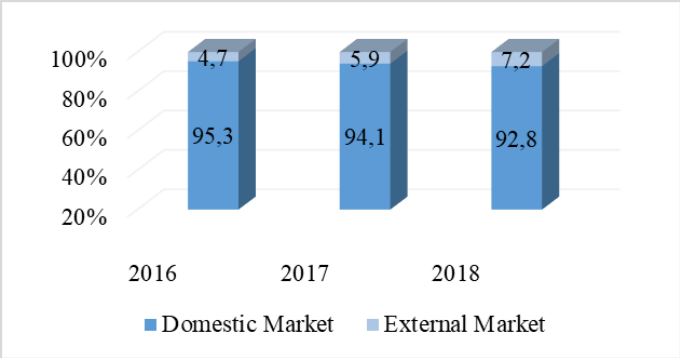

Figure 11: Performance of steel activity turnover by market; Source: Company Data

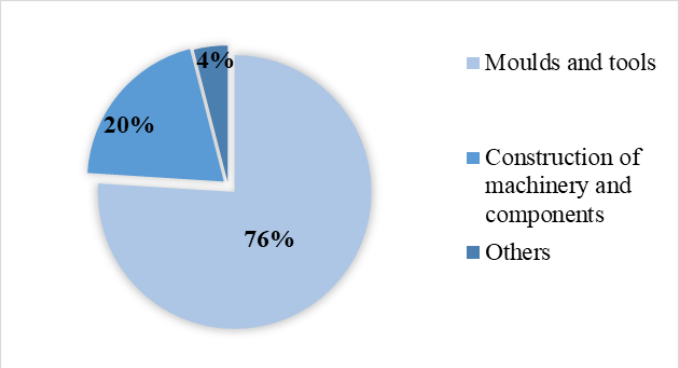

Figure 12: Sectors served by the Steel Group; Source: Company Data

4.3.1.2 Wire Drawing Activity

The wire drawing activity is undertaken by Socitrel, a subsidiary dedicated to the manufacture and sale of steel wire for a range of applications in the fields of industry, agriculture, and construction activities. Socitrel is a leading company in its sector, being the only company in Portugal producing zinc-plated wire, demonstrating a sophisticated level of technological engagement on par with any other company in Europe.

Obtaining control of the majority of Socitrel's share capital allowed the Group to expand its activities while strengthening its leadership position in the steel market.

Much of Socritel's business in 2018 was intrinsically connected to foreign markets, accounting for over 63% of new sales turnover, with Europe representing the largest share of export destinations.

4.3.2 Real Estate Segment

Real Estate activities of the group are mostly concerned with the management of significant areas of forested land. Such areas of land, of which the Ramada Group owns large amounts, are currently leased to the pulp and paper industry. The F. Ramada II – Imobiliária, S.A. subsidiary is specifically dedicated to the management and productive use of these forests assets, an activity the company has been engaged in for over fourteen years.

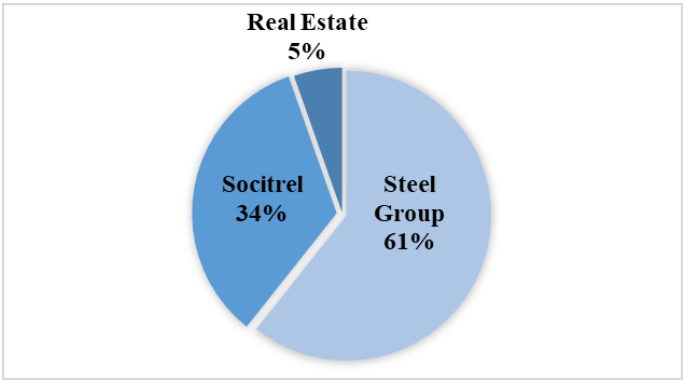

Figure 13: Revenue breakdown by Segment in 2018; Source: Company Data

4.4 Financial Background

4.4.1 Operating Performance

This following section will avoid the consideration of the 2017 accounts as accurate representations of Ramada's performance. These will instead be relied upon purely for comparative purposes.[2]

Ramada as a producer and supplier of steel products, is affected by the cyclical process which is inherent to the sector. Despite having a considerable pricing power over its sales, the company's profitability is typically affected during economic downturns, due to the subsequent negative impacts on order volumes.

The period between 2010 and 2014 saw Ramada´s sales rise at a CAGR of 31%, amounting to €119 million in 2014. These figures were fully backed by the Industry, which at the time included steel and storage system activities. The increased turnover in

2014 was principally due to the increase of sales to the moulds and metals sectors, following a strong trend of modernisation within the automobile industry. Sales to the metal sector also registered a recovery when compared to previous years, representing a significant contribution to 2014's growth rates. This positive trend eventually led to 2015 becoming the year in which the company matched its own pre-2008 financial crisis levels of revenue. The following two

[2] During 2017, Ramada acquired Socitrel, although the consolidated profit & loss statement does not include the operation activity of the acquired company. In 2018, a restatement of 2017 accounts was made to consider the impact of selling Storax. Nevertheless, the consolidation perimeter between 2017 and 2018 is not the same, thus a proper comparison between the two years is not possible.

years the Group sales increased by 8% and 15%, in 2016 and 2017 (pre-statement) respectively. This growth resulted from an increased demand within the moulds and equipment sectors, while the automotive sector continued to invigorate other sub-sectors and their component suppliers.

The Group's revenues for 2018 were strongly impacted by a concurrent restructuring in the automotive industry, with sales decreasing by 6% when compared to the same period in 2016, amounting to a total of €127 million. This decrease was softened by the performance of other areas of metalworking, such as equipment construction and components manufacture, whose relative resilience helped to balance aggregate sales. The turnover of 63% over the revenues recorded in the same period in 2017 can be attributed to the consolidation of the subsidiary Socitrel only for the 2018 period, while total CAGR between 2015 and 2018 rose at only 1%.

Although the Group does not provide information on its activities in the Heat Treatments and Machining segments, these sectors eventually tend to follow steel sales trends.

Real Estate represents an average 6% of total revenues, whereas the rents obtained through the long-term term renting of forest land provide for approximately 90% of the total revenue of this segment.

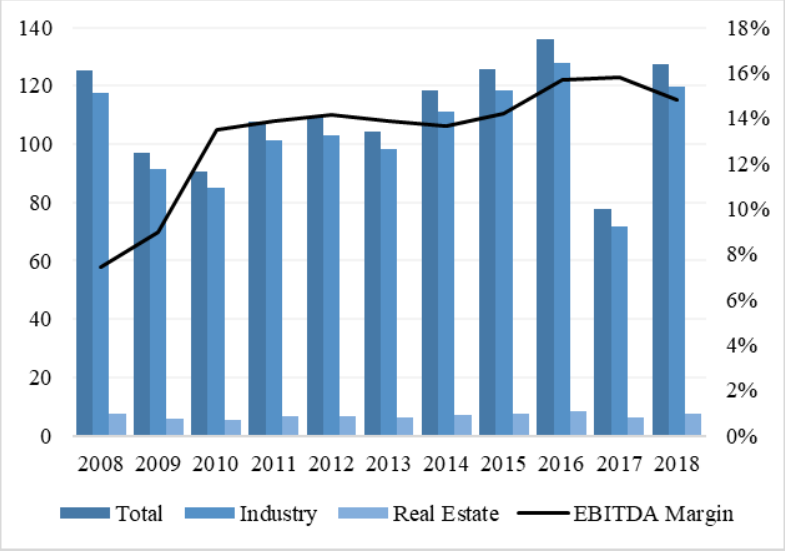

Figure 14: Revenues in € millions and % EBITDA Margin; Source: Company Data

EBITDA remained stable at around €15,5 million throughout 2010 and 2014, with a relatively flat EBITDA margin of 14%. Ramada's EBITDA then rose at a CAGR of 5% from 2015 to

2018, showing a slight improvement of its margin, mainly due to ongoing operating cost reductions programs through the installation of new machinery structures. The Group has demonstrated considerable resilience within the Industry business despite the adverse and uncertain conditions in which it has been forced to operate. Its EBIT saw a decrease at a CAGR of 12% from 2015 to 2018, with a margin drop of 100bp throughout the same timeframe.

Beyond EBIT, net financial expenses dropped at a 39% CAGR throughout the same period, mostly due to a reduction in financing and the average interest rate. Non-recurring

income further amounted to € 42 million in 2017 due to the Group's sale of all of its shares from an investment in a company holding.[3]

Furthermore, consolidated Net Profit from continued operations amounted to €9,5 million, with Net Profits from discontinued operations in 2018 being derived from the sale of its wholly owned subsidiary, Ramada Storax.

€ M	2 015	2 016	2 017	2 018	CAGR ´15-´18
Sales	**126**	**136**	**78**	**127**	**1%**
Industry	118	128	72	120	1%
Real Estate	8	8	6	8	1%
EBITDA	**18**	**21**	**17**	**19**	**5%**
Industry	13	16	12	13	1%
Real Estate	5	5	5	6	16%
EBITDA Margin	**14,2%**	**15,7%**	**15,8%**	**14,8%**	**4%**
D&A	-2	-5	-6	-5	119%
EBIT	**15**	**17**	**12**	**14**	**-12%**
EBIT Margin	**12,3%**	**12,2%**	**15,0%**	**10,7%**	**-13%**
Net financial result	-3	-2	-2	-2	-39%
Non-recurring income	2	2	43	-	
EBT	**14**	**17**	**53**	**12**	**-17%**
Taxes	-3	-3	-2	-3	-27%
Net Profit	**11**	**14**	**57**	**70**	**530%**
Continued operation	11	14	5	10	-14%
Discontinued operations	-	-	52	60	
EPS	**0,48**	**0,60**	**2,34**	**2,72**	**467%**

Table 8: Operating Performance; Source: Company Data

[3] On the 19 July 2017, an agreement was celebrated between Ramada, jointly with the other shareholders, and Laboratório Médico - Doutor Carlos da Silva Torres, SA for the sale of all of its shares. The impact of this operation on the consolidated income statement at the 31 December 2017 amounted to € 42,248,672.

4.4.2 Capex

Ramada sought to initiate an expansion program for the purposes of increasing and renewing its production capacity. A total of €27,6 million was invested until 2018, while the completion of the latter Capex program at the tail end of 2017 was followed by a reduction in overall investment into the company in the following year. Depreciations and amortizations (D&A) followed the same pattern as other overall Capex trends.

€ K	2 015	2 016	2 017	2 018	CAGR '15-'18
Capex	**8 000**	**9 000**	**7 000**	**3 629**	**-55%**
% of D&A	334%	191%	118%	69%	-79%
% of Sales	6%	7%	9%	3%	-55%

Table 9: Capex programme; Source: Company Data

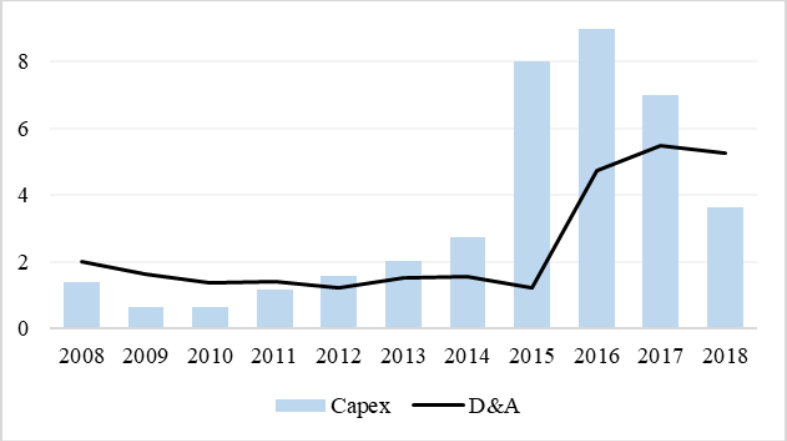

Figure 15: Capex and D&A in € millions; Source: Company Data

4.4.3 Working Capital

The company was able to maintain optimal stock levels between 2015 and 2017, following the Group's strategy for the purposes of coping with volatility in raw material prices. This strategy met with an obstacle within the first half of 2018, with suppliers sending out warnings on an overall rise in raw material prices, further leading to increased delivery times due to expanding market transactions and demand. The Group therefore sought to increase their stock levels in order to meet suppliers' commitments and to prevent possible stock shortages. Unfortunately, this approach was met by a market slowdown in the second half of the year, with stocks closing higher than average.

Regarding Trade Receivables, these have historically represented an average of 33% of revenue, while Accounts Payable have represented a lower average of 13% of revenue. For the purposes of our analysis, we did not include 2017 results, and instead designated it as an exceptional outlier year for the business.

€ M	2 015	2 016	2 017	2 018
Non-cash Current Assets	**61**	**80**	**97**	**73**
Inventory	20	21	29	29
DIH	*105*	*117*	*140*	*101*
Trade Receivables	38	50	54	36
DSO	*101*	*107*	*248*	*132*
State and Other Public Entities	0,8	0,5	2,3	2,7
Other Accounts Receivables	0,9	4,6	7,4	1,5
Deferred tax assets	2	4	5	4
Non-cash Current Liabilites	**34**	**44**	**51**	**29**
Accounts Payable	14	18	26	16
DPO	*55*	*67*	*183*	*62*
State and Other Public Entities	4	5	6	3
Other Current Liabilities	16	22	18	8
Deferred tax liabilities	0	0	1	1
Working Capital	**27**	**36**	**47**	**44**
Δ Working Capital		**9**	**11**	**-3**

Table 10: Working Capital evolution; Source: Company Data

4.4.4 Net Debt

In conclusion, net debt decreased from a total of €66 million in 2015 to just over €21 million in 2018, a roughly 1.1x change in the EBITDA total.

€ M	2 015	2 016	2 017	2 018
Gross Debt	**89**	**90**	**113**	**96**
Non-Current	47	48	64	59
Current	41	42	49	37
Interest expense	3	2	2	2
Average cost of debt		2,3%	1,8%	1,6%
Cash	**22**	**17**	**105**	**75**
Net Debt	**66**	**73**	**8**	**21**
Net Debt/EBITDA	3,7x	3,4x	0,5x	1,1x

Table 11: Net debt evolution; Source: Company Data

5. Financial Outlook

Assumptions regarding the forecasting exercise needed for the DCF valuation and the assumptions on the model itself will also be expanded upon in this section. The currency relied upon throughout this valuation will be the Euro (€).

When valuing cyclical companies, one should avoid focusing solely on the most recent fiscal year, given that the valuation results will be greatly affected by the company's position within the greater economic cycle during that specific 12-month period. The explicit period must thus comprise a complete economic cycle. For the purposes of our specific analysis, the Free Cash-Flow to the Firm of the last year of the explicit period will not be used to compute the terminal value. We will instead assume a cursing year, whereupon we apply average profit margins to revenues within the most recent period in order to estimate normalized earnings. This same approach is employed to capital expenditures and working capital, through the use of ratios of revenue or book capital over time.

Historical data suggests that the last economic cycle had a duration of 7 years. At this point in time, in 2019, the Company finds itself in the downturn phase of the cycle, with an overarching recovery expectation from 2020 onwards.

As such we will assume an explicit period of 7 years, from the 31st of December 2019 to the 31st of December 2026. The explicit period will translate the different phases of the business cycle.

We will further assume that our data possesses enough credibility to forecast different FCFF components, particularly as regards revenues, for the near future, nominally the 2020 to 2021 period. Attempting to build long-term forecasts of cycles into our model can add noise to the valuation, as such we estimate a medium-term future, along with expectations regarding the evolution of the company's performance throughout.

The company's strategy for the future is to grow its core business, Steel activities, in an organic manner. Ramada also plans to expand its specialized steel portfolio by increasing its commitment to products and services with higher margins. Furthermore, the Group will continue to seek new foreign customers, partnerships, and investments. There is reason to believe some upside from Socitrel's integration has not yet been felt, despite the likelihood that 2018 has already absorbed all the effect and that it is therefore mostly priced in.

Ramada Investimentos e Indústria can be regarded as a mature, well established company. As such, we believe that an assumption of an in steady-state Ramada growing organically at a Terminal Growth rate of 1,0% is a conservative approach, particularly considering that such a growth-rate is only slightly above the long-term GDP growth of the Euro area economy.

5.1 Operational Forecasting

When performing a valuation of a company with multiple business segments, one should separate Cash-Flows into several components, particularly for the purposes of doing a Sum of the Parts Valuation (SoP Valuation).

Given that Ramada discloses only profits & loss statements for their segments, the FCFF level is unavailable to us. As such we will estimate revenues and operating expenses for each business separately, before consolidating our results at the capex, depreciations, and working capital levels.

5.1.1 Industry Segment

5.1.1.1 Revenues

Ramada's revenues depend on two main drivers; the quantity of steel tons sold, and the price per steel ton. Since the Company did not provide us with their total tonnage sold, this forecasting exercise will consist of assessing the future growth of its main industrial targets based on market expectations. The products commercialized by the Group can be divided into two main segments, based on their common applications: 1) Mould and tool segment; and 2) Machinery and construction segment. Thus, we will forecast revenue growth separately for each usage area. Furthermore, the Company also integrates a separate and distinct Wire Drawing activity.

With steel prices still recovering from a downward trend which is expected to continue taking its toll in the near future[4], we don't expect steel prices to have a significant impact on revenue growth.

Heat Treatment and Machinery services are one of the Group's major strategic pillars. As the company does not provide information for this segment however, we will not forecast specific growth rates for services rendered within this specific area.

Overall, with the disposal of its wholly owned subsidiary Storax, we expect lower revenue growth rates for the future, with the intelligent warehouse business serving as an important driver of sales for the Group.

Mould and Tool Segment

Steel and alloys applied to the mould, tool & die industry, possess three main industrial markets, these are the plastic injection moulding manufacturing industry, the automotive components industry, and the electrical domestic appliance industry.

During the forecast period of 2019 to 2026, the global plastic injection moulding market is poised to expand at a CAGR of 4%, according to the *Global Plastic Injection Moulding Market Research Report 2019.* Regarding the automotive industry, this is one of the prime, revenue-generating end markets for the construction of moulds and tools for all manufacturing sectors, although it has experienced a down cycle since the second half of 2018. According to Eurofer,

[4] Please refer to appendix 1 to see Steel Prices evolution

leading indicators forecast that automotive production within the EU will rise by 0,9% in 2020, and thus we should not expect an earlier rebound from the automotive identity crisis. Furthermore, production activity in the EU electrical domestic appliances sector is forecast to fall by 1,9%, the second consecutive drop in output, before recovering in 2020 by 0,8%, according to Eurofer.

For 2020, we expect the mould and tool segment to recover by 0,5%, following the expected trend in the EU main industrial markets. We decided to apply a more conservative growth rate given the possibility of a down rate scenario, due to the ongoing weakness in the EU' manufacturing sector along with low levels of investment. For the following two years, we forecast sales to reach a growth rate of 14%, driven by the demand for injection moulded plastic parts, as automotive OEMs seek to improve fuel efficiency through light weighting; along with the adoption of new electrical vehicles. We provide these forecasts under the assumption that WLTP distortions will be faded out by then. Furthermore, several ongoing projects and models were cancelled or delayed to adapt to new market requirements, and these are expected to be reinstated during 2021 and 2022. Additionally, the Group has made a commercial effort directed at new export clients, generating business opportunities that by 2022 will already have materialized.

Given the cyclical nature of the company, we forecast revenues to fall by 9% in 2023. This drop is expected to be smoother than the one observed in the previous cycle, since revenues are also not expected to reach the same level from the previous peak level in 2016. From 2023 onwards, we forecast revenues to increase at the terminal growth rate of 1%.

Machinery and Construction Equipment Segment

The Machinery and Construction equipment segment can trace the largest share of its revenues from the construction industry and mechanical construction in general. Despite some preliminary signs in the construction industry of a cooling-off, this sector should continue to show some resilience and stability compared with the other steel-using sectors, while total EU construction output is forecast to increase by 1,2% in 2020. In the Mechanical engineering industry, manufacturer purchase levels are falling sharply due to weaker levels of capital investment, while production activity throughout the EU is forecast to stagnate over 2019 and 2020, with an increase in output of 0,2% in 2021. (Source: Eurofer)

Reduced investments in new machinery and equipment will favour maintenance and machinery services provided by the Group. As such, we forecast a growth rate of 0,5% for 2020, resulting in a drop of 350 bp, given the continuing levels of uncertainty and volatility felt throughout the EU's manufacturing industry. Without any expected change in the construction industry and Group's commitment to increasing its rendered services, we expect relative stability in the machinery and construction equipment segment. We therefore forecast sales for the remainder of the explicit period as a moving average of the previous three periods

Drawing Mill Activity

The drawing Mill activity is highly dependent on exports to the European market, with applications mainly in pre-stressed steel wires and cables for buildings and infrastructures. With slowing capital investment growth in the EU, weaker international trade, and decelerating global economic growth we forecast revenues to fall by 6% in 2020. This is meant to incorporate the persisting instability of prices in the wire rod market combined with weaker demand on foreign markets, and thus reaching the same revenue levels of 2017.[5]

The recently drawing mill activity purse by the Group combined with the apparent absence of significant drivers with which sales can be increased in the future, led us to believe a more conservative growth rate should be applied for the remaining explicit period. Thus, during the forecast horizon of 2021 to 2026, the drawing mill activity is expected to increase at a CAGR of 4%, increasing its revenue back to levels previously observed during 2018 and 2019. Additionally, the pre-stressed products market is considered to be a mature and competitive market, restraining the Group's ability to increase its activity in the sector.

[5] As mentioned before, the drawing mill activity is followed by Ramada subsidiary Socitrel, who returned to the market only in 2015, after a long stoppage period. Socitrel's business grew strongly in 2018 compared to 2017, due to the strengthening of company exports which has allowed it to consolidate its recovery. With a lack of historical information, we believe that the revenue levels of 2017 could serve as a benchmark of a worst performance year.

€ M	2 018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Steel Industry	**120**	**111**	**109**	**114**	**124**	**118**	**119**	**120**	**121**
Special Steel Activity	79	69	69	73	82	76	77	77	78
Moulds & tools	*69*	*58*	*58*	*62*	*71*	*64*	*65*	*66*	*66*
Machinery & const. equip.	*10*	*11*	*11*	*11*	*11*	*11*	*12*	*12*	*12*
Wire Drawing Activity	41	42	40	41	42	42	42	42	43
Total Revenue growth	**67%**	**-7%**	**-2%**	**5%**	**8%**	**-5%**	**1%**	**1%**	**1%**
Special Steel Activity	10%	-13%	0%	5%	12%	-8%	1%	1%	1%
Moulds & tools	*12%*	*-15%*	*0%*	*6%*	*14%*	*-9%*	*1%*	*1%*	*1%*
Machinery & const. equip.	*1%*	*4%*	*0%*	*2%*	*2%*	*1%*	*2%*	*1%*	*1%*
Wire Drawing Activity	4%	4%	-6%	4%	1%	1%	0%	0%	0%

Table 12: Revenue forecast per activity segment; Source: Company Data and own calculations

Refer to Appendix 5 for detailed figures of revenue forecasts.

5.1.1.2 Gross Profit Margin

The Gross Profit margin has experienced a considerable decline from 2017 onwards, mainly due to the decrease in steel prices, which represents the main raw material utilized by the Group, along with weaker demand in its Industry activity, particularly in the mould segment. Furthermore, the integration of the drawing mill activity had an impact in the deterioration of the profitability margin, since the Group acknowledges lower margins in markets where Socitrel operates.

We forecast a continued decrease in the Gross Profit Margin for 2020 of 1%, due to the persistent instability of raw material prices along with weaker demand. Given Ramada's strategy of increasing its commitment to products and services that carry higher margins, we expect the Gross Profit margin to evolve towards 40% during the explicit period. The forecasted average of the profitability margin is lower than the historical average of the past 5 years, in order to translate the incorporation of the new business activity.

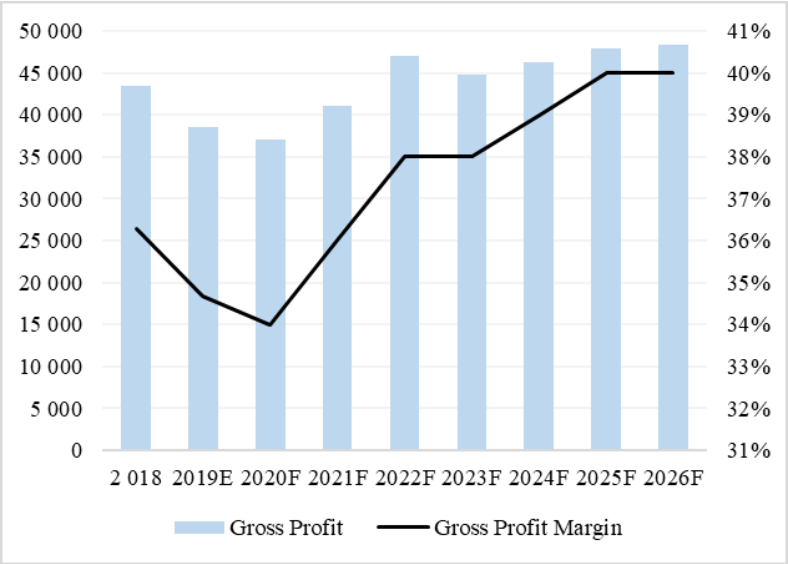

Figure 16: Gross profitability forecast, in € millions; Source: Company Data and own calculations

5.1.1.3 Operating Expenses

Operating expenses are divided into Staff costs, Other operating expenses, Changes in provisions, and Other losses and revenues. Given the relatively small impact of these latter two on operating expenses, they were assumed to be constant throughout our analysis.

The forecasting of Staff Costs was based on an estimate of the number of Staff for each year times the cost per employee. On average, the number of staff increased by 30 year-on-year, with the exception of 2018, in which overall staff balance increased by a higher number of employees due to the incorporation of new businesses into the group. As an approximation and for the purposes of our analysis, it was assumed that the staff balance would register an increase of 7 employees per year, these figures translates into a hiring rate of 12% and termination rate of 11%, with the exception of 2021, 2022 and 2023. During this latter period, we forecast that the number of staff would increase by 18 year-on-year, both as result of regular recruitment needs and higher predicted activity levels. The cost per employee is also expected to increase at regular inflation rates throughout the entirety of our forecast period.

Other operating expenses were forecast as a percentage over revenues. Expecting that the Company will increase rendered services and thus gain a number of subcontracts and specialized services, we assumed that overall costs represent 17% of revenues in the weight of Other operating expenses over total revenues. Working under the assumption that the company

will retain the capacity to reduce Operational costs even further, we forecast Other operating expenses to represent 13% of revenues from 2024 onwards.

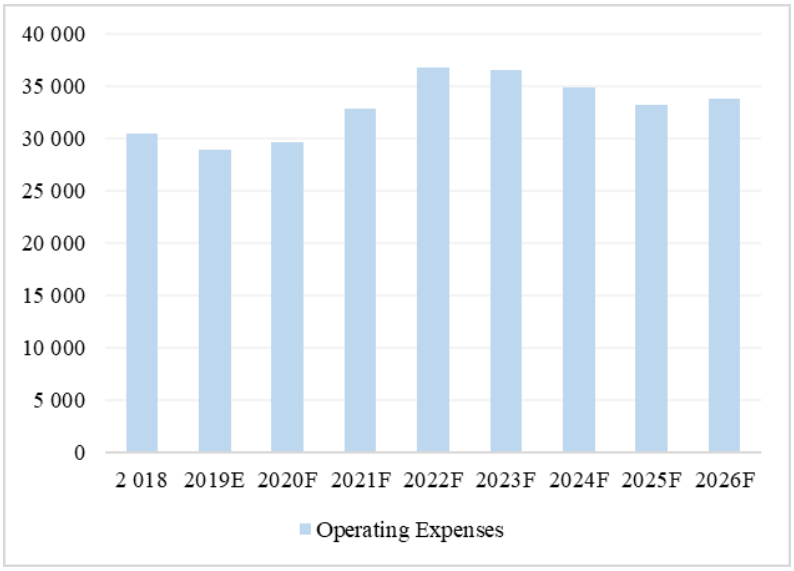

Figure 17: Operating expenses forecast, in € millions; Source: Company Data and own calculations

5.1.2 Real Estate Segment

Rents obtained from long term leasing of forest land represented, on average, about 90% of Real Estate revenues. As revenues are based on long-term contracts celebrated in 2008 with an average duration of 20 years, the rents established in each lease contract are updated while taking the inflation rate into consideration. Operating expenses remained relatively stable, along with their weight over revenues. As such, the latter are forecast as a percentage over revenues, based on a moving average of the previous year's margins.[6]

5.2 Capex, Depreciations & Amortizations

The Group does not provide a distinction between Maintenance Capex and Expansion Capex, nor does it provide any guidelines on how much investment will be made each year. As such, assuming the investment policy followed by the Group will remain unchanged, Capex will be forecast based on the historical relative percentage of investment over Ramada's revenues.

[6] Detailed figures displayed on Appendix 13

Following the completion of the expansion program in 2017, Capex requirements for the following years should be lower. We assume Capex will account for 2% of revenue from 2020 to 2022, we seek to thus represent investments in existing tangible assets, intrinsically connected to keeping sites in good conditions. The rationale behind our estimate relies on historical information. Notwithstanding the years of the expansion period between 2016-2017, Capex was kept fairly stable as a relative percentage of Ramada's revenues, at a level of 2%. With most of its basic equipment, vehicles, and tools, becoming obsolete by 2022 due to life time and natural weariness, Capex should experience a progressive increase from 2022 until the end of the explicit period, reflecting additional investments related to expanding is Property, Plant & Equipment (PPE) base assets, eventually accounting for 7% of revenues.

Assuming there will be no changes in depreciation and amortization accounting methods, it is reasonable to assume Total Net PPE will be depreciated based on the previous year's depreciation and amortization rates. Once the total Capex is calculated, we proceeded to apply the corresponding adjustments to tangible assets along with the corresponding depreciation of the timeframe resulting from the investment.[7] Net Intangible assets are expected to remain constant throughout the forecast period.

€ K	2 018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Capex	**3 629**	**1 720**	**2 321**	**2 429**	**2 618**	**5 011**	**8 853**	**8 933**	**9 014**
% of D&A	69%	38%	49%	49%	51%	91%	143%	130%	117%
% of Sales	3%	1%	2%	2%	2%	4%	7%	7%	7%

Table 13: Capex programme; Source: Company Data and own calculations

5.3 Working Capital

Working Capital is estimated as the difference between Non-cash current assets and Non-debt current liabilities, including deferred tax assets and liabilities, dependent on the belief that Deferred taxes will continue to influence short term operations. Historically, Trade Receivables have been relatively stable, relative to number of days of sales outstanding. Given the absence of any change in client credit policy, it is reasonable to assume that trade receivables will represent roughly 37% of revenues, the equivalent of 109 days of sales outstanding. Regarding

[7] Please find additional data on Appendix 6

Inventories levels, we forecast that they will evolve to the same optimal stock levels, of around 110 days of sales outstanding, previously observed in the period of 2015 and 2016, and then remain at that level for the foreseeable future. Concerning Accounts Payable, given our expectation of no changes in suppliers' credit policy, we forecast Accounts Payables to be equivalent to 65 days of sales outstanding, equal to the average of previous years. The remaining accounts are estimated as a percentage of total revenue based on the corresponding historical average. Deferred tax assets and liabilities were forecast separately.[8]

€ M	2 018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Non-cash Current Assets	**73**	**75**	**77**	**76**	**80**	**77**	**76**	**75**	**75**
Inventory	29	31	26	24	25	24	22	22	22
DIH	*132*	*153*	*130*	*117*	*117*	*117*	*108*	*107*	*106*
Trade Receivables	36	36	43	45	49	47	47	47	47
DSO	*102*	*109*	*109*	*109*	*109*	*109*	*109*	*107*	*106*
State and Other Public Entities	3	1	1	1	1	1	1	1	1
Other Accounts Receivables	2	2	2	2	2	2	2	2	2
Deferred tax assets	4	4	4	3	3	3	3	3	3
Non-cash Current Liabilites	**29**	**34**	**31**	**31**	**34**	**32**	**32**	**32**	**32**
Accounts Payable	16	20	20	20	22	21	20	20	20
DPO	*62*	*82*	*70*	*65*	*65*	*65*	*65*	*65*	*65*
State and Other Public Entities	3	4	2	2	2	2	2	3	3
Other Current Liabilities	8	9	9	9	9	9	9	9	9
Deferred tax liabilities	1	1	0	0	0	0	0	0	0
Working Capital	**44**	**40**	**45**	**45**	**47**	**45**	**44**	**43**	**43**
Δ Working Capital	**-3**	**-4**	**5**	**0**	**2**	**-1**	**-1**	**-1**	**0**

Table 14: Working capital forecast; Source: Company Data and own calculations

6. DCF Valuation

This following section will introduce the application of the Discounted Cash-flow valuation methodology for the purposes of the valuation of Ramada Investimentos e Indústria, which will be then followed by a sensitivity analysis. As previously stated, discounting the FCFF at a risk-adjusted rate allows us to estimate a firm's Enterprise Value. We will therefore start by calculating both the cost of equity and debt, essential components of our WACC computation.

[8] Please find additional data regarding forecasts of deferred tax assets and liabilities in Appendix 7.

Furthermore, our DCF valuation results will be compared with the results from a Relative valuation based on Multiples, along with the Investment Bank results.

6.1 Cost of Equity

Following the CAPM formula for the cost of equity calculation, we will need to assess the risk-free rate, the company's levered beta, and the Market Risk Premium. The CAPM formula should also reflect the Country Risk Premium, which itself aims to reflect the economic and political realities of the country in which Ramada operates.

As a proxy for a risk-free rate, the 10Y German government bond was used. The Market Risk Premium and Country Risk Premium were retrieved from Damodaran data, while the Company's levered beta was obtained from Thomson Reuters (5Y Weekly). Despite the integration of Socitrel, the Company continued to operate in the same field of activity, and as such no adjustments in the time span and frequency of observations for the beta calculation were needed.

Below, are the results:

Risk Free	-0,37%
Levered Beta	0,81
Market Risk Premium	5,96%
Country Risk Premium	3,06%
Cost of Equity	7,52%

6.2 Cost of Debt

Since the Company does not have outstanding long-term bonds, the computation of the cost of debt is necessary in order to add a default spread to our risk-free rate. We created a credit rating to reach the default spread, as Ramada's debt is not rated.

Damodaran presents a spread related with a company's interest coverage ratio and its corporate rating. We decided instead to create a credit rating based on Moody's rating methodology for companies operating in the steel industry. Ramada was thus attributed a synthetic rating of Baaa3 (Moody's), corresponding to a spread of 2,00% and resulting in a cost of debt of 1,63%.

6.3 Capital Structure

Since the WACC must be calculated based on market weights, the final inputs necessary for its computation are the market value of equity and the market value of debt.
We obtained the market value of equity by multiplying the current number of outstanding Ramada shares by the shares' last closing price.

The Market Value of debt comprises the Banks Loans which Ramada currently holds. As reported in their 2018 results, the Company has €37 million of short-term financial debt, for our purposes and for this type of debt, its book value will be considered to be equivalent to the market value. Regarding long-term debt, Ramada has €59 million in Loans. In order to determine the market value of the long-term loans, we discounted future cash flows by using the cost of debt as a discount rate.

Cost of Equity	7,52%
E/V	63%
Cost of Debt	1,63%
D/V	37%
Tax Rate	21,00%
WACC	**5,23%**

Table 15: WACC assumptions for Ramada Valuation

6.4 Valuation Results

Our DCF valuation reached a € 148,8 million equity value for Ramada, which translated into an EV/EBITDA of 11,7x.

EV @ 31 Dec 2019	**178,8**
EV/EBITDA	11,7x
Net Debt	-30
Equity Value	**148,8**
# Shares Outstanding	25,6
Price per share	**5,8**

€ M	2020F	2021F	2022F	2023F	2024F	2025F	2026F	TV
EBIT	**8**	**9**	**11**	**8**	**11**	**14**	**13**	
Operational taxes	23%	23%	23%	23%	23%	23%	23%	
NOPAT	6	7	8	7	9	11	10	
D&A	-5	-5	-5	-5	-6	-7	-8	
Δ Provissions	0	0	0	0	0	0	0	
Δ WC	5	0	2	-1	-1	-1	0	
Capex	2	2	3	5	9	9	9	
FCFF	**4**	**10**	**9**	**8**	**7**	**10**	**9**	**189**
Discount factor	0,95	0,90	0,86	0,82	0,78	0,74	0,70	0,70
PV	**4**	**9**	**8**	**7**	**5**	**7**	**6**	**133**

Table 16: DCF Results for Ramada

With the objective of testing the previous results, a sensitivity analysis is performed to the key valuation drivers, namely the terminal growth rate and WACC, as an example, if we increase WACC to 5,7% it would represent a 10% reduction in EV impacting Ramada´s equity negatively by 12%. Contrarily, an increase of the terminal growth rate by 50bp would increase its EV by 10% and Ramada's equity by 12%.

WACC/g	0,0%	0,5%	1,0%	1,5%	2,0%
4,2%	191	211	236	271	321
4,7%	171	182	204	229	262
5,2%	154	165	**179**	197	220
5,7%	141	150	161	175	192
6,2%	129	137	146	156	170

Table 17: Ramada EV Sensitivity analysis

To conclude, Ramada shares are valued at €5,8 per share against the current market price of €5,8 (as off 16/12/2018). In the last semester the stock had an average price of €6,4 and has floated within the following range [€5,6 – €7,6]. Therefore, our investment recommendation is to Hold. Although we acknowledge a Hold rating can be ambiguous, given the uncertainties regarding trade war, impact of WLTP and Brexit disclosures we believe this to be the more consensus approach. For investors to get a clear interpretation of whether prices will increase or decrease will depend on their own macroeconomic forecasts.

7. Relative Valuation

Throughout this section we value Ramada based upon how comparable companies are currently priced within the market. To proceed with such a Relative valuation, a necessary first step is the identification of the Company's Peer Group. The challenge relies on selecting the right companies for the comparable set. We found that variables related to firm-specific profitability, growth, and risk, play an important role in the choice of comparable firms, while industry membership and firm size should also be taken into account.

We compared Ramada with a sample of steel manufacturing companies that operate mainly in Europe, given the region's role as the firm's principal market. Our group selection process suffered faced significant obstacles, namely due to market capitalization discrepancies and disparate capital structures. Given the different business segments within the manufacturing industry, the selection of companies that match Ramada's span of activities, along with their wide range of products and services, posed a significant challenge. As such, some differences within our comparison set remained.

We were able to produce the following Peer Group, along with a valuation resulting from the multiples presented:

	P/E	EV/EBITDA
Voestalpine AG	13,34	6,72
Acerinox SA	14,10	8,23
Schmolz + Bickenbach AG	-	10,11
Jacquet Metal Service SA	13,98	7,32
Castings PLC	15,40	6,18
BE Group AB	14,27	7,51
Median	**14,10**	**7,42**
EV @ 31 Dec 2019	134,0	113,0
Equity Value	104,0	83,0
Price per share	4,1	3,2

Table 18: Peer Group Multiples and Ramada Valuation; Source: Thomson Reuters and own calculations

When valuing cyclical companies, the EBITDA multiple offers two distinct advantages. Firstly, this multiple can typically be computed for most cyclical firms, even at the very bottom of a

downturn. Secondly, this multiple will tend to be more stable over time, as the denominator is less volatile. Furthermore, EV/EBITDA do not include capital structure effects.

Failing to control for differences in EBITDA volatility can lead to under- and over- valuation of a company. To account for this possibility, we also considered the P/E ratio, with normalized earnings per share since we further control for other factors that can affect the P/E ratio. During periods of strong overall economic performance, all firms within a sector may report high earnings, but some may have better long-term prospects and should be expected to trade at higher multiples.

Ramada's share price resulting from the application of both the value and earnings multiples are far from the company's current price. We believe the DCF results might be inflated by Ramada's real estate business. Overall, the purpose of the multiples valuation is to get a sense of how the market is valuing Ramada instead of using it as a base for our investment recommendation.

8. Investment Bank Report Comparison

The valuation performed in this master dissertation will be compared to the JB Capital Markets (JBCMe) Equity Research Note on the 1st of August of 2019.

JBCMe suggests that sector dynamics remain challenging for Ramada's activity, and thus established a share price target of €8,6, with its Neutral rating remaining unchanged. On January of 2019, JB updated Ramada's valuation with a 48% decrease on the price target, downgrading from Buy to Neutral, due to the lack of catalysts and an overall challenging environment.

A SoP Valuation was relied upon by JBCMe, along with DCF methodology for Ramada's Industry business and book value for its Real Estate business. This disparity is not however, the main overall reason behind the resulting valuation differences between our proposal and the latter. Rather, assumptions made throughout each valuation model may well possess greater explanatory power.

Firstly, one of the most important key valuation inputs that differs from our proposal is the WACC. JBCMe assumes a WACC of 6,9% in order to reflect solely Ramada's Industry business, against a WACC of 5,2%, reflecting both Ramada's Industry and Real Estate businesses. Furthermore, our approach takes an explicit period of 7 years ranging from 2020 to 2026, while JBCMe considers an explicit period of 6 years ranging from 2020 to 2025. The slight reduction in the explicit period might reduce noise in the assumptions made throughout

the development of our model. Nevertheless, we believe this difference to not be statistically significant.

In operational terms, we can only compare the forecasts for 2020 due to confidentiality issues. JBCMe forecast higher revenue and EBITDA growth, resulting in an EBITDA margin of 16%, outlining the belief that Ramada will be able to recover and continuing growing its core business Industry organically through the expansion of its specialized steel portfolio. Our approach forecasts a more conservative growth rate, given the challenging sector dynamics and changes in Ramada's business, and particularly the loss of further growth potential from Storax. JBCMe further forecasts Capex to be €3 million, against our estimate of €2 million, which is line with the different revenue levels predicted, and thus yields significantly different results. In the absence of JBCMe forecasts for the remaining explicit period, along with the use of a terminal growth rate, we can conclude that the approach we undertook throughout this paper is a significantly more conservative one overall.

Given the different valuation method and assumptions, our approach results in a target price 50% lower than JBCMe's target price. Despite these different valuation estimates however, both valuations point to the same Hold recommendation.

9. Conclusion

This Master Dissertation enabled us to internalize the notion that Equity valuation is not a strict set of rules to be applied uniformly to all valuation exercises, it relies instead on different inputs to propose models that capture the value drivers of a given Company. This learning process was enhanced through a deeper analysis of valuation techniques and their practical applications for the Equity Valuation of Ramada Investimentos e Indústria.

The two valuation methods relied upon throughout this dissertation were the Discounted Cash-Flow methodology, discounted at the WACC, and the Relative valuation methodology. Given the specificities of the company's business and the difficulty in finding suitable peers, the relative valuation yielded price per share estimates ranging from [€3,2 – €4,1]. This lack of consistency prevented the company from being considered appropriate for a valuation recommendation.

As such, the recommendation provided by this dissertation, which is solely based on the DCF approach, is a Hold recommendation. The DCF model we developed for the valuation of Ramada returned an equity value of €148,8 million, which translates into a target price of €5,8

per share. Nevertheless, it is important to acknowledge both the model's limitations and the risks underlying our assumptions, particularly given that the same company is prone to being analysed through different angles and perspectives. Hence, a seasoned investor should weigh all of these distinct factors when making his investment decision.

Lastly, it should be mentioned that the company has acted as an industry leader and pioneer throughout its 80 years of activity, providing the national market with innovative solutions while always making the difference within its areas of activity. Nevertheless, it is expected that Ramada will experience less dynamic growth rates in the foreseeable future, mainly due to adverse sector conditions and the lack of catalysts. With little if any acquisition prospects and Socitrel being mostly priced in, the company's main objective for the future should be to grow its core business Industry organically. We believe the sale of Ramada warehousing business, Storax, resulted in a loss of growth angle and further hints at lack of investment opportunities for the future. As such, given the limited access of information provided by the company, along with the recent integration of Socitrel, our assumptions for the future were carefully built on a more conservative basis, while maintaining expectations that the Company will continue to display consistency and reliability throughout all its activities.

Appendixes

1. Steel Scarp Historical Prices

Figure 18 and 19: Historical closing prices for steel scarp, $/Mt; Source: London Metal Exchange

2. Cost of Debt

Moody's rating	Fitch Rating	Default spread (bps)
Aaa	AAA	0
Aa1	AA+	25
Aa2	AA	50
Aa3	AA-	70
A1	A+	85
A2	A	100
A3	A-	115
Baa1	BBB+	150
Baa2	BBB	175
Baa3	BBB-	200
Ba1	BB+	240
Ba2	BB	275
Ba3	BB-	325
B1	B+	400
B2	B	500
B3	B-	600
Caa	CCC	700
Ca	CC	850
C	D	1,000

Figure 20: Corporate rate and default spread; Source: Damodaran

3. Market Value of Debt

31/12/2018	Book Value	Market Value
Bank Loans	**96 354 126**	**87 515 458**
Current	36 873 450	36 873 450
Non-Current	59 480 676	50 642 008

Reimbursment Year	Face Value	Interests
Non-Current	59 480 676	2 963 549
2019	-	-
2020	7 927 370	783 948
2021	7 582 502	640 193
2022	7 582 502	497 893
2023	7 582 502	355 593
2024	7 305 800	254 886
2025	6 500 000	190 937
2026	6 500 000	138 937
2027	3 500 000	86 937
2028	5 000 000	14 225
Cost of Debt = 1,63%		
NPV	**47 822 002**	**2 820 006**

Table 19: Debt at Market Value Calculations, €; Source: Company Data and own calculations

4. Company Peers

Company	MKT Cap (€ M)	P/E	EV/ EBITDA	Revenue Growth	EBITDA (€ M)	Gross Profit Margin	EBITDA Margin	D/E	ROA	ROE
Ramada	156 413	16,03	9,52		19	26%	15%	74%	3%	7%
Voestalpine AG	4 460 000	13,34	6,72	5%	1 228	20%	9%	66%	3%	6%
Acerinox SA	2 650 000	14,10	8,23	8%	481	24%	10%	67%	5%	12%
Schmolz + Bickenbach AG	1 016 657	-	10,11	24%	223	16%	7%	100%	0%	0%
Jacquet Metal Service SA	345 906	13,98	7,32	7%	115	25%	6%	93%	6%	18%
Castings PLC	191 518	15,40	6,18	7%	11	22%	16%	0%	7%	9%
BE Group AB	49 300	14,27	7,51	10%	180	14%	4%	61%	0%	2%
Elastron SA	25 330	-	15,46	11,8%	2	10%	3%	67%	-1%	-2%
Kordellos SA	8 110	-	23,26	-6%	2	12%	5%	158%	0%	-1%
Sidma SA	4 670	-	25,58	11%	4	8%	2%	98%	0%	
Chamberlin PLC	2 960	-	8,58	9%	1	11%	2%	82%	-22%	-122%

Table 20: Company Peers; Source: Thomson Reuters

5. Segment Revenues Forecast

(€ M)	2012	2013	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Sales and Services rendered	**102 555**	**98 201**	**111 912**	**119 379**	**129 469**	**71 680**	**119 708**	**111 115**	**108 932**	**114 218**	**123 533**	**117 750**	**118 803**	**119 791**	**120 789**
Growth (%)		*-4,2%*	*14,0%*	*6,7%*	*8,5%*	*-44,6%*	*67,0%*	*-7,2%*	*-2,0%*	*4,9%*	*8,2%*	*-4,7%*	*0,9%*	*0,8%*	*0,8%*
Indusrty Segment															
Specialized Steels activity	**74 865**	**71 686**	**81 696**	**86 568**	**99 762**	**71 681**	**79 031**	**68 992**	**69 337**	**73 039**	**81 942**	**75 743**	**76 586**	**77 363**	**78 149**
Growth (%)		*-4,2%*	*14,0%*	*6,0%*	*15,2%*	*-28,1%*	*10,3%*	*-12,7%*	*0,5%*	*5,3%*	*12,2%*	*-7,6%*	*1,1%*	*1,0%*	*1,0%*
%Sales	*73,0%*	*73,0%*	*73,0%*	*72,5%*	*77,1%*	*100,0%*	*66,0%*	*62,0%*	*63,7%*	*63,9%*	*66,3%*	*64,3%*	*64,5%*	*64,6%*	*64,7%*
Domestic Market (%)	*95%*	*95%*	*95%*	*95%*	*95%*	*94%*	*93%*	*93%*	*93%*	*92%*	*91%*	*91%*	*90%*	*90%*	*90%*
External Market (%)	*5%*	*5%*	*5%*	*5%*	*5%*	*6%*	*7%*	*7%*	*7%*	*8%*	*9%*	*9%*	*10%*	*10%*	*10%*
Moulds and tools	**56 149**	**53 765**	**61 272**	**68 553**	**78 200**	**61 382**	**68 629**	**58 193**	**58 484**	**61 993**	**70 672**	**64 312**	**64 955**	**65 604**	**66 260**
Growth (%)		*-4,2%*	*14,0%*	*11,9%*	*14,1%*	*-21,5%*	*11,8%*	*-15,2%*	*0,5%*	*6,0%*	*14,0%*	*-9,0%*	*1,0%*	*1,0%*	*1,0%*
% Sales	75,0%	75,0%	75,0%	79,2%	78,4%	85,6%	86,8%	84,3%	*84,3%*	*84,9%*	*86,2%*	*84,9%*	*84,8%*	*84,8%*	*84,8%*
Construction of Machinery and Components	**18 716**	**17 922**	**20 424**	**18 015**	**21 562**	**10 299**	**10 402**	**10 799**	**10 853**	**11 046**	**11 270**	**11 431**	**11 631**	**11 759**	**11 888**
Growth (%)		*-4,2%*	*14,0%*	*-11,8%*	*19,7%*	*-52,2%*	*1,0%*	*3,8%*	*0,5%*	*1,8%*	*2,0%*	*1,4%*	*1,7%*	*1,1%*	*1,1%*
% Sales	*25,0%*	*25,0%*	*25,0%*	*20,8%*	*21,6%*	*14,4%*	*13,2%*	*15,7%*	*15,7%*	*15,1%*	*13,8%*	*15,1%*	*15,2%*	*15,2%*	*15,2%*
Storage Systems activity	**27 690**	**26 514**	**30 216**	**32 811**	**29 708**										
Growth (%)		*-4%*	*14%*	*9%*	*-9%*										
%Sales	*27,0%*	*27,0%*	*27,0%*	*27,5%*	*22,9%*										
Drawing Mill activity				**3 562**	**24 303**	**39 281**	**40 677**	**42 123**	**39 595**	**41 179**	**41 591**	**42 007**	**42 217**	**42 428**	**42 640**
Growth (%)					*582,3%*	*61,6%*	*3,6%*	*3,6%*	*-6,0%*	*4,0%*	*1,0%*	*1,0%*	*0,5%*	*0,5%*	*0,5%*
%Sales							*34,0%*	*37,9%*	*36,3%*	*36,1%*	*33,7%*	*35,7%*	*35,5%*	*35,4%*	*35,3%*
Domestic Market (%)							*37%*	*37%*	*37%*	*36%*	*35%*	*35%*	*34%*	*34%*	*34%*
External Market (%)							*63%*	*63%*	*63%*	*64%*	*65%*	*65%*	*66%*	*66%*	*66%*

Table 21: Revenue forecast per activity segment; Source: Company Data and own calculations

6. Operating Expenses Forecast

(€ M)	2012	2013	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
COGS	**-62 114**	**-57 938**	**-65 249**	**-69 732**	**-71 478**	**-41 184**	**-76 285**	**-72 572**	**-71 895**	**-73 099**	**-76 590**	**-73 005**	**-72 470**	**-71 875**	**-72 473**
%Gross Margin	*39,4%*	*41,0%*	*41,7%*	*41,6%*	*44,8%*	*42,5%*	*36,3%*	*34,7%*	*34,0%*	*36,0%*	*38,0%*	*38,0%*	*39,0%*	*40,0%*	*40,0%*
%Sales	*60,6%*	*59,0%*	*58,3%*	*58,4%*	*55,2%*	*57,5%*	*63,7%*	*65,3%*	*66,0%*	*64,0%*	*62,0%*	*62,0%*	*61,0%*	*60,0%*	*60,0%*
OPEX	**-28 492**	**-28 967**	**-34 765**	**-36 780**	**-41 930**	**-18 723**	**-30 381**	**-28 825**	**-29 649**	**-32 786**	**-36 785**	**-36 548**	**-34 850**	**-33 117**	**-33 776**
%of sales	*27,8%*	*29,5%*	*31,1%*	*30,8%*	*32,4%*	*26,1%*	*25,4%*	*25,9%*	*27,2%*	*28,7%*	*29,8%*	*31,0%*	*29,3%*	*27,6%*	*28,0%*
Staff costs	**-12 266**	**-12 844**	**-14 564**	**-14 815**	**-16 446**	**-9 527**	**-13 787**	**-14 003**	**-14 398**	**-15 082**	**-15 785**	**-16 530**	**-17 030**	**-17 544**	**-18 074**
Average nº of employees	381	399	419	445	476	378	572	592	598	616	634	651	658	664	671
+/-		18	20	26	31	-98	194	32	7	18	18	18	7	7	7
Admission									12%	14%	14%	14%	12%	12%	12%
Recession									11%	11%	11%	11%	11%	11%	11%
Cost per emplyee	-32,2	-32,2	-34,8	-33,3	-34,6	-25,2	-24,1	-23,7	-24,1	-24,5	-24,9	-25,4	-25,9	-26,4	-26,9
FMI Inflation rate						1,6%	1,2%	1,0%	1,7%	1,7%	1,8%	1,9%	2,0%	2,0%	2,0%
Other OPEX	**-16 226**	**-16 123**	**-20 201**	**-20 896**	**-25 478**	**-10 070**	**-16 821**	**-14 847**	**-15 251**	**-17 704**	**-21 001**	**-20 017**	**-17 820**	**-15 573**	**-15 703**
%of revenues	*15,8%*	*17,0%*	*18,1%*	*17,5%*	*19,7%*	*14,0%*	*14,1%*	*13,4%*	*14,0%*	*15,5%*	*17,0%*	*17,0%*	*15,0%*	*13,0%*	*13,0%*
Subcontracts and specialized services			-6 528	-6 796	-10 200	-1 543	-1 864	-1 680	-1 634	-2 284	-3 706	-3 532	-2 376	-2 396	-2 416
Maintenance and repair			-1 846	-1 987	-2 045	-2 388	-2 918	-1 796	-2 179	-2 284	-3 706	-3 532	-2 376	-1 198	-1 208
Engineering tools			-604	-747	-972	-1 047	-1 016	-1 197	-1 089	-1 142	-1 235	-1 177	-1 188	-1 198	-1 208
Electricity			-720	-967	-1 062	-1 391	-3 546	-1 796	-1 634	-1 713	-1 235	-1 177	-1 188	-1 198	-1 208
Fuels and other fluids			-909	-823	-771	-283	-736	-1 197	-1 089	-1 142	-1 235	-1 177	-1 188	-1 198	-1 208
Travel and lodging			-871	-995	-984	-381	-599	-1 197	-1 089	-1 142	-1 235	-1 177	-1 188	-1 198	-1 208
Transport of goods			-3 493	-3 314	-3 855	-1 531	-3 202	-2 394	-3 268	-3 427	-3 706	-3 532	-3 564	-2 396	-2 416
Insurance			-588	-600	-822	-452	-664	-1 197	-1 089	-1 142	-1 235	-1 177	-1 188	-1 198	-1 208
Other Services			-2 833	-2 987	-3 076	-591	-1 452	-1 197	-1 089	-2 284	-2 471	-2 355	-2 376	-2 396	-2 416
Rents			-1 810	-1 680	-1 690	-462	-826	-1 197	-1 089	-1 142	-1 235	-1 177	-1 188	-1 198	-1 208
Subcontracts and specialized services			*5,8%*	*5,7%*	*7,9%*	*2,2%*	*1,6%*	*1,0%*	*1,5%*	*2,0%*	*3,0%*	*3,0%*	*2,0%*	*2,0%*	*2,0%*
Maintenance and repair			*1,6%*	*1,7%*	*1,6%*	*3,3%*	*2,4%*	*1,5%*	*2,0%*	*2,0%*	*3,0%*	*3,0%*	*2,0%*	*1,0%*	*1,0%*
Engineering tools			*0,5%*	*0,6%*	*0,8%*	*1,5%*	*0,8%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*
Electricity			*0,6%*	*0,8%*	*0,8%*	*1,9%*	*3,0%*	*1,5%*	*1,5%*	*1,5%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*
Fuels and other fluids			*0,8%*	*0,7%*	*0,6%*	*0,4%*	*0,6%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*
Travel and lodging			*0,8%*	*0,8%*	*0,8%*	*0,5%*	*0,5%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*
Transport of goods			*3,1%*	*2,8%*	*3,0%*	*2,1%*	*2,7%*	*2,0%*	*3,0%*	*3,0%*	*3,0%*	*3,0%*	*3,0%*	*2,0%*	*2,0%*
Insurance			*0,5%*	*0,5%*	*0,6%*	*0,6%*	*0,6%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*
Other Services			*2,5%*	*2,5%*	*2,4%*	*0,8%*	*1,2%*	*1,0%*	*1,0%*	*2,0%*	*2,0%*	*2,0%*	*2,0%*	*2,0%*	*2,0%*
Rents			*1,6%*	*1,4%*	*1,3%*	*0,6%*	*0,7%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*

Table 22: Operating expenses forecast; Source: Company Data and own calculations

7. Capex, Depreciations & Amortizations

(€ M)	2012	2013	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Capex	1 555	2 017	2 719	7 815	9 000	7 000	3 629	1 720	2 321	2 429	2 618	5 011	8 853	8 933	9 014
%Sales	*1%*	*2%*	*2%*	*6%*	*7%*	*9%*	*3%*	*1%*	*2%*	*2%*	*2%*	*4%*	*7%*	*7%*	*7%*
Additions of PPE															
Basic Equipment								990	1 041	1 122	1 514	3 558	6 640	6 700	6 661
Transport Equipment								272	332	243	521	501	885	993	901
Tools								172	132	141	0	101	285	193	301
Office Equipment								458	616	721	581	851	1 043	1 047	1 151

(€ M)	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Buildings and other constructions									
Cost (31 dec)	19 645	19 645	19 645	19 645	19 645	19 645	19 645	19 645	19 645
Accumulated depreciation	15 379	15 772	16 165	16 558	16 950	17 343	17 736	18 129	18 522
Carrying amount	4 266	3 873	3 481	3 088	2 695	2 302	1 909	1 516	1 123
Depreciation rate	2%	2%	2%	2%	2%	2%	2%	2%	2%
Depreciation of the period	393	393	393	393	393	393	393	393	393
Basic Equipment									
Cost (31 dec)	43 098	43 916	45 157	46 279	47 793	51 351	57 991	64 691	73 705
Accumulated depreciation	34 862	37 735	40 745	43 831	47 017	50 440	54 306	58 619	63 533
Carrying amount	8 236	6 181	4 411	2 448	776	911	3 685	6 072	10 172
Depreciation rate	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%
Depreciation of the period	2 873	2 928	3 010	3 085	3 186	3 423	3 866	4 313	4 914
Transport Equipment									
Cost (31 dec)	4 526	4 798	5 130	5 373	5 897	6 398	7 283	8 277	9 178
Accumulated depreciation	3 594	4 047	4 560	5 097	5 687	6 326	7 055	7 882	8 800
Carrying amount	932	751	571	276	210	72	229	394	378
Depreciation rate	10%	10%	10%	10%	10%	10%	10%	10%	10%
Depreciation of the period	453	456	513	537	590	640	728	828	918
Tools									
Cost (31 dec)	1 503	1 675	1 807	1 948	1 948	2 049	2 334	2 528	2 829
Accumulated depreciation	1 340	1 459	1 588	1 727	1 867	2 013	2 180	2 360	2 562
Carrying amount	164	216	219	221	82	36	155	168	267
Depreciation rate	7%	7%	7%	7%	7%	7%	7%	7%	7%
Depreciation of the period	147	120	129	139	139	146	167	181	202
Office Equipment									
Cost (31 dec)	4 923	5 381	5 997	6 920	7 501	8 352	9 395	10 441	11 592
Accumulated depreciation	4 791	5 283	5 883	6 575	7 325	8 160	9 100	10 144	11 303
Carrying amount	132	98	114	346	176	192	295	298	289
Depreciation rate	10%	10%	10%	10%	10%	10%	10%	10%	10%
Depreciation of the period	492	538	600	692	750	835	939	1 044	1 159
Software									
Carrying amount	29	29	29	29	29	29	29	29	29
Dep rate	20%	20%	20%	20%	20%	20%	20%	20%	20%
Depreciation of the period	14	96	96	96	96	96	96	96	96
D&A Period	5 294	4 530	4 741	4 942	5 154	5 533	6 189	6 854	7 681

Table 23: Capex and D&A forecast; Source: Company Data and own calculations

8. Working Capital forecast

(€ M)	2012	2013	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Non-cash Current Assets	**56 715**	**55 964**	**61 618**	**61 264**	**80 303**	**98 486**	**73 088**	**74 556**	**76 693**	**76 266**	**80 356**	**77 171**	**75 664**	**74 769**	**74 744**
Inventory	18 456	19 077	25 675	19 869	21 499	28 872	28 602	31 231	26 328	24 100	25 268	24 092	22 083	21 712	21 695
%Sales	*17%*	*18%*	*22%*	*16%*	*16%*	*37%*	*22%*	*26%*	*23%*	*20%*	*19%*	*19%*	*17%*	*17%*	*17%*
Trade Receivables	33 353	33 498	32 678	37 941	49 931	54 403	36 253	35 778	43 225	45 239	48 755	46 654	47 102	46 655	46 637
%Sales	*31%*	*32%*	*28%*	*30%*	*37%*	*70%*	*28%*	*30%*	*37%*	*37%*	*37%*	*37%*	*37%*	*37%*	*36%*
State and Other Public Entities	1 085	723	635	756	548	3 170	2 737	1 414	1 414	1 414	1 414	1 414	1 414	1 414	1 414
%Sales	*1%*	*1%*	*1%*	*1%*	*0%*	*4%*	*2%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
Other Accounts Receivables	1 782	644	706	920	4 651	7 489	1 514	2 150	2 150	2 150	2 150	2 150	2 150	2 150	2 150
%Sales	*2%*	*1%*	*1%*	*1%*	*3%*	*10%*	*1%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*
Deferred Tax Assets	2 038	2 022	1 924	1 778	3 674	4 552	3 982	3 983	3 576	3 364	2 768	2 861	2 916	2 838	2 848
Non-cash Current Liabilities	**27 070**	**33 270**	**41 089**	**34 273**	**44 304**	**51 642**	**29 007**	**34 322**	**31 054**	**31 097**	**33 826**	**31 997**	**31 557**	**31 709**	**31 924**
Accounts Payable	12 229	14 555	16 664	14 090	18 133	26 429	16 318	20 319	19 972	19 958	22 248	20 704	19 917	19 658	19 907
%Sales	*11%*	*14%*	*14%*	*11%*	*13%*	*34%*	*13%*	*17%*	*17%*	*16%*	*17%*	*17%*	*16%*	*15%*	*15%*
State and Other Public Entities	3 224	3 469	4 092	3 897	4 543	6 612	3 356	3 656	1 638	1 695	2 134	1 849	2 196	2 606	2 572
%Sales	*3%*	*3%*	*3%*	*3%*	*3%*	*8%*	*3%*	*3%*	*1%*	*1%*	*2%*	*1%*	*2%*	*2%*	*2%*
Other Current Liabilities	11 552	15 195	20 292	16 251	21 597	17 645	8 405	9 419	9 419	9 419	9 419	9 419	9 419	9 419	9 419
%Sales	*11%*	*15%*	*17%*	*13%*	*16%*	*23%*	*7%*	*8%*	*8%*	*8%*	*7%*	*8%*	*7%*	*7%*	*7%*
Deferred Tax Liabilities	65	52	41	35	31	956	928	928	25	25	25	25	25	25	25
Working Capital	**29 645**	**22 694**	**20 529**	**26 991**	**35 999**	**46 844**	**44 081**	**40 234**	**45 640**	**45 169**	**46 530**	**45 174**	**44 107**	**43 060**	**42 821**
Δ Working Capital		**-6 951**	**-2 165**	**6 463**	**9 008**	**10 845**	**-2 763**	**-3 847**	**5 406**	**-470**	**1 361**	**-1 355**	**-1 067**	**-1 047**	**-239**
DIH	*105*	*117*	*140*	*101*	*107*	*248*	*132*	*153*	*130*	*117*	*117*	*117*	*108*	*107*	*106*
DSO	*110*	*116*	*100*	*109*	*132*	*251*	*102*	*109*	*109*	*109*	*109*	*109*	*109*	*107*	*106*
DPO	*55*	*70*	*69*	*55*	*67*	*183*	*62*	*82*	*70*	*65*	*65*	*65*	*65*	*65*	*65*
Deferred Tax Assets		**2 022**	**1 924**	**1 778**	**3 674**	**4 552**	**3 982**	**3 983**	**3 576**	**3 364**	**2 768**	**2 861**	**2 916**	**2 838**	**2 848**
Provisions and impairment losses not accep. for tax purp.		2 021	1 923	1 778	2 170	2 364	1 739	1 739	1 739	1 739	1 739	1 739	1 739	1 739	1 739
Extraordinary revaluation of fixed assets		0	0	0	1 503	1 704	865	865	1 357	1 145	1 029	1 122	1 177	1 099	1 109
Tax benefits		0	0	0	0	336	268	268	0	0	0	0	0	0	0
Fair value adjustments		0	0	0	0	148	148	148	0	0	0	0	0	0	0
Tax losses carried forward[1]		0	0	0	0	0	960	960	480	480	0	0	0	0	0
Deferred Tax Liabilities		**52**	**41**	**35**	**31**	**956**	**928**	**928**	**25**	**25**	**25**	**25**	**25**	**25**	**25**
Provisions and impairment losses not accep. for tax purp.		0	0	0	0	24	0	0	0	0	0	0	0	0	0
Reinvested capital gains		26	20	20	15	8	4	4	9	9	9	9	9	9	9
Amortizations not accep. for tax purp.		26	21	16	16	15	16	16	16	16	16	16	16	16	16
Fair value adjustments		0	0	0	0	908	908	908	0	0	0	0	0	0	0

[1] During 2018, deferred tax assets were recognized amounted to € 960 thousand relating to tax loss carry-fowards generated in 2015 which are estimated to be recover in the next two years

Table 24: Working Capital and Deferred taxes forecast; Source: Company Data and own calculations

9. Effective Tax Rate forecast

(€ M)	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
EBT	14 478	16 753	52 750	12 013	9 340	6 961	7 791	9 403	7 239	9 992	12 754	12 480
Income Tax Rate	**3 040**	**3 518**	**11 078**	**2 523**	**1 961**	**1 462**	**1 636**	**1 975**	**1 520**	**2 098**	**2 678**	**2 621**
Municipal surcharge	91	100	98	100	97	104	117	141	109	150	191	187
State surcharge	218	207	144	109	100	70	78	94	72	100	128	125
Autonomous tax	167	175	113	102	100	100	100	100	122	100	100	100
	3 516	**4 001**	**11 433**	**2 834**	**2 259**	**1 736**	**1 931**	**2 310**	**1 823**	**2 448**	**3 097**	**3 033**
Share of results of joint ventures	-328	-425	-8 931	0	0	0	0	0	0	0	0	0
Fixed assets extraordinary revaluation	0	-1 503	-200	0	0	0	0	0	0	0	0	0
Corporate income corrections	0	0	-204	-566	0	0	0	0	0	0	0	0
Fiscal benefits	-12	-15	-114	-295	-295	-295	-295	-194	-194	-194	-194	-194
Tax losses from previous years	0	1 120	0	-284	0	-480	-480	0	0	0	0	0
Other effects	242	-352	-533	820	0	0	0	0	0	0	0	0
Income Tax Rate	**3 418**	**2 826**	**1 450**	**2 509**	**1 964**	**961**	**1 156**	**2 116**	**1 629**	**2 254**	**2 903**	**2 839**
Effective tax rate	24%	17%	3%	21%	21%	14%	15%	23%	23%	23%	23%	23%

Table 25: Effective tax rate forecast; Source: Company Data and own calculations

10. Free Cash Flow forecast

(€ M)	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F	Crusing Year
Revenues	**125 810**	**135 930**	**77 907**	**127 424**	**118 132**	**116 067**	**121 473**	**130 916**	**125 273**	**126 476**	**127 618**	**128 773**	
Growth (%)		*8,0%*	*-42,7%*	*63,6%*	*-7,3%*	*-1,7%*	*4,7%*	*7,8%*	*-4,3%*	*1,0%*	*0,9%*	*0,9%*	
Gross margin	**55 125**	**63 665**	**36 033**	**49 704**	**44 478**	**43 159**	**47 320**	**53 167**	**51 143**	**52 868**	**54 569**	**55 092**	**52 414**
Gross margin (%)	*43,8%*	*46,8%*	*46,3%*	*39,0%*	*37,7%*	*37,2%*	*39,0%*	*40,6%*	*40,8%*	*41,8%*	*42,8%*	*42,8%*	*41%*
OPEX	-30 537	-42 338	-18 696	-30 867	-29 226	-30 238	-33 368	-37 392	-37 152	-35 468	-33 743	-34 415	
EBITDA	**17 871**	**21 327**	**17 337**	**18 837**	**15 252**	**12 921**	**13 952**	**15 775**	**13 991**	**17 400**	**20 826**	**20 677**	**16 919**
EBITDA margin (%)	*14,2%*	*15,7%*	*22,3%*	*14,8%*	*12,9%*	*11,1%*	*11,5%*	*12,1%*	*11,2%*	*13,8%*	*16,3%*	*16,1%*	13,1%
D&A	-1 220	-4 719	-5 480	-5 254	-4 530	-4 741	-4 942	-5 154	-5 533	-6 189	-6 854	-7 681	-6 022
EBIT	**16 651**	**16 608**	**11 857**	**13 583**	**10 722**	**8 180**	**9 009**	**10 622**	**8 457**	**11 211**	**13 973**	**12 996**	**10 897**
EBIT margin (%)	*13,2%*	*12,2%*	*15,2%*	*10,7%*	*9,1%*	*7,0%*	*7,4%*	*8,1%*	*6,8%*	*8,9%*	*10,9%*	*10,1%*	8,5%
Effective tax rate = 23%													
NOPAT	**12 822**	**12 788**	**9 130**	**10 459**	**8 256**	**6 298**	**6 937**	**8 179**	**6 512**	**8 632**	**10 759**	**10 007**	**8 390**
Depreciation and amortization	-2 396	-4 719	-5 480	-5 254	-4 530	-4 741	-4 942	-5 154	-5 533	-6 189	-6 854	-7 681	-6 022
Δ Provisions	-815	-634	465	-810	100	-82	-82	-82	-82	-82	-82	-82	-88
Operating cash flow	**16 033**	**18 141**	**14 145**	**16 523**	**12 686**	**11 121**	**11 961**	**13 414**	**12 127**	**14 903**	**17 694**	**17 770**	**14 104**
Δ Working capital	6 463	9 008	10 845	-2 763	-3 847	5 406	-470	1 361	-1 355	-1 067	-1 047	-239	437
Capex	7 815	9 000	7 000	3 629	1 720	2 321	2 429	2 618	5 011	8 853	8 933	9 014	6 062
Free Cash Flow to the Firm	**1 755**	**133**	**-3 700**	**15 657**	**14 813**	**3 394**	**10 002**	**9 435**	**8 472**	**7 117**	**9 808**	**8 995**	**8 011**
Terminal Value												**189 405**	
Timing factor						*1,0*	*2,0*	*3,0*	*4,0*	*5,0*	*6,0*	*7,0*	
Discount factor						0,950	0,903	0,858	0,816	0,775	0,737	0,700	
Discounted Cash flow						**3 225**	**9 033**	**8 097**	**6 909**	**5 516**	**7 224**	**138 860**	

Table 26: FCFF forecast; Source: Company Data and own calculations

11. Income Statement Forecast

	2012	2013	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
	109 336	**104 399**	**118 196**	**125 810**	**135 930**	**77 907**	**127 424**	**118 132**	**116 067**	**121 473**	**130 916**	**125 273**	**126 476**	**127 618**	**128 773**
Sales and rendered services	109 336	104 399	118 196	125 810	135 930	77 907	127 424	118 132	116 067	121 473	130 916	125 273	126 476	127 618	128 773
Cost of sales and variation in production	-63 288	-58 756	-66 134	-70 685	-72 265	-41 874	-77 720	-73 654	-72 908	-74 154	-77 748	-74 130	-73 608	-73 049	-73 681
GROSS MARGIN	**46 048**	**45 643**	**52 062**	**55 125**	**63 665**	**36 033**	**49 704**	**44 478**	**43 159**	**47 320**	**53 167**	**51 143**	**52 868**	**54 569**	**55 092**
GROSS MARGIN % SALES	**42%**	**44%**	**44%**	**44%**	**47%**	**46%**	**39%**	**38%**	**37%**	**39%**	**41%**	**41%**	**42%**	**43%**	**43%**
Suppliers and external services	-16 533	-16 351	-20 475	-21 182	-25 758	-10 114	-17 138	-15 068	-15 500	-17 942	-21 260	-20 270	-18 082	-15 838	-15 976
Payroll expenses	-12 498	-13 025	-14 762	-15 018	-16 627	-9 568	-14 046	-14 212	-14 610	-15 298	-16 005	-16 754	-17 258	-17 777	-18 311
Change in Provisions	0	0	-1 115	-815	-634	465	-810	100	-82	-82	-82	-82	-82	-82	-82
Other income	1 260	952	1 011	747	1 415	1 430	2 009	624	624	624	624	624	624	624	624
Other expenses	-2 766	-2 754	-917	-986	-734	-909	-882	-670	-670	-670	-670	-670	-670	-670	-670
EBITDA	**15 511**	**14 465**	**15 804**	**17 871**	**21 327**	**17 337**	**18 837**	**15 252**	**12 921**	**13 952**	**15 775**	**13 991**	**17 400**	**20 826**	**20 677**
EBITDA % SALES	**14%**	**14%**	**13%**	**14%**	**16%**	**22%**	**15%**	**13%**	**11%**	**11%**	**12%**	**11%**	**14%**	**16%**	**16%**
D&A	-1 220	-1 529	-1 599	-2 396	-4 719	-5 480	-5 254	-4 530	-4 741	-4 942	-5 154	-5 533	-6 189	-6 854	-7 681
EBIT	**14 291**	**12 936**	**14 205**	**15 475**	**16 608**	**11 857**	**13 583**	**10 722**	**8 180**	**9 009**	**10 622**	**8 457**	**11 211**	**13 973**	**12 996**
EBIT % SALES	**13%**	**12%**	**12%**	**12%**	**12%**	**15%**	**11%**	**9%**	**7%**	**7%**	**8%**	**7%**	**9%**	**11%**	**10%**
Shares of joint ventures and associated companies	0	0	365	1 563	2 028	42 527	0	0	0	0	0	0	0	0	0
Financial income	0	0	28	152	205	199	126	186	186	186	186	186	186	186	186
Financial expenses	-4 410	-4 068	-3 101	-2 712	-2 088	-1 833	-1 696	-1 568	-1 404	-1 404	-1 404	-1 404	-1 404	-1 404	-702
EBT	**9 881**	**8 868**	**11 497**	**14 478**	**16 753**	**52 750**	**12 013**	**9 340**	**6 961**	**7 791**	**9 403**	**7 239**	**9 992**	**12 754**	**12 480**
Corporate income tax	-3 692	-2 650	-3 409	-3 418	-2 824	-1 449	-2 509	-1 964	-961	-1 156	-2 116	-1 629	-2 254	-2 903	-2 839
CONSOLIDATED NET PROFIT	**6 189**	**6 218**	**8 088**	**11 060**	**13 929**	**51 301**	**9 504**	**7 376**	**6 000**	**6 635**	**7 287**	**5 610**	**7 738**	**9 851**	**9 641**
Profit after tax of the discontinued operations						5 406	60 214								
CONSOLIDATED NET PROFIT						**56 707**	**69 718**								
NET INCOME % SALES	**6%**	**6%**	**7%**	**9%**	**10%**	**66%**	**7%**	**6%**	**5%**	**5%**	**6%**	**5%**	**6%**	**8%**	**7%**

Table 28: Income Statement Forecast; Source: Company Data and own calculations

12. Balance Sheet Forecast

	2012	2013	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Non-Current Assets:	**101 184**	**107 567**	**108 003**	**112 667**	**121 928**	**115 084**	**114 008**	**114 542**	**111 716**	**108 990**	**105 859**	**105 430**	**108 148**	**110 150**	**111 493**
Property, plant and Equipment	4 578	5 391	5 146	6 679	11 825	22 800	20 482	19 638	17 316	14 921	12 504	12 099	14 881	17 079	18 644
Investment Properties	86 103	85 937	85 977	84 863	84 856	84 922	86 936	87 662	87 662	87 662	87 662	87 662	87 662	87 662	87 662
Goodwill	0	0	0	0	1 246	1 246	1 246	1 246	1 246	1 246	1 246	1 246	1 246	1 246	1 246
Intangible Assets	135	108	151	77	22	116	42	29	29	29	29	29	29	29	29
Investments in an associate		11 500	12 196	15 777	16 812	0	0	0	0	0	0	0	0	0	0
Investments for sale	8 330	2 610	2 610	3 493	3 493	8	0	0	0	0	0	0	0	0	0
Non Current Assets	0	0	0	0	0	1 440	1 320	1 984	1 984	1 984	1 984	1 984	1 984	1 984	1 984
Deferred tax assets	2 038	2 022	1 924	1 778	3 674	4 552	3 982	3 983	3 576	3 364	2 768	2 861	2 916	2 838	2 848
Current Assets	**66 446**	**65 605**	**76 060**	**81 874**	**93 849**	**199 033**	**144 085**	**121 709**	**125 576**	**131 703**	**141 041**	**142 521**	**143 373**	**146 568**	**150 418**
Inventories	18 456	19 077	25 675	19 869	21 499	28 872	28 602	31 231	26 328	24 100	25 268	24 092	22 083	21 712	21 695
Trade Receivables	33 353	33 498	32 678	37 941	49 931	54 403	36 253	35 778	43 225	45 239	48 755	46 654	47 102	46 655	46 637
State and other public entities	1 085	723	635	756	548	3 170	2 737	1 414	1 414	1 414	1 414	1 414	1 414	1 414	1 414
Other current assets	1 782	644	706	920	4 651	7 489	1 514	2 150	2 150	2 150	2 150	2 150	2 150	2 150	2 150
Cash and cash equivalents	11 769	11 663	16 366	22 388	17 220	105 099	74 979	51 136	52 348	59 578	65 417	70 380	73 039	77 425	81 634
TOTAL ASSETS	**167 630**	**173 172**	**184 063**	**194 541**	**215 777**	**314 117**	**258 093**	**236 251**	**237 181**	**241 471**	**248 863**	**250 120**	**253 936**	**259 506**	**265 023**
Equity															
Issued Capital	25 641	25 641	25 641	25 641	25 641	25 641	25 641	25 642	25 642	25 642	25 642	25 642	25 642	25 642	25 642
Own shares	-1 641	-1 641	-1 641	-1 641	-1 641	0	0	0	0	0	0	0	0	0	0
Legal reserve	5 637	5 637	5 637	5 935	6 231	6 461	6 461	6 461	6 461	6 461	6 461	6 461	6 461	6 461	6 461
Other capital reserves and retained earnings	16 835	20 864	24 428	28 685	33 846	57 350	28 300	82 634	82 634	82 634	82 634	82 634	82 634	82 634	82 634
Carried result									1 950	5 562	9 573	14 336	16 464	19 769	25 282
Current year consolidated net profit	6 169	6 218	8 077	11 032	13 860	56 708	69 718	3 750	6 000	6 635	7 287	5 610	7 738	9 851	9 641
Attributal to Equity holders	52 642	56 720	62 142	69 652	77 937	146 160	130 120	118 487	122 687	126 934	131 598	134 683	138 939	144 357	149 660
Non-controlling interests	0	0	51	75	143	5	0	0	0	0	0	0	0	0	0
TOTAL EQUITY	**52 642**	**56 720**	**62 193**	**69 727**	**78 080**	**146 165**	**130 120**	**118 487**	**122 687**	**126 934**	**131 598**	**134 683**	**138 939**	**144 357**	**149 660**
Non-current liabilities	**51 990**	**48 269**	**44 929**	**49 295**	**51 699**	**68 627**	**63 018**	**55 937**	**55 034**	**55 034**	**55 034**	**55 034**	**55 034**	**55 034**	**55 034**
Provisions	1 075	1 108	1 358	1 564	2 883	3 101	2 610	2 289	2 289	2 289	2 289	2 289	2 289	2 289	2 289
Long-term bank loans	50 523	47 110	43 530	47 458	48 473	64 331	59 480	52 720	52 720	52 720	52 720	52 720	52 720	52 720	52 720
Deferred tax liabilities	65	52	41	35	31	956	928	928	25	25	25	25	25	25	25
Other accounts payables	327	0	0	238	0	239	0	0	0	0	0	0	0	0	0
Current liabilities	**62 997**	**68 183**	**76 942**	**75 507**	**85 993**	**99 326**	**64 952**	**61 825**	**59 460**	**59 503**	**62 232**	**60 403**	**59 963**	**60 114**	**60 330**
Trade accounts payable	12 229	14 555	16 664	14 090	18 133	26 429	16 318	20 319	19 972	19 958	22 248	20 704	19 917	19 658	19 907
Adiantamentos de clientes															
State and other public entities	3 224	3 469	4 092	3 897	4 543	6 612	3 356	3 656	1 638	1 695	2 134	1 849	2 196	2 606	2 572
Short-term loans	35 992	34 965	35 894	41 269	41 720	48 640	36 873	28 431	28 431	28 431	28 431	28 431	28 431	28 431	28 431
Other current liabilities	11 517	15 195	20 292	16 216	21 597	17 645	8 405	9 419	9 419	9 419	9 419	9 419	9 419	9 419	9 419
TOTAL LIABILITIES	**114 988**	**116 452**	**121 871**	**124 802**	**137 692**	**167 953**	**127 970**	**117 762**	**114 494**	**114 537**	**117 266**	**115 437**	**114 997**	**115 149**	**115 364**
TOTAL EQUITY AND LIABILITIES	**167 629**	**173 172**	**184 064**	**194 529**	**215 772**	**314 118**	**258 090**	**236 249**	**237 181**	**241 471**	**248 863**	**250 120**	**253 936**	**259 506**	**265 023**

Table 29: Balance Sheet Forecast; Source: Company Data and own calculations

13. Real Estate Segment Forecast

(€ M)	2012	2013	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F
Rents	**6 782**	**6 198**	**6 287**	**6 431**	**6 462**	**6 968**	**7 716**	**7 015**	**7 134**	**7 255**	**7 383**	**7 523**	**7 674**	**7 827**	**7 984**
								1,00%	*1,70%*	*1,70%*	*1,76%*	*1,90%*	*2,00%*	*2,00%*	*2,00%*
COGS	**-1 188**	**-817**	**-886**	**-954**	**-788**	**-690**	**-1 436**	**-1 082**	**-1 012**	**-1 054**	**-1 158**	**-1 125**	**-1 139**	**-1 174**	**-1 207**
% Profitability margin	*82,48%*	*86,82%*	*85,91%*	*85,16%*	*87,81%*	*90,09%*	*81,39%*	*84,58%*	*85,81%*	*85,47%*	*84,31%*	*85,04%*	*85,16%*	*85,00%*	*84,88%*
%Sales	*17,52%*	*13,18%*	*14,09%*	*14,84%*	*12,19%*	*9,91%*	*18,61%*	*15,42%*	*14,19%*	*14,53%*	*15,69%*	*14,96%*	*14,84%*	*15,00%*	*15,12%*
OPEX	**-519**	**-390**	**-445**	**-475**	**-410**	**-264**	**-486**	**-401**	**-408**	**-415**	**-422**	**-430**	**-439**	**-448**	**-457**
%of sales	*7,65%*	*6,30%*	*7,09%*	*7,38%*	*6,34%*	*3,78%*	*6,29%*	*5,72%*	*5,72%*	*5,72%*	*5,72%*	*5,72%*	*5,72%*	*5,72%*	*5,72%*
Staff costs	***-235***	***-181***	***-198***	***-203***	***-181***	***-158***	***-259***	***-209***	***-212***	***-216***	***-220***	***-224***	***-228***	***-233***	***-238***
Inflation rate								*1,00%*	*1,70%*	*1,70%*	*1,76%*	*1,90%*	*2,00%*	*2,00%*	*2,00%*
Other OPEX	**-310**	**-227**	**-274**	**-286**	**-281**	**-167**	**-317**	**-221**	**-250**	**-238**	**-259**	**-253**	**-262**	**-266**	**-273**
%of revenues	*4,6%*	*3,7%*	*4,4%*	*4,4%*	*4,3%*	*2,4%*	*4,1%*	*3,2%*	***3,5%***	***3,3%***	***3,5%***	***3,4%***	***3,4%***	***3,4%***	***3,4%***
Other Looses	-52	-38	-27	-24	-15	-13	-31	-8	-8	-8	-8	-8	-8	-8	-8
Other Gains	78	57	54	38	67	74	122	37	37	37	37	37	37	37	37

Table 30: Real Estate activity forecast; Source: Company Data and own calculations

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