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CFA Institute Research Challenge

Italy | Healthcare sector| Pharmaceutical Preparation Industry

Recordati

The international Pharmaceutical group

(in million €)	2016	2017E	2018E	2019E	2020E	2021E
Revenue	**1,154**	**1,250**	**1,407**	**1,520**	**1,609**	**1,687**
EBITDA	371.2	416.2	485.4	542.5	593.5	632.5
Margin	*32.17%*	*33.30%*	*34.50%*	*35.70%*	*36.90%*	*37.50%*
Net Income	237.4	266.4	313.7	253.1	388.8	415.6
Margin	*20.57%*	*21.32%*	*22.30%*	*16.65%*	*24.17%*	*24.64%*
EPS	1.14	1.27	1.50	1.69	1.86	1.99
FCFF	245.0	280.5	318.5	369.1	411.3	441.9

❖ **Recordati, the innovative group in a dynamic environment**

We initiate our coverage of Recordati (REC) stock with a BUY recommendation with a Target price of €34.84, implying a 16.52% upside. REC is an international pharmaceutical group based in Italy. Its business embraces two main sectors: pharmaceutical and rare disease. **In our opinion the market is underestimating REC's potentials because of:** a) the possibility to make future acquisitions, b) its strong growth in rare disease (EBIT Margin 44%), c) the strengthening of its position in existent markets and the likelihood of entering in new ones.

❖ **High-quality and innovative products**

REC, thanks to its sound cost management, presented strong margins (EBITDA 2016 of 32.17%) and returns (ROIC 2016 21%). REC has seen an increasing growth especially from 2011 to 2016 reaching €1.15bn revenues. **Partnership, M&A and License agreements helped the company to fill the gap caused by its small size.** As a matter of fact, the revenues were supported by different acquisitions, above all Orphan Europe and the recent acquisition of Italchimici Spa.

REC is expected to continue this escalation thanks to: a) the launch of new products in the Primary and Specialty care segments, b) strengthening the pipeline in Rare Disease, c) exploit all the market opportunities in the OTC.

❖ **Strong Financials despite the Risks**

Both **REC's policy** and **market trends** of the different segments let us **estimate a successful growth between 2017 and 2019.** Revenue will increase of 9% reaching €1.5bn in 2019, that is 9.5% above consensus. **EBITDA margin and EPS margin will respectively improve of 34% and 1.72% (6.1% and 15.8% above consensus).** REC shows a **strong FCFF generation** with an expected CAGR of 10.33% at 2021; sustaining dividend policy, a sound financial position and internal and external growth.

-**Geographical expansion risk:** emerging markets and struggling Governments (e.g. Turkey and Russia) may impact the M&A policy of REC.

-**Expiration of patents:** introduction of generic versions in the market will negatively impact on revenues.

-**R&D uncertainty:** probability of failure in developing pipeline products.

❖ **Valuation**

Our TP of €34.84 is based on a three stage DCF model supported by a Multiple Analysis and a Monte Carlo simulation that confirm our study. Furthermore, we have applied a 8% discount to the equity value of company –justified by family majority ownership of 51% - that decrease the TP value from €37.87 to €34.84. The DCF model allowed us to implement more precise forecasts on the different business lines of REC.

Krups WMS

Initial coverage|February 28th,2017

BUY

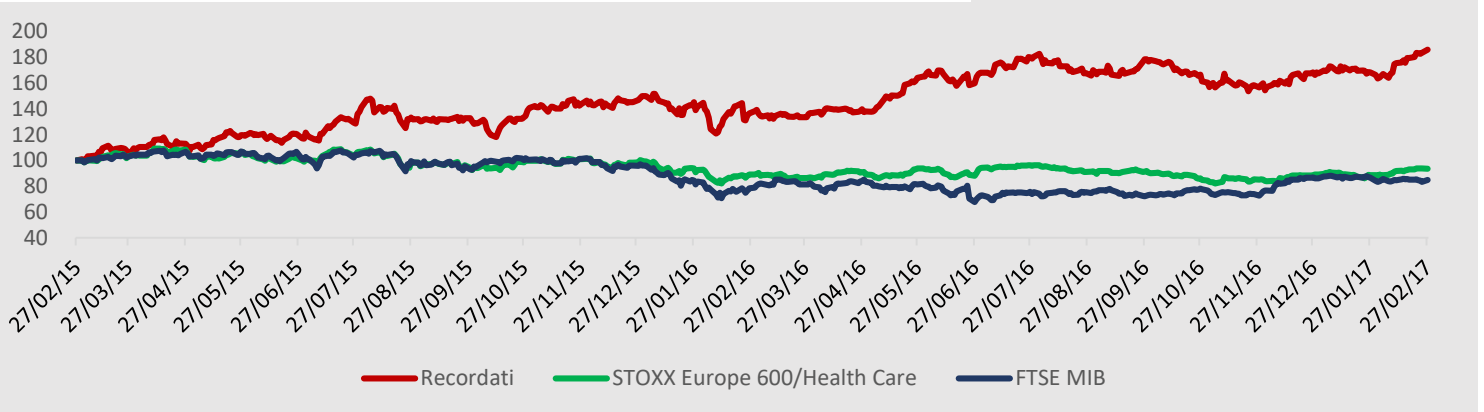
Price: €29.9
Target Price: €34.84
Upside: 16.52%

Listed on: Borsa Italiana
Tickers: - REC:IM(BBG)
- RECI.MI(TR)
- REC-IT(FS)

Market Data	
Main Shareholders	
Recordati Family	52%
Public, Other	25%
Institutional Ownership	21%
Treasury Stocks	2%
Market Cap (€ bn)	**6.253**
Tot. Enterprise Value	**6.436**
Shares outstanding	**209.1**
Free float	**46.10%**

Key Financials	2016	2017E	2018E
P/E	25.85	23.03	19.56
EPS	1.14	1.27	1.50
DPS	0.68	0.76	0.90
DIV Yield	2.28%	2.56%	3.01%
ROE	0.27	0.28	0.29
ROIC	0.21	0.21	0.23

Stock Data	
52-week range	€20.66 - €29.94
Average daily volume (3m)	446,169.3



Investment Summary

A profit opportunity for investors

We issue a BUY recommendation for REC with a one year forward **target price of €34.84**, representing a **16.52% upside** on current market price of **€29.9**. The Total Shareholder Return, accounting as well for the dividend yield, is 18.84%. We consider REC as undervalued since our expectations on future revenues are higher than consensus. We think that the major underestimation comes from the overlook of the **acquisition growth** typically neglected by the market, but implemented by REC as one of its pillar strategies. On the side of **organic growth**, the drivers are the launch of new drugs in the Primary and Specialty care segment and the strengthening of the position in the Rare Disease business. REC experienced in 2011-2015 a **6.57% CAGR** derived from organic and M&A growth, **outperforming the market** that showed a 4.6% CAGR.

A well diversified company

REC is a **multinational company**, active in ca. 120 countries through 25 subsidiaries. It operates in the **Pharmaceutical Preparation Industry** (Revenue 2015, € 857.5bn), included in the broader *Healthcare Sector*. The core business of REC is the commercialization of drugs in Primary and Specialty care, but it is also **well diversified** in the growing Rare Disease (€91.9bn) and Over-The-Counter (€117bn) Industries. A small portion of its revenues comes from the commercialization of Active Pharmaceutical Ingredients.
The main drivers of Primary and Specialty care (4.26% 6Y-CAGR) are **Cardiovascular** and **Urogenital** sectors that account for more than **26% of total revenues**, supported by the Industry's macro trend (e.g. aging of the population and social life changes). Within the **Rare Disease sector**, REC generated a **18% 6Y-CAGR**. Finally, the **OTC** segment showed a **16% CAGR** despite the negative growth of the overall industry.
The prevision for the future revenues accounted in our estimates leads to **a 6.53% CAGR** for the time-period **2016-2021**.

A global reality opened to the innovation: Future Plans

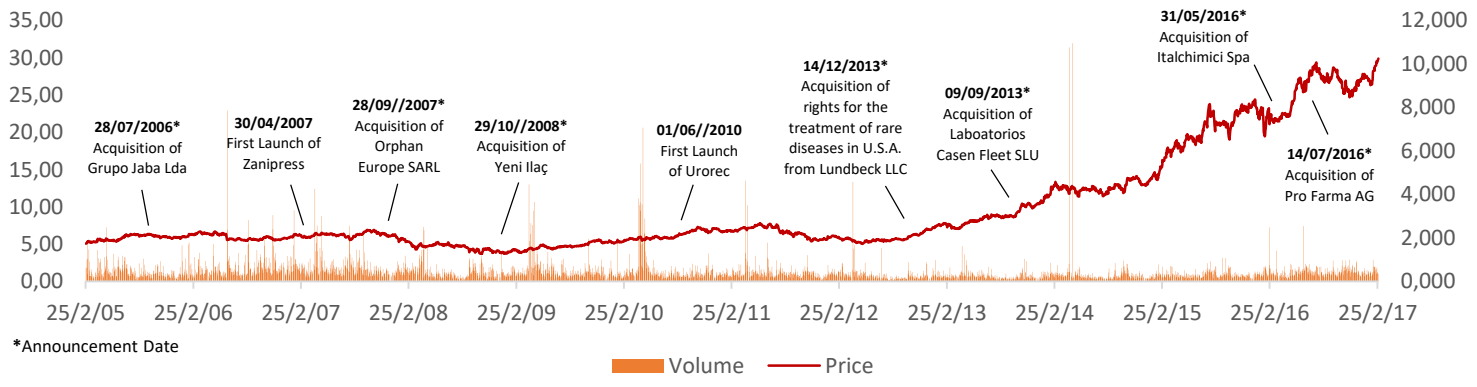
Geographical positioning: enhancement of actual positioning in the countries where REC already operates (especially France, Germany, Poland, and UK), without excluding any possible geographical expansion in new markets.
Development of portfolio through the launch of new drugs: the most imminent ones are Fortacin (Erectile dysfunction), Cistadrops (Rare disease for Cystinosis) and Cariprazine (Schizophrenia).
M&A, License agreements and Partnership: REC minimizes the high risks and costs of R&D in Primary Care by largely externalizing the process. The externalization is implemented through: the acquisition of other companies with already marketed products; the cooperation with specialized external R&D institute; and license agreements for products of other pharmaceutical companies.
Strengthening its pipeline, especially in the Rare Disease segment. The above-mentioned strategy is not pursued in the Rare Disease segments. Because of the higher incentives granted by the governments in the R&D for Rare Disease and high acquisition multiples, it is more convenient to develop the pipeline internally.
OTC segment: will grant additional diversification as a less regulated and higher margin response to the increased pressure of the traditional highly regulated market. REC strategically positions its OTC portfolio in high growth-potential markets, presenting a 16% 6Y CAGR mainly driven by the performance of Russian portfolio.

A small company that behaves like a big

The **strong stable growth** of REC (EPS 6Y CAGR=12%) is reached through its **efficient diversification in the business lines**, implemented successfully despite the smaller size compared to major, therefore structurally advantaged, companies.
The diversification assured **low volatility of past revenues** and support the **stability of the forecasted future growth** in our analysis.
Regarding the **Gross margin**, the diversification assures a **better product mix** in terms of COGS/Sales, since especially Rare Disease is a high margin and less regulatory restricted field. We expect an *increase in the margin* from 69% to 72% in 2021. The overall increase in size of the company also assures the **exploitation of economies of scale**, improving both *EBITDA* and *EBIT* margin around 5% between 2017 and 2021.
Finally, REC shows a **strong cash generation** with an expected **CAGR of 10.33% at 2021**, allowing REC to maintain and eventually improve its **strong dividend policy** (current dividend payout 60%) while sustaining both the organic and M&A growth.

A target price based on DCF Model

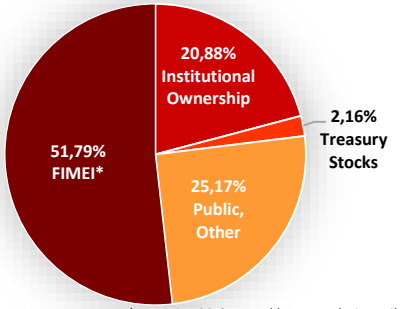
Our valuation is based on a **DCF model** that gives us a TP of 34.84. To be more specific, we adopted a **three-stage model** in which we have *detailed forecast* in the next 5 years, a *Fading* stage until 2029 and finally a *Terminal Value* in 2030 based on a Long-Term growth equal to weighted average GDP growth of the countries in which REC generates revenues (Growth=3.36%).
Our **WACC (8.76%)** is based on an **International CAPM approach** to consider all the countries in which REC operates.
The reason why we relied on the DCF model is that REC doesn't have perfectly matched peers to build up a precise and reliable *Multiple Valuation*, anyhow, to better assess our analysis, we analyzed both *P/E* and *EV/EBITDA* multiples.
Furtherly we performed a *DCF scenario simulation* and a *Monte Carlo valuation* based on a Geometric Brownian Motion.
The multiple analysis, DCF simulation and Monte Carlo valuation support our BUY recommendation.



Business Description

Exhibit 1

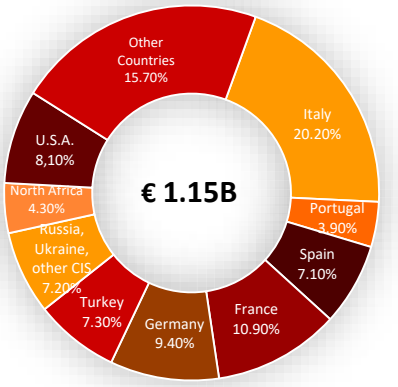
Shareholding Structure



*FIMEI is 100% owned by Recordati Family
Source: **Facset**

Exhibit 2

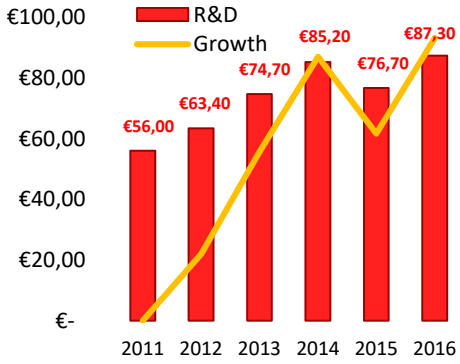
Geographical Sales Distribution



Source: **REC preliminary 2016 Results**

Exhibit 3

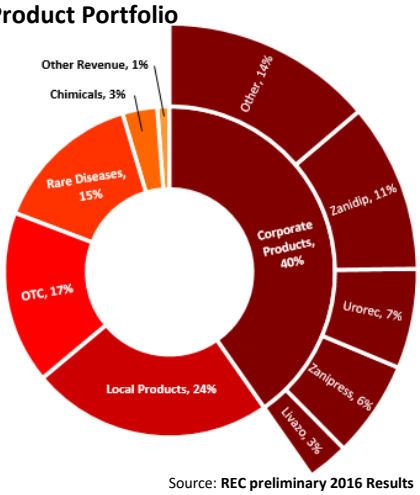
R&D expenses (in million)



Source: **REC Annual Statements**

Exhibit 4

Product Portfolio



Source: **REC preliminary 2016 Results**

Recordati (REC) is an international pharmaceutical group based in Italy. Established in 1926 by Recordati family in Correggio (Reggio Emilia), it moved to its actual headquarters in Milan in 1953. Listed on Borsa Italiana in 1984, now is the 21st company of FTSE MIB index with a Market Capitalization around €6.25B. Thanks to its main activities, consisting of manufacturing and sale of pharmaceutical and R&D, total revenue in 2016 were € 1.153B deriving from different countries (Exhibit 2).

Core Business

REC core business can be segmented into two business lines: 1. **Pharmaceutical** – which includes Primary and Specialty care with the sale of products under prescription and Over-The-Counter (OTC) 2. **Rare disease** – the development, production and sale of orphan drugs. In 2016 the pharmaceutical sector accounted for 79.4% of total revenues, while the rare disease for 16.2%. Despite the current lower contribution of the latter, REC keeps investing on it because they want to exploit the potential growth of this market and to improve the consciousness and enlarge the availability of treatments for people affected by rare diseases.

Strategies

REC develops its business through diversification: on one hand it operates in different therapeutic areas (Exhibit 4), on the other hand it reduces the risk of R&D - high in pharmaceutical industry - by enhancing and enlarging its product pipeline by acquisitions and partnerships.

- **Acquisitions** – the expansion through acquisitions is not just an extraordinary event, it is one of REC pillar started in 1999 with the takeover of Doms Adrian (France). REC has a prudence approach making deals only when profitable for its current business. Currently it has 44 subsidiaries in 14 countries (Appendix 1.6). Acquisitions are mostly made in the Primary and Specialty sector since it is a mature market with lower possibility of organic growth, while rare disease is a growing sector where the high acquisition multiples make the internal development more convenient. Nowadays, before aiming at new markets, REC is trying to strengthen is actual position by acquiring companies in countries where it already operates, to accelerate its revenue generation process.
- **License agreements** – making acquisitions in new countries not always is worth the risk because of the associated costs. In these cases, REC expands its market by selling license of its self-produced medicals. On the other hand, it also buys license to expand the volume of products in its channel distribution (e.g. it has deals with Japanese companies to sell their products in the European market) (Appendix 1.5).
- **Internal development of new products** – a minor portion of REC's revenue is allocated to R&D (Exhibit 3) to strengthen its product pipeline. (Appendix 2.1)

Moreover, REC strengthens its market position implementing the following strategies:

- **Co-market agreements** – REC allows other companies to sell its patent protected active ingredients with a different brand. For instance, the active ingredient *Pitavastatin* (used to compensate the level of cholesterol) was launched in Spain by REC's subsidiary España as *Livazo®*, but at the same time by the partner Esteve as *Alipza®*. Even though co-marketing revenues are less than those derived from licenses agreements, they increase REC's margins.
- **High-quality products aimed at customer loyalty** – REC's strategy consists of securing customer loyalty during the exclusivity period through high-quality, in order to retain them after patent expiration and introduction of generics.

Products in-depth

REC has a large portfolio of products (Exhibit 4) which can be grouped in these distinctive categories:

- **Corporate Products** – They represent ca. 39% of total revenue. Among the therapeutic areas, a focus is attributed to the Cardiovascular (CVD) and to the Urogenital fields. The higher revenue generating products are:

1) *Zanidip®* (Lercanidipine) is REC's principal drug, entirely discovered and produced by the company. It is an antihypertensive medicine used to prevent cardiovascular events. Even though Zanidip®'s patent expired in 2010, it currently generates 9.9% of revenues, proving that REC is fully capable to manage the post-exclusivity period.

2) *Zanipress®* (Lercanidipine + Enalapril) is a combined molecule antihypertensive drug produced by REC. Revenue represents 6%, with an expected decline given the expiration of its patent at end 2016.

3) *Urorec®* (Silodosin) is used to contrast benign prostatic hyperplasia. Obtained by REC through a license agreement with the Japanese company Kissei Pharmaceutical, it constitutes 7.4% of revenue and it is launched in 32 countries.

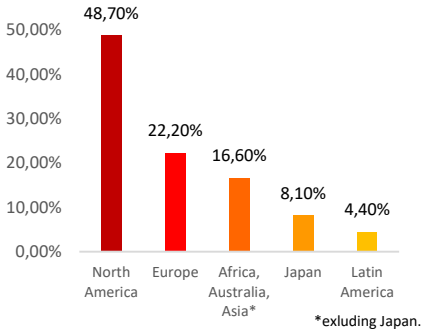
4) *Livazo®* (Pitavastatin) is indicated for the control of blood cholesterol levels. It is under license by Kowa, a Japanese company, and it contributes for 3% of revenue. Thanks to the success of the product in Spain, it has registered a significant growth in revenue during 2016.

- **Subsidiaries' local products** –In REC portfolio there are products that are only sold in specific country. Those come mainly from the products already present in the acquired companies' portfolio. For example, the French subsidiary Bouchara Recordati has the exclusivity of the use and sale of the Analgesic Methadone, while Recordati Pharma in Germany is more qualified in gastroenterology and orthopedic sectors. In total local products generates 23.60%.
- **OTC** – Over-The-Counter includes all pharmaceuticals that can be traded without any prescription. This segment includes, among the others: the Hexa line of products, which is indicated for seasonal disorders of the upper respiratory tract; Abufene®, a product for menopausal symptoms; Muvagyn® a topical product for gynecological use and Viririec®, a topical product for erectile dysfunction. OTC products' revenue accounts for 16.10% of the revenue.
- **Rare Disease** – Nowadays more than 7,000 rare diseases are known, but only about 300 have a valuable treatment. REC is trying to contribute in R&D of orphan drugs through its subsidiaries: Orphan Europe based in France and Recordati Rare Disease in USA. The segment produces 16.20% of total revenue. Its products are mainly focused on the treatment of metabolic disorders and rare cancers, the most important products are Panhematin®, Carbaglu® and Cosmegen®
- **Chemicals** – A small portion of the REC's portfolio is attributed to Active Pharmaceutical Ingredients (APIs), which are produced both for internal use and for external selling. REC is one of the most important producer of dimenhydrinate, papaverine, phenytoin and verapamil.

Industry Overview

Exhibit 5

World pharmaceutical sales distribution

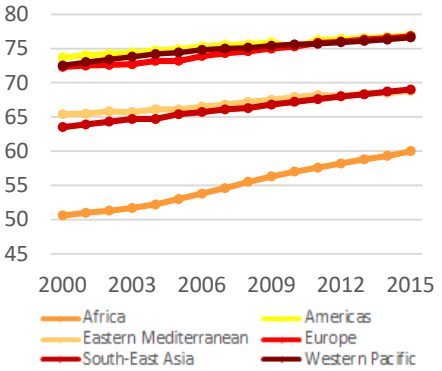


*exluding Japan.

Source: **IMS Health May 2016**

Exhibit 6

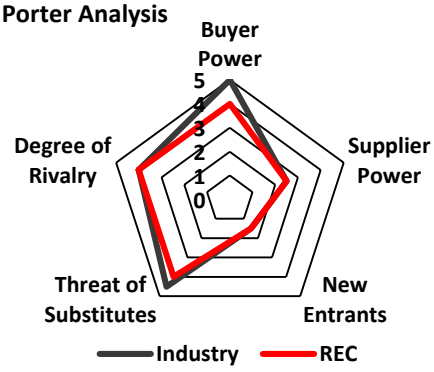
Life Expectancy



Source: **Life expectancy Data by WHO region June 2016**

Exhibit 7

Porter Analysis



Source: **Team Analysis**

Exhibit 8

Competitor Selection

Competitive Positioning							
	Primary/Sp. Care			R. Disease			
Company	UR	CD	GS	GM	ON	OTC	Chemicals
ACTELION				x	x		
ENDO	x	x					
GALENICA	x					x	
IPSEN	x		x	x	x	x	
MERCK		x				x	x
ORION		x			x	x	x
PERRIGO						x	x
ROVI	x	x				x	
SHIRE				x	x		
SOBI				x	x		

UR = Urology **CD** = Cardiology **ON** = Oncology
GS = Gastroenterology **GM** = Gastric/Metabolic

Source: **Company Websites**

REC belongs to the Pharmaceutical Industry (PI), which is included in the **Healthcare Sector**. Almost half of the worldwide sales, ca. €715,992bn at ex-factory prices, come from the North American Market with a 48.7% share (Exhibit 5).

Industry Features

The PI is **highly regulated** in order to guarantee the safest treatment to the patient and to incentivize the investments in R&D. Among the International regulatory bodies of the industry the most important are the FDA (Food and Drug Administration) in USA and the EMA (European Medicines Agency) in Europe which main responsibility is the approval of new drugs. **R&D covers an essential role in the industry** with a total amount spent in 2015 of $149.8bn (Appendix 2.2). To incentivize the R&D, the pharmaceutical regulators ensure a minimum period in which the developer of the new molecule has the exclusivity of its commercialization through a **Patent**. Once the Patent expires, new competitors can enter the market with the related generic version of the drug. For this reason, the PI was historically fragmented between companies specialized in the sale of patent protected drugs and companies specialized in generics. Another segmentation was for the sales of requiring-prescription drugs and OTC (self-medication) products. But, as a response to the increased competition and to the change of the disease incidence (from fatal to chronic or curable), this distinction has almost faded, demanding a mixed-production business model. **REC is one of the companies that owns a vast portfolio of product and competes with major companies, even if is relatively small.**

Competitive Drivers and Industry Trends

Social changes - Nowadays we are living in a global context where the demand for pharmaceuticals is likely to increase, due to different factors affecting people's health (i.e. the aging of population, a more sedentary lifestyle, rising of obesity levels and increase in chronic disease). These factors particularly affect REC since its main business relates to CVD and Urology.

Limited pricing power - Due to the slow economic growth and high public debt levels, Governments are limiting the spending addressed to public healthcare by setting maximum drug's price levels and lowering reimbursement share, therefore putting downward pressure on industry's pricing ability. This forces companies to compete through non-price means, such as by introducing different forms of the same drug (e.g. tablets, capsules, spray), addressing marketing directly to doctors, advertising through medical journals, and funding clinical studies.

Higher quality standard – Comparative effectiveness determinations and value-based pricing are starting to be mandated by some countries, insurers and hospitals. Such systems will force pharmaceutical companies to significantly adjust their business models by aiming at both regulatory approval and high product quality.

Decline in R&D profitability – It happened because of the saturation of the market which saw an exponential increase in the approved molecule in last 10-15y. Indeed, the actual rate of success declined to ca. 1/5000 (EvaluatePharma 2015), moreover for some approved products there is no profitable market. So, to substitute the revenue stream of older drugs that are approaching the expiration of their patent terms, companies now engage in M&A and license agreements.

Porter 5 forces

BUYER POWER – HIGH

The variety of substitutes among molecules that treat the same disease, and the addition of generics into the peer group used by regulators to set the limit price or reimbursement share, increase the buyer power; conversely the strong marketing activity directed to practitioners may influence the buyer's choices. REC enjoys a better position thanks to Rare Disease products.

SUPPLIER POWER - MODERATE

The industry presents both outsourced and internal production of APIs, making the overall supplier power moderate. Suppliers do not show product differentiation neither for laboratory equipment nor for chemicals. The internal APIs production of REC reduces its dependence upon suppliers.

NEW ENTRANTS – WEAK

Presence of national and international (EMA, FDA) regulators, strict legal framework, high quality standards required, elevate upfront cost in R&D and successive marketing costs, reduce the threat of new entrants. REC is in line with the industry.

THREAT OF SUBSTITUTES – STRONG

Traditional and homeopathic remedies present a little threat to the industry even though they are becoming slightly more popular among patients. Generics and biosimilars represent a cheaper alternative. REC is influenced less thanks to its portfolio of Orphan drugs.

DEGREE OF RIVALRY - HIGH

The pharmaceutical industry is dominated by several multinational corporations. REC is a small player, but with a highly diversified product and business portfolios, can decrease the exposure to big player's rivalry.

Competitive Positioning

REC operates in a **highly competitive environment** where are present both multinational very large cap firms, with highly diversified portfolios of drugs and specialization area (Primary and Specialty care, OTC, Generics, Diagnostic, Chemicals and Veterinary) and smaller companies, geographically diversified but focused only in some sub-segments. REC combines a **highly-diversified portfolio of products and business lines**, typical of the big companies, with the specialization in some distinctive disease areas, as the smallest companies do. This allows to **minimize the risk and maximizing the profit**. The structure of REC business model creates an environment where the **competition is product specific**. REC does not compete with other companies as a whole, on the contrary it faces the competition of the equivalent/similar products distributed in that geographic area by other companies. Accordingly, the chosen **competitors do not resemble perfectly the business model of REC**, instead are those multinational companies that are more interconnected with it in terms of disease area and present similar revenues, to ensure comparability. Exhibit 8 shows the intersection of the major business areas of REC with respect to its competitors. To the listed ones, in the group are included three **major partner of REC** that compete with it in the relevant sectors: UCB (Corifeo - Lercanidipine), Lundbeck (acquisition of portfolio of products indicated for the treatment of rare and other diseases) and Almirall (Cidine - Gastroprokinetic). The more similar company to REC is Ipsen, relatively small but highly diversified, other companies such as Merck have a similar business model but much higher revenues, while other such as Shire are more focused on single business line (Rare Disease).

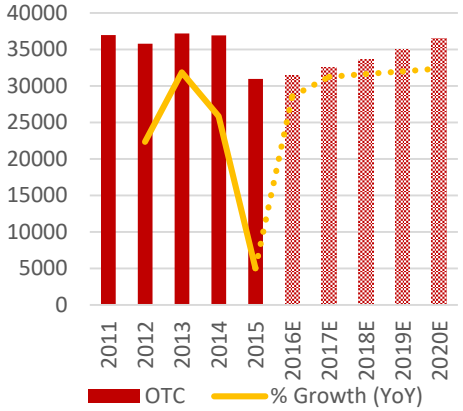
Competitors Ratio Analysis 2016 Q2 LTM													
	Revenue (in million €)	Revenue Growth	Operating Margin	EBITDA Margin	ROA	ROE	EV EBITDA	Quick Ratio	Leverage	Interest Coverage	R&D Revenue	Goodwill Tot.Assets	CapEx D&A
ACTELION	2,035.01	12.09%	32.71%	36.69%	30.19%	46.67%	20.61	1.99	0.00%	0.00%	20.99%	6.75%	0.73
ALMIRALL*	689.88	-9.79%	5.74%	17.04%	4.22%	7.66%	20.26	2.13	21.49%	27.43%	2.78%	15.95%	0.35
ENDO	3,336.74	22.92%	9.11%	32.34%	-0.35%	-0.95%	8.96	0.69	132.83%	0.74%	4.25%	41.35%	0.18
GALENICA	3,687.86	13.01%	8.35%	10.75%	9.51%	18.69%	18.94	1.28	40.75%	21.38%	2.44%	0.25%	3.39
IPSEN	1,493.80	10.65%	15.75%	17.70%	11.60%	19.51%	21.61	1.97	29.74%	116.40%	12.51%	31.20%	6.11
LUNDBECK	1,984.18	8.57%	30.63%	40.14%	-6.28%	-13.53%	8.61	0.73	36.46%	56.64%	17.38%	0.00%	2.26
MERCK	14,054.10	14.88%	17.15%	28.43%	4.15%	10.42%	13.08	0.55	104.30%	7.08%	12.79%	48.10%	0.50
ORION	1,035.80	2.71%	26.34%	30.15%	22.75%	43.46%	15.87	1.79	35.70%	52.46%	10.46%	1.44%	1.09
PERRIGO	5,248.11	17.45%	11.98%	27.72%	-0.46%	-0.88%	NA	1.02	64.75%	4.75%	3.11%	33.93%	NA
RECORDATI	**1,096.48**	**7.63%**	**28.08%**	**31.52%**	**14.31%**	**24.20%**	**16.62**	**1.25**	**34.12%**	**27.43%**	**0.70%**	**121.90%**	**0.91**
ROVI	253.61	4.37%	8.47%	12.96%	8.93%	14.48%	20.23	1.53	14.57%	13.77%	6.55%	NA	1.41
SHIRE	6,775.57	28.97%	30.26%	40.58%	2.65%	6.02%	28.57	0.56	80.73%	13.10%	21.69%	28.07%	0.33
SOBI	465.44	44.69%	20.32%	28.73%	6.45%	10.49%	21.94	1.21	9.61%	11.36%	13.71%	16.20%	0.51
UCB	3,978.00	13.53%	16.77%	22.67%	3.22%	6.57%	14.09	0.69	41.76%	6.60%	23.38%	49.65%	0.51

*Last Reported Quarter Q1

Source: **Rec Annual Statements, Team Analysis**

Exhibit 9

European OTC Sales (in bn €)



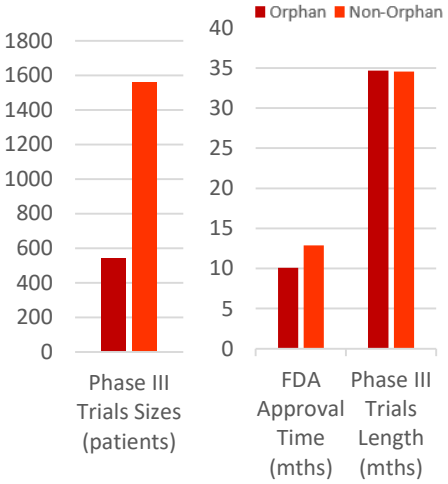
Source: **MarketLine**

Competitors Ratio Analysis

Among its competitors, REC is one of the biggest, more **profitable** (**4th Operating Margin, 5th EBITDA Margin**) and gives one of the highest return (**3rd in ROE and ROA**). It managed to reach these results even with one of the **lowest leverage** (REC 6th with 34% vs. ENDO 14th with 132%) and a high interest coverage (REC 4th), indicating that the leverage could be increased without jeopardizing the ability of pay the debt off, exploiting more the tax shield benefits. Given the high risk and cost that is involved in the internal R&D activity, REC is implementing its product portfolio by simultaneously engaging in internal research, partnerships with research institutions and drug-discovery companies, license agreements and bolt-on acquisition of companies with already marketed products. Coherently with its **minimization of risk** strategy, REC has a **minimum R&D on Net sales**, ranking lowest among competitors. Its current strategy grants the company **safer returns for lower initial investments** and a consistent market share, but at the same time it increases the probability of not producing innovative and competitive products. ROE and ROA show REC as a highly profitable business, while EV/EBITDA, a more standardized measure, ranks REC in the lower bound (REC 7th). However, it must be taken into account that EV/EBITDA is a market measure, and we consider REC's EV as undervalued, thereby causing the ratio to be underestimated. Moreover, EBITDA does not include the differences in leverage, giving an advantage to the companies with higher leverage. This potentially creates a bias in or competitors' group, since it includes companies with very different debt. REC positons **4th for Goodwill/Total Asset** while 7th for CapEx/D&A. This difference occurs because REC growth strategy is strongly based on acquisitions and much less on investments in organic growth, therefore the ratio that best fits REC business strategy is Goodwill/Total Asset. The high value of the ratio, along with the company policy of only making really-worthy acquisition, describes the company as highly valuable.

Exhibit 10

Orphan Drug Vs. Non-Orphan



Source: **EvaluatePharma® September 2015**

Focus on OTC

REC manufactures and sells OTC drugs in the Euro area through its subsidiaries. The **European OTC pharmaceuticals** market has seen fluctuating growth between 2011 and 2015 due to the economic crisis in some of the European countries and depreciating dollar, showing a negative **CAGR -4.3%**. Even though, the **market is expected to accelerate** and grow (MarketLine). The drivers that incentivize pharmaceutical companies to expand their business in the OTC market are: innovation; greater promotion of self-medication, frequently permitted to be marketed directly to the final consumer; less restriction in pricing, that allows pharma companies to charge higher margins; increased access through expanding channels of distribution; growing markets such as Poland and Russia, where REC acquired a portfolio of OTC products.

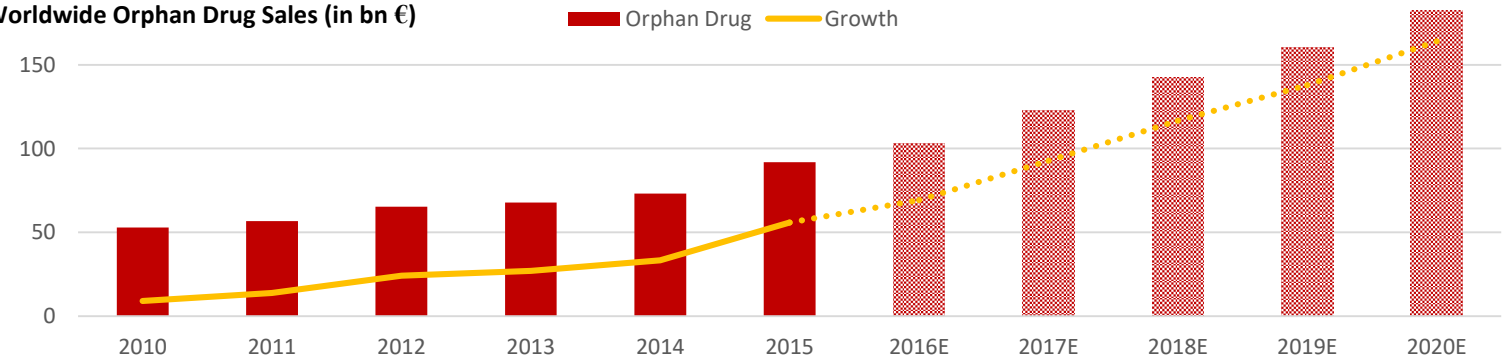
Focus on Rare Disease

he rare diseases industry, as already mentioned, deserve special attention due to its differences with respect to the standard pharmaceutical market. First of all, it is a **growing market** while PI is already a mature one. This attracted the biggest player that, by M&A strategy, are increasingly concentrating the industry. REC itself has also been engaged in acquisitions through the incorporation of Orphan Europe and the purchase of a portfolio of products in USA. The advantages of rare diseases with respect to PI are:

- **Higher growth potential and expected profit:** There are more than 7,000 known rare diseases, over 25 million affects people in Europe, but treatment exists only for 3%-4% of the disease and even less heal permanently the patients. This implies high potential for growth in volume and, given the lack of substitutes drugs, in margins.
- **Government Incentives:** In 1999 legislation was approved by the European Parliament granting 10 years of marketing exclusivity from approval. In 1983 the Orphan Drug Act was introduced in the USA granting 7 years of marketing exclusivity from approval (majority of orphan drugs have a compound patent beyond 7 years).
- **R&D incentives in US:** The Government grants a 50% Tax Credit on R&D Cost and subsidies for Phase I to Phase III Clinical Trials. Moreover, Phase III is less costly, requires less patient to be tested and the regulatory approval is usually received in a shorter time (exhibit 10). (EvaluatePharma 2015)

Exhibit 11

Worldwide Orphan Drug Sales (in bn €)



Financial Analysis

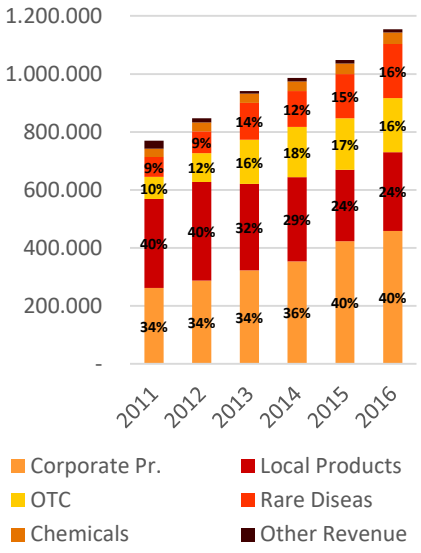
Selected Key Financials (€ in thousands)

	2011	2012	2013	2014	2015	2016	2017E	2018E	2019E	2020E	2021E
Revenue	**762,036**	**828,317**	**941,630**	**987,356**	**1,047,676**	**1,153,900**	**1,249,743**	**1,406,938**	**1,519,681**	**1,608,530**	**1,686,585**
Revenue Growth		*8.70%*	*13.68%*	*4.86%*	*6.11%*	*10.14%*	*8.31%*	*12.58%*	*8.01%*	*5.85%*	*4.85%*
Gross Profit	**502,059**	**534,760**	**614,301**	**660,302**	**712,466**	**793,000**	**862,323**	**984,856**	**1,071,375**	**1,142,056**	**1,205,908**
Gross Margin	*65.88%*	*64.56%*	*65.24%*	*66.88%*	*68.00%*	*68.72%*	*69.00%*	*70.00%*	*70.50%*	*71.00%*	*71.50%*
EBITDA	**187,777.0**	**191,264.1**	**230,121.1**	**273,830.1**	**317,017.1**	**371,200.0**	**416,164.4**	**485,393.5**	**542,526.0**	**593,547.5**	**632,469.4**
EBITDA Growth		*1.86%*	*20.32%*	*18.99%*	*15.77%*	*17.09%*	*12.11%*	*16.64%*	*11.77%*	*9.40%*	*6.56%*
EBITDA Margin	*24.64%*	*23.09%*	*24.44%*	*27.73%*	*30.26%*	*32.17%*	*33.30%*	*34.50%*	*35.70%*	*36.90%*	*37.50%*
Less: Depr. & Amortization	(24,300.0)	(24,700.0)	(34,700.0)	(42,800.0)	(38,500.0)	(43,800.0)	(49,624.2)	(55,601.3)	(60,064.4)	(63,578.0)	(66,667.5)
EBIT	**163,477.0**	**166,564.1**	**195,421.1**	**231,030.1**	**278,517.1**	**327,400.0**	**366,174.7**	**429,116.0**	**481,738.8**	**529,206.3**	**565,006.0**
Less: Taxes	(43,566.0)	(41,841.0)	(47,103.0)	(53,582.0)	(66,634.0)	(81,850.0)	(91,543.7)	(107,279.0)	(120,434.7)	(132,301.6)	(141,251.5)
NOPAT	**119,911.0**	**124,723.1**	**148,318.1**	**177,448.1**	**211,883.1**	**245,550.0**	**274,631.0**	**321,837.0**	**361,304.1**	**396,904.8**	**423,754.5**
Plus: Depr. & Amortization	24,300.0	24,700.0	34,700.0	42,800.0	38,500.0	43,800.0	49,989.7	56,277.5	60,787.2	64,341.2	67,463.4
Less: Changes in Working Capital	(16,182.0)	(33,384.0)	2,153.0	(14,522.0)	10,269.0	(21,244.8)	(19,168.6)	(31,439.0)	(22,548.6)	(17,769.9)	(15,611.0)
Less: Capital Expenditures	(9,647.0)	(13,322.0)	(12,325.0)	(22,231.0)	(31,239.0)	(23,078.0)	(24,994.9)	(28,138.8)	(30,393.6)	(32,170.6)	(33,731.7)
Un-Levered Free Cash Flow	**118,382.0**	**102,717.1**	**172,846.1**	**183,495.1**	**229,413.1**	**245,027.2**	**280,457.3**	**318,536.8**	**369,149.1**	**411,305.5**	**441,875.2**

Source: **Rec Annual Statements, Team Analysis**

Exhibit 12

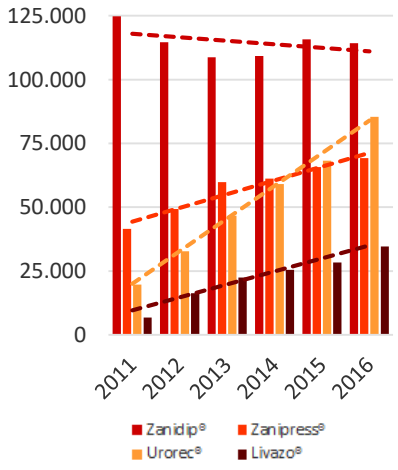
Historical Revenue (in thousands €)



Source: **REC Annual Statements**

Exhibit 13

Revenue of Core Products (in thousands €)



Source: **REC Annual Statements**

Increasing historical Revenue

During the period **2011-2016**, **revenue increased** from *0.762bn* to ***1.153bn*** with a ***7.16%* CAGR**. Most of revenue comes from Corporate products, followed by Local products and OTC (Exhibit 12, with Ref. Appendix 3.1). The positive trend highlights the **advantages of the product diversification**: despite the *16.10%* loss of Zanidip® in 2011 - due to its patent expiration in 2010 - and the consequent declining trend (totalizing a *-1.45%* 6y CAGR by the end of 2016) revenue increased in any case thanks to the success of other products such as Livazo® - introduced in 2011 - and Urorec® (Exhibit 13, with ref to appendix 3.2). During the period the CAGR has been *31.17%* and *27.64%* respectively. Moreover, the revenue **erosion due to the expiration of patents is also mitigated by the increasing share attributed to the Rare Disease segment** - from *9%* share in revenue in 2011 to *16%* in 2016 – which has a higher marginal return compared to the primary and specialty care. The total **CAGR of Rare Disease is *18.00%.***

Revenue forecast

We assume that REC will keep going in generating increasing revenue, basing our expectations on the following trends:

- **Revenue by geographic diversification** (Appendix 3.3) – the most growing countries are USA with a 6y CAGR of *60.82%*, and two emerging markets: Turkey, with a *19.42%* 6y CAGR, and North Africa, with a *17.76%* 5y CAGR. On the other hand, the two worst ones are Italy and France that registered *+1.48%* and *-1.32%* 6y CAGR respectively. They are the countries where REC has the highest percentage of revenue (in 2016, 20.60% of sales came from Italy and *10.30%* from France), warning that these markets are saturating.
- **GDP of single countries** (Appendix 3.4) - REC operates in countries where GDP growth rate is very different. Of all states, Turkey stands out with an expected 5y CAGR (2015-2020) of *8.07%*. Combined with the positive historical trend, we expect a significant increase in this market;
- **Industry expectations** (Appendix 3.5) - we collected information about the industry segments where REC operates finding that Global Pharma industry will grow at CAGR 5% (in line with historical CAGR), the rare disease one is expected to have a double-digit growth for next five years (while historical growth is slightly lower), finally, the OTC industry in Europe is expected to reverse its negative trend from a -4,3% 5Y historical CAGR to a 3,4% future 5Y CAGR.
- **Growth of single products** (Appendix 3.6) –

a) Pharma: making assumptions on most important products, we forecast a very slow growth rate of *Zanidip®* of *1%* for the next 2Y and then a zero-growth trend because the market has stabilized since when its patent expired in 2010*; Zanipress®*'s patent has expired in 2016, hence we expect a plunge in revenue in 2017 of *12%*. Thanks to the complexity of its formulation and its lower turnover, we assume a low initial competition from the generic version and a recover within 2020; regarding *Urorec®* we expect a decreasing growth rate for the following 2-4Y because of the market saturation (but still at *13%* in 2017), but then a reduction in 2021 due to the patent expiration; we foresee that *Livazo®* share should considerably increase because of its launch in Russia in 2016, followed by the launch in Turkey in 2017 scoring a *21%* growth and then *17%*. Afterward, the growth should stabilize and eventually drop in 2022 due to the patent-expiration; with respect to the local products of single countries, we assume an upward trend of *6%,* consistent with the industry; lastly, we expect a *17%* raise on other corporate products in 2018 because of the expected launch of Fortacin at the end of 2017, and an increase of *15%* in 2019 thanks to the expected launch of Cariprazina.

b) Rare disease: the historical growth has been high (6Y CAGR = *18.00%*) with a peak in 2013 because of the acquisition of products for the treatment of rare diseases in USA. We expect that the segment will continue at a constant *15%* growth rate in the next 3Y thanks to the latest approval of Cystadrops®. Other growth drivers are: the approval in France of the drug for Maple Syrup Urine Disease (MSUD), the expected sales of Graspa® for the Acute Lymphoblastic Leukemia (ALL) indication and the possible launch of a new production pipeline after 2019. Our expectations are strengthened by the industry growth forecasts that is expect to be at double-digit level for the next years.

c) OTC: revenue increased with a *16.01%* 6Y CAGR even though the OTC industry growth has been negative (*-16.20%* in 2015). We estimate that REC will exploit the industry turnover reacceleration that is expected for the following years (Appendix 3.1).

d) Chemicals: as in the past, we forecast a consistent outperformance of REC with respect to the industry (e.g. in 2015 REC chemical portfolio grown by *6.11%* while the industry only by *2.30%*).

Exhibit 14

Main Mergers & Acquisitions

Date	Geo	Company	Size of Deal (€mn)	Target EV/LTM
14/07/2016	Switz.	Pro Farma	14	1.6x
31/05/2016	Italy	Italchimici	130	2.8x
09/09/2013	Spain	Laboratorios Casen-Fleet	92	2x
24/07/2013	Tunisia	Opalia Pharma	31	2x
02/08/2012	Poland	Farma-Projekt	16	1.5x
04/07/2011	Turkey	Frik Ilac Sanayi & Ticaret	93	2.2x
19/01/2009	Czech Rep.	Herbacos-Bofarma sro	18	1.6x
29/10/2008	Turkey	Yeni Ilac	42	2.8x
28/09/2007	France	Orphan europe sarl	140	3.4x
28/07/2006	Portugal	Jaba Farmaceutica sa	46	1.2x
26/04/2000	France	Bouchara Recordati sas	111	*

*no data

Source: **FactSet, Company website**

Exhibit 15

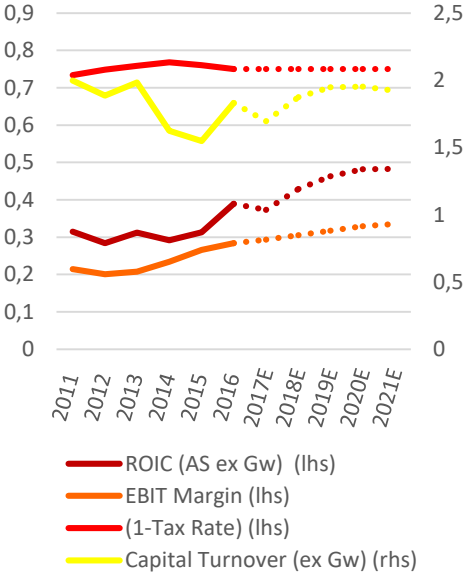
Product Development Pipeline

Name	Status
Carbaglu®	New formulations for hyperammonaemia; Phase III in USA for an additional indication, and potential approval in 2017.
Cystadrops®	Approved in EU.
Graspa®	Filed in EU for ALL indication, sales expected within next 3y. Phase IIb for a more profitable indication (AML).
REC 0438	Phase I/II in EU.
Methadone	Currently sold in France as a therapy for drug dependence. Filed Phase IIIb for treatment to alleviate cancer related pain.
Cariprazine	Expected approval in half 2017
Fortacin™	Variation of EU Approval
Vitaros®	Approved by a number of health authorities in EU
Citrafleet®	MA variation approved in EU

Source: **REC Website**

Exhibit 16

DuPont Analysis (ROIC decomposition)



Source: **Team Analysis**

M&A

We expect REC to follow its **M&A pillar strategy**, thereby pursuing the growth of the company by **bolt-on acquisition** year by year. This strategy allows REC to strengthen its position in existent markets, and to expand both in new geographical and clinical areas. In the forecast we considered the **increase in revenue** granted by the new companies acquired for each purchase. Specifically, we assumed an **Acquisition Multiple** equal to *Cost of acquisition to Total Revenue* of **3x**, as announced by the management as target multiple. This is even more conservative than the historical multiples paid by REC in previous acquisitions (exhibit 14). We assumed an acquisition of ca. 150m at year (except for 2017) entirely financed by cash. We forecast a cash generation (after all expenses, internal investments and dividend) higher than the amount spent on acquisition, assuring a **stable cash level**.

Un-levered Free Cash Flows

Thanks to its growing in size, we estimate that REC will continue to benefit from the **economies of scale** (Appendix 3.7). Following the past trend, we expect: the margin on revenues of COGS, Selling expenses and G&A expenses will continuously decrease from 2017 starting at *31%, 26%* and *5.20%* respectively. This is mainly due to the improvement in the **product mix** that come from the increase in Rare Disease revenues (44% EBIT Margin) and the launch of new products that will be patent protected. On the other hand, we assume a fixed rate of ***8%* devoted to R&D**, especially in the rare disease area.

D&A are estimated using a fixed 4% percentage on revenue (decomposed in 1% for Depreciation and 3% for Amortization). The **change in Working Capital (WC)** has been estimated by multiplying the change in revenue ($Rev_t - Rev_{t-1}$) by a fixed rate of *-20%* (considering that the historical average has been *-15.80%*, we adjusted the rate to *-20%* for a more conservative estimation).

Capital Expenditure (**CapEx**) are forecasted using a fixed rate of *2%* on revenue (historical average = *1.88%*).

Generally, over the considered period (2011-2016), REC generated more than €100m un-levered free cash flow each year, signaling a relying cash flow generation ability. Given all our assumption we foresee that REC will succeed in carrying on its growth and its earning generation.

In the forecast, we assumed a **constant exchange rate**. Even though the FX rate may fluctuate, REC would mainly be affected by the Translational effect. REC did experience little Transactional effect thanks to its business model, that allows the company to have both expenses and revenues in the same currencies. Due to this peculiarity and the broad geographical positioning, we expect that the FX changes will compensate each other.

Relevant Ratio Analysis

The slow but constant **increase in ROE and ROA** indicate a **stable growth in profitability**, that is giving higher and higher return to shareholder, and the ability of the management in directing company's operations.

Net profit margin and EBITDA margin is also indicative of the **increased operational efficiency** of the company. More specifically Net Profit Margin is expected to increase from 21% to 25% in the time-period 2016-2021.

Another good proxy of profitability of the operation is the **Return on Invested Capital** (ex Goodwill). It increased from 31% to 38% in the last 6 years and it is expected to furtherly increase to 48% until 2021. As shown in Exhibit 16 the main source of this increase comes from the improvement in EBIT margin for the past and from both EBIT margin and Capital Turnover for the future. It is important to clarify that also the ROIC (with Gw) increased from 16% to 21% showing that the management has been always able to **exploit the M&A opportunity without overpaying the target companies**.

REC has also managed to increase its **Quick Ratio** over time, demonstrating to be able to manage efficiently short term liabilities and the overall working capital, showing the company ability in improve its **financial health** and to sustain a cost-effective operating business model.

The **high interest coverage ratio** and the low leverage low level of debt grants a solid base for possible future increase in leverage, that could benefit the company in terms of availability of cash for acquisitions and marketing (especially OTC), and in terms of increased tax shield benefits.

However due to the **strong cash generation** and the conservative approach in the leverage historically showed by REC management, we forecasted a stable level of Debt hence a decreasing Net Financial position.

Ratio Analysis

	2011	2012	2013	2014	2015	2016	2017E	2018E	2019E	2020E	2021E
Profitability Analysis											
Net Profit Margin	15%	14%	14%	16%	19%	21%	21%	22%	23%	24%	25%
ROIC (R. on Asset Side ex Gw)	31%	28%	31%	29%	31%	39%	37%	43%	46%	48%	48%
ROIC (R. on Asset Side w/Gw)	16%	15%	16%	17%	19%	21%	21%	23%	24%	24%	23%
Return on Assets (ROA)	12%	11%	11%	12%	14%	16%	16%	18%	18%	18%	18%
Return on Equity (ROE)	21%	19%	20%	22%	25%	27%	28%	29%	29%	29%	27%
Liquidity Analysis											
Quick Rratio	1.12	0.74	0.68	1.22	1.48	1.14	1.44	1.30	1.27	1.32	1.39
Credit Analysis											
Net Debt / EBITDA	0.31	0.81	1.12	0.68	0.32	0.54	0.28	0.28	0.24	0.17	0.09
Interest Coverage Ratio	29.24	22.80	18.20	13.56	22.27	30.13	33.70	39.49	44.33	48.70	51.99

Source: **Team Analysis**

Valuation

Exhibit 17

DCF Valuation: Stage I (in million €)	2017E	2018E	2019E	2020E	2021E
Revenue	**1,250**	**1,407**	**1,520**	**1,609**	**1,687**
Growth	*8.31%*	*12.58%*	*8.01%*	*5.85%*	*4.85%*
NOPAT	**274.63**	**321.84**	**361.3**	**396.9**	**423.75**
+ D&A	49.99	56.278	60.787	64.341	67.463
- ΔWC	-19.17	-31.439	-22.55	-17.77	-15.61
- CapEx	-24.99	-28.139	-30.39	-32.17	-33.73
FCFF	**280.46**	**318.54**	**369.15**	**411.31**	**441.88**
WACC	8.76%	8.76%	8.76%	8.76%	8.76%
Discount Rate	1	1.0876	1.1828	1.2864	1.3991
Discounted DCF	**280.46**	**292.89**	**312.09**	**319.73**	**315.84**

Source: **Team Analysis**

Exhibit 18

WACC calculation	
Risk Free	2.92%
Market Premium	7.64%
Adj. Beta	0.7901
CAPM	**8.96%**
Mkt Value of Debt (in m €)	183
Mkt Value of Equity (in m €)	6,253
D / (D+E)	**2.84%**
E / (D+E)	**97.16%**
Tax Rate	25%
Adj. Debt Rate	2.50%
WACC	**8.76%**

Source: **Team Analysis**

Exhibit 19

Peers Multiple Analysis	Last Annual P/E	Fwd P/E 2017	3y EPS growth (16-19)	Fwd PEG	Beta Raw*
SHIRE	13.96x	12.15x	0.52	0.23	1.04
IPSEN	27.23x	22.56x	0.71	0.32	0.69
SOBI	40.23x	28.76x	2.06	0.14	0.83
MERCK	16.46x	15.93x	0.19	0.85	0.92
ORION	26.87x	28.68x	0.02	12.48	0.77
PERRIGO	12.18x	12.01x	0.16	0.77	0.73
ROVI	29.06x	29.06x	0.98	0.30	0.67
GALENICA	27.98x	41.47x	0.36	1.15	0.71
ACTELION	33.79x	34.39x	0.41	0.84	1.06
Mean	*25.31x*	*25.00x*	*0.60*	*1.90*	*0.82*
Median	*27.23x*	*28.68x*	*0.41*	*0.77*	*0.77*
RECORDATI	**26.34x**	**23.46x**	**0.49**	**0.48**	**0.61**
Discount	*(3.29%)*	*(18.19%)*	*0.085*	*(37.75%)*	*0.085*

*** MSCI World** Source: **Team Estimates, Facset**

Exhibit 20

EV/EBITDA	2017	2018	Profit Margin	Rev. Growth
SHIRE	11.00	9.30	*32.52%*	*7.64%*
IPSEN	14.30	11.60	*16.69%*	*112.20%*
SOBI	16.90	10.80	*22.58%*	*21.57%*
MERCK	11.90	10.90	*18.57%*	*2.84%*
ORION	19.90	18.90	*21.11%*	*4.64%*
PERRIGO	10.09	9.80	*19.62%*	*3.69%*
ROVI	18.50	14.80	*10.43%*	*6.67%*
GALENICA	18.40	14.30	*4.85%*	*5.52%*
ACTELION	30.00	25.00	*33.33%*	*9.15%*
Mean	*16.78*	*13.93*	*19.97%*	*19.32%*
Median	*16.90*	*11.60*	*19.62%*	*6.67%*
RECORDATI	**15.40**	**13.27**	**30.00%**	**12.58%**
Discount	*(8.86%)*	*14.38%*		

Source: FactSet, Team estimates

Our TP one year ahead is **34.84€** (upside of 16.52%) resulting from a DCF model. We based the **DCF on an asset-side perspective,** estimated the Free Cash Flow to the Firm (FCFF) and subtracted the value of Debt from the Enterprise Value. Moreover, we performed a *Multiple analysis* and a *Monte Carlo simulation* to check whether our price based on the DCF model would have been supported by other methods of valuation. The results that we have found are coherent throughout all valuation models.

DCF VALUATION

We adopted a **Three Stage Model**. It allowed us to divide the *first five years*, in which we made precise forecast on the business line of REC, from the second-time period. In the latter we made assumption directly on FCFF of the company since we didn't have detailed information for the time period beyond 2021. Note also that the First Stage goes 2 years beyond the business plan that REC management just disclosed.

- **First stage**: it comprehends the 5y period from 2017 to 2021. In this stage we computed analytically the FCFF line by line since we had the possibility to make precise and reliable assumptions. The detailed forecast for this stage have been already explained in the financial analysis and it is based on:

a) historical growth of REC, Industry and GDP;

b) forecasted growth of Industry and GDP, combined with REC future opportunities that derive from launch of new product and development of product in the pipeline.

- **Second stage**: In this stage, we assumed a decreasing growth directly on FCFF. The growth is decreasing until 2029. This helped us not to overestimate the Terminal Value. We started from a 7.9% growth of 2021 and we ended up with a growth of 3.8% in 2029.
- **Terminal Value:** it starts in 2030 and has been calculated with a perpetuity formula on a going concern assumption. The **long-term growth rate assumed (3.36%)** is a weighted average of growth rates of the GDP (IMF estimates) in the countries in which REC operates, based on the percentage of 2016 sales divided per geography area.

For the main countries we took the relative forecasted growth, for the other European countries in which REC has a smaller presence we used the Euro-zone growth and for the other international sales we used the International GDP.

Weighted Average Cost of Capital

1. Risk free– It is the average of the 10 years Government bond yields of the different countries where REC operates. The average has been weighted taking into account the percentage of REC sales as we did for the estimation of terminal growth. As before, we considered the Eurozone benchmark for the remaining EU countries while we considered the global adjusted default spread (by Damodaran) for the remaining international sales.

2. Market Premium - Our base has been the Total Market Premium as estimated by Damodaran at January 2017. We used a weighted average on REC percentage revenue in each geographic area.

3. Beta – It has been estimated by regressing REC return on MSCI World Index return to be consistent with the international approach used also in the risk free and market premium computation. We performed different regressions on different time periods and we finally selected the regression based on weekly data on a 2 year period. We do not follow a bottom up approach since the R^2 of the regression of the peers is relatively low, making the approach less reliable than the regression itself because we have not precise peers companies which may reflect REC business model.

4. Tax rate – To be consistent we used the Tax rate of 25% assumed in the forecast analysis.

5. Leverage – We used the actual leverage of REC since the management has always been prudent by not increasing it to higher levels.

6. Cost of Debt – We started from a 1.9% (source Bloomberg) and we adjusted it upward to 2.5% in order to be more conservative

DCF value & Family ownership Discount

After all the computations, we applied a 8% discount to the equity value of the company since it is owned by the REC family for 51%. The TP without this discount would have been **37.86€** while our TP is **34.84€.**

Sensitivity analysis

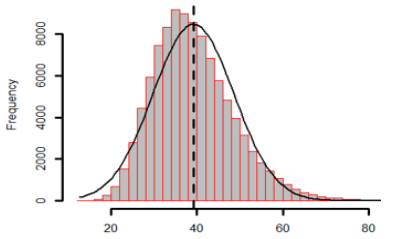
Since the most relevant variables that may affect the DCF valuation are WACC and long term growth rate, we performed a sensitivity analysis on our model by changing the values for both of them. The results relative to the different target prices are shown below in the following table. The price spans from a minimum level of €29.78 up to a maximum level of €42.66. The most likely change instead goes from €32.93 to €37.04.

PRICE		Long-Term Growth						
		2.76%	2.96%	3.16%	**3.36%**	3.56%	3.76%	3.96%
WACC	8.16%	36.80	37.59	38.44	39.36	40.37	41.46	42.66
	8.36%	35.42	36.13	36.90	37.73	38.63	39.61	40.68
	8.56%	34.13	34.78	35.48	36.23	37.04	37.92	38.87
	8.76%	32.93	33.53	34.16	**34.84**	35.57	36.36	37.22
	8.96%	31.81	32.35	32.93	33.55	34.21	34.93	35.70
	9.16%	30.77	31.26	31.79	32.35	32.96	33.60	34.30
	9.36%	29.78	30.24	30.72	31.23	31.78	32.37	33.01

Source: **Team Analysis**

Exhibit 21

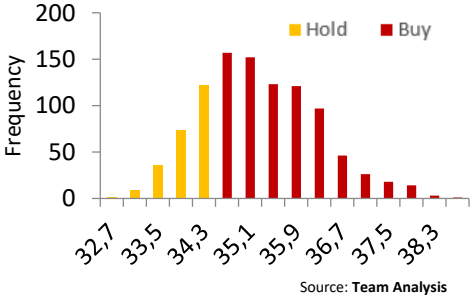
Monte Carlo Simulation



Source: **Team Analysis**

Exhibit 22

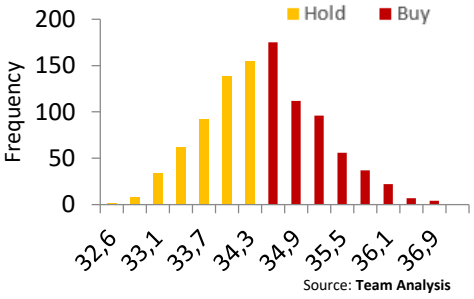
DCF Simulation on Rare Disease



Source: **Team Analysis**

Exhibit 23

DCF Simulation on OTC



Source: **Team Analysis**

Market based Valuation

Peers Selection - The peers have been selected starting from the broad category of pharmaceuticals firms and reducing this group onto the base of the real comparability with REC according to business model and product portfolio, size, geographic area, growth etc.

We ended up with the Peers shown in Exhibit 19. It is important to say that, given its particular business segmentation, REC is similar to the biggest multinational pharmaceutical companies but the comparison with them may be misleading due to the huge difference in capitalization and revenue. Differences in multiples value may also arise from different growth opportunity: high for REC which is a relatively small company, but low for big pharma companies that already are in their maturity phase.

Multiples: We selected one Price Multiple and one Fundamental Multiple. The selected multiples are: P/E since earning power is the most relevant driver of investment value and EV/EBITDA in order to account for different level of leverage between peers' companies. We used a forward approach on both multiples, since our valuation and investment decisions are based on the future results rather than on the past ones.

- **P/E –** The Trailing Twelve Months (TTM) P/E of REC is slightly lower than the median of the peer group (3.3% discount). Looking at the forward *P/E for FY2017*, we look undervalued by 18%, moreover looking at the Forward P/E growth (PEG) we trade at a discount of 38%. Finally, accounting also for the riskiness we noticed that we have a raw beta which is 0.15 lower than the median.
- **EV/EBITDA –** The 2017 EV/EBITDA of REC is 15.46, below the median benchmark value of the peers by 8%, while the peer's median *EV/EBITDA of 2018* sets REC at a 14% premium. However, if we look at the growth and profit margin, that are both above the median, we can easily find an explanation for this apparent overvaluation.

Monte Carlo Simulation

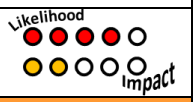
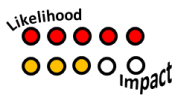
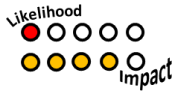
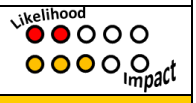
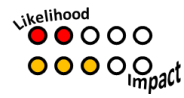
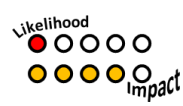
We performed a Monte Carlo simulation with 100,000 observations in order to assess whether the price resulting from DCF is supported by another type of valuation method. We considered the **Geometric Brownian Motion** as the base stochastic process since it showed the best results in testing for model selection criteria. The Drift -equal to **27%-** has been found by taking the average of 20 days log-return and summing it to the squared standard deviation divided by 2. The volatility -equal to **23.7%**- is based on 20 days rolling historical volatility of last year. The price that we have found is **39.17** (with a lower bound of 39.11 and an upper bound of 39.23) and it is even higher than our DCF valuation. This supports our BUY recommendation. (Exhibit 21)

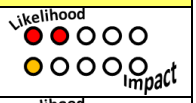
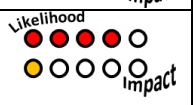
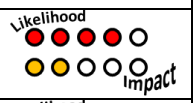
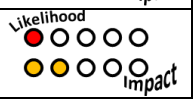
DCF Scenario Simulation

The higher uncertainty was about the growth rates of Rare Diseases and OTC segment, so we performed a scenario simulation, changing the growth rate of this two business lines.

For the Rare Disease scenario simulation, we ended up with a Mean Price equal to **35.05** and a range between **32.63** and **38.54** (Exhibit 22)**.** For the OTC scenario simulation, we ended up with a Mean Price equal to **34.33** and a range between **32.58** and **36.83** (Exhibit 23)**.** This allow us to be confident in our assumptions of TP equal to **34.84.**

Investment Risk

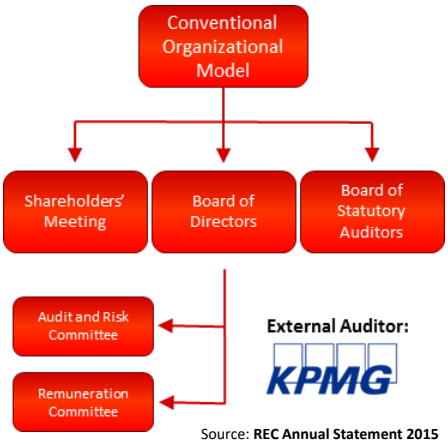
Strategic Risks		
Geographical expansion [S1]	It is one of REC pillar strategy but it also embeds different risks such as political, economical, regulatory, fiscal and currency risks. These come especially from emerging markets and struggling Government such as in Turkey and in Russia. The geographical expansion also entails a higher complexity in managing operations in decentralized areas. **Mitigation:** before any acquisition, REC carefully assesses the risk-benefit tradeoff. Moreover, REC has established a management system based on the creation of a central units with the scope of coordinating the operations in each local area.	
Investments in R&D [S2]	R&D will not always produce the desired results: the research could fail, the product could not get the authorization, or the pricing and reimbursement not being satisfactory. **Mitigation**: REC reduces R&D risks by engaging in license agreements, so that it acquires trading-rights on drugs that have already passed the R&D procedures.	
Operational Risks		
Expiration of patents [O1]	When a patent expires, REC is subject to the competition from the generic version of the product, thus to a reduction in revenues. **Mitigation**: REC mitigates this problem by diversifying its product portfolio with the purpose of avoiding a strong dependency on few drugs. Moreover, it is able to compete against the generic arrival by securing customer loyalty during the exclusivity period and by reducing the price of the drugs after the expiration in order to keep the sales volume high.	
Interruption of the production process [O2]	The continuity of REC activity could be threatened by severe not expected events (e.g. natural disaster, malfunctioning of equipment or plant, interruption of the activity of a supplier). **Mitigation:** REC has both an asset protection and an "all risk property" policies to cover itself from direct and indirect damages (e.g. loss on profits because of accidents).	
Entrance of new competitors [O3]	REC can be threatened by the entrance of new competitors, especially from emerging markets with low costs and high growth potential (e.g. Chinese and Indian). **Mitigation:** the geographical and product diversification reduces the threat of new entrance.	
Regulatory Risks		
Government public spending on healthcare [R1]	Regulation can strongly affect the pharmaceutical sector, both at national and international level. On one hand the national healthcare provides a reimbursement of products subject to medical prescription (granting a protection against macro-trends) but on the other hand the amount is associated to the public spending attributed to healthcare. **Mitigation:** the best response to minimize Government's impact is geographical diversification. Thanks to it, it is unlikely that all the countries where REC operates faces a national issue at the same time.	
Compliance with different technical standards [R2]	**a)** the Good Manufacturing Practices (GMP) defines the suitability of the APIs and of the medicinal specialties; **b)** the Pharmacovigilance regulation aims at assuring drug safety, with particular regard to side effects; **c)** chemicals and pharmaceutical production must be in compliance with health, safety and environment rules and regulations. **Mitigation**: REC has a dedicated unit specialized in the collection of the information required to comply with the rules of these authority. Moreover, it also continuously monitors if tasks are respected. Up to now REC has passed all controls. If a norm is not respected, in the most serious cases, the authorization to sale a product can be revoked.	

Financial Risks		
Credit Risk [F1]	The credit risk is associated to the losses of not compliant counterparties. **Mitigation:** REC mitigates this risk by applying a credit limit to each customer.	
Interest Rate Risk [F2]	The interest rate risk is connected with the different monetary policy and market stability of each country. **Mitigation:** REC's debt is very low to be strongly affected by this risk. Moreover, it mitigates it by raising debts using fixed interest rates loans; if it is necessary to raise debts with variable interest rates, REC uses derivative financial instruments to minimize the associated fluctuations.	
Foreign Currency Risk [F3]	The side effect of geographical diversification is the stronger effect of fluctuations of foreign exchange rates. **Mitigation:** the transactional risk is limited because the majority of sales and costs are denominated in the same currency. Small variations could be possible due to the translational process.	
Liquidity Risk [F4]	It is the risk of not being able to meet the debt obligation when they come due without incurring in substantial losses. **Mitigation** The very low debt, with no perspective of excessive future growth (max 1/EBITDA), and the strong free cash flow generation protect REC from this risk.	

Corporate Governance

Exhibit 24

Governance Structure



Source: **REC Annual Statement 2015**

Exhibit 25

TOP Management

Alberto Recordati	**Chairman**
Andrea Recordati	**Vice Chairman and CEO**
Fritz Squindo	**Managing Director and CFO**
Luca Bolliger	**VP and Director Corporate Licensing**
Corrado Castellucci	**VP and Director Orphan Drugs**
Gabriele Finzi	**VP and Director Corporate Development**
Daria Ghidoni	**VP and Director Corporate Legal Affairs**
Antoine Grouès	**VP and Director International Licensees Sales**
Giuseppe Gualazzini	**VP Group Human Resources**
Luisa Mainoli	**VP and Director Group Finance**
Giovanni Minora	**Director Corporate Auditing**
Diego Provvedini	**VP and Director Research and Development**
Paolo Romagnoli	**Director Pharmaceutical Chemicals**
Marianne Tatschke	**Director Investor Relations & Corporate Communications**
Roberto Teruzzi	**Executive VP of Group Industrial Operations**

Source: **REC Annual Statement 2015**

REC Corporate Governance's purpose is to align the objective of both the management and shareholders. The goal is to create value for the shareholders without impacting the operational ability of the overall firm. The Governance structure reflects the Italian *conventional organizational model* formed by the following bodies (Exhibit 24):

- **Shareholders' Meeting** – has the duty to appoint the members of the BoD and the BoSA.
- **Board of Directors** (BoD) – is formed by 8 members (Refer to Appendix 6.1) and it has administrative powers. Among the members there are two females to ensure the gender balance (at least one fifth) and 5 independent directors to guarantee the protection of minority shareholders' interests. Furthermore, to improve the decision-making power, the BoD has formed two committees among its members:
  - **Audit and Risk Committee** with proposal-making functions;
  - **Remuneration Committee** with consultative functions.
- **Board of Statutory Auditors** (BoSA) – has supervisory powers.

According to this model, the accounting control is delegated to an **external firm of auditor** (currently KPMG).

Remuneration Policy

It is approved firstly by the BoD -on the basis of a recommendation made by the Remuneration committee- and secondly it is subjected to a non-binding vote by the Shareholders' Meeting. To all directors it is recognized a minimum fee plus an extra amount for non-executive ones who occupy the position of chairman on those committees. Non-executive directors neither obtain further remunerations nor receive the benefits of the Stock Option Plans. The Chairman, the CEO and the Vice Chairman may receive an additional fee. Moreover, the Executive Directors do not only receive a fixed salary but also a short term variable remuneration based on Management by Objective (MBO) scheme, with a medium-long term variable component of remuneration, based on Stock Option Plans (Appendix 6.2).

The percentage of the fixed remuneration varies from year to year and it takes into consideration the other two main components: 1) the *short-term variable remuneration:* it is a bonus subjected to the achievement of annual results that are measured according to parameters set in advance. The MBO scheme main goal is to link the individual interests with the shareholders' ones, thereby pursuing the long-term benefits of the Company. The maximum bonus is the 30% (40% for the Chairman and the CEO) of Gross Annual Salary (GAS); 2) the *medium to long-term variable remuneration*: it is based on the grant of stock option rights. The number of options allowed is subjected to the role occupied in the organization and the condition of exercise is the achievement of a performance objective. Furthermore, it is included an extra performance clause under a one-off basis, with a maximum of 100% of GAS if there are performance meaningfully higher respect to the parameters set for the previous remunerations.

Social responsibility

On December 2002 the BoD approved the *Recordati Ethics Code* (EC) applied to the whole REC Group, including all subsidiaries, either directly or indirectly controlled. The EC states the values of the company and all the rights, duties and responsibilities of all workers in compliance with the Codes of Conduct. More detailed, it specifies:

- the type of behavior each individual should comply with (e.g. the avoidance of conflict of interests, the protection of information and the prohibition of insider trading);
- the conduct of relationship with third parties, which must follow high-ethical standards in order to promote a good image and good faith of the Group;
- the protection of the values the company believes in (i.e. environment, the use of industrial and intellectual property rights and copyright, the compliance of the Anti-trust legislation to foster a fair competition).

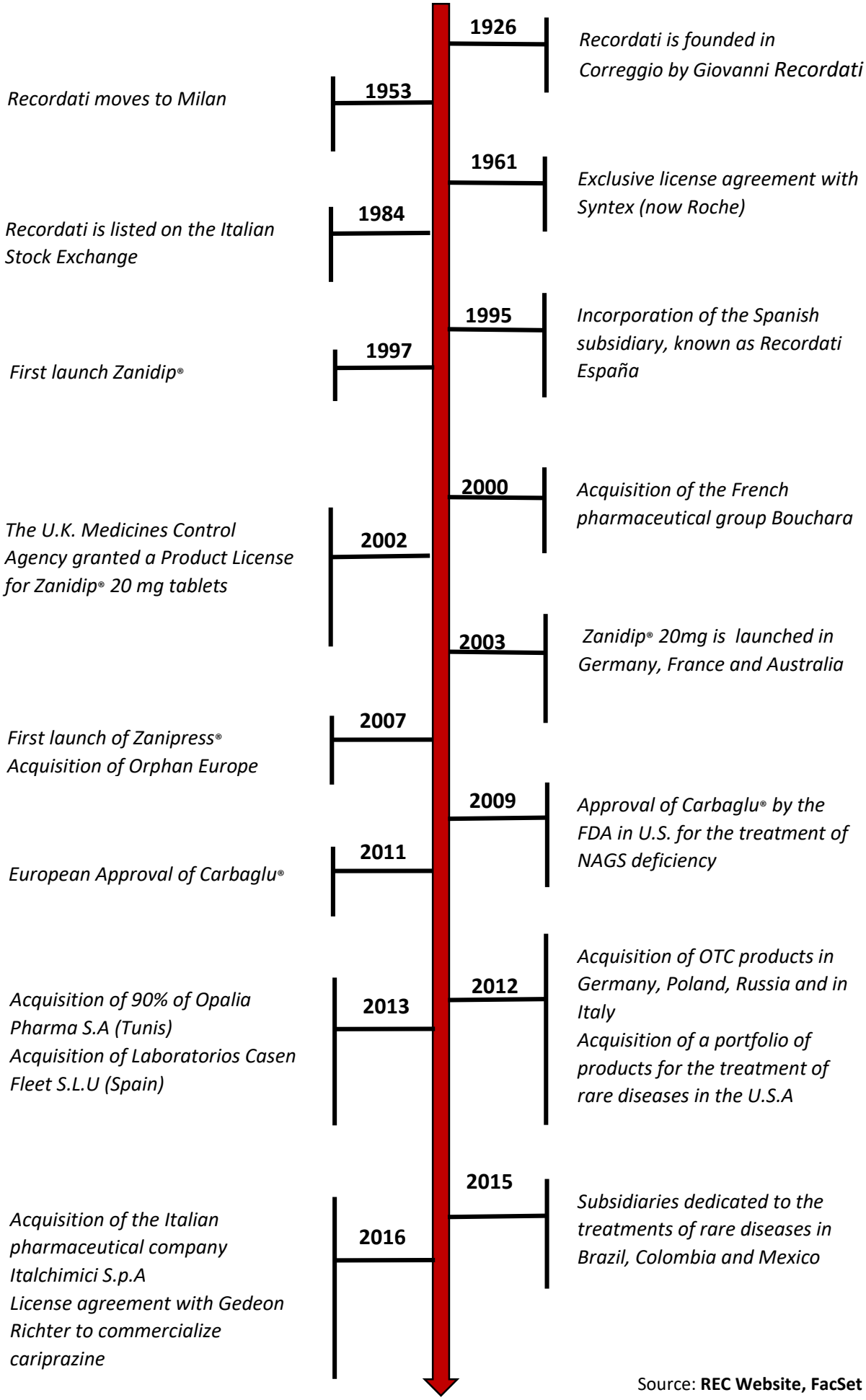
Commitment to Research

The creation of social value and the enhancement of the welfare of its patients is an important objective for REC. In order to achieve it, REC promotes research and established:

- *The Arrigo Recordati International Prize for scientific research* – is an award founded in 2000 in memory of Arrigo Recordati who managed the Company from 1951 to 1999. The prize is assigned every two years and it consists in €100K awarded to a distinguished scientist who achieved big results in the cardiovascular disease field.
- *Recordati Rare Diseases Foundation d'entreprise* – it was founded in 2000 to offer education and training to healthcare professionals in the rare disease field. They will have the chance to improve their skills in seeking accurate diagnosis of rare diseases and care of patients.
- *National Organization for Rare Disease Disorder (NORD) Corporate award*: founded in 1983 by Abbey Meyers, NORD is an American non-profit organization committed to the identification, treatment, and cure of rare disorders. In 2011 Orphan Europe was awarded for making Carbaglu® (carglumic acid) tablets available in the U.S. for the treatment of a condition known as NAGS deficiency.

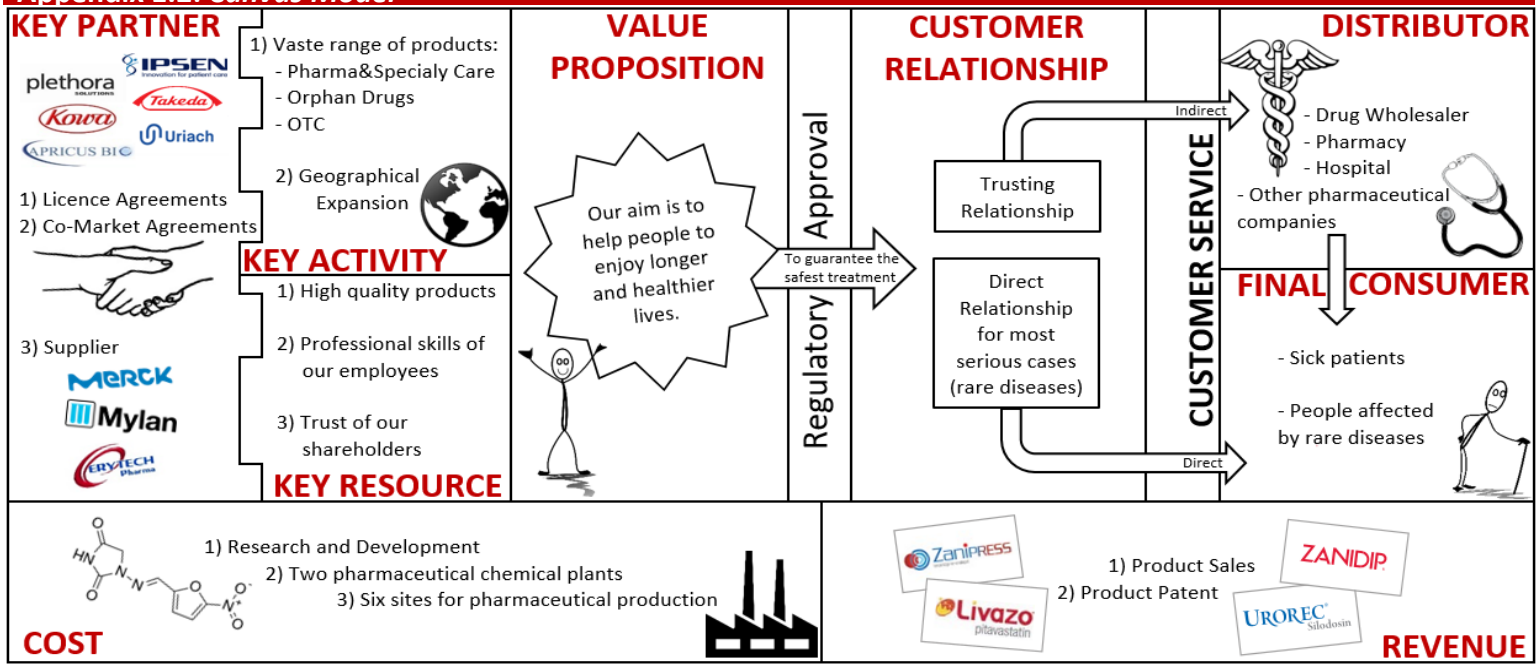
List of Appendix

Appendix 1.1: *History*



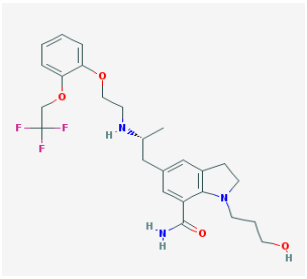
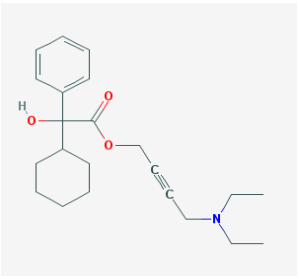
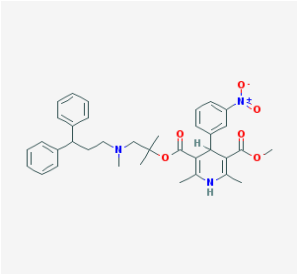
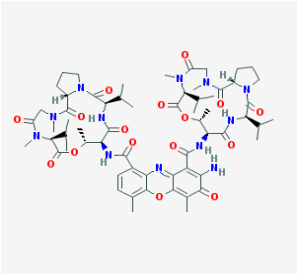
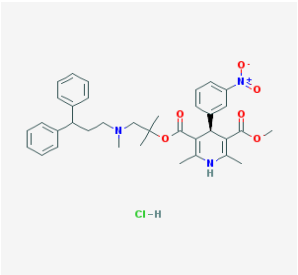
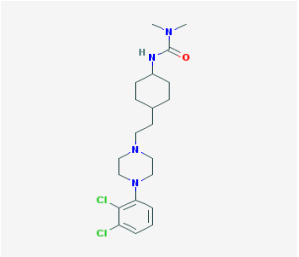
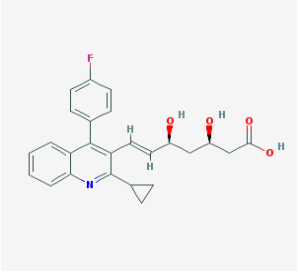
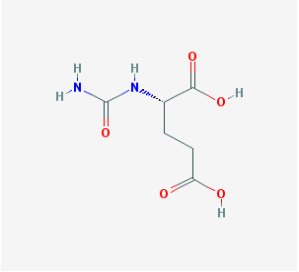
Source: **REC Website, FacSet**

Appendix 1.2: *Canvas Model*



Source: **Team Analysis**

Appendix 1.3: *Main Active Ingredients*

Active Ingredient / Trademark & Description	Structure		Active Ingredient/Trademark & Description
Silodosin / Urorec $C_{25}H_{32}F_3N_3O_4$ Urorec belongs to the group of medicine called αlpha1-adrenoceptor. Urorec is used to treat the symptoms of benign prostatic hyperplasia			**Oxybutynin / Kentera** $C_{22}H_{31}NO_3$ Kentera is a drug for the treatment of the urge incontinence (i.e., the sudden lack of urination control), the increase of urinary frequency and urinary urgency (i.e., the need to urinate frequently) in adults with overactive bladder (i.e., the sudden contraction of bladder muscles).
Lercanidipine / Zanidip $C_{36}H_{41}N_3O_6$ Zanidip is a calcium channel blocker of the dinydropyridine class. It is used alone or with an angiotensin-converting enzyme inhibitor to treat hypertionsion, chronic stable angina pectoris and Prinzmetal's variant angina. Moreover Lercanidipine is similar to other peripheral vasodilators.			**Dactinomycin / Cosmegen** $C_{62}H_{86}N_{12}O_{16}$ This medicine is used in order to treat different types of cancer that can affect kidneys, bones, muscles, uterus and testicles. Dactinomycin is a compound composed of a two cyclic peptides attached to a phenoxanize which is derived from streptomyces parvallus.
Lercanidipine Hydrochloride / Zanedip $C_{36}H_{42}CIN_3O_6$ Zanedip is a lercanidipine hydrochloride that belongs to the group of dihydropyridine derivatives which reduces prussure of blood. Indeed, this medicine is used in order to treat the high blood pressure, also known as hypertension.			**Cariprazina / Reagila®** $C_{36}H_{42}CIN_3O_6$ Cariprizine is an antipsychotic drug developed by Gedeon Richter and marketed by Recordati under the trade name Reagila. It acts as a D2 and D3 receptor partial agonist, with high selectivity towards the D3 receptor. This drug is indicated in the treatmen of schizophrenia and bipolar disorder.
Pitavastatin / Livazo $C_{25}H_{24}FNO_4$ Livazo contains an active principle called pitavastatin and it is used as cholesterol lowering agent.			**Carglumic Acid / Carbaglu** $C_6H_{10}N_2O_5$ Carbaglu is an orphan designed for the treatment of a rare inherited disorder known as NAGS deficiency that leads to high blood ammonia levels (also known as hyperammonemia).

Appendix 1.4: *Main Treatments for Rare Diseases in REC portfolio*

Orphan Drug		Use
Normosang® / Panhematin® (USA)	Human Hemin	Treatment of acute attacks of hepatic porphyria
Carbaglu®	Carglumic Acid	Treatment of hyperammonemia due to N-acetylglutamate synthase deficiency (NAGS deficiency) and some organic acidaemias (isovaleric acidaemia, methylmalonic acidaemia and propionic acidaemia)
Cosmegen®	Dactinomycin	Treatment of three rare cancers
Pedea® / NeoProfen® (USA)	Ibuprofene iv	Treatment of patent ductus arteriosus (PDA)
Cystadane®	Betaine Anhydrous	Treatment of homocystinuria
Cystagon®	Cysteamine Bitartrate	Treatment of nephropathic cystinosis
Adagen®	Pegademase Bovine	Enzyme replacement therapy for the treatment of severe combined immunodeficiency disease associated with adenosine deaminase deficiency (SCID-ADA)
Vedrop®	Tocofersolan	Treatment or prevention of vitamin E deficiency in pediatric patients and adolescents suffering from congenital or hereditary chronic cholestasis
Wilzin®	Zinc Acetate	Treatment of Wilson's disease
Cystadrops®	Cysteamine Chlorhydrate	Submitted for approval for the treatment of ocular manifestations of cystinosis

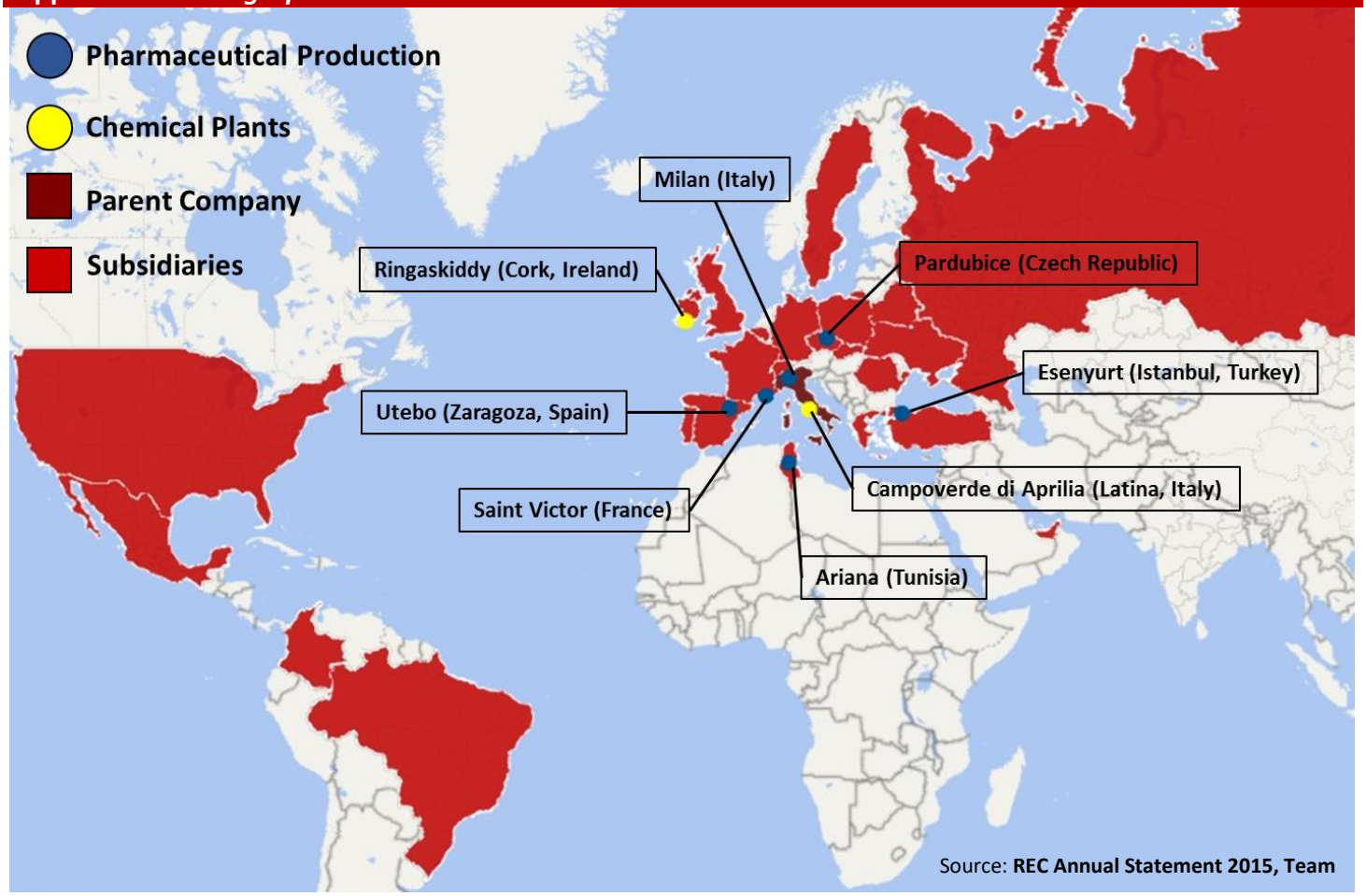
Source: **REC Annual Statement 2015**

Appendix 1.5: *Partnerships*

Licensor	Trademark	Active Ingredient	Rights for
Actavis	Kentera®	Oxybutynin TDS	29 European countries
Almirall	Cidine®	Cinitapride	Spain
AMCo Amdipharm Mercury	TransAct®LAT	Flurbiprofene LAT	Italy, Portugal
APRICUS BIO	Vitaros®	Alprostadil	Spain, Ireland, Portugal, Greece, Eastern Europe, CIS, Ukraine, Turkey, some African countries
IPSEN Innovation for patient care	Tenstaten®	Cicletanine	France
KISSEI	Urorec®/Silodyx®/Silosin®	Silodosin	Europe and Others
Kowa	Livazo®/Alipza®	Pitavastatin	Europe (exc. UK, Germany)
MERCK	Cardicor®	Bisoprolol	Italy
MSD	Isocef®	Ceftibuten	Italy
ucb Pharma	Alprostar®	PGE 1 Alpha	Italy
plethora SOLUTIONS	Fortacin™	Licodaine + Prilocaine	Europe, Russia, CIS, Turkey, North Africa
ROTTAPHARM | MADAUS	Dematrans®/Epinitril®	Nitroglicerine TDS	Spain, France
Takeda	Peptazol®	Pantoprazole	Italy
Uriach	Wystamm®/Rupafin®	Rupatadine	France, Germany, Italy
Zambon	Silodyx®	Silodosin	France
Gedeon Richter	Reagila®	Cariprazine	Western Europe, Algeria, Tunisia and Turkey

Source: **REC Website**

Appendix 1.6: *Geographical Distribution*



Appendix 1.7: *Main Events*

Date	Event	Geographic	Price Change After the Event	Price Change After 2 Trading Days	Price change After 1 Trading Week
*17/01/2005	Acquisition of Merckle GmbH	Germany	4.70%	4.10%	**5.20%**
06/04/2005	Annual report 2004	Italy	-2.50%	-1.80%	0.00%
06/04/2006	Annual report 2005	Italy	0.80%	-1.10%	-0.60%
*28/07/2006	Acquisition of Grupo Jaba Lda	Portugal	0.70%	-0.50%	-1.70%
11/04/2007	Annual report 2006	Italy	-0.50%	2.60%	**4.00%**
30/04/2007	First Launch of Zanipress	Germany	0.00%	0.20%	**4.70%**
*28/09/2007	Acquisition of Orphan Europe SARL	France	0.45%	0.30%	1.80%
*07/03/2008	Acquisition of FIC Medical SA	France	-3.90%	0.40%	-3.70%
11/04/2008	Annual report 2007	Italy	-1.90%	-1.50%	-1.00%
*29/10/2008	Acquisition of Yeni Ilaç	Turkey	1.90%	-1.10%	**16.60%**
*19/01/2009	Acquisition of Herbacos-Bofarma s.r.o	Czech Republic	1.90%	0.00%	1.10%
07/04/2009	Annual report 2008	Italy	1.60%	2.80%	3.50%
18/03/2010	Approvation of Carbaglu by FDA	United States	0.70%	0.70%	1.10%
13/04/2010	Annual report 2009	Italy	3.20%	2.80%	**5.30%**
01/06/2010	The first launch of Urorec	Germany	1.70%	3.70%	2.80%
*08/06/2010	Acquisition of ArtMed SRL	Romania	1.50%	2.20%	2.40%
15/09/2010	Approvation of Livazo by MHRA	Europe	0.20%	-0.80%	0.50%
13/04/2011	Annual report 2010	Italy	-0.30%	0.30%	-0.30%
*01/07/2011	Acquisition of Dr. F. Frik Ilac Sanayi ve Tic. AS	Turkey	0.50%	1.20%	-0.40%
19/04/2012	Annual report 2011	Italy	1.50%	-3.00%	-1.90%
*02/08/2012	Acquisition of Farma-Projekt Sp zoo	Poland	2.10%	3.40%	1.10%
*14/12/2012	Acquisition of all rights concerning a portfolio of products for the treatment of rare diseases and other diseases marketed in U.S.A from Lundbeck LLC	United States	1.90%	2.50%	1.00%
17/04/2013	Annual report 2012	Italy	2.20%	0.90%	2.70%
*24/07/2013	Recordati SpA takes a majority stake in Opalia Pharma Sa in two tranches (67%+23%)	Tunisia	2.00%	3.80%	2.70%
*09/09/2013	Acquisition of Laboratorios Casen Fleet SLU from C.B Fleet Co Inc	Spain	0.10%	1.80%	0.00%
17/04/2014	Annual report 2013	Italy	0.00%	0.00%	3.30%
15/04/2015	Annual report 2014	Italy	-2.00%	-4.00%	-2.40%
13/04/2016	Annual report 2015	Italy	-0.40%	-0.20%	-0.90%
*31/05/2016	**Acquisition of Italchimici Spa**	Italy	1.70%	2.40%	2.80%
*14/07/2016	**Acquisition of Pro Farma AG**	Switzerland	0.80%	0.30%	**4.10%**

*Announcement

Source: **REC Website, FacSet**

Appendix 2.1: *New Product Pipeline*

National drug legislation generally includes provisions relating to the manufacturing, importing, distribution, marketing, prescribing, labeling, dispensing, and sometimes pricing of pharmaceutical products, as well as the licensing, inspection, and control of personnel and facilities. A regulatory authority is usually established for administrative control, to ensure that products meet the criteria of efficacy, safety, and quality. (WHO Guidelines) The EMA (EU) relies on the results of clinical trials (ca.61% sponsored by the pharma industry and 39% by academia) to reach its opinions on the authorization of medicines. EMA cooperates with Member State in the authorization of clinical trials, to ensure the compliance and application of the standards of good clinical practice across all European Economic Area. EMA is also involved in Horizon 2020, the biggest ever EU research and innovation funding program (2014 to 2020). The FDA(USA) Office of Orphan Products Development (OOPD) evaluates scientific and clinical data submissions from sponsors, and cooperates with them, for the approval of Orphan Drugs. It also provides incentives that enabled the development and marketing of more than 575 drugs and biologic products for rare diseases since 1983.

Name (description and originator)	**Originator**	**Rare Diseases – Development Status**				
		2011	**2012**	**2013**	**2014**	**2015**
Carbaglu® (organic Acidemias OA)	RECORDATI	Approved in EU Phase III in USA				Sale authorized in Canada
Carbaglu® (Hyperammonaemia)	RECORDATI	-				New Formulations for intravenously administration.
Normosang® (Hepatic porphyria)	RECORDATI	Approved in EU Pre-registration in USA	Approved in EU Approved in USA under the name Panhematin®			
Cystadrops® (Ocular Cystinosis)	RECORDATI	Phase II	Phase III	Pre-Registration in EU		Filed in EU
Graspa® (Acute Lymphoblastic Leukemia ALL)	ERYTECH Pharma	-	Phase III Agreement for exclusivity	Phase II/III	Pre-filing in EU	Filed in EU
Graspa® (Acute Myeloid Leukemia AML)	ERYTECH Pharma	-	Phase II/III Agreement for exclusivity	Phase II b		

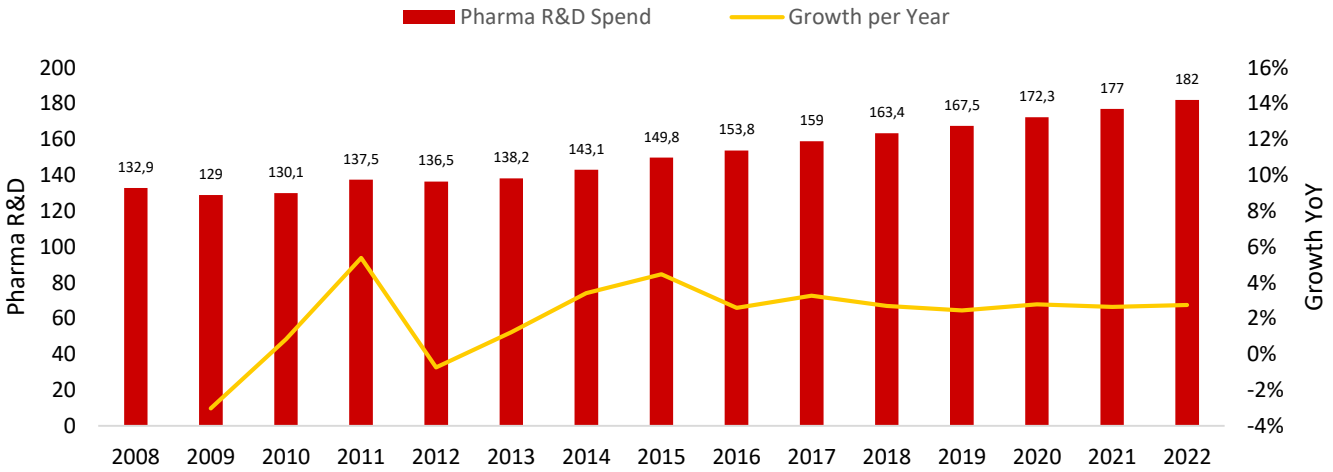
Name (description and originator)	**Originator**	**Pharmaceuticals – Development Status**				
		2011	**2012**	**2013**	**2014**	**2015**
REC 0482 (Benign prostatic hyperplasia BPH)	NYMOX	Phase III in USA Phase III in EU Exclusivity since 2010 in EU, RUS, CIS, Middle East, South Africa, Maghreb area of North Africa			Interruption due to non-significant results of phase III	-
Zanipress® (Hypertension)	RECORDATI	Pre-Registration of the new Fixed combination of Lercanidipine + Enalapril	Filed in EU		Approved in EU	
Methadone (Cancer-related pain)		-	Phase III b			Filed in France
Citafleet® (Bowel-cleanser)	CASEN RECORDATI	-		Phase III (*preparation for colonoscopy in patients at risk of intestinal polyps)		Marketing Authorization variation approved in EU
Vitaros® (Erectile dysfunction)	APRICUS BIO	-				Approved by a number of health authorities in EU
Fortacin™ (Premature Ejaculation)	plethora SOLUTIONS	-				Variation of EU approval completed
REC 0438 (Overactive Bladder OAB with patents with spinal lesions)	RECORDATI & UFPeptides	Phase I in EU				Phase II in EU
REC 0422 (Overactive bladder and Incontinence)	RECORDATI	Phase II	Not continued	-		
REC 1819 (Overactive bladder and Incontinence)	RECORDATI	Phase I			Interruption due to not satisfactory results	-

Source: **REC Annual Statements**

Appendix 2.2: *R&D Expenses*

Global Pharmaceutical R&D (in billion $)															
Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Pharma R&D Spend	132.9	129	130.1	137.5	136.5	138.2	143.1	149.8	153.8	159	163.4	167.5	172.3	177	182
Growth per Year		3.02%	0.85%	5.38%	0.73%	1.23%	3.42%	4.47%	2.60%	3.27%	2.69%	2.45%	2.79%	2.66%	2.75%

Source: **EvaluatePharma August 2016**

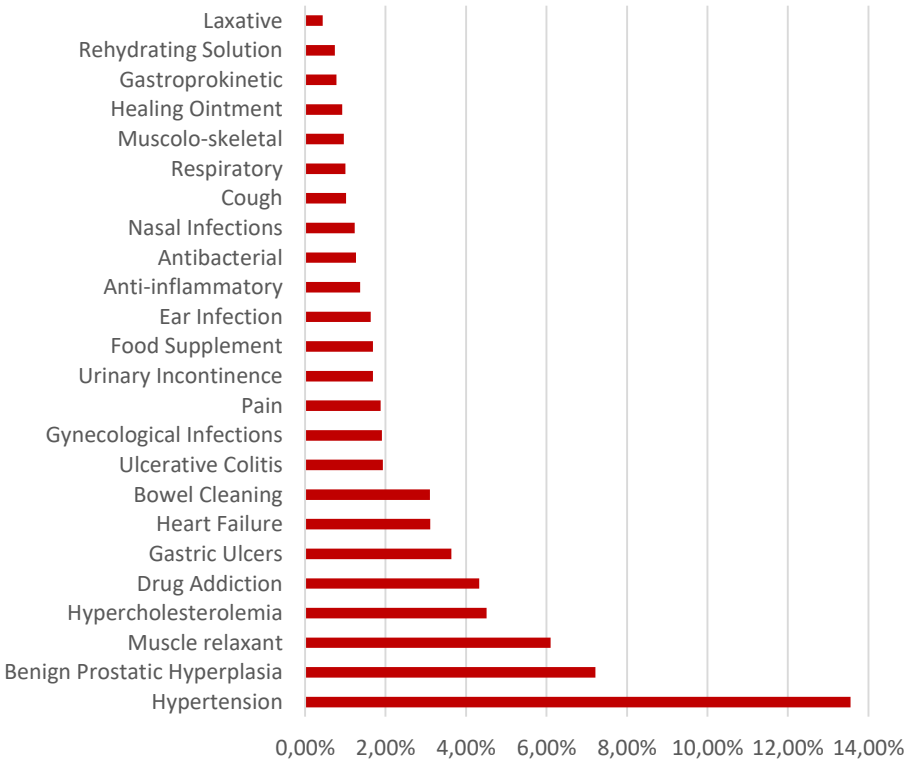


As we can see from the graph, Global Pharmaceuticals R&D achieved two important goals: the first one in 2011 of $137,5bn with an increase of 5.38% and the second one in 2015 of $149,8bn with a lower increase of 4.47%. EvaluatePharma® expects a stable growth at a rate of 2.8% per year which is greater respect to the one that we have seen from 2008 to 2015.

Appendix 2.3: *Therapeutic Area*

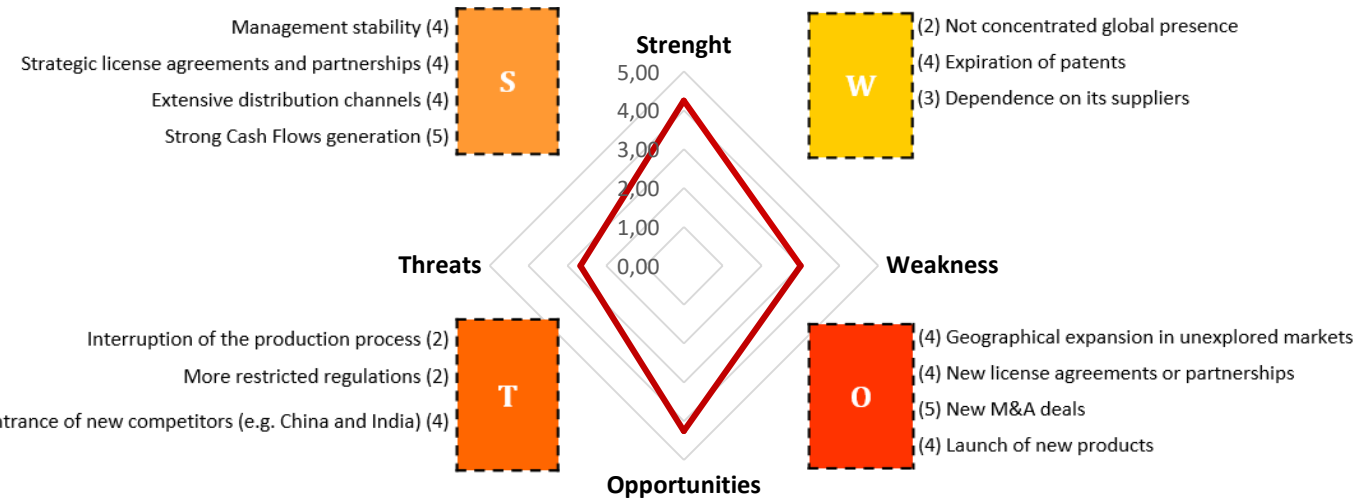
Main therapeutic areas in each country (in Millon of €)		
Italy	Benign Prostatic Hyperplasia	19,308
	Gastric Ulcers	23,651
	Heart Failure	20,250
	Hypercholesterolemia	11,953
	Hypertension	32,961
	Pain	12,202
France	Drug Addiction	28,139
	Antibacterial	8,231
	Benign Prostatic Hyperplasia	11,560
	Cough	6,620
	Hypertension	15,923
Germany	Anti-inflammatory	4,968
	Healing ointment	5,992
	Hypertension	14,914
	Muscle relaxant	27,776
	Muscolo-skeletal	6,271
	Ulcerative Colitis	12,588
Turkey	Muscle Relaxant	11,940
	Benign Prostatic Hyperplasia	6,483
	Hypertension	17,355
	Respiratory	6,521
	Urinary Incontinence	10,980
Russia and CIS	Gynecological infections	12,396
	Ear infection	10,628
	Nasal infections	8,000
	Food Supplement	10,967
Portugal	Anti-inflammatory	3,924
	Benign Prostatic Hyperplasia	2,345
	Hypercholesterolemia	7,227
	Hypertension	4,124
	Laxative	2,839
Spain	Benign Prostatic Hyperplasia	7,233
	bowel cleaning	20,173
	Gastroprokinetic	5,077
	Hypercholesterolemia	10,168
	Hypertension	2,906
	Rehydrating Solution	4,798
	TOTAL	**429,390**

Source: **REC 2015 Annual Report**



Based on 2015 data, we have divided the revenue of main countries in therapeutic area. Given the total revenue of €1.047bn in 2015, the most profitable therapeutic areas are the hypertension and urogenital ones with a percentage of *13.55%* and *7.21%* respectively.

Appendix 2.4: *SWOT Analysis*



For each category of our SWOT analysis we have assigned a score from 1 to 5 where 1 means lower impact, 5 means higher one. This score has been attributed by taking into consideration the relevant impact that each of this point has on REC. Thanks to this simple analysis we can better understand REC potentiality since, on average, the strengths and opportunities result as the main forces in the dynamic and competitive market in which REC operates.

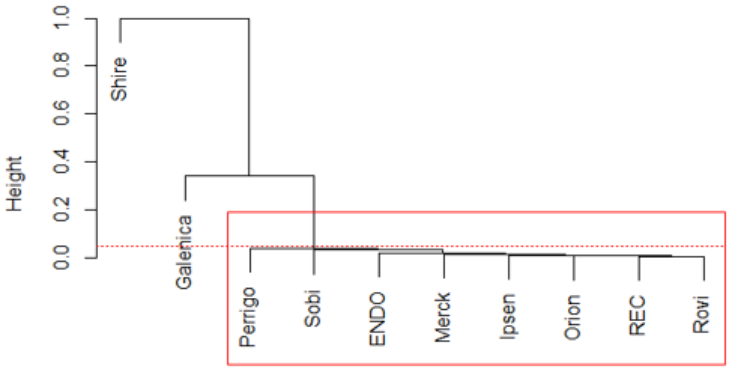
Source: **Team Analysis**

Appendix 2.5: *Cluster Analysis*

In order to better understand and contrast the competitors of REC we have implemented a cluster analysis on the past two years. The cluster analysis is made on the comparison of the competitors' price time series, through the short-time-series (STS) distance. This is a measure that allows to compare the slopes of time series over time, starting from a threshold that ranges from 0 – co-movement- to 1- asynchronous-.

The aim of the cluster analysis is to: a) assess how the competitors are related with REC basing on the movements in the market given a certain threshold; b) observe how these competitors are correlated with REC.

The below graph (Dendrogram) shows the clusterization of the competitors. Taking a low threshold equal to 0.05 (the dotted line), which means that the time series of these companies are very close in terms of slope, a cluster is highlighted. The time series of Perrigo, Sobi, Endo, Merck, Orion, Recordati and Rovi show in a strong way the same movements and trends, therefore are grouped in the same cluster.



	REC	ENDO	Ipsen	Merck	Orion	Perrigo	Rovi	Sobi
REC	1	0.08	0.34	0.52	0.38	0.04	0.04	0.4
ENDO	0.08	1	0.14	0.29	0.01	0.44	0.1	0.06
Ipsen	0.34	0.14	1	0.45	0.36	0.01	0.14	0.43
Merck	0.52	0.29	0.45	1	0.39	0.13	0.14	0.44
Orion	0.38	0.01	0.36	0.39	1	0	0.06	0.38
Perrigo	0.04	0.44	0.01	0.13	0	1	0.1	0.1
Rovi	0.04	0.1	0.14	0.14	0.06	0.1	1	0.06
Sobi	0.4	0.06	0.43	0.44	0.38	0.1	0.06	1

-1 -0.8 -0.6 -0.4 -0.2 0 0.2 0.4 0.6 0.8 1

Although the companies' prices showed similar movements and trends in the last two years, it must be verified if those are correlated with REC' one and consequently if the companies are possible competitors. To display the correlation between the time series of REC and the competitors, a Correlation Matrix is implemented.

As the matrix proves, the correlation between REC and its competitors is very low (below the minimum relevance of 0.6) and this tends to demonstrate our hypothesis of product specific competition: REC does not compete with other companies as a whole, but it faces the competition of the equivalent/similar products distributed in the relevant geographic area by other companies.

Appendix 3.1: *Historical Revenue by Product Portfolio (in thousands €)*							
	2011	2012	2013	2014	2015	2016	6y CAGR
Pharma*	**568,541**	**627,102**	**621,034**	**644,105**	**669,906**	**730,419**	
Growth YoY		*10.30%*	*-0.97%*	*3.71%*	*4.01%*	*9.03%*	*4.26%*
Rare Disease	**69,257**	**75,857**	**127,866**	**123,183**	**153,130**	**186,932**	
Growth YoY		*9.53%*	*68.56%*	*-3.66%*	*24.31%*	*22.07%*	*18.00%*
OTC	**76,204**	**99,398**	**151,602**	**173,775**	**177,057**	**185,778**	
Growth YoY		*30.44%*	*52.52%*	*14.63%*	*1.89%*	*4.93%*	*16.01%*
Chemicals	**28,195**	**30,648**	**32,015**	**33,570**	**35,621**	**40,387**	
Growth YoY		*8.70%*	*4.46%*	*4.86%*	*6.11%*	*13.38%*	*6.17%*
Other Revenue	**28,195**	**14,081**	**8,475**	**11,848**	**12,572**	**10,385**	
Growth YoY		*-50.06%*	*-39.82%*	*39.81%*	*6.11%*	*-17.40%*	*-15.33%*

*Includes Local Products

Appendix 3.2: *Historical Revenue of Pharma Products (in thousands €)*							
	2011	2012	2013	2014	2015	2016	6y CAGR
Zanidip®	**124,718**	**114,573**	**108,709**	**109,245**	**115,707**	**114,236**	
Growth YoY	*-16.10%*	*-8.13%*	*-5.12%*	*0.49%*	*5.92%*	*-1.27%*	*-1.45%*
Zanipress®	**41,592**	**49,325**	**59,829**	**61,272**	**65,675**	**69,234**	
Growth YoY		*18.59%*	*21.30%*	*2.41%*	*7.19%*	*5.42%*	*8.86%*
Urorec®	**19,750**	**32,740**	**46,737**	**59,052**	**68,275**	**85,389**	
Growth YoY		*65.77%*	*42.75%*	*26.35%*	*15.62%*	*25.07%*	*27.64%*
Livazo®	**6,797**	**16,305**	**22,516**	**25,518**	**28,418**	**34,617**	
Growth YoY		*139.89%*	*38.09%*	*13.33%*	*11.36%*	*21.81%*	*31.17%*
Local Products	**307,101**	**339,610**	**298,497**	**290,283**	**247,252**	**272,320**	
Growth YoY		*10.59%*	*-12.11%*	*-2.75%*	*-14.82%*	*10.14%*	*-1.98%*
Other	**68,583**	**74,549**	**84,747**	**98,736**	**144,579**	**154,623**	
Growth YoY		*8.70%*	*13.68%*	*16.51%*	*46.43%*	*6.95%*	*14.51%*
Total Pharma	**568,541**	**627,102**	**621,034**	**644,105**	**669,906**	**730,419**	

Appendix 3.3: *Historical Revenue by Geographical Diversification (in thousands €)*							
	2011	2012	2013	2014	2015	2016	6y CAGR
Total Pharmaceutical Sales	**748,140**	**797,374**	**909,899**	**953,704**	**1,011,620**	**1,153,900**	
Growth YoY		*6.58%*	*14.11%*	*4.81%*	*6.07%*	*14.06%*	*7.49%*
Italy	**217,660**	**214,697**	**222,699**	**212,275**	**204,847**	**237,703**	
Growth YoY		-1.36%	3.73%	-4.68%	-3.50%	16.04%	*1.48%*
% on Sales	29.09%	26.93%	24.48%	22.26%	20.25%	20.60%	
France	**128,693**	**120,208**	**115,089**	**111,036**	**110,590**	**118,852**	
Growth YoY		-6.59%	-4.26%	-3.52%	-0.40%	7.47%	*-1.32%*
% on Sales	17.20%	15.08%	12.65%	11.64%	10.93%	10.30%	
Germany	**66,208**	**70,922**	**81,365**	**84,639**	**94,753**	**105,005**	
Growth YoY		7.12%	14.72%	4.02%	11.95%	10.82%	*7.99%*
% on Sales	8.85%	8.89%	8.94%	8.87%	9.37%	9.10%	
USA	**6,070**	**7,354**	**51,584**	**56,767**	**82,091**	**105,005**	
Growth YoY		21.15%	601.44%	10.05%	44.61%	27.91%	*60.82%*
% on Sales	0.81%	0.92%	5.67%	5.95%	8.11%	9.10%	
Turkey	**31,027**	**65,130**	**65,720**	**68,003**	**74,073**	**90,004**	
Growth YoY		109.91%	0.91%	3.47%	8.93%	21.51%	*19.42%*
% on Sales	4.15%	8.17%	7.22%	7.13%	7.32%	7.80%	
Russia, CIS countries, Ukr	**76,630**	**51,288**	**89,399**	**81,339**	**72,382**	**81,927**	
Growth YoY		-33.07%	74.31%	-9.02%	-11.01%	13.19%	*1.12%*
% on Sales	10.24%	6.43%	9.83%	8.53%	7.16%	7.10%	
Spain	**31,824**	**33,268**	**37,852**	**68,153**	**71,981**	**79,619**	
Growth YoY		4.54%	13.78%	80.05%	5.62%	10.61%	*16.51%*
% on Sales	4.25%	4.17%	4.16%	7.15%	7.12%	6.90%	
North Africa	1)	**19,363**	**21,418**	**38,280**	**43,686**	**43,848**	
Growth YoY			10.61%	78.73%	14.12%	0.37%	** 17.76%*
% on Sales		2.43%	2.35%	4.01%	4.32%	3.80%	
Portugal	**34,360**	**33,889**	**32,927**	**36,241**	**39,346**	**41,540**	
Growth YoY		-1.37%	-2.84%	10.06%	8.57%	5.58%	*2.75%*
% on Sales	4.59%	4.25%	3.62%	3.80%	3.89%	3.60%	
Other CEE countries	**19,426**	**25,027**	**33,720**	**27,521**	**30,926**	**33,463**	
Growth YoY		28.83%	34.73%	-18.38%	12.37%	8.20%	*9.75%*
% on Sales	2.60%	3.14%	3.71%	2.89%	3.06%	2.90%	
Other Western EU countries	2)	**26,879**	**25,609**	**24,608**	**28,502**	**41,540**	
Growth YoY			-4.72%	-3.91%	15.82%	45.75%	** 9.10%*
% on Sales		3.37%	2.81%	2.58%	2.82%	3.60%	
Other international sales	**136,242**	**129,349**	**132,517**	**144,842**	**158,443**	**175,393**	
Growth YoY		-5.06%	2.45%	9.30%	9.39%	10.70%	*4.30%*
% on Sales	*18.21%*	*16.22%*	*14.56%*	*15.19%*	*15.66%*	*15.20%*	

1)not reported 2) included in Russia *5y CAGR

Appendix 3.4: *GDP of main countries (in billions) source IMF*

Country	Units	2011	2012	2013	2014	2015	2016	CAGR (11-16)	2017E	2018E	2019E	2020E	CAGR (16-20)
France	Euro	2,059	2,087	2,115	2,140	2,181	2,229	**1.33%**	2,279	2,339	2,405	2,481	**2.17%**
Germany	Euro	2,703	2,758	2,826	2,924	3,033	3,130	**2.48%**	3,210	3,298	3,392	3,488	**2.19%**
Italy	Euro	1,637	1,613	1,604	1,612	1,636	1,659	**0.22%**	1,681	1,714	1,747	1,781	**1.42%**
Portugal	Euro	176	168	170	173	179	184	**0.76%**	189	194	199	205	**2.12%**
Russia	Ruble	59,698	66,927	71,017	77,945	80,804	85,562	**6.18%**	91,105	96,270	101,864	107,808	**4.73%**
Spain	Euro	1,070	1,043	1,031	1,041	1,081	1,122	**0.78%**	1,156	1,190	1,228	1,268	**2.48%**
Turkey	Turkish Lira	1,298	1,417	1,567	1,748	1,954	2,197	**9.18%**	2,427	2,669	2,944	3,240	**8.07%**
Tunisia	Tunisian Dinar	15,518	16,155	16,692	17,393	18,037	18,562	**3.03%**	19,377	20,251	21,105	21,927	**3.39%**
United States	U.S. dollars	72,769	74,092	76,075	78,042	73,599	75,213	**0.55%**	79,536	83,811	88,539	93,599	**4.47%**
World	U.S. dollars	13,633	12,648	13,200	13,458	11,601	11,991	**-2.12%**	12,408	12,816	13,271	13,774	**2.81%**
Euro area	Euro	64	70	75	81	85	91	**5.86%**	97	103	111	120	**5.69%**

Appendix 3.5: *Industry Growth (source Market line)*

	2011	2012	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Rare Disease Industry Growth (WW)	**12.90%**	**6.30%**	**7.10%**	**7.80%**	**5.20%**	**11.80%**	**13.20%**	**12.40%**	**11.00%**	**10.60%**
Chemical Industry Growth (Europe)		**0.10%**	**-1.50%**	**2.40%**	**2.30%**	**2.70%**	**2.60%**	**3.00%**	**3.30%**	**3.80%**
OTC industry (Europe)		**-3.20%**	**3.90%**	**-0.60%**	**-16.20%**	**1.40%**	**3.40%**	**3.70%**	**4.00%**	**4.30%**

Appendix 3.6: *Forecast of Revenue of Pharma (in thousands €) (Team Estimates)*

		2015	2016	2017E	2018E	2019E	2020E	2021E
Pharma	**Zanidip®**	**115,707**	**114,236**	**115,378**	**116,532**	**116,532**	**116,532**	**116,532**
	Growth YoY	*5.92%*	*-1.27%*	*1.00%*	*1.00%*	*0.00%*	*0.00%*	*0.00%*
	Zanipress®	**65,675**	**69,234**	**60,926**	**56,661**	**54,395**	**54,503**	**54,558**
	Growth YoY	*7.19%*	*5.42%*	*-12.00%*	*-7.00%*	*-4.00%*	*0.20%*	*0.10%*
	Urorec®	**68,275**	**85,389**	**96,490**	**106,139**	**112,507**	**115,882**	**104,294**
	Growth YoY	*15.62%*	*25.07%*	*13.00%*	*10.00%*	*6.00%*	*3.00%*	*-10.00%*
	Livazo®	**28,418**	**34,617**	**41,887**	**49,007**	**55,378**	**60,362**	**63,380**
	Growth YoY	*11.36%*	*21.81%*	*21.00%*	*17.00%*	*13.00%*	*9.00%*	*5.00%*
	Local Products	**247,252**	**272,320**	**288,659**	**305,979**	**321,278**	**337,342**	**354,209**
	Growth YoY	*-14.82%*	*10.14%*	*6.00%*	*6.00%*	*5.00%*	*5.00%*	*5.00%*
	Other	**144,579**	**154,623**	**170,085**	**190,496**	**219,070**	**232,214**	**246,147**
	Growth YoY	*46.43%*	*6.95%*	*10.00%*	*12.00%*	*15.00%*	*6.00%*	*6.00%*
	Rare Disease	**153,130**	**186,932**	**216,841**	**251,536**	**289,266**	**318,193**	**350,012**
	Growth YoY	*24.31%*	*22.07%*	*16.00%*	*16.00%*	*15.00%*	*10.00%*	*10.00%*
	OTC	**177,057**	**185,778**	**204,356**	**220,704**	**236,154**	**252,684**	**270,372**
	Growth YoY	*1.89%*	*4.93%*	*10.00%*	*8.00%*	*7.00%*	*7.00%*	*7.00%*
	Chemicals	**35,621**	**40,387**	**44,426**	**48,868**	**53,755**	**59,131**	**65,044**
	Growth YoY	*6.11%*	*13.38%*	*10.00%*	*10.00%*	*10.00%*	*10.00%*	*10.00%*
	Other Revenue	**12,572**	**10,385**	**10,697**	**11,017**	**11,348**	**11,688**	**12,039**
	Growth YoY	*6.11%*	*-17.40%*	*3.00%*	*3.00%*	*3.00%*	*3.00%*	*3.00%*
			Revenue from Sales	**1,249,743**	**1,356,938**	**1,469,681**	**1,558,530**	**1,636,585**
	Expected Acquisitions at 3x Value of Acquisition / sales				50,000	50,000	50,000	50,000
			Total Revenue	**1,249,743**	**1,406,938**	**1,519,681**	**1,608,530**	**1,686,585**

GROWTH FORECASTING	2017	2018	2019	2020	2021	Reasons behind our assumption
Zanidip® (lercanidipine)	0.01	0.01	0	0	0	We assume a stabilization in this market following the strong decrease in revenues due to the expiration of license offset by expansion on other markets (especially in Turkey).
Zanipress® (lercanidipine+enalapril)	-0.12	-0.07	-0.04	0.002	0.001	We considered as a starting base the reduction in revenue of Zanidip at the expiration, then we adjusted the loss downwards for the following reasons: - A more complex product to replicate (demonstration of biocompatibility) - REC already experienced this sort of situation for a similar product, hence its management is well prepared to face the competition - This product has a lower turnover with respect to Zanidip, making it less attractive to Generic Companies. - Reduction in APIs production of Lercanidipine, making more expensive for generic companies to get one of the basic component - REC is developing new formulation of the product making them still patent protected, so differentiated with respect to generic ones.
Urorec® (silodosin) "2020"	0.13	0.1	0.06	0.03	-0.1	We expect a decreasing growth because of the saturation of the market. Then for 2021 we exèectt a reduction in revenues due to the expiration of the patent, however not excessively strong because of similar reasons to Zanipress. (except for the complexity reason)
Livazo® (pitavastatin) "2021"	0.21	0.17	0.13	0.09	0.05	We expect a double-digit growth in next two years due to: -Launch in Russia in September 2016 -Launch in Turkey in 2017 Then we expect a decreasing growth in following years because of the saturation of the market.
Other corporate products	0.1	0.12	0.15	0.06	0.06	We expect a growth slightly higher with respect to the industry, since it is a broad diversified portfolio with some product in positive growth and others with negative growth, but with two new products in prospected launch: - Fortacin expected in end of 2017 - Cariprazina in end of 2018 if approved in half of 2017.

OTC	0.1	0.08	0.07	0.07	0.07	Our growth in the last years presented a spread with respect the Overall OTC market of at least 15%. We expect a constant growth and a decreasing spread with respect to the growth of the industry, due to the increasing saturation of the market.
Drugs for Rare Diseas	0.16	0.16	0.15	0.1	0.1	The industry of rare diseases is expected to have a double-digit growth in the future while in the past it experienced a single-digit growth. From this starting point, our expectations are based on: - In the past REC experienced an higher growth with respect to the industry; - A lot of space of growth ,even in a concentrated market with huge companies, since ca. 7000 rare diseases are know but only ca. 500 are treated; - Recordati just received the authorization for Cystadrops; - Approval in France for MSUD; - Initial sales of Graspa®, for the ALL indication, expected during the plan period. Peak sales could be in the range of € 25 -30 million; - Lifecycle management on Carbaglu and pursuing IV formulation and approval for other indication in USA; - Possibility to launch pipeline products after 2019; - Carbaglu is in Phase III in US for an additional indication, with expected approval in 2017.
Pharmaceutical Chemicals	0.1	0.1	0.1	0.1	0.1	Based on historical Growth and forecasted growth of the Chemicals industry.
Local product Portfolios	0.06	0.06	0.05	0.05	0.05	We expect a growth similar to the industry since it is a broad diversified portfolio with some product in positive growth and others with negative growth. The growth expected is slightly higher due to: - Progressing on lifecycle management activities to introduce formulations that reinforces franchises and protection before the arrival of generics; - Expand the market. - Methadone Phase IIIB in France for additional treatment (cancer-related pain)
Other Revenue	0.03	0.03	0.03	0.03	0.03	We expect a growth at the mean level of GDP growth of the country in which REC operates.

Appendix 3.7: *Breakdown of Costs (€ in thousands) (Company Website and Team Estimates)*

	2011	2012	2013	2014	2015	2016	Forecast	2017E	2018E	2019E	2020E	2021E
Revenue	**762,036**	**828,317**	**941,630**	**987,356**	**1,047,676**	**1,153,900**	***Our assumptions***	**1,249,743**	**1,406,938**	**1,519,681**	**1,608,530**	**1,686,585**
Cost of Goods Sold	**(259,977)**	**(293,557)**	**(327,329)**	**(327,054)**	**(335,210)**	**(360,900)**	***Decreasing***	**(387,420)**	**(422,081)**	**(448,306)**	**(466,474)**	**(480,677)**
COGS/Revenue	*34.12%*	*35.44%*	*34.76%*	*33.12%*	*32.00%*	*31.28%*	***Ratio:***	*31.00%*	*30.00%*	*29.50%*	*29.00%*	*28.50%*
Selling Expenses	**(232,160)**	**(250,566)**	**(275,188)**	**(282,946)**	**(293,204)**	**(307,370)**	***Decreasing***	**(324,933)**	**(358,769)**	**(379,920)**	**(394,090)**	**(413,213)**
SE/revenue	*30.47%*	*30.25%*	*29.22%*	*28.66%*	*27.99%*	*26.64%*	***Ratio:***	*26.00%*	*25.50%*	*25.00%*	*24.50%*	*24.50%*
R&D expenses	**(55,956)**	**(63,407)**	**(74,725)**	**(85,267)**	**(76,736)**	**(83,700)**	***Fixed Ratio at***	**(99,979)**	**(112,555)**	**(121,574)**	**(128,682)**	**(134,927)**
R&D/Revenue	*7.34%*	*7.65%*	*7.94%*	*8.64%*	*7.32%*	*7.25%*	***8%:***	*8.00%*	*8.00%*	*8.00%*	*8.00%*	*8.00%*
G&A Expenses	**(45,386)**	**(45,886)**	**(54,093)**	**(57,173)**	**(58,980)**	**(61,830)**	***Decreasing***	**(64,987)**	**(70,347)**	**(72,945)**	**(73,992)**	**(75,896)**
G&A/Revenue	*5.96%*	*5.54%*	*5.74%*	*5.79%*	*5.63%*	*5.36%*	***Rratio:***	*5.20%*	*5.00%*	*4.80%*	*4.60%*	*4.50%*
Other Expenses	**(5,080)**	**(8,337)**	**(14,874)**	**(3,886)**	**(5,029)**	**(12,600)**		**(6,249)**	**(14,069)**	**(15,197)**	**(16,085)**	**(16,866)**
OE/Revenue	*0.67%*	*1.01%*	*1.58%*	*0.39%*	*0.48%*	*1.09%*	***Low Ratio:***	*0.50%*	*1.00%*	*1.00%*	*1.00%*	*1.00%*
Depr. & Amortization	**24,300**	**24,700**	**34,700**	**42,800**	**38,500**	**43,800**	***Fixed Ratio at***	**49,990**	**56,278**	**60,787**	**64,341**	**67,463**
D&A/Revenue	*3.19%*	*2.98%*	*3.69%*	*4.33%*	*3.67%*	*3.80%*	***4%:***	*4.00%*	*4.00%*	*4.00%*	*4.00%*	*4.00%*
EBIT	*163,477*	*166,564*	*195,421*	*231,030*	*278,517*	*327,400*		**363,497*	**423960*	**476011*	**522929*	**558340*
Tax Rate	*26.65%*	*25.12%*	*24.10%*	*23.19%*	*23.92%*	*25.00%*	***Fixed Tax Rate***	*25.00%*	*25.00%*	*25.00%*	*25.00%*	*25.00%*
Taxes	**(43,566)**	**(41,841)**	**(47,103)**	**(53,582)**	**(66,634)**	**(81,850)**	***at 25%:***	**(90,874)**	**(105,990)**	**(119,003)**	**(130,732)**	**(139,585)**
Change in WK *(a*b)*	**(16,182)**	**(33,384)**	**2,153**	**(14,522)**	**10,269**	***(21,245)**	**The historical avg**	**(19,169)**	**(31,439)**	**(22,549)**	**(17,770)**	**(15,611)**
(a)Rev_t - Rev_{t-1}	761,308	66,281	113,313	45,726	60,320	106,224	**of (b) is 15.80%. We adjusted it to**	95,843	157,195	112,743	88,849	78,055
(b) ΔWK / (a)		*-50.37%*	*1.90%*	*-31.76%*	*17.02%*	*-20.00%*	**20% to be more conservative**	*-20.00%*	*-20.00%*	*-20.00%*	*-20.00%*	*-20.00%*
Capital Expenditure	**(9,647)**	**(13,322)**	**(12,325)**	**(22,231)**	**(31,239)**	***(23,078)**	***Fixed margin at***	**(24,995)**	**(28,139)**	**(30,394)**	**(32,171)**	**(33,732)**
CapEx Margin	*1.27%*	*1.61%*	*1.31%*	*2.25%*	*2.98%*	*2.00%*	***2% (historical avg = 1.88%):***	*2.00%*	*2.00%*	*2.00%*	*2.00%*	*2.00%*

*Team forecast red: Team assumptions

- **Cost of Goods Sold:** we assumed a decreasing impact on revenues thanks to better product mix, it is expected in the future due to the increase in relevance of Rare Disease business line and the launch of new product currently in the pipeline. Indeed, the COGS will increase less than total revenue.
- **Selling, General and Administrative:** the rate on sales is forecasted as decreasing, due to the exploitation of the economies of scale as the company will growth in size. The latter is also supported by the intention of the management to strengthen the position in the existing geographic area, that will allow to concentrate the business.
- **Research and Development:** Mainly refer to the Pipeline of the Rare Disease segment. It is assumed to remain constant in line with historical R&D rate on sales. Indeed, also the management disclosed this intention.
- **Depreciation and Amortization:** D&A was forecasted in line with the historical rate, keeping Depreciation at 1% and Amortization at 3% of sales.
- **Taxes:** Taxes were assumed as constant at 25% of EBIT, in line with the last two years and supported by the decrease of IRES to 24%.
- **Change in Working Capital:** Since it has been relatively volatile on last years, we assumed it as an average of 20% of the increase in Total Revenue.
- **Capital Expenditure:** it is forecasted in line with the past, at a constant rate of 2%.

Appendix 3.8: Consolidated Income Statement (in thousand €)											
	2011	2012	2013	2014	2015	2016	2017E	2018E	2019E	2020E	2021E
Revenues	762,036	828,317	941,630	987,356	1,047,676	1,153,900	1,249,743	1,406,938	1,519,681	1,608,530	1,686,585
Cost of sales	(259,977)	(293,557)	(327,329)	(327,054)	(335,210)	(360,900)	(387,420)	(422,081)	(448,306)	(466,474)	(480,677)
Gross Profit	**502,059**	**534,760**	**614,301**	**660,302**	**712,466**	**793000**	**862,323**	**984,856**	**1,071,375**	**1,142,056**	**1,205,908**
Gross Profit Margin	**66%**	**65%**	**65%**	**67%**	**68%**	**69%**	**69%**	**70%**	**71%**	**71%**	**72%**
Selling Expenses	(232,160)	(250,566)	(275,188)	(282,946)	(293,204)	(307,370)	(324,933)	(358,769)	(379,920)	(394,090)	(413,213)
R&D Expenses	(55,956)	(63,407)	(74,725)	(85,267)	(76,736)	(83,700)	(99,979)	(112,555)	(121,574)	(128,682)	(134,927)
G&A expenses	(45,386)	(45,486)	(54,093)	(57,173)	(58,980)	(61,830)	(64,987)	(70,347)	(72,945)	(73,992)	(75,896)
Other Income(expense)	(5,080)	(8,337)	(14,874)	(3,886)	(5,029)	(12,600)	(6,249)	(14,069)	(15,197)	(16,085)	(16,866)
Operating Income	**163,477**	**166,964**	**195,421**	**231,030**	**278,517**	**327,400**	**366,175**	**429,116**	**481,739**	**529,206**	**565,006**
Operating Profit Margin	**21%**	**20%**	**21%**	**23%**	**27%**	**28%**	**29%**	**31%**	**32%**	**33%**	**34%**
Financial income (expense)	(3,465)	(6,626)	(14,625)	(16,255)	(13,080)	(10,867)	(10,867)	(10,867)	(10,867)	(10,867)	(10,867)
Pretax Income	**160,012**	**160,338**	**180,796**	**214,775**	**265,437**	**316,533**	**355,308**	**418,249**	**470,872**	**518,340**	**554,139**
Pretax Profit Margin	**21%**	**19%**	**19%**	**22%**	**25%**	**27%**	**28%**	**30%**	**31%**	**32%**	**33%**
Provision for income taxes	(43,566)	(41,841)	(47,103)	(53,582)	(66,634)	(79,133)	(88,827)	(104,562)	(117,718)	(129,585)	(138,535)
Net Income	**116,446**	**118,497**	**133,693**	**161,193**	**198,803**	**237,400**	**266,481**	**313,687**	**353,154**	**388,755**	**415,604**
Net Profit Margin	**15%**	**14%**	**14%**	**16%**	**19%**	**21%**	**21%**	**22%**	**23%**	**24%**	**25%**
To Equity Holders of the parent	116,434	118,484	133,678	161,187	198,792	237,388	266,468	313,671	353,136	388,735	415,584
Minority Interests	12	13	15	6	11	12	13	16	18	19	21
Mean Shares Outstanding	199,370	199,722	201,585	203,573	205,270	205,270	205,270	205,270	205,270	205,270	205,270
Earnings per Share											
Basic	***0.584***	***0.593***	***0.663***	***0.792***	***0.968***	***1.156***	***1.298***	***1.528***	***1.720***	***1.894***	***2.025***
Diluted	0.556	0.560	0.661	0.771	0.951						

Appendix 3.9: *Reclassificated Income Statement (in thousand €) (Company Website and Team Estimates)*											
	2011	2012	2013	2014	2015	2016	2017E	2018E	2019E	2020E	2021E
Primary Care Revenue	588,292	638,632	653,491	678,314	705,086	770,805	817,850	923,681	982,913	1,025,965	1,054,162
OTC Revenue	76,204	99,398	151,602	173,775	177,057	185,778	204,356	220,704	236,153	252,684	270,372
Rare Diseases Revenue	69,345	76,205	128,062	123,420	152,961	186,932	216,841	251,535	289,266	318,192	350,012
Other Revenue	28,195	14,081	8,475	11,848	12,572	10,385	10,697	11,018	11,348	11,689	12,039
Revenue	**762,036**	**828,317**	**941,630**	**987,356**	**1,047,676**	**1,153,900**	**1,249,743**	**1,406,938**	**1,519,681**	**1,608,530**	**1,686,585**
Cost of Good Sold	*(259,977)*	*(293,557)*	*(327,329)*	*(327,054)*	*(335,210)*	*(360,900)*	*(387,420)*	*(422,081)*	*(448,306)*	*(466,474)*	*(480,677)*
Gross Profit	**502,059**	**534,760**	**614,301**	**660,302**	**712,466**	**793,000**	**862,323**	**984,856**	**1,071,375**	**1,142,056**	**1,205,908**
R&D expenses	*(55,956)*	*(63,407)*	*(74,725)*	*(85,267)*	*(76,736)*	*(83,700)*	*(99,979)*	*(112,555)*	*(121,574)*	*(128,682)*	*(134,927)*
Selling Expenses	*(232,160)*	*(250,566)*	*(275,188)*	*(282,946)*	*(293,204)*	*(307,370)*	*(324,933)*	*(358,769)*	*(379,920)*	*(394,090)*	*(413,213)*
General & Administrative expenses	*(45,386)*	*(45,886)*	*(54,093)*	*(57,173)*	*(58,980)*	*(61,830)*	*(64,987)*	*(70,347)*	*(72,945)*	*(73,992)*	*(75,896)*
Other Expenses	*(5,080)*	*(8,337)*	*(14,874)*	*(3,886)*	*(5,029)*	*(12,600)*	*(6,249)*	*(14,069)*	*(15,197)*	*(16,085)*	*(16,866)*
Plus: Depreciation & Amortization	*24,300*	*24,700*	*34,700*	*42,800*	*38,500*	*43,800*	*49,990*	*56,278*	*60,787*	*64,341*	*67,463*
EBITDA	**187,777.0**	**191,264.1**	**230,121.1**	**273,830.1**	**317,017.1**	**371,200.0**	**416,164.4**	**485,393.5**	**542,526.0**	**593,547.5**	**632,469.4**
Less: Depreciation & Amortization	(24,300.0)	(24,700.0)	(34,700.0)	(42,800.0)	(38,500.0)	(43,800.0)	(49,624.2)	(55,601.3)	(60,064.4)	(63,578.0)	(66,667.5)
EBIT	**163,477.0**	**166,564.1**	**195,421.1**	**231,030.1**	**278,517.1**	**327,400.0**	**366,174.7**	**429,116.0**	**481,738.8**	**529,206.3**	**565,006.0**
Less: Taxes	(43,566.0)	(41,841.0)	(47,103.0)	(53,582.0)	(66,634.0)	(81,850.0)	(91,543.7)	(107,279.0)	(120,434.7)	(132,301.6)	(141,251.5)
NOPAT	**119,911.0**	**124,723.1**	**148,318.1**	**177,448.1**	**211,883.1**	**245,550.0**	**274,631.0**	**321,837.0**	**361,304.1**	**396,904.8**	**423,754.5**
Plus: Depreciation & Amortization	24,300.0	24,700.0	34,700.0	42,800.0	38,500.0	43,800.0	49,989.7	56,277.5	60,787.2	64,341.2	67,463.4
Less: Changes in Working Capital	(16,182.0)	(33,384.0)	2,153.0	(14,522.0)	10,269.0	(21,244.8)	(19,168.6)	(31,439.0)	(22,548.6)	(17,769.9)	(15,611.0)
Less: Capital Expenditures	(9,647.0)	(13,322.0)	(12,325.0)	(22,231.0)	(31,239.0)	(23,078.0)	(24,994.9)	(28,138.8)	(30,393.6)	(32,170.6)	(33,731.7)
Un-Levered Free Cash Flow	**118,382.0**	**102,717.1**	**172,846.1**	**183,495.1**	**229,413.1**	**245,027.2**	**280,457.3**	**318,536.8**	**369,149.1**	**411,305.5**	**441,875.2**

Appendix 3.10: *Consolidated Balance Sheet (in thousands €) (Company Website and Team Estimates)*											
	2011	2012	2013	2014	2015	2016	2017E	2018E	2019E	2020E	2021E
Non-current Assets											
Property, Plant and Equipment	55,397	59,972	81,288	92,273	108,987	121,115	133,612	147,682	162,879	178,964	195,830
Intangible Assets	149,649	231,470	295,498	266,018	246,450	259,242	251,750	239,542	223,951	205,695	185,098
Goodwill	365,719	413,213	468,807	463,474	453,285	546,885	546,885	644,385	741,885	839,385	936,885
Other Investments	1,977	6,925	5,939	17,079	32,444						
Other Non-Current Assets	1,282	3,788	4,256	4,743	4,549	50400	50,400	102,900	155,400	207,900	260,400
Deferred Tax Assets	22,494	22,837	25,205	33,021	30,500	67,493	67,493	67,493	67,493	67,493	67,493
Total non-current assets	**596,518**	**738,205**	**880,993**	**876,608**	**876,215**	**1,045,135**	**1,050,140**	**1,202,001**	**1,351,608**	**1,499,437**	**1,645,705**
Current Assets											
Inventories	108,251	126,388	140,430	141,223	143,093	154,059	165,380	180,176	191,371	199,126	205,189
Trade Receivables	141,231	155,359	179,775	179,029	177,219	195,187	211,400	237,990	257,061	272,090	285,293
Other Receivables	21,311	24,983	24,979	32,316	28,883	28,883	28,883	29,958	30,581	31,344	32,205
Other Current Assets	3,198	2,164	5,363	4,927	5,280	5,280	5,280	5,280	5,280	5,280	5,280
Fair Value of Hedging Derivatives	1,791	1,371	-	4,132	12,671	12,671	12,671	12,671	12,671	12,671	12,671
S/t Financial Inv., C&C Equivalents	105,164	38,418	52,271	136,990	225,525	138,500	220,919	201,243	208,500	236,553	279,065
Total Current Assets	**380,946**	**348,683**	**402,818**	**498,617**	**592,671**	**534,581**	**644,532**	**667,318**	**705,463**	**757,064**	**819,704**
Total Assets	**977,464**	**1,086,888**	**1,283,811**	**1,375,225**	**1,468,886**	**1,579,716**	**1,694,673**	**1,869,320**	**2,057,071**	**2,256,501**	**2,465,409**
Shareholders' Equity											
Share Capital	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141	26,141
Additional Paid-in Capital	83,719	83,719	83,719	83,719	83,719	83,719	83,719	83,719	83,719	83,719	83,719
Treasury Stock	(53,215)	(46,254)	(37,791)	(30,727)	(35,061)	(39,061)	(39,061)	(39,061)	(39,061)	(39,061)	(39,061)
Hedging Reserve	(4,227)	(4,983)	(2,270)	(683)	(3,290)	(3,290)	(3,290)	(3,290)	(3,290)	(3,290)	(3,290)
Translation Reserve	(8,232)	(3,713)	(42,853)	(56,314)	(66,918)	(76,560)	(76,560)	(76,560)	(76,560)	(76,560)	(76,560)
Other Reserves	26,600	26,326	25,776	29,865	42,543	42,543	42,543	42,543	42,543	42,543	42,543
Retained Earnings	445,745	501,701	559,878	627,240	685,587	765,104	851,334	955,153	1,088,176	1,241,324	1,412,671
Net Income for the year	116,434	118,484	133,678	161,187	198,792	*237,400*	266,481	313,687	353,154	388,755	415,604
Interim Dividend	(38,525)	(40,077)	(44,526)	(53,080)	(61,606)	(71,220)	(79,944)	(94,106)	(105,946)	(116,626)	(124,681)
Group Shareholders' Equity	594,440	661,344	701,752	787,348	869,907	**964,776**	**1,071,363**	**1,208,226**	**1,368,876**	**1,546,944**	**1,737,086**
Minority Interest	40	53	68	74	85	90	95	101	108	116	125
Shareholders' Equity	**594,480**	**661,397**	**701,820**	**787,422**	**869,992**	**964,866**	**1,071,458**	**1,208,327**	**1,368,984**	**1,547,061**	**1,737,211**
Non-Current Liabilities											
Loans - due after one year	137,518	129,111	196,788	286,202	282,615	*281,100*	281,100	281,100	281,100	281,100	281,100
Staff Leaving Indemnities	16,692	17,862	16,698	18,388	18,895	17,895	17,895	17,895	17,895	17,895	17,895
Deferred tax Liabilities	6,049	15,872	21,072	21,553	22,360	22,360	22,360	22,360	22,360	22,360	22,360
Other Non-Current Liabilities	2,062	1,828	4,040	3,102	2,517	1,517	1,517	1,517	1,517	1,517	1,517
Total Non-Current Liabilities	**162,321**	**164,673**	**238,598**	**329,245**	**326,387**	**322,872**	**322,872**	**322,872**	**322,872**	**322,872**	**322,872**
Current Liabilities											
Trade Payables	98,678	106,926	107,156	112,536	106,597	114,766	123,200	134,222	142,562	148,339	152,856
Other Payables	58,335	53,984	71,193	64,886	72,351	72,351	72,351	72,351	72,351	72,351	72,351
Tax liabilities	12,091	9,789	15,951	12,541	14,592	14,112	14,043	14,043	14,043	14,043	14,043
Other current liabilities	348	458	855	903	959	959	959	959	959	959	959
Provisions	21,813	20,544	29,454	25,784	29,400	29,400	29,400	29,400	29,400	29,400	29,400
Fair Value of hedging derivatives	4,227	4,983	4,480	5,075	4,290	4,290	4,290	4,290	4,290	4,290	4,290
Loans - due within one year	11,616	8,147	80,280	28,281	34,469	*40,400*	40,400	40,400	40,400	40,400	40,400
Bank Overdrafts and S/t loans	13,555	55,987	34,024	8,552	9,849	*15,700*	15,700	15,700	15,700	15,700	15,700
Total Current Liabilities	**220,663**	**260,818**	**343,393**	**258,558**	**272,507**	**291,978**	**300,343**	**338,121**	**365,215**	**386,568**	**405,326**
Total Equity and Liabilities	**977,464**	**1,086,888**	**1,283,811**	**1,375,225**	**1,468,886**	**1,579,716**	**1,694,673**	**1,869,320**	**2,057,072**	**2,256,500**	**2,465,409**

Appendix 3.11: *Consolidated Cash Flow Statement (in thousands €) (Company Website and Team Estimates)*											
	2011	2012	2013	2014	2015	2016	2017E	2018E	2019E	2020E	2021E
Operating Activities											
Net income	**116,446**	**118,497**	**133,693**	**161,193**	**198,803**	**237400**	**266,481**	**313,687**	**353,154**	**388,755**	**415,604**
Depreciation of Property Plant and Equipment	10,529	8,786	9,679	11,205	11,948	*10,950*	12,497	14,069	15,197	16,085	16,866
Amortization of Intangible Assets	13,736	15,961	25,030	31,583	26,535	*32,850*	37,492	42,208	45,590	48,256	50,598
Write down of Assets	0	2,045	1,171	814	0		0	0	0	0	0
Revaluation of Assets	0	0	0	(3,752)	0	-9642	0	0	0	0	0
Total Cash Flow	**140,711**	**145,289**	**169,573**	**201,043**	**237,286**	**271,558**	**316,471**	**369,965**	**413,941**	**453,096**	**483,068**
(Increase)/Decrease in Deferred Tax Assets	(2,273)	6	(1,448)	(7,816)	3,510	0	0	0	0	0	0
Increase/(Decrease) in Staff Leaving Indemnities	(2,602)	1,170	(1,164)	1,690	507	-1000	0	0	0	0	0
Increase/(Decrease) in Other Non-Current Liabilities	1,806	(329)	1,005	(1,240)	(4,200)	-1000	0	0	0	0	0
	137,642	***146,136***	***167,966***	***193,677***	***237,103***	***269,558***	***316,471***	***369,965***	***413,941***	***453,096***	***483,068***
Change in Working Capital											
Trade Receivables	(6,866)	(11,447)	(10,858)	746	1,810	*(17,968)*	*(16,212)*	*(26,590)*	*(19,071)*	*(15,029)*	*(13,203)*
Inventories	(18,220)	(16,856)	(3,598)	(793)	(1,870)	*(10,966)*	*(11,321)*	*(14,796)*	*(11,195)*	*(7,755)*	*(6,063)*
Other Receivables and Other Current Assets	9,279	(2,379)	(210)	(6,901)	3,080	0	0	(1,075)	(623)	(763)	-861
Trade Payables	(3,902)	5,463	(7,616)	5,380	(5,939)	*8,169*	*8,433*	*11,022*	*8,339*	*5,777*	*4,517*
Tax Liabilities	1,363	(2,332)	3,200	(3,410)	2,051	-480	-69	0	0	0	0
Other Payables and Other Current Liabilities	2,368	(4,564)	15,022	(5,874)	7,521	0	0	0	0	0	0
Provisions	(204)	(1,269)	6,213	(3,670)	3,616	0	0	0	0	0	0
	(16,182)	**(33,384)**	**2,153**	**(14,522)**	**10,269**	**(21,245)**	**(19,169)**	**(31,439)**	**(22,549)**	**(17,770)**	**(15,611)**
Net Cash from Operating Activities	**121,460**	**112,752**	**170,119**	**179,155**	**247,372**	**248,313**	**297,302**	**338,526**	**391,393**	**435,326**	**467,457**
Investing Activites											
Net (Investments)/Disposals in PP&E	(9,647)	(13,322)	(12,325)	(22,231)	(31,239)	(23,078)	(24,995)	(28,139)	(30,394)	(32,171)	(33,732)
Net (Investments)/Disposals in Intangible Assets	(34,572)	(49,546)	(65,775)	(2,876)	(2,451)	(36,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)
Net (Increase)/Decrease in Other Non-Current Receivables	(62,659)	(89,658)	(123,108)	(487)	194	(144,000)	0	(150,000)	(150,000)	(150,000)	(150,000)
Net Cash used in Investing Activites	**(106,878)**	**(152,526)**	**(201,208)**	**(25,594)**	**(33,496)**	**(203,078)**	**(54,995)**	**(208,139)**	**(210,394)**	**(212,171)**	**(213,732)**
Financing Activities											
Medium/Long Term Loans	44,743	0	151,687	110,571	52,043	0	0	0	0	0	0
Re-Payments of Loans	(21,912)	(11,462)	(8,413)	(82,222)	(66,234)						
Purchase of Tresury Stock	(409)	0	(8,828)	(7,127)	(17,730)	-4000	0	0	0	0	0
Sale of Treasury Stock		5,636	15,317	13,140	11,751						
Effect of Application of IAS/IFRS	3,156	350	1,406	(1,236)	2,846	-1313	0	0	0	0	0
Other Changes in Equity	(10,918)	(2,670)	(3,835)	(227)	(62)	0	0	0	0	0	0
Dividends Paid	(93,138)	(61,354)	(64,643)	(75,395)	(110,770)	(142,440)	(159,889)	(188,212)	(211,892)	(233,253)	(249,363)
Change in Translation Reserve	(2,669)	96	(15,786)	(874)	1,518	9642	0	0	0	0	0
Net Cash from/(used in) Financing Activities	**(81,147)**	**(69,404)**	**66,905**	**(43,370)**	**(126,638)**	**(138,111)**	**(159,889)**	**(188,212)**	**(211,892)**	**(233,253)**	**(249,363)**
Changes in Short Term Financial Position	**(66,565)**	**(109,178)**	**35,816**	**110,191**	**87,238**	**(92,876)**	**82,419**	**(19,675)**	**7,257**	**28,053**	**42,512**
Short-term Financial Position at beginning of the year*	158,174	91,609	(17,569)	18,247	128,438	215,676	122,800	205,219	185,543	192,800	220,853
Short-term financial position at end of period*	91,609	(17,569)	18,247	128,438	215,676	122,800	205,219	185,543	192,800	220,853	263,365

Appendix 4.1: *WACC Computation*

In order to estimate the weighted average cost of capital we applied the standard formula:

$$WACC = r_e * \frac{E}{D+E} + r_d * \frac{D}{D+E} * (1 - tax\ rate)$$

Where r_e stands for required return on equity, r_d stands for required return on debt, D is the Market value of debt, E is the market value of equity (market capitalization) and finally $tax\ rate$ is the marginal tax rate of the company.

Regarding the Required return on equity, we applied the CAPM. The data used in the formula are the following:

- **Risk-free Rate**= we started from the 10y government bond for each country and we compute the weighted average of the yields by considering the geographical distribution of the revenue of REC for 2016. We have to point out that for North Africa we used as a proxy the Nigerian and South Africa 10y government yield since such a rate is not reliable for other African countries. Moreover, Nigeria has a rating similar to the one of Tunisia, country in which REC has its main operation in Africa. Furthermore, for the other European Countries for which we didn't have precise information regarding the revenue, we used as a proxy the 10 year Eurozone benchmark yield. Finally, we used the Global adjusted default spread (source Damodaran) for "other international sales".
- **Market Premium**= we considered the total equity premium as calculated by Damodaran in January 2017. So we accounted also for the country risk premium. The weighted average has been calculated following the same method used for the Risk-free Rate.
- Below are listed every risk-free rate, market premium and weights for each country.

Country	Italy	France	Germany	Spain	Portugal	U.S.A.	Russia	Turkey	North Africa	Other CEE	Other Western Europe	International	WEIGHTED AVERAGE
Weight	20.60%	10.30%	9.10%	6.90%	3.60%	9.10%	7.10%	7.80%	3.80%	2.90%	3.60%	15.20%	100.00%
Risk Free	0.02340	0.00942	0.00180	0.01660	0.03889	0.02314	0.08050	0.10510	0.07500	0.00180	0.00180	0.01129	**2.920%**
Weighted Average	8.40%	6.40%	5.69%	8.40%	9.24%	5.69%	9.24%	9.24%	10.81%	6.81%	6.81%	7.08%	**7.643%**

- **Beta calculation:** We performed different regressions of REC returns on different Equity indices. Finally, we selected the Beta that comes out from the regression with the highest R^2. The relative equity index is MSCI World (€), that allows us to be coherent in our "international" approach in estimating both the risk-free rate and the market premium. The selected time-period is 2 years (weekly data).

2Y W	Beta	R squared
MSCI WORLD E - PRICE INDEX	**0.685213**	**0.211691**
MSCI WORLD U$ - PRICE INDEX	0.606378	0.094898
FTSE MIB	0.376275	0.098472
MSCI ITALY - PRICE INDEX	0.363004	0.094352
MSCI HEALTH CARE	0.887	0.248

5Y W	Beta	R squared
MSCI WORLD E - PRICE INDEX	**0.569698**	**0.132797**
MSCI WORLD U$ - PRICE INDEX	0.532232	0.083584
FTSE MIB	0.322905	0.102127
MSCI ITALY - PRICE INDEX	0.317057	0.098215

5Y M	Beta	R squared
MSCI WORLD E - PRICE INDEX	0.812429	0.136752
MSCI WORLD U$ - PRICE INDEX	0.653964	0.106566
FTSE MIB	0.478131	0.198603
MSCI ITALY - PRICE INDEX	na	na

Finally we adjusted the beta, as suggested by the empirical research, with the following formula:

$$Adjusted\ Beta = \hat{\beta} * \frac{2}{3} + 1 * \frac{1}{3}$$

Where $\hat{\beta}$ is the Beta of the regression and 1 is the long-term Beta. Indeed the empirics suggest that in a long-time period the Beta of each company converge to the Beta of the market itself.

It is important to restate that we did not follow a Bottom-Up approach, even if the R^2 of the regression is relatively low. This decision has been taken for the following reasons: a) REC does not have precise peers in terms of combined Business Model, Revenue Size and Growth levels; b) Also the R^2 of the regression for the Peers is relatively low in line with the one of REC.

- **Market Value of Debt** = Net financial Position equal to **€183m**
- **Market Value of Equity** = Market Capitalization equal to **€6253m**
- **Cost of debt** = We adjusted upward the rate given by *Bloomberg.* So instead of 1.9% we used a 2.5% to be more conservative in our Valuation.
- **Tax rate** = We used the Marginal tax rate of the company that has been stable over last two years at a level of ca. 25%. This decision is supported also by the future decrease in Tax rate of the companies in Italy (Ires).

Appendix 4.2: *Terminal Value*

The terminal value of REC has been calculated starting from 2030, right when the fading stage ends. So the FCFF for 2030 has been discounted using a perpetuity formula assuming as Long Term Growth Rate the weighted average of the expected growth of the GDP in the countries in which REC operates. The weights are based, on the revenue geographical distribution in 2016. Finally, the TV has been discounted again to estimate its value at 2017.

The choice of the GDP as a proxy of long-term growth rate is based on the assumption that REC, in 2030, will reach its maturity stage influenced also by that one of the pharmaceutical industry as a whole.

The long-term growth rate used is **3.36%.**

Long Term Growth	Italy	France	Germany	Spain	Portugal	U.S.A.	Russia	Turkey	North Africa	Other CEE	Other Western EU	International	Weighted Average
Weight	0.20600	0.10300	0.09100	0.06900	0.03600	0.09100	0.07100	0.07800	0.03800	0.02900	0.03600	0.15200	
GDP CAGR	1.42%	2.17%	2.36%	2.69%	2.23%	3.31%	4.92%	8.80%	5.76%	2.90%	2.90%	4.09%	**3.362%**

Appendix 6.3: *Free Cash Flow to the Firm*

Free Cash Flow Forecast (in thousands €) (Team Estimates)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030 and so on
FCFF	280,457	318,537	369,149	411,305	441,875	472,806	504,012	535,260	565,770	595,190	622,569	648,094	672,722	695,341
Discount Rate	1	1.0876	1.1828	1.2864	1.3991	1.5216	1.6548	1.7998	1.9574	2.1288	2.3152	2.5180	2.7385	0.0540
Discounted CF	**280,457**	**292,887**	**312,092**	**319,732**	**315,836**	**310,732**	**304,567**	**297,405**	**289,044**	**279,589**	**268,901**	**257,385**	**245,652**	**12,887,854**
Growth Rate of FCFF		**0.1358**	**0.1589**	**0.1142**	**0.0743**	**0.0700**	**0.0660**	**0.0620**	**0.0570**	**0.0520**	**0.0460**	**0.0410**	**0.0380**	**0.0336**

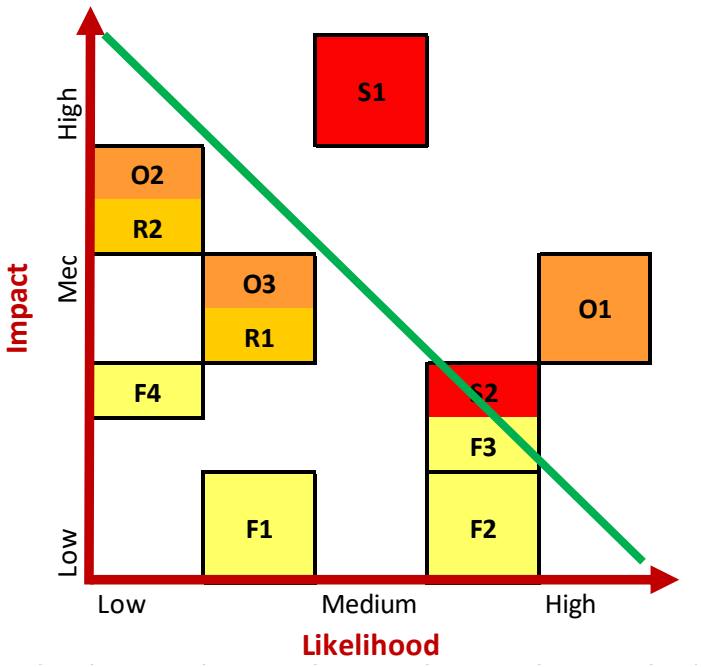
Appendix 4.3: *Multiple Valuation*

EPS (in local currencies)

	Current Price	Last Annual EPS	Fiscal Year 2017	Fiscal Year 2018	Fiscal Year 2019
SHIRE	48.73	3.49	4.01	4.64	5.31
IPSEN	82.79	3.04	3.67	4.38	5.19
SOBI	121.1	3.01	4.21	6.65	9.21
MERCK	103.4	6.28	6.49	6.9	7.46
ORION	46.75	1.74	1.63	1.7	1.78
PERRIGO	84.68	6.95	7.05	7.67	8.03
ROVI	13.95	0.48	0.48	0.65	0.95
GALENICA	1162	41.53	28.02	41.27	56.48
ACTELION	270	7.99	7.85	9.13	11.27
RECORDATI	29.9	1.14	1.27	1.50	1.69

The highly-diversified business model of REC, along with the product specific competition typical of the industry, makes it difficult to find perfectly matching competitors. Therefore, the competitors were selected basing on the interconnection of their business areas (disease treated) with the major diversified sector of REC. To ensure the highest possible comparability, the selection was made keeping a similar revenue generation as a benchmark, to eliminate companies that were too big or too small to effectively compete with REC. Therefore, for what concerns the competitors selected for the Multiple Analysis, the only excluded are Almirall, Lundbeck and UCB. Those are just partners of REC that competes with it only within the relevant sector, but do not present comparable business model and overall disease areas, making them unfit within the peer group selected for the Multiple comparison. The other excluded competitor is Endo, because of the negative Forward PEG that would have created a bias in the sample.

Appendix 5.1: *Risk Matrix*



Strategic Risks
[S1] = Geographical expansion
[S2] = Investments in R&D

Operational Risks
[O1] = Expiration of patents
[O2] = Interruption of the production process
[O3] = Entrance of new competitors

Regulatory Risks
[R1] = Government public spending of healthcare
[R2] = Compliance with different technical standards

Financial Risks
[F1] = Credit risk
[F2] = Interest Rate Risk
[F3] = Foreign Currency Risk
[F4] = Liquidity Risk

If we divide the matrix using the 45° line we can argue that the most relevant risks that may affect REC are mainly **[S1]** and **[O1]** since for both we have estimated a high level of likelihood and impact.

Appendix 6.1: *Member of Board of Directors*

Name	Position	Education and Main Experiences
Alberto Recordati	Chairman	Graduated from University of London King's College in 1977 with a degree in biochemistry and in 1984 completed a research PhD within the Biochemistry Department. He joined REC in 1984 as a researcher in the biochemistry laboratories. In 2004 he was appointed Deputy Chairman of REC.
Andrea Recordati	Vice Chairman and Chief Executive	He gained a Bachelor of Arts in medieval and modern history from the University of London Royal Holloway and Bedford New College. He joined REC in 1998 as Project Leader and then as a member of the BoD. In 1999 he was given responsibility for Pharmaceutical Business Development. On 2013 he was appointed Chief Operating Officer, being responsible for all the commercial and production activities of the Group.
Rosalba Casiraghi	Independent Director	Degree in Business Administration at Bocconi University. She has collaborated for many years with the economic press performing economic consultancy. She is now a director and auditor in companies operating in industrial and financial sectors, listed and unlisted
Michaela Castelli	Independent Director	Degree in Law at University of Milan in 1994. She has covered the following roles: Member of the Supervisory Board and the Nomination Committee, Member and Secretary of the BoD, President of the Supervisory Board and Member of the Board of Auditors. She is expert in corporate and financial markets law and author of specialist publications.
Paolo Fresia	Independent Director	First Class Joint Honours B.A. degree in Philosophy and Economics from University College London. From 2008 he worked with Goldman Sachs as an intern and then as fixed income sales trader. Since 2013 he has been a corporate social responsibility consultant in Hong Kong.
Mario Garraffo	Independent Director	Graduated in Economics at the Bocconi University in Milan in 1960. He has been Controller and Development Director, CEO and an independent director of other Italian companies.
Fritz Squindo	Managing Director and CFO	Graduated "cum laude" in Economics at the Bocconi University in Milan, Italy. He joined REC in 1992 as Head of the Management Accounting department. In 1995 he was appointed Chief Financial Officer and in 2008 became Managing Director. He is a member of BoD since 2013.
Marco Vitale	Independent Director	Business economist. He has teached for many years business economy at Pavia university and Bocconi University. He has been appointed to several important public tasks and contributed to leading newspapers and business magazines. He has also published several books.

Appendix 6.2: *Stock Options*

			Options held on 01.01.2015			Options exercised in 2015			Options expired in 2015	Options held on 31.12.15	Options relating to 2015
First and last name	**Post held**	**Plan (a) – resolution date**	**Number of Stock Options**	**Exercise price**	**Exercise period (from-to)**	**Number of Options**	**Exercise price**	**Market price of Recordati share on the exercise date**	**Number of options**	**Number of options**	**Fair value**
Giovanni Recordati	Chairman, CEO and General Manager	2010-2013 - 13.04.10	90,000 90,000 90,000 90,000 90,000 90,000	€6.7505 €6.7505 €5.307 €5.307 €5.307 €5.307	2015-31.12.19 2016-31.12.19 2014-31.12.20 2015-31.12.20 2016-31.12.20 2017-31.12.20	90,000 90,000 90,000	€6.7505 €5.307 €5.307	€21.018 €18.631 €21.466	-	630,000	€164,000
		2014-2018 - 17.04.14	90,000 90,000 90,000 90,000	€12.29 €12.29 €12.29 €12.29	2016-31.12.22 2017-31.12.22 2018-31.12.22 2019-31.12.22						
Alberto Recordati	Vice-Chairman	2010-2013 - 13.04.10	45,000 45,000 45,000 45,000 45,000 45,000 45,000 45,000	€6.7505 €6.7505 €6.7505 €6.7505 €5.307 €5.307 €5.307 €5.307	2013-31.12.19 2014-31.12.19 2015-31.12.19 2016-31.12.19 2014-31.12.20 2015-31.12.20 2016-31.12.20 2017-31.12.20				-	540,000	€82,000
		2014-2018 - 17.04.14	45,000 45,000 45,000 45,000	€12.29 €12.29 €12.29 €12.29	2016-31.12.22 2017-31.12.22 2018-31.12.22 2019-31.12.22						
Andrea Recordati	Director	2010-2013 - 13.04.10	32,500 32,500 32,500 32,500 32,500 32,500	€6.7505 €6.7505 €6.7505 €6.7505 €5.307 €5.307	2013-31.12.19 2014-31.12.19 2015-31.12.19 2016-31.12.19 2014-31.12.20 2015-31.12.20				-	440,000	€76,000
		2014-2018 - 17.04.14	45,000 45,000 45,000 45,000	€12.29 €12.29 €12.29 €12.29	2016-31.12.22 2017-31.12.22 2018-31.12.22 2019-31.12.22						
Fritz Squindo	Director	2010-2013 - 13.04.10	45,000 45,000 45,000 45,000 45,000 45,000 45,000 45,000	€6.7505 €6.7505 €6.7505 €6.7505 €5.307 €5.307 €5.307 €5.307	2013-31.12.19 2014-31.12.19 2015-31.12.19 2016-31.12.19 2014-31.12.20 2015-31.12.20 2016-31.12.20 2017-31.12.20				-	540,000	€82,000
		2014-2018 - 17.04.14	45,000 45,000 45,000 45,000	€12.29 €12.29 €12.29 €12.29	2016-31.12.22 2017-31.12.22 2018-31.12.22 2019-31.12.22						
Total for three members of key Management personnel (*)		2006-2009 06.04.06 and 2010-1023 13.04.10	737,500	€9.173 (b)	2.515 days	142,500	€5.6869 (b)	€18.583 (c)	-	625,000	€157,000
		2014-2018 - 17.04.14									

(*) they were employees of the Company and no other member of key management personnel at subsidiaries existed as at 31st December 2015.
(a) every plan is of REC S.p.A. and there are no other plans in forces -neither of subsidiaries nor associates-
(b) it is the average exercise price
(c) it is the average market price
- For every initial exercise period we need to take into consideration they are thirty days after the Shareholders' Meeting approved the annual report of the previous year.
- Market price of REC share is the current price of the day

Options are normally granted on a two-yearly basis and the exercise price is based on a fair market value calculation (the average between the share prices quoted on the stock market in the period that goes from the grant date of the options and the same date of the previous month). The total options granted to each beneficiary are divided into four equal tranches with four subsequent vesting periods. The first trance can be exercised in the second year following that on which the options were granted.

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