

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

Private Equity Challenge - Vidrala Leveraged Buyout

Maria da Pureza Correia de Sampaio Monteiro Abrantes

Work project carried out under the supervision of:
Professor Fábio Santos

03-01-2021

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Abstract: The goal of this thesis is to assess Vidrala as a potential leveraged buyout target. Market and company overviews were performed to evaluate the company's positioning and financial performance, as well as future trends within the glass packaging industry, the respective end-markets and other packaging solutions. This analysis was used to select the most suitable investment strategies and quantify the resulting business plan in financial terms. Finally, a valuation using several methods was conducted from which a capital structure was designed and potential returns calculated. This part will cover in detail the company and market overviews.

Keywords: Private Equity, Leveraged Buyout, Glass Packaging Market, Vidrala

Disclaimer: This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

Vidrala’s presence in a mature market with stable and predictable cash flows makes for a very attractive M&A target

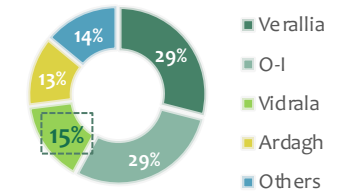
Company Overview

- Founded in 1965, Vidrala currently has **8 factories** spread across **5 countries**, being a dominant player in the Western European Market and serving approximately **1 600 customers**
- The management team has **created a strong player** in the respective geographies **through several successful M&A transactions**
- Vidrala has been showing a **stable and predictable cash flow generation** and a **leveragable balance sheet**

Industry Overview

- Being highly **dependent on the respective end markets**, this industry’s main drivers are **population growth, urbanization**, the sustainability trend and the **premiumization** of the end markets, with the latter **increasing the penetration rate of glass** over other packaging options

Main competitors in Western Europe



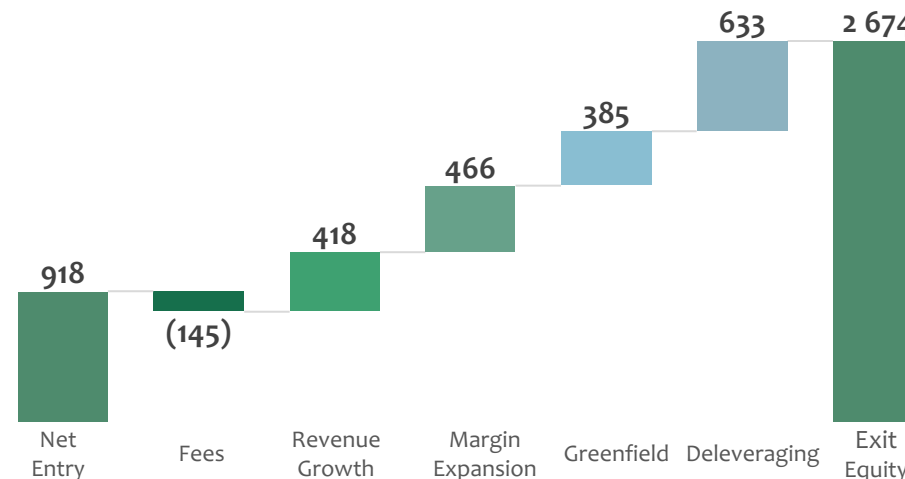
Investment Rationale

- Following the industry trend and company strengths, **M&A consolidation** creates value by **increasing exposure in key geographies** and **diversifying product portfolio**
- Leveraging the company’s focus on **automation** and **increasing usage of cullet** allows to increase EBITDA margins of the company
- Using excess cash to **develop factories in glass net importing countries** adds more value than deleveraging further

Entry

- **Entry will be priced at 7.5x EBITDA**, according to the relative valuation. Overall, the acquisition of Vidrala and its target Zignago Vetro plus banking and due diligence fees results in a cost of **€ 2.67Bn**
- The capital structure is composed by **66% of debt and 34% of equity**, optimizing returns and respecting covenants
- Management team will represent **10%** of the institutional investment contributing with **€ 6.3M**, twice its fixed annual salary

Value Creation (in million €)



Exit

	Money Multiple	IRR
Inst. Investors	2.8x	23.6%
Mang. Team	20.9x	83.7%

- The **exit strategies** considered most suited for the deal are **IPO** due to deal-size and **Strategic Sale** due to potential synergies and consolidation trend

By investing in strategic acquisitions Vidrala has become one of the main players in the Western European market

Company profile

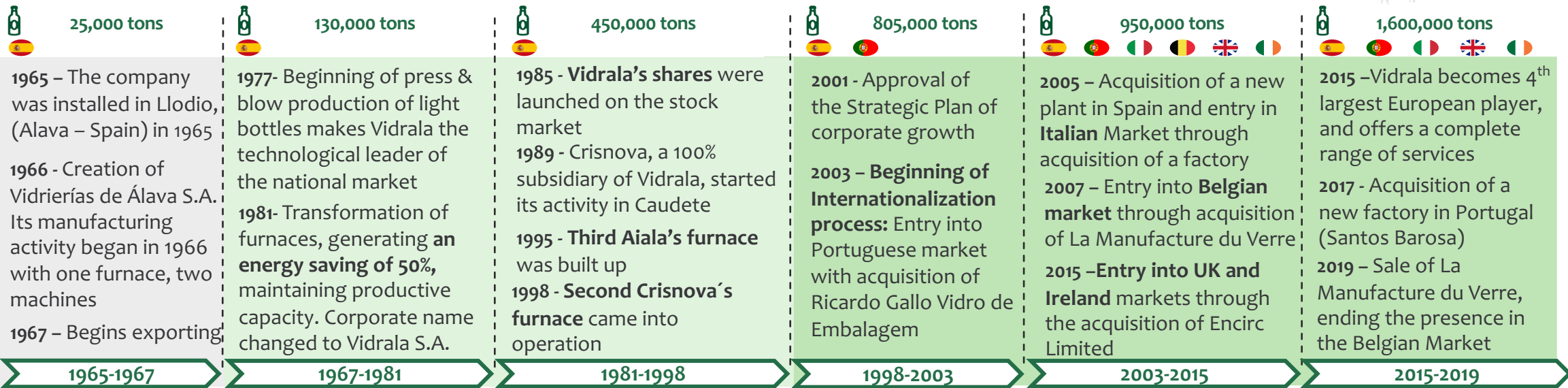
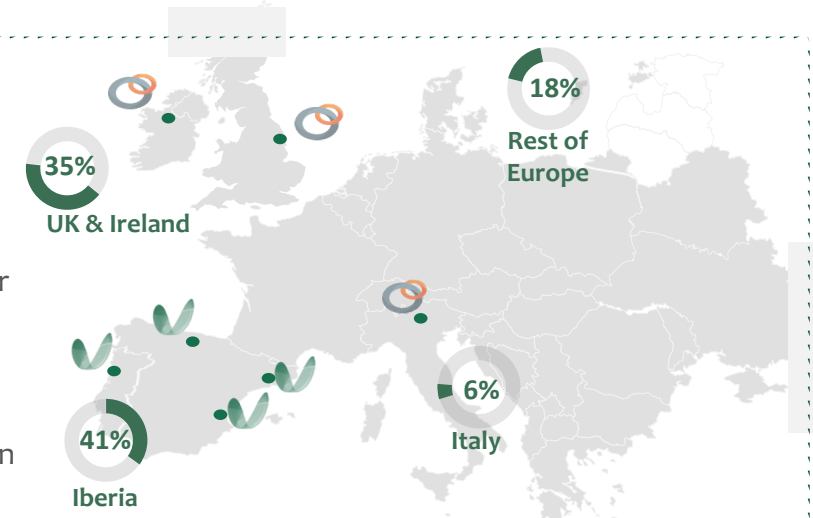
- Vidrala is a **leading producer of glass containers** for the **food & beverage industries**
- It also **provides packaging services** such as beverages filling and logistic activities, which account for less than 10% of revenues
- Sales by product segment in 2019:

Wine	Beer	Food	Spirits	Soft Drinks	Others
35%	30%	10%	9%	9%	7%
- Its strategy is to be the European low-cost producer, always **focused on customers** and **competitiveness**, through **sustainable** and **cost-efficient** processes

Outreach and sales by region

It currently operates through:

- 8 factories** in **5 countries**, producing around
- 8 billion containers** per year
- Serving **1 600 customers** and
- Retaining **15%** of the Western European market



Sources: Company's Published Reports

Each business unit is aggregated by geography and managed locally

Business Model

Vidrala has **distinct** market strategies in different locations. There are two business units: **UK & Ireland** and **Continental Europe** with their **own overhead services**, while each **plant** is **responsible** for **operations** and **commercial force**

Revenue

Mainly from selling **manufactured bottles and containers** for food and beverages. Vidrala also provides **filling and logistics services**, which are not recorded as a separate segment as they are **complementary**, but **charged to costumers separately**

Costs

Raw materials, merchandise and consumables represent almost half of the expenses, while **employee benefits and sales expenses** together account for 56% of total costs

DRIVERS

Inorganic growth through the **acquisition of plants** in key strategic locations has been the main driver for sales

Reduction of costs by pursuing **greater efficiency** in the production process

Risk Management

- Investing** in its **facilities and technology** used in order to increase process efficiency and sustainability
- Reducing exposure to raw materials and energy prices** through several risk management measures
- Looking for **alternative supply sources** and **tightening relationships** with suppliers
- Having a **diversified customer base** where no customer represents more than 10% of the revenues

Production Process

Raw Materials

Silica, sand and sodium carbonate arrive mainly from **local suppliers** and together with the **recycled glass** begins the production process

Production

The batch mixture (raw materials + recycled glass) is heated in the furnaces at 1500°C **creating molten glass**. The mixture is **loaded into moulds** where they are blown to get the **shape of the final container**

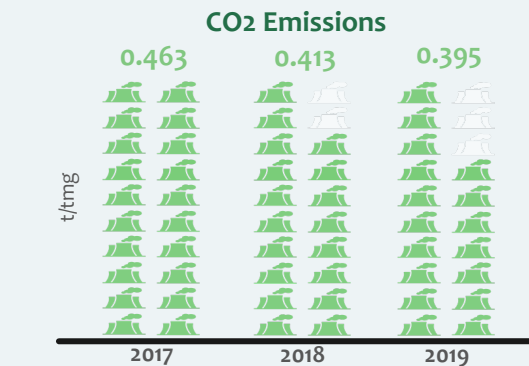
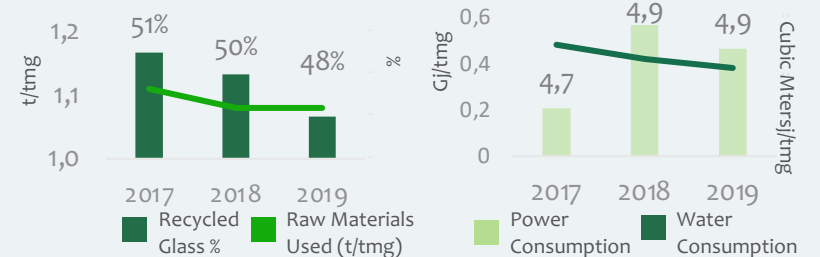
Quality & Control

To **guarantee the strength** of the container it is reheated at 600°C and cooled down before entering a strict **quality control** that is **performed automatically** by a machine that eliminates bottles that don't meet parameters

Packaging & Transportation

Before they are sent to the customer, the glass containers undergo an **automated packaging process** where contact between the staff and the finished product is always **avoided**

Environmental Impact



The group has been trying to reduce its environmental impact. In the last 3 years the company was able to reduce the **water consumption, raw materials usage** and **CO2 Emissions** per tonne of molten glass

The decrease in the % of recycled glass used relates to the manufacture of certain colours of glass



- *Academic Background:* Master's degree in Business Administration from University of Duesto
- *Professional Experience:* Joined Vidrala in 1998 and was the Sales & Marketing Manager for 9 years
- *Tenure:* CEO since 2011

Notes & Facts about the Management team

- From the list of 14 senior executives **only 1 woman**
- Age Limit CEO: 65 (75 Director)
- Total remuneration in 2019: € 4.2M (€ 3.2M fixed remuneration)
- Most of the managers have a tenure of more than 10 years
- The UK & Ireland, Encirc, subsidiary kept its highly experienced management team after the 2015 acquisition

Notes & Facts about the Board

- Chairman: Carlos Delcaux. Experience in glass and in banking. Chairman since 2002
- Among the independent directors, there is experience in banking and in C-level positions: Jan Astrand was the CFO of Azora and CEO of Axus
- Total Remuneration in 2019: € 1.235M
- Committees: Audit and Compliance, Nomination and Remuneration, Strategy and Development



Vidrala's top management team is highly experienced

CFO – Raúl Gomez, CFA

- *Academic:* Bachelor's degree in business and Economics Sciences from Universidad del Pais Vasco
- *Professional:* Joined Vidrala in 2005 for the role of Director of Investor Relations
- *Tenure:* Vidrala's CFO since 2011

Commercial Director - Angel Roldan Maiz

- *Academic:* Bachelor's degree in business and Economics Sciences from Universidad de Alcala
- *Professional:* Joined Vidrala in 2004 for the role of Director of National Sales
- *Tenure:* Vidrala's Commercial Director since 2011

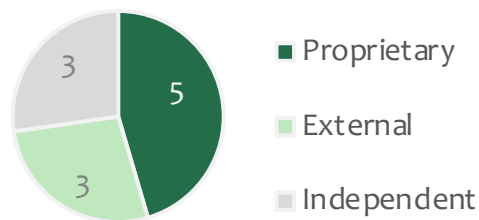
General Manager ENCIRC - Adrian Curry

- *Academic:* St. Michaels College
- *Professional:* Joined Encirc in 1990, and in 1998 was **important in setting up the plant in Derrylin**. In 2004 was the responsible for the glass production and in 2005 **oversaw the construction of the Elton plant**
- *Tenure:* ENCIRC's Managing Director since 2004

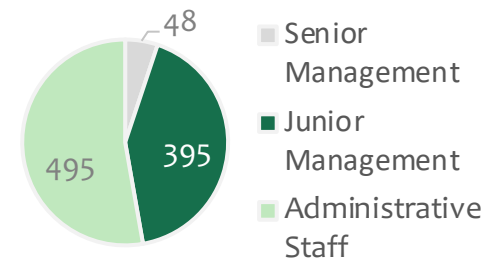
Financial Director ENCIRC – Sean Murphy

- *Academic:* Bachelor's degree in Accounting from Queen's University of Belfast
- *Professional:* Coca Cola Bottlers for 6 years and PwC for 4 years
- *Tenure:* ENCIRC's Financial Director since 2004

Board composition by category



Headcount By Position – excluding operators



2. Market Overview

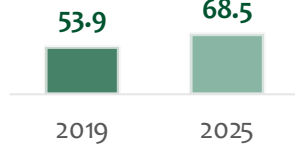
FALL 2020



Considering market trends, glass will have an important role in the future of packaging

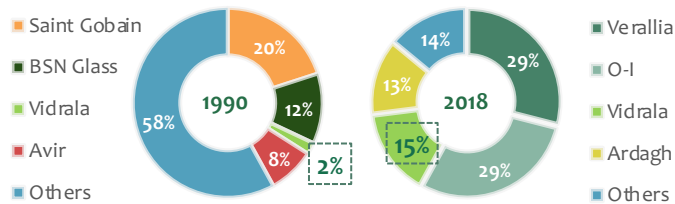
Glass bottles and containers Market

Global market size (in billion €)



- It is expected to grow at a CAGR of 4.1% between 2020 and 2025
- Asia pacific is the biggest market, followed by Europe, where Germany, France and Russia account for a significant part of the revenues
- The market is competitive and increasingly concentrated

Main competitors in Western Europe



- The majority of glass packaging consumption is made by the alcoholic beverages industry, with beer contributing with the greatest volume

Key Trends

<p>Increasing concerns about the environment are leading consumers towards more sustainable choices</p> <p>Glass is 100% recyclable</p>	<p>Premiumization People are looking for higher quality products, and do not mind paying a premium</p> <p>Glass allows for attractive design</p>	<p>Healthier consumers demand healthier products</p> <p>Glass has no affinity, guarantees quality</p>	<p>Growth Drivers</p> <ul style="list-style-type: none"> • Increasing urban population and purchasing power • Growing demand for alcoholic beverages, especially for beer • Growing number of policies to reduce the use of plastics • Increasing wine trade • Fast growing pharmaceutical and cosmetics segments
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Value Chain



BA Glass is Vidrala’s closest peer when considering size and location

Competitors

BA

- **BA Glass is a company owned by two Portuguese families** that manufactures and sells glass packaging products
- It is present in 7 countries, especially Portugal, Spain, Poland and Bulgaria
- Currently has a **partnership with CVC partners**
- **€ 923M revenue in 2019**

ZIGNAGO VETRO



- **Zignago is a manufacturer and supplier of hollow glass containers**
- The company produces glass containers for **cosmetics, perfumery, food and beverages**
- Presence in Western Europe (Italy, France and Poland) and in the US
- **€ 324M revenue in 2019**

verallia



- **Leading European and 3rd largest glass containers world producer**, present in eleven countries across Europe and in Latin America
- Its product portfolio is composed by **food and beverages**
- Most of its revenues are in the southern and western Europe market and wine bottles represent most of its sales
- **€ 2 590M revenue in 2019**

vetropack



- **Vetropack is a Swiss company** that designs and manufactures glass bottles and containers
- Its product portfolio includes beverage **bottles**, containers for **food** and solutions for the **pharmaceutical** industry
- It is based in **Switzerland** and focuses on the **Eastern Europe** market. In the Western Europe market, it is represented in **Switzerland and Italy**
- **€ 660M revenue in 2019**

OI

- **US based producer**
- Has 78 manufacturing facilities
- **34 manufacturing facilities in Europe**
- Its product portfolio is **similar to Vidrala’s**, packaging for: wines, beer, food and beverages
- **€ 5 686M revenue in 2019**






ArdaghGroup

- **Ardagh manufactures glass and metal packaging for food and drinks**
- It is present all over Europe and in the United States
- Regarding glass production, it has most its factories in Germany, Poland and US, with one production facility in Italy
- In both continents, Ardagh offers metal and glass packaging solutions
- **€ 5 660M revenue in 2019**




GERRESHEIMER

- **Gerresheimer AG has operations around the world**, producing specialty glass and plastic packaging for the pharma and healthcare industries
- It has three main divisions: Plastics & Devices, Primary Packaging Glass, and Advanced Technologies
- Although not in the same exact markets as Vidrala choosing this company as a peer has two important reasons: on the one hand, to **control operational performance** and a **possible entrance in this market**
- **€ 1 392M revenue in 2019**


While some industries are growing slower, others present great opportunities

	Beer & Cider		Alcoholic		Non-Alcoholic	
End Market*	On-Trade Worldwide: € 294Bn CAGR: 3.63%	Europe: € 85Bn CAGR: 3.06%	Wine Worldwide: € 327Bn CAGR: 3.73%	Europe: € 160Bn CAGR: 2.44%	Worldwide: € 996Bn CAGR: 4.4%	Europe: € 215Bn CAGR: 3.2%
	Off-Trade Worldwide: € 331Bn CAGR: 4.62%	Europe: € 67Bn CAGR: 2.22%	Spirits Worldwide: € 391Bn CAGR: 3.19%	Europe: € 75Bn CAGR: 2.76%		
Glass %	<ul style="list-style-type: none"> Both markets have similar share of glass and only differ by some percentage points, both above 30% in the US, while Europe has a higher glass penetration rate 		<ul style="list-style-type: none"> In 2016 around 82% of the Wine and 70% of the Spirits sold worldwide were in a glass container 		<ul style="list-style-type: none"> In 2016 more than 10% of the drinks in the categories Carbonated and Sports/Energy drinks were sold with glass packaging 	
Growth Drivers	<ul style="list-style-type: none"> GDP growth is the main growth driver Urbanization also drives growth as grants more access to the product Premiumization of beer is a new trend that is driving growth, with import and draft beer gaining higher market shares 		<ul style="list-style-type: none"> Increase of urban population in emerging economies Premiumization of the alcoholic drinks Greater diversity of products as consumers push towards healthier and lower alcoholic % drinks 		<ul style="list-style-type: none"> Fast growing population in emerging economies Increasing product offer as consumers demand a greater variety of healthier products 	
Specifics about Glass	<ul style="list-style-type: none"> Premiumization of this market is driving growth in the glass packaging industry as glass portrays higher quality Decrease in average packaging size is benefitting the glass packaging industry as the gross profit per Kg of glass will increase 		<ul style="list-style-type: none"> Premiumization of the Alcoholic drinks industry benefits glass since it is perceived as the best packaging solution Product launching is being made in glass container since it seems to increase consumers receptiveness 		<ul style="list-style-type: none"> The industry is moving away from disposable plastic bottles, with glass being a great option as it is associated with health and high quality Flint glass allows people to see the product and check its quality The premiumization trend is accelerating the shift to glass 	
Key Players						

Entering in the pharmaceuticals and personal care segments enables Vidrala to diversify its product portfolio and benefit from increasing glass penetration

	Food	OTC Pharmaceuticals	Personal Care
End Market*	<p>Worldwide: € 6.2Tn CAGR: 4.2%</p> <p>Europe : € 1.4Tn CAGR : 1.9%</p>	<p>Worldwide: € 101Bn CAGR: 3.7%</p> <p>Europe: € 23Bn CAGR: 2.7%</p>	<p>Worldwide: € 447Bn CAGR: 3.2%</p> <p>Europe: € 109Bn CAGR: 2%</p>
Glass%	<ul style="list-style-type: none"> In 2016 almost 30% of the sauces globally sold were in glass packaging while spreads around 60% 	N/A	N/A
Growth Drivers	<ul style="list-style-type: none"> Population growth Population living in urban areas, meaning less people while farm or raise their own food Increased living conditions, by more food and more quality food. 	<ul style="list-style-type: none"> Increasing consumer spending, especially in emerging economies Increasing health concerns and demand for high potency drugs Improvements in the access to healthcare 	<ul style="list-style-type: none"> Boom of cosmetic industry in specific regions, like Milan that serve a significant share of the market
Specifics about Glass	<ul style="list-style-type: none"> There is a renewed interest for re-usable glassware According to a survey made in the Netherlands, most responders (41%) considered glass to be the most sustainable packaging material while only 8% considered it the least sustainable 	<ul style="list-style-type: none"> The global pharmaceutical glass packaging market is expected to reach €1.9Bn in 2025 growing at a CAGR of 6.4% 	<ul style="list-style-type: none"> Cosmetics and personal care products require attractive designs that can be easily achieved using glass
Key Players			

The fact that glass is infinitely recyclable and maintains the properties of it's products explains why it is a better solution for the future of packaging

	Glass 	Paper	Plastic	Metal & Aluminium
Recycle Rate*	74.4% of all packages	84.8% of all packages	41.9% of all packages	79.7% of all packages
Impact	Since it is made up mainly from sand, glass is quite easy to recycle. It only needs to be broken down and melted again. However, if thrown-away to land fills it takes 1 million years to decompose	Based on volume, it is the greatest element in American landfills. It takes on average 2-6 weeks to be completely decomposed	Plastic items are intensively used nowadays. It is estimated that worldwide 1.6 million of barrels of oil are used to produce plastic water bottles. These bottles take 450 years to decompose, while items such as plastic bags take 1000 years	In America, every 3 months is disposed an amount of aluminium cans which would be enough to rebuild the entire US commercial air fleet. These cans are estimated to take between 80-200 years to fully decompose
Logistics & Properties	Production Process is very energy and resource intensive, and it is also quite difficult to transport due to its weight. However, it maintains the properties of the products it contains and if recycled could be used infinitely	Paper is a very good packaging alternative when produced in a sustainable manner. However, if not controlled it has the consequence of deforestation. The inks used in these type of packaging are also likely to be petroleum based and have acids. However due to its weight, and since it is 100% recyclable it is one of the best packaging solutions	Plastics are petroleum-based which make it an unsustainable solution. Unlike glass, as plastic goes through the decomposing cycle, it releases toxic chemicals into the environment. Plastics are also a very energy and resource intensive packaging solution. The main upsides are their weight, and easiness to shape	Aluminium cans are much lighter than glass, so every transport logistics is much easier to do. However, only approximately one fifth of the raw materials ends up in the final product so it produces large amounts of waste that need to be disposed

The global pandemic affected less the glass packaging industry than the respective end-markets

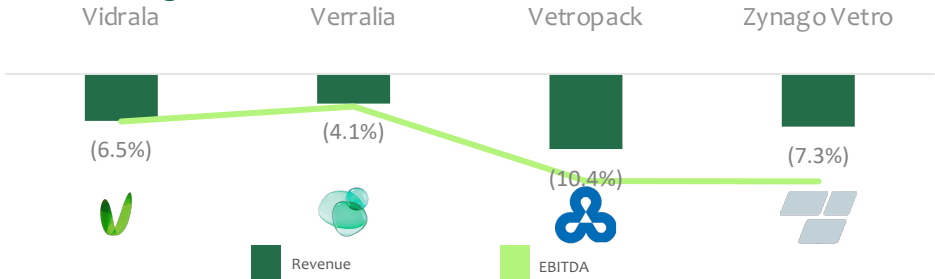
Production and Supply Chain

On the 16th of March, Vidrala published a briefing with the Following Information:

- **All Vidrala plants continued producing** and supplying its customers without any incidents, since a high percentage of supplies come from local players
- There are **no risks of the company running out of stock** since it holds high levels of finished product
- **Strict hygiene measures must be complied** by all workers and limitations were imposed regarding meetings and travel management

Competitors

% Change in Revenue and EBITDA H1 2020 : H1 2019



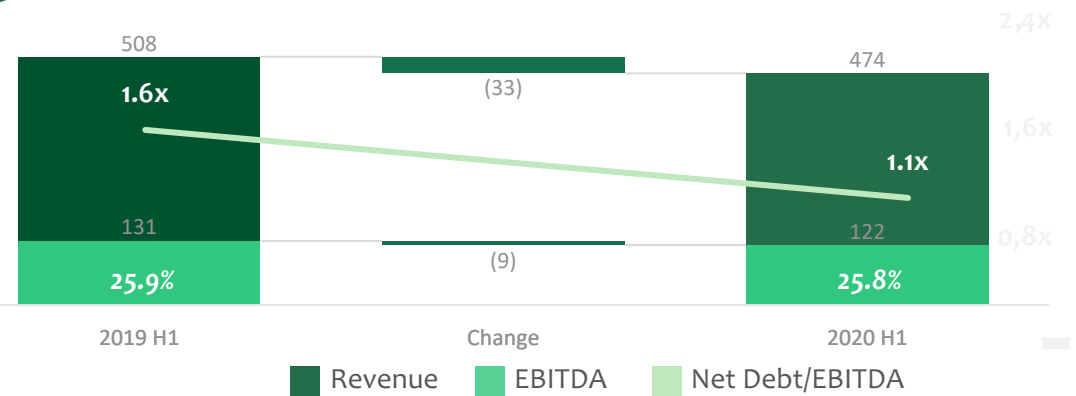
KEY FACTS

(7.1%)
Average Decrease in Revenue

(10.2%)
Average Decrease in EBITDA

- All players have been **substantially affected** by the pandemic
- All companies have their headquarters in countries which were severely affected by the pandemic (Spain, France, Switzerland and Italy), however some have been able to react in a more efficient manner, yielding smaller decreases in revenue and EBITDA

Vidrala Financials



Markets

	Beer & Cider	Alcoholic	Non-Alcoholic	Food	Personal Care
Market Impact	↓ 12%	↓ 9.5%	↓ 12%	↑ 7.7%	↓ 4%
General Observations	On-Trade dropped around 3%, while Off-Trade dropped over 25%	Revenue prospects for Wine industry dropped 12.5% For Spirits the decrease was 7.5%	N/A	N/A	N/A
General Observations	At this moment, all market forecasts for the different segments (Statista) indicate that a return to the growth rate before the pandemic is expected in 2 to 3 years				

Net importers of glass in Eastern Europe and North Africa represent the best opportunities for a greenfield expansion

Entering New Markets

End Markets size (in million €) and growth

	Western and Central Europe*	North Africa	Eastern Europe	Northern Europe
Alcoholic drinks	208 530	3 221	57 215	32 728
CAGR 2019-2023	2.5%	6.5%	4.4%	2.3%
Non-Alcoholic drinks	137 137	18 501	19 400	10 440
CAGR 2019-2023	2.5%	11.5%	6.3%	3.3%
Food	639 913	131 212	323 516	81 077
CAGR 2019-2023	1.9%	8%	2.4%	1.7%
Beauty and personal care	58264	9 861	19 000	6 021
CAGR 2019-2023	1.9%	3.1%	2.7%	2%
OTC Pharmaceuticals	101 533	1 249	3 594	1 278
CAGR 2019-2023	3.7%	2%	3.1%	3.1%

* Does not include Portugal, Spain nor Italy

Why Beauty and Personal care?

Mainly driven by **consumer spending**, the market is growing as beauty products increasingly make part of daily routines. High growth opportunities, especially for **prestige and luxury products**, account for 25% of revenues. In UK, Italy and Spain, where Vidrala already operates, the share of people that buys these products is **28%**, **22%** and **21%**, respectively

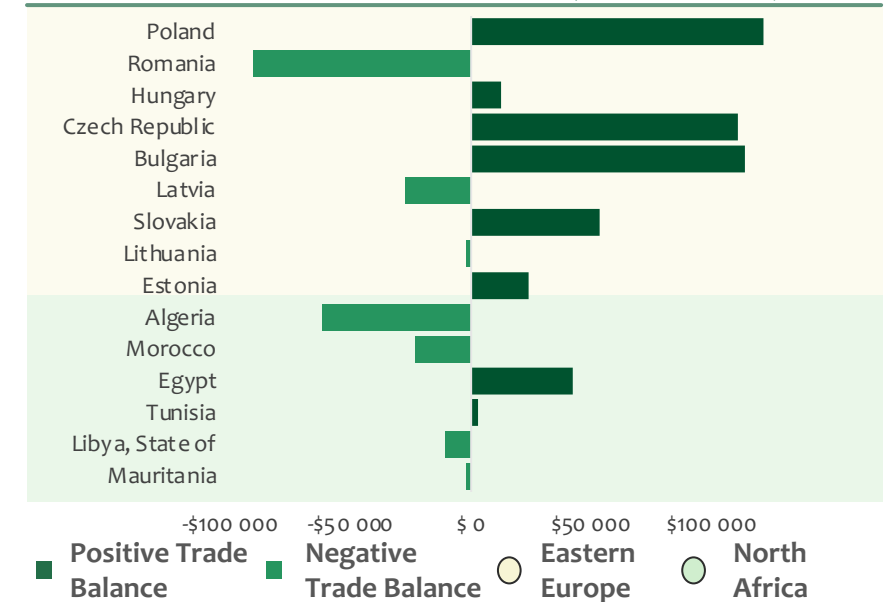
People are looking for **visually appealing, sustainable and more natural products**, with a packaging that allow them to see its quality

Why Pharmaceuticals?

Increasing consciousness about health and access to health care are driving the demand for pharmaceuticals up, particularly in middle income countries where it is growing at a faster pace

Countries where Vidrala currently operates have **high access to medicine**. Glass is one of the **main packaging solutions** for medicine and drugs, allowing the products to keep their properties and contributing to sustainability

Glass Trade balance in 2019 (USD thousand)



Trade balance of the countries allow us to deepen our analysis regarding which markets to entry, since it shows us where demand is larger than what is being produced by the local producers

- In Eastern Europe: **Romania and Latvia** seem to be the regions where there is greater room for more producers
- Regarding North African countries, there seems to be a lot of opportunities: Algeria, Morocco and Libya. However, in these countries a thorough analysis regarding **political and economical stability** needs to take place

Vidrala should capitalize on its ability to generate cashflows to tackle the opportunities in the glass container market

RELEVANCE ↑	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
	<ul style="list-style-type: none"> • Vidrala has the ability to generate significant cashflows that allow for large amounts of debt in the balance sheet • Vidrala is one of the most automated companies in the industry (revenue per employee) • Management team has many years of experience and high tenure. Excellent understanding of glass packaging industry and Vidrala’s position within it • History of success in M&A proven by the acquisition of Santos Barosa and Encirc • High and increasing EBITDA margins specially in the Iberian Peninsula and UK & Ireland • Customer diversification allows Vidrala to not be dependent on one particular account 	<ul style="list-style-type: none"> • Vidrala’s financial management appears to be particularly biased against leverage, specially taking into account peers’ numbers and Spanish tax law • Italy’s plant low EBITDA margin of around 19% is significantly below the company’s standard • Compared with it’s competitors, revenue shows a below average Gross Margin 	<ul style="list-style-type: none"> • Growth of the European packaging market • Increasing demand for sustainable and safe choices in: food and beverages but also beauty and medical products, where glass is considered the best option (Research survey made by the European Container Glass Federation, showed that 91% of the Europeans consider glass the best packaging option) • Increasing demand for packaging solutions in Emerging markets driven by the increase of urban population and GDP growth • Regulations are going towards more sustainable practices. Glass is the material with the highest recycling collection rate in Europe which is currently 76% 	<ul style="list-style-type: none"> • Intense competition within the industry and from other materials which are less eco-friendly but cheaper and easier to handle • Variations in the price of Raw materials or energy could harm profitability • Innovative materials could offer other recyclable solutions which may be cheaper and more practical in terms of logistics • Brexit could harm the UK operations of the company since the company supplies itself with raw materials that come from foreign countries • Company is subject to strict regulation concerning the environmental impact of the production process, and inability to comply with it could result in fines and bad reputation

M&A Activity is boosting growth and margins

Vidrala's Income statement key captions 2012-2019

in Million €	2012	2013	2014	2015	2016	2017	2018	2019
Revenues	458	474	469	803	774	823	955	1 011
Organic Growth Rate	N/A	3.5%	(1.0%)	2.3%	(3.7%)	(3.8%)	16.1%	5.8%
Inorganic Growth Rate	N/A	0.0%	0.0%	69.1%	0.0%	10.2%	0.0%	0.0%
COGS	(156)	(157)	(164)	(304)	(279)	(277)	(318)	(320)
Gross Profit	301	317	304	499	495	546	637	691
Gross Margin (%)	65.8%	66.8%	64.9%	62.2%	64.0%	66.4%	66.7%	68.4%
Employee Expenses	(100)	(100)	(96)	(166)	(166)	(175)	(190)	(198)
Other Expenses	(102)	(106)	(102)	(178)	(162)	(181)	(204)	(207)
Other EBITDA								
Adjustments	2	3	1	(3)	5	(1)	(2)	(25)
Adjusted EBITDA	102	114	107	152	172	190	242	262
EBITDA Margin (%)	22.2%	24.1%	22.8%	18.9%	22.2%	23.1%	25.3%	25.9%
NOPAT	46	58	50	57	75	86	121	135
NOPAT Margin (%)	10.0%	12.2%	10.6%	7.1%	9.6%	10.4%	12.6%	13.4%

in Million €	2018	2019
Revenues	955	1 011
Iberian Peninsula	567	597
UK & Ireland	334	351
Italy	54	63
Rest of European Union	-	-

in Million €	2018	2019
Other expenses	(204)	(207)
External Services	(46)	(45)
Electricity	(54)	(51)
Sales Expenses	(88)	(93)
Taxes	(6)	(5)
Other Operating expenses	(9)	(13)

Sources: Vidrala's annual reports

- Vidrala has been actively participating in M&A by acquiring manufacturing sites in strategic locations
 - In 2015 Vidrala acquired its **UK & Ireland divisions** which added over € **300M** in revenue. Organic growth rate was 2.3%
 - In 2017 Vidrala completed another acquisition, **Santos Barosa** in Portugal, adding over € **140M** in revenue
 - In 2019 the **Belgium site was sold** to Carlyle Group Owned, Saverglass
 - Vidrala's strategy focuses on **cost optimization** and **product mix diversification**

- The acquisition of the UK & Ireland divisions hurt Vidrala's margins as these divisions had **significantly higher costs** compared to others. In 2015, UK & Ireland had EBITDA margins close to 18% while other segments had close to 21%, with the **Iberian Peninsula being the most profitable** at circa 30%. Currently, UK has margins closer to 25%

- Energy consumption, specifically, electricity and natural gas represent one of the largest cost drivers as this industry is **very energy intensive**
 - Sales expense refers to **storage and transportation** costs regarding its logistic services, another large standalone cost driver

- Employee Expenses and External Services (more specifically, maintenance and Insurance) are the **two least variable** captions when analysing a fixed vs variable cost basis
 - Overall, of 2019 costs, 31.1% of the total costs are considered **Fixed Costs**

Vidrala has the highest ROA among its peers

1 The period between 2014 and 2019 shows a declining trend in the cash conversion cycle of the firm. The component that has contributed more towards this trend is **the decline in the holding period**, meaning the firm took less time to sell its inventories. There was also an **upward trend on the Payable period** since as the company scales up, it has more bargaining power with its suppliers

• Regarding Vidrala's position compared to its peers, it is observed that smaller players like Zignago Vetro and Vetropack have the worst cycles

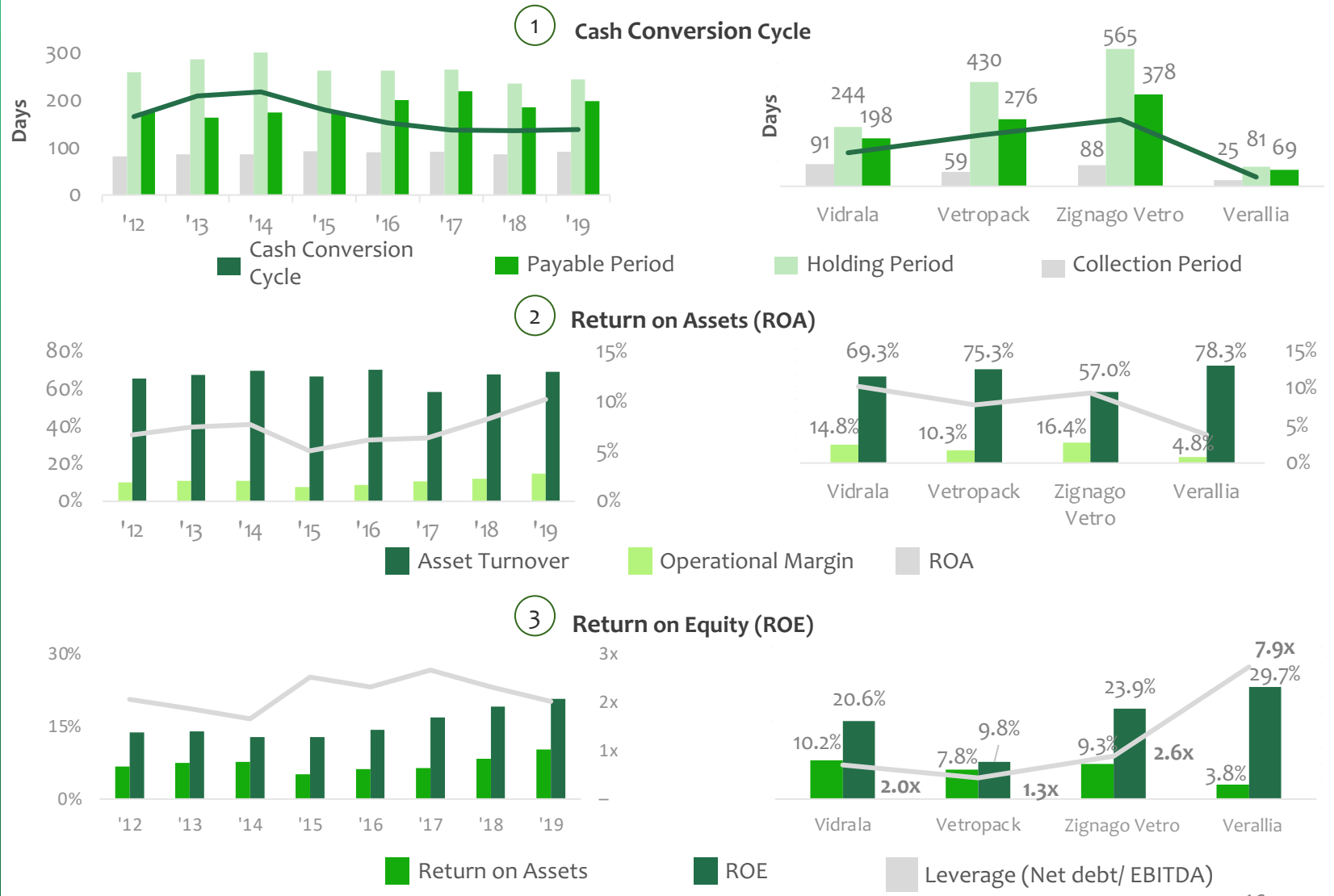
2 In the last 5 years there was an increase in the Return on Assets of the company. This happened due to **improvements in the efficiency** translated in the operational margins but also, because of a positive trend in the capacity of **generating more sales with the assets of the company***

• The second graph shows that Vidrala presented in 2019 the biggest ROA. When looking at the Asset turnover, it is seen that the best companies were Verallia and Vetropack. However, in the operational margin these 2 players are not as good

3 The Return on Equity also shows an up-warding trend. This happened because although there has been a deleveraging of the company in the last 3-4 years, **the increases on Return on Assets more than compensated this negative trend in leverage**

• Verallia is the player with the lowest return on assets and the highest ROE, which is driven by the highest level of leverage within its peers

*The decline in Asset turnover in 2017 happened due to the acquisition of Santos Barosa, since it increased significantly the amount of assets the company had





Sources: Vidrala's annual reports

Buy-and-Build, Operational improvements and Greenfield development are the most adequate strategies to create value for Vidrala

Deal Rationale

Strong Financials	Experienced Team	M&A Track Record	Consumer Trends
<ul style="list-style-type: none"> - Vidrala has a leverageable Balance Sheet with large assets to collateralize - Vidrala's strong and predictable cash flow generation allow M&A Activity - Good competitive positioning with large customer portfolio 	<ul style="list-style-type: none"> - Management team has high tenure in the company with deep industry knowledge - Focus on operational improvements through M&A and it is observable in revenue per employee levels 	<ul style="list-style-type: none"> - Two large acquisitions in the past 5 years with successful integration and operational improvement - Focus on product portfolio diversification and margins optimization 	<ul style="list-style-type: none"> - General perception of Glass as a safe packaging material - Premiumization of beverages increases demand for glass packaging - Increasing consumer demand for environmentally sustainable products

Value Creation Strategies

	Buy-and-Build	Operational Improvements	Greenfield Development
Rationale	<p>Horizontal Integration</p> <ul style="list-style-type: none"> • Use Vidrala's high & stable FCF generation and Management Team's experience to acquire targets in strategic geographies and diversify product portfolio • Continue to consolidate the western Europe market position 	 <ul style="list-style-type: none"> • Continuation of the automation trend, in line with company's investment in R&D, in areas such as robotics and big data, that until now have translated into the highest revenue per employee among competitors 	<ul style="list-style-type: none"> • Building a new plant can bring several opportunities to grow. Vidrala will be able to capture an important fraction of the market, taking advantage of its experience and efficiency to outperform current players
Synergies	<ul style="list-style-type: none"> • Increase of Automation • Decrease of Sales Expenses • Increase in usage of recycled glass • Increase presence and improvement of Vidrala's division in Italy • Increase product portfolio and new end market 	 <ul style="list-style-type: none"> • Savings in energy and COGS will be driven by: increase in usage of cullet, increased use of renewable sources and possible recovery of heat to be re-used in the production process (TASIO UE project) 	<ul style="list-style-type: none"> • Adrian Curry, Encirc's general manager, has experience in setting plants from scratch and can contribute with his expertise

Plan A consists of acquiring Zignago Vetro, due its product portfolio and strong positioning in Western Europe

Acquisition plans

Plan A – Zignago Vetro

Zignago Vetro is the best acquisition target for Vidrala since it checks most criteria the company defined in 2015 when acquiring Encirc:

- Customer diversification
- Different Product-Mix weights
- Consolidation of the **Western Europe market**
- Usage of higher cullet rates **due to already existent vertical integration**

In addition, Zignago Vetro has a more complete product portfolio than Vidrala, adding:

- Cosmetics and Perfumery
- Specialty Glass Containers

Zigango's presence in Italy can also be **leveraged to improve the overall performance of the group's operations in that country**

Zignago's ownership of joint ventures Vetri Speciali and Vetreco, 50 and 30% respectively, are not considered since these targets are not strategically fit

Plan B – Vetropack

If for any reason the acquisition of Zignago Vetro fails a Plan B is considered

Most criteria also check for Vetropack however, **with less influence in the Western Europe Market**

Vetropack also has a larger product portfolio than Vidrala:

- Pharmaceutical Packaging

Plan C – Smaller acquisitions

If the acquisition of Vetropack is not possible smaller acquisitions should be considered according to the **established criteria**

Note that probably these companies will not have recycled glass providers, and so, **in this case vertical integration should also be considered**

Why Zignago over Vetropack?

There are three main reasons to choose Zignago over Vetropack:

• Core Markets

Zignago Vetro has presence in a Western European Market where Vidrala is not (France)

• Potential Deal Size

Vetropack has a much larger EBITDA than Zignago (€ 170M vs € 79M) which would bring higher risk to the deal, albeit Zignago's EBITDA is still relevant

• Better EBITDA margins

Zignago Vetro has already better margins than Vetropack

Criteria for Other Targets

In case both deals fail it is important to define some criteria so that the deal succeeds:

Tier 1:

- Presence in Western Europe
- Product-Mix
- Operational Margins

Tier 2:

- Deal size or combined size of the companies acquired
- Cullet utilization rate
- Speed of the Due Diligence Process

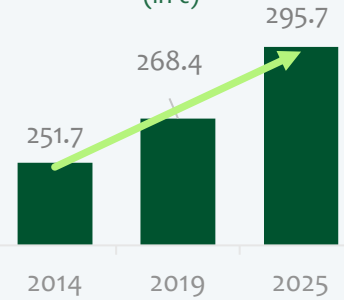
Moreover, **vertical integration can also be considered** in order to increase the cullet utilization rates. One example could be **Eurovetro***, which is only, 20 minutes away from Vidrala's facilities in Italy



Automation and integration of big data will be the main operational improvements behind the increase in EBITDA margin

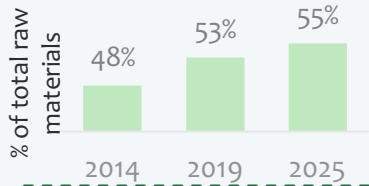
Revenue per employee

(in €)



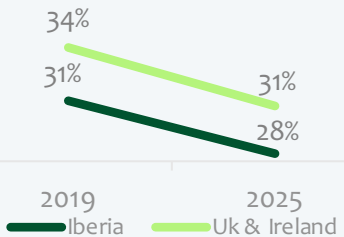
- Maintain the path of automation and digitalization of the production process with inclusion of robotics and big data into making the production process as efficient as possible
- From 2014 to 2019, the company increased the ratio of revenue per employee from € 251.7 to € 268.4. In the upcoming years, the companies' investment in R&D will be maintained and push the **Vidrala Academy towards the goal of achieving a revenue per employee of € 295.7**
- This obviously **directly impacts the personnel expenses** and consequently key performance ratios such as the EBITDA margin

Rate of Cullet Inclusion



- As a member of the FEVE association, Vidrala has **committed to increase the % of cullet in its production process**. This will allow the company to **decrease the costs associated with electricity and raw materials** and to increase the capacity of each furnace, since the duration of the melting process also decreases with the usage of cullet*

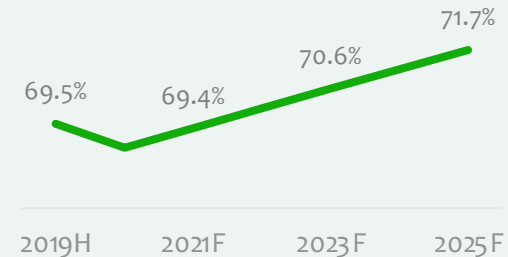
COGS as % of Revenue



- Investments are planned with the goal of increasing efficiency and consequently **reduce the weight of the raw materials in the cost structure** of the company. The investments in furnace upgrades promise to bring marginal decreases in the % of COGS relative to sales along the next years. At the same time, Investments in the UK & Ireland region are expected to push this segment of the company closer to the margins of the rest of the group and decrease the weight of the COGS to around 30% of revenues

In order to be able to achieve these improvements, Vidrala will have to keep investing in technology. This way, beyond the expansion capex, the levels of capex will be 16% higher (the average for the last 3 years) than the level of maintenance capex that is considered equal to depreciation

Vidrala Gross Margin



Vetropack Gross Margin 2019

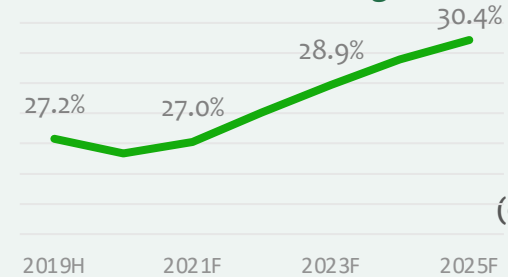
85.9%

Zignago Vetro Gross Margin 2019

82.1%

The efforts to include of Cullet and furnace upgrades will cause an increase on the gross margin of Vidrala, moving progressively closer to the gross margins of certain competitors/ targets of similar size to Vidrala

Vidrala EBITDA Margin



Vetropack Ebitda Margin 2019






23.3%

Zignago Vetro Ebitda margin 2019 (excluding joint ventures)

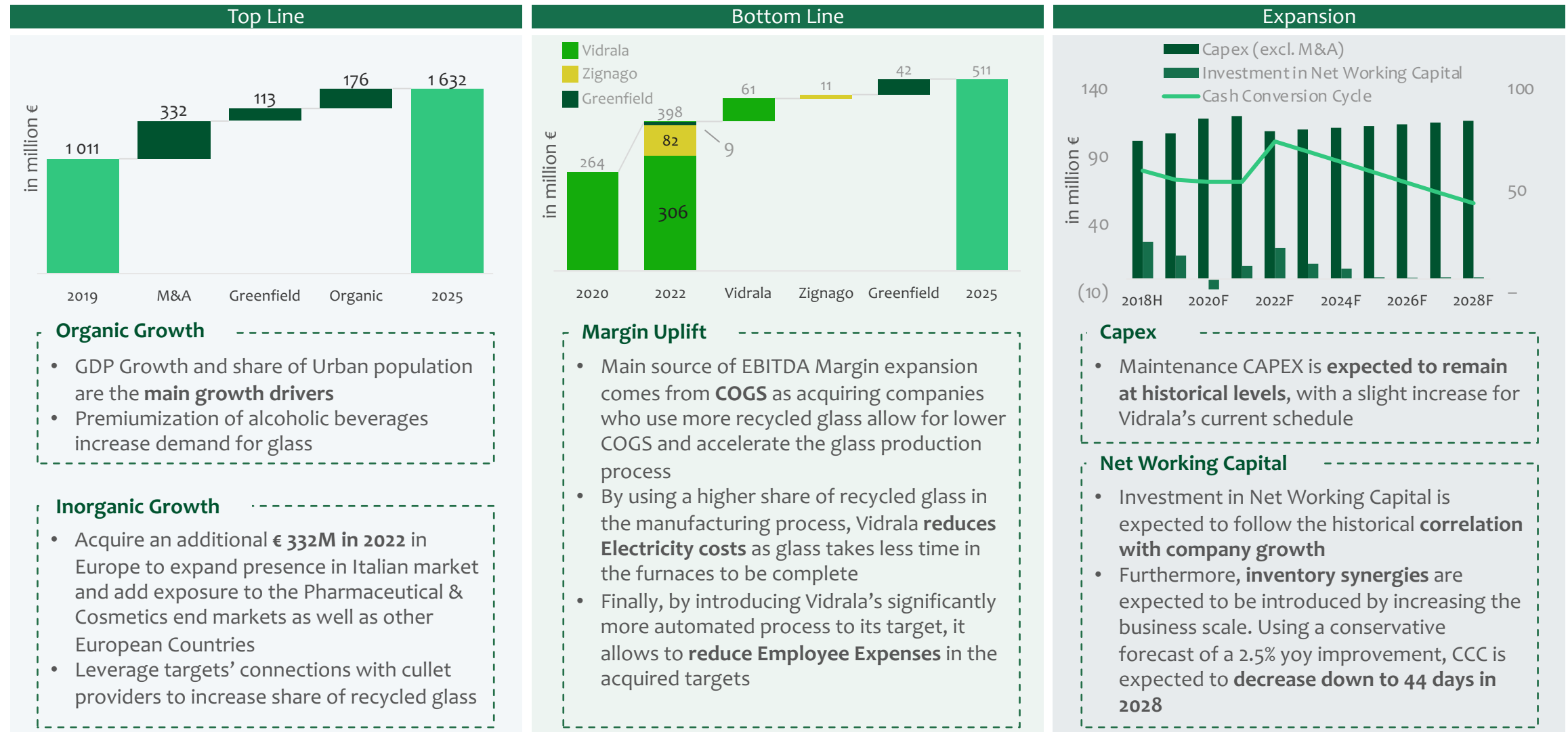
26.5%

The continuous investment regarding the integration of robotics and big data in the production process will continue to increase the revenue per employee and **will positively impact the EBITDA margin of the company**

Although the industry is going through a consolidation process, Romania is suited for a greenfield development due to its glass trade balance, market size and growth

Investment and Timing			Investment and Timing																																																																																						
 Investment required € 134.6 million	<p>The location chosen to build the new plant was</p> 		<p>Criteria</p> <ul style="list-style-type: none"> Romania is a net importer of glass containers It is an Eastern European country, giving Vidrala the opportunity to benefit from big markets with higher growth rates Its proximity to several other countries in this region that Vidrala may serve as well: Moldavia, Ukraine, Bulgaria, Serbia and Hungary Lower labor, land and production costs Low tax rate 																																																																																						
 Construction of the plant will start in the beginning of 2021	<p>2 Furnaces</p>																																																																																								
 Years until plant starts producing 1 year	<p>300+ Employees</p>																																																																																								
 Production capacity in 1st Year 2 nd Year 3 rd Year 50% 70% 100%																																																																																									
<p>Assumptions</p> <p>Revenue- average revenue per furnace was used and an assumption regarding the number of furnaces to build was made according to the demand identified by the group according to the size of the market, growth rates and trade balance</p> <p>Gross PP&E per plant- Average of the current GPP&E per furnace was used. Although land might be cheaper in Romania, there is great uncertainty about other possible investments</p> <p>Net Working Capital- Worst captions of last 4y of Vidrala were assumed as a starting point, with improvements taking place over the years</p> <p>Employee Expenses- Calculated according to Average Hourly manufacturing costs in Romania (Eurostat), evolving according to inflation throughout the years. Contributions to Benefit plans calculated according to Vidrala standards</p>			<p>Key Financials</p> <table border="1"> <thead> <tr> <th>Millions of €</th> <th>2021</th> <th>2022</th> <th>2023</th> <th>2024</th> <th>2025</th> <th>2026</th> </tr> </thead> <tbody> <tr> <td>Revenues</td> <td>-</td> <td>53.2</td> <td>85.1</td> <td>109.6</td> <td>113.0</td> <td>117.4</td> </tr> <tr> <td>Gross Profit</td> <td>-</td> <td>27.9</td> <td>50.7</td> <td>76.1</td> <td>79.1</td> <td>82.5</td> </tr> <tr> <td> <i>Gross margin</i></td> <td>-</td> <td>52.4%</td> <td>59.5%</td> <td>69.4%</td> <td>70.0%</td> <td>70.3%</td> </tr> <tr> <td>EBITDA</td> <td>-</td> <td>9.2</td> <td>27.1</td> <td>48.7</td> <td>51.0</td> <td>53.5</td> </tr> <tr> <td> <i>EBITDA Margin (%)</i></td> <td>-</td> <td>17.3%</td> <td>31.8%</td> <td>44.4%</td> <td>45.1%</td> <td>45.6%</td> </tr> <tr> <td>EBIT</td> <td>-</td> <td>(0,2)</td> <td>17,6</td> <td>39,2</td> <td>41,6</td> <td>44,1</td> </tr> <tr> <td> <i>EBIT Margin (%)</i></td> <td>-</td> <td>(0.4%)</td> <td>20.7%</td> <td>35.8%</td> <td>38.3%</td> <td>39.1%</td> </tr> <tr> <td>NOPAT</td> <td>-</td> <td>(0.2)</td> <td>14.8</td> <td>33.0</td> <td>34.9</td> <td>37.0</td> </tr> <tr> <td>Δ in Net Working Capital</td> <td>-</td> <td>(13.2)</td> <td>(7.5)</td> <td>(5.7)</td> <td>(0.2)</td> <td>(0.4)</td> </tr> <tr> <td>CAPEX</td> <td>(134.6)</td> <td>(9.5)</td> <td>(9.5)</td> <td>(9.5)</td> <td>(9.5)</td> <td>(9.5)</td> </tr> <tr> <td>FCF</td> <td>(134.6)</td> <td>(13.4)</td> <td>7.3</td> <td>27.2</td> <td>34.7</td> <td>36.6</td> </tr> </tbody> </table>			Millions of €	2021	2022	2023	2024	2025	2026	Revenues	-	53.2	85.1	109.6	113.0	117.4	Gross Profit	-	27.9	50.7	76.1	79.1	82.5	<i>Gross margin</i>	-	52.4%	59.5%	69.4%	70.0%	70.3%	EBITDA	-	9.2	27.1	48.7	51.0	53.5	<i>EBITDA Margin (%)</i>	-	17.3%	31.8%	44.4%	45.1%	45.6%	EBIT	-	(0,2)	17,6	39,2	41,6	44,1	<i>EBIT Margin (%)</i>	-	(0.4%)	20.7%	35.8%	38.3%	39.1%	NOPAT	-	(0.2)	14.8	33.0	34.9	37.0	Δ in Net Working Capital	-	(13.2)	(7.5)	(5.7)	(0.2)	(0.4)	CAPEX	(134.6)	(9.5)	(9.5)	(9.5)	(9.5)	(9.5)	FCF	(134.6)	(13.4)	7.3	27.2	34.7	36.6
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The Business Plan forecasts an additional € 621M in Revenue and € 247M in EBITDA



Organic Growth

- GDP Growth and share of Urban population are the **main growth drivers**
- Premiumization of alcoholic beverages increase demand for glass

Inorganic Growth

- Acquire an additional € 332M in 2022 in Europe to expand presence in Italian market and add exposure to the Pharmaceutical & Cosmetics end markets as well as other European Countries
- Leverage targets' connections with cullet providers to increase share of recycled glass

Margin Uplift

- Main source of EBITDA Margin expansion comes from **COGS** as acquiring companies who use more recycled glass allow for lower COGS and accelerate the glass production process
- By using a higher share of recycled glass in the manufacturing process, Vidrala **reduces Electricity costs** as glass takes less time in the furnaces to be complete
- Finally, by introducing Vidrala's significantly more automated process to its target, it allows to **reduce Employee Expenses** in the acquired targets

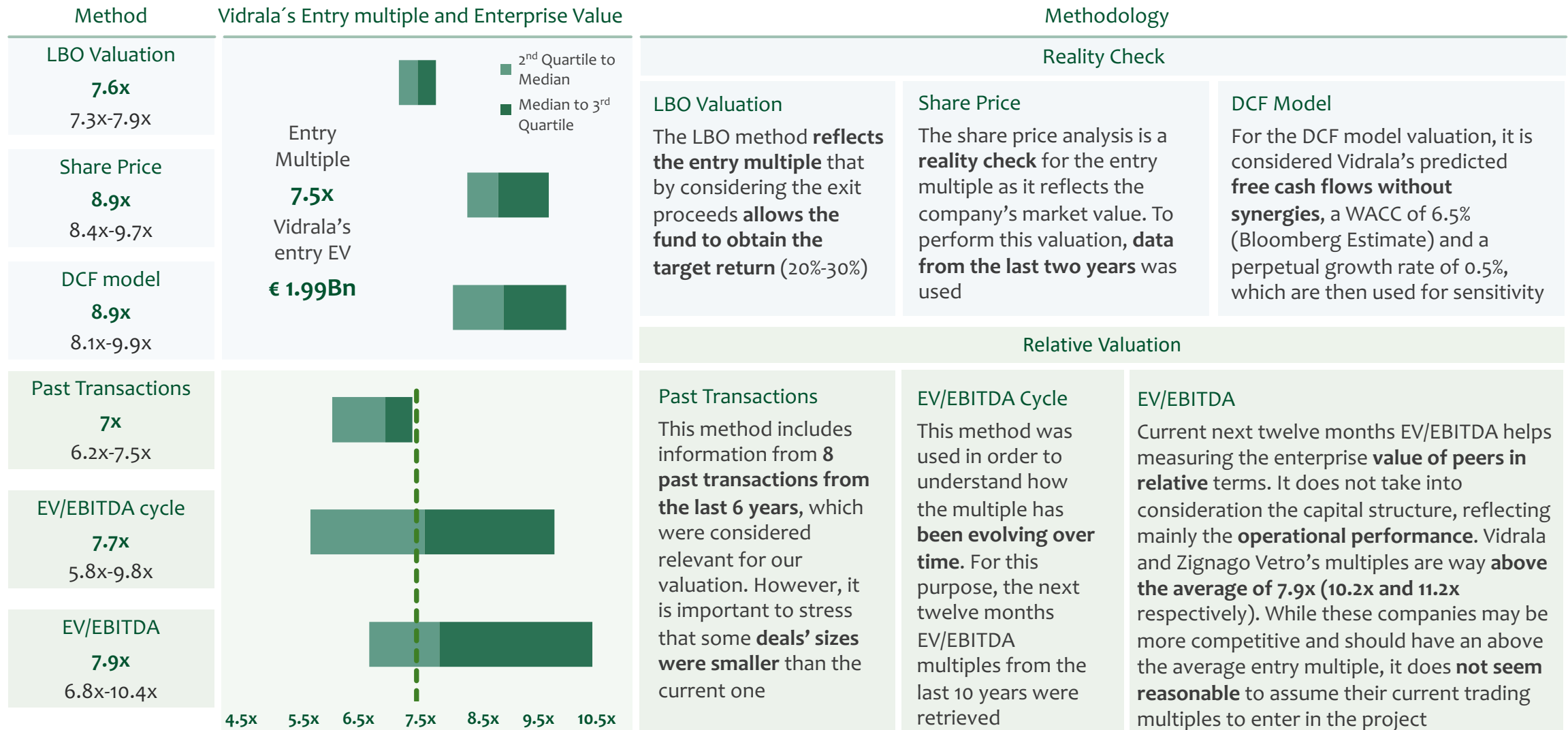
Capex

- Maintenance CAPEX is **expected to remain at historical levels**, with a slight increase for Vidrala's current schedule

Net Working Capital

- Investment in Net Working Capital is expected to follow the historical **correlation with company growth**
- Furthermore, **inventory synergies** are expected to be introduced by increasing the business scale. Using a conservative forecast of a 2.5% yoy improvement, CCC is expected to **decrease down to 44 days in 2028**

Combining several valuation methodologies resulted in a multiple of 7.5x, which correspond to an enterprise value of € 2Bn for Vidrala



Entry debt is assumed to account for 66% of the capital structure, representing 5.12x the EBITDA for the both firms

1

Vidrala is assumed to be acquired for € 1.99Bn at the end of 2020 and Zignago Vetro one year later for € 598.6M, with the same entry multiple of 7.5x. Adding 3.36% in fees, it results in a **total investment of € 2.67Bn**

2

Taking into consideration the capex requirements for the project and the future cash flow generation, the capital structure is expected to be composed by **65.7% of debt** and **34.3% of equity (5.12x the Sum of EBITDA of Vidrala and Zignago)**. These figures show lower leverage when compared with deal of Apollo which took place in 2015

3

Considering the entry levels of each company separately: Vidrala is acquired with **63.6% of Debt** and **36.4% of Equity**, while Zignago Vetro is acquired with **72% of Debt** and **27% of Equity**

4

The Management Team receives **ownership of 10%** of the Ordinary Shares. For that, they pay **2x their fixed component of the annual salary** at entry (to guarantee they have “skin in the game”). The Institutional Investors figure is computed maintaining the price paid per % of ownership equal to the management team. The Fixed Return Instrument accounts for the rest of the equity and has a **hurdle rate of 10%**. The second capital call is done through an FRI in order not to dilute the Management Team

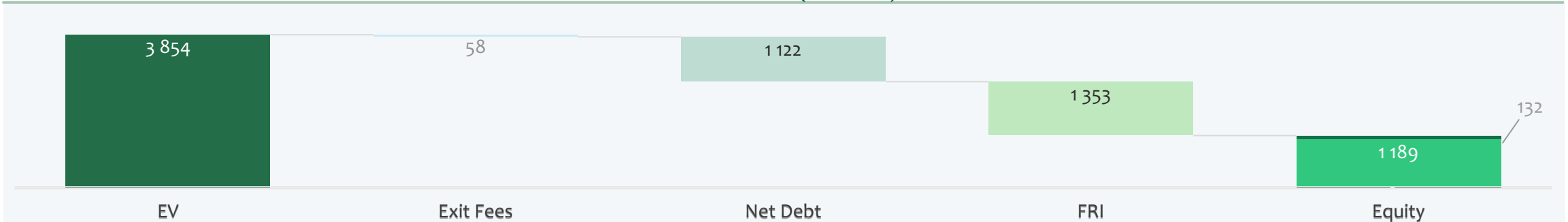
Sources of Funds			
Debt	In million €	EBITDA Vidrala x	% of Total
Vidrala			
Senior debt	1 054.3	5x	39.5%
Subordinated debt	263 .6	1x	9.9%
Zignago Vetro			
		EBITDA Zignago x	
Senior debt	436.7	5.5x	16.3%
Total debt	1 754.6		65.7%
Equity	In million €	EBITDA Vidrala x	% of Total
Vidrala			
FRI	692.7	2.63x	25.9%
Ordinary Equity	63.2	0.2x	2.4%
Inst. Investor	56. 9		
Sweet Equity	6.3		
Zignago Vetro			
		EBITDA Zignago x	
FRI	161.9	2.04x	6.1%
Total Equity	917.8		34.3%
TOTAL SOURCES	2 672.4	7.79x	100%

Uses of Funds		
Enterprise Value	In million €	% of Total Uses
Vidrala EBITDA 2020	263.6	
Zignago EBITDA 2021	79.4	
Entry Multiple	7.5x	
Total EV	2 585.6	96.64%
Fees	In million €	% of Total Uses
DD Fees	25.9	1.0%
Advisory Fees	25.9	1.0%
Banking Fees	35.0	1.36%
Total Fees	86.8	3.36%
TOTAL USES	2 672.4	100%

Notes: A more detailed version of Sources in Uses is available in Slide 69 of Additional Considerations

Assuming an Exit in 2025, the Institutional Investors are expected to obtain a money multiple of 2.8x and an IRR of 23.6%

Exit Waterfall (in million €)



- After an Investment period of 5 years, the Exit is planned for 2025. At this point the sum of the **EV and Cash adds up to € 3.9Bn**
- At Exit, fees were considered lower in percentage of the Total deal since there are lower due diligence requirements, banking and advisory fees. The total amount of Debt which is still left to amortize from both Debt calls is close to **€ 1.1Bn**, and there is still a total of approximately **€ 2.7Bn** left to be distributed to the Fund and the Management Team. The ordinary shares were distributed at exit according to a 90/10 split (10% to the management team)

Institutional and Management Returns
















- **Institutional Investors:** The institutional investors enter the deal with a total of € 911M, divided into FRI (€ 855M) and Ordinary Shares (€ 57M). At exit, the institutional investors are expected to get a total of **€ 2.5Bn**, yielding a **MM of 2.8x and an IRR of 23.6%**
- **Management Team:** The management team pays a total of € 6.3M for 10% of the Ordinary shares. After 5 years they are expected to receive € 132M. The payoff to the management team is expected to yield an **IRR of 83.27% and a money multiple of 20.9x**. The 2nd capital call to acquire Zignago (€ 162M) is done with a Fixed Return Instrument to **avoid dilution Management team**

		Money Multiple		
		2024	2025	2026
Exit Multiple	7.0x	2.19x	2.54x	2.88x
	7.5x	2.43x	2.79x	3.14x
	8.0x	2.67x	3.04x	3.40x

		IRR		
		2024	2025	2026
Exit Multiple	7.0x	22.7%	21.3%	19.9%
	7.5x	26.0%	23.6%	21.7%
	8.0x	29.1%	25.8%	23.3%

	Entry Proceeds	Recap.	Exit Proceeds
Inst. Investors			
Fixed Return Instrument	€ 693M	€ 162M	€ 1 353M
Inst. Investor Shares	€ 57M		€ 1 189M
Returns Management			
Sweet Equity	€ 6M		€ 132M

Due to the deal size IPO and Strategic Sale are the most relevant exit strategies

	Advantages	Disadvantages	Potential Buyers	Relevance
IPO	<ul style="list-style-type: none"> Both Vidrala and the main acquisition targets are already Publicly traded Deal size won't cause any strain in taking company public 	<ul style="list-style-type: none"> Higher degree of uncertainty of returns due to being dependent on market conditions 		
Strategic Sale	<ul style="list-style-type: none"> Follows trend of industry consolidation Interesting target due to high degree of automation from Vidrala Evidence of cross-continent M&A activity in this sector (CVC with BA Glass) 	<ul style="list-style-type: none"> Possible red flag from competition authorities due to excessive industry concentration Higher difficulty to find buyers when compared with IPO 	 	
Secondary Buyout	<ul style="list-style-type: none"> Private Equity activity with highest dry-powder level in history (\$2.5Tn) Attractive target with stable cash flows and recent greenfield development at exit Ability to partner with strategic buyer 	<ul style="list-style-type: none"> Deal size excludes many buyers, creating a large necessity for a club deal Negotiations can lower the possibility of returns derived from multiple arbitrage 	  	
Sale in Parts	<ul style="list-style-type: none"> Potential due to competitive concentration in western Europe Clients may wish to vertically integrate some factories 	<ul style="list-style-type: none"> Loss of Synergies already present and obtained from acquisitions Difficulty/work needed to find a buyer for each part 	     	

Note: Heineken included since in a company report is mentioned to be a client both in Great Britain and in Continental Europe

Private Equity can have a crucial role in the glass packaging industry, especially considering that the market is becoming increasingly concentrated

Glass Container Industry

- The glass bottles and containers industry in Europe is already mature and has been showing stable growth. Considering trends towards sustainability and premiumization, glass will continue to be the best packaging option for some products. Although it may be more expensive due to logistics and transportation costs, it is 100% recyclable, preserves the properties of products and stands for quality, being the first choice for an increasingly number of consumers
- As a mature industry, in order to succeed it is important to be able to gain market share and as a matter of fact, the market is becoming more concentrated. Throughout the years, players like Vidrala, Verallia, O-I and BA Glass have been performing a series of acquisitions because, as a very local business, it is required a great geographical presence to serve a significant share of the market. It is equally important to gain competitive advantages through establishing solid relationships with stakeholders and improving cost effectiveness. This can be done by:
 - Investing in R&D to implement new processes, in order to reduce materials used and energy consumption or reduce the weight of the glass containers to decrease logistic costs, for example improving systems
 - Increasing automation and the use of big data to simplify processes and reduce expenses
 - Developing new ideas to decrease the footprint of this energy intensive business and further increase sustainability

Private Equity Role

- Private Equity funds are able to unlock potential for companies that cannot do it by themselves through discipline and thorough execution
- Considering the characteristics of this market, especially the recurrence of M&A deals, Private Equity funds may be key in the success of some firms. Not only by being able to provide financial assistance and ease in performing M&A transactions but also help building strong networks and providing its expertise about the industry
- The proof is that in fact, there are some examples of Private Equity deals in the glass container industry in the last years. In 2015, Apollo Global management acquired 90% of Verallia, launching the company on Euronext Paris last year and still retaining 55% of it. In 2017, CVC Capital Partners bought Anchor Glass in a partnership with BA Glass. In both cases, firms were able to keep investing in plants and technology, improving margins and growing in value

Why Vidrala as target?

It has been showing a solid cashflow generation and has leverageable balance sheet	It has been able to gain market share, becoming one of the main players in Western Europe	It has been innovating its processes, increasing efficiency and being pioneer in relevant projects, which reflect in higher automation levels when compared with its peers	A successful track record in M&A and a management team with great expertise in the glass packaging business	It has been investing on research to become an even more eco-friendly business, becoming more appealing for investors that increasingly take it into consideration
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Additional Considerations

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