



MIF PROGRAM

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Case Study Alstom-GE

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PUBLIC REPORT

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Executive Summary – Teaching Objectives

For Teachers

This case study is centred around Alstom and how a 90-year old company managed to drastically change its strategy and focus. Indeed, Alstom made the bold move to sell to GE its Energy and Grid units, which represent c.70% of its revenues at the time of the deal, and to focus solely on the Transport sector. The objective of this case is to understand this drastic move and to appreciate the benefits Alstom got from this deal beyond the cash it received.

Indeed, in this case, students are asked to run an SOTP (Sum Of The Parts) analysis to assess whether Alstom is trading below or above its theoretical share price. The chance to conduct an actual SOTP analysis and practically compare the derived implied share price to current trading share price is quite rare, even though it is the best way for students to actually understand and appropriate this analysis. The goal of this exercise is to think about peers selection, what kind of multiple should be selected and how to derive a share price from this analysis and what such a share price means about Alstom when it is compared to the trading share price.

From this analysis, it appears that Alstom is trading c.40% below its trading share price. This discount may be linked to the concept of “holding discount” and the fact that Alstom operates in several distinct sectors with little synergies between some of its units. Moreover, as it is explained in the case, Alstom is not very well positioned on the energy sector due to its small size compared to peers. The decisive factor for this peculiar deal is that Alstom had a potential buyer for the Energy and Grid divisions, with whom it shares a common history and which was inclined to pay cash: GE.

Therefore, selling its Energy and Grid divisions, Alstom could hope for a re-rating. In this case, it is shown that between Apr. 2014 and Jan. 2016 its NTM EBIT multiple went from 7.5x to 10.5x. This concept of re-rating is another key one in this case because students are asked to challenge this alleged 3.0x re-rating and what it means for Alstom.

Finally, this case broached the subject of the price paid by GE and the assessment on whether GE paid an expensive price or not, challenging the SOTP analysis conducted previously and computing the NPV of synergies.

Someone could wonder whether Alstom would have been able to sell its Transport division and keep its Energy and Grid businesses. The answer appears to be no for several reasons. Firstly, as explained in the Case Presentation, Alstom was not strongly positioned on the energy sector due to its small size. Then, transport, and especially its sub-sector signalling, have attractive growth perspective. Finally, the main decisive factor was the ideal interested buyer Alstom had, who showed clear cultural fit and offered a full cash transaction.

This deal had another particularity: the importance of the French State in the negotiations. The political aspect of the transaction is not our key focus here but it matters to underline this fact because it partly explains the recourse to the creation of JVs as mentioned in the Case Presentation.

Note: in addition to the case presentation and teaching notes, we have prepared an excel version of some exhibits for students so they don't have to copy manually all the data tables. We also have created an excel file for teachers which includes every computation we made. However, this paper document is sufficient to understand the case and answer the questions.

Part I – Case Presentation

For Students and Teachers

Case Presentation

For Students and Teachers

On 29th April 2014, Alstom, a French company specialised in energy and transport, announced it was going to sell to GE its Power Generation and Grid units, representing c.70% of its revenues as of March 2014. Market reacted positively to this bold move, why? How did a 90-year-old company manage to completely change its strategy?

1. Alstom overview

Founded in 1928, Alstom is a French company, leader in the power generation, power transmission and transport businesses. Its creation, under the name “Alsthom” nearly 90 years ago, resulted from the merger between the Société Alsacienne de Constructions Mécaniques (SACM) and Thomson-Houston Electric Company. The latter had been founded in 1883 and merged with Edison General Electric Company in 1892 to form General Electrics¹.

In 1989, the merger between GEC Power System (a subsidiary of the British company The General Electric Company) and Alsthom led to the creation of the company GEC Alsthom, renamed Alstom in 1998².

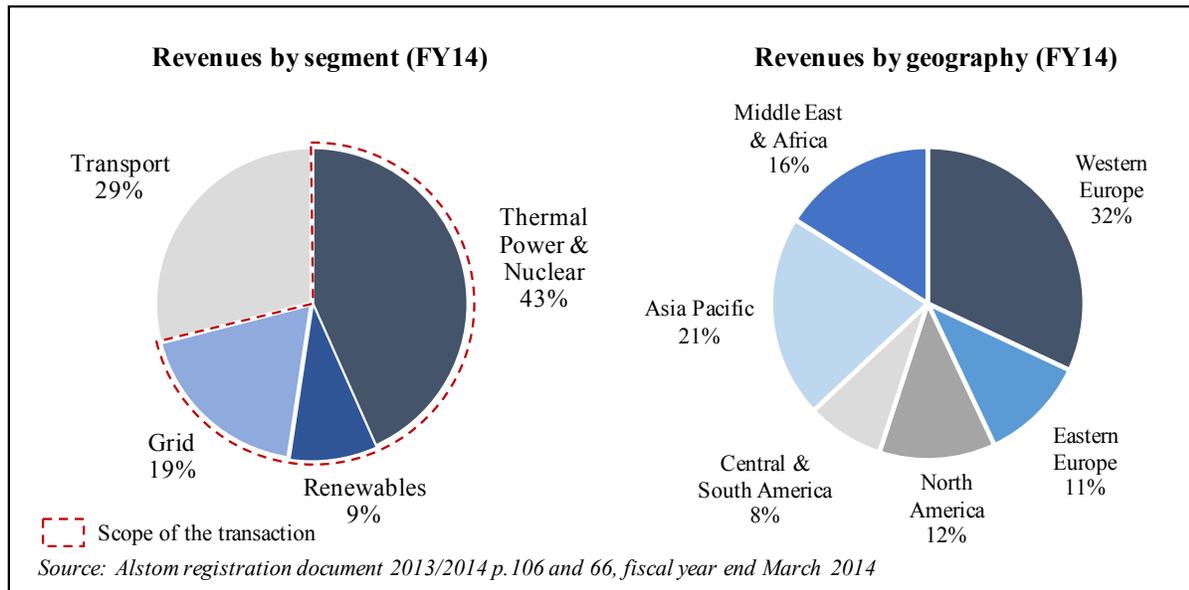
Therefore, Alstom and GE share a common history which explains why similarities between both companies are so strong, especially when comparing their cultures.

Both companies have been doing business together since then. In 1959, GE granted the license to manufacture gas turbines in Belfort and later on GE acquired Alstom’s gas turbines business in 1999. Moreover, in 2007 Alstom sold to GE its Power Conversion division³. Therefore, the recent deal between Alstom and GE does not appear as a surprise since GE has been a long-time counterpart of Alstom’s deals.

Alstom is a listed company whose reference shareholder has been the French group Bouygues since 2006. Prior to the deal, the latter owned 29.3% of Alstom share capital as of 31st Dec 2013⁴.

Alstom operates 3 main segments:

1. Power Generation: Thermal Power & Nuclear and Renewables
2. Transport / Railway
3. Grid

Exhibit 1 – Alstom revenues breakdown as of March 2014

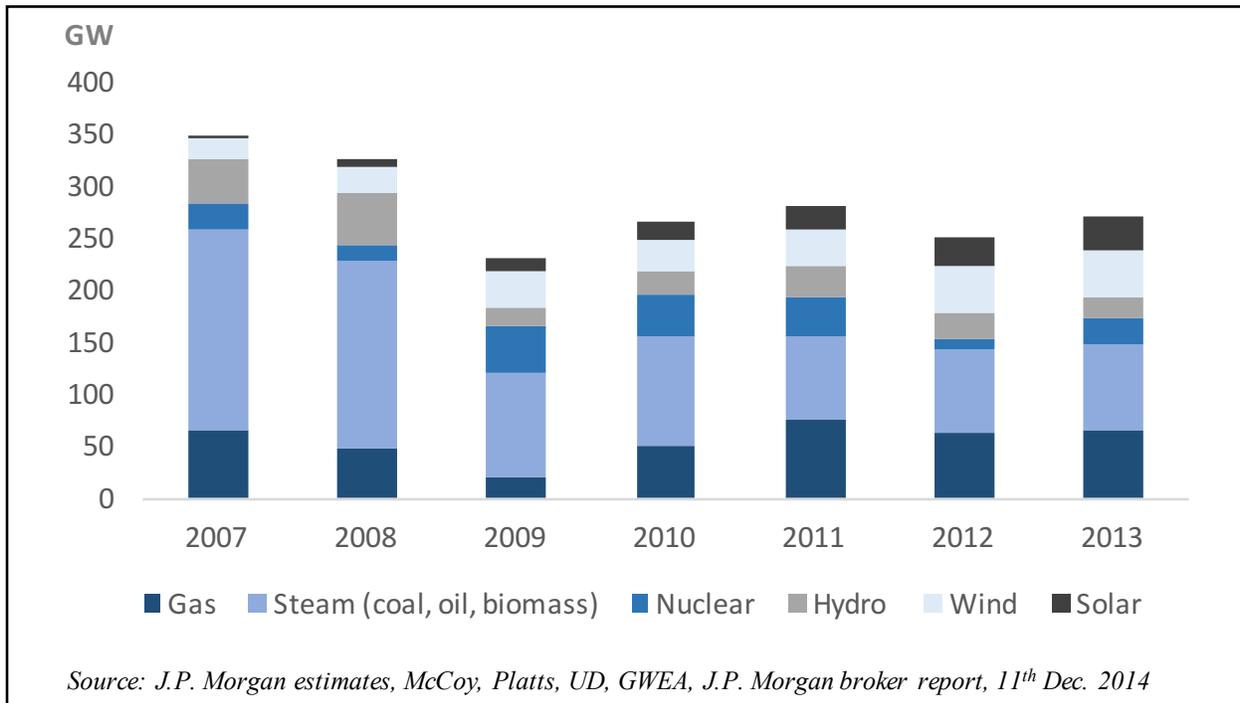
Each segment has very distinctive industry dynamics and competitive landscapes.

1. Power Generation (Thermal, Renewables and Nuclear)

a. Thermal industry dynamics and Alstom positioning

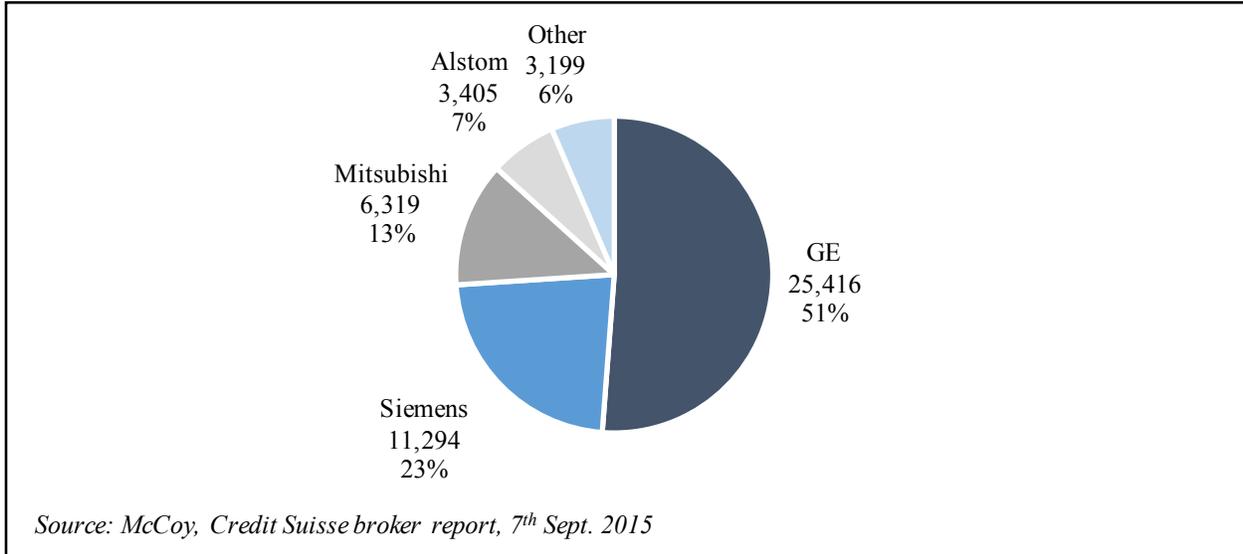
The thermal sector encompasses power generation using gas, steam and nuclear energies. In 2013, steam plants represented 58% of global thermal power installed base, gas plants 30% and nuclear 10%⁵.

The global power generation industry has suffered from a constant decline since 2007 and despite a slight recovery during the year of 2013 (in terms of orders in MW), its 2013 level remained 27%⁶ below the peak reached in 2007. This recovery was mainly driven by the North Africa market, especially from the larger orders observed in Algeria.

Exhibit 2 – Breakdown of global orders by technology in GW

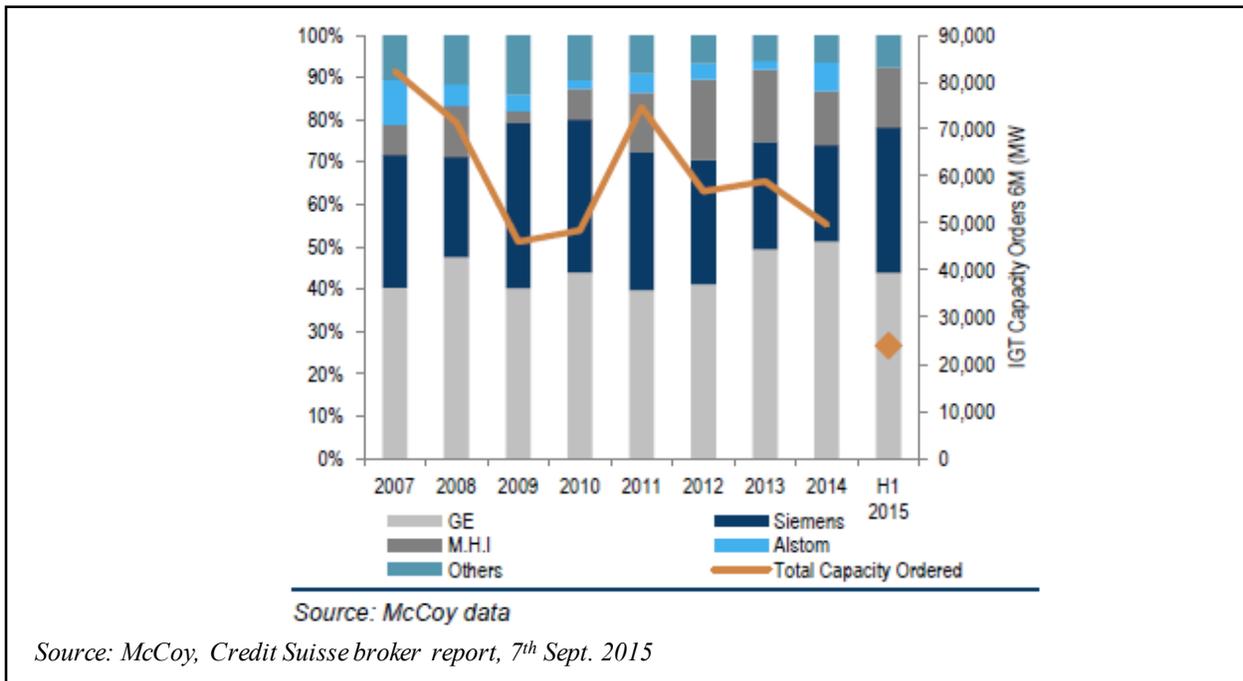
This downward trend in the overall power generation market has been similarly observed in the gas turbine market. Indeed, if historically the average volume CAGR reached 4.8%⁷, the gas market has contracted since 2007/2008 and the price competition has intensified. The situation has even worsened since 2011 due to the new facilities added by the major players which are GE, Siemens, Mitsubishi and Alstom. All together, they represented more than 94% of the world total gas market in 2014. However, among its competitors, Alstom is the smallest player with only c.6% of market share on average over the past 10 years and 4% for the last 5 years⁸. On the contrary, GE is the biggest player in the gas market with a market share of c.50% as shown by Exhibit 3.

Exhibit 3 – 2014 gas turbine market (MW)



When looking at the global gas turbine capacity orders from 2007-2014 (cf. Exhibit 4), Alstom is noticeably the adjustment variable, showing higher correlation with demand and higher volatility than its peers. Since 2007, there is a clear downward trend of the total capacity order, despite the 2011 peak. Alstom has been more impacted by the contraction of the orders than GE, Siemens and to a lesser extent Mitsubishi.

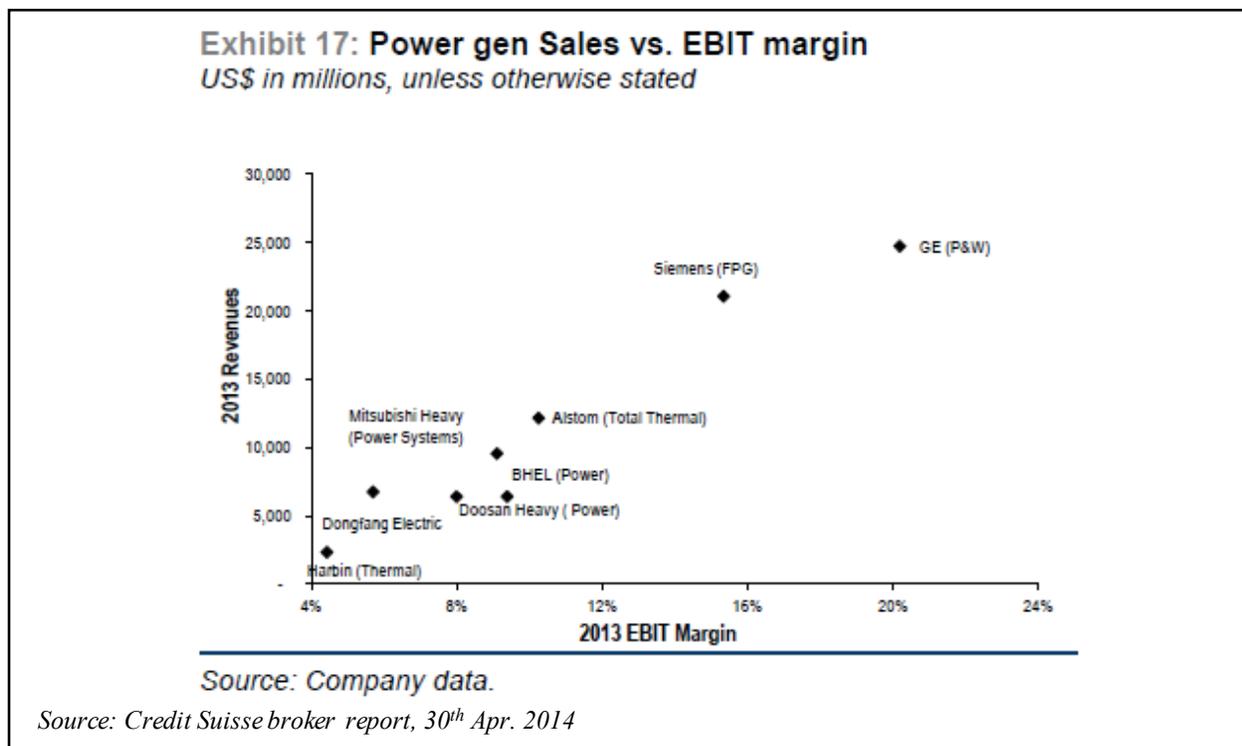
Exhibit 4 – Gas turbine capacity orders globally 2007-2014



Since 2011, the players' capacity increased while the market declined. Some brokers estimate that Siemens, GE, Mitsubishi and Alstom added at least 20% to their assembly capacity. As J.P. Morgan broker explained, this move was driven by “the desire to localise production in key markets, improve market access in returns for local jobs (like Siemens in Saudi Arabia and Russia or GE in Algeria) or to position for a US recovery which subsequently got pushed out (like Mitsubishi and Alstom opening plants)”⁹.

Despite its technical performance and advanced technology, Alstom Power delivers weaker operational profitability than its main competitors Siemens and GE, the two biggest players in this industry. Its profitability is more in line with Mitsubishi Heavy, confirming that players' size matters in this type of business (cf. Exhibit 5 below).

Exhibit 5 – Power generation sales vs. EBIT margin in 2013



During the fiscal year 2013, Bouygues, Alstom's reference shareholder, had to depreciate the value of its investment in Alstom and recognised an accounting write-down of €1.4bn. Indeed, due to persistent weakness of demand for thermal power plants, Alstom reported poor results for its third-quarter order and sales 2013/2014, degrading its operating margin and FCF generation¹⁰. Orders received were down by 12% compared to the first nine months 2012/2013¹¹. Alstom's share price dropped by 25% the two weeks following the announcement¹². This reflects how precarious Alstom's position was in the thermal market at the beginning of 2014.

b. Focus on Nuclear

Alstom’s comprehensive offer in thermal power generation includes the nuclear technology. Nuclear plants still represent c.10% of the global thermal power installed based in 2013¹³. Alstom noticed a slight recovery for construction of new nuclear plants (especially in China and Russia) and regarding existing facilities, the company benefits from the spending needed to conduct maintenance and stress tests.

Alstom is relatively well positioned on the nuclear turbine market and is even the leader in turbine island solutions for nuclear plants with c.40% of market share. In 2013, around the world, only four nuclear plants started running and were connected to the grid, two of them were equipped with Alstom’s ARABELLE™ technology, both in China¹⁴.

The nuclear technology is very strategic for France where many nuclear plants are operated; therefore, the French State has a potential right of oversight on this activity.

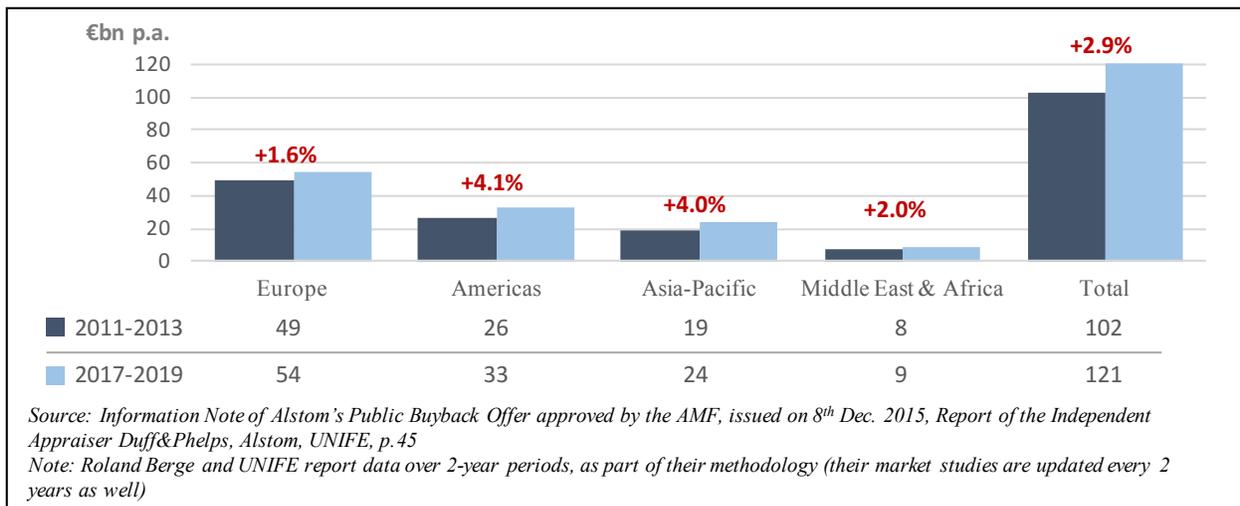
2. Transport / Railway

a. Market dynamics

The railway sector represents c.€100bn p.a. over 2011-13 according to the UNIFE (Union of European Rail Industries) and Roland Berger Railway study with a 2.9% CAGR growth over the periods 2011-13/2017-19¹⁵. UNIFE continues to forecast a positive trend in this sector for the 2017-19 period as shown in Exhibit 6.

Indeed, emerging countries, especially in Asia and Americas, are the most dynamic markets; their growth rates are driven by economic and demographic growths. OECD countries, whose markets are more mature, are going through a renewal and modernisation phase which guarantees further growth in this sector¹⁶.

Exhibit 6 – Railway market by region in 2014



This sector has several particularities, according to Dominique Pouliquen, Chief Performance Officer at Alstom. Firstly, most of the clients are States or States-owned companies (e.g. the RATP in France). Another specificity is the high-level of adaptability that any player needs to have. For instance, a carmaker could sell one of its products in any geographical areas, however each transport project or train has particular requirements (e.g. the dimension and design of a train, the materials used, the type of electrical alimentation, the voltage needed, etc.).

Dominique Pouliquen considers there are 3 main constraints to be aware of in this market:

1. There is a strong local competition (as explained in the following part)
2. There is a necessity to operate locally
3. Clients are more and more exigent and ask for reduced execution and delivering deadlines (e.g. 18 months to deliver a train)

Therefore, the transport sector is animated by a real dynamism and is changing with clients' requirements and the necessity to have a strong local presence.

b. Alstom's positioning

The main players in the rail industry are Bombardier, Alstom, Siemens. Those three players benefit from a strong international presence. In the past years, competition was accentuated by the apparition of local players such as the Spanish CAF, the Russian TMH and Chinese competitors like CNR and CSR.

As shown by Exhibit 7, Alstom, along with Siemens and Bombardier, offers the most comprehensive range of products in the rail industry, both in the "urban" and "mainline" areas. Indeed, it develops and manufactures trains, implements system solutions for train control, designs and manages new railway lines and also offers maintenance services for its customers.

Exhibit 7 – Products offering by main players

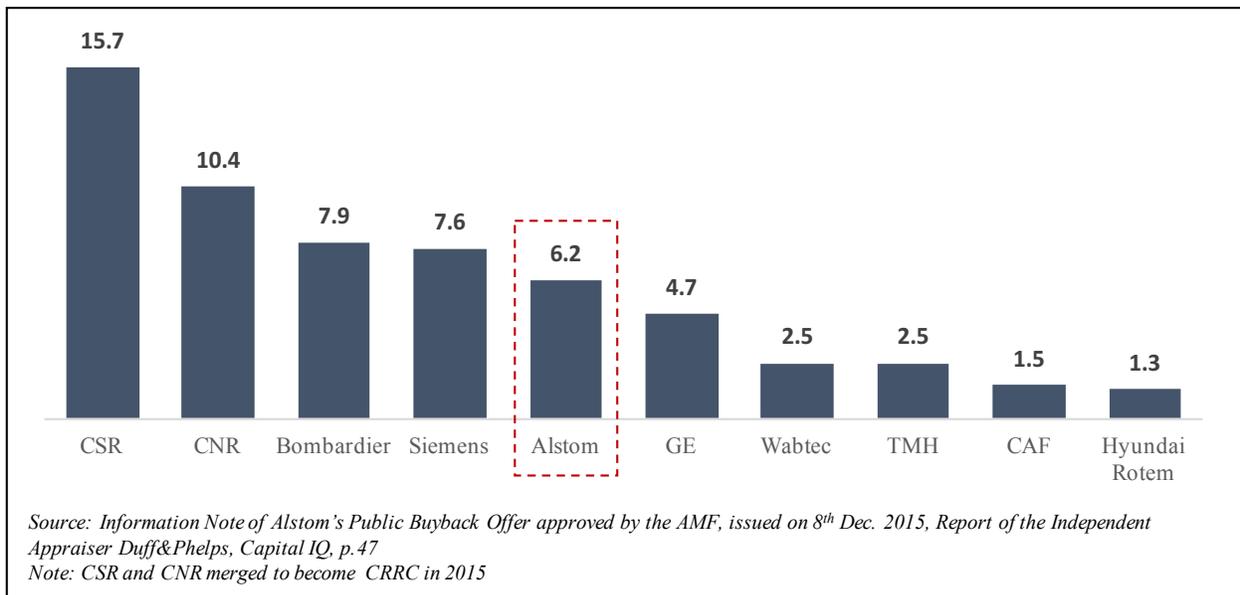
	Rolling stock						System integration	Signalling	Head-quarters
	Light-rail	Metros	Commuter and Regional	High speed and Intercity	Loco-motives	Monorail			
BT	XX	XX	XX	XX	XX	XX	XX	XX	Germany
Alstom	XX	XX	XX	XX	XX		XX	XX	France
Ansaldo STS							XX	XX	Italy
CAF	XX	XX	XX	XX					Spain
CNR	XX	XX		XX	XX				China
CSR	XX	XX	XX	XX	XX				China
GE					XX			XX	U.S.
Hitachi			XX	XX		XX	XX	XX	Japan
Kawasaki		XX	XX	XX					Japan
Rotem			XX	XX	XX			XX	Korea
Siemens	XX	XX	XX	XX	XX		XX	XX	Germany
Stadler	XX		XX	XX					Switzerland
Thales								XX	France

Source: Bombardier

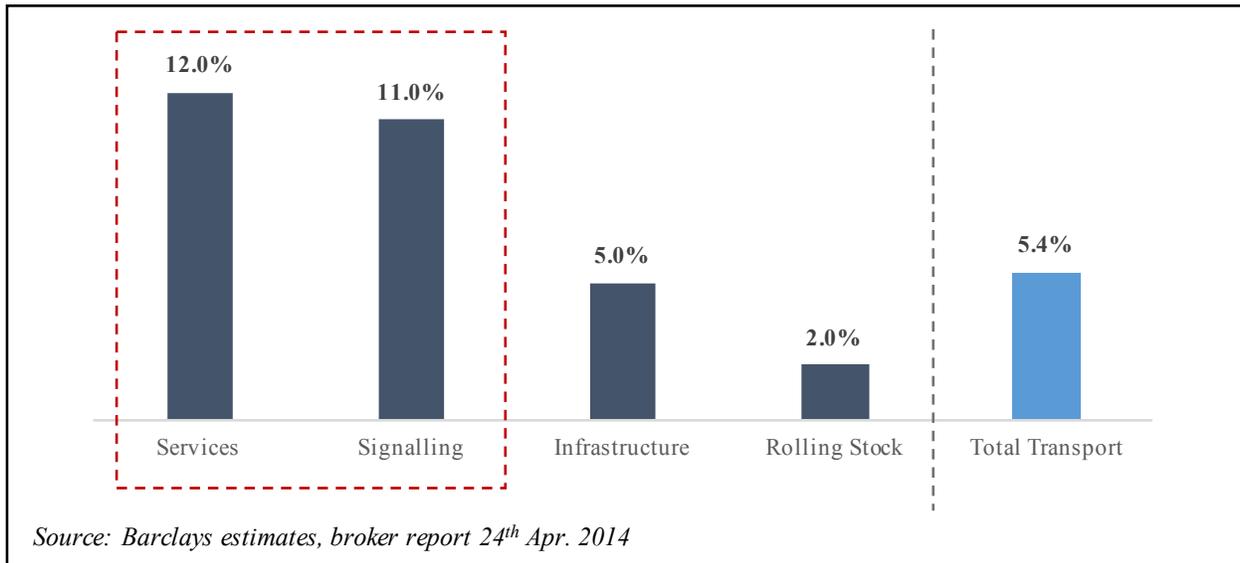
Source: Société Générale broker report, 25th Apr. 2014

Thanks to its large offering and international presence, Alstom is well positioned on the railway market (cf. Exhibit 8 below). Bombardier and Siemens are the companies which share the most similarities with Alstom due to their size and global presence. However, those three main players must face local competitors which have very strong positioning on their markets. For instance, although CSR delivered the highest rail revenues in the industry in 2014, it is almost exclusively focused on the Chinese market with c.91% of its sales¹⁷.

Exhibit 8 – 2014 transport revenue of the railway industry leaders (in €bn)



Looking at Exhibit 9, it is clear that signalling and services are the business units where Alstom benefits from higher operating margins, which makes them key for the French company. Despite the lower margin, rolling stock is considered by some brokers¹⁸ important because a combination of both rolling stock and signalling products could help maintaining a competitive advantage against Chinese competitors such as CRRC (created from the merger between CNR and CSR in 2015). Indeed, only Siemens and Bombardier can offer these integrated solutions (Hitachi would be able to do so post Ansaldo STS acquisition).

Exhibit 9 – Alstom’s estimated EBIT margins by application type (FY13)**c. Focus on the signalling sector**

The signalling sector encompasses railway traffic control and protection activities. This sector is a very attractive industry, especially for Alstom because as mentioned before, it shows higher growth perspective and double-digit EBIT margin due to its higher technicality and consolidation. Indeed, Exhibit 10, below, shows that signalling would be one of the fastest growing segments in the rail industry with an expected growth pace of 3.3% for the 2011-2013/2017-19 period.

Exhibit 10 – Global accessible rail market growth by product

In € bn per year	2011-13	2017/19	CAGR
Signalling	11	13	3.3%
Infrastructure	22	27	3.3%
Services	30	38	3.7%
Freight trains	11	12	1.1%
Mainline trains	9	9	0.3%
Urban trains	9	11	4.1%
Regional trains	11	12	1.2%
Total	103	122	2.80%

Source: Alstom, UNIFE

Source: J.P. Morgan broker report 11th Dec. 2014

Moreover, as mentioned previously, this business segment is characterised by a double-digit EBIT margin for several players, including Alstom (cf. Exhibit 9 and 11). Indeed, in 2014, the French company is the top 3 player on this segment with a c.13% market share (cf. Exhibit 12) and a 10% of EBIT margins 2014E (cf. Exhibit 11).

Exhibit 11 – Global signalling EBIT margin estimates (2014)

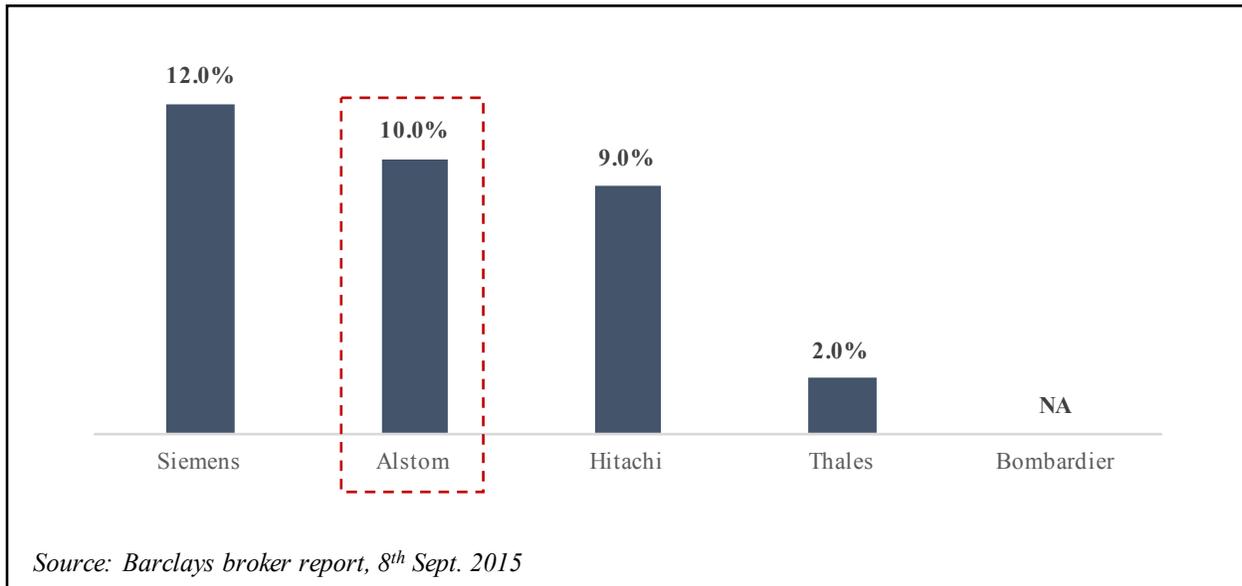
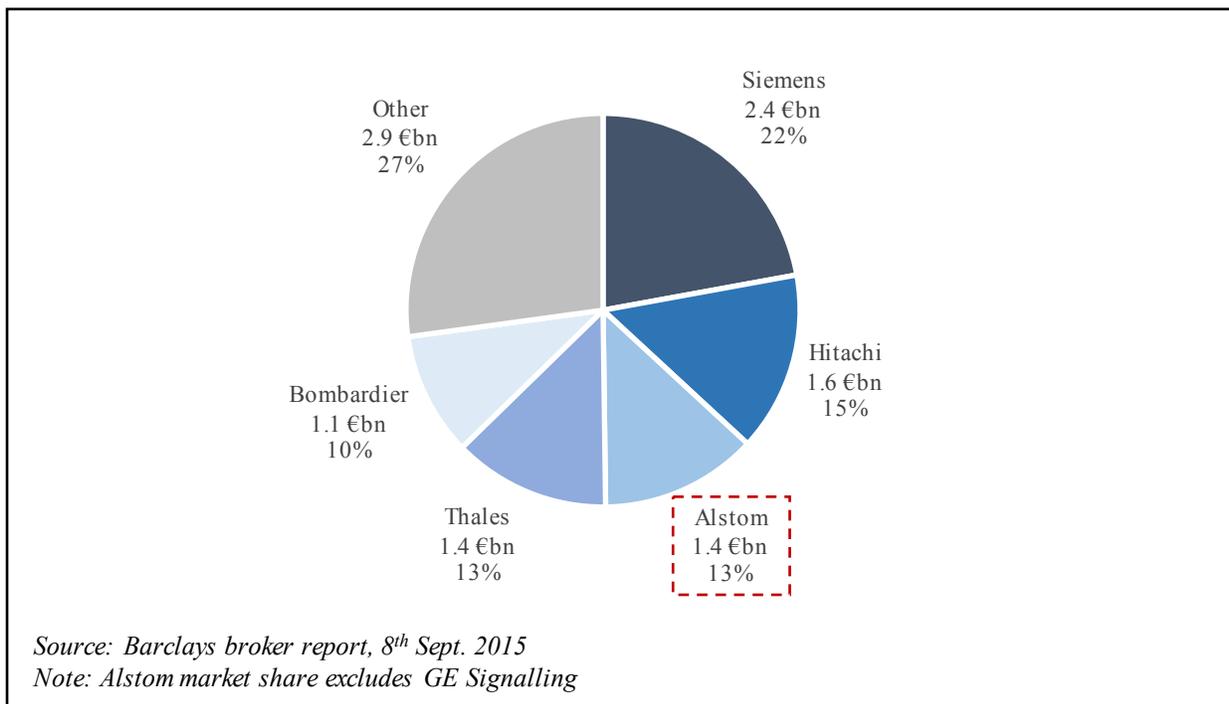


Exhibit 12 - Global signalling revenue (2014, €bn, market share)



Since this attractive sector is going through a consolidation wave, its high profitability level can be expected to be maintained in the medium term. Indeed, Siemens launched this consolidation movement in 2013 with the acquisition of Invensys Rail, followed recently by Hitachi with the announcement of the acquisition of Ansaldo STS (2014 sales of €1.3bn) in February 2015¹⁹.

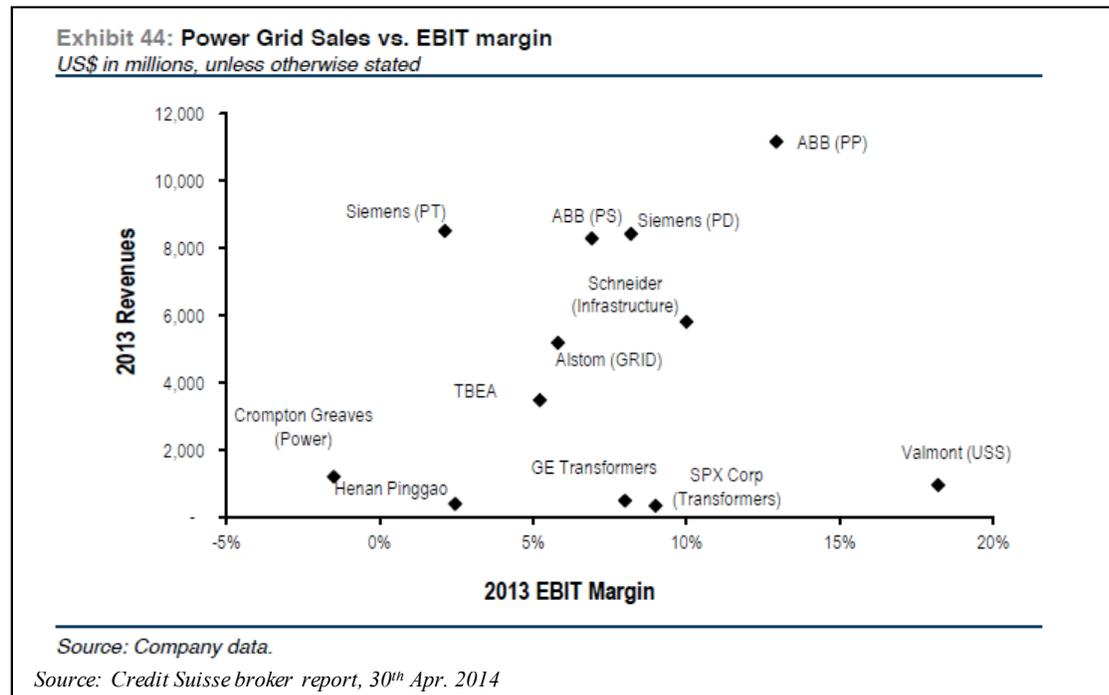
In the past, Alstom's CEO had allegedly talked about being interested in Thales Transport (signalling business) which has however a weaker EBIT margin compared to Alstom's²⁰.

For all the reasons previously mentioned, especially at a time of consolidation phase, GE Signalling (2013 sales of \$500m)²¹ appears to be an interesting target for Alstom to expand its market share. Moreover, according to Dominique Pouliquen, GE Signalling is more focused on freight while Alstom Signalling operates more in the “urban” and “mainline” areas, which means there is a real complementarity between those two businesses.

3. Grid overview

The grid business encompasses all the activities supporting electrical utilities and industrials. This sector benefits from significant investments in renewable energies, especially in Europe. Alstom provides solutions and products for Alternating Current, Direct Current and Ultra-High Voltage substations²². The French company is quite well positioned in this market as it is shown in Exhibit 13 below. Indeed, Alstom claimed to be the 3rd player in 2013 with a 10% market share by ordered value in \$ behind ABB and Siemens which hold respectively 19% and 16%²³. In the past, GE has already shown interests in this business; in 2009 when Alstom bought Areva's Transmission business unit (grid activity), GE was also interested²⁴.

Exhibit 13 – Power Grid sales vs. EBIT margin in 2013

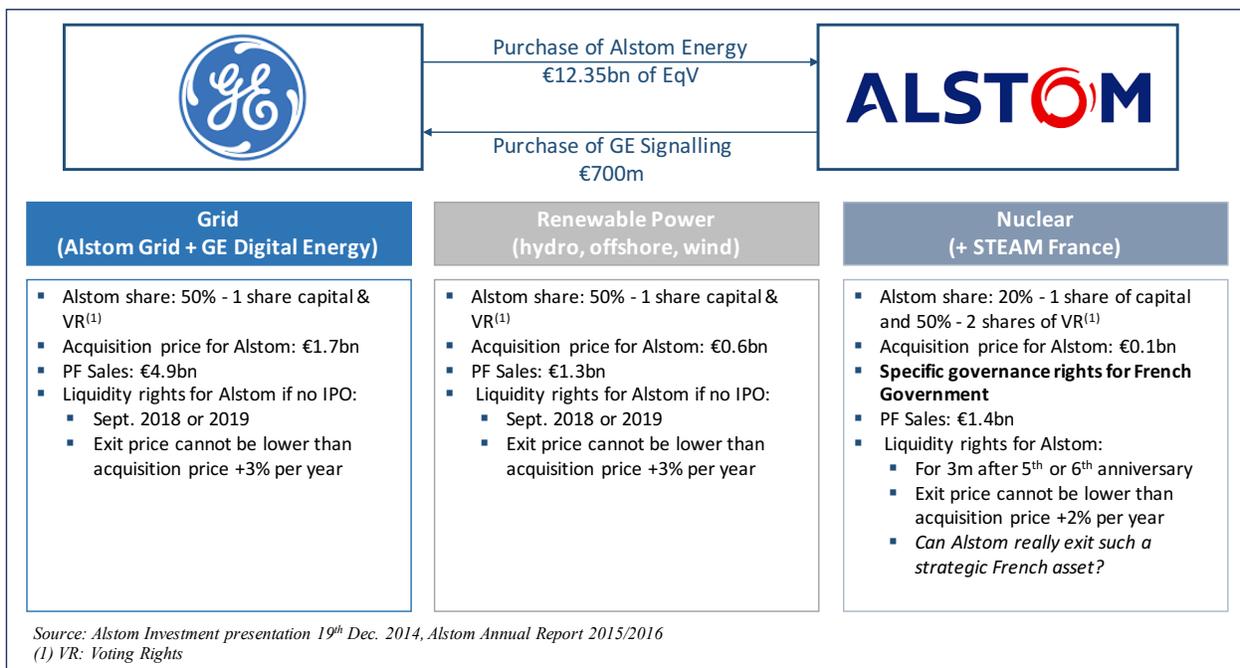


2. GE Offer(s)

On 29th April 2014, an initial offer was made by GE to acquire Alstom Energy (Thermal, Renewables and Grid assets) for €12.35bn of Equity Value. Market reacted very positively to the announcement: Alstom’s share price jumped by 9.3%²⁵. The transaction is an all-cash deal: GE would be able to tap in its foreign cash reserves to finance the deal. GE had about \$89bn in cash at the end of 2013, including \$57 billion held outside the U.S.²⁶.

On 16th June 2014, a consortium made of Siemens and Mitsubishi offered a counterbid. Market expected Siemens to make a move on Alstom Energy²⁷. On the 19th, GE published a revised offer which maintained the equity price of €12.35bn. However, it included more terms like the creation of 3 JVs, specific rights for the French government on the nuclear assets and the guaranteed creation of 1,000 jobs in France (cf. Exhibit 14 below).

Exhibit 14 – Summary of the revised offer made by GE



As mentioned before, GE seemed to be the ideal buyer due to the common history shared with Alstom. This is why on the 20th June 2014, despite a new bid by the adverse consortium, Alstom’s Board of Directors recommended unanimously the revised offer by GE. Indeed, GE’s offer was well structured, fully financed and was the only proposition enabling Alstom to make an acquisition in the signalling sector, which is very attractive as explained previously.

Details on the added terms of the revised offer:

- The JVs: the revised offer includes the set up of 3 JVs in which Alstom holds a significant stake, without controlling them. Alstom must pay for the stake it is acquiring in the JVs to avoid double-counting: indeed, the French company is not bringing any assets in the JVs since they are bought by GE as part of the deal. Moreover, Alstom holds a put option to exit those JVs after defined periods of time.
- Alstom operates in an area considered as key for the French national security: the nuclear. With this operation, one of the main concerns of the French State was to have no influence on the operation of such assets. With the revised offer, the French government holds a preferred share providing veto and other governance rights over issues relating to security and nuclear plant technology in France. One of the Nuclear JV board members that Alstom can appoint is to be chosen by the French government.
- The revised offer also includes the commitment by GE to create 1,000 jobs in France in the following 3 years, with a penalty of €50,000 per job not created to be paid to the French State.

This deal is unique in many ways, one being the importance of politics in its conduct. Indeed, Alstom being the French leader in power generation and mastering nuclear-linked technologies, the French State decided to become a direct stakeholder in the deal to have more leeway to negotiate protection of jobs and technologies in France. The JVs could also be seen as a disguised way to secure jobs and running facilities in France.

This is the reason why on the 22nd June 2014, the French government signed an agreement with Bouygues, Alstom's main reference shareholder. Bouygues agreed to tender for free some of its shares in Alstom representing a 20% stake for 20 months, the French government owning a purchase option on those shares after this period²⁸. This agreement also allowed the latter to nominate two Directors as representatives.

Epilogue

Following this transaction, Alstom is now fully focused on the transport industry. As presented before, this sector is quite attractive, especially its sub-sector signalling, which benefits from high growth estimates and double-digit EBIT margin. Alstom benefits from its dynamism and has a strong focus on developing its international presence: according to Dominique Pouliquen, over the past 2 years, the number of employees in transport went from c.31,000 to 33,000 of which c.9,000 work in France and c.24,000 abroad.

Thanks to its large range of products and services and its strong international presence, Alstom was awarded important contracts such as the extension of Dubai's Red metro line and the renovation of the existing line by 2020 for €2.6bn²⁹. Alstom leads the consortium, composed by

ACCIONA and Gulermark, which is in charge of this project combining many aspects such as infrastructure, signalling, vehicles construction, electrical alimentation, ...

Since the deal with GE, Alstom's financial results have been very positive. In May 2017, for the 2016/2017 fiscal year, the French company announced that its sales increased by 6% at €7.3bn, with a 5% organic growth³⁰. Moreover, Alstom registered a €10bn order intake which led to a record level of €34.8bn of backlog³¹ (+14.5% yoy³²). Alstom has, indeed, won several contracts to deliver trains and for maintenance in 2016-17 (e.g. orders for 61 Citadis Spirit light rail vehicles for Greater Toronto and Hamilton, 10 Coradia Lint regional trains in Germany, etc.)³³. EBIT margin remained low at 5.8% but has increased compared to past years (5.3% as of March 2016 and 4.8% as of March 2015)³⁴. Market well reacted to the announcement with a share price progression of +1% on 4th May 2017 and +2% of 5th May 2017, compared with the previous day closing³⁵.

As tackled in this case, Alstom has also benefitted from a better valuation from the market, with a significant re-rating. Indeed, prior to the transaction and M&A rumours, its share price was between €18.0 p.s. and €20.5 p.s. in March 2014; but recently Alstom trades at c.€30.0 p.s. (€30.3 p.s. as of 16th May 2017)³⁶.

However, Alstom must now face new challenges. Indeed, the emergence and development of local players such as CAF and TMH is an additional threat Alstom will have to deal with. Even if their Chinese competitors and the recent merger of CSR and CNR to form CRRC haven't reached yet the European market, the quality is said to have significantly improved and may be another risk to consider in the future for Alstom. CRRC managed even to get four contracts in the U.S. and one in Canada: thanks to the subvention it gets from the Chinese State, its proposals are very competitive. Moreover, CRRC has proceeded to several acquisitions in Europe (e.g. Dynex (2008), BOGE (2014) and SMD (2015)³⁷). CRRC is currently reviewing the acquisition of Skoda in Czech Republic.

Facing such challenges, Alstom intends to develop itself organically but is buying some innovative companies, especially in the area of clients' experience. In Dec. 2016, Alstom announced it was acquiring 100% of Nomad Digital, the leader in providing connectivity solutions³⁸.

Moreover, Alstom focuses as well on R&D around problematic such as how to reduce the weight of train, how to optimise energy consumption and topics linked to passengers' experience (security, comfort). For instance, in March 2017, Alstom announced the launch of a 100% electric bus, "Aptis", in partnership with NTL³⁹.

In light with the current environment, it would be interesting to keep an eye on Alstom and analyse which opportunities lie ahead.

Questions

There seem to be 2 main motives for this transaction from Alstom's point of view:

I. Alstom needs cash ...

1. Look at Alstom financials and cash generation: does Alstom need cash? You should pay attention to exhibits 17, 18 and 19 among others.

Note: you should take into account the fact that in Dec. 2014, Alstom had been sentenced to pay the U.S. Department of Justice a fine of \$772m (c. €720m) for violating books and records and internal provisions of FCPA⁴⁰.

2. *Other options for Alstom to raise cash*

a). Which solutions could be implemented by Alstom to raise cash and improve its balance sheet situation? Which solution would you recommend and why? Do not only consider the options presented in exhibit 16 and give pros and cons for each solution provided.

b). As presented in the exhibit 16, two options have been largely discussed in the press and by analysts: an asset disposal and a capital increase. Assess the 2014 EPS impact of both solutions assuming the goal of Alstom is **to raise €750m in cash using either the sale of a minority stake in Alstom Transport or a capital increase.**

Assumptions

- Capital to raise: €750m
- Transport EBIT 15E of €290m (cf. Exhibit 21)
- Capital increase based on share price with a 10% discount on TERP, which is the Theoretical Ex-Right Price. As a reminder, TERP equals:

$$TERP = \frac{\text{Price before right issue} \times N_o + \text{Issuance Price} \times N}{N_o + N}$$

with N_o number of shares before right issue and N number of shares newly issued

- No tax on capital gain assumed
- You may have to allocate group debt or group financial expenses to the Transport division using the same percentage as the allocation of the capital employed disclosed in the segment reporting

Hints and intermediate questions

- Using Exhibit 20, can you justify the use of a median of 9.9 x NTM EBIT multiple to value the Transport business? Why should you use a NTM multiple?
- Raising €750m of cash will reduce the gross debt, what is the impact on the group interest expenses? Use interest rate of on gross debt only to conduct your analysis.
- The EPS impact of the minority sale includes earnings distributed to minorities which depends on the percentage of the Transport division sold to 3rd parties. Determine this percentage so that the cash raised equals €750.

- *For the capital increase, you should use a share price adjusted by a 10% discount on the TERP as given in the assumptions. If you do not manage to compute the issuance share price (of the capital increase) based on discount to TERP, assume a capital increased based on 1st Apr. 2014 share price with a 11.1% discount (which should lead to an equivalent result but not all the points of this question).*

II. ... and may benefit from a re-rating post operation, focusing on transport

3. SOTP analysis

Using an SOTP analysis, derive an implied share price and compare it to the share price as of 1st Apr. 2014. Does your SOTP analysis lead to a discount or premium compared to the trading share price as of 1st Apr. 2014?

Use the HSBC report as of 3rd Mar. 2014 (exhibit 21) and the trading multiples as of 1st Apr. 2014 (Exhibit 20) to conduct your analysis.

Assumptions / Key steps

- *Using Exhibit 20, you should build trading multiple EV/EBIT table(s) keeping in mind that Alstom operates 4 business segments. Justify your choice of peers. Why should you use NTM multiples?*
- *Use median of peers' multiples*
- *Use Alstom balance sheet and number of shares outstanding as of 31st Mar. 2014 (best proxy) presented in Exhibit 17*
- *Assuming corporate costs represent an EV of €1,409m in 2015E (based on HSBC broker report, 3rd Mar. 2014)*

4. Re-rating analysis

From the Exhibit 20, you can derive a 7.5x NTM EBIT multiple for Alstom in 2014, however, looking at Exhibit 28 this multiple is 10.5x in 2016. It seems that following the deal, Alstom got a c.3x positive re-rating (meaning its multiple increased), in less than 2 years!

But is it really the case? Compute as of 1st Apr. 2014 the implied multiple using the EV you computed in your SOTP analysis and the NTM EBIT estimates of €1,205m (cf. Exhibit 20). Compare this multiple to the 10.5x NTM EBIT in 2016, did Alstom benefit from a positive re-rating? How can you explain it?

III. Focus on the price paid by GE

5. GE's valuation of Alstom's assets

As explained in the Case Presentation, Alstom is not well positioned in the energy sector due to its limited size and is noticeably the adjustment variable, showing higher correlation with demand and higher volatility than its peers.

Therefore, GE could apply a discount to the trading multiples it is using to value Alstom's Power and Renewables divisions. No need to apply a discount to value the Grid business since Alstom is relatively well positioned in this sector. What valuation of those businesses do you derive as of 1st Apr. 2014 if you apply a 30% discount to the trading multiples you used in Question 3? What do you conclude when you compare your results to the EV paid by GE (cf. Exhibit 27)? What would be the next step to assess whether GE overpaid for those assets?

Hint

- *Do not forget holding costs: allocate those to the Power, Renewables and Grid units according to the EBIT of the different businesses composing Alstom*

6. Synergies contribution

In this section, by comparing the value obtained from the previous SOTP analysis in Question 5, and the price paid (cf. Exhibit 27), we will try to understand the valuation gap and the contribution of synergies.

- To value the synergies, we first need to compute the WACC. As you can see in Exhibit 24, the synergies achieved are coming from 3 different segments (Power, Grid and Renewables) and thus bear different types of risks. You will therefore have to compute 3 different WACCs, one for each business segment, using Exhibit 25.

You need to use Alstom's group leverage for your WACCs computation to better represent the financial structure risk associated with Alstom Energy and Grid. Even though Exhibit 27 shows that GE bought this division with a cash excess (not a net debt), Alstom Group is indebted and it is reasonable to assume that some of that debt was associated with Alstom Energy and Grid.

- To compute the NPV of synergies, work under the assumption that the total synergies given were split into the 3 business segments and apply the corresponding WACC. Finally, sum up the NPV of the synergies of the 3 businesses and compare it to the valuation gap. What can you say?
- Did GE overpaid for Alstom Energy and Grid?

Conduct your analysis as of **1st Apr. 2014**

Assumptions / Key steps

- *To value the NPV of the synergies (cf. Exhibit 24), neglect the growth synergies and assume the figures are given at end of December*
- *Assume as well a negative growth of 10% in the future (after 2020) to compute the terminal value. This negative growth rate reflects the fact that cost synergies would ultimately be passed on to clients, suppliers and employees*
- *Assume an FX rate of €1 = \$1.37 (original rate used and disclosed in the IP of GE in December 2015)*
- *Use as risk-free rate the 10y French OAT of 2.1% and an equity risk premium of 8.1% (which is the average between Bloomberg and Damodaran methodology as of 2014)*
- *Use 3.8% as the pre-tax cost of debt, which is the weighted average of effective bond interests (as bonds represent 81% of total debt, cf Exhibit 17 – Note 25)*
- *Use 23% as the effective tax rate (Exhibit 17 – Note 9.2)*
- *Assume the split given in 2020 for the cost synergies (Exhibit 24) remains the same for the whole period 2016-2020*
- *Do not forget holding costs: allocate those to the Power, Renewables and Grid units according to the EBIT of the different businesses*

Appendices

Exhibit 15 – Summary of the transaction timeline

Exhibit 16 – Press release and article before the operation

Exhibit 17 – Extracts from Alstom 2013/2014 Registration Document (fiscal year end 31st Mar. 2014)

Exhibit 18 – Extracts from the Morgan Stanley broker report published on 6th Mar. 2014

Exhibit 19 – S&P press release (24th Apr. 2014) extracts

Exhibit 20 – Trading multiples as of 1st Apr. 2014 (extract from Thomson One – Datastream, Company information, Bloomberg)

Exhibit 21 – Extracts from the HSBC broker report published on 3rd Mar. 2014

Exhibit 22 – Alstom share price evolution (Bloomberg market data)

Exhibit 23 – Revenues growth and operating margins estimates in the transport sector, extract from Barclays broker report published on 12th Dec. 2016

Exhibit 24 – Synergies breakdown by segment and run-rate (Credit Suisse broker report, 3rd Dec. 2015)

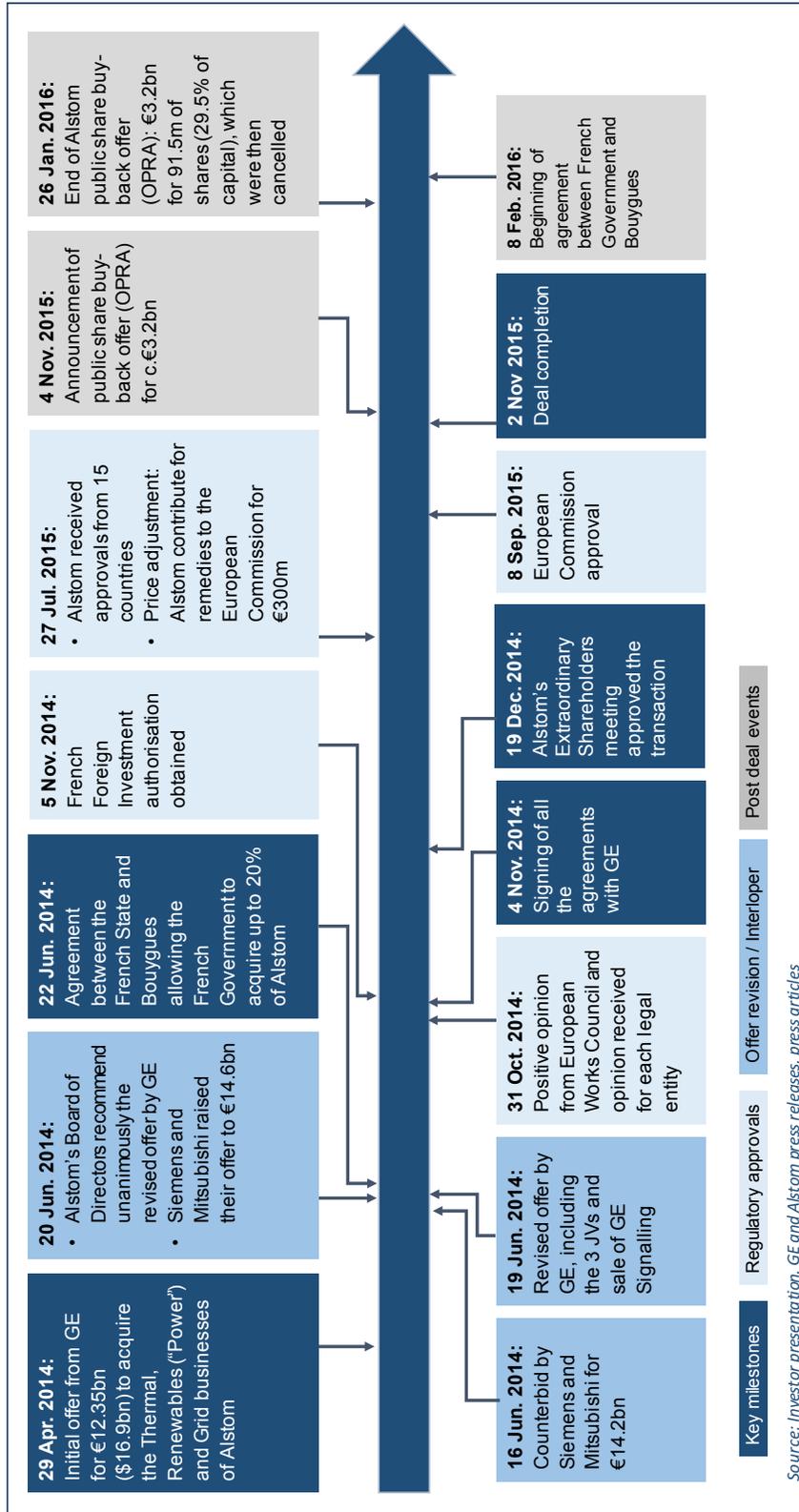
Exhibit 25 – Levered betas of comparable energy companies as of 1st Apr. 2014 (Company information, Thomson One-Datastream, Capital IQ, Bloomberg)

Exhibit 26 – Extract from GE Investor Presentation, 30th Apr. 2014

Exhibit 27 – GE revised offer

Exhibit 28 – Trading multiples as of 1st Jan. 2016 (extract from Thomson One – Datastream, Company information)

Exhibit 15 – Summary of the transaction timeline



Source: Investor presentation, GE and Alstom press releases, press articles

Exhibit 16 – Press release and article before the operation**Alstom’s first half of 2013/14 (6th Nov. 2013 – Press release)**

“In markets that remain contrasted, our commercial activity in the first half was supported by a good flow of small and medium-sized orders, but lacked large contracts, notably in Thermal Power. As expected, sales recovered in the second quarter leading to a 4% organic growth in the first half. With strict cost control and good execution of contracts, the operating margin remained stable. Tendering is active and we expect stronger order bookings by the end of the year, which will support free cash-flow rebound in the second half. Looking forward, we maintain the guidance given at the close of FY 2012/13. In the current low-growth environment, we need to further reinforce our competitiveness; we are accelerating our performance plan and expect annual cost savings ramping up to € 1.5 billion by April 2016. We want to regain strategic mobility and have launched an asset disposal programme targeting **€1 to 2 billion of proceeds through the contemplated sale of a minority stake in Alstom Transport and the disposal of non-strategic assets**”, said Patrick Kron, Alstom’s Chairman & Chief Executive Officer.

Alstom share price strongly falls amid rumoured capital increase (19th Feb. 2014 – Abstract from an original article in Le Figaro - Factiva)

Alstom's stock price strongly fell amid yesterday's session on Paris Euronext after the publication of French daily Les Echos over Alstom's alleged capital increase worried investors. The stock price slumped by 4.29% to EUR 20.07 at 1130 local time. The daily reported that the French government asked an audit of the company on the next day after Bouygues' stake in it had depreciated. However, consulted by Reuters, Alstom declared that no capital increase was anticipated.

Exhibit 17 – Extracts from Alstom 2013/2014 Registration Document (fiscal year end 31st Mar. 2014)**CONSOLIDATED INCOME STATEMENT**

<i>(in € million)</i>	Note	Year ended	
		31 March 2014 ⁽²⁾	31 March 2013 ⁽¹⁾
Sales	(5)	20,269	20,269
Cost of sales		(16,213)	(16,324)
Research and development expenses	(6)	(733)	(737)
Selling expenses		(966)	(952)
Administrative expenses		(933)	(793)
Income from operations	(5)	1,424	1,463
Other income	(7)	27	6
Other expense	(7)	(443)	(280)
Earnings before interest and taxes	(5)	1,008	1,189
Financial income	(8)	28	36
Financial expense	(8)	(336)	(302)
Pre-tax income		700	923
Income tax charge	(9)	(163)	(186)
Share in net income of equity investments	(13)	29	47
NET PROFIT		566	784
Attributable to:			
• Equity holders of the parent		556	768
• Non controlling interests		10	16
Earnings per share <i>(in €)</i>			
• Basic earnings per share	(10)	1.80	2.55
• Diluted earnings per share	(10)	1.78	2.52

(1) Figures have been adjusted as mentioned in Note 3 "Changes in accounting method" following the application of IAS 19 revised.

(2) See Note 2 "Accounting policies": change in accounting estimates.

CONSOLIDATED BALANCE SHEET

Assets

<i>(in € million)</i>	Note	At 31 March 2014	At 31 March 2013 ⁽¹⁾
Goodwill	(11)	5,281	5,536
Intangible assets	(11)	2,054	1,982
Property, plant and equipment	(12)	3,032	3,024
Associates and non consolidated investments	(13)	620	698
Other non-current assets	(14)	533	521
Deferred taxes	(9)	1,647	1,720
Total non-current assets		13,167	13,481
Inventories	(15)	2,977	3,144
Construction contracts in progress, assets	(16)	3,967	4,158
Trade receivables	(17)	4,483	5,285
Other current operating assets	(18)	3,203	3,328
Marketable securities and other current financial assets	(19)	18	36
Cash and cash equivalents		2,320	2,195
Assets held for sale	(28)	293	-
Total current assets		17,261	18,146
TOTAL ASSETS		30,428	31,627

Equity and liabilities

<i>(in € million)</i>	Note	At 31 March 2014	At 31 March 2013 ⁽¹⁾
Equity attributable to the equity holders of the parent	(21)	5,044	4,994
Non controlling interests		65	93
Total equity		5,109	5,087
Non-current provisions	(23)	710	680
Accrued pension and other employee benefits	(24)	1,526	1,674
Non-current borrowings	(25)	4,009	4,197
Non-current obligations under finance leases	(25)	398	433
Deferred taxes	(9)	176	284
Total non-current liabilities		6,819	7,268
Current provisions	(23)	1,191	1,309
Current borrowings	(25)	1,267	283
Current obligations under finance leases	(25)	47	42
Construction contracts in progress, liabilities	(16)	8,458	9,909
Trade payables		3,866	4,041
Other current operating liabilities	(27)	3,671	3,688
Liabilities held for sale	(28)	-	-
Total current liabilities		18,500	19,272
TOTAL EQUITY AND LIABILITIES		30,428	31,627

(1) Figures have been adjusted as mentioned in Note 3 "Changes in accounting method" following the application of IAS 19 revised.

CONSOLIDATED STATEMENT OF CASH FLOWS

<i>(in € million)</i>	Note	Year ended	
		31 March 2014	31 March 2013 ⁽¹⁾
Net profit		566	784
Depreciation, amortisation and expense arising from share-based payments		569	543
Post-employment and other long-term defined employee benefits		(17)	(24)
Net (gains)/losses on disposal of assets		(23)	34
Share in net income of associates (net of dividends received)	(13)	7	(18)
Deferred taxes charged to income statement	(9)	(163)	(80)
Net cash provided by operating activities – before changes in working capital		939	1,239
Changes in working capital resulting from operating activities	(20)	(300)	(150)
Net cash provided by/(used in) operating activities		639	1,089
Proceeds from disposals of tangible and intangible assets		34	57
Capital expenditure (including capitalised R&D costs)	(6)	(844)	(738)
Increase/(decrease) in other non-current assets		(9)	37
Acquisitions of businesses, net of cash acquired		(105)	(472)
Disposals of businesses, net of cash sold		17	(2)
Net cash provided by/(used in) investing activities		(907)	(1,118)
Capital increase/(decrease) including non controlling interests		36	351
Dividends paid including payments to non controlling interests		(267)	(243)
Changes in ownership interests with no gain/loss of control		-	(48)
Issuances of bonds & notes	(25)	500	350
Repayments of bonds & notes issued		(26)	-
Changes in current and non-current borrowings		346	(174)
Changes in obligations under finance leases		(38)	(45)
Changes in marketable securities and other current financial assets and liabilities		13	(11)
Net cash provided by/(used in) financing activities		564	180
Net increase/(decrease) in cash and cash equivalents		296	151
Cash and cash equivalents at the beginning of the period		2,195	2,091
Net effect of exchange rate variations		(148)	(49)
Other changes		(23)	2
Cash and cash equivalents at the end of the period		2,320	2,195
<i>Income tax paid</i>		<i>(266)</i>	<i>(240)</i>
<i>Net of interests paid & received</i>		<i>(202)</i>	<i>(186)</i>

(1) Figures have been adjusted as mentioned in Note 3 "Changes in accounting method" following the application of IAS 19 revised.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

<i>(in € million, except for number of shares)</i>	Number of outstanding shares						Equity	Non controlling interests	Total equity
		Capital	Additional paid-in capital	Retained earnings	Other comprehensive income	attributable to the equity holders of the parent			
AT 31 MARCH 2012 ⁽¹⁾	294,533,680	2,062	622	3,155	(1,531)	4,308	107	4,415	
Movements in other comprehensive income	-	-	-	-	(155)	(155)	(1)	(156)	
Net income for the period	-	-	-	768	-	768	16	784	
Total comprehensive income	-	-	-	768	(155)	613	15	628	
Change in controlling interests and others	8	-	-	(54)	-	(54)	(19)	(73)	
Dividends paid	-	-	-	(236)	-	(236)	(10)	(246)	
Issue of ordinary shares	13,133,208	92	251	-	-	343	-	343	
Issue of ordinary shares under long term incentive plans	491,230	3	2	-	-	5	-	5	
Recognition of equity settled share-based payments	-	-	-	15	-	15	-	15	
AT 31 MARCH 2013 ⁽¹⁾	308,158,126	2,157	875	3,648	(1,686)	4,994	93	5,087	
Movements in other comprehensive income	-	-	-	-	(271)	(271)	(14)	(285)	
Net income for the period	-	-	-	556	-	556	10	566	
Total comprehensive income	-	-	-	556	(271)	285	(4)	281	
Change in controlling interests and others	101	-	-	11	-	11	(15)	(4)	
Dividends paid	-	-	-	(259)	-	(259)	(9)	(268)	
Issue of ordinary shares under long term incentive plans	543,919	4	1	(3)	-	2	-	2	
Recognition of equity settled share-based payments	-	-	-	11	-	11	-	11	
AT 31 MARCH 2014	308,702,146	2,161	876	3,964	(1,957)	5,044	65	5,109	

(1) Figures have been adjusted as mentioned in Note 3 "Changes in accounting method" following the application of IAS 19 revised.

The accompanying notes are an integral part of the consolidated financial statements.

<i>(in € million)</i>	Note	Year ended	
		31 March 2014	31 March 2013 ⁽¹⁾
Net cash/(debt) variation analysis⁽²⁾			
Changes in cash and cash equivalents		296	151
Changes in marketable securities and other current financial assets & liabilities		(13)	11
Changes in bonds and notes		(474)	(350)
Changes in current and non-current borrowings		(346)	174
Changes in obligations under finance leases		38	45
Net debt of acquired entities at acquisition date and other variations		(178)	119
<i>Decrease/(increase) in net debt</i>		<i>(677)</i>	<i>150</i>
Net cash/(debt) at the beginning of the period		(2,342)	(2,492)
Net cash/(debt) at the end of the period	(26)	(3,019)	(2,342)

(1) Figures have been adjusted as mentioned in Note 3 "Changes in accounting method" following the application of IAS 19 revised.

(2) The net cash/(debt) is defined as cash and cash equivalents, marketable securities and other current financial assets and non-current financial assets directly associated to liabilities included in financial debt (see Note 14), less financial debt (see Note 25).

5.1. Key indicators by operating segment

AT 31 MARCH 2014

<i>(in € million)</i>	Thermal Power	Renewable Power	Grid	Transport	Corporate & Others	Eliminations	Total
Sales	8,840	1,835	3,877	5,879	-	(162)	20,269
Inter Sector eliminations	(53)	(6)	(100)	(3)	-	162	-
Total Sales	8,787	1,829	3,777	5,876	-	-	20,269
Income (loss) from operations	930	82	211	330	(129)	-	1,424
Earnings (loss) before interest and taxes	854	2	169	252	(269)	-	1,008
Financial income (expense)							(308)
Income tax							(163)
Share in net income of equity investments							29
NET PROFIT							566
Segment assets⁽¹⁾	9,990	3,086	5,072	6,916	993	-	26,057
Deferred taxes (assets)							1,647
Prepaid employee defined benefit costs							22
Financial assets							2,702
TOTAL ASSETS							30,428
Segment liabilities⁽²⁾	7,216	1,641	2,972	5,035	1,032	-	17,896
Deferred taxes (liabilities)							176
Accrued employee defined benefit costs							1,526
Financial debt							5,721
Total equity							5,109
TOTAL EQUITY AND LIABILITIES							30,428
Capital employed ⁽³⁾	2,774	1,445	2,100	1,881	(39)	-	8,161
Capital expenditure	(282)	(211)	(104)	(191)	(56)	-	(844)
Depreciation and amortisation in EBIT	222	40	86	144	52	-	544

(1) Segment assets are defined as the sum of goodwill, intangible assets, property, plant and equipment, associates and other investments, other non-current assets (other than those related to financial debt and to employee defined benefit plans), inventories, construction contracts in progress assets, trade receivables and other operating assets. For Thermal Power, segment assets include assets held for sale.

(2) Segment liabilities are defined as the sum of non-current and current provisions, construction contracts in progress liabilities, trade payables and other operating liabilities.

(3) Capital employed corresponds to segment assets *minus* segment liabilities.

NOTE 8 • FINANCIAL INCOME (EXPENSE)

<i>(in € million)</i>	Year ended	
	31 March 2014	31 March 2013 ⁽¹⁾
Interest income	18	29
Net exchange gain	4	-
Other financial income	6	7
Financial income	28	36
Interest expense	(217)	(194)
Net financial expense from employee defined benefit plans (see Note 24.7)	(69)	(68)
Net exchange loss	-	(5)
Other financial expense	(50)	(35)
Financial expense	(336)	(302)
FINANCIAL INCOME (EXPENSE)	(308)	(266)
<i>Out of which:</i>		
• Financial income/(expense) arising from financial instruments (see Note 26.1)	(239)	(195)

(1) Figures have been adjusted as mentioned in Note 3 "Changes in accounting method" following the application of IAS 19 revised.

Interest income of €18 million represents the remuneration of the Group's cash position over the period.

Interest expense of €(217) million represents the cost of the gross financial debt.

Net financial expense from employee defined benefit plans of €(69) million represents the interest cost on obligations net of the interest income on plan assets calculated using the same rate (see Note 24.7).

Other financial expense of €(50) million include fees and commitment fees paid on guaranteed facilities, syndicated loans and other financing facilities for €(26) million versus €(19) million for the fiscal year ended 31 March 2013.

9.2. Effective income tax rate

The following table provides reconciliation from the income tax charge valued at the French statutory rate to the actual income tax charge:

<i>(in € million)</i>	Year ended	
	31 March 2014	31 March 2013 ⁽¹⁾
Pre-tax income	700	923
Statutory income tax rate of the parent company ⁽²⁾	34.43%	34.43%
Expected tax charge	(241)	(318)
Impact of:		
• Difference between normal tax rate applicable in France and normal tax rate in force in jurisdictions outside France	112	137
• Transactions liable for reduced tax rate	9	(20)
• Changes in unrecognised deferred tax assets	76	2
• Changes in tax rates	(7)	(10)
• Additional tax expenses (withholding tax, CVAE in France and IRAP in Italy)	(71)	(68)
• Permanent differences and other ⁽³⁾	(41)	91
Income tax charge	(163)	(186)
EFFECTIVE TAX RATE	23%	20%

(1) Figures have been adjusted as mentioned in Note 3 "Changes in accounting method" following the application of IAS 19 revised.

(2) Free of the temporary additional contributions.

(3) Including operations of internal reorganisation.

NOTE 25 • FINANCIAL DEBT

Carrying amount (in € million)	At 31 March 2014	At 31 March 2013
Bonds	4,614	4,141
Other borrowing facilities	554	232
Put options and earn-out on acquired entities	40	46
Derivatives relating to financing activities	13	18
Accrued interests	55	43
Borrowings	5,276	4,480
<i>Non-current</i>	4,009	4,197
<i>Current</i>	1,267	283
Obligations under finance leases	96	108
Other obligations under long-term rental	349	367
Obligations under finance leases	445	475
<i>Non-current</i>	398	433
<i>Current</i>	47	42
TOTAL FINANCIAL DEBT	5,721	4,955

The following table summarises the significant components of the Group's bonds:

	Nominal value (in € million)	Maturity date	Nominal interest rate	Effective interest rate
Alstom September 2014	722	23/09/2014	4.00%	3.89%
Alstom March 2015	60	09/03/2015	4.25%	4.47%
Alstom October 2015	500	05/10/2015	2.88%	2.98%
Alstom March 2016	500	02/03/2016	3.87%	4.05%
Alstom February 2017	750	01/02/2017	4.13%	4.25%
Alstom October 2017	350	11/10/2017	2.25%	2.44%
Alstom October 2018	500	05/10/2018	3.63%	3.71%
Alstom July 2019	500	08/07/2019	3.00%	3.18%
Alstom March 2020	750	18/03/2020	4.50%	4.58%

As at 8 July 2013, under its Euro Medium Term Note Programme listed in Luxembourg, the Company issued a new bond for an amount of €500 million. It bears an annual coupon of 3% and matures in July 2019.

The other obligations under long-term rental represent liabilities related to lease obligations on trains and associated equipment (see Notes 14 and 31).

26.5. Liquidity risk management

Financial covenants

In order to increase its liquidity, the Group completed a €1,350 million revolving credit facility, currently fully undrawn and maturing in December 2016. This facility is subject to the following financial covenants, based on consolidated data:

Covenants	Minimum Interest Cover	Maximum total debt (in € million)	Maximum total net debt leverage
	(a)	(b)	(c)
	3	6,000	3.6

(a) Ratio of EBITDA (Earnings Before Interest and Tax plus Depreciation and Amortisation) to net interest expense (excluding interest related to obligations under finance lease). It amounts to 8.0 at year end 31 March 2014 (11.2 at year end 31 March 2013).

(b) Total debt corresponds to borrowings, i.e. total financial debt less finance lease obligations. This covenant would apply if the Group is rated "non-investment grade" by both rating agencies, which is not the case at 31 March 2014.

(c) Ratio of total net debt (Total debt less short-term investments or trading investments and cash and cash equivalents) to EBITDA. The net debt leverage is 1.9 as at 31 March 2014 (1.3 at 31 March 2013).

FINANCIAL RATING

ALSTOM is rated by the rating agencies Moody's Investors Services and Standard & Poor's since May 2008. These ratings, and their evolution over the year are the following as of 6 May 2014.

Agencies	May 2013	May 2014
Moody's Investors Services		
Short-term rating	P-2	P-3
Long-term rating ⁽¹⁾	Baa2 (outlook negative)	Baa3 (outlook negative)
Standard & Poor's		
Short-term rating	A-2	A-3
Long-term rating ⁽²⁾	BBB (outlook negative)	BBB - (outlook stable)

(1) Moody's Investors Services revised the long-term credit rating from Baa2 to Baa3 (outlook stable) on 20 June 2013, and revised the long-term outlook from stable to negative on 23 January 2014.

(2) Standard & Poor's revised the long-term credit rating from BBB (outlook negative) to BBB - (outlook stable) and revised the short-term credit rating from A-2 to A-3 on 24 April 2014.

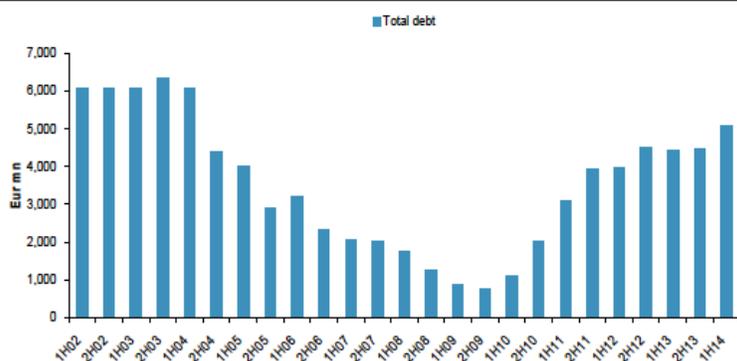
Note: a company is deemed "Investment Grade" if its rating is equal or above

- *BBB- for S&P*
- *Baa3 for Moody's*

Exhibit 18 – Extract from the Morgan Stanley broker report published on 6th Mar. 2014

Exhibit 11

Total debt: 1H14 €5.1bn – highest point since 1H04, when Alstom engaged in a €1.75bn capital raising



Source: Company Data, Morgan Stanley Research

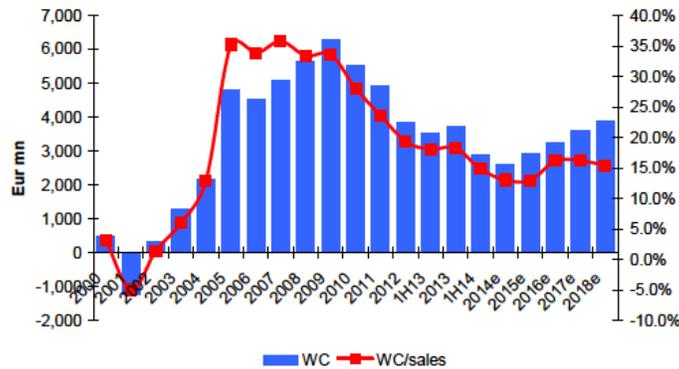
Capital increases in last cycle

Alstom engaged in three different capital increases over 2002-05:

- **May 2002** – it raised €636mn;
- **September 2003** – it raised €300mn from institutional offering; and
- **March 2004** – it raised €1.75bn with the French state taking a 21% stake.

Exhibit 13

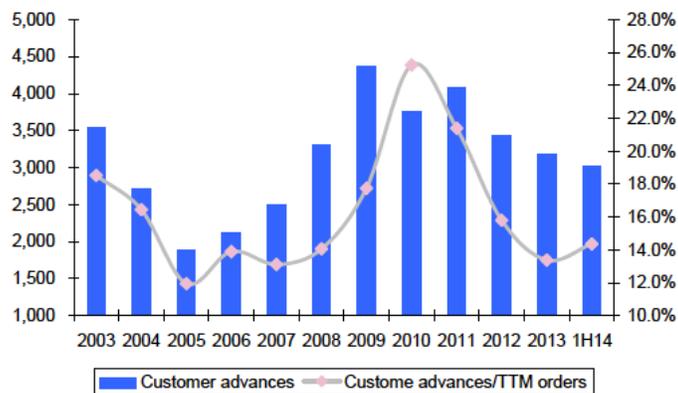
Net working capital has fallen from €6.3bn in March 2009 – additional downside could be ~€700mn



e = Morgan Stanley Research estimates Source: Company Data, Morgan Stanley Research

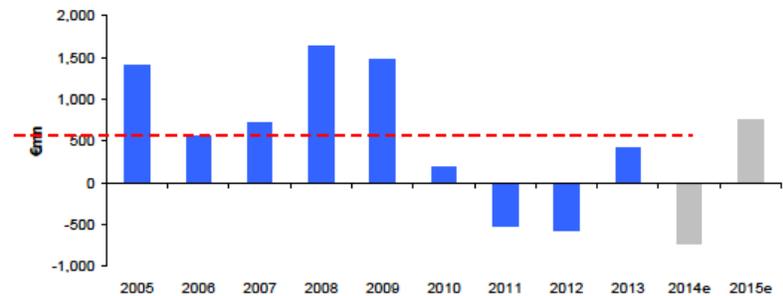
Exhibit 14

Customer advances: close to trough – lowest point was 12% of TTM orders in 2005, already close



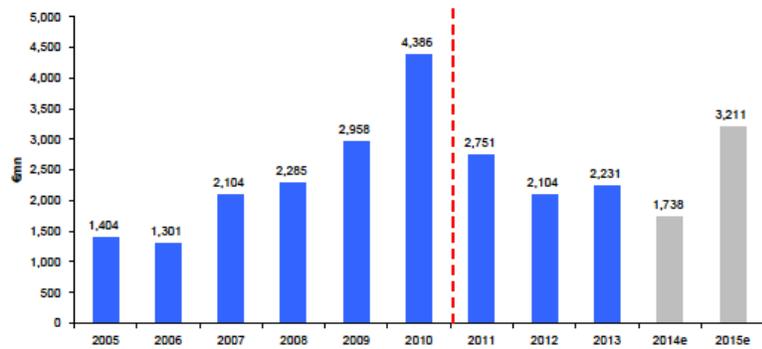
Source: Company Data, Morgan Stanley Research

Exhibit 15
FCF evolution: strong on the up-cycle – averaged €994mn in 2005-10



e = Morgan Stanley Research estimates Source: Company Data, Morgan Stanley Research

Exhibit 16
Balance sheet cash: 2005-10 increased from €1.4bn to €4.4bn – cumulative €2.2bn ex-customer advances



e = Morgan Stanley Research estimates Source: Company Data, Morgan Stanley Research

Note: in 2010, Alstom acquired, jointly with Schneider, Areva's Transmission business (Grid activity), for an equity value of €2,290m⁴¹.

Exhibit 19 – S&P press release extracts (24th Apr. 2014)

S&P Downgrades Alstom To 'BBB-/A-3'; Outlook Stable

- We believe that the end markets of French power and transport equipment manufacturer Alstom S.A. will remain soft in the next two-to-three years.
- In our opinion, this will temper Alstom's earnings and ability to improve its credit measures materially from levels posted in the past two years.
- **We are therefore lowering our long- and short-term corporate credit ratings on Alstom to 'BBB-/A-3' from 'BBB/A-2'.**

-- The stable outlook reflects our view that the cost control and asset disposal programs that Alstom launched in 2013 should allow the group to keep earnings and cash flows stable and avoid further deterioration in credit measures in the next 24 months.

LONDON (Standard & Poor's) April 24, 2014--Standard & Poor's Ratings Services said today that it lowered its long- and short-term corporate credit ratings on French power and transport equipment manufacturer Alstom S.A. to 'BBB-/A-3' from 'BBB/A-2'. The outlook is stable.

The downgrade reflects our belief that Alstom's end markets will remain soft in the next two-to-three years. In our opinion, this will temper Alstom's earnings and ability to improve its credit measures materially from levels posted in the past two years. Consequently, we are revising our assessment of Alstom's financial risk profile downward to "significant" from "intermediate." This is underpinned by our view that the group will post negative free operating cash flow (FOCF) for the financial year ending March 31, 2014, and that operating profits will be below our previous forecast for the next two years.

Under our base-case scenario for Alstom, we assume:

(...)

-- A more positive outlook for Alstom's transportation segment, driven by the replacement and maintenance of the existing fleet.

-- Operating income of about EUR900 million-EUR1 billion annually in financial 2014-2016.

-- Up to EUR1 billion in cash proceeds from planned asset disposals in the next 12 months, including the recently announced sale of Alstom's auxiliary components business.

Based on these assumptions, we arrive at the following credit measures:

-- Adjusted funds from operations (FFO) to debt of about 18%-25% in financial 2014-2016, which we see as commensurate with the current ratings.

-- **Adjusted debt to EBITDA in the 3x-4x range over the same period, falling closer to 3x by financial 2016.**

-- Adjusted discretionary cash flow (DCF) to debt of about 5%-10% in financial 2015-2016, after a negative figure in financial 2014.

In the nine months ended Dec. 31, 2013, Alstom reported a 1% decline in its sales volumes due to unfavorable foreign exchange rate effects outweighing modest growth in organic revenues. Alstom's performance suffered from soft commercial activity in thermal power, the group's largest segment, affecting both order intake and sales. We anticipate that market conditions will remain challenging for the newly built equipment segment, which Alstom will only partly mitigate with more stable earnings from services in this segment. The earnings in transportation, Alstom's second-largest segment, exceeded both last year's level and our forecasts. We anticipate that this segment will post solid results in the next two years, supported by a healthy order intake in financial 2014. We anticipate that demand in the grid and renewable power markets will remain soft in the next two years, owing mainly to the weak economy in Western Europe. We believe that in the absence of material growth prospects in the thermal power division, Alstom will continue facing pressure on its profitability, and therefore we expect its EBITDA margin to be depressed in the next three years compared to historical levels.

As per our base case, we expect that Alstom's FOCF will remain negative for financial 2014, in line with results for the six months ended Sept. 30, 2013, and management guidance. We anticipate that as Alstom restructures its cost base and tightens its working capital management, it should be able to return to positive FOCF generation from financial 2015. We understand that management is looking to make disposals that should bring in proceeds of EUR1 billion-EUR2 billion before Dec. 31, 2014, and has already agreed the sale of its auxiliary component business to Triton for a total consideration of EUR730 million. As the

proceeds are earmarked for repaying debt maturing in the next 24 months, we give full credit for this amount in our calculation of excess cash. We apply a 50% haircut to the rest of the cash that we anticipate Alstom will post over the forecast period.

We continue to assess Alstom's business risk profile as "satisfactory." This assessment is primarily supported by the low volatility of the group's earnings, evident from the resilience of its operating profits over the past seven years. Our assessment also reflects the group's significant market positions globally, high barriers to entry, and positive long-term demand prospects in most of its business lines. Alstom also benefits from a meaningful degree of business, customer, and geographic diversity.

The business risk profile is constrained by Alstom's profitability, which we assess as lower than average for a capital goods company; some exposure to cyclicity of final demand; and intense competition in all four of the group's divisions.

(...) In Alstom's case, we assess the anchor at 'bbb-', reflecting the group's stronger competitive risk position and lower volatility of earnings relative to other companies with similar business and financial risk assessment descriptors. Analytical modifiers do not affect the rating, resulting in a 'BBB-' corporate credit rating on Alstom.

The stable outlook reflects our view that Alstom should be able to contain the erosion in its operating cash flows by implementing an extensive restructuring program and working capital management. We believe the group will be able to reduce its debt by applying the proceeds of its asset disposals to repay the debt maturities in the next two years. We therefore expect that Alstom will maintain a "significant" financial risk profile over the same period.

We view FFO to debt of at least 20% and debt to EBITDA of no higher than 4x as commensurate with the "significant" financial risk profile and 'BBB-' rating. We also expect Alstom's DCF-to-debt ratio to improve to closer to 5% as FOCF turns positive.

Exhibit 20 – Trading multiples as of 1st Apr. 2014 (extract from Thomson One – Datastream, Company information, Bloomberg)
(cf. excel file)

Company	Sector(s)	Country	Currency	Fiscal year end	Share Price (p.s.)	NOSH	Net Debt	NCI	Associates	EBIT FY1	EBIT FY2	NTM EBIT	NTM EPS
ABB	Grid	Switzerland	USD ⁽³⁾	Dec.	24.84	2,428.1	1,780.0	533.0	192.0	5,240	5,774	5,374	1.61
American Railcar Ind.	Transport	USA	USD	Dec.	69.67	21.4	(28.6)	-	29.5	170	163	168	4.64
Ansaldo	Transport	Italy	EUR	Dec.	7.67	200.0	(146.0)	1.1	45.1	126	136	128	0.43
Areva ⁽¹⁾	Power	France	EUR	Dec.	18.80	383.2	4,415.0	408.0	145.0	681	849	723	0.89
Bombardier	Transport	Canada	USD ⁽⁴⁾	Dec.	3.85	1,443.5	5,575.0	25.0	311.0	1,063	1,205	1,099	0.40
CAF ⁽¹⁾	Transport	Spain	EUR	Dec.	37.11	34.3	583.5	10.2	14.9	185	194	187	3.43
Eaton	Grid	Ireland	EUR	Dec.	75.77	476.7	8,531.0	74.0	-	2,951	3,388	3,060	5.00
Faiveley Transport	Transport	France	EUR	Mar.	52.75	14.3	196.6	27.7	-	109	115	115	4.62
Freightcar America	Transport	USA	USD	Dec.	24.02	12.1	(83.8)	-	-	15	25	17	0.96
Gamesa	Renewables	Spain	EUR	Dec.	8.26	253.9	825.0	-	-	161	196	170	0.38
Hitachi	Power	Japan	JPY	Mar.	777.00	4,833.5	2,473,300.0	1,200,100.0	1,291,000.0	493,100	617,200	617,200	63.90
Mitsubishi	Transport, Power Automotive Manufacturer	Japan	JPY	Mar.	1,919.00	1,653.5	4,887,322.0	429,782.0	2,833,576.0	432,300	462,800	462,800	258.00
Mitsubishi Electric	Grid	Japan	JPY	Mar.	1,193.00	2,147.2	(44,571.0)	76,029.0	183.5	231,900	269,000	269,000	79.30
Schneider Electric	Grid	France	EUR	Dec.	64.46	579.2	3,331.0	151.0	172.0	3,363	3,760	3,462	4.22
Siemens	Power, Transport, Grid ⁽²⁾	Germany	EUR	Sept.	98.07	881.0	12,960.0	480.0	3,253.0	7,828	8,821	8,325	7.17
Thales ⁽¹⁾	Aerospace, Transport, Electric systems	France	EUR	Dec.	49.21	205.7	(1,111.1)	29.9	79.5	1,088	1,154	1,104	3.65
Trinity Ind.	Transport	USA	USD	Dec.	36.07	155.1	2,408.0	349.0	-	1,010	932	990	3.35
Vestas	Renewables	Denmark	EUR ⁽⁵⁾	Dec.	30.74	224.1	(475.0)	-	1.0	360	424	376	1.07
Vestlosh	Transport	Germany	EUR	Dec.	67.88	13.7	191.1	20.4	51.0	62	98	102	4.23
Alstom	Transport, Energy	France	EUR	Mar.	21.43	308.7	3,019.0	65.0	620.0	1,239	1,205	1,205	2.45

(1) Net debt, NCI and Associates as of 31/12/2013 due to lack of information

(2) Siemens has also a transport and grid divisions but consider this company as an Energy comparable

(3) ABB is listed in CHF but reports in USD, exchange rate as of 01/04/2014 USD 1 = CHF 0.86352

(4) Bombardier is listed in CAN but reports in USD, exchange rate as of 01/04/2014 USD 1 = CAN 1.102755

(5) Vestas is listed in DKK but reports in EUR, exchange rate as of 01/04/2014 EUR 1 = DKK 7.46501

Exhibit 21 – Extract from the HSBC broker report published on 3rd March 2014

EURm	Sales			EBIT		
	2014e	2015e	2016e	2014e	2015e	2016e
Power	8,812	8,459	8,544	837	770	795
Renewables	1,767	1,818	1,871	67	75	84
Grid	3,752	3,790	3,866	142	176	180
Transport	5,676	5,847	6,139	266	290	323

Exhibit 22 – Alstom share price evolution (Bloomberg market data)

More data available on the excel file provided with this case



Date	Share price (€p.s.)	Date	Share price (€p.s.)
03/03/2014	18.86	31/03/2014	19.82
04/03/2014	19.00	01/04/2014	21.43
05/03/2014	18.87	02/04/2014	21.97
06/03/2014	19.13	03/04/2014	21.64
07/03/2014	19.49	04/04/2014	22.08
10/03/2014	19.47	07/04/2014	21.85
11/03/2014	19.33	08/04/2014	22.09
12/03/2014	19.60	09/04/2014	21.99
13/03/2014	19.14	10/04/2014	22.00
14/03/2014	18.81	11/04/2014	21.75
17/03/2014	19.04	14/04/2014	22.01
18/03/2014	19.54	15/04/2014	21.80
19/03/2014	19.53	16/04/2014	22.30
20/03/2014	19.63	17/04/2014	22.59
21/03/2014	20.15	22/04/2014	23.38
24/03/2014	20.15	23/04/2014	24.34
25/03/2014	20.25	24/04/2014	27.00
26/03/2014	20.23	30/04/2014	29.52
27/03/2014	19.25	02/05/2014	29.76
28/03/2014	19.40	05/05/2014	29.36

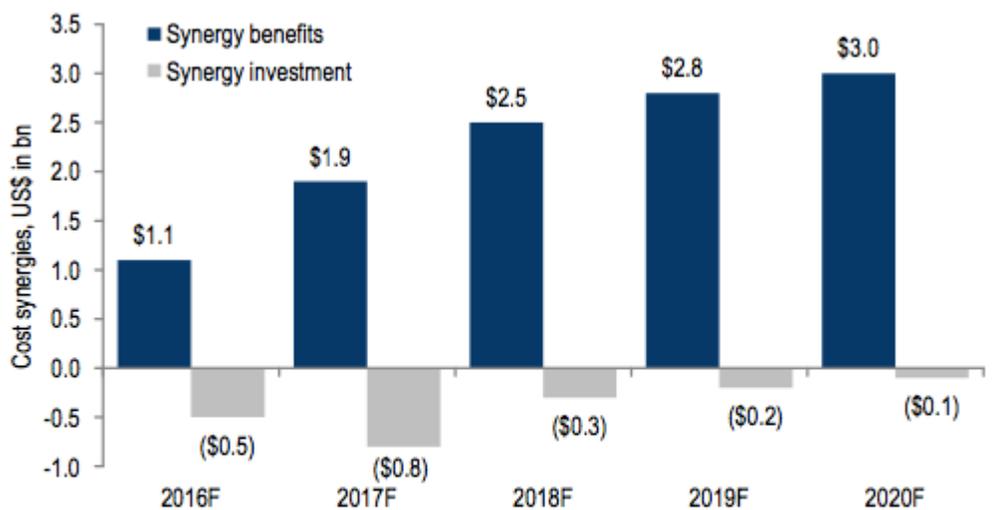
Exhibit 23 – Revenues growth and operating margins estimates in the transport sector, extract from Barclays broker report published on 12th Dec. 2016

Transportation							
Revenue Growth							
	2011	2012	2013	2014	2015	2016E	2017E
Caterpillar - Energy & Transportation***	29.5%	5.0%	-4.6%	7.8%	-17.4%	-15.9%	-7.4%
Bombardier - Transportation	-6.9%	-16.4%	12.6%	9.6%	-13.9%	N/A	N/A
Alstom - Transport^^	-2.5%	-7.8%	5.6%	7.7%	4.6%	9.2%	10.8%
Siemens - Mobility^^	-3.5%	-1.2%	-2.4%	24.5%	3.6%	4.2%	1.7%
Kawasaki Heavy Industries - Rolling Stock	1.2%	-2.0%	13.8%	-18.1%	N/A	N/A	N/A
Ansaldo STS SpA	-5.6%	3.0%	0.7%	3.7%	6.2%	-0.3%	4.8%
Construccionnes y Auxiliar de Ferrocarriles (CA	9.4%	-0.2%	-10.8%	-5.7%	8.2%	-15.0%	15.3%
Comp Average	3.1%	-2.8%	2.1%	4.2%	-1.5%	-3.6%	5.0%
GE	45.0%	14.8%	4.9%	-4.0%	5.0%	-19.2%	-27.0%
Operating Profit Margin							
	2011	2012	2013	2014	2015	2016E	2017E
Caterpillar - Energy & Transportation***	15.2%	16.3%	16.9%	18.6%	18.1%	15.0%	13.5%
Bombardier - Transportation	7.7%	4.3%	6.2%	4.9%	5.6%	N/A	N/A
Alstom - Transport^^	7.1%	5.1%	5.4%	5.2%	5.6%	6.2%	5.3%
Siemens - Mobility^^	6.0%	4.0%	-4.0%	7.3%	7.8%	8.7%	8.4%
Kawasaki Heavy Industries - Rolling Stock	3.9%	1.7%	5.1%	5.0%	N/A	N/A	N/A
Ansaldo STS SpA	9.6%	9.4%	9.4%	9.6%	10.7%	12.3%	9.9%
Construccionnes y Auxiliar de Ferrocarriles (CA	9.6%	8.2%	9.9%	7.9%	9.2%	9.0%	10.2%
Comp Average	8.4%	7.0%	7.0%	8.4%	9.5%	10.2%	9.5%
GE	15.5%	18.4%	19.8%	20.0%	21.5%	21.9%	19.5%

Siemens is September Year End. Siemens Mobility represents Siemens Transport & Logistics prior to 2013.

Exhibit 24 – Synergies breakdown by segment and run-rate (Credit Suisse broker report, 3rd Dec. 2015)

Exhibit 8: Annual Synergy Investment and Benefit



Source: Company data, Credit Suisse estimates

The \$3bn in cost synergies over the next 5 years will be split between Power (\$2.2bn), Renewables (\$300m), and Grid Solutions (\$500m). Additionally, GE expects ~\$500m in growth synergies (\$300m in Grid, \$200m in Power, and slight benefit in Renewables). We show the drivers for these synergies by segment below:

Exhibit 25 – Levered betas of comparable energy companies as of 1st Apr. 2014 (Exhibit 20, Capital IQ, Bloomberg)
(cf. excel file)

Company Name	Country	Sector	Currency	Share Price	NOSH (m)	Net Debt (m)	Levered Betas	Tax rate
GE	USA	Power	EUR	25.87	10,025.0	210,134	1.037	40.0%
Siemens	Germany	Power	EUR	98.07	881.0	12,960	0.966	29.6%
ABB	Switzerland	Grid	USD ⁽¹⁾	24.84	2,428.1	1,780	1.297	17.9%
Gamesa	Spain	Renewables	EUR	8.26	253.9	825	1.219	30.0%
Vestas	Denmark	Renewables	EUR ⁽²⁾	30.74	224.1	(475)	1.257	24.5%

(1) ABB is listed in CHF but reports in USD, exchange rate as of 01/04/2014 USD 1 = CHF 0.88352

(2) Vestas is listed in DKK but reports in EUR, exchange rate as of 01/04/2014 EUR 1 = DKK 7.46501

Exhibit 26 – Extracts from GE Investor Presentation, 30th Apr. 2014

Deal summary

Overview	Strategic rationale
<ul style="list-style-type: none"> • GE to acquire Alstom Power and Grid businesses • \$13.5B enterprise value; 7.9x pro forma EBITDA, 4.6x with run rate synergies • Alstom to retain Transport business • Targeting to close in 2015, pending regulatory & Alstom shareholder approvals 	<ul style="list-style-type: none"> ✓ Attractive long-term strategic businesses; being acquired at opportune moment in cycle ✓ Cost synergy opportunity ... ~\$1.2B by year 5 ✓ Execution is in our sweet spot ... experienced team, global assets ✓ Immediately accretive ... year 1 EPS \$.04-.06 ✓ Fits capital allocation plan

- ✓ Core business ... expands competitive capabilities
- ✓ Immediately accretive, attractive IRR
- ✓ ~\$4B of incremental cumulative op profit over 3 years

4

Exhibit 27 – GE revised offer

Alstom - 5 Nov. 2015	
	€bn Comment
Sale of Alstom Energy	12.4 Equity value
Energy operating cash transferred to GE	(1.9)
Adjustments	0.1
o.w. Commercial Agreements from Dec. 2014	0.4 Brand license
o.w. Price Adj.	(0.3) Contribution to the remedies presented by GE to the European Commission
Other Adj. (transaction costs)	(0.3)
Net Proceeds from Sale of Alstom Energy	10.3
Investments in JVs with GE	(2.4)
Acquisition of GE Signalling	(0.7)
Total Net Proceeds for Alstom	7.1
<i>Alstom Investors Presentation HY 2015-2016 - 5 Nov. 2015</i>	
EqV-EV Bridge of Alstom Energy	
	€bn Comment
Equity Value Pre-Adj.	12.4
Net cash of Alstom Energy	(1.9) Alstom Investor presentation 30 April 2014
Pension liabilities transferred to GE	1.2 Alstom Investor presentation 30 April 2014
Less other liabilities	(0.3) Alstom Investor presentation 30 April 2014
Bridge	(1.0)
EV Alstom Energy	11.4 <i>In accordance with the figure Alstom communicates on</i>

Exhibit 28 – Trading multiples as of 1st Jan. 2016 (extract from Thomson One – Datastream, Company information, Bloomberg)
(cf. excel file)

Company	Sector(s)	Country	Currency	Fiscal Year end	Share Price (p.s.)	NOSH	Net Debt	NCI	Associates	EBIT FY1	EBIT FY2	NTMEBIT	NTM EPS
American Railcar Ind.	Transport	USA	USD	Dec.	46.28	19.8	386.6	-	27.4	220	187	187	5.30
Ansaldo	Transport	Italy	EUR	Dec.	9.87	200.0	(338.7)	0.3	69.0	132	141	141	0.47
Bombardier	Transport	USA	USD ⁽²⁾	Dec.	0.97	1,932.5	6,188.0	13.0	356.0	586	528	528	0.05
CAF	Transport	Spain	EUR	Dec.	25.55	34.3	478.7	11.2	14.3	129	149	149	2.45
Faiveley Transport ⁽¹⁾	Transport	France	EUR	Mar.	95.48	14.6	152.4	30.3	23.5	101	116	112	5.02
Freightcar America	Transport	USA	USD	Dec.	19.43	12.3	(83.1)	-	-	43	41	41	2.20
Thales	Aerospace, Transport, Electric systems	France	EUR	Dec.	69.10	210.9	(1,977.6)	285.9	1,485.9	1,142	1,271	1,271	4.11
Trinity Ind.	Transport	USA	USD	Dec.	24.02	154.5	2,409.4	394.8	-	1,388	1,107	1,107	3.75
Vossloh	Transport	Germany	EUR	Dec.	57.82	13.7	200.1	17.0	33.1	47	68	68	2.53
Alstom ⁽³⁾	Transport, Energy	France	EUR	Mar.	28.17	219.1	-	86.0	2,400.0	324	380	366	1.24

(1) Net debt, NCI and Associates as of 30/09/2015 due to lack of information

(2) Bombardier is listed in CAN but reports in USD, exchange rate as of 01/01/2016 USD 1 = CAN 1.365400

(3) To reflect at least the deal impact on Alstom's balance sheet, we took NCI as reported on 30/09/2015, and the €2.4bn in Associates (Investment in JVs)

Alstom announced to have a flat Net Debt, post transaction (Presentation HY 2015-2016, 6th Nov. 2015) and the NOSH as of 31/03/2016 post the share buy-back that followed the deal and that Alstom takes into account when it says it Net Debt will be flat

Part II – Teaching Notes

For Teachers

Teaching Notes

For Teachers

I. Alstom needs cash ...

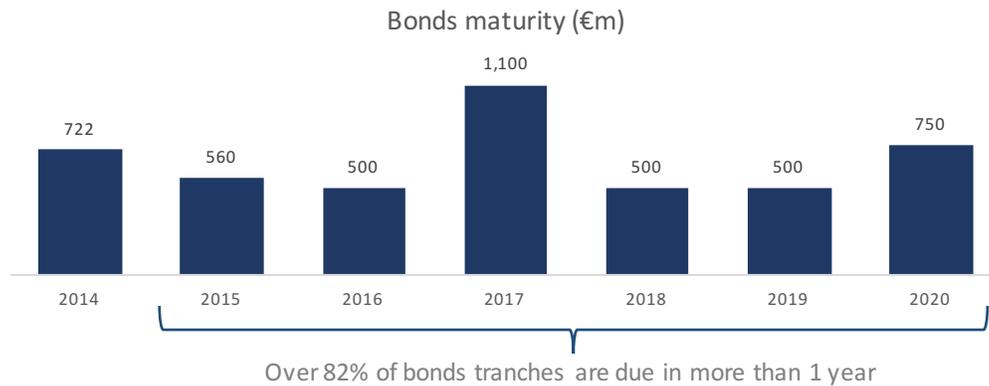
1. Does Alstom need cash?

a). Gross Debt and Net Debt

- Comparing the gross and net debt at 31st March 2013 vs. 31st March 2014, a significant increase of both of those metrics is noticeable

€m	Mar-2014	Mar-2013	Var.	Sources
Net debt	3,019	2,342	28.9%	Exhibit 17 - CFS
Total Financial debt	5,721	4,955	15.5%	Exhibit 17 - Note 25
Cash & cash equivalent	2,702	2,613		
EBITDA	1,552			Exhibit 17 - P&L for EBIT and Note 5.1 for unpolluted D&A
ND/EBITDA	1.9x			
Gross Debt/EBITDA	3.7x			

- Looking at the Morgan Stanley report (Exhibit 18) of 6th March 2014, **Alstom seems to be reaching one of its highest levels of gross debt:**
 - o What is concerning is that S&P downgraded Alstom rating from BBB to BBB-, last notch before being considered “high yield”, among other reasons for its high level of gross debt:
 - S&P degraded its Alstom rating to reflect a high Adj. Debt to EBITDA ratio (according to exhibit 4 Gross debt excluding financial lease over EBITDA is c.3.7x)
 - o It is quite important for Alstom to look at gross debt (and not only net debt) because one of its covenant ratios (Exhibit 17 – Note 26.5) is based on a maximum of €6.0bn of level of gross debt if Alstom is no longer Investment Grade (IG)
- However, the level of Net Debt / EBITDA remains quite low at 1.9x as of 31st Mar. 2014 despite an increase by 0.6x in one year (ND/EBITDA of 1.3x in March 2013)
- Bonds represent 81% of financial debt (Exhibit 17 – note 25) therefore looking at their maturities is a good way to estimate what are the main maturities of Alstom debt:



- Alstom seems to be able to face the 2014 maturity (due in September 2014), however you must add the €720m fine to pay to the U.S. Department of Justice which puts pressure on available liquidity
 - Moreover, Alstom arranged for a revolving credit facility of €1.35bn, fully undrawn and maturing in December 2016 (Exhibit 17 – Note 26.5)
- It is interesting to note that when Alstom was at its highest level of gross debt (i.e. in 2002-2003), Alstom proceeded then to capital increases (cf. the Morgan Stanley report in Exhibit 18)

b). Cash Flow Generation

Based on the Morgan Stanley broker note (Exhibit 18), between 2005 and 2010 with an average of €994m of FCF per year, Alstom was a cash generative entity but it seems it is no longer the case:

- The cash flow generation is highly volatile as shown in graph 15 of the extract from the Morgan Stanley broker report. Since 2010, FCF has drastically decreased and even became negative the following years
- For the year March 2014, Free Cash Flow from Operation after Capex is clearly negative (c. -€235m based on the CFS vs. c.+€351m at March 2013, based on Exhibit 17)
- Moreover, according to the graph 14, Alstom experienced a reduction in its customer advances
- As a consequence, the cash on balance sheet has been negatively affected since 2010. However, the 2014A cash amount is significantly higher than the estimate from Morgan Stanley, which seems quite pessimistic (graph 16)
- On the bright side, Working Capital as a gross amount and as a % of sales has been decreasing since 2010: it has been divided by almost 2 between 2009 and H1-2014 (graph 13)

The S&P press release (Exhibit 19) is prudent when assessing Alstom's cash generation to come:

- Alstom is experiencing sales decreased in volume (by 1%) and market environment is to remain challenging which put pressure on the EBITDA margin (to be depressed compared with historical levels in the next 3 years according to the press release)
- As a consequence, S&P foresees a negative FOCF (free operating cash flow) in 2014

- However, S&P takes into account the resilience of Alstom operating profits compared with peers and the asset disposals to be used to repay the outstanding debt, hence the “stable” outlook

Conclusion

Alstom debt has drastically increased, but there is, for now, no breach of covenant nor any liquidity problem. However, this high level of gross debt could lead to further degraded rating by agencies.

Moreover, 2010 seems to be a turning point for Alstom cash performance: the €2.3bn Areva Transmission acquisition in June and the reduction in customer advances put both pressure on Alstom balance sheet, according to the 6th March 2014 Morgan Stanley report.

Degraded cash generation and increased level of gross debt, with the downgrade from S&P, seem to be quite concerning for the years to come. The “stable” outlook given by S&P is however a positive sign reflecting, partly, the proceeds expected from asset disposals to be used to repay the outstanding debt (cf. Exhibit 19).

2. Other options for Alstom to raise cash

a). Pros and cons of solutions that could be implemented by Alstom

	Pros	Cons
Capital increase	<ul style="list-style-type: none"> - No need to dispose of assets (i.e. no EBITDA lost) - Reasonably fast process 	<ul style="list-style-type: none"> - Dilution of shareholders - Discount to share price that may be already low due to financial situation
Asset sale	<ul style="list-style-type: none"> - The asset can be sold at a premium if sold to strategic investors 	<ul style="list-style-type: none"> - Loss of control on the asset - Tax on capital gain - Can be a long process - Need to have interested buyers
Sale of a minority stake	<ul style="list-style-type: none"> - Brings cash to parent firm without loss of control 	<ul style="list-style-type: none"> - Tax on capital gain - No deconsolidation on the balance sheet (especially the debt part) - Amount of cash raised may not be sufficient in the Alstom case - More limited universe of potential buyers (need to be willing to leave the control to Alstom, no LBOs...)
Equity carve-out / minority IPO	<ul style="list-style-type: none"> - Brings cash to parent firm without loss of control 	<ul style="list-style-type: none"> - May have some tax implications - Cost of IPO process - Long process
JVs	<ul style="list-style-type: none"> - Brings cash to parent firm with or without loss of control depending on the structure agreed 	<ul style="list-style-type: none"> - No deconsolidation on the balance sheet if control kept - Potential issue to sell the remaining stake: only the other owner of the JV will be willing to buy the remaining stake and may not have the financial strength / incentive to do so

Note: a **spin-off won't enable the company to raise capital** as the parent company distributes shares of the subsidiary that is being spun-off to its existing shareholders on a pro rata basis (in the form of a special dividend). Same comment for a split-off.

As discussed in the press and in broker notes, capital increase or the disposal of an asset seem to be the best options.

b). 2014 EPS impact analysis

i) Disposal of a minority stake in Transport

- *Hint: using Exhibit 20, can you justify the use of a median of 9.9 x NTM EBIT multiple to value the transport business? Why should you use a NTM multiple?*

To estimate the impact of selling a minority stake you need first to value Alstom Transport. To do so you should use an EV/EBIT multiple based on peers operating in the same sector. You should consider other parameters as well (like geography, growth, margins) but here the information is limited.

Once you have built your peers sample, you should consider only NTM multiple: Alstom fiscal year end is 31st March, therefore you need to use multiples as of March 2015 since you are going to apply them to March 2015E metrics. The estimates provided to you are as of 1st April 2014 therefore you must use the NTM multiples.

To find the median of 9.9x NTM EBIT multiple, here is the table you should build:

Company	Sector(s)	Currency	Fiscal year end	Market Value	EV	NTM EBIT x	NTM P/E x
American Railcar Ind	Transport	USD	Dec.	1,487.6	1,430	8.5x	15.0x
Ansaldo	Transport	EUR	Dec.	1,533.6	1,344	10.5x	17.9x
Bombardier	Transport	USD(4)	Dec.	5,563.2	10,852	9.9x	9.6x
CAF(1)	Transport	EUR	Dec.	1,272.0	1,851	9.9x	10.8x
Faiveley Transport	Transport	EUR	Mar.	756.1	980	8.5x	11.4x
Freightcar America	Transport	USD	Dec.	289.6	206	11.9x	25.2x
Trinity Ind.	Transport	USD	Dec.	5,594.4	8,351	8.4x	10.8x
Vossloh	Transport	EUR	Dec.	931.8	1,092	10.7x	16.0x
Median						9.9x	13.2x

- *Hint: raising €750m of cash will reduce the gross debt, what is the impact on the group interest expenses?*

As suggested by the hint, raising €750m will reduce the gross debt outstanding and therefore the interest expenses but beware as the impact on the earnings are after taxes:

1/ Computation of cost of debt

	Mar-14	Sources
Total gross debt	5,721	Exhibit 17 - Note 25
Interests on gross debt	217	Exhibit 17 - Note 8
Interest rate on gross debt	3.8%	
Interests saved from debt reduction	28	
Tax rate	23.0%	Given assumption
Interests saved from debt reduction after tax	22	

- *Hint: the EPS impact of the minority sale includes earnings distributed to minorities which depends on the percentage of the Transport division sold to 3rd parties. Determine this percentage so that the cash raised equals €750m.*

As suggested in the hint, it is necessary to estimate the new minority interests to be taken into account to compute the net profit group share. Indeed, the EPS computed is based on the Net Income group share (i.e. excluding non-controlling interests). To compute it, we need to determine both the % of stake sold and the net profit of the Transport division.

Using the EBIT multiple, you will get a valuation of Alstom Transport. However, it is necessary to estimate the % of debt that will be allocated to the Transport division to obtain the cash you will effectively receive. We assume that the allocation is made proportionally to the capital employed for each segment disclosed in the registration document of Alstom.

% of Group allocated to Transport		<u>Sources</u>
Transport capital employed (Mar-14)	1,881	Exhibit 17 - Note 5.1
Total capital employed (Mar-14)	8,161	Exhibit 17 - Note 5.1
% of Group allocated to Transport	23.0%	

<i>In €m</i>		<u>Sources</u>
Transport 2015E EBIT	290	
EV/EBIT NTM	9.9x	
EV Transport valuation	2,866	
Group Net Debt (Mar-14)	3,019	Exhibit 17 - CFS
<i>% of Group allocated to Transport</i>	<i>23.0%</i>	
Transport Net Debt	696	
Transport Equity Valuation	2,170	
Cash to raise	750	
% Transport division sold	34.6%	

From the EBIT transport 15E given, you will then derive the net profit of Transport. You need to allocate financial expenses, just like you did for the Net Debt.

		<u>Sources</u>
EBIT Transport 15E	290	
Group financial expenses (Mar-14)	(308)	Exhibit 17 - Note 8
<i>% of Group allocated to Transport</i>	<i>23.0%</i>	
Transport financial expenses	(71)	
PBT	219	
Taxes	(50)	
Tax rate	23.0%	
Net Profit Transport	169	

As shown above, Transport EV equals to €2.17bn, therefore to raise €750m you need to sell 34.6% of Alstom's share in Transport. 34.6% represents the part of non-controlling interests now part of the shareholding of the Transport division. To compute the earnings belonging to those shareholders, you need to allocate 34.6% of the Net Profit of Transport to them, i.e. €58.3m.

Finally, you have all the elements to compute the EPS impact. You should take into account the interests saved from debt reduction and the new non-controlling interests as previously mentioned.

3/ EPS impact

Shares outstanding as of 31st March 2014 (m)	308.7	Exhibit 17 - Consolidated change in equity
<i>In €m</i>		
Previous net profit (group share)	556	Exhibit 17 - P&L
Interests saved from debt reduction after tax	22	
Non-controlling interests earnings	(58)	
New net profit (group share)	520	
Old EPS	1.80	
New EPS	1.68	
EPS accretion / (dilution)	(6.54)%	

Note: it would have been possible to use a PE multiple. The method is similar; what changes is the % of Transport shares needed to be sold to raise €750m:

2/ Computation of Transport valuation

		Comments
Net Profit Transport	169	Same as computed before
PE Transport multiple NTM	13.2x	
Transport Equity Valuation	2,230	
Cash to raise	750	
% Transport division sold	33.6%	
NCI earnings (€m)	56.7	

3/ EPS impact

<i>In €m</i>		
Previous net profit (group share)	556	
Interests saved from debt reduction after tax	22	
Minority interests part	(57)	
New net profit (group share)	521	
Old EPS	1.80	
New EPS	1.69	
EPS accretion / (dilution)	(6.26)%	

Using the PE multiple seems to lead to a slightly lower EPS dilution since the % of minority owning a stake in Alstom Transport is reduced.

ii). Capital increase

- *Hint: For the capital increase, you should use a share price adjusted by a 10% discount on the TERP as given in the assumptions. The other solution, not recommended here as this is not industry standard, is to compute as if it was a capital increased based on 1st Apr. 2014 share price with a 11.1% discount (which should lead to an equivalent result).*

As suggested in the hint, the issuance share price is derived from the 10% TERP discount. However, to compute the TERP as given by the formula in the Case Presentation, you need the issuance share price and the number of shares newly issued, which leads then to a circularity:

EPS impact**Option 1 - TERP discount**

<i>In millions, except for share price in €</i>		<i>Sources</i>
Shares outstanding	308.7	<i>Exhibit 17 - Consolidated change in equity</i>
Capital to raise	750	
Share price as of 1st Apr. 2014	€21.43	<i>Exhibit 22</i>
TERP	€21.16	
Discount to TERP	10.0 %	<i>Given assumption</i>
Issuance price	€19.04	
Newly shares issued	39.4	
Shares outstanding after capital increase	348.1	

Note: it is necessary to make sure Excel is properly configured. When clicking on the Options sub-menu of the File menu, a window will appear, allowing you to tick on the Formula tab the button "Enable iterative computation".

In case the student opted for the methodology using the discount to share price, the number outstanding after capital increase obtained leads to the same result but this is not following industry standards:

Option 2 - Share price discount

<i>In millions, except for share price in €</i>		<i>Sources</i>
Shares outstanding	308.7	<i>Exhibit 17 - Consolidated change in equity</i>
Capital to raise	750	
Share price as of 1st Apr. 2014	€21.43	<i>Exhibit 22</i>
Discount to share price	11.1 %	<i>Given assumption</i>
Share price of issuance	€19.04	
Newly shares issued	39.4	
Shares outstanding after capital increase	348.1	

Finally, as we have now the number of shares after the capital increase, the EPS impact in the case of the capital increase can be derived as follow:

<i>In €m</i>		
Previous net profit (group share)	556	<i>Exhibit 17 - P&L</i>
Interests saved from debt reduction after tax	22	<i>Previously computed</i>
New net profit (group share)	578	
Old EPS	1.80	
New EPS	1.66	
EPS accretion / (dilution)	(7.82)%	

Conclusion

The capital increase seems to be a bit more EPS dilutive for 2014 by 1.3% than the disposal of a minority stake in an asset (without assuming any tax on capital gain).

II. ... and may benefit from a re-rating post operation, focusing on transport

3. SOTP analysis

The goal of this SOTP Analysis is to compare the implied Alstom share price we get if we value each business separately to the share price at which Alstom trades. If the derived share price is below the trading price, it means Alstom's valuation is hindered. It may be due to the fact that Alstom operates different divisions with little synergies between them, resulting in Alstom "suffering" from the "holding discount". The latter refers to the fact that most conglomerates valuation is penalised by the lack of synergies between their different businesses. Indeed, the market tends to think that holdings are not efficient (due to corporate costs) and that the different units composing such conglomerates would be better off belonging to strategic owners, which would be able to extract synergies. Therefore, conglomerates suffer from a double penalisation: holding costs decrease their EVs and market applies to them a global discount factor due to the lack of synergies.

In Alstom's case, we are going to value its 4 main businesses: Power, Renewables, Grid and Transport. To do so, you need to build 4 peers trading tables based on Exhibit 20. Peers should be selected according solely to their sectors since the information is limited, any conglomerate such as Mitsubishi should be excluded.

The use of median rather than average is very common and enables to limit the impact of any extreme points.

Based on those criteria, you should get the following tables:

Power							
Company	Sector(s)	Currency	Fiscal year end	Market Value	EV	NTM EBIT x	NTM P/E x
Areva(1)	Power	EUR	Dec.	7,204.2	11,882	16.4x	21.1x
Hitachi	Power	JPY	Mar.	3,755,599.0	6,137,999	9.9x	12.2x
Siemens	Power, Transport, Grid(2)	EUR	Sept.	86,399.6	96,587	11.6x	13.7x
Median						11.6x	13.7x
Renewables							
Company	Sector(s)	Currency	Fiscal year end	Market Value	EV	NTM EBIT x	NTM P/E x
Gamesa	Renewables	EUR	Dec.	2,097.8	2,923	17.2x	22.0x
Vestas	Renewables	EUR(5)	Dec.	6,888.8	6,413	17.1x	28.7x
Median						17.1x	25.3x
Transport							
Company	Sector(s)	Currency	Fiscal year end	Market Value	EV	NTM EBIT x	NTM P/E x
American Railcar Ind	Transport	USD	Dec.	1,487.6	1,430	8.5x	15.0x
Ansaldo	Transport	EUR	Dec.	1,533.6	1,344	10.5x	17.9x
Bombardier	Transport	USD(4)	Dec.	5,563.2	10,852	9.9x	9.6x
CAF(1)	Transport	EUR	Dec.	1,272.0	1,851	9.9x	10.8x
Faiveley Transport	Transport	EUR	Mar.	756.1	980	8.5x	11.4x
Freightcar America	Transport	USD	Dec.	289.6	206	11.9x	25.2x
Trinity Ind.	Transport	USD	Dec.	5,594.4	8,351	8.4x	10.8x
Vossloh	Transport	EUR	Dec.	931.8	1,092	10.7x	16.0x
Median						9.9x	13.2x
Grid							
Company	Sector(s)	Currency	Fiscal year end	Market Value	EV	NTM EBIT x	NTM P/E x
ABB	Grid	USD(3)	Dec.	60,310.3	62,431	11.6x	15.4x
Eaton	Grid	EUR	Dec.	36,119.6	44,725	14.6x	15.2x
Mitsubishi Electric	Grid	JPY	Mar.	2,561,611.0	2,592,886	9.6x	15.0x
Schneider Electric(1)	Grid	EUR	Dec.	37,333.1	40,643	11.7x	15.3x
Median						11.7x	15.2x

Then, you need to apply the different multiples to the estimates provided in Exhibit 21, taking into account the corporate costs. To derive an implied share price, you need to adjust for Net Debt, NCI and Associates to get Alstom's Equity Value.

FYE 31-March	EBIT 2015E (€m)	NTM Multiples (x)	EV (€m)	Sources
Power	770	11.6x	8,934	Exhibits 20 and 21
Renewables	75	17.1x	1,286	
Transport	290	9.9x	2,866	
Grid	176	11.7x	2,056	
Sector EV			15,141	
EV holding costs			(1,409)	HSBC 3-Mar-2014 report
Total EV			13,732	
Net Debt			(3,019)	Exhibit 17 - CFS
Non-controlling interests			(65)	Exhibit 17 - BS
Associates			620	Exhibit 17 - BS
Equity Value			11,268	
Outstanding number of shares (m)			308.7	Exhibit 17 - Consolidated change in equity
Value per share (€)			€36.50	
Share price as of 1st Apr. 2014			€21.43	Exhibit 22
Share price is trading at a (discount)/premium			(41.3%)	

Conclusion

Alstom seems to be trading 41.3% below its theoretical share price, which means that its valuation is hindered by the current composition of the Alstom Group, operating several divisions with little to no synergies.

A solution for Alstom, and any conglomerates, would be to sell a division or execute a split/spin-off so the market could better value each operation. In this case, Alstom decided to sell its Energy and Grid division to a strategic player, GE.

As explained in the first question, although Alstom is not in a deer need of cash right away, it has been generating less cash than it used to and S&P downgraded its rating. Moreover, as explained in the Case Presentation, Alstom was not well positioned in the energy sectors and GE appeared as a natural buyer with respect to their shared history. With the SOTP analysis, we now understand that Alstom is trading at more than 40% below its theoretical share price, therefore it seems that selling the Power and Grid divisions enables Alstom to raise money and secure its credit rating, but not only. Indeed, Alstom may even benefit from a better valuation from the market, focusing solely on the transport sector, which is the object of Question 4.

Would Alstom have been able to sell the transport division and keep the Energy business? In theory yes, however Alstom was not a powerful player in the thermal industry. Indeed, as explained in the Exhibit 4 of the Case Presentation, Alstom was the adjustment variable, showing higher correlation with demand and higher volatility than its peers.

Beyond this fact, there is one critical parameter which explains why Alstom did not keep the Power and Grid divisions and sold the Transport unit. Indeed, Alstom had a buyer for the Power unit, a buyer which was interested and with whom it shared a common history: GE. Finding a buyer in such big transactions can be quite hard, especially due to cultural fit. For all those reasons mentioned above, GE was the ideal buyer and was paying cash. Moreover, this deal enabled Alstom to reinforce its presence on the Signalling sector which is quite attractive due to its growth estimates and double-digit margins (cf. Case Presentation, Exhibit 10 and 11).

4. Re-rating analysis

Comparing trading multiples given by Exhibits 20 and 28, we derive a 3.0x positive re-rating:

As of 1st Apr. 2014		Source
	In €m	
EV Alstom	9,079	Exhibit 20 - Trading Comps Apr. 2014
NTM EBIT	1,205	Exhibit 20 - Trading Comps Apr. 2014
EV/EBIT NTM	7.5x	
As of 1st Jan. 2016		
	In €m	
EV Alstom	3,858	Exhibit 28 - Trading Comps Jan. 2016
NTM EBIT	366	Exhibit 28 - Trading Comps Jan. 2016
EV/NTM EBIT	10.5x	
Re-rating	3.0x	

However, as explained in the Question 3, Alstom is trading 40% below the imply share price we derived using the SOTP method. Therefore, if we assume that the market undervalued Alstom, we need to use the SOTP derived EV to compute a NTM EBIT multiple reflecting better Alstom's valuation. Doing so, we derive a 11.4x NTM EBIT multiple as of 1st Apr. 2014 and therefore a "de-rating" of -0.9x.

As of 1st Apr. 2014		Source
Alstom SOTP EV	13,732	SOTP Computation
EV/NTM EBIT	11.4x	
Re-rating	(0.9x)	

Is it the sign that Alstom's deal wasn't a success? No, it just reflects the drastic change in Alstom strategy. Indeed, Alstom's multiple before the deal was driven by the multiples of the power, renewable and grid sectors since those business units represented c.70% of the company's sales as of FYE March 2014. Therefore, Alstom's 11.4x NTM EBIT multiple was driven by those sectorial multiples. However, when the French company chose to focus solely on the transport sector its multiple re-aligned on this sector's multiple, which is quite lower than the power's, renewables' and grid's multiples.

Multiples as of 1st Apr. 2014, based on Exhibit 20:

Median	NTM EBIT x	NTM P/E x
Power	11.6x	13.7x
Renewables	17.1x	25.3x
Transport	9.9x	13.2x
Grid	11.7x	15.2x

However, looking at Exhibit 28, we can notice that Alstom is trading 0.6x below its peers which have a median of 11.1x NTM EBIT as of 1st Jan. 2016.

Transport						
Company	Fiscal year end	Market Value	EV	Leverage (ND/Mkt val.)	NTM EBIT x	NTM P/E x
American Railcar Ind	Dec.	918.4	1,278	0.42x	6.8x	8.7x
Ansaldo	Dec.	1,974.0	1,567	(0.17x)	11.1x	21.0x
Bombardier	Dec.	1,869.2	7,714	3.31x	14.6x	19.3x
CAF	Dec.	875.9	1,351	0.55x	9.0x	10.4x
Faiveley Transport ^(c)	Mar.	1,395.4	1,555	0.11x	13.9x	19.0x
Freightcar America	Dec.	239.5	156	(0.35x)	NM	8.8x
Trinity Ind.	Dec.	3,710.0	6,514	0.65x	5.9x	6.4x
Vossloh	Dec.	793.7	978	0.25x	14.5x	22.9x
Median				0.34x	11.1x	14.7x
Alstom ⁽³⁾	Mar.	6,171.7	3,858	-	10.5x	22.8x

If you take a look at Exhibit 23, you will notice that even though Alstom has a very high growth perspective in 2016/2017 (9.2% in 2016 and 10.8% in 2017), its operating margin level is the lowest of its peers over 2011-2015 and the 2016-2017 estimates confirm this trend (6.2% operating margin forecasted for 2016 when peers average is 10.2% and GE's margin is 21.9%).

Additional comment

In the end, due to the structural shift towards an entirely transport focused company and the different market valuation of the sectors in which the company operates, it is difficult to quantify the benefit in terms of valuation for Alstom with EV/EBIT multiples. Indeed, as we have seen above, the change of multiples for Alstom is impacted by the sale of Energy and Grid which mechanically reduces its EV/EBIT multiple and the re-rating of the Transport sector which benefits from higher multiples (peers median of 11.1x in Jan. 2016 vs. 9.9x in Apr. 2014). In order to quantify the re-rating of Alstom group excluding all these aspects and obtain the value created for shareholders, we will build a bridge from its 2014 trading EV.

However, it is first important to recall the impact on the EV and the Equity Value when a business is acquired / sold to properly apprehend this bridge. When a business is sold, its market value reduced the EV of the company, while the Equity Value is impacted by the difference between the market value of the business and the price paid. In case of an acquisition, the EV increased by the market value of the business while the impact on the Equity Value is the reverse than previously explained.

Let's take an example to be clearer. Assume your trading EV is €1,000m, of which €400m is Equity and €600m is Net Debt. Let's assume you sell cash a business worth €100m at €120m including a premium. On one hand, the EV will decrease by €100m since you disposed of an asset, on the other hand the Net Debt will decrease by €120m (since you receive cash) and your Equity value will gain €20m. In the end, you get a €900m EV, of which €420m if Equity and €480m is Net Debt.

Hence, when we build the bridge from the 2014 trading EV to take into account the sale of the Energy and Grid businesses, the acquisition of Signalling and the re-rating of the Transport sector, we obtain an EV reflecting the new Alstom group but keeping the 2014 discount applied by the market as seen in the SOTP computation. The difference between the Equity Value derived from this EV and the Market Capitalisation of Alstom in 2016 reflects the value creation for shareholders from this transaction.

Bridge from EV 2014 to EV 2016

	<i>In €m</i>	<i>Source</i>
EV Energy and Grid from SOTP	12,275	SOTP Computation
Corporate costs allocated	(1,097)	Allocation proportionate to the Energy and
EV Alstom Energy inc. corp. costs	11,178	
EV Alstom 1st Apr. 2014	9,079	Exhibit 20 - Trading Comps Apr. 2014
EV SOTP Energy & Grid incl. corp. costs	11,178	Previously computed
EV paid Signalling 2014	700	Exhibit 27 - GE revised offer
Re-rating transport EBIT	1.3x	
EV/EBIT transport Jan. 2016	11.1x	Exhibit 28 - Trading Comps Jan. 2016
EV/EBIT transport Mar. 2014	9.9x	Exhibit 20 - Trading Comps Apr. 2014
EBIT NTM as of Jan. 2016	366	Exhibit 28 - Trading Comps Jan. 2016
Re-rating Transport	459	
EV Alstom after Energy & Grid sale and Re-rating Transport	(940)	
Net Debt	-	Exhibit 28 - Trading Comps Jan. 2016
Non-controlling interests	86	Exhibit 28 - Trading Comps Jan. 2016
Associates	2,400	Exhibit 28 - Trading Comps Jan. 2016
Equity Value Alstom	1,374	
Re-rating Alstom group / Value creation	4,798	
Market Value Alstom 2016	6,172	Exhibit 28 - Trading Comps Jan. 2016

Note: we assume the market value of the Signalling assets acquired equals the EV paid by Alstom, due to lack of information on this matter.

III. Focus on the price paid by GE

5. GE's valuation of Alstom's assets

The goal of this part III is to analyse from GE's perspective the price paid for Alstom Energy and Grid. As explained in the Case Presentation, Alstom is not the very well positioned in the energy sector. Therefore, GE would likely assume a discount to value Alstom Power and Renewables, no need for Grid.

Divisions	NTM Multiples (x)	NTM Multiples post discount (x)	Sources
Power	11.6x	8.1x	Exhibit 20 - Trading Comps Apr. 2014
Renewables	17.1x	12.0x	Exhibit 20 - Trading Comps Apr. 2014
Grid	11.7x	11.7x	Exhibit 20 - Trading Comps Apr. 2014

Then, let's not forget the holding costs, as the hint suggested you should allocate them based on the EBIT of each division:

Holding costs allocation			Sources
	EBIT 2015E (€m)	% of total EBIT	
Power	770	59%	Exhibit 21
Renewables	75	6%	Exhibit 21
Transport	290	22%	Exhibit 21
Grid	176	13%	Exhibit 21
Total	1,311		
Corporate costs	(1,409)		HSBC 3-Mar-2014 report
Corporate costs allocated	(1,097)		

Finally, you get the following valuation from GE's perspective:

SOTP Analysis				Sources
FYE 31-March	EBIT 2015E (€m)	NTM Multiples (x)	EV (€m)	
Power	770	8.1x	6,254	Exhibits 20
Renewables	75	12.0x	900	
Grid	176	11.7x	2,056	
EV holding costs			(1,097)	Previsouly computed
Total EV			8,112	
EV paid			11,400	Exhibit 27
Difference			3,288	

As you can notice, there is a €3.3bn difference between the EV of Alstom Energy and Grid compared with the EV paid by GE. The objective is then to understand if this difference can be justified by the synergies, this is the purpose of Question 6.

6. Synergies contribution

a) WACC computation

From Exhibit 24, we have the run-rate of the synergies and the split between the 3 segments (Power, Grid and Renewables). As these 3 segments bear very distinctive business risk profiles, it is important to take this into consideration when conducting the analysis. Therefore, we will use 3 different betas (and thus WACC) to discount the synergies associated to each business.

The segment unlevered betas are computed as the median of main players' beta:

- Power is comprised of GE, Siemens and Mitsubishi
- Grid is comprised of ABB
- Renewables is comprised of Gamesa and Vestas

To compute the unlevered betas, we recall that the betas given by Bloomberg are levered and need to be adjusted as follows:

$$Beta\ unlevered = \frac{Beta\ levered}{1 + (1 - tax\ rate) \times \frac{ND}{E}}$$

Company	Share Price	NOSH	Market Cap	Net Debt	E+D	D/E	Levered Beta	Tax rate	Unlevered Beta
GE	25.87	10,025	259,347	210,134	469,481	0.45x	1.037	40.0%	0.817
Siemens	98.07	881	86,400	12,960	99,360	0.13x	0.966	29.6%	0.885
ABB	24.84	2,428	60,310	1,780	62,090	0.03x	1.297	17.9%	1.267
Gamesa	8.26	254	2,098	825	2,923	0.28x	1.219	30.0%	1.018
Vestas	30.74	224	6,889	(475)	6,414	(0.07x)	1.257	24.5%	1.331
Median of Power				<i>% synergies</i>	2200	73%			0.851
Median of Grid					500	17%			1.267
Median of Renewables					300	10%			1.175

To compute the WACC, we have to “re-lever” the unlevered betas obtained with the following formula:

$$Beta\ levered = Beta\ unlevered \times \left(1 + (1 - tax\ rate) \times \frac{ND}{E}\right)$$

We use the debt leverage of Alstom group because its Energy assets generates over 70% of its revenues. It is in this case preferable to choose Alstom group leverage over the leverage of the transaction because the structure of the deal does not reflect the risk level of the assets. Indeed, the offer was debt free with €1.9bn cash; such a financial structure is unsustainable to maintain the operations.

The leverage of Alstom Group can be computed as follow:

		<i>Source & comments</i>
Alstom group as of 1st Apr. 2014		
Share price as of 1st Apr	21.43	<i>Exhibit 22</i>
NOSH	308.70	<i>Exhibit 17 - Consolidated change in equity</i>
Market cap (€m)	6,615	
Net debt (€m)	3,019	<i>As of 31st Mar. 2014, Exhibit 17 - CFS</i>
D/E	0.46x	
E/(E+D)	68.7%	

Finally, we compute the 3 WACCs:

	Power	Grid	Renewables
ERP	8.1%	8.1%	8.1%
<i>Bloomberg</i>	10.2%	10.2%	10.2%
<i>Damodaran</i>	5.9%	5.9%	5.9%
Risk-free rate	2.1%	2.1%	2.1%
Effective tax rate	23.0%	23.0%	23.0%
Unlevered beta	0.851	1.267	1.175
Levered beta	1.150	1.712	1.587
Cost of equity	11.4%	15.9%	14.9%
Pre tax cost of debt	3.8%	3.8%	3.8%
Cost of debt after tax	2.9%	2.9%	2.9%
WACC	8.7%	11.9%	11.2%

It is worth noticing that in this case we haven't add a premium to the WACCs as it is usually done. Indeed, people tend to add a risk premium to the WACC to reflect the additional riskiness of effectively delivering the synergies but here, we have decided instead to apply a negative growth to the perpetuity of the synergies reflecting the fact that they will be passed on to clients, suppliers and other stakeholders .

b) NPV of synergies

We compute the net cost synergies for each segment by converting into € and deducting the implementation costs. To obtain the segment synergies, we apply the split of total cost synergies given in 2020. By doing so, we assume that this split remains constant over the period 2016-2020.

The computation of the Terminal Value is based on a negative terminal growth rate because the cost synergies delivered for the next 5 years would ultimately be passed on clients, suppliers

and employees. As given in the assumptions, we have taken a 10% negative rate due to the high competitiveness in which Alstom operates (local and Chinese competition).

The date of analysis was 1st Apr. 2014 which impacted the year to discount and discount factor.

Date	01/04/2014					
WACC Power	8.7%					
WACC Grid	11.9%					
WACC Renewables	11.2%					
Terminal growth rate	(10.0%)					
<i>In €m</i>	12/15	12/16	12/17	12/18	12/19	12/20
Total cost synergies		803	1,387	1,825	2,044	2,190
Implementation costs		(365)	(584)	(219)	(146)	(73)
Net cost synergies		438	803	1,606	1,898	2,117
<i>Power cost synergies</i>	73%	321	589	1,178	1,392	1,552
<i>Grid cost synergies</i>	17%	73	134	268	316	353
<i>Renewables cost synergies</i>	10%	44	80	161	190	212
Year to discount		2.75	3.75	4.75	5.75	6.75
Discount factor Power		0.794	0.730	0.672	0.618	0.568
Discount factor Grid		0.735	0.657	0.587	0.525	0.470
Discount factor Renewables		0.748	0.673	0.605	0.544	0.490
Net Power synergies discounted		255	430	791	860	882
Net Grid synergies discounted		54	88	157	166	166
Net Renewables synergies discounted		33	54	97	103	104
Total synergies discounted	4,238					
Terminal Value Power	4,233					
Terminal Value Grid	682					
Terminal Value Renewables	441					
Total Terminal Value	5,356					
NPV in €m	9,595					
NPV in \$m	13,145					

The value of €9.6bn may seem very high but in the Exhibit 24, we can notice that GE announced \$4bn of additional operating profit for the next 3 years, which already represents almost c.30% of the NPV.

Conclusion

	<i>In €m</i>
EV Alstom Energy inc. corp. costs	8,112
EV Energy paid	11,400
Difference	3,288

Source
Previously computed in Question 5
Exhibit 27 - GE revised offer

	<i>In €m</i>
EV Energy from SOTP	8,112
Synergies	9,595
EV Alstom Energy and Grid inc. Syn.	17,707
EV Energy paid	11,400
Difference	(6,307)

Source
Previously computed in Question 5
Previously computed
Exhibit 27 - GE revised offer

When comparing the price paid to the market value of the assets including the synergies, we notice that the difference of €6.3bn is beneficial for GE. However, we should recall that at the announcement of the transaction, GE only declared \$1.2bn of synergies in 5 years instead of \$3bn. Here we used the \$3bn synergies, but if we take the announced synergies this gap significantly narrows. Using a simple “tree-step test”, the value of synergies decreases from €9.6bn to $9.6 / 3 * 1.2 = €3.8$.bn, resulting into a price lower by €550m to the value of the business including synergies. Therefore, under this initial scenario, GE would have effectively benefitted from only €550m of the synergies.

It is also interesting to show the allocation of the synergies between Alstom and GE based on the \$3bn estimate:

	<i>In €m</i>	<i>In %</i>
Alstom	3,288	34%
GE	6,307	66%
Total synergies	9,595	100%

The synergies have been allocated with 2/3 for GE, rewarding the risk of effectively delivering them. Even if Alstom seems to have obtain a relatively good price for its Energy and Grid assets, which is confirmed by the shareholders’ value creation seen in question 4, the transaction is also financially interesting for GE thanks to the higher than previously expected synergies.

Additional Comments

1 – On synergies disclosed

The synergies expected from the deal have been significantly revised upward a year later after the announcement of the transaction. Indeed, GE has declared to be confident to deliver \$3bn in 5 years instead of only \$1.2bn as previously announced. Would have been possible to predict this upward revision?

When we look at the previous transactions in the sector as shown by the Morgan Stanley report extract below, we can notice that a \$1.2bn synergies in 5 year represents 5% of the target revenues, which is largely lower than the announced synergies for large M&A deals. The revised figure of \$3bn represents now c.13% of the target revenues. However, the following table shows also very dated deals (2004-2007) where the economic situation was completely different from the year 2014.

Large M&A deals across the S&P 500 have typically returned a median of 9% cost-out, which makes GE's 5% estimate seem somewhat conservative

Buyer	Target	Year	Cost (\$m)	Synergy as % Target Revenue
P&G	Gillette	2005	57,000	13.1%
Pfizer	Warner Lambert	2000	90,000	12.5%
Stanley	Black & Decker	2010	4,500	12.3%
GE	Amersham	2003	10,509	12.1%
Caterpillar	Bucyrus	2010	8,600	11.0%
Sprint	Nextel	2004	45,490	10.7%
Danaher	Beckman Coulter	2011	6,800	9.4%
Median				9.1%
InBev SA	Anheuser-Busch	2008	61,050	8.8%
Delta	Northwest	2008	10,300	8.0%
Ingersoll-Rand	Trane	2007	10,100	6.7%
United Technologies	Goodrich	2011	18,400	6.2%
Eaton*	Cooper Industries	2012	11,800	5.6%
Manitowoc	Enodis	2008	2,741	5.5%
ChevronTexaco	Unocal	2005	19,921	3.7%
Median				9.1%
GE	Alstom	2015	13,500	5.0%

Source: Company Data, Morgan Stanley Research

Source: Morgan Stanley broker report, 5 May 2014

2 – On multiple disclosed

It is also worth noticing that both GE and Alstom have communicated very different sets of figures for the transaction. Indeed, both the EV – Equity bridge and the computation of the EBITDA differs sensibly which leads to a difference of almost one turn in EV/EBITDA multiple. Moreover, considering the LTM EBITDA of either September 2013 or March 2014 also gives rise to a one turn difference. Combining all the above effects can then imply a gap of two turn for the

EV/EBITDA multiple which is very significant. For this reason, it is really important for the student to precisely understand the computation of the disclosed transaction multiples.

If we closely looked at the differences in the bridge and the EBITDA computation, we can note that both GE and Alstom are consistent in their computation methodology. Indeed, Alstom does not include the cash from Steam Auxiliary Components sale as it excludes its contribution in Alstom's EBITDA. Reversely, GE includes the cash from Steam Auxiliary Components sale in the bridge but also its EBITDA contribution so that the EV/EBITDA multiple is consistent in both approaches.

Therefore, the only difference that matters is the inclusion / exclusion of the Other liabilities in the bridge as it has no reverse contribution in the EBITDA. If we deduct the Other liabilities from Alstom's bridge, we can notice that GE's and Alstom's transaction multiple are almost equal with 7.9x vs. 8.0x.

<i>GE perspective</i>	<i>In \$m</i>	<i>Source and comments</i>
EV (\$m)	13,500	<i>Deutsche Bank report, 24 Oct. 2014</i>
EBITDA	1,700	<i>Deutsche Bank report, 24 Oct. 2014</i>
EV / EBITDA	7.9x	
<i>Alstom perspective</i>	<i>In \$m</i>	
EV	15,550	<i>Deutsche Bank report, 24 Oct. 2014</i>
EBITDA	1,791	<i>Deutsche Bank report, 24 Oct. 2014</i>
EV / EBITDA	8.7x	
<i>Reconciliation</i>	<i>In \$m</i>	
Other liabilities ⁽¹⁾	1,233	<i>Deutsche Bank report, 24 Oct. 2014</i>
EV excl. other liab.	14,317	
EBITDA	1,791	
EV / EBITDA	8.0x	

(1) Other liabilities include pensions, deferred tax assets and non controlling interests

3 – On taxation rationale for GE

In our view, it is also important to make the students aware of the legal and taxation issues of the transaction. In our case, GE had more than \$57bn⁴² of its cash trapped outside the United States. Similarly, to other multinational companies like Apple, if GE was willing to repatriate this cash in the U.S., it will then be exposed to an additional taxation. To have a better understanding, it is necessary to differentiate the 2 main taxation systems in place regarding foreign dividends / international earnings: the participation exemption mechanism applied in France and the UK for instance and the foreign tax credit applied in the U.S.

The participation exemption mechanism does not lead to a full exemption for the foreign dividends but only 5% of it is effectively taxed in the home country. Under the foreign tax credit mechanism, no tax is paid in the U.S until the foreign subsidiary pays a dividend but when the company repatriates its cash in the U.S, it is then subject to the U.S. taxation.

Endnotes

- 1) GE website (<http://www.gereports.com/ge-alstom-continue-shared-history-acquisition/>)
- 2) Information Note of Alstom's Public Buyback Offer approved by the AMF, issued on 8th Dec. 2015, Report of the Independent Appraiser Duff&Phelps, p.41
- 3) GE website (<http://www.gereports.com/ge-alstom-continue-shared-history-acquisition/>)
- 4) Bouygues 2013 annual report, p.66
- 5) Alstom 2013/2014 registration document, p.6
- 6) J.P. Morgan broker report, 11th Dec. 2014
- 7) J.P. Morgan broker report, 5th Aug. 2016
- 8) McCoy, JP. Morgan broker report, 5th Aug. 2016
- 9) J.P. Morgan broker report, 5th Aug. 2016
- 10) Bouygues 2013 annual report, p.4
- 11) Alstom nine-months results 2013/2014 press release, 21st Jan. 2014
- 12) Bouygues 2013 annual report, p.4
- 13) Alstom 2013/2014 registration document, p.6
- 14) Alstom 2013/2014 registration document, p.17
- 15) Information Note of Alstom's Public Buyback Offer approved by the AMF, issued on 8th Dec. 2015, Report of the Independent Appraiser Duff&Phelps, p.44
- 16) Ibid
- 17) CSR 2014 annual report (FYE Dec. 2014) p.144
- 18) Including Barclays broker report, 8th Sept. 2015
- 19) Barclays report, 8th Sept. 2015
- 20) Ibid
- 21) Ibid
- 22) Alstom 2013/2014 registration document, p.34 and 35
- 23) Credit Suisse broker report, 30th Apr. 2014
- 24) Ibid
- 25) Bloomberg market data (share price as of 30th Apr. 2014 of €29.52 p.s. vs. €27.00 p.s. on 24th Apr. 2014, previous business day)
- 26) Bloomberg article "GE Bids \$17 Billion for Alstom Energy to Preempt Siemens", 30th April 2014
- 27) Ibid
- 28) Bouygues press release 22nd Jun. 2014 and Alstom Annual Report 2015/2016
- 29) Alstom press release published on 10th Oct. 2016

- 30) Alstom, annual results for 2016/2017 fiscal year, 4th May 2017, presentation p.7
- 31) Alstom, annual results for 2016/2017 fiscal year, 4th May 2017, presentation p.7
- 32) Alstom, annual results for 2016/2017 fiscal year, 4th May 2017, presentation p.26
- 33) Alstom press releases of 12th May 2017 and 24th May 2017
- 34) Alstom, annual results for 2016/2017 fiscal year, 4th May 2017, presentation p.18
- 35) Bloomberg market data
- 36) Ibid
- 37) <https://www.transportshaker-wavestone.com/de-plus-crrc-vers-marche-europeen>
- 38) Alstom press release published on 21st Dec. 2016
- 39) Alstom press release published on 9th Mar. 2017
- 40) Alstom 2014/2015 registration document, p.59
- 41) Alstom press release, 20th Jan. 2010
- 42) Bloomberg article “GE Bids \$17 Billion for Alstom Energy to Preempt Siemens”, 30th April 2014