

# Keyware

IT Hardware / Belgium

Document generated on the 30/11/2016



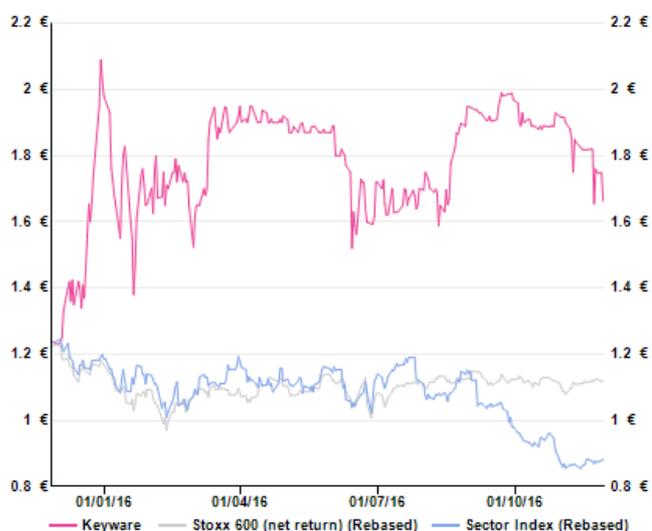
ALPHAValue  
CORPORATE SERVICES

## Regular market share gains in a growing market

### Buy

Upside potential : 70.3%

Target Price (6 months)	2.83
Share Price	€ 1.66
Market Capitalisation €M	35.0
Price Momentum	<b>UNFAVORABLE</b>
Extremes 12Months	1.23 ▶ 2.09
Bloomberg ticker	KEYW BB



KEY DATA	12/14A	12/15A	12/16E	12/17E	12/18E
Adjusted P/E (x)	5.12	2.80	7.96	5.91	4.85
Dividend yield (%)	0.00	0.00	1.20	1.20	1.20
EV/EBITDA(R) (x)	6.62	3.95	7.10	5.23	3.67
Adjusted EPS (€)	0.13	0.30	0.21	0.28	0.34
Growth in EPS (%)	18.9	131	-29.4	34.7	21.8
Dividend (€)	0.00	0.00	0.02	0.02	0.02
Sales (€th)	9,718	12,491	18,192	21,190	23,933
EBIT margin (%)	14.1	25.0	18.3	20.1	21.7
Attributable net profit (€th)	1,910	5,182	3,464	4,929	6,152
ROE (after tax) (%)	11.3	24.9	14.1	17.3	17.3
Gearing (%)	22.1	15.3	16.4	11.1	-1.81

### Last forecasts updated on the 24/11/2016

Benchmarks	Values (€)	Upside	Weight
DCF	2.89	74%	35%
NAV/SOTP per share	2.46	48%	20%
EV/Ebitda	Peers	100%	20%
P/E	Peers	100%	10%
Dividend Yield	Peers	0%	10%
P/Book	Peers	100%	5%
TARGET PRICE	2.83	70%	100%

Analyst  
Charles Bordes  
lThardware@alphavalue.eu

@ [www.alphavalue.com](http://www.alphavalue.com)  
+33 (0) 1 70 61 10 50  
sales@alphavalue.eu

## Conflicts of interest

Corporate broking	NO
Trading in corporate shares	NO
Analyst ownership	NO
Advising of corporate (strategy, marketing, debt, etc)	NO
Research paid for by corporate	YES
Provision of corporate access paid for by corporate	NO
Link between AlphaValue and a banking entity	NO
Brokerage activity at AlphaValue	NO
Client of AlphaValue Research	NO

## Contents

Recent Updates.....	3
Body of research.....	8
Target Price & Opinion.....	9
Businesses & Trends.....	10
Money Making.....	14
Debt.....	16
Valuation.....	17
DCF.....	19
NAV/SOTP.....	20
Worth Knowing.....	21
Financials.....	24
Pension Risks.....	31
Governance & Management.....	33
Graphics.....	35
Methodology.....	38

## Recent Updates

## ► Updates

### 24/11/2016 Authorisations somewhat offset terminals, better than expected cash generation

Earnings/sales releases

#### Fact

Keyware released its Q3 16 results, with revenues reaching €3,988k, corresponding to a 23.7% decrease sequentially but to a 10.1% growth yoy. Terminals came in at €2,170k (-16% yoy), and Authorisations at €1,818k (+75.3% yoy).

The gross margin reached 56.2%, up 200bp sequentially and down 900bp yoy on a comparable basis (i.e. due to the new Interchange Fee Regulation), and the operating margin at 15.6% (down 820bp yoy). Profit before taxes came in at €897k, for a net result of €532k, impacted by significant deferred tax charges.

The company announced on 30 September 2016 the acquisition of a 40% stake in Magellan SAS, for a total of €4m funded via shares (€1m) and debt (€3m). There is an option to acquire the remaining shares for a total of €6m between 1 January 2017 and 30 June 2018.

#### Analysis

##### Accelerating momentum

The positive momentum remains well established, as the top-line yoy growth doubled again for the second quarter in a row, crossing the symbolic double-digit mark. However, two trends can be identified.

First, the Terminals business showed again a major decrease after Q2 (although the slope is flattening), which could be considered as worrying if not for the impact of the GlobalPay deal last year, which inflated the 2015 figures: 2016 should therefore be considered as a transition year at the terminals level, especially as technical problems prevented some devices from being activated. This delay will mechanically benefit the coming quarters and should be incremented by the start of the German operations, which are likely to provide an important field of growth given the current low penetration of payment cards compared to the rest of the EU.

Second, we were rather positively surprised by the strength of the Authorisations business, which may allow the punctual relative weakness in terminals to be offset despite lower margins. The transition towards a brokering model (vs. the old kick-back model) is bearing fruit ahead of our estimates, which will lead to a major upgrade of our top-line estimates for this business unit.

##### Stronger cash flow generation and an acquisition

Another positive point in our view was the cash generation, which was much higher than our estimates. Despite a strong profitability, the recurring relative weakness of Keyware was its strong negative WCR variations (mostly due to the massive needs in trades & lease receivables), which negatively impacted the free cash flows, as well as the significant reduction in trade debts; it now appears that the company is managing its needs more efficiently, which is likely to lead to a relative and absolute decrease and take off some of the pressure. In the end, in the first 9 months (dividend included), excluding the acquisition-related cash flows, Keyware was cash positive by more than €1.2m compared to a €600k loss at the same time last year.

Finally, the acquisition of Magellan can be considered as a bet on the future, but an already profitable one as the company is generating a profit. The acquisition will allow it to quickly expand the customer basis and is a continuation of the organic/external growth policy, while still allowing a dividend to be paid. In our view, we expect the company to buy the remaining stake, which is likely to lead to an increase in debt in the coming quarters, but the current growth and profitability leave a comfortable margin for further leverage in our view.

## ► Updates

### Impact

We will adjust our forecast to account for the lower Terminals sales but higher Authorisations revenues. The impact is likely to be negative on the EPS, as the margins are lower in Authorisations, but the much better than expected cash generation is actually likely to have a positive effect on the valuation.

## 24/11/2016 EPS downgrade offset by stronger cash flows

### Change in EPS

2016 : € 0.21 vs 0.23	-9.30%
2017 : € 0.28 vs 0.27	+3.63%

Following the Q3 results, we have downgraded our top-line forecasts for 2016 to account for the transitory weakness in the Terminals business, resulting in a c. 10% cut. However, the profitability should be maintained following a better than expected gross margin in Authorisations.

### Change in DCF

€ 2.89 vs 2.58	+11.7%
----------------	--------

The DCF valuation is driven up by a strong improvement in WCR needs, due to a better management of the trades & lease receivables which allowed for a greater cash flow generation.

## 06/09/2016 Solid H1 despite a relative weakness in Terminals

Earnings/sales releases

### Fact

Keyware released its Q2 16 results, with revenues reaching €5,230k, corresponding to 30.1% growth sequentially and 5.1% yoy. Terminals came in at €2,567k (-11.1% sequentially, -21.7% yoy), and Authorisations at €2,663k (+135.2% sequentially, +56.9% yoy).

Gross margin reached 54.2%, down 90bp on a comparable basis (i.e. due to the new Interchange Fee Regulation), and operating margin 20% (down 90bp yoy). Profit before taxes came in at €1,297k, for a net result of €1,116k.

The company also announced that it would distribute a dividend for the first time, for a total amount of €424k, corresponding to €0.02 per share. The dividend was paid on 24 August.

### Analysis

The first half-year has been dynamic for Keyware, and showed an acceleration in growth weighted in Q2 (+5.1% yoy after the +2.6% recorded in Q1 16), which is very positive when it comes to the rest of the year.

The only annoying area lies in the Terminals business, which displayed some decrease both sequentially (-11.1%) and yoy (-21.7%) in the second quarter, when it had shown modest growth in Q1 16, leading to a negative H1 16 versus H1 15. It is true that the point of comparison was rather high, given the very strong Q2 15 caused by the GlobalPay asset deal (which led to a high number of contracts being signed), but the evolution of the business should be monitored carefully during H2 as it is the company's bread and butter. However, we are rather pleased to see that, despite the deceleration, the company managed to increase the division's gross margin by a substantial amount (+670bp sequentially, +1,030bp yoy).

On the other hand, the company delivered a rock solid performance in Authorisations, with massive growth and profitability. It is clear that the company's strategy (transition to a brokering model) is starting to pay off, as it benefited from an increase in kickbacks, but we are positively surprised to see that it delivered much sooner than we expected, although this good performance needs to be repeated in the coming quarters.

## ► Updates

In the end, the impact on the bottom-line is pleasing, thanks to the control on costs. Despite the overall stable EBIT margin, the improvement is massive in the Authorisation business, with an over 1,000bp improvement both sequentially and yoy. Anyway, these metrics bode well for the future, a confidence reinforced by the payment of the first dividend ever, which clearly indicates that the management is very positive for the business's evolution.

### Impact

We will upgrade our top-line estimates, although the decrease in the Terminals business is somewhat worrying and should be looked at closely, as it is the cornerstone of the company's business.

## 06/09/2016 Update

### Change in EPS

2016 : € 0.23 vs 0.22	+5.97%
2017 : € 0.27 vs 0.26	+4.42%

Following the H1 results, we have upgraded our forecasts. The EPS benefit from the increase in both the top-line (massive increase in the Authorisations business) and in the bottom-line (Authorisations' operating margin up to c.10% from 3% previously), slightly offset by the lower than expected profitability in the Terminals business (c.31% vs. 33%).

## 15/06/2016 Initiation of coverage.

Initiation cov.

Keyware, created in 1996 and listed since 2000, is an independent Network Service Provider operating almost entirely in Belgium, with a current market cap of €34m. The company provides payment terminals and associated services to merchants, as well as the implementation of various payment schemes through these terminals, thanks to partnerships with the main acquirers operating in the country (Paysquare, Sixpay, Worldline, EMS...).

Keyware can be considered as the tip of an iceberg, as it provides the entry point (namely the payment terminal) to a complex chain of players which constitutes, in the end, the ecosystem of the electronic transaction industry. The dynamism of this industry is a deep-rooted trend in the European Union and in particular Belgium (with the notable exception of Germany, which still favours cash transactions), as a certain number of factors are driving up the number of electronic transactions, such as the rise of new types of payment solutions (smartphones and NFC through electronic wallets like Apple Pay, or electronic meal vouchers), the dynamism of e-commerce (+14.3% in Europe in 2014), or the increasing restrictions on the use of cash in transactions as a way of fighting the shadow economy.

The company benefits from an increasing installed base of terminals (c. 17,000 at 31 December 2015, +13% organically vs. the previous year), which represents most of its revenues through its Terminals business line. However, this installed basis will be leveraged in the Authorisations business, which provides acquiring services to the merchants. Here we see the biggest potential for operating profit upside, given the transition from a shared revenues model to a brokering model, whereby the company buys the transaction from the acquirer at a floor price and sells it on to the customer at a discretionary price, thus leading to a substantial rise in revenues for the same number of transactions. The end of the transition is expected by the end of 2018.

In addition, the company will see a mechanical increase in the number of transactions through its increasing installed basis of terminals. The challenge lies in the success of its own acquiring services, which generate

# Keyware (Buy)

Smart Cards-Security / Belgium

## ► Updates

higher margins compared to external providers such as EMS or Worldline. The trend is very positive, with own acquiring rising from 16.5% in 2010 to 77.1% in 2015.

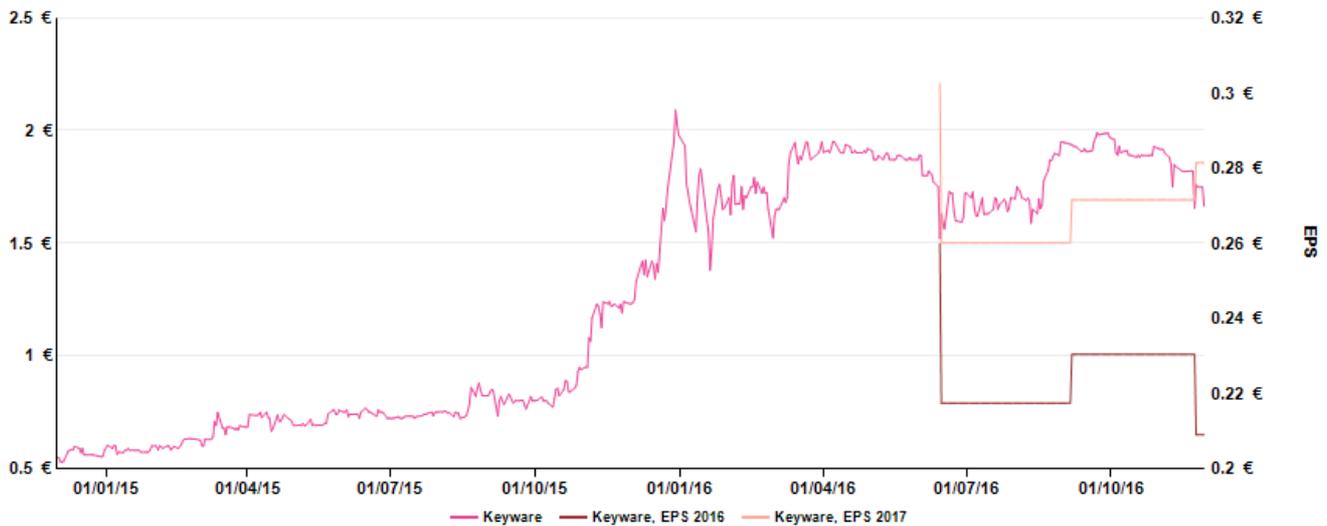
## Body of research

► Target Price & Opinion

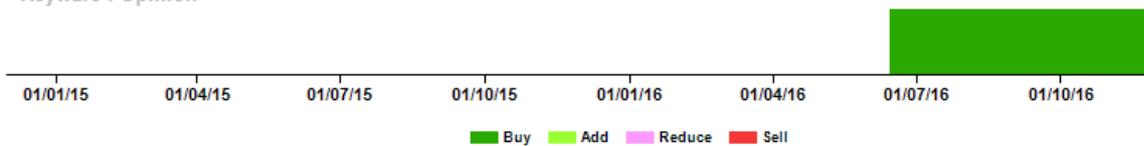
## Stock Price and Target Price



## Earnings Per Share & Opinion



Keyware : Opinion



## Businesses & Trends

### Businesses & Trends

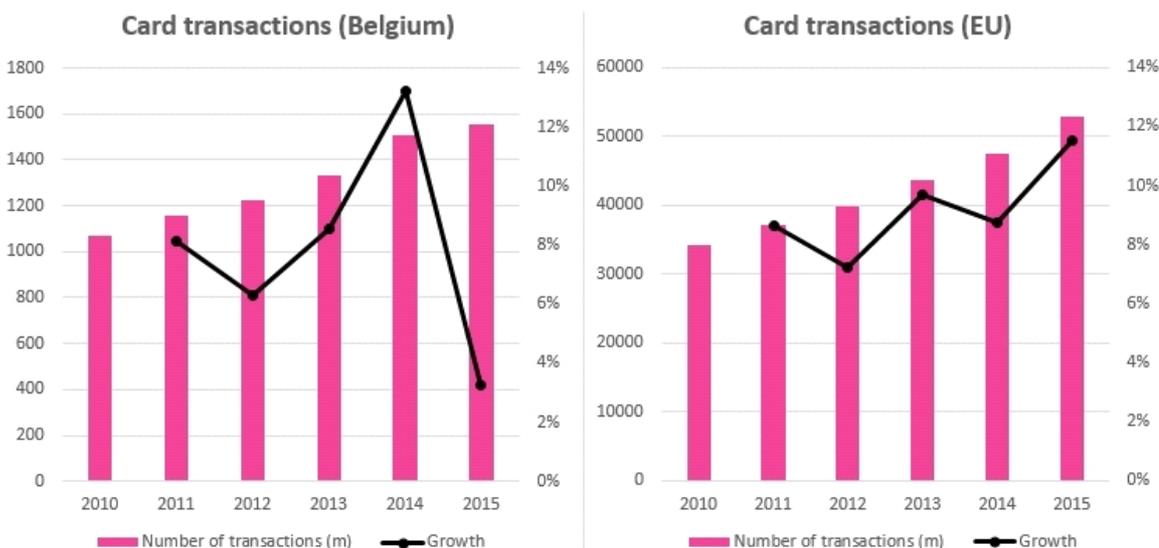
Keyware, created in 1996 and listed since 2000, is an independent Network Service Provider operating almost entirely in Belgium. The company (which will refer to the Keyware Group in the rest of this document) provides payment terminals and associated services to merchants, as well as the implementation of various payment schemes through these terminals, thanks to partnerships with the main acquirers operating in the country (Paysquare, Sixpay, Worldline, EMS...).

#### The card payment market

Keyware can be considered as the tip of an iceberg, as it provides the entry point (namely the payment terminal) to a complex chain of players which constitutes, in the end, the ecosystem of the electronic transaction industry (a detailed explanation of the processing of an electronic transaction is provided in the Worth Knowing section of this report). The dynamism of this industry is a deep-rooted trend in the European Union and in particular Belgium (with the notable exception of Germany, which still favours cash transactions), as a certain number of factors are driving up the number of electronic transactions.

According to the ECB Payment Statistics report dated October 2015, in the period 2010-14, the number of non-cash transactions in the EU had a CAGR of 4.5%, reaching a number of 103.16bn transactions in 2014, while this CAGR was 9.5% in Belgium, reaching 3.44bn transactions in 2014. Of these electronic transactions and in the same period, the share of card payments increased in the EU by more than 6% to reach 46%, although this figure remained relatively stable in Belgium at 44%, where the population ranks no. 9 in the EU in terms of card transactions per capita.

As mentioned above, the increase in the number of card transactions is likely to be fuelled by a certain amount of drivers, amongst which we address: 1/ the rise of new types of payment solutions, such as smartphones and NFC (through electronic wallets like Apple Pay) or electronic meal vouchers, 2/ the dynamism of e-commerce (+14.3% in Europe in 2014), and 3/ the increasing restrictions on the use of cash in transactions as a way of fighting the shadow economy (€1,000 in France since 2015, €3,000 in Belgium since 2014). As a consequence, the increase in the number of non-cash transactions is expected to accelerate until the end of the decade, to reach 177bn in the EU in 2020 according to AT Kearney, with the share of card payments being at least stable when counting in the new payment methods.



Source: ECB Payments Statistics Report 2016

#### The POS terminals market

The Point Of Sales (POS) terminals are the interface required to process electronic transactions: debit and credit cards, vouchers, coupons, smartphones...

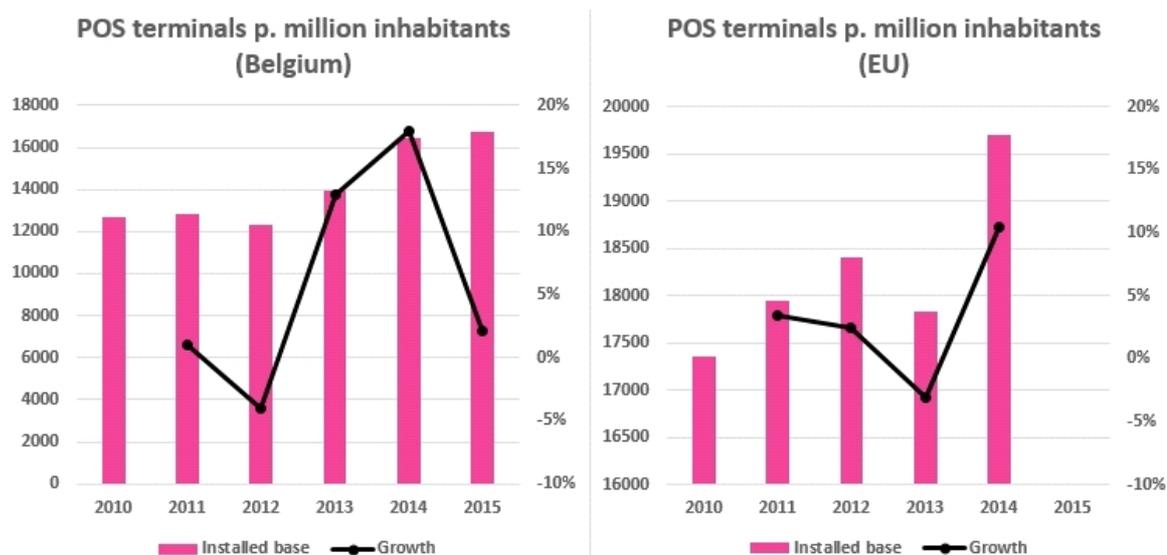
The global market was valued at \$42bn in 2015 (according to Grand View Research), with important disparities: the demand

## ► Businesses & Trends

for this type of terminal is very dynamic in America, but slowing down in APAC (notably because of China), while the European market is mostly saturated (2.3% CAGR for 2010-14). The underlying reason is mainly technological: the EU countries have been early adopters of the EMV standard, cryptographically secured, while the other parts of the world have mainly relied, until recently, on the flawed magnetic card technology, urging the need to upgrade their payment networks for better security. Once again Germany is an exception and could represent a market of 800,000 terminals in the years to come).

Contrary to the EU, Belgium remains a growth market for these terminals, with a CAGR of 7.3% for the period 2010-14. It had an installed base of 183k devices in 2014, and is behind when it comes to the number of terminals per inhabitants: 16.4k per million compared to 19.7k for the EU, leaving some potential for further growth.

Along with the increasing demand for card transactions which fuels this growth, as well as the renewal of the device at the end of its life, there are three other main drivers: 1/ the obsolescence of the terminal regarding security standards (called PCI-DSS), which are regularly upgraded, 2/ the rise of new technologies which leads to the upgrade, to accept new payment methods (NFC, vouchers...) or to integrate new functionalities (automated reporting, friendly interface, business apps...), and 3/ the introduction of new form factors, such as the mPOS, which brings more versatility by being able to function away from the merchant's traditional counter top.



Source: ECB Payments Statistics Report 2016. The 2013 data for Belgium has been extrapolated. The 2015 data for the EU is absent from the report

### Business lines

Keyware operates two types of businesses: the payment terminals and the payment authorisations.

#### Payment terminals

This is the first of the two business lines operated by Keyware. The devices are sourced from the main suppliers of the market (mainly Ingenico and Worldline, and to a lesser extent Verifone) and then rented or sold to the company's customers.

The most common contract has a duration of 60 months (up from 48 months in previous years), with a rent for each quarter which covers the operating and maintenance costs, while an installation fee is also charged. A customer can choose to upgrade to a newer terminal during the contract and, in this case, another 60 months contract is automatically signed in replacement of the previous one. At the end of the 60 months, the contract is automatically renewed if the customer doesn't give notice (as the life cycle of a terminal can reach 7-8 years), or the customer can choose to sign for another 60 months contract with a new device. If the customer chooses to terminate the contract before the end of the contract, a penalty is

## ► Businesses & Trends

applied.

Keyware also proposes a customisation service, with the development of custom software addressing potential special needs of customers. This customisation provides an added value for the company, as it allows it to reach some customers which demand specific features in their terms of reference, but are left out by the devices provided by the original manufacturers as the latter tend to address mass volume generic markets. However, most of the related costs are bypassed by: 1/ not modifying the terminal source code too much, and 2/ by not supporting the certification costs (which represent a substantial part of the development costs of a terminal), which remain the responsibility of the original manufacturer.

Keyware provides three families of terminals:

- Fixed terminals, connected to the network via a cable and are usually found in shops, where customers pay at the counter.
- Portable terminals, composed of a base station connected to the network via a cable, and of a portable module communicating with the base station through a wireless connection, enabling a radius of up to 150m.
- Mobile terminals, connected to the network via a GSM or GPRS link, enabling a total autonomy within the country.

Keyware also provides payment modules addressing e-merchants, which allow payment on websites or through a smartphone.

### Payment authorisations

A terminal alone is merely a brick full of useless electronic components if they were not able to process the payment scheme and to connect to the financial institutions, which will *in fine* move the funds between the shopper and the merchant's accounts.

Keyware thus provides such services (for credit cards/debit cards and vouchers), sending the transaction details to the acquirer through the appropriate payment network, for authorisation and then settlement. The position of Independent Network Service Provider allows the company to propose the services of several partners, among which are: Visa, MasterCard, Maestro, V-Pay, Bancontact, JCB, Amex, Ingenico, Worldline, SixPay, PaySquare, EMS... giving its customers the greatest flexibility according to their needs.

For each transaction, the whole payment chain is remunerated through fees packaged into a so-called Merchant Service Charge, corresponding to a fraction of the transaction value, which varies depending on the use of the Keyware's platform or a partner's. Until recently, Keyware's share of revenues was determined according to a fixed percentage, limiting the upside potential; now, the company has started to shift towards a brokering model (expected to be fully achieved in 2018), whereby it buys the transaction from the acquirer at a floor price and sells it on to the customer at a discretionary price, thus leading to a substantial rise in revenues.

### **Customers & competitors**

The company's customers are mainly small merchants, with the exception of some official institutions. Only a fraction of corporate clients operate a significant number of terminals (60 to 70), for a share in the mix below 1,000 terminals out of the installed base of 17,000. A significant contract was signed in December 2015 to provide terminals to Charleroi Airport, foreshadowing a rise in the mix quality.

The company is also looking to expand its business beyond its borders: although France is a saturated market and sees the terminals market as being controlled by banks and original terminal makers, neighbouring countries offer much potential. As an example, the number of terminals per inhabitant in the Netherlands is 20% below the EU average, while this figure grows to 49% in Germany, which could represent a market of 800,000 terminals.

In its existing market, Keyware is an outsider but it is steadily gaining market share with an installed basis of 17,000 terminals. The leader is Worldline, which operates more than 100,000 terminals. Another important player is CCV, with 38,000 terminals. Strangely, and despite much effort, Ingenico hasn't managed to grow its installed basis beyond 3,000 in five years, despite being a global leader in terminal manufacturing.

## Businesses & Trends

### Divisional Breakdown Of Revenues

	Sector	12/15A	12/16E	12/17E	12/18E	Change 16E/15		Change 17E/16E	
						€th	of % total	€th	of % total
<b>Terminals</b>	Smart Cards-Security	11,562	10,175	10,899	12,098	-1,387	-24%	724	24%
<b>Authorisations</b>	Smart Cards-Security	929	8,018 <sup>(1)</sup>	10,291 <sup>(1)</sup>	11,835 <sup>(1)</sup>	7,089	124%	2,273	76%
<b>Corporate</b>	Smart Cards-Security								
	Other								
<b>Total sales</b>		<b>12,491</b>	<b>18,192</b>	<b>21,190</b>	<b>23,933</b>	<b>5,701</b>	<b>100%</b>	<b>2,998</b>	<b>100%</b>

1. Due to changes in accounting methods concerning commissions from authorisation agreements and to the application of the 2015 European Interchange Fee Regulation, the presentation of the gross sales and the associated cost of sales from the Authorisation business have been modified from 2016, while the operating profit remains identical.

### Key Exposures

	Revenues	Costs	Equity
Dollar	0.0%	0.0%	0.0%
Emerging currencies	0.0%	0.0%	0.0%
Long-term global warming	0.0%	0.0%	0.0%

### Sales By Geography

Belgium	97.0%
Netherlands	1.0%
Other	2.0%

We address exposures (eg. how much of the turnover is exposed to the \$) rather than sensitivities (say, how much a 5% move in the \$ affects the bottom line). This is to make comparisons easier and provides useful tools when extracting relevant data.

Actually, the subject is rather complex on the ground. The default position is one of an investor managing in €. An investor in £ will obviously not react to a £ based stock trading partly in € as would a € based investor. In addition, certain circumstances can prove difficult to unravel such as for eg. a € based investor confronted to a Swiss company reporting in \$ but with a quote in CHF... Sales exposure is probably straightforward but one has to be careful with deep cyclicals. Costs exposure is a bit less easy to determine (we do not allow for hedges as they can only be postponing the day of reckoning). How much of the equity is exposed to a given subject is rarely straightforward but can be quite telling

In addition, subjects are frequently intertwined. A \$ exposure may encompass all revenues in \$ pegged currencies and an emerging currency exposure is likely to include \$ pegged currencies as well.

Exposure to global warming issues is frequently indirect and may require to stretch a bit imagination.

## ► Money Making

### Money Making

Most of the cash generation obviously depends on the terminals business, which represents the majority of the revenues and the origin of the authorisations revenues, and is thus of vital importance for the company.

The first step to secure business was the extension of the contract life to 60 months, which leaves the customer captive to the company: if it wants to terminate the contract before its end, it must pay a termination fee to Keyware, currently €750, which is rather dissuasive considering that Keyware addresses small merchants which try to maintain their operating costs as low as possible, making a potential change to another provider highly unlikely.

Another source of cash is the silent renewal: if the customer doesn't show its intention to end the contract at the end of the 60 months, another year is automatically added on to the contract while the device remains the same, which generates highly profitable revenues for the company considering that a terminal life can reach seven to nine years without much maintenance.

One critical point for Keyware is its ability to create margin even though it doesn't design its own terminals, requiring the company to buy them on the market from players such as Ingenico or Worldline... which happen to be direct competitors. Three key drivers can be mentioned here:

- The quality of service, especially the hotline: considering the small size of the merchants Keyware addresses, even a small interruption in business due to a failure of the terminal can take on catastrophic proportions by blocking a substantial number of transactions and business opportunities. One strength of Keyware is to be very reactive and be able to confine problems to a very short time, justifying the premium by the quality of its service.
- Its proximity to the customer's needs, especially when it comes to the customisation of terminals. Indeed, the terminals provided by OEMs are generally addressed to global markets, with little differentiation, and can leave aside features crucial for some customers. Thanks to its custom solutions developed in-house, Keyware can propose to add exclusive features to standard terminals, hence justifying a premium by the importance given to them by the customer.
- The flexibility of its solutions: customers don't buy the terminals but rent them from Keyware, which gives the former the possibility of upgrading the machines at any time if they wish (through an extension of duration). The situation is similar in services, where its independent position means the company can deal with several acquirers, allowing it to propose tailored solutions to the merchants.

The quality of the customers is also of much importance as, according to IAS 17 rules, all the leasing contracts are recorded at the present value of the contracts (rental revenues) at a discount rate. The total amount is regularly adjusted for the difference with the actual revenues, which can be hampered by potential write-offs or bankruptcies, directly impacting the working capital. According to the company, 20% of the contracts witness mild delays, 5% require the intervention of a lawyer and 15% lead to a litigation, a rather high value that can be explained by the small size of the businesses Keyware addresses. A careful management of contracts and associated inventories (which quickly depreciate) is then crucial to increase cash generation.

Moreover, the company has suffered since 2005 from a financial agreement with PARFIP, in which it received a discounted sum of future rents while PARFIP collected the actual rental payments. In addition, the terminals saw their property officially transferred to Keyware, which thus supported all the risks associated. The contract officially ended in March 2015 by the acquisition of the park for €800k, which will mechanically boost margins.

Finally, the installed base of terminals will be leveraged in the Authorisations business, which provides acquiring services to the merchants. Here we see the biggest potential for operating profit upside, given the transition from a shared revenues model to a brokering model, whereby the company buys the transaction from the acquirer at a floor price and sells it on to the customer at a discretionary price, thus leading to a substantial rise in revenues for the same number of transactions. The end of the transition is expected by the end of 2018.

In addition, the company will see a mechanical increase in the number of transactions through its increasing installed basis of terminals. The challenge lies in the success of its own acquiring services, which generate higher margins compared to external providers such as EMS or Worldline. The trend is very positive, with own acquiring rising from 16.5% in 2010 to 77.1% in 2015.

► Money Making

## Divisional EBIT

	12/15A	12/16E	12/17E	12/18E	Change 16E/15		Change 17E/16E	
					€th	of % total	€th	of % total
<b>Terminals</b>	3,556	2,887	3,270	3,629	-669	-338%	383	41%
<b>Authorisations</b>	12.1	1,002	1,441	2,012	990	500%	439	47%
<b>Corporate</b>	-441	-564	-457	-456	-123	-62%	107	12%
Other/cancellations								
<b>Total</b>	<b>3,127</b>	<b>3,325</b>	<b>4,254</b>	<b>5,186</b>	<b>198</b>	<b>100%</b>	<b>929</b>	<b>100%</b>

## Divisional EBIT margin

	12/15A	12/16E	12/17E	12/18E
<b>Terminals</b>	30.8%	28.4%	30.0%	30.0%
<b>Authorisations</b>	1.30%	12.5%	14.0%	17.0%
<b>Corporate</b>				
<b>Total</b>	<b>25.0%</b>	<b>18.3%</b>	<b>20.1%</b>	<b>21.7%</b>

## ▶ Debt

### Debt

Keyware's business model requires a considerable amount of capital, mostly due to the trade & receivables (corresponding to the lease contracts for the payment terminals) going up substantially as a direct consequence of the company's growth, implying strong WCR variations and therefore a negative cash outflow.

As a consequence, the company had to issue debt on a regular basis to preserve its liquidity. To date, c.35% is subscribed by private companies directly affiliated to management (Big Friend SA, Parana Management Corp SPRL and Iquess Consulting SPRL), the remainder being divided between bank loans and financial leases.

However, with the end of the PARFIP contract effective since 2015, the negative pressure on margins and WCR will be lifted, which should translate into a lesser cash outflow especially in lease contracts (the end of the PARFIP contract had a negative €800k impact in 2015, corresponding to the repurchase of the final contracts, see Money Making). Combined with the top-line growth and the margin improvement, the cash generation should enable the company to self-finance its business and lead to a quick deleveraging of the balance sheet, with a return to a net cash position expected during 2017 on our current estimates.

### Funding - Liquidity

		12/15A	12/16E	12/17E	12/18E
EBITDA	€th	5,163	5,035	6,246	7,435
Funds from operations (FFO)	€th	4,825	5,974	7,321	8,602
<b>Ordinary shareholders' equity</b>	<b>€th</b>	<b>23,683</b>	<b>25,383</b>	<b>31,739</b>	<b>39,356</b>
Gross debt	€th	4,258	6,264	4,669	2,861
o/w Less than 1 year - Gross debt	€th	1,540	1,595	1,808	1,523
o/w 1 to 5 year - Gross debt	€th	2,718	4,669	2,861	1,338
of which Y+2	€th	1,193	1,808	1,523	760
of which Y+3	€th	897	1,523	760	578
of which Y+4	€th	628	760	578	0.00
of which Y+5	€th	0.00	578	0.00	0.00
o/w Beyond 5 years - Gross debt	€th	0.00	0.00	0.00	0.00
+ Gross Cash	€th	981	1,198	2,691	6,261
<b>= Net debt / (cash)</b>	<b>€th</b>	<b>3,277</b>	<b>5,066</b>	<b>1,978</b>	<b>-3,400</b>
Bank borrowings	€th	2,507	6,098	4,613	2,841
Financial leases liabilities	€th	69.0	166	56.0	20.0
Other financing	€th	1,682	0.00	0.00	0.00
Gearing (at book value)	%	15.3	16.4	11.1	-1.81
Adj. Net debt/EBITDA(R)	x	0.63	1.01	0.32	-0.46
Adjusted Gross Debt/EBITDA(R)	x	0.82	1.24	0.75	0.38
Adj. gross debt/(Adj. gross debt+Equity)	%	15.2	19.8	12.8	6.78
Ebit cover	x	-6.20	-5.09	-5.53	-5.80
FFO/Gross Debt	%	113	95.4	157	301
FFO/Net debt	%	147	118	370	-253
FCF/Adj. gross debt (%)	%	12.5	43.7	77.3	206
(Gross cash+ "cash" FCF+undrawn)/ST debt	x	0.98	2.47	3.48	7.98
"Cash" FCF/ST debt	x	-0.39	1.71	2.00	3.87

## ► Valuation

### Valuation

We have based our valuation on our own hypothesis, appearing rather conservative compared to that of the company, which forecasts a 16% top-line growth for 2016 and 2017 for an EBITDA reaching €7m in 2017.

The company benefits from a steadily growing installed terminals basis, which increased from c. 10,200 in 2010 to c. 16.950 in 2015, corresponding to a 10.7% CAGR over the period; as the company is gaining market share momentum (the 2010-14 CAGR in installed POS terminals in Belgium was 7.3%), which limits its ASP increase potential compared to bigger competitors, we chose to remain conservative and retain a similar growth rate for the terminals business line. We thus applied an 11% annual growth rate for 2016-18, as Belgium has yet to bridge the gap with the EU average when it comes to the number of terminals per inhabitant. However, some factors may well drive up this number (development of the electronic meal voucher, increasing restrictions on the maximum level of cash allowed in transactions, new markets addressable such as Germany), which would lead us to upgrade our estimates, while we see limited risk for downside with the exception of a potential air pocket.

For the authorisations, we chose to adopt the company's new presentation, that is to say the gross revenues adjusted for all the related costs, while the previous presentation only displayed the net commissions collected by Keyware; this change only impacts the revenues and the COGS/gross margin compared to the previous years, with the other metrics (such as EBIT) remaining unchanged.

The business witnessed strong growth rates in the past few years (CAGR of 50.86% for 2010-15), in the wake of a strong start (this business originates from the takeover of BRV Transactions in 2007) and of an increasing installed basis. While such growth rates can be explained by a low point of reference, and will inevitably normalise with time, some factors are likely to favour a strong growth, notably the transition from a traditional model of acquiring (shared revenues) towards a brokering model, which should lead revenues by transaction to increase threefold, although the transition will take some time because of the renewal of old contracts (c. 75% is still based on the shared revenues model), as well as the rise of the company's own acquiring. We thus chose to compute a progressive normalisation, with 2018 revenues (in comparable pre-2015 figures) reaching €2.82m.

These good perspectives translate into the DCF, with a computed long-term growth rate set at 4% for the revenues and EBITDA, which would lead to 2026 revenues of €33m. This is much reachable in our view given the good perspectives in Belgium, the growth opportunities in other markets (Germany) and the increase in revenues triggered by the transition towards a brokering model in authorisations. We also assume that there is little room for margin improvement, given the competitive landscape and the market share expansion strategy chosen by the company. However, the DCF could benefit from improvements in the WCR, currently strongly impacted by the massive needs in trades & receivables (including the recording of the long-term lease contracts as described in the Money Making section), while, on the other hand, it could suffer from an increase in the tax rate, which has been reined in upto now and shouldn't rise before 2018 thanks to the massive tax assets available.

Concerning the NAV, we chose to value Keyware the same way as we do for Ingenico, the business of which is very similar. As a consequence, we value the business lines by EV/Sales multiples with a computed 3-year average forecast, with a multiple of 3x for the Terminals business and 2.5x for the Authorisations, for which we applied a discount due to its inferior margins and dependence on terminal sales.

Coming to the peer valuation, we integrated companies in our coverage with a similar business (Ingenico) or sector (IT-Hardware), although apart from Ingenico the actual businesses are rather different. This approach delivers a strong upside in every metric, with the exception of the dividend yield, but given the difference in scale we chose to apply a 5% discount to Keyware.

► Valuation

## Valuation Summary

Benchmarks		Values (€)	Upside	Weight
DCF		2.89	74%	35%
NAV/SOTP per share		2.46	48%	20%
EV/Ebitda	Peers	3.33	100%	20%
P/E	Peers	3.33	100%	10%
Dividend Yield	Peers	1.67	0%	10%
P/Book	Peers	3.33	100%	5%
<b>Target Price</b>		<b>2.83</b>	<b>70%</b>	

## Comparison based valuation

Computed on 18 month forecasts	P/E (x)	Ev/Ebitda (x)	P/Book (x)	Yield(%)
Peers ratios	25.7	12.3	3.19	1.14
Keyware's ratios	6.11	5.36	1.12	1.20
Premium	-5.00%	-5.00%	-5.00%	-5.00%
<b>Default comparison based valuation (€)</b>	<b>3.33</b>	<b>3.33</b>	<b>3.33</b>	<b>1.67</b>
Dassault Systemes	35.9	16.1	4.43	0.72
Ingenico	18.7	9.95	2.75	1.75
Gemalto	13.3	6.51	1.38	1.16
Logitech International	29.2	17.0	4.72	2.47

## DCF

### DCF Valuation Per Share

WACC	%	8.70	Avg net debt (cash) at book value	€th	3,522
PV of cashflow FY1-FY11	€th	29,761	Provisions	€th	0.00
FY11CF	€th	5,769	Unrecognised actuarial losses (gains)	€th	0.00
Normalised long-term growth"g"	%	2.00	Financial assets at market price	€th	4,341
Terminal value	€th	86,055	Minorities interests (fair value)	€th	0.00
PV terminal value	€th	37,353	Equity value	€th	67,933
<i>PV terminal value in % of total value</i>	%	55.7	Number of shares	Th	23,544
Total PV	€th	67,114	Implied equity value per share	€	2.89

### Assessing The Cost Of Capital

Synthetic default risk free rate	%	3.50	Company debt spread	bp	300
Target equity risk premium	%	5.00	Marginal Company cost of debt	%	6.50
Tax advantage of debt finance (normalised)	%	30.0	<b>Company beta (leveraged)</b>	<b>x</b>	<b>1.15</b>
Average debt maturity	Year	5	Company gearing at market value	%	14.5
Sector asset beta	x	1.05	Company market gearing	%	12.6
Debt beta	x	0.60	<b>Required return on geared equity</b>	<b>%</b>	<b>9.24</b>
Market capitalisation	€th	35,029	Cost of debt	%	4.55
Net debt (cash) at book value	€th	5,066	<b>Cost of ungeared equity</b>	<b>%</b>	<b>8.76</b>
Net debt (cash) at market value	€th	4,480	WACC	%	8.70

### DCF Calculation

		12/15A	12/16E	12/17E	12/18E	Growth	12/19E	12/26E
Sales	€th	12,491	18,192	21,190	23,933	4.00%	24,890	32,754
EBITDA	€th	5,163	5,035	6,246	7,435	4.00%	7,733	10,176
<i>EBITDA Margin</i>	%	41.3	27.7	29.5	31.1		31.1	31.1
Change in WCR	€th	-5,042	-2,874	-3,331	-2,295	2.00%	-2,341	-2,689
Total operating cash flows (pre tax)	€th	-1,143	3,160	3,915	6,140		5,391	7,486
Corporate tax	€th	1,263	-1,000	-1,000	-1,058	7.00%	-1,132	-1,818
<b>Net tax shield</b>	<b>€th</b>	<b>238</b>	<b>282</b>	<b>323</b>	<b>367</b>	<b>4.00%</b>	<b>382</b>	<b>503</b>
Capital expenditure	€th	-380	-364	-381	-407	3.00%	-419	-515
<i>Capex/Sales</i>	%	-3.04	-2.00	-1.80	-1.70		-1.68	-1.57
Pre financing costs FCF (for DCF purposes)	€th	-22.3	2,078	2,856	5,042		4,222	5,656
Various add backs (incl. R&D, etc.) for DCF purposes	€th							
<b>Free cash flow adjusted</b>	<b>€th</b>	<b>-22.3</b>	<b>2,078</b>	<b>2,856</b>	<b>5,042</b>		<b>4,222</b>	<b>5,656</b>
<b>Discounted free cash flows</b>	<b>€th</b>	<b>-22.3</b>	<b>2,078</b>	<b>2,628</b>	<b>4,267</b>		<b>3,287</b>	<b>2,455</b>
Invested capital	€	23.9	27.5	30.8	33.2		34.2	42.0

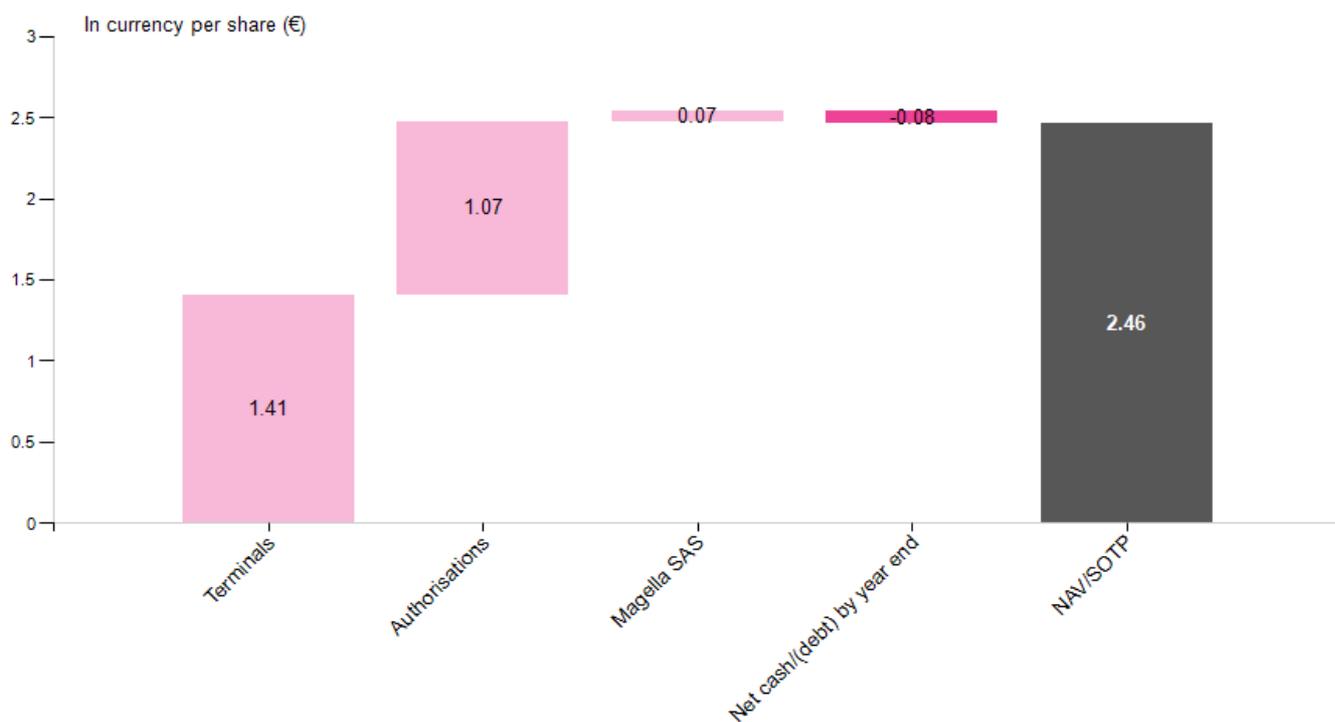
# Keyware (Buy)

Smart Cards-Security / Belgium

► NAV/SOTP (edit)

## NAV/SOTP Calculation

	% owned	Valuation technique	Multiple used	Valuation at 100% (€th)	Stake valuation (€th)	In currency per share (€)	% of gross assets
<b>Terminals</b>	100%	EV/Sales	3	33,170	33,170	1.41	55.4%
<b>Authorisations</b>	100%	EV/Sales	2.5	25,120	25,120	1.07	41.9%
<b>Magella SAS</b>	40.0%	Adj. historical price		4,000	1,600	0.07	2.67%
Other							
<b>Total gross assets</b>					<b>59,890</b>	<b>2.54</b>	<b>100%</b>
Net cash/(debt) by year end					-1,978	-0.08	-3.30%
Commitments to pay					0.00	0.00	0.00%
Commitments received							
NAV/SOTP					57,912	2.46	96.7%
<b>Number of shares net of treasury shares - year end (Th)</b>					<b>23,544</b>		
<b>NAV/SOTP per share (€)</b>						<b>2.46</b>	
<b>Current discount to NAV/SOTP (%)</b>						<b>32.4</b>	



► Worth Knowing

## Worth Knowing

---

### Players of the payment chain

Merchants: supply the goods and services in exchange of a payment, which can be cash or electronic, the latter requiring a payment terminal (or a gateway in the case of e-commerce). A merchant maximises its chances of concluding a transaction by accepting as many payment schemes as possible.

Payment acceptance processing providers: provide the merchants with the interface (POS terminals, online gateways) required to connect the card to the network and drive the transaction.

Acquirers: financial institutions which host the merchant accounts and give access to the desired card schemes (Visa, Mastercard...). They will also receive the funds (on which they will take a fee in exchange for the service provided) from the customers' banks once the transaction is completed.

Acceptance-related service providers: provide additional services to the merchants, such as coupons, loyalty, additional functionalities to the terminal, electronic meal vouchers...

Acquiring & issuing processors: provide payment transaction services to the acquirers and issuers through front-end (delivering payment clearances/refusals) and back-end (delivering gathered transaction approvals for settlement) processing.

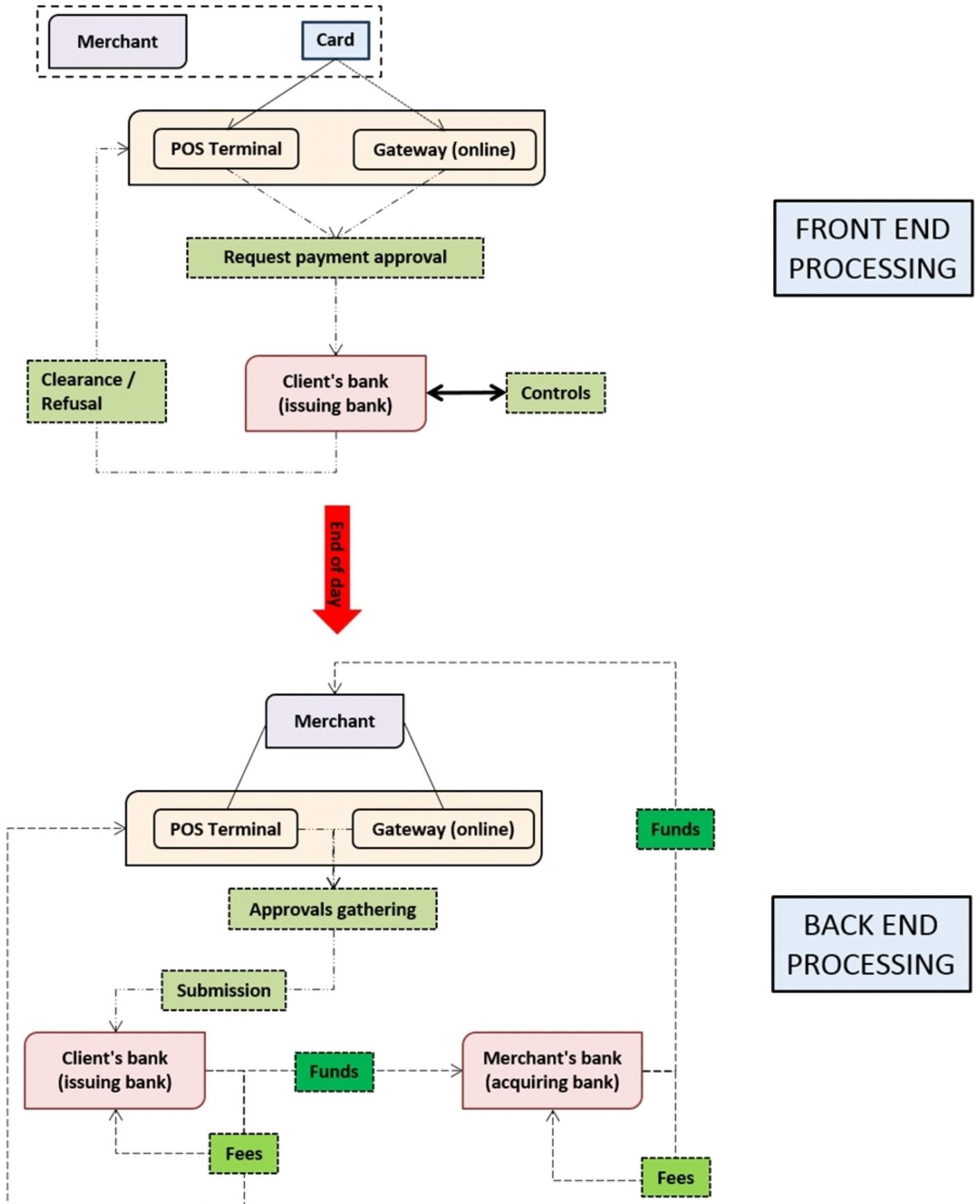
Card schemes: players such as Visa, Mastercard... which operate their own networks with specific transaction rules.

Clearing and settlement institutes: correspond generally to national financial institutions, provide clearing and settlement of transactions between acquirers and issuers.

Issuers: provide the payment cards (which can use different schemes) used by the customers.

### Simplified example of the payment chain during a card transaction

► Worth Knowing



Pending disputes

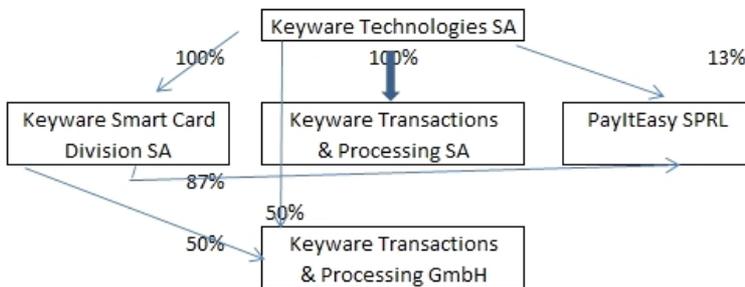
# Keyware (Buy)

Smart Cards-Security / Belgium

## ► Worth Knowing

On 17 December 2012, a complaint report was drawn up against the subsidiary Keyware Smart Card Division NV concerning potential unfair market practices vis-à-vis other persons than consumers and fraud, possibly in violation of the law regarding market practices and consumer protection. While a judgment was expected by late 2015, new investigations have been required by the public prosecutor due to discrepancies in the record, leading to management being questioned and the judgment decision to be delayed twice (it is now expected by late 2016). As a consequence, we consider that the risk is low for the company.

## Company structure



## Shareholders

Name	% owned	Of which % voting rights	Of which % free to float
Parana Management Corp/Guido Van der Schueren	47.0%	47.0%	0.00%
Big Friend/Stéphane Vandervelde	7.58%	7.58%	0.00%
<b>Apparent free float</b>			<b>45.5%</b>

## Financials

### Valuation Key Data

		12/15A	12/16E	12/17E	12/18E
<b>Adjusted P/E</b>	<b>x</b>	<b>2.80</b>	<b>7.96</b>	<b>5.91</b>	<b>4.85</b>
Reported P/E	x	3.36	10.1	7.11	5.69
<b>EV/EBITDA(R)</b>	<b>x</b>	<b>3.95</b>	<b>7.10</b>	<b>5.23</b>	<b>3.67</b>
<b>P/Book</b>	<b>x</b>	<b>0.74</b>	<b>1.38</b>	<b>1.10</b>	<b>0.89</b>
<b>Dividend yield</b>	<b>%</b>	<b>0.00</b>	<b>1.20</b>	<b>1.20</b>	<b>1.20</b>
<i>Free cash flow yield</i>	%	3.05	7.81	10.3	16.8
Average stock price	€	0.83	1.66	1.66	1.66

### Consolidated P&L

		12/15A	12/16E	12/17E	12/18E
<b>Sales</b>	<b>€th</b>	<b>12,491</b>	<b>18,192</b>	<b>21,190</b>	<b>23,933</b>
<i>Sales growth</i>	%	28.5	45.6	16.5	12.9
<i>Sales per employee</i>	€th	338	466	517	557
Purchases and external costs (incl. IT)	€th				
<b>R&amp;D costs as % of sales</b>	<b>%</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Staff costs	€th	-1,508	-1,560	-1,640	-1,720
Operating lease payments	€th				
Cost of sales/COGS (indicative)	€th				
<b>EBITDA</b>	<b>€th</b>	<b>5,163</b>	<b>5,035</b>	<b>6,246</b>	<b>7,435</b>
EBITDA(R)	€th	5,163	5,035	6,246	7,435
<i>EBITDA(R) margin</i>	%	41.3	27.7	29.5	31.1
<i>EBITDA(R) per employee</i>	€th	140	129	152	173
Depreciation	€th	-251	-255	-297	-335
<i>Depreciations/Sales</i>	%	2.01	1.40	1.40	1.40
Amortisation	€th				
<b>Underlying operating profit</b>	<b>€th</b>	<b>4,912</b>	<b>4,780</b>	<b>5,949</b>	<b>7,100</b>
<i>Underlying operating margin</i>	%	39.3	26.3	28.1	29.7
Other income/expense (cash)	€th				
Other inc./ exp. (non cash; incl. assets revaluation)	€th				
Earnings from joint venture(s)	€th				
Impairment charges/goodwill amortisation	€th	-1,785	-1,455	-1,695	-1,915
<b>Operating profit (EBIT)</b>	<b>€th</b>	<b>3,127</b>	<b>3,325</b>	<b>4,254</b>	<b>5,186</b>
Interest expenses	€th	-327	-251	-187	-114
<i>of which effectively paid cash interest expenses</i>	€th	-337			
Financial income	€th	1,141	1,209	1,282	1,359
Other financial income (expense)	€th	-22.0	-20.0	-20.0	-20.0
<b>Net financial expenses</b>	<b>€th</b>	<b>792</b>	<b>939</b>	<b>1,075</b>	<b>1,225</b>
<i>of which related to pensions</i>	€th		0.00	0.00	0.00
<b>Pre-tax profit before exceptional items</b>	<b>€th</b>	<b>3,919</b>	<b>4,264</b>	<b>5,329</b>	<b>6,410</b>
Exceptional items and other (before taxes)	€th				
<i>of which cash (cost) from exceptionals</i>	€th				
Current tax	€th	1,263	0.00	0.00	0.00
Impact of tax loss carry forward	€th				
Deferred tax	€th		-1,000	-1,000	-1,058
<b>Corporate tax</b>	<b>€th</b>	<b>1,263</b>	<b>-1,000</b>	<b>-1,000</b>	<b>-1,058</b>
<i>Tax rate</i>	%	-22.1	17.5	14.2	12.7
<i>Net margin</i>	%	41.5	17.9	20.4	22.4
Equity associates	€th		200	600	800
<i>Actual dividends received from equity holdings</i>	€th				
Minority interests	€th				
<i>Actual dividends paid out to minorities</i>	€th				
Income from discontinued operations	€th				
<b>Attributable net profit</b>	<b>€th</b>	<b>5,182</b>	<b>3,464</b>	<b>4,929</b>	<b>6,152</b>
Impairment charges/goodwill amortisation	€th	1,785	1,455	1,695	1,915
Other adjustments	€th				
<b>Adjusted attributable net profit</b>	<b>€th</b>	<b>6,967</b>	<b>4,919</b>	<b>6,624</b>	<b>8,067</b>
Interest expense savings	€th				

# Keyware (Buy)

Smart Cards-Security / Belgium

## Financials

Fully diluted adjusted attr. net profit	€th	6,967	4,919	6,624	8,067
NOPAT	€th	3,438	3,546	4,764	5,770

### Cashflow Statement

		12/15A	12/16E	12/17E	12/18E
EBITDA	€th	5,163	5,035	6,246	7,435
Change in WCR	€th	-5,042	-2,874	-3,331	-2,295
<i>of which (increases)/decr. in receivables</i>	€th	-3,091	-3,215	-3,789	-2,669
<i>of which (increases)/decr. in inventories</i>	€th	-817	-69.2	-116	-152
<i>of which increases/(decr.) in payables</i>	€th	-1,259	205	458	419
<i>of which increases/(decr.) in other curr. liab.</i>	€th	125	204	117	107
Actual dividends received from equity holdings	€th	0.00	0.00	0.00	0.00
Paid taxes	€th	0.00	-1,000	-1,000	-1,058
Exceptional items	€th				
Other operating cash flows	€th	-1.00	1,000	1,000	1,000
<b>Total operating cash flows</b>	<b>€th</b>	<b>120</b>	<b>2,160</b>	<b>2,915</b>	<b>5,082</b>
Capital expenditure	€th	-380	-364	-381	-407
<i>Capex as a % of depreciation &amp; amort.</i>	%	151	143	129	121
Net investments in shares	€th		-4,000 <sup>(2)</sup>		
Other investment flows	€th	-251	-100	-100	-100
<b>Total investment flows</b>	<b>€th</b>	<b>-631</b>	<b>-4,464</b>	<b>-481</b>	<b>-507</b>
Net interest expense	€th	792	939	1,075	1,225
<i>of which cash interest expense</i>	€th	-337	939	1,075	1,225
Dividends (parent company)	€th		-424	-421	-421
Dividends to minorities interests	€th	0.00	0.00	0.00	0.00
New shareholders' equity	€th	411	0.00		
<i>of which (acquisition) release of treasury shares</i>	€th		0.00		
(Increase)/decrease in net debt position	€th	-626	2,006	-1,595	-1,808
Other financial flows	€th	1,129			
<b>Total financial flows</b>	<b>€th</b>	<b>577</b>	<b>2,521</b>	<b>-941</b>	<b>-1,005</b>
Change in cash position	€th	66.1	217	1,493	3,570
Change in net debt position	€th	692	-1,789	3,088	5,378
Free cash flow (pre div.)	€th	532	2,735	3,609	5,900
Operating cash flow (clean)	€th	120	2,160	2,915	5,082
Reinvestment rate (capex/tangible fixed assets)	%	88.8	65.9	65.8	66.9

2. Purchase of a 40% stake in Magellan SAS

# Keyware (Buy)

Smart Cards-Security / Belgium

## Financials

### Balance Sheet

		12/15A	12/16E	12/17E	12/18E
Goodwill	€th	5,248	5,834	5,834	5,834
Other intangible assets	€th	200	180	162	146
<b>Total intangible</b>	<b>€th</b>	<b>5,448</b>	<b>6,014</b>	<b>5,996</b>	<b>5,980</b>
<b>Tangible fixed assets</b>	<b>€th</b>	<b>428</b>	<b>552</b>	<b>580</b>	<b>609</b>
Financial fixed assets (part of group strategy)	€th	325	341	358	376
Other financial assets (investment purpose mainly)	€th				
<b>WCR</b>	<b>€th</b>	<b>17,693</b>	<b>20,567</b>	<b>23,898</b>	<b>26,193</b>
<i>of which trade &amp; receivables (+)</i>	<i>€th</i>	<i>19,778</i>	<i>22,993</i>	<i>26,782</i>	<i>29,451</i>
<i>of which inventories (+)</i>	<i>€th</i>	<i>992</i>	<i>1,061</i>	<i>1,177</i>	<i>1,330</i>
<i>of which payables (+)</i>	<i>€th</i>	<i>2,574</i>	<i>2,779</i>	<i>3,237</i>	<i>3,656</i>
<i>of which other current liabilities (+)</i>	<i>€th</i>	<i>503</i>	<i>707</i>	<i>824</i>	<i>931</i>
Other current assets	€th	3,066	2,974	2,885	2,798
<i>of which tax assets (+)</i>	<i>€th</i>	<i>3,058</i>	<i>2,058</i>	<i>1,058</i>	<i>0.00</i>
<b>Total assets (net of short term liabilities)</b>	<b>€th</b>	<b>26,960</b>	<b>30,449</b>	<b>33,717</b>	<b>35,956</b>
<b>Ordinary shareholders' equity (group share)</b>	<b>€th</b>	<b>23,683</b>	<b>25,383</b>	<b>31,739</b>	<b>39,356</b>
Minority interests	€th				
<b>Provisions for pensions</b>	<b>€th</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Other provisions for risks and liabilities	€th				
Deferred tax liabilities	€th				
Other liabilities	€th				
<b>Net debt / (cash)</b>	<b>€th</b>	<b>3,277</b>	<b>5,066</b>	<b>1,978</b>	<b>-3,400</b>
<b>Total liabilities and shareholders' equity</b>	<b>€th</b>	<b>26,960</b>	<b>30,449</b>	<b>33,717</b>	<b>35,956</b>
<b>Average net debt / (cash)</b>	<b>€th</b>	<b>3,623</b>	<b>4,171</b>	<b>3,522</b>	<b>-711</b>

### EV Calculations

		12/15A	12/16E	12/17E	12/18E
<b>EV/EBITDA(R)</b>	<b>x</b>	<b>3.95</b>	<b>7.10</b>	<b>5.23</b>	<b>3.67</b>
<b>EV/EBIT (underlying profit)</b>	<b>x</b>	<b>4.15</b>	<b>7.48</b>	<b>5.49</b>	<b>3.84</b>
<b>EV/Sales</b>	<b>x</b>	<b>1.63</b>	<b>1.97</b>	<b>1.54</b>	<b>1.14</b>
EV/Invested capital	x	0.85	1.30	1.06	0.82
Market cap	€th	17,430	35,029	35,029	35,029
+ Provisions (including pensions)	€th	0.00	0.00	0.00	0.00
+ Unrecognised actuarial losses/(gains)	€th	0.00	0.00	0.00	0.00
+ Net debt at year end	€th	3,277	5,066	1,978	-3,400
+ Leases debt equivalent	€th	0.00	0.00	0.00	0.00
- Financial fixed assets (fair value) & Others	€th	325	4,341	4,358	4,376
+ Minority interests (fair value)	€th	0.00	0.00	0.00	0.00
<b>= Enterprise Value</b>	<b>€th</b>	<b>20,382</b>	<b>35,754</b>	<b>32,649</b>	<b>27,253</b>

# Keyware (Buy)

Smart Cards-Security / Belgium

## Financials

### Per Share Data

		12/15A	12/16E	12/17E	12/18E
<b>Adjusted EPS (bfr goodwill amort. &amp; dil.)</b>	€	<b>0.30</b>	<b>0.21</b>	<b>0.28</b>	<b>0.34</b>
<i>Growth in EPS</i>	%	131	-29.4	34.7	21.8
Reported EPS	€	0.25	0.16	0.23	0.29
<b>Net dividend per share</b>	€	<b>0.00</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>
Free cash flow per share	€	0.02	0.12	0.15	0.25
Operating cash flow per share	€	0.01	0.10	0.14	0.24
Book value per share	€	1.12	1.21	1.51	1.87
<b>Number of ordinary shares</b>	Th	<b>21,064</b>	<b>21,064</b>	<b>21,064</b>	<b>21,064</b>
Number of equivalent ordinary shares (year end)	Th	21,064	21,064	21,064	21,064
Number of shares market cap.	Th	21,064	21,064	21,064	21,064
Treasury stock (year end)	Th				
Number of shares net of treasury stock (year end)	Th	21,064	21,064	21,064	21,064
<b>Number of common shares (average)</b>	Th	<b>20,751</b>	<b>21,064</b>	<b>21,064</b>	<b>21,064</b>
Conversion of debt instruments into equity	Th	2,480	2,480	2,480	2,480
Settlement of cashable stock options	Th				
Probable settlement of non mature stock options	Th				
Other commitments to issue new shares	Th				
Increase in shares outstanding (average)	Th	2,808	2,480	2,480	2,480
<b>Number of diluted shares (average)</b>	Th	<b>23,559</b>	<b>23,544</b>	<b>23,544</b>	<b>23,544</b>
Goodwill per share (diluted)	€	0.08	0.06	0.07	0.08
EPS after goodwill amortisation (diluted)	€	0.22	0.15	0.21	0.26
EPS before goodwill amortisation (non-diluted)	€	0.25	0.16	0.23	0.29
Actual payment	€				
<b>Payout ratio</b>	%	<b>0.00</b>	<b>12.2</b>	<b>8.55</b>	<b>6.85</b>
<b>Capital payout ratio (div +share buy back/net income)</b>	%	<b>6.09</b>	<b>8.56</b>	<b>6.36</b>	

## Financials

<b>Funding - Liquidity</b>		12/15A	12/16E	12/17E	12/18E
EBITDA	€th	5,163	5,035	6,246	7,435
Funds from operations (FFO)	€th	4,825	5,974	7,321	8,602
<b>Ordinary shareholders' equity</b>	<b>€th</b>	<b>23,683</b>	<b>25,383</b>	<b>31,739</b>	<b>39,356</b>
Gross debt	€th	4,258	6,264	4,669	2,861
o/w Less than 1 year - Gross debt	€th	1,540	1,595	1,808	1,523
o/w 1 to 5 year - Gross debt	€th	2,718	4,669	2,861	1,338
of which Y+2	€th	1,193	1,808	1,523	760
of which Y+3	€th	897	1,523	760	578
of which Y+4	€th	628	760	578	0.00
of which Y+5	€th	0.00	578	0.00	0.00
o/w Beyond 5 years - Gross debt	€th	0.00	0.00	0.00	0.00
+ Gross Cash	€th	981	1,198	2,691	6,261
<b>= Net debt / (cash)</b>	<b>€th</b>	<b>3,277</b>	<b>5,066</b>	<b>1,978</b>	<b>-3,400</b>
Bank borrowings	€th	2,507	6,098	4,613	2,841
Financial leases liabilities	€th	69.0	166	56.0	20.0
Other financing	€th	1,682	0.00	0.00	0.00
Gearing (at book value)	%	15.3	16.4	11.1	-1.81
Adj. Net debt/EBITDA(R)	x	0.63	1.01	0.32	-0.46
Adjusted Gross Debt/EBITDA(R)	x	0.82	1.24	0.75	0.38
Adj. gross debt/(Adj. gross debt+Equity)	%	15.2	19.8	12.8	6.78
Ebit cover	x	-6.20	-5.09	-5.53	-5.80
FFO/Gross Debt	%	113	95.4	157	301
FFO/Net debt	%	147	118	370	-253
FCF/Adj. gross debt (%)	%	12.5	43.7	77.3	206
(Gross cash+ "cash" FCF+undrawn)/ST debt	x	0.98	2.47	3.48	7.98
"Cash" FCF/ST debt	x	-0.39	1.71	2.00	3.87

<b>ROE Analysis (Dupont's Breakdown)</b>		12/15A	12/16E	12/17E	12/18E
Tax burden (Net income/pretax pre excp income)	x	1.32	0.81	0.92	0.96
EBIT margin (EBIT/sales)	%	25.0	18.3	20.1	21.7
Assets rotation (Sales/Avg assets)	%	51.1	63.4	66.0	68.7
Financial leverage (Avg assets /Avg equity)	x	1.17	1.17	1.12	0.98
<b>ROE</b>	<b>%</b>	<b>24.9</b>	<b>14.1</b>	<b>17.3</b>	<b>17.3</b>
ROA	%	13.3	12.3	14.0	15.8

<b>Shareholder's Equity Review (Group Share)</b>		12/15A	12/16E	12/17E	12/18E
Y-1 shareholders' equity	€th	17,981	23,683	25,383	31,739
+ Net profit of year	€th	5,182	3,464	4,929	6,152
- Dividends (parent cy)	€th	0.00	-424	-421	-421
+ Additions to equity	€th	411	0.00	0.00	0.00
o/w reduction (addition) to treasury shares	€th	0.00	0.00	0.00	0.00
- Unrecognised actuarial gains/(losses)	€th	0.00	0.00	0.00	0.00
+ Comprehensive income recognition	€th	109	-1,340	1,848	1,887
<b>= Year end shareholders' equity</b>	<b>€th</b>	<b>23,683</b>	<b>25,383</b>	<b>31,739</b>	<b>39,356</b>

# Keyware (Buy)

Smart Cards-Security / Belgium

## Financials

### Staffing Analytics

		12/15A	12/16E	12/17E	12/18E
Sales per staff	€th	338	466	517	557
Staff costs per employee	€th	-40.8	-40.0	-40.0	-40.0
Change in staff costs	%	2.03	3.45	5.13	4.88
Change in unit cost of staff	%	10.3	-1.86	0.00	0.00
Staff costs/(EBITDA+Staff costs)	%	22.6	23.7	20.8	18.8
<b>Average workforce</b>					
	unit	37.0	39.0	41.0	43.0
Europe	unit	37.0	39.0	41.0	43.0
North America	unit	0.00	0.00	0.00	0.00
South Americas	unit	0.00	0.00	0.00	0.00
Asia	unit	0.00	0.00	0.00	0.00
Other key countries	unit	0.00	0.00	0.00	0.00
<b>Total staff costs</b>					
	€th	-1,508	-1,560	-1,640	-1,720
Wages and salaries	€th	-1,384	-1,560	-1,640	-1,720
of which social security contributions	€th	-300			
Equity linked payments	€th				
Pension related costs	€th		0.00	0.00	0.00
Benefits related payments	€th	-124			

### Divisional Breakdown Of Revenues

		12/15A	12/16E	12/17E	12/18E
Terminals	€th	11,562	10,175	10,899	12,098
Authorisations	€th	929	8,018 <sup>(1)</sup>	10,291 <sup>(1)</sup>	11,835 <sup>(1)</sup>
Corporate	€th				
Other	€th				
<b>Total sales</b>	<b>€th</b>	<b>12,491</b>	<b>18,192</b>	<b>21,190</b>	<b>23,933</b>

1. Due to changes in accounting methods concerning commissions from authorisation agreements and to the application of the 2015 European Interchange Fee Regulation, the presentation of the gross sales and the associated cost of sales from the Authorisation business have been modified from 2016, while the operating profit remains identical.

### Divisional Breakdown Of Earnings

		12/15A	12/16E	12/17E	12/18E
<b>EBIT Analysis</b>					
Terminals	€th	3,556	2,887	3,270	3,629
Authorisations	€th	12.1	1,002	1,441	2,012
Corporate	€th	-441	-564	-457	-456
Other/cancellations	€th				
<b>Total</b>	<b>€th</b>	<b>3,127</b>	<b>3,325</b>	<b>4,254</b>	<b>5,186</b>
EBIT margin	%	25.0	18.3	20.1	21.7

### Revenue Breakdown By Country

		12/15A	12/16E	12/17E	12/18E
Belgium	%	99.0	97.0		
Netherlands	%	1.00	1.00		
Other	%		2.00		

# Keyware (Buy)

Smart Cards-Security / Belgium

## ► Financials

### ROCE/CFROIC/Capital Invested

		12/15A	12/16E	12/17E	12/18E
ROCE (NOPAT+lease exp.*(1-tax))/(net) cap employed adjusted	%	14.4	12.9	15.5	17.4
CFROIC	%	2.23	9.96	11.7	17.8
Goodwill	€th	5,248	5,834	5,834	5,834
Accumulated goodwill amortisation	€th	0.00	0.00	0.00	0.00
All intangible assets	€th	200	180	162	146
Accumulated intangible amortisation	€th	0.00	0.00	0.00	0.00
Financial hedges (LT derivatives)	€th	0.00	0.00	0.00	0.00
Capitalised R&D	€th	0.00	0.00	0.00	0.00
PV of non-capitalised lease obligations	€th	0.00	0.00	0.00	0.00
Other fixed assets	€th	428	552	580	609
Accumulated depreciation	€th	0.00	0.00	0.00	0.00
WCR	€th	17,693	20,567	23,898	26,193
Other assets	€th	325	341	358	376
Unrecognised actuarial losses/(gains)	€th	0.00	0.00	0.00	0.00
<b>Capital employed after deprec. (Invested capital)</b>	<b>€th</b>	<b>23,894</b>	<b>27,475</b>	<b>30,832</b>	<b>33,158</b>
Capital employed before depreciation	€th	23,894	27,475	30,832	33,158

### Divisional Breakdown Of Capital

		12/15A	12/16E	12/17E	12/18E
Terminals	€th				
Authorisations	€th				
Corporate	€th				
Other	€th	23,894	27,475	30,832	33,158
<b>Total capital employed</b>	<b>€th</b>	<b>23,894</b>	<b>27,475</b>	<b>30,832</b>	<b>33,158</b>

## ► Pension Risks

### Pension matters

The company had 37 employees at 31 December 2015, a figure relatively stable since the beginning of the decade. All employees are based in Belgium, hence the company doesn't hold any pension-related debt.

As the company doesn't develop its own terminals, the R&D can be considered as insignificant, especially as the development of custom software doesn't start from scratch nor goes too deep into the terminals' source code, and only requires two persons full-time, which allows the costs to remain low. As a consequence, most staff are administrative and sales personnel.

#### Summary Of Pension Risks

		12/15A	12/16E	12/17E	12/18E
<b>Pension ratio</b>	%	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Ordinary shareholders' equity	€th	23,683	25,383	31,739	39,356
<b>Total benefits provisions</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<i>of which funded pensions</i>	€th	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>of which unfunded pensions</i>	€th	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>of which benefits / health care</i>	€th		<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Unrecognised actuarial (gains)/losses	€th	0.00	0.00	0.00	0.00
<i>Company discount rate</i>	%	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Normalised recomputed discount rate	%		2.50		
<i>Company future salary increase</i>	%	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Normalised recomputed future salary increase	%		2.00		
<i>Company expected rate of return on plan assets</i>	%	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Normalised recomputed expd rate of return on plan assets	%		0.00		
<b>Funded : Impact of actuarial assumptions</b>	€th		<b>0.00</b>		
<b>Unfunded : Impact of actuarial assumptions</b>	€th		<b>0.00</b>		

#### Geographic Breakdown Of Pension Liabilities

		12/15A	12/16E	12/17E	12/18E
US exposure	%				
UK exposure	%				
Euro exposure	%				
Nordic countries	%				
Switzerland	%				
Other	%	100	100	100	100
Total	%	100	100	100	100

#### Balance Sheet Implications

		12/15A	12/16E	12/17E	12/18E
Funded status surplus / (deficit)	€th	0.00	0.00	0.00	0.00
Unfunded status surplus / (deficit)	€th	0.00	0.00	0.00	0.00
Total surplus / (deficit)	€th	0.00	0.00	0.00	0.00
<b>Total unrecognised actuarial (gains)/losses</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Provision (B/S) on funded pension	€th	0.00	0.00	0.00	0.00
Provision (B/S) on unfunded pension	€th	0.00	0.00	0.00	0.00
Other benefits (health care) provision	€th		0.00	0.00	0.00
<b>Total benefit provisions</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

#### P&L Implications

		12/15A	12/16E	12/17E	12/18E
Funded obligations periodic costs	€th	0.00	0.00	0.00	0.00
Unfunded obligations periodic costs	€th	0.00	0.00	0.00	0.00
<b>Total periodic costs</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<i>of which incl. in labour costs</i>	€th	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>of which incl. in interest expenses</i>	€th	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>

## ► Pension Risks

### Funded Obligations

		12/15A	12/16E	12/17E	12/18E
<b>Balance beginning of period</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Current service cost	€th		0.00	0.00	0.00
Interest expense	€th		0.00	0.00	0.00
Employees' contributions	€th				
Impact of change in actuarial assumptions	€th		0.00	0.00	0.00
<i>of which impact of change in discount rate</i>	€th		0.00		
<i>of which impact of change in salary increase</i>	€th		0.00		
<b>Changes to scope of consolidation</b>	€th				
Currency translation effects	€th				
Pension payments	€th				
Other	€th				
<b>Year end obligation</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### Plan Assets

		12/15A	12/16E	12/17E	12/18E
<b>Value at beginning</b>	€th		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Company expected return on plan assets	€th		0.00	0.00	0.00
Actuarial gain/(loss)	€th		0.00	0.00	0.00
Employer's contribution	€th		0.00	0.00	0.00
Employees' contributions	€th	0.00	0.00	0.00	0.00
Changes to scope of consolidation	€th				
Currency translation effects	€th				
Pension payments	€th	0.00	0.00	0.00	0.00
Other	€th				
<b>Value end of period</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Actual and normalised future return on plan assets	€th	0.00	0.00	0.00	0.00

### Unfunded Obligations

		12/15A	12/16E	12/17E	12/18E
<b>Balance beginning of period</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Current service cost	€th		0.00	0.00	0.00
Interest expense	€th		0.00	0.00	0.00
Employees' contributions	€th				
Impact of change in actuarial assumptions	€th		0.00	0.00	0.00
<i>of which Impact of change in discount rate</i>	€th		0.00		
<i>of which Impact of change in salary increase</i>	€th		0.00		
Changes to scope of consolidation	€th				
Currency translation effects	€th				
Pension payments	€th				
Other	€th				
<b>Year end obligation</b>	€th	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## ► Governance & Management

### Governance & Management

The company benefits from a highly experienced management with long time service in the industry.

The CEO, Mr Vandervelde, is the co-founder of the company and has over 30 years of experience in the tech sector. The CFO (Mr Hubert), COO (Mr Verfaillie) and CCO (Mr Maes) have been working with the company since 2013, 2007 and 2011 respectively.

### Governance parameters

	Yes  / No 	Weighting
One share, one vote		20%
Chairman vs. Executive split		5%
Chairman not ex executive		5%
Independent directors equals or above 50% of total directors		20%
Full disclosure on mgt pay (performance related bonuses, pensions and non financial benefits)		10%
Disclosure of performance anchor for bonus trigger		15%
Compensation committee reporting to board of directors		5%
Straightforward, clean by-laws		20%
Governance score	75	100%

### Existing committees

	Audit / Governance Committee
	Compensation committee
	Financial Statements Committee
	Litigation Committee
	Nomination Committee
	Safety committee
	SRI / Environment

### Management

Name		Function	Birth date	Date in	Date out	Compensation, in k€ (year)	
						Cash	Equity linked
Stéphane VANDERVELDE	M	CEO		2001			
Alain HUBERT	M	CFO		2013			
Wim VERFAILLE	M	COO		2007			
Joris MAES	M	CCO		2010			

### Board of Directors

Name		Indep.	Function	Completion of current mandate	Birth date	Date in	Date out	Fees / indemnity, in k€(year)	Value of holding, in k€(year)
Guido VAN DER SCHUEREN	M		President/Chairman of th...	2017					
Bruno KUSTERS	M		Member	2017					
Pierre DELHAIZE	M		Member	2018					
Chris BUYSE	M		Member	2018					
Stéphane VANDERVELDE	M		Member	2018					
Johan BOHETS	M		Member	2018					

## ► Governance & Management

### Human Resources

**Accidents at work**

25% Of H.R. Score


**Human resources development**

35% Of H.R. Score


**Pay**

20% Of H.R. Score


**Job satisfaction**

10% Of H.R. Score


**Internal communication**

10% Of H.R. Score



### HR Breakdown

		Yes  / No 	Rating
<b>Accidents at work</b>	<b>25%</b>		<b>25/100</b>
Set targets for work safety on all group sites?	40%		10/100
Are accidents at work declining?	60%		15/100
<b>Human resources development</b>	<b>35%</b>		<b>21/100</b>
Are competences required to meet medium term targets identified?	10%		0/100
Is there a medium term (2 to 5 years) recruitment plan?	10%		0/100
Is there a training strategy tuned to the company objectives?	10%		4/100
Are employees trained for tomorrow's objectives?	10%		4/100
Can all employees have access to training?	10%		4/100
Has the corporate avoided large restructuring lay-offs over the last year to date?	10%		4/100
Have key competences stayed?	10%		4/100
Are managers given managerial objectives?	10%		4/100
If yes, are managerial results a deciding factor when assessing compensation level?	10%		0/100
Is mobility encouraged between operating units of the group?	10%		0/100
<b>Pay</b>	<b>20%</b>		<b>20/100</b>
Is there a compensation committee?	30%		6/100
Is employees' performance combining group performance AND individual performance?	70%		14/100
<b>Job satisfaction</b>	<b>10%</b>		<b>10/100</b>
Is there a measure of job satisfaction?	33%		3/100
Can anyone participate ?	34%		3/100
Are there action plans to prop up employees' morale?	33%		3/100
<b>Internal communication</b>	<b>10%</b>		<b>10/100</b>
Are strategy and objectives made available to every employee?	100%		10/100
<b>Human Ressources score:</b>			<b>86/100</b>

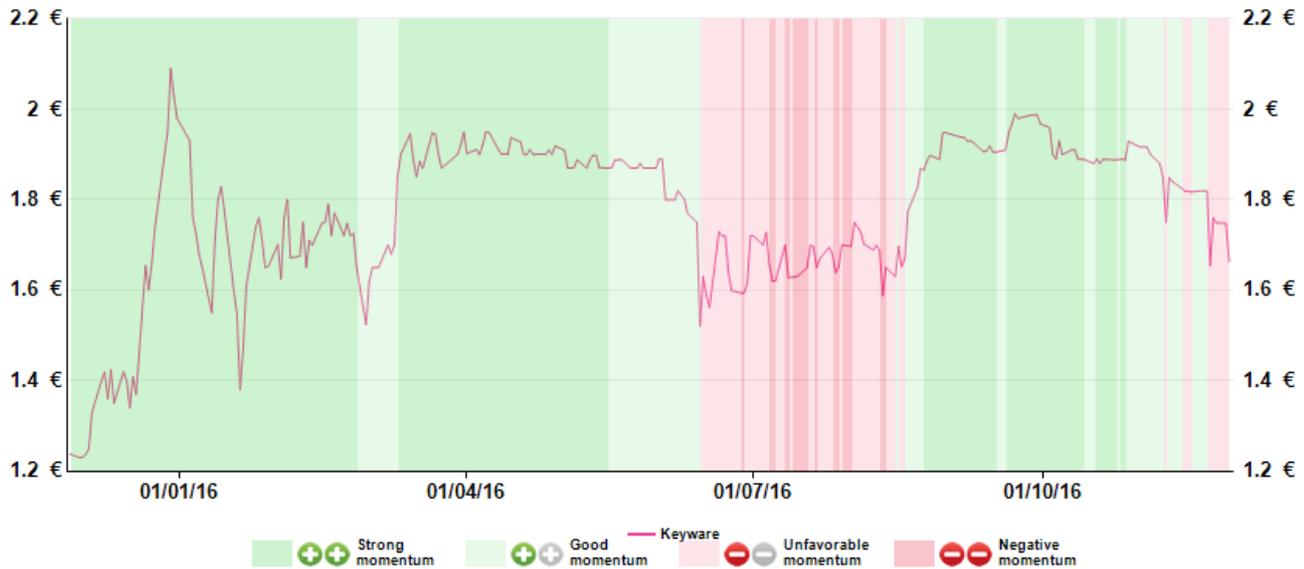
### HR Score

H.R. Score : 8.6/10


 ▼ IT Hardware  
 ■ Keyware

► Graphics

## Momentum



 : Strong momentum corresponding to a continuous and overall positive moving average trend confirmed by volumes

 : Relatively good momentum corresponding to a positively-oriented moving average, but offset by an overbought pattern or lack of confirmation from volumes

 : Relatively unfavorable momentum with a neutral or negative moving average trend, but offset by an oversold pattern or lack of confirmation from volumes

 : Strongly negative momentum corresponding to a continuous and overall negative moving average trend confirmed by volumes

Momentum analysis consists in evaluating the stock market trend of a given financial instrument, based on the analysis of its trading flows.

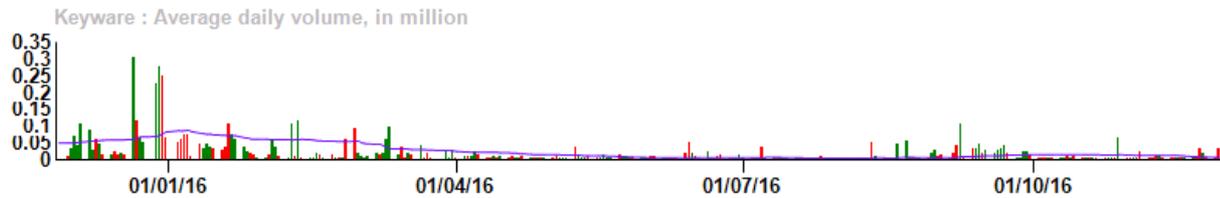
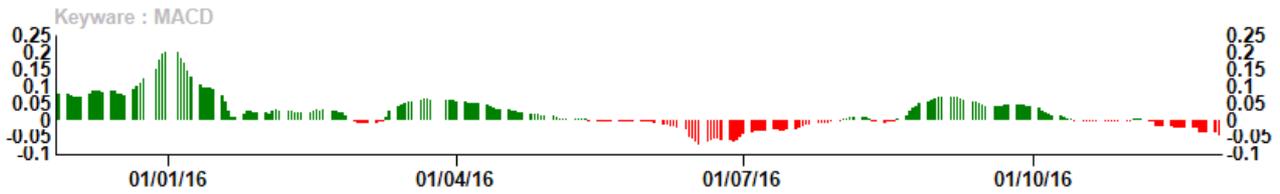
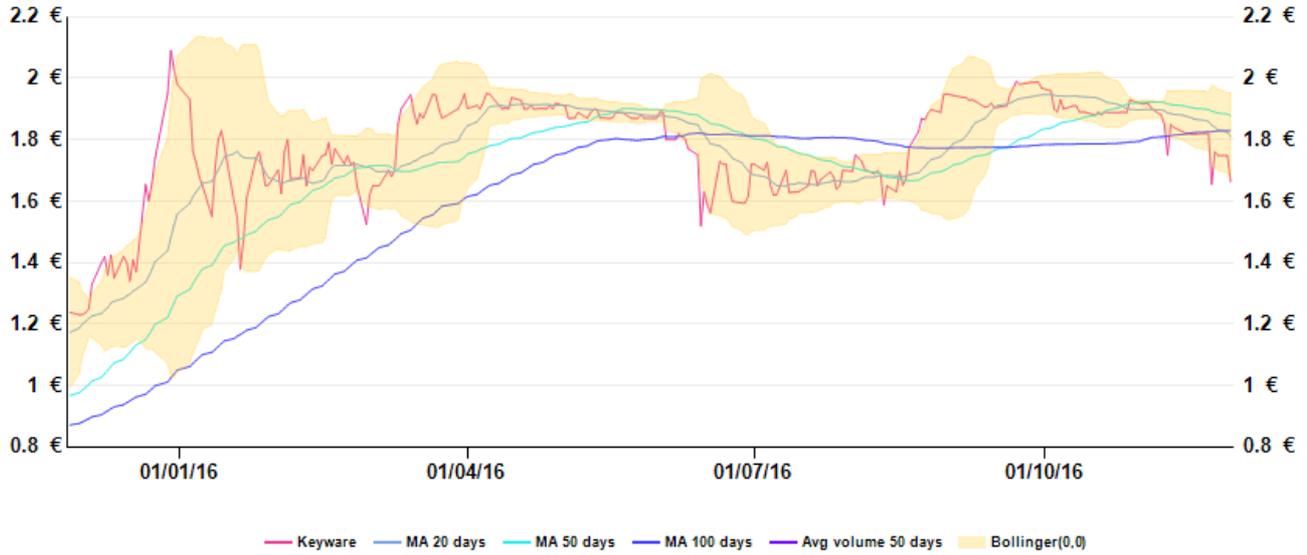
The main indicators used in our momentum tool are simple moving averages over three time frames: short term (20 trading days), medium term (50 days) and long term (150 days). The positioning of these moving averages relative to each other gives us the direction of the flows over these time frames.

For example, if the short and medium-term moving averages are above the long-term moving average, this suggests an uptrend which will need to be confirmed. Attention is also paid to the latest stock price relative to the three moving averages (advance indicator) as well as to the trend in these three moving averages - downtrend, neutral, uptrend - which is more of a lagging indicator.

The trend indications derived from the flows through moving averages and stock prices must be confirmed against trading volumes in order to confirm the signal. This is provided by a calculation based on the average increase in volumes over ten weeks together with a buy/sell volume ratio.

► Graphics

## Moving Average MACD & Volume



► Graphics

## Sector IT Hardware



# Methodology

## ► Methodology

### Fundamental Opinion

It is implicit that recommendations are made in good faith but should not be regarded as the sole source of advice.

Recommendations are geared to a "value" approach.

Valuations are computed from the point of view of a **secondary market minority holder** looking at a medium term (say 6 months) performance.

Valuation tools are built around the concepts of **transparency**, all underlying figures are accessible, and **consistency**, same methodology whichever the stock, allowing for differences in nature between financial and non financial stocks. A stock with a target price below its current price should not and will not be regarded as an Add or a Buy.

Recommendations are based on target prices with no allowance for dividend returns. The thresholds for the four recommendation levels may change from time to time depending on market conditions. Thresholds are defined as follows, ASSUMING long risk free rates remain in the 2-5% region.

Recommendation	Low Volatility (10-30)	Normal Volatility (15-35)	High Volatility (above 35)
Buy ●	More than 15% upside	More than 20% upside	More than 30% upside
Add ■	From 5% to 15%	From 5% to 20%	From 10% to 30%
Reduce ■	From -10% to 5%	From -10% to 5%	From -10% to 10%
Sell ●	Below -10%	Below -10%	Below -10%

There is deliberately no "neutral" recommendation. The principle is that there is no point investing in equities if the return is not at least the risk free rate (and the dividend yield which again is not allowed for).

Although recommendations are automated (a function of the target price whenever a new equity research report is released), the management of AlphaValue intends to maintain global consistency within its universe coverage and may, from time to time, decide to change global parameters which may affect the level of recommendation definitions and /or the distribution of recommendations within the four levels above. For instance, lowering the risk premium in a gloomy context may increase the proportion of positive recommendations.

## ► Methodology

### Valuation

Valuation processes have been organized around transparency and consistency as primary objectives.

Stocks belong to different categories that recognise their main operating features : Banks, Insurers and Non Financials.

Within those three universes, the valuation techniques are the same and in relation to the financial data available.

The weighting given to individual valuation techniques is managed centrally and may be changed from time to time. As a rule, all stocks of a similar profile are valued using equivalent weighting of the various valuation techniques. This is for obvious consistency reasons.

Within the very large universe of Non Financials, there are in effect 4 sub-categories of weightings to cater for subsets: 1) 'Mainstream' stocks; 2) 'Holding companies' where the stress is on NAV measures; 3) 'Growth' companies where the stress is on peer based valuations; 4) 'Loss making sectors' where peers review is essentially pointing nowhere (ex: Bio techs). The bulk of the valuation is then built on DCF and NAV, in effect pushing back the time horizon.

Valuation Issue	Normal industrials	Growth industrials	Holding company	Loss runners	Bank	Insurers
DCF	35%	35%	10%	40%	0%	0%
NAV	20%	20%	55%	40%	25%	15%
PE	10%	10%	10%	5%	10%	20%
EV/EBITDA	20%	20%	0%	5%	0%	0%
Yield	10%	10%	20%	5%	15%	15%
P/Book	5%	5%	5%	5%	15%	10%
Banks' intrinsic method	0%	0%	0%	0%	25%	0%
Embedded Value	0%	0%	0%	0%	0%	40%
Mkt Cap/Gross Operating Profit	0%	0%	0%	0%	10%	0%