

## Due Diligence and Valuation Report

Arrowhead Code: 76-01-01  
 Coverage initiated: 01 December 2015  
 This document: 01 December 2015  
 Fair share value bracket-DCF: € 2.42 and € 2.96  
 Share price (01 Dec. 15): € 1.23<sup>i</sup>

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### Market Data

52-Week Range:	€ 0.50 - € 1.32 <sup>ii</sup>
Average Daily Volume:	44,796 <sup>iii</sup>
Market Cap. (01-Dec-15):	€ 25.14 MM

### Financial Forecast (in €) (FY ending - Dec)

€	'15E	'16E	'17E	'18E	'19E	'20E	'21E
High NI '000	4,974	4,751	5,386	5,778	3,678	3,899	4,174
High EPS	0.24	0.23	0.26	0.28	0.18	0.19	0.20
Low NI '000	4,911	4,584	5,155	5,500	3,417	3,527	3,729
Low EPS	0.24	0.22	0.25	0.27	0.17	0.17	0.18

**Company Overview:** Keyware Technologies (herein referred to as "Keyware", "KEYW", "the Company", or "The Group") is a Belgium-based independent network service provider in the electronic payments industry. Keyware primarily operates in Belgium, with a small presence in Netherlands. The Company was formed in 1996 and got listed on Euronext Brussels in September 2003 with the stock symbol of "KEYW". Prior to 2003, Keyware was listed on NASDAQ Europe (also known as EASDAQ) since June 2000.

The Company's operations include renting/selling of payment terminals including programming, personalization, installation, maintenance and repair services. KEYW has collaborated with world leaders in payment terminal manufacturing, like Worldline, Ingenico, Verifone, to offer its customers a wide range of solutions for payment terminals. It also provides transaction services and has partnered with Worldline, Six Pay, PaySquare and EMS to enhance the quality of its services. With a view to offer end-to-end payment solutions to its customers, the Company also offers payment services for m-commerce and e-commerce through its payment service platform - PayService. Keyware currently has more than 17,000 customers using their services in various fields- hotels, fashion stores, grocery chains, government agencies etc.



Company: Keyware Technologies NV  
 Ticker: EBR: KEYW  
 Headquarters: Zaventem, Belgium  
 CEO: Mr. Stephane Vandervelde  
 CFO: Mr. Alain Hubert  
 COO: Mr. Wim Verfaillie  
 CCO: Mr. Joris Maes  
 Website: [www.keyware.com](http://www.keyware.com)

Arrowhead is initiating coverage on Keyware Technologies NV with a fair value bracket of € 2.42 (Low-Bracket estimate) and € 2.96 (High-Bracket estimate).

**Key Highlights:** (1) We expect strong CAGR of 29.9% (low bracket) to 31.5% (high bracket) in profit before tax (PBT) during 2014-18 period; (2) The Company's PBT in 9M 2015 also increased by 187% from € 1,041k to € 2,983k on YoY basis; (3) The Company is estimated to reach a level of 17,000 terminals by the end of 2015 given that they have already purchased 4,500 Worldline terminals till September 30, 2015; (4) In 2015, Keyware revised its commission model from Spread Income Model to Brokerage Model, which will significantly increase its revenues from commissions; (5) The transition from Spread Income Model to Brokerage Model is expected to be over by December 31, 2018; (6) KEYW strengthened its partnership with Worldline and is now a technical payment service provider for Worldline; (7) Bringing Worldline on board has given a major boost to the Company's expansion in Tier II markets; (8) The Company acquired the assets of GlobalPay NV on January 01, 2015, which boosted its economies of scale and directly contributed to both the number of customers and revenues; (9) The complete acquisition amount of GlobalPay will be decided on December 31, 2015; (10) The government's decision to replace paper meal vouchers with e- vouchers from October 01, 2015 will serve as a new growth channel for Keyware.

**Key Risks:** Key risks include lower than expected increase in the terminal base, excessive contract terminations and slow adaptability to the ever changing technology.

**Valuation and Assumptions:** On the basis of due diligence and valuation estimates, Arrowhead believes that Keyware's fair share value lies in the € 2.42 - € 2.96 bracket using Discounted Cash Flow (DCF), which is our primary valuation methodology.<sup>iv</sup> Our fair value bracket implies PE multiple of 10.1x and 12.2x based on our 2015 earnings estimates, compared to the industry average of 26.0x.

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## 1. Summary and Outlook

We initiate coverage on Keyware Technologies NV, headquartered in Zaventum, Belgium, an independent network service provider in the electronic payment industry. It has its own transaction platform and a number of strategic partners for payment terminals, acquiring services, e-commerce, m-commerce and air time.

### Key Highlights:

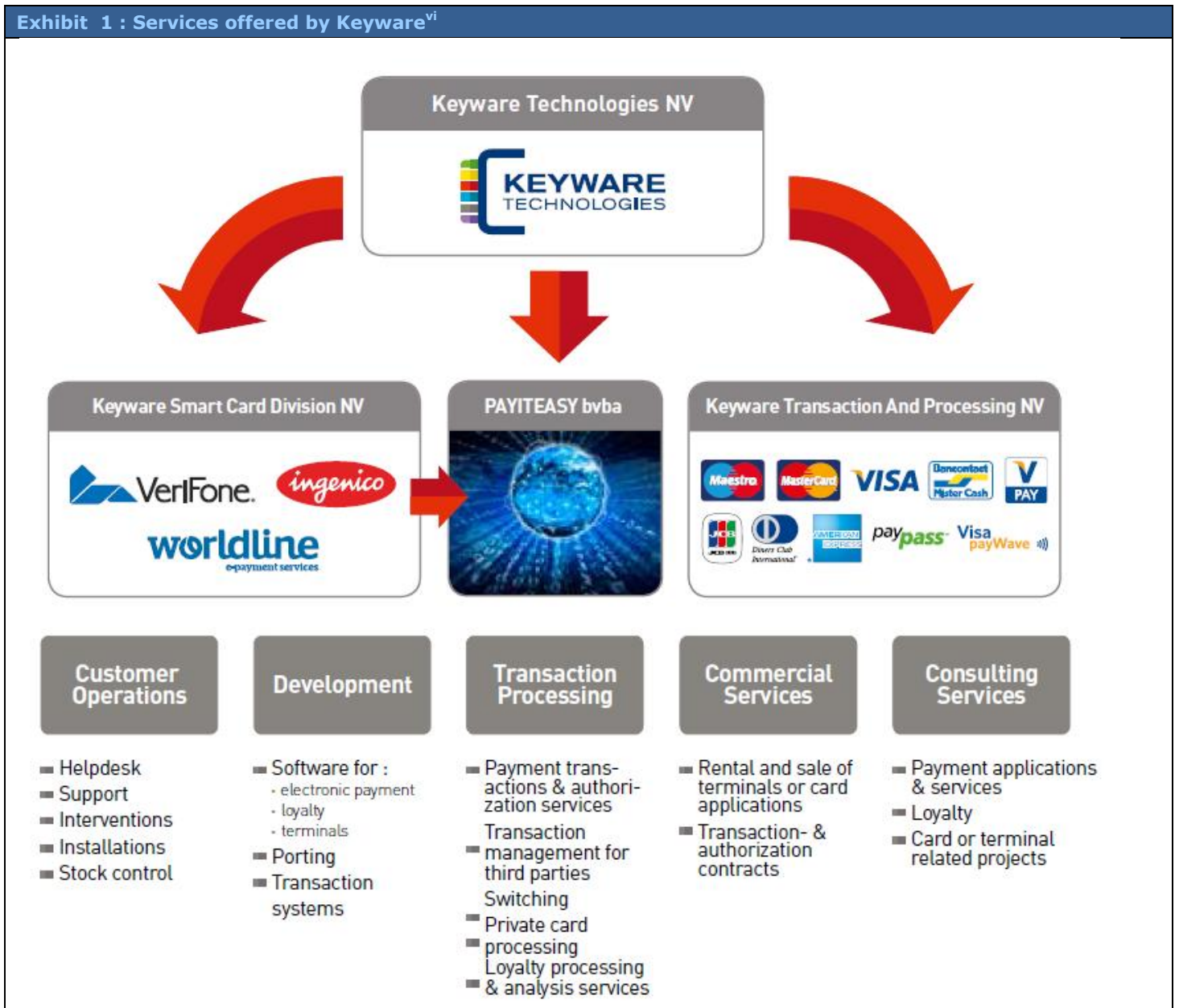
- (1) The Company had installed base of terminals of 16,519 at the end 3Q 2015, which has increased from 10,195 terminals at the end of 2010.
- (2) KEYW is trading at a forward P/E multiple of 5.0x on 2015 earnings, which is at a significant discount to its industry average of 26.0x.
- (3) The Company is undergoing a shift from Spread Income model of commission to Brokerage Model in a phased manner for providing transaction services. The transition is expected to get completed by the end of 2018. This move is expected to significantly increase the revenues of the authorization services segment with the expected increase of three-folds.
- (4) Keyware is now a technical payment service provider for Worldline, which is a leading terminal manufacturer and transaction services provider. It allows Keyware to offer acquiring services on terminals other than Worldline terminals including terminals from Ingenico, Verifone, etc.
- (5) With the elimination of paper meal vouchers like Sodexo, Edenred, etc from the market and introduction of electronic meal vouchers from October 01, 2015, the payment terminal market is set to witness an increase in the number of terminals to process these e-vouchers.
- (6) Keyware acquired the assets of GlobalPay NV on January 01, 2015. The acquisition added a total of 840 contracts to the already existing ones. The final price of the acquisition will be decided on December 31, 2015 depending on the assessment of a number of parameters agreed to by both the parties.
- (7) As on September 30, 2015, Keyware had € 2.321 MM of deferred tax asset, which is related to Keyware Smart Card Division. We expect that these deferred tax assets will be sufficient to cover the tax liability in profit from the Keyware Smart Card Division till 2018. Therefore, we expect Keyware Smart Card Division to have tax outflow from 2019 onwards only.
- (8) For Keyware Technologies, the accumulated tax losses amount to € 60,541k as on December 31, 2014 and we estimate these losses to restrict any tax outflow from the authorization segment for the next 10 years. We estimate Keyware Technologies to utilize 50% of € 60,541k by 2025, and the tax benefit from the remaining € 30,270k has been added to the terminal value at the end of 2025.
- (9) Keyware's first 9 month's revenues increased by 39.8% from € 6.636k to € 9,281k on the back of excellent performance by both payment terminal and authorization services divisions.
- (10) The Company acquired a stake of 2.09% in Congra Software in September 2015. The proposed software is a solution for the MIS systems, the web-to-print portals and the press workflow.
- (11) Keyware now owns 100% in its joint venture of PayItEasy and fully consolidates it starting 4Q14.
- (12) Belgian authorities decreased the cash limit on the transactions from € 5,000 to € 3,000 starting January 2014 which contributes to the increase in volume of transactions for Keyware.
- (13) We have assumed no distribution of dividends in the forecast period. However, the Company may commence the dividend distribution going forward, which will impact our forecasts related to balance sheet, leverage ratio, WACC etc. Also, the projected results do not take into account any acquisition or asset deals which might happen in the future.

**Key Risks:** Key risks include lower than expected increase in the terminal base, weak business environment in Belgium, excessive contract terminations and slow adaptability to the ever changing technology.

**Industry Overview:** The electronic payment industry's value chain comprises of a number of services- providing terminals, transaction services, telecommunication services etc. Keyware is an active player in providing terminal installation, maintenance and repair services as well as transaction services to its clients. In terms of the number of terminals in the market, the Belgian industry posted an increase of c. 7% CAGR over a period of 4 years from 2010-2014. With the government eliminating the use of paper food coupons like Sodexo and introducing electronic coupons, the industry is poised to witness a significant increase in the number of terminals as a large number of retailers accepting the food coupons do not currently own a payment terminal. In another significant development, the government has reduced the cash transactions from earlier € 5,000 to € 3,000, which will favorably impact the volume of payment transactions on terminals. Therefore, the industry is well poised to grow through both the volume of transactions as well as the number of terminals over the coming years.

**2. Business Overview<sup>v</sup>:**

Keyware Technologies NV was established in June 1996 as a public limited company and was headquartered in Zaventem, Belgium. The Company's shares have been trading on Euronext Brussels under the symbol "KEYW" since June 2000. Keyware is an independent network service provider offering electronic payment solutions in the regions of Belgium and Netherlands. It has more than 15 years of experience in programming, installation, personalization, maintenance, rental and sale of payment terminals. It offers payment services for e-commerce and m-commerce and solutions for loyalty cards. It has partnered with leading global terminal builders like Ingenico, Verifone and Worldline and transaction partners - Worldline, Six Pay, PaySquare and EMS - to offer its customers the most suitable and updated payment solutions. This allows its customers to choose from multiple options depending on their need, market segment and type of organization, ensuring that the customers are not bound to any one particular terminal. Keyware catered to over 20,000 customers in 2014 covering retail chains, restaurants and cafes, government services, transport companies, installers, house-to-house suppliers, etc.



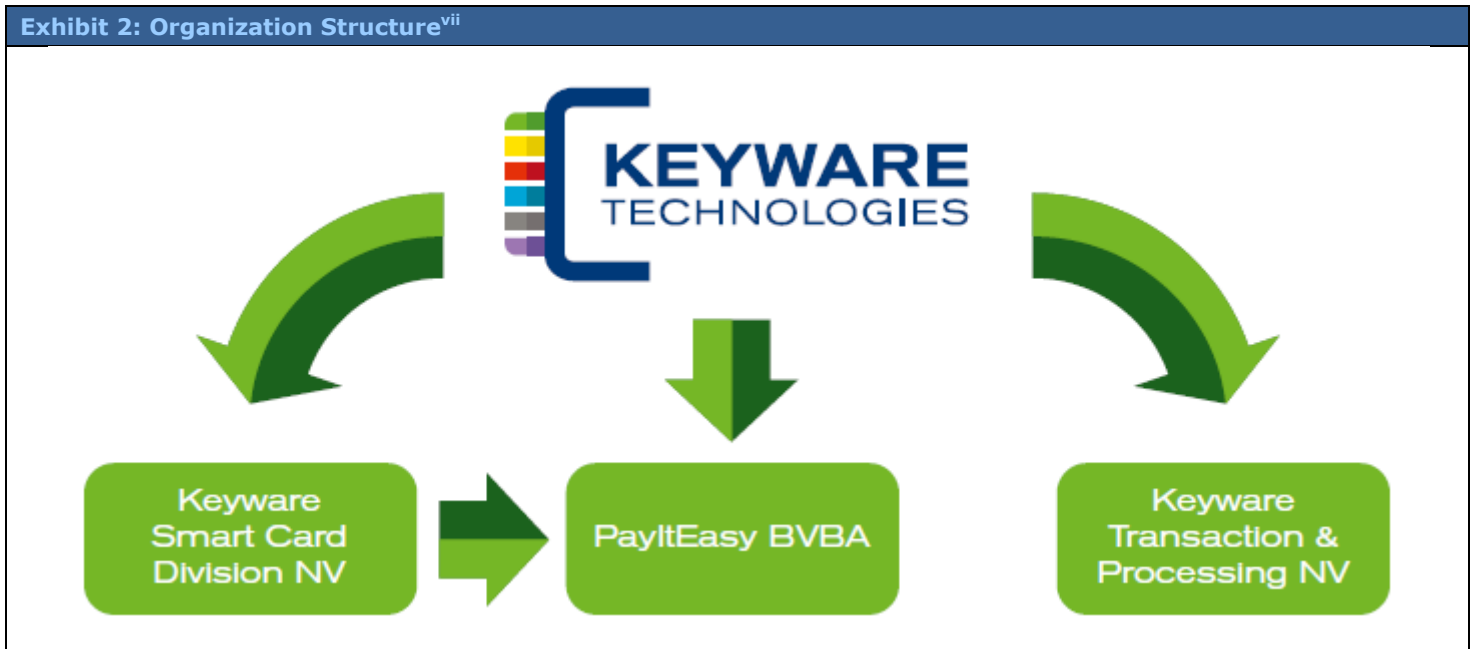
Keyware entered into an agreement with Worldline to sell its terminals in July 2013, successfully adding the popular terminals, Yomani, Yoximo and Xengo to its wide range of products. This led to the Company installing more than 2,000 payment terminals within the first six months of 2014. In 2015, the Company has already purchased more than 4,500 terminals from Worldline by the end of the third quarter.

In January 2015, the Group acquired the purchase and lease contracts of GlobalPay NV by making an upfront payment of € 275k. The payment was financed via owned funds and loans with € 250k being the amount of loan contracted to finance the asset deal. The final takeover price of this asset deal will be determined no earlier than on December 31, 2015 on the basis of a number of parameters. The acquisition has increased Keyware’s active number of contracts and added 840 contracts to the existing base.

## 2.1 Ownership Structure

Keyware Technologies NV operates through its fully owned subsidiaries - Keyware Smart Card Division, PayItEasy BVBA and Keyware Transaction & Processing NV. PayItEasy BVBA was established as a 50% joint venture between Keyware Technologies NV and J4S BVBA in mid-2013. Following the acquisition of the remaining 50% of shares in 2014, PayItEasy BVBA is now fully consolidated from October 01, 2014.

Exhibit 2: Organization Structure<sup>vii</sup>





## 2.2 Company Milestones

Exhibit 3: Keyware Milestones	
Year	Events
2003	<ul style="list-style-type: none"> <li>Keyware shares got listed on Euronext for the first time in September 2003</li> <li>Payment Software got certified by Electronic Payment Certificate Institute</li> </ul>
2005	<ul style="list-style-type: none"> <li>The number of customers exceeded 5,000 in the payment terminal segment</li> </ul>
2007	<ul style="list-style-type: none"> <li>Acquired BRV Transactions NV. KEYW benefitted as BRV held license from Royal Bank of Scotland (RBS) for direct offering of credit/debit card authorization for Visa and Master Card in Belgium</li> </ul>
2009	<ul style="list-style-type: none"> <li>Successfully added fixed IP terminals and portable GPRS terminals to its existing offerings</li> <li>Entered co-operative venture with PaySquare, which enabled KEYW to offer payment authorization services on its own and on third party terminals</li> </ul>
2011	<ul style="list-style-type: none"> <li>Successfully penetrated higher market segment customers - government schools, municipalities, etc.</li> </ul>
2013	<ul style="list-style-type: none"> <li>Partnership with Worldline allowed Keyware to rent/sell Worldline terminals in the Benelux region</li> </ul>
2014	<ul style="list-style-type: none"> <li>The reduction in the amount of cash permissible for transactions from € 5,000 to € 3,000 by Belgian government added to the already growing volume of transactions for Keyware</li> <li>Added a record number of terminals crossing 14,000 mark</li> </ul>
2015	<ul style="list-style-type: none"> <li>Acquired the assets of GlobalPay in January, taking over a number of purchase and lease contracts</li> <li>Replacement of paper meal vouchers with electronic version from the last quarter of 2015 is set to bring in new growth opportunities for Keyware in 2016</li> </ul>

## 2.3 Business Model

Keyware provides value add to its customers by offering personalized payment services - terminals, applications, telecom and transactions, installation, maintenance and repair services. Its tie-ups with the various global players for each part of the payment solution enable it to offer its customers the best solutions available in the industry. Keyware provides personalized and flexible payment solutions through two main business segments - Payment Terminals and Transaction Services.

### 2.3.1 Payment Terminals

It involves renting and selling of fixed, portable and mobile payment terminals from various terminal builders through its Smart Card Division. Approximately 98% of the terminals sold/rented are supplied by Ingenico and Worldline, and the remaining by Verifone. Worldline and Ingenico provide the merchants with secure, extensive and innovative technology; thereby, becoming the first choice for most users.

Keyware has a large presence in Tier-III market segment, providing terminals to smaller local shops, grocery stores, fashion departments, pharmacies, café and restaurants. With the introduction of Worldline terminals to its product portfolio, the Company is now looking to penetrate Tier-II segment, incorporating big corporate houses, government agencies, automotive companies and others.

### 2.3.2 Transaction/Authorization Services

Keyware commenced providing transaction authorization services from 2007. Under this segment, Keyware offers transaction services to acquirers such as banks and payment institutions. It sends the transaction data it receives from the retailer's terminal to the acquirers' for payment authorization via the involved debit/credit card schemes and then provides for clearing and settlement of the transactions.

Earlier KEYW used to charge a fixed percentage as a commission per transaction (called the Spread Income Model), but starting 2015 the Company has shifted to Brokerage Model where it will buy the transactions on a floor fee and the upper part will be charged as a commission based on negotiation with the acquirer. The migration to Brokerage Model is expected to be over by the end of 2018. This strategic step will translate into approximately three times higher revenues than Spread Income Model.

## 2.4 Products and Services<sup>viii</sup>

- 1. PayFix:** These terminals use a fixed cable connection to communicate from the terminal to the telephone network or internet modem. They are generally found in shops with fixed payment/ check-out counters.
- 2. PayAway:** These are portable terminals consisting of a base station and a portable device. The base station operates via a fixed connection just like a fixed terminal. However, the portable device has a range of approximately 150 meters, which can be used to receive payments from customers in restaurants and cafes without them going to the billing counter.
- 3. PayMobile:** These pocket sized terminals use the GSM or GPRS communication technology and can be taken anywhere within Belgium to receive the payments. They are mostly used by door-to-door suppliers and taxi drivers to receive the payments.
- 4. Pay-E:** This channel is used to assist e-retailers who wish to add the option for electronic payment on their website. It provides transaction services, along with standard templates, that can be integrated into the web-shop of a retailer without any hassle. Keyware can also adapt to the customer's needs and offer customized solutions to an e-retailer depending upon purchases with debit cards or credit cards, average purchase value, purchase frequency, etc. As a back-end support, Keyware also provides the retailer secure access to the payment module on its site enabling the retailer to view reports, activate options and monitor its payments.
- 5. Pay-M:** The service provided on this channel is similar to "Pay-E," except that it is provided for the mobile applications.

## 2.5 Company Premiums<sup>ix</sup>

- 1. Strong growth in customer base and revenues:** According to the latest results, Keyware's revenues increased by 39% in 9M 2015 from € 6.6 MM to € 9.3 MM. Both lease/ sale of the payment terminals and authorization services contributed positively to this increase. While the payment terminal segment witnessed an increase of 39%, the authorization services also increased by 45%. The management's decision to shift from Spread Income model of revenue to Brokerage model for authorization services contributed to the increase in the authorization revenues. The transition to new commission model will be done by the end of 2018 and will impact the segment earnings favorably going forward. In the payment terminals segment, Keyware acquired the assets of GlobalPay NV leading to an additional 840 new contracts. Overall, the Company has seen expansion through both the organic and inorganic routes. Going forward, we expect the growth from inorganic to continue due to strong cash flow generation while continually improving its in-house capabilities.
- 2. No tax outflow for next 3 years:** As on September 30, 2015, Keyware had € 2.321 MM of deferred tax asset, which is related to Keyware Smart Card Division. We expect that these deferred tax assets will be sufficient to cover the tax liability in profit from Keyware Smart Card Division till 2018. For Keyware Technologies, the accumulated tax losses amount to € 60.5MM as on December 31, 2014 and we estimate these losses to restrict any tax outflow from the authorization segment for the next 10 years. However, the accumulated losses worth € 30,270k would still remain at the end of 2025 for Keyware Technologies with tax benefit of € 10,292k. We have added the tax benefit to the terminal value at the end of 2025 to account for the unrealized tax benefits.
- 3. Partnership with world leaders in terminal manufacturing and transaction services:** Keyware has collaborated with leaders in the terminal builders segment - Verifone, Ingenico and Worldline - to offer its customers a wide range of world class terminals to choose from. It has transaction partners like Worldline, Six Pay, PaySquare and EMS. This allows Keyware to offer its customers the latest up-to-date services and maintain Keyware's competitiveness in the fast-changing technological market.
- 4. New market of electronic meal vouchers:** The social partners united in the Nationale Arbeidsraad (NAR) (National Labour Council) agreed to abolish paper meal vouchers and introduce electronic meal vouchers from October 01, 2015. With more than 1.3 MM employees receiving meal vouchers in Belgium, this opens up a new market for the payment terminal providers. According to 2014 annual report of Keyware, only 39% of retailers are equipped to process electronic meal vouchers and the remaining 61% do not have the necessary infrastructure to handle such payments. Keyware plans to introduce low cost card readers to tap this new market as well as integrate the existing terminals to accept the e-vouchers. Since it will increase the target market of Keyware, we expect it will be positive for the Company.
- 5. Increasing profitability and lower debt going forward:** Based on our estimates, we expect the Company to register strong top line growth of 12%-13% during 2014-20 period and have an operating profit margin in the range of 25%-26%. Supported by strong operating performance and no tax payments in the near term, we

expect the Company to generate strong free cash flows. As a result, Keyware’s financial leverage will continue to decline and balance sheet will be totally debt free.

- 6. Diverse portfolio of customers:** KEYW is a company with over 17,000 customers contributing to its top line. According to the Company, it’s most important customers contribute less than 1% to the Group’s turnover. This isolates the Company from any significant risk arising from concentrated group of customers.
- 7. Lower Impairments:** The Company’s impairments reached a level of € 1.9 MM in 2013 due to heightened bankruptcies and business terminations in that year. However, the impairments decreased to € 1.0 MM in 2014 and we estimate the impairments to be € 1.2 MM in 2015 out of which € 1.0 MM has been already recorded in 9M 2015. Therefore, we believe that 2013 impairments were at an exceptionally high and thus non-recurring level for the Company as macro-economic condition indicated a higher level of distressed businesses that year.

## 2.6 Company Risks<sup>x</sup>

- 1. Slow adoption of new technology:** Keyware’s market of operations is characterized by frequent new developments in the field of technology, changing customer needs, upcoming new mode of payments through internet and mobile, etc. To stay ahead of its peers, Keyware needs to respond to these changing circumstances in a swift and timely manner without compromising on the quality of services offered to its customers. Not being able to adapt to the fast pace of this industry can result in negative consequences for the Company.
- 2. Poor business environment:** KEYW’s success is also dependent on the success of its customers. A downfall in the country’s economy increases the probability of businesses going bankrupt, and can shoot up the net impairments of the Company. In 2013, Keyware’s net impairments increased by 58% from € 1.1 MM to € 1.8 MM YoY due to a record number of bankruptcies and terminations of the general businesses.
- 3. Less than expected swaps or renewals:** Keyware enters in to a 5 year long lease contract with its customers and it remains crucial for the Company to have higher renewals. An increase in attrition rate will not only decrease the revenues but also serve as a negative performance indicator for the other prospective customers.

## 2.7 Keyware’s Shareholding Pattern

As on September 30, 2015, the number of shares outstanding was 20,438,793.

Exhibit 4: Shareholding pattern <sup>xi</sup>		Exhibit 5: Shareholding Pattern <sup>xii</sup>		
<p>45.73%</p> <p>48.41%</p> <p>5.86%</p> <ul style="list-style-type: none"> <li>■ Parana Management BVBA/Powergraph BVBA/Guido Van der Schueren</li> <li>■ Big Friend NV/Stéphane Vandervelde</li> <li>■ Others</li> </ul>	<b>Shareholders</b>	<b>No. of Shares</b>	<b>% of total</b>	
	Parana Management BVBA/Powergraph BVBA/Guido Van der Schueren	9,894,195	48.41%	
	Big Friend NV/Stéphane Vandervelde	1,197,522	5.86%	
	Others	9,347,076	45.73%	
	<b>Total</b>	<b>20,438,793</b>	<b>100%</b>	

## 2.8 Listing and Contact Details

The ordinary shares of Keyware Technologies are listed on Euronext Brussels (EBR) (Ticker: EBR: KEYW, Date of Listing – 3<sup>rd</sup> September, 2003)

**Contacts:** Ikaros Business Park, Ikaroslaan 24, B-1930 Zaventem, Belgium

**E-mail ID:** info@keyware.com

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### 3. Key Variable Analysis<sup>xiii</sup>

#### 3.1 Variable 1 – Revenue from payment terminals

Keyware’s major source of revenue is the number of terminals it sells/ leases. Considering developments like partnership with Worldline, requirement of new terminals in the market for electronic meal vouchers, limit on the amount of cash for transactions, we forecast the number of terminals to increase for Keyware. From 2010-14, the Keyware’s installed terminal base increased at a CAGR of 8.7% from 10,195 terminals in 2010 to 14,236 terminals in 2014. KEYW registered growth rate higher than the overall industry growth rate of 7.3%, signifying the strong performance of the Company in the industry. Following are our estimates for components of revenue from payment terminals for the forecast period under two scenarios, Low bracket and High bracket:

Exhibit 6: Payment terminal revenue breakdown												
In €MM		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Low Bracket	Rental revenues	7.0	7.0	7.4	7.5	7.7	7.5	7.7	7.9	8.2	8.4	8.6
	Terminal sales	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
	Rendered services	3.6	4.2	4.8	5.2	5.6	5.9	6.2	6.4	6.7	6.9	7.1
	Cancellation pay	0.8	0.9	1.0	1.1	1.1	1.3	1.4	1.4	1.4	1.5	1.5
	<b>Total</b>	<b>11.6</b>	<b>12.5</b>	<b>13.4</b>	<b>14.0</b>	<b>14.6</b>	<b>15.0</b>	<b>15.5</b>	<b>16.0</b>	<b>16.5</b>	<b>17.0</b>	<b>17.5</b>
High Bracket	Rental revenues	7.0	7.2	7.6	7.7	7.9	7.9	8.2	8.4	8.7	8.9	9.2
	Terminal sales	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Rendered services	3.8	4.4	4.9	5.4	5.8	6.2	6.5	6.8	7.0	7.3	7.6
	Cancellation pay	0.8	0.9	1.0	1.1	1.1	1.3	1.4	1.4	1.5	1.5	1.5
	<b>Total</b>	<b>11.7</b>	<b>12.8</b>	<b>13.8</b>	<b>14.4</b>	<b>15.1</b>	<b>15.7</b>	<b>16.3</b>	<b>16.9</b>	<b>17.4</b>	<b>18.0</b>	<b>18.6</b>

#### 3.2 Variable 2 – Revenue from authorization services

As on September 30, 2015 Keyware offered transaction/ authorization services on c. 83% of the total installed base of terminals. These terminals form a source of revenue for the authorization services’ segment. Given that the Company holds solid partnerships with transaction service providers like Six Pay, PaySquare, EMS and Worldline, we estimate the number of terminals offering transaction services to increase going forward. Following is the estimate revenue from authorization services during the forecast period for the low bracket and high bracket:

Exhibit 7: Authorization services revenue											
In €MM	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Low Bracket	0.9	1.4	1.9	2.3	2.7	3.1	3.5	4.0	4.5	5.1	5.7
High Bracket	0.9	1.5	2.2	2.7	3.2	3.7	4.2	4.9	5.5	6.3	7.1

#### 4. News<sup>xiv</sup>

- 1. Keyware acquires a stake in Congra Software S.A.R.L:** In September 2015, Keyware acquired a 2.09% stake in Congra Software, the holding Company of Hybrid Software Group, for € 250k. Keyware Group financed this transaction via a loan from its subsidiary, Keyware Smart Card Division SA. Hybrid Software's main activity is to provide a link between MIS systems, web-to-print portals and prepress workflow. The group has operations in Belgium, Germany, Italy and the United States.
- 2. Keyware and Worldline extend the partnership:** In June 2013, Keyware and Worldline signed a partnership agreement under which Keyware bought the terminals build by Worldline and then rented/sold the terminals after customizing it for each client. The agreement also allowed Keyware to offer certain acquiring services on behalf and for the account of Worldline.

In June 2015, both the parties agreed to further extend the existing partnership. Now Keyware is a Technical Payment Service Provider for Worldline. This agreement allows Keyware to offer acquiring services not only to clients with Worldline terminals, but also to merchants with terminals of other vendors. The payment terminals are linked to Keyware's payment host, which submit the payment transactions over a secure connection to the Worldline acquiring servers. In this way, Keyware can directly offer subscriptions based on its own commercial solutions to clients for payments made with Bancontact/MisterCash, V Pay or Maestro. Additionally, the new infrastructure will allow Keyware to offer acquiring contracts for the processing of credit card transactions with Visa, MasterCard, Amex, JCB, Diners Club, CUP, etc.

- 3. Keyware acquires the assets of GlobalPay:** Keyware acquired the assets of GlobalPay NV, a reputed player in the market for payment terminals and payment transactions. The final price of the deal will be determined on December 31, 2015 based on various parameters, including the number of active contracts. Keyware paid a sum of € 275k upfront and the balance is to be paid after the determination of final price. At the end of 1H15, the additional financial liability stands at € 198k, in addition to the already paid € 275k. The acquisition is believed to add 840 customers to the already existing base of Keyware and a number of active contracts.
- 4. Keyware adapts to the new service "Apple Pay":** In October 2014, Apple launched Apple Pay Service enabling its users to make payment using Touch ID on iPhone 6 and iPhone 6 Plus. It is a user friendly way to process payments faster and protect the user's personal information. Neither Apple nor the merchant will collect the transaction data of the user. Keyware integrated its payment terminals to support the Apple Pay by December 2014. Keyware terminals can now be used to make payments via Apple Pay. The user will be required to hold his/her phone near the Keyware terminal with his finger on Touch ID to make the payment. Keyware expects to generate more volume with this payment mode when other smartphone manufacturers enter this foray.

## 5. Management and Governance<sup>xv</sup>

The Company has a team of experienced professionals with expertise in the field of technology, operations, sales and marketing and finance. These highly qualified professionals have been with the firm for a long time, signifying the stability of the firm's management. The management's focus is on improving profitability and creating shareholder value.

<b>Exhibit 8: Management Team</b>		
<b>Name</b>	<b>Designation</b>	<b>Background</b>
Stephane Vandervelde	President & CEO	<ul style="list-style-type: none"> <li>Stephane is the co-founder of Keyware, with over 25 years of experience in technology organizations.</li> <li>He has been a Board Member in firms across multiple industries, such as Hybrid NV and US, Pinnacle Investments NV, Immo David NV, Big Friend NV, amongst others.</li> <li>He is an electronics engineer. He completed specialization in micro-electronics and chip design from Catholic University of Leuven (KUL).</li> <li>He has been the President and CEO of Keyware since 2001.</li> </ul>
Wim Verfaillie	COO	<ul style="list-style-type: none"> <li>Wim has over 20 years of work experience in streamlining operations. He worked as Operations Manager at Modular Lighting Industries from 1994 to 2003.</li> <li>Since 2003, he has worked as an Operational Business Consultant and Interim Manager. He was involved in long-term projects at Tenovis (Telecom) and Maxeda (Retail).</li> <li>He is an industrial electricity engineer and joined the firm in 2007.</li> </ul>
Joris Maes	CCO	<ul style="list-style-type: none"> <li>Joris has over 20 years of experience in international sales and marketing positions at Alcatel-Lucent, KPN, AT&amp;T and Balta.</li> <li>He completed his Masters in industrial engineering (electronics) and is an MBA in General International Management from the Vlerick Leuven Gent Management School.</li> <li>He has been associated with Keyware since 2010.</li> </ul>
Alain Hubert	CFO	<ul style="list-style-type: none"> <li>Alain joined Keyware in 2013 and has over 20 years of experience in financial management, taxation and accounting.</li> <li>Previously, he worked with Ernst &amp; Young as an Executive Director of Transaction Advisory Services (TAS).</li> <li>He has been a certified auditor since 1998; until 2008 he was an audit partner at Constantin Bedrijfsrevisoren.</li> <li>He has proficiency in due diligence, quality and risk management.</li> <li>He completed Licentiate Applied Economic Sciences (UG) and Special Licentiate in Accountancy work from Vlerick School of Management.</li> </ul>

## 6. Industry Characteristics

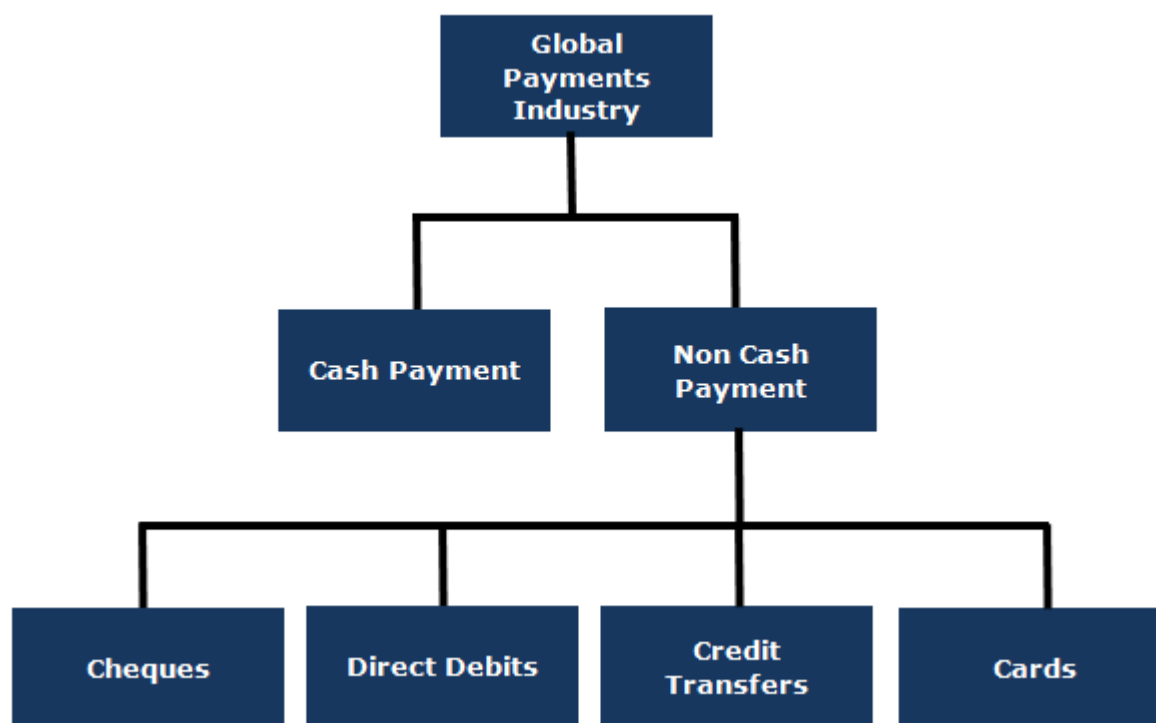
### 6.1 Industry Overview<sup>xvi</sup>

Electronic payment industry involves multiple stakeholders including terminal providers, banks and payment institutions, transaction service providers, infrastructure telecommunication companies, government agencies to create a strong payment services ecosystem. The industry is fast eliminating the use of cash and cheques as a mode of payment and moving towards technologically enhanced methods like Debit/Credit Cards, Credit Transfers and Direct Debits. Various European countries have also formulated laws limiting the use of cash for any transaction. Since January 2014, the Belgian authorities have revised the limit on cash transactions for the purchase of goods and services from € 5,000 to € 3,000. This bodes well for the players involved in the electronic payment industry as this will bolster the volume of transactions occurring through the non-cash mode of payments.

#### 6.1.1 Industry Segments

The payment industry broadly comprises of two segments - Cash payments and Non-cash payments. Non-Cash Payments are further divided depending upon the modes of payment method.

**Exhibit 9: Industry Classification**



1. **Cash Payments:** Transactions happening through the use of paper money form a part of this segment.
2. **Non-Cash Payments:**
  - a. **Cheques:** A written consent where the person signing the cheque obliges to pay the drawer the amount of money stated on the cheque.
  - b. **Direct Debits:** An arrangement that allows the banks to transfer the funds from a customer's account to a third party on previously agreed fixed dates. This mode of payment is especially used to pay bills.
  - c. **Credit Transfers:** It is a direct mode of transfer of money from one account to another.
  - d. **Cards:** Use of credit/debit/loyalty cards for making payments for the goods and services purchased.

Keyware Technologies forms a part of the non-cash payment system by providing payment services to facilitate the card payments. For this, it provides infrastructure support in the form of renting/selling of payment terminals along with the maintenance support. It also provides transaction services required to transmit, authorize and verify the card data used during the transaction. Since the Company's major revenues come from renting the terminals, which are used to complete the card transactions offline, the more the number of transactions the better the Company's performance in terms of revenue.

## 6.1.2 Market performance<sup>xvii</sup>

**Card Transaction Trends:** According to the Payment Statistics Report 2015 issued by European Central Bank, the total number of non-cash payments in Belgium increased 27.2% YoY to reach 3.44 billion in 2014. Of this, card payments accounted for 43.9%, credit transfers 39.8%, direct debits 15.4% while the remaining 0.9% is accounted by e-payment transactions, cheques and other payment services. Within the non-cash segment, credit transfer volume increased to 1.36 billion, direct debits increased by 69% to 0.53 billion whereas the number of card payments climbed by 13% in 2014 to reach 1.51 billion. (However, the 2014 card data is not fully comparable to previous years; please refer to the note in Exhibit 10). The volume of transactions through cards increased at a CAGR of 7.7%, that is, from 1.07 billion in 2010 to 1.33 billion in 2013.

Corresponding with the increase in the number of transactions through cards, the total value of the transactions also witnessed a positive trend, growing from € 59 billion in 2010 to € 72 billion in 2013, at a CAGR of 6.8%.

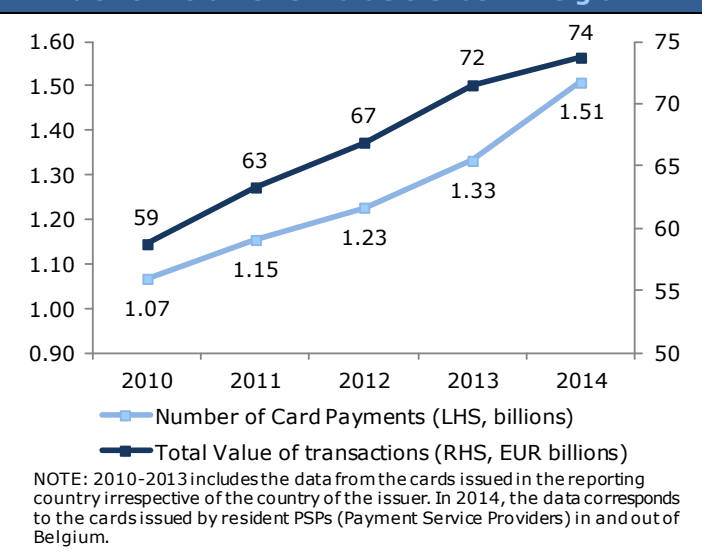
This increase over the years in the volume and value of transactions is expected to persist going forward with the introduction of measures like elimination of paper meal vouchers, w.e.f. from October 01, 2015; introduction of electronic meal vouchers; and limiting cash transactions to up to € 3,000 (effective from January 2014).

**Point of Sale (POS) Terminal Trends:** According to the data provided by ECB, the total number of POS terminals in Belgium increased to 183,210 in 2014, an increase of 25% YoY. Since ECB did not report the figure for 2013, the 25% increase is calculated by using the extrapolated figure of 2013. The extrapolation was done by increasing the 2012 figure by the CAGR during 2010-2014. (However, the 2014 data is not fully comparable to previous years; please refer to the note in Exhibit 11)

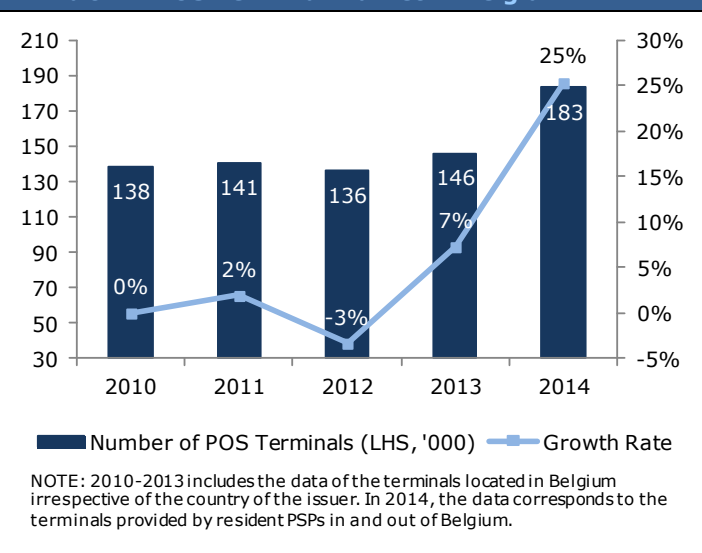
Technological advancements such as introduction of chip embedded payment cards and stringent government measures regarding data security are the likely factors to augment the growth of POS terminals market in the coming years. In 2014, the Belgium government reduced the cash transactions limit from € 5,000 to € 3000, which is also expected to contribute to the future increase in the number of terminals.

Going forward, the demand for POS terminals is expected to grow on back of the introduction of electronic meal vouchers from the last quarter of 2015. This will do away with paper meal coupons like Sodexo and Edenred. With more than 1.3 million employees receiving meal vouchers in Belgium and only 31% of retailers equipped to accept electronic meal vouchers, the scope of expansion is huge for the terminal providers. According to Keyware's management, this new opportunity will require the introduction of 80,000 new terminals in the market.

**Exhibit 10: Volume vs. Value trends in Belgium<sup>xviii</sup>**



**Exhibit 11: POS Terminal Market in Belgium<sup>xix</sup>**





## 6.1.3 Payment Process Participants<sup>xx</sup>

Various stakeholders play an important role in ensuring successful electronic transactions. High level of collaboration is required to ensure the safe and seamless transfer of funds from one bank account to another. Following are the various participants in an electronic payment process:

- 1. Cardholders:** They are the consumers who use the electronic mode of payment for purchasing goods and services. The transactions are carried out via plastic/physical cards - debit cards, credit cards, loyalty cards, gift cards or virtual cards – and Smartphone.
- 2. Retailers:** They sell goods or services and accept the non-cash payment method. Retailers use fixed, portable or mobile payment terminals to carry out the transactions and receive the payment via a card.
- 3. Payment acceptance processing providers:** These provide the retailers with means to operate and execute the card payment. They arrange for necessary infrastructure like installation of POS terminals, online payment gateways to collect and transmit the card data and receive payment authorization.
- 4. Acceptance-related service providers:** They provide additional features to retailers such as coupon, loyalty or ticket functionalities on the payment terminal, electronic meal vouchers, etc.
- 5. Acquirers:** These are the banks and payment institutions that facilitate the transfer of funds from the consumer's bank (issuing bank) to the retailer's bank account after charging the service fee. The acquirers give the retailer access to various card schemes like Visa, MasterCard, Maestro, Bancontact/Mister Cash, JCB, Diners, etc. and a "merchant account". The payment received from the customer is then transferred into this merchant account.
- 6. Acquiring Processors:** They provide transaction processing services to the acquirers, which include transmitting the card data from the retailer's terminal to acquirers' for receiving payment authorization via the credit/debit card schemes and clearance and settlement of all the transactions.
- 7. Card Schemes:** Various schemes - MasterCard, Maestro, Visa, V-Pay, Diners, JCB - are available for the retailer to choose from. Each card scheme has different processing costs, which the retailer has to pay depending upon the service he adopts.
- 8. Clearing and Settlement Institutes:** Generally the national banks who provide clearing and settlement services between the acquiring bank and issuing bank.

KEYW as a participant is active in the area of payment acceptance processing providers, acceptance-related service providers and transaction services providers as described in points 3, 4 and 6 above.

## 6.1.4 Payment Card Industry Security Standards<sup>xxi</sup>

Payment Card Industry Security Standards Council (also referred to as PCI SSC), formed in 2006, is responsible for the development, management, education and awareness of PCI Security Standards. It includes Payment Application Data Security Standard (PA-DSS), PIN Transaction Security (PTS) and Data Security Standard (DSS).

- 1. PA-DSS:** It applies to software vendors and others who develop payment applications that store, process or transmit cardholder data and/or sensitive authentication data.
- 2. PTS:** These standards contain the set of requirements for the secure management, processing and transmission of personal identification number (PIN) data during online and offline payment card transaction processing at ATMs and POS terminals. The requirements are applicable to all the acquiring institutions and agents responsible for PIN transaction processing on payment card industry participants' denominated accounts.
- 3. DSS:** These standards apply to all the participants in payment card processing including merchants, acquirers, service providers and all the entities that store, process or transmit the cardholder's data and sensitive authentication data. Cardholder data includes cardholder name, expiration date, service code, Primary Account Number (PAN), amongst others. The cardholder data, except PAN, must be protected in compliance with the PCI DSS requirements. Sensitive authentication data includes CVV, CVC or PIN codes and must not be stored in any form after authorization.












**Exhibit 12: PCI-DSS Compliance Requirements**



## 6.1.5 Competition

There are various services offered by the players in the payment terminal market. Different players provide different services along the extended payments value chain. The following table gives an overview of the presence of various players along the wide range of segments in the Payment services industry across Europe.

**Exhibit 13: Services offered by various players in the market<sup>xxii</sup>**

Card Payment Services in Europe	Issuing transaction processing	Services to cardholders and issuers	Automated Clearing House	Credit/ Debit transfers	Services to merchants	Acquiring transaction processing	Commercial Acquiring	Acceptance POS/ eCommerce
					✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓			✓	✓	✓	✓
					✓	✓	✓	✓
					✓	✓	✓	✓
	✓				✓	✓	✓	✓
	✓	✓				✓		
	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓		✓	✓	✓	✓	✓
					✓	✓	✓	✓

Note: The list of services may not be exhaustive. Additional services may be offered by the individual firms.

**Comparison with listed peers**

**Exhibit 14: Peer Comparison<sup>xxiii</sup>**

	<b>Current</b>	<b>2014</b>	<b>2014</b>		<b>9M 2015*</b>	
	<b>Market Cap (US\$ MM)</b>	<b>Revenue (US\$ MM)</b>	<b>EBITDA Margin</b>	<b>Net Profit Margin</b>	<b>EBITDA Margin</b>	<b>Net Profit Margin</b>
Keyware	27	13	24%	19%	37%	39%
Worldline	3,399	1,527	17%	9%	18%	8%
Ingenico	7,688	2,135	22%	11%	24%	12%
Global Payments**	9,202	2,774	21%	10%	22%	10%
Tsys	10,296	2,447	28%	13%	29%	14%
Fiserv	21,995	5,066	32%	15%	34%	13%
Heartland Payment Systems	2,916	2,311	8%	1%	11%	3%
Wirecard	6,062	601	29%	18%	29%	18%
<b>Total/Weighted Average</b>	<b>61,585</b>	<b>16,874</b>	<b>26%</b>	<b>13%</b>	<b>28%</b>	<b>13%</b>

NOTE: \*- Worldline and Ingenico results correspond to 6 months.

\*\* - Global Payments' fiscal year ends in May, therefore, 2014 financials represent fiscal year ending May-2015 while 9M 2015 financials represent 9 months ending August-2015

## 7. Valuation

The Fair Market Value for all of the Company shares stands between € 49.37 MM and € 60.57 MM as of December 01, 2015. The Fair Market Value for one Company publicly traded share stands between € 2.42 and € 2.96 as of December 01, 2015. The valuation approach followed is the Discounted Cash Flow method. The terminal value includes the tax benefit worth € 10,292 arising from the accumulated losses of Keyware Technologies which will be realized post 2025.

### 7.1 Discounted Cash Flow Method

#### Valuation

##### WACC

Risk-free rate	3.37% <sup>xxiv</sup>
Beta	0.201 <sup>xxv</sup>
Equity Market premium	6.65% <sup>xxvi</sup>
Country Risk Premium	0.9%
Cost of Equity	5.61%
Cost of Debt	4.92%
Terminal Growth Rate	3.0%
WACC (Discount Rate)	5.49%

Year Ending- Dec	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
<b>FCFF (High)</b>										
Net cash from operating activities	154	1,092	1,868	1,407	1,899	2,217	2,568	2,864	3,208	3,531
Capital Expenditure	287	239	222	219	233	267	261	276	291	308
Free Cash Flow to Firm	-132	853	1,646	1,188	1,667	1,950	2,308	2,588	2,917	3,223
Discount factor	0.94	0.89	0.85	0.80	0.76	0.72	0.68	0.65	0.62	0.58
Present Value of FCF	-125	763	1,396	955	1,270	1,409	1,580	1,680	1,795	1,880
<b>FCFF (Low)</b>										
Net cash from operating activities	9	871	1,591	1,134	1,725	1,955	2,205	2,407	2,654	2,884
Capital Expenditure	277	229	212	208	217	247	240	252	265	278
Free Cash Flow to Firm	-267	642	1,379	926	1,509	1,707	1,965	2,155	2,389	2,605
Discount factor	0.94	0.89	0.85	0.80	0.76	0.72	0.68	0.65	0.62	0.58
Present Value of FCF	-252	575	1,170	744	1,150	1,233	1,346	1,399	1,470	1,520

Arrowhead Fair Value Bracket	High	Low
Terminal Value (TV)	87,981	73,098
Present Value of TV	51,319	42,638
Present Value of FCF	12,603	10,353
Present Value of TV+FCF	63,922	52,991
Net Debt	3,357	3,622
<b>Equity Value Bracket</b>		
Shares O/s (000's)	20,439	20,439
<b>Fair Share Value Bracket (€)</b>		
	<b>2.96</b>	<b>2.42</b>
Current Market Price (€)	1.23	1.23
Upside/(Downside)	141%	96%
Current Market Cap. (€ '000)	25,140	25,140
<b>Target Market Cap. Bracket (€ '000)</b>	<b>60,565</b>	<b>49,370</b>



## Sensitivity Analysis

Sensitivity Table- High		Growth Rate (%)				
		2.0%	2.5%	3.0%	3.5%	4.0%
WACC (%)	4.5%	3.47	4.15	5.29	7.58	14.53
	5.0%	2.79	3.20	3.83	4.87	6.96
	5.5%	2.31	2.58	2.96	3.53	4.48
	6.0%	1.95	2.14	2.39	2.73	3.25
	6.5%	1.68	1.82	1.99	2.21	2.53

Sensitivity Table- Low		Growth Rate (%)				
		2.0%	2.5%	3.0%	3.5%	4.0%
WACC (%)	4.5%	2.84	3.39	4.31	6.17	11.79
	5.0%	2.28	2.62	3.12	3.96	5.66
	5.5%	1.89	2.11	2.42	2.88	3.65
	6.0%	1.60	1.75	1.95	2.23	2.65
	6.5%	1.38	1.49	1.62	1.81	2.06

## Valuation multiples - comparison with the peer group

Keyware Technologies is trading currently at 5.0x and 5.3x P/E multiples based on 2015 and 2016 average earnings forecasts. It is trading at significantly discount to the industry average of 26.0x and 23.1x respectively. In addition, our fair value bracket implies P/E multiple of 10.1x and 12.2x based on our 2015 earnings estimates, compared to the industry average of 26.0x.

### Exhibit 15: Valuation Multiples<sup>xxvii</sup>

	Market Cap (US\$ MM)	Price to Earnings		EV/EBITDA		Price to Book Value		
		2014	2015	2016	2015	2016	2015	2016
Keyware*	27		5.0	5.3	6.3	5.6	1.1	0.9
Worldline	3,399		25.3	23.2	12.4	11.3	4.3	3.7
Ingenico	7,688		26.1	22.7	14.4	12.9	4.6	4.0
Global Payments**	9,202		25.1	24.6	14.5	16.5	8.1	8.4
Tsys	10,296		23.0	21.2	13.7	12.8	5.3	4.7
Fiserv	21,995		24.9	22.3	14.6	13.7	5.3	4.4
Heartland Payment Systems	2,916		27.8	23.9	16.5	14.4	8.7	7.1
Wirecard	6,062		35.6	27.6	20.3	16.1	4.5	4.0
<b>Total/Weighted Average</b>	<b>61,585</b>		<b>26.0</b>	<b>23.1</b>	<b>14.9</b>	<b>14.0</b>	<b>5.7</b>	<b>5.0</b>

Note: \*- Keyware's multiples are calculated based on average of High and Low bracket forecasts.

\*\* - Global Payments' FY15 has already ended, therefore reported the actual figures for FY15.

### Approach for DCF Valuation

**Time Horizon:** The Arrowhead fair valuation for Keyware is based on a DCF method. The time period chosen for the valuation is 120 months (2016E-2025E).

**Terminal Value:** Terminal value is estimated using terminal growth rate of 3.0%.

**Prudential nature of valuation:** It should be noted that this Arrowhead Fair Value Bracket estimate is a relatively prudential estimate, as it discounts the eventuality of any new products being launched in the market or any significant change in the strategy.

**Key variables:** The upper and lower bounds in the estimation correspond to the extreme positions taken by the following key variables:

#### Variable 1 – Installed Base (Terminals)

Exhibit 16: Number of terminals at the end of year											
In '000s	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Low estimate	17.0	18.5	19.8	20.9	21.9	22.5	23.1	23.6	24.1	24.5	24.9
High estimate	17.1	18.7	20.2	21.4	22.5	23.4	24.2	24.9	25.5	26.1	26.6

#### Variable 2 – Terminals offering Authorized services

Exhibit 17: Number of terminals offering authorization services, at the end of year											
In '000s	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Low estimate	13.8	15.0	16.1	17.1	18.0	18.6	19.2	19.6	20.1	20.5	20.8
High estimate	13.8	15.2	16.4	17.5	18.6	19.3	20.1	20.7	21.3	21.8	22.2

#### Variable 3 – Volume of Transactions

Exhibit 18: Volume of transactions											
In MM	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Estimate	11.4	13.0	14.7	16.4	18.2	20.3	22.3	24.5	26.7	29.1	31.6

### **Important information on Arrowhead methodology**

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent depending on the subsectors in which the research is conducted, but all Arrowhead valuation research possesses an underlying set of common principles and a generally common quantitative process.

With Arrowhead Commercial and Technical Due Diligence, Arrowhead extensively researches the fundamentals, assets and liabilities of a Company, and builds solid estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance, such as price/earnings ratios, indicated as applicable, are present mainly for reference purposes. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

Elements of comparison, such as multiple analyses may be to some limited extent integrated in the valuation on a project-by-project or asset-by-asset basis. In the case of this Keyware report, there are no multiple analyses integrated in the valuation.

### **Arrowhead BID Fair Market Value Bracket**

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analysis, such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to those projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a tool for valuation. The high-bracket DCF valuation is derived from the high-bracket key variables, while the low-bracket DCF valuation is based on the low-bracket key variables.

In principle, an investor who is comfortable with the high-brackets of our key variable analysis will align with the high-bracket in the Arrowhead Fair Value Bracket, and likewise in terms of low estimates. The investor will also take into account the Company intangibles – as presented in the first few pages of this document in the analysis on strengths and weaknesses and other essential Company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in the investor's own analysis.

The bracket should be understood as a tool provided by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that on one hand, global capital markets contain inefficiencies, especially in terms of information, and that on the other hand, corporations and their commercial and technical positions evolve rapidly: this present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months). The reader should refer to important disclosures on page 24 of this report.

## 8. Appendix

### 8.1 Keyware's Financial Summary

<b>Exhibit 19: Financial Summary</b>		<i>Low Bracket Estimates</i>									
<i>Year Ending Dec</i>	<b>2015E</b>	<b>2016E</b>	<b>2017E</b>	<b>2018E</b>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
Revenue (€ '000)	12,753	14,157	15,637	16,693	17,761	18,530	19,523	20,544	21,609	22,716	23,862
Operating Profit (€ '000)	3,389	3,735	4,139	4,344	4,589	4,691	4,947	5,240	5,515	5,846	6,157
Net Income (€ '000)	4,911	4,584	5,155	5,500	3,417	3,527	3,729	3,957	4,180	4,454	4,717
EPS	0.24	0.22	0.25	0.27	0.17	0.17	0.18	0.19	0.20	0.22	0.23
<b>Growth rates (%)</b>											
Revenue	27.6%	11.0%	10.4%	6.8%	6.4%	4.3%	5.4%	5.2%	5.2%	5.1%	5.0%
Operating Profit	147.4%	10.2%	10.8%	5.0%	5.7%	2.2%	5.5%	5.9%	5.2%	6.0%	5.3%
Net Income	154.0%	(6.6%)	12.5%	6.7%	(37.9%)	3.2%	5.7%	6.1%	5.6%	6.5%	5.9%
EPS	157.1%	(6.6%)	12.5%	6.7%	(37.9%)	3.2%	5.7%	6.1%	5.6%	6.5%	5.9%
<b>Margins (%)</b>											
Gross Margins	77.8%	78.9%	79.6%	80.0%	80.4%	80.8%	81.2%	81.8%	82.2%	82.7%	83.0%
Operating Profit Margin	26.6%	26.4%	26.5%	26.0%	25.8%	25.3%	25.3%	25.5%	25.5%	25.7%	25.8%
Net Profit Margin	38.5%	32.4%	33.0%	33.0%	19.2%	19.0%	19.1%	19.3%	19.3%	19.6%	19.8%
<b>Ratios</b>											
ROA	15.8%	13.2%	13.2%	12.5%	7.3%	7.0%	6.8%	6.7%	6.6%	6.6%	6.5%
ROE	21.5%	16.7%	15.8%	14.4%	8.2%	7.8%	7.6%	7.5%	7.3%	7.3%	7.1%
Debt/Equity	0.2x	0.1x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x
Interest Coverage	9.0x	11.4x	15.2x	19.4x	24.6x	29.0x	30.5x	32.3x	34.0x	36.1x	38.0x
Price /Earnings Ratio	5.0x	5.4x	4.8x	4.5x	7.2x	7.0x	6.6x	6.2x	5.9x	5.5x	5.2x

<b>Exhibit 20: Financial Summary</b>		<i>High Bracket Estimates</i>									
<i>Year Ending Dec</i>	<b>2015E</b>	<b>2016E</b>	<b>2017E</b>	<b>2018E</b>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
Revenue (€ '000)	12,969	14,667	16,345	17,535	18,729	19,872	21,063	22,305	23,603	24,960	26,375
Operating Profit (€ '000)	3,461	3,909	4,378	4,630	4,920	5,161	5,494	5,872	6,232	6,659	7,065
Net Income (€ '000)	4,974	4,751	5,386	5,778	3,678	3,899	4,174	4,478	4,780	5,142	5,494
EPS	0.24	0.23	0.26	0.28	0.18	0.19	0.20	0.22	0.23	0.25	0.27
<b>Growth rates (%)</b>											
Revenue	29.7%	13.1%	11.4%	7.3%	6.8%	6.1%	6.0%	5.9%	5.8%	5.7%	5.7%
Operating Profit	152.6%	13.0%	12.0%	5.8%	6.3%	4.9%	6.5%	6.9%	6.1%	6.8%	6.1%
Net Income	157.3%	(4.5%)	13.4%	7.3%	(36.4%)	6.0%	7.0%	7.3%	6.8%	7.6%	6.8%
EPS	160.4%	(4.5%)	13.4%	7.3%	(36.4%)	6.0%	7.0%	7.3%	6.8%	7.6%	6.8%
<b>Margins (%)</b>											
Gross Margins	77.9%	79.1%	79.9%	80.4%	80.8%	81.3%	81.8%	82.3%	82.8%	83.4%	83.8%
Operating Profit Margin	26.7%	26.7%	26.8%	26.4%	26.3%	26.0%	26.1%	26.3%	26.4%	26.7%	26.8%
Net Profit Margin	38.3%	32.4%	33.0%	33.0%	19.6%	19.6%	19.8%	20.1%	20.3%	20.6%	20.8%
<b>Ratios</b>											
ROA	16.2%	13.9%	13.9%	13.2%	7.8%	7.6%	7.5%	7.4%	7.3%	7.2%	7.2%
ROE	21.7%	17.1%	16.3%	14.9%	8.6%	8.4%	8.2%	8.1%	8.0%	7.9%	7.8%
Debt/Equity	0.2x	0.1x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x
Interest Coverage	9.2x	11.9x	16.1x	20.6x	26.4x	31.9x	33.9x	36.2x	38.5x	41.1x	43.6x
Price /Earnings Ratio	5.0x	5.2x	4.6x	4.3x	6.7x	6.3x	5.9x	5.5x	5.2x	4.8x	4.5x

## 8.2 Keyware's Balance Sheet Forecast

<b>Exhibit 21: Consolidated Balance Sheet</b>											
All figures in € '000, unless stated differently <span style="float: right;"><i>Low Bracket estimates</i></span>											
<i>Year Ending-Dec</i>	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Total current assets	6,012	8,342	11,747	15,955	17,717	20,463	23,463	26,718	30,199	33,948	37,943
Total non-current assets	25,145	26,387	27,379	27,956	29,267	30,161	31,052	31,913	32,774	33,638	34,519
<b>TOTAL ASSETS</b>	<b>31,156</b>	<b>34,730</b>	<b>39,126</b>	<b>43,911</b>	<b>46,984</b>	<b>50,624</b>	<b>54,515</b>	<b>58,631</b>	<b>62,973</b>	<b>67,586</b>	<b>72,462</b>
Total current liabilities	5,591	5,687	5,858	5,690	5,346	5,460	5,621	5,780	5,941	6,101	6,260
Total non-current liabilities	2,674	1,567	637	90	90	90	90	90	90	90	90
<b>TOTAL LIABILITIES</b>	<b>8,265</b>	<b>7,254</b>	<b>6,495</b>	<b>5,780</b>	<b>5,436</b>	<b>5,550</b>	<b>5,711</b>	<b>5,870</b>	<b>6,031</b>	<b>6,191</b>	<b>6,350</b>
Total shareholder's equity	22,892	27,476	32,631	38,131	41,548	45,074	48,804	52,761	56,941	61,395	66,112
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>31,156</b>	<b>34,730</b>	<b>39,126</b>	<b>43,911</b>	<b>46,984</b>	<b>50,624</b>	<b>54,515</b>	<b>58,631</b>	<b>62,973</b>	<b>67,586</b>	<b>72,462</b>

<b>Exhibit 22: Consolidated Balance Sheet</b>											
All figures in € '000, unless stated differently <span style="float: right;"><i>High Bracket estimates</i></span>											
<i>Year Ending-Dec</i>	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Total current assets	5,433	7,576	11,213	15,743	17,824	20,900	24,292	28,055	32,153	36,633	41,471
Total non-current assets	25,256	26,524	27,523	28,095	29,396	30,464	31,497	32,474	33,433	34,382	35,340
<b>TOTAL ASSETS</b>	<b>30,689</b>	<b>34,100</b>	<b>38,736</b>	<b>43,838</b>	<b>47,221</b>	<b>51,364</b>	<b>55,789</b>	<b>60,529</b>	<b>65,585</b>	<b>71,015</b>	<b>76,811</b>
Total current liabilities	5,042	4,810	4,989	4,860	4,565	4,809	5,060	5,322	5,598	5,886	6,188
Total non-current liabilities	2,692	1,585	655	108	108	108	108	108	108	108	108
<b>TOTAL LIABILITIES</b>	<b>7,734</b>	<b>6,395</b>	<b>5,644</b>	<b>4,968</b>	<b>4,673</b>	<b>4,917</b>	<b>5,168</b>	<b>5,430</b>	<b>5,706</b>	<b>5,994</b>	<b>6,296</b>
Total shareholder's equity	22,955	27,705	33,092	38,870	42,548	46,447	50,621	55,099	59,879	65,022	70,515
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>30,689</b>	<b>34,100</b>	<b>38,736</b>	<b>43,838</b>	<b>47,221</b>	<b>51,364</b>	<b>55,789</b>	<b>60,529</b>	<b>65,585</b>	<b>71,015</b>	<b>76,811</b>



## 9. Analyst Certifications

I, Abhishek Bansal, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject Company, based on the collection and analysis of public information and public Company disclosures.

I, Himanshu Broota, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject Company, based on the collection and analysis of public information and public Company disclosures.

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## 10. Notes and References

- i Source : Bloomberg, retrieved on December 01, 2015
- ii 52 weeks to December 01, 2015. Source: Bloomberg, December 01, 2015
- iii 3 months to December 01, 2015. Source: Bloomberg, December 01, 2015
- iv Arrowhead Business and Investment Decisions Fair Value Bracket – AFVBTM. See information on valuation on pages 18-20 of this report and important disclosures on page 24 of this report.
- v Source :Annual Report 2014, Company Website and Press Releases
- vi Source: Annual Report 2014
- vii Source :Annual Report 2014
- viii Source: Annual Report 2014, Company Presentation
- ix Source: Arrowhead BID analysis
- x Source: Arrowhead BID analysis
- xi Source : Annual Report 2014
- xii Source : Annual Report 2014
- xiii Source : Arrowhead BID estimate
- xiv Source : Press Releases, 1H15 Report
- xv Source: Company Reports, Company website and Bloomberg
- xvi Source : Europe Consumer Center (ECC)
- xvii Source: Payment Statistics for 2015 by ECB, Keyware Annual Report 2014
- xviii Source: Payment Statistics for 2015, ECB
- xix Source: Payment Statistics for 2015, ECB
- xx Source: Annual Report 2014
- xxi Source: <https://www.pcisecuritystandards.org/> and Keyware Annual Report 2014
- xxii Source: Worldline Presentation December 2014 and Arrowhead Estimates
- xxiii Source: Bloomberg , Respective Company Results
- xxiv Source : Damodaran Estimate
- xxv Source : Bloomberg
- xxvi Source : Damodaran Estimate
- xxvii Source: Bloomberg Estimates