

## Due Diligence and Valuation Report

Arrowhead Code: 76-01-19  
 Coverage initiated: December 01, 2015  
 This document: November 08, 2021  
 Fair share value bracket: EUR 1.91 and 2.12  
 Share price (Nov 07, 2021): EUR 1.15<sup>i</sup>

### Analysts

Natasha Agarwal Sumit Wadhwa  
 +1 212 619-6889 +1 212 619-6889  
[natasha.agarwal@arrowheadbid.com](mailto:natasha.agarwal@arrowheadbid.com) [sumit.wadhwa@arrowheadbid.com](mailto:sumit.wadhwa@arrowheadbid.com)

### Market Data

52-Week Range: EUR 0.65 – EUR 1.16<sup>ii</sup>  
 Average Daily Volume: 4,988<sup>iii</sup>  
 Market Cap. (07-Nov-2021): EUR 27.3 million (mn)

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

EUR	'21E	'22E	'23E	'24E	'25E	'26E	'27E
High PBT '000	1,193	1,908	2,445	2,881	3,966	4,343	5,594
High NI '000	820	1,392	1,685	2,028	2,835	3,134	4,126
High EPS	0.04	0.06	0.07	0.09	0.13	0.14	0.18
Low PBT '000	1,073	1,822	2,214	2,670	3,524	3,901	4,883
Low NI '000	728	1,322	1,504	1,860	2,492	2,788	3,574
Low EPS	0.03	0.06	0.07	0.08	0.11	0.12	0.16

Note: The forecast is based on sole assumptions of Arrowhead

**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 group currently operates through three divisions: the terminal rentals/sales division, the authorizations/transactions division and the software division. KEYW has collaborated with world leaders in payment terminal manufacturing, such as Worldline, Ingenico and Loyaltex 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, EMS, Bancontact and Paynovate to enhance the quality of its services. The company has been strategically transitioning to financial technology (FinTech). The company's traditional payment terminals division has been diminishing in importance to the benefit of the software division. The software division of the company provides software for payment transaction for banks and financial institutions,



Company: Keyware Technologies NV  
 Ticker: EBR: KEYW  
 Headquarters: Zaventem, Belgium  
 Founder: Mr. Stéphane Vandervelde  
 CEO (ad interim): Mr. Guido Van der Schueren  
 CFO: Mr. Alain Hubert  
 COO: Mr. David Leynen  
 CCO: Mr. Joris Maes  
 CEO EasyOrder: Mr. Laurent Vandervelde  
 Website: [www.keyware.com](http://www.keyware.com)

payment, ordering and payment.

**Key Highlights:** (1) The company has reported revenue and EBITDA growth in H1 2021 and has a more positive outlook for H2 2021; (2) The group's top line decreased 47.1% year-on-year (YoY) to EUR 8.5 mn in FY 2020, owing to growth in all the segments it does business in, in addition to an accounting effect which led to decreased authorization revenue in H1 2020; (3) The company completed migration of 87% of its customers to the new partner and generated higher commissions while consumer spending recovered; (4) The Terminals division of the company signed a higher number of contracts, but the segment also saw a higher number of bankruptcies in H1 2021 (versus H1 2020); (5) The software segment saw strong demand due to the impact on catering industry and increased relevance of 'ghost kitchens'; (6) Increased contribution from the high-margin software division (28.3% in FY 2020 as compared with 27.2% in FY 2019) led to a growth in gross profit by 17.2% YoY to EUR 6.1 mn; (6) EBITDA increased to EUR 1.9 mn in H1 2021 (up 21.3%) on account of an increase in revenue; (7) Keyware reported a 57.6% increase in net profit, which amounted to EUR 438k in H1 2021 as a result of higher EBIT.

**Key Risks:** (1) Lower than expected increase in the terminal base and excessive contract terminations; (2) Change in the authorization partner to have an impact in revenues from the authorization segment in the short term; (3) EasyOrder is still making losses and high customer concentration in the software segment; (4) Impact of COVID-19 pandemic on profitability.

**Valuation and Assumptions:** Based on due diligence and valuation estimates, Arrowhead believes that Keyware's fair share value lies in the EUR 1.91 and 2.12 bracket. We have valued the company using the Blended valuation method, with equal weightage to Discounted Cash Flow (DCF) method and EV/EBITDA (2021E) multiple based valuation. Our DCF model suggests a fair value bracket<sup>iv</sup> of EUR 1.81 and EUR 2.13, while relative valuation provides fair value of EUR 2.02 to EUR 2.12.

**Table of Contents**

**1. SUMMARY AND OUTLOOK ..... 3**

**2. BUSINESS OVERVIEW: ..... 5**

2.1 Ownership Structure ..... 6

2.2 Company Milestones ..... 7

2.3 Business Model..... 8

    2.3.1 Payment Terminals..... 8

    2.3.2. Transaction/Authorization Services..... 8

    2.3.3. Software ..... 8

2.4 Products and Services ..... 8

2.5 Company Premiums .....10

2.6 Company Risks.....10

2.7 Keyware’s Shareholding Pattern .....12

2.8 Listing and Contact Details .....12

**3. FINANCIAL OVERVIEW: ..... 13**

**4. KEY VARIABLE ANALYSIS ..... 15**

4.1 Variable 1 – Revenue from payment terminals .....15

Note: The forecast is based on sole assumptions of Arrowhead

4.2 Variable 2 – Revenue from authorization services .....15

4.3 Variable 3 – Revenue from software services .....15

**5. NEWS ..... 16**

**6. MANAGEMENT AND GOVERNANCE..... 17**

**7. INDUSTRY CHARACTERISTICS ..... 18**

7.1 Industry Overview .....18

7.2 Industry Segments .....18

7.3 Market performance .....19

7.4 Payment Process Participants .....19

7.5 Payment Card Industry Security Standards.....20

7.6 Growth Drivers.....21

7.7 Products and Services .....23

7.8 New Technological Trends in Payment Industry .....25

7.9 Global Landscape.....27

7.10 Competition .....30

**8. VALUATION ..... 31**

8.1 DCF Method .....31

Variable 1 – Installed Base (Terminals) .....32

Variable 2 – Terminals offering Authorized services .....32

8.2 Relative Valuation .....33

8.3 Blended Valuation .....34

**9. APPENDIX ..... 36**

9.1 Keyware’s Financial Summary .....36

9.2 Keyware’s Balance Sheet Forecast.....37

**10. ANALYST CERTIFICATIONS..... 38**

**11. IMPORTANT DISCLOSURES..... 38**

**12. NOTES AND REFERENCES..... 39**

## 1. Summary and Outlook

We are updating 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 several strategic partners for payment terminals, acquiring services, e-commerce, m-commerce and airtime.

### Key Highlights:

- (1) While the performance of the company is likely to depend to a certain extent on the effects of the ongoing pandemic, the company has a positive outlook for H2 2021 as the catering industry reopens and the consumer spending recovers. The company will look to complete the migration cycle and focus efforts to cater to the strong demand for the EasyOrder and Magellan applications.
- (2) In H1 2021, the company put in a resilient performance despite the ongoing pandemic. Easing of lockdown restrictions and increased consumer spending contributed to the performance. The company managed to migrate 87% of its customers to the new partner and signed a higher number of contracts (versus H1 2020). The company additionally saw a strong growth in the software segment owing to the impact of the COVID-19 pandemic in the catering industry and adoption of dark kitchens. However, the company oversaw a higher number of bankruptcies (versus H1 2020).
- (3) In FY 2020, the company reported an increase in revenue of 47.1% YoY. Revenue amounted to EUR 8.5 mn, as a result of a growth in all segments, owing to the accounting treatment as agent in H1 2020 of the commission received as part of a settlement. The higher number of contracts signed in the Terminals segment, recovery in consumer spending and higher commissions in the Authorization segment and increased demand in the Software segment contributed to the increase.
- (4) The gross profit increased by 17.2% YoY to EUR 6.1 mn as a result of the performance in the software segment. The increase in the Authorizations segment was offset by the decline in the Terminals segment. The gross margin decreased to 71.4% from 89.6% in H1 2020 as the accounting treatment of the settlement amount in the Authorization segment was included net in the gross profit (leading to decreased sales and inflated gross margins).
- (5) The company's EBITDA increased by 21.3% YoY to EUR 1.9 mn owing to higher EBIT and increased impairment expenses on current assets, even as the EBITDA margin decreased to 21.8% from 26.5% in H1 2020 on account of reduced turnover in the Authorization segment in H1 2020. Net profit amounted to EUR 438k in H1 2021, increasing by 57.6% YoY, due to increase in EBIT and financial income.
- (6) In May 2020, the company initiated migration to a new payment partner. This resulted in the reporting of revenue as net payment transactions (accounted for as agent), unlike earlier periods which were characterized by reporting on a gross revenue basis (accounted for as principal). The company migrated 87% of the customers to the new payment partner by the end of H1 2021. It expects to complete the migration process by the end of H2 2021.
- (7) The company's financial debt amounted to EUR 1.6 mn at the end of H1 2021 as compared with EUR 2.0 mn at the end of FY 2020. The company plans to pay off its debt by 2026.
- (8) The Magellan business and the EasyOrder tool have undergone several changes to offer upgraded and improvised products. The advancements in the products will facilitate ease of use and relate to providing a range of services making the two businesses and their offers more holistic. The improvised product offerings are expected to help Keyware with the transition and position itself as a full-fledged software developer. The two businesses saw increased opportunities and demand as result of the COVID-19 pandemic. This happened as payment apps/contactless payments gained importance in relation to cash payment methods. The company carried out some major projects in the Magellan business and continued to invest in its software-as-a-service (SaaS) capabilities in the EasyOrder business.

**Key Risks:** (1) Lower than expected increase in the terminal base, excessive contract terminations and slow adaptability to the ever-changing technology; (2) Change in the authorization partner by the company to have a short-term impact in revenues from the authorization segment in FY 2020 and FY 2021 as the full migration is likely to be accomplished by mid-2021 depending on the technical aspects; (3) Dependency on a few customers in the software segment; (4) Covid-19 pandemic's impact on the profitability and uncertain duration of recovery; (5) EasyOrder is still in the start-up phase and this business is currently making losses; (6) In the authorization segment, as the migration continues to a new payment partner, retaining existing clients depends on the performance of the new partner; (7) In the software segment, one customer accounted for 27.5% of the business and the top 3 customers contributed 55.9% to FY 2020 sales; (8) Change in the payment card industry (PCI) standards meant certain types of Ingenico payment terminals were no longer required and were being replaced, impacting their demand.

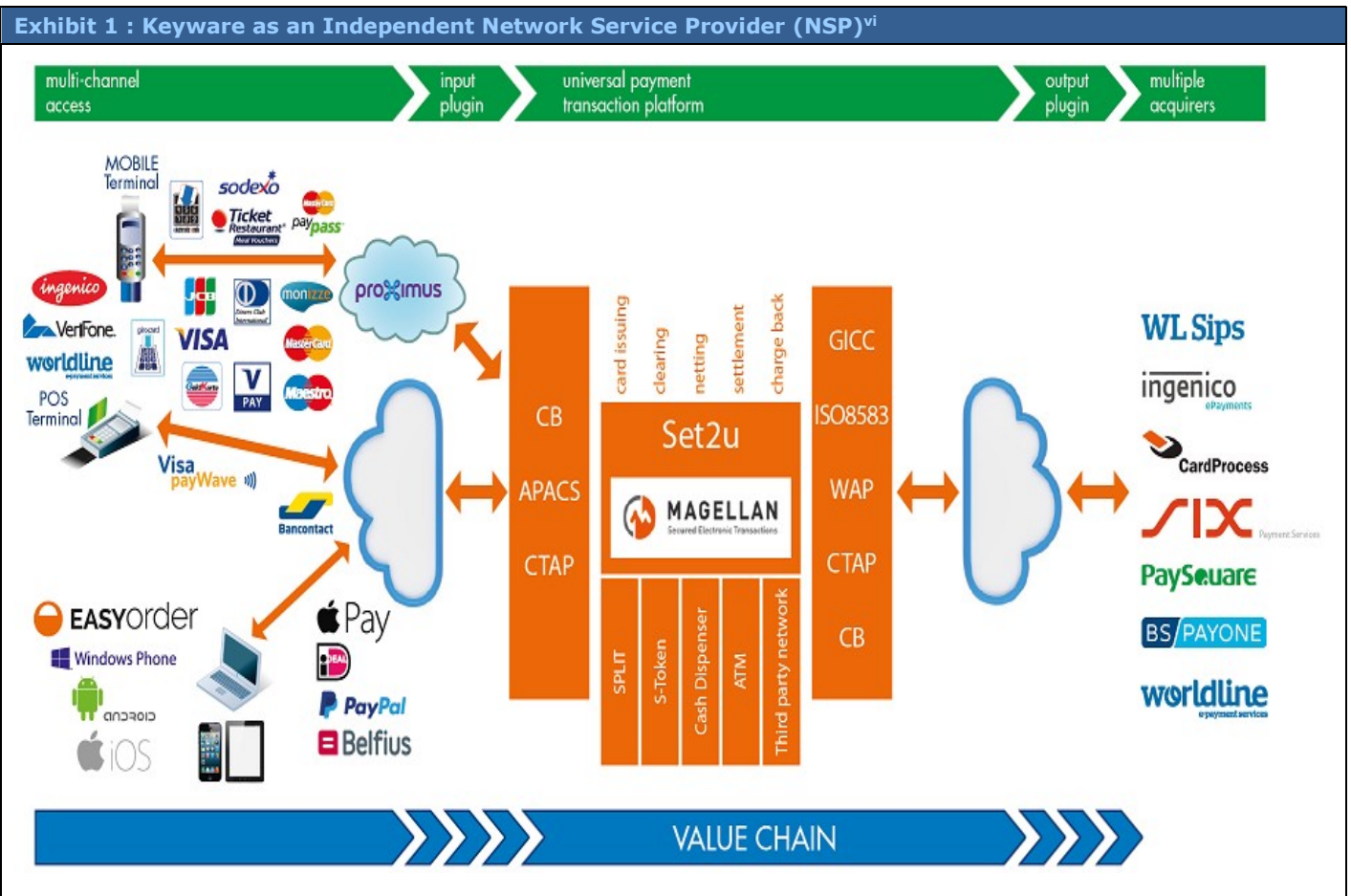
**Industry Overview:** The electronic payment industry's value chain comprises of several services - providing terminals, transaction services, telecommunication services, etc. Keyware is an active player in providing terminal installation, maintenance and repair services as well as transaction services to its clients. 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 many 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 EUR 5k to EUR 3k which favorably impacts 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. In view of the COVID-19 pandemic, the Belgian government has increased the upper limit of contactless payment transactions to EUR 50 from EUR 25. The change in the upper limit is likely to benefit the company as customers are going to be able to use contactless payments for higher amounts and an increasing number of people are expected to use contactless payments for transactions.

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

Keyware Technologies NV was established in June 1996 as a public limited company and is 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, Worldline and Loyalttek and transaction partners - Worldline, Six Pay, PaySquare, Bancontact, EMS and Paynovate - to offer its customers the most suitable and updated payment solutions.

In FY 2017, the group implemented a FinTech strategy according to which it would transition from a pure service company to a software developer. The terminal division is currently at a mature stage and is witnessing lower number of signed contracts on a YoY basis. In the future, the contribution of this division to revenues is expected to decline in favor of the fast-growing software division. The authorizations and transactions division are expected to remain a key division in the following years. The company is also diversifying its strategy by focusing on sectors that are considered more stable or less cyclical in nature, such as Tier 2 companies. This, in turn, is expected to bring stability in the revenues in the long run and hence, reduce the risk of defaults.

Further, with Keyware’s presence in Belgian, French, Luxembourg and German markets, growth is expected to be realized across borders.



In June 2016, Keyware Transactions & Processing GmbH was incorporated as a 100% subsidiary, which started operations in the last quarter of FY 2016. Its activities are into rental and sale of payment terminals.

In September 2016, a participation of 40% was acquired in Magellan SAS to gain access to Magellan’s electronic solutions for physical environments, e-commerce and m-commerce. Magellan offers innovative solutions for the maintenance of electronic transactions through the existing software solutions like S-TOKEN (payment data anonymization), SET2U (payment platform) and SPLIT (a form of micro credit offered by merchants consisting of payment through instalments). Keyware acquired further 60% stake in Magellan by paying EUR 6,000k and reported consolidated financials on June 30, 2017.

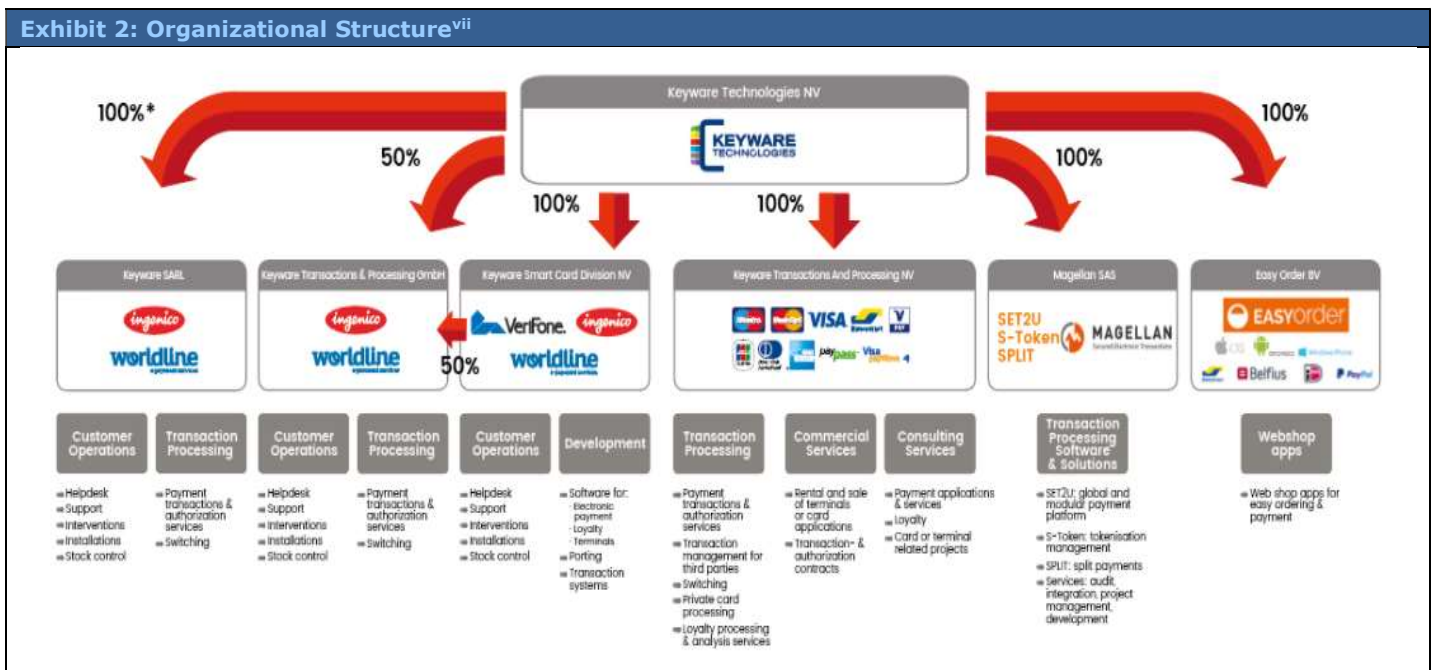
In January 2017, Keyware acquired 100% shares of VOF EasyOrder. This takeover is expected to combine the expertise of both companies and offer a web shop app to merchants, thus a possibility to personalize own web shop on smartphone, tablet or PC. Keyware has also made investments in this platform for customer acquisition.

It is expected that the opening of an office in Paris and establishing the Luxembourg subsidiary will help the company to be in close touch with its customers through its sales force and to enhance sales through cross-selling opportunities.

Keyware had 62 employees at the end of FY 2019, compared with 57 employees at end of FY 2018, with 40 being employed in Belgium. The average number of employees for FY 2019 was 60, compared with 53 for FY 2018. Apart from this, the group also recruited 10 consultants and contractors in FY 2019, compared with 13 in FY 2018.

## 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 FY 2014, In FY 2017, Keyware fully acquired and consolidated Magellan and EasyOrder. PayItEasy which fully consolidated from October 01, 2014 has now fully merged with KTP in July 2019. In July Keyware Smart Card Division merged with Keyware Transaction & Processing NV, further reducing the group structure



## 2.2 Company Milestones

<b>Exhibit 3: Keyware Milestones</b>	
<b>Year</b>	<b>Events</b>
<b>2003</b>	<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>
<b>2005</b>	<ul style="list-style-type: none"> <li>The number of customers exceeded 5,000 in the payment terminal division</li> </ul>
<b>2007</b>	<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>
<b>2009</b>	<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>
<b>2011</b>	<ul style="list-style-type: none"> <li>Successfully penetrated higher market segment customers - government schools, municipalities, etc.</li> </ul>
<b>2013</b>	<ul style="list-style-type: none"> <li>Partnership with Worldline allowed Keyware to rent/sell Worldline terminals in the Benelux region</li> </ul>
<b>2014</b>	<ul style="list-style-type: none"> <li>The reduction in the amount of cash permissible for transactions from EUR 5k to EUR 3k by Belgian government added to the already growing volume of transactions for Keyware</li> <li>Added a record number of terminals crossing the 14,000 mark</li> </ul>
<b>2015</b>	<ul style="list-style-type: none"> <li>Acquired the assets of GlobalPay in January, taking over several purchase and lease contracts</li> <li>Replacement of paper meal vouchers with electronic version from the last quarter of FY 2015 is set to bring in new growth opportunities for Keyware in FY 2016</li> <li>Transition from spread income model to brokering model for authorization services</li> </ul>
<b>2016</b>	<ul style="list-style-type: none"> <li>Partnership with Bancontact, making the company a Certificate Holder in the "Terminal Provider" and "Point of sale (POS) Gateway" categories</li> <li>Keyware opened an office in Germany and started offering payment terminals and transaction services beginning from fourth quarter of FY 2016</li> <li>Completed buy-back share for a maximum amount of EUR 1.0 mn</li> <li>Keyware signed for 40% participation in French FinTech Company Magellan SAS and held a Call option for remaining 60% of the shares</li> <li>Keyware received PA DSS 3.1 security certificate for Magellan's SET2U payment software platform</li> <li>Acquisition of VOF EasyOrder for a EUR 700k investment</li> </ul>
<b>2017</b>	<ul style="list-style-type: none"> <li>On June 30, 2017, Magellan became 100% subsidiary as Keyware acquired the remaining 60% of Magellan stake. The financing of the acquisition was partially through the internal funds amounting to EUR 1.5 mn and remaining by bank loans of EUR 4.5 mn</li> <li>In May 2017, Keyware's board of directors decided to initiate a share buy-back programme capped to EUR 1.0 mn of which buy-back worth EUR 700k was repurchased in FY 2017</li> </ul>
<b>2018</b>	<ul style="list-style-type: none"> <li>Keyware completed its share buy-back program initiated in FY 2017 by repurchasing shares worth EUR 200k in FY 2018</li> <li>Keyware distributed for the second time a dividend amounting to EUR 0.03 per share. The amount was paid in September 2018</li> <li>Keyware announced a third share buy-back programme for a maximum amount of EUR 1,000k</li> </ul>
<b>2019</b>	<ul style="list-style-type: none"> <li>Keyware distributed dividend of EUR 0.04, amounted to EUR 913k</li> <li>Keyware SARL was incorporated</li> </ul>
<b>2020</b>	<ul style="list-style-type: none"> <li>Keyware signed an agreement with a new authorization partner; migration expected to be completed by mid-2021, depending on the technical aspects</li> <li>Keyware entered into an agreement with another supplier of payment terminals</li> </ul>

## 2.3 Business Model

Keyware provides value addition 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 enables it to offer its customers the best solutions available in the industry. Keyware provides personalized and flexible payment solutions through three business divisions - Payment Terminals, Transaction Services and Software.

### 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. The terminals sold/rented are supplied by Ingenico, Worldline and Loyalket. Worldline and Ingenico provide the merchants with secure, extensive and innovative technology; thereby, becoming the first choice for most users. Loyalket specializes in the field of electronic and payment terminals.

Keyware has a large presence in the Tier-III market segment, providing terminals to smaller local shops, grocery stores, fashion departments, pharmacies, cafés and restaurants. With the introduction of Worldline terminals to its product portfolio, the company is now looking to penetrate the 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 FY 2007. Under this division, 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 acquirer for payment authorization via the involved debit/credit card schemes and then provides for clearing and settlement of the transactions.

### 2.3.3. Software

The division comprises activities of Magellan and EasyOrder. Keyware has advanced e-commerce and m-commerce software. The in-house technology of Magellan helps to process transactions and to secure mobile payments. It also helps the consumers to easily split or postpone their payments without the use of credit cards. In FY 2019, Keyware upgraded the Magellan offerings to transform its products as if they were "plug and play" using the existing banking systems without the customers being required to spend on expensive and new developments. The company has enhanced and innovated its offerings in the field of e-commerce to tap into new and large customers. Magellan improved its array of services to provide end-to-end processing of transactions to customers with continuous follow-up of the highest standards. These innovations were also integrated in the EasyOrder app.

EasyOrder, an innovative ordering and payment app, available as SaaS for which customers pay monthly fee based on their selected functionalities. The software division is currently becoming Keyware's main division, developing principally in France and in its overseas departments and territories. Keyware updated the EasyOrder tool, in FY 2019, to make it a one-stop shop for online orders, reservations, payments, online marketing options, customer loyalty cards and a cash register system. The interface of the app was made friendly for the user and it was made possible to integrate EasyOrder website into any existing website by connecting EasyOrder to other systems through public Application Programming Interfaces (APIs). Personnel for marketing and attracting new customers were also employed. The advancements made would appeal and attract a broader audience.

## 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 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 like "Pay-E," except that it is provided for the mobile applications.
6. **SET2U:** It is a software platform which interprets, regulates and manages the payment transactions. Initially, it was directed for the businesses such as banks, lending institutions, payment processors and other service providers. Set2U has reduced the complicated conventional payment environment for these businesses while leading to better mobility, comfort and security. It provides a centralized solution in the form of SaaS for every payment method and app.
7. **S-Token:** This software secures sensitive critical data while ensuring that all PCI DSS and EMVCo requirements for the financial sector are met simultaneously. Transactions are kept secure by replacing sensitive data with irreversible tokens with no intrinsic value. This application has substantial potential.
8. **SPLIT:** It helps the customers to spread out the payments for their purchases in three or four instalments via their bank card irrespective of which national law applies. This is referred to as micro-credit. Customers can make the payment without creating any special credit account nor to file a credit request. While these split payments can be observed already in South America and Scandinavia, it is expected that they will become more important on Europe's mainland too.

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

- 1. Growth through diversification into software activities:** Keyware's software division comprises Magellan and EasyOrder which contributed nearly EUR 2.4 mn or 28.3% to the total revenue in H1 2021. The Magellan acquisition allows merchants in Belgium market to have their customers paying in instalments and in a secured way.
- 2. Partnership with world leaders in terminal manufacturing and transaction services:** Keyware has collaborated with leaders among terminal builders- Ingenico and Worldline - to offer its customers a wide range of world-class terminals to choose from. It has transaction partners such as EMS and Paynovate. This allows Keyware to offer its customers the latest up-to-date services and maintain Keyware's competitiveness in the fast-changing technological market.
- 3. Increasing profitability and lower Financial debt in future:** Based on our estimates, we expect the company to register top line growth of 3.0%-5.0% during FY 2021-2028 period. Supported by strong operating performance, we expect the company to generate strong free cash flows. Thus, Keyware's financial leverage will continue to decline and balance sheet will be totally financial debt free once the Magellan acquisition related loans will have been reimbursed.
- 4. Diverse portfolio of customers:** KEYW is a company with approximately 15k customers contributing to its top line. According to the company, its most important customers contribute less than 1% to the sales of the terminals segment. This isolates the company from any significant risk arising from concentrated group of customers.
- 5. Growing trend toward cashless payment options:** In recent years, a shift toward cashless payment options has been seen as such payments have become more popular among customers. The total volume of non-cash transactions is expected to reach 204 bn in 2022 from 134 bn in 2017. Additionally, the recent COVID-19 pandemic has led to an increasing trend toward cashless payment options to prevent the spread of the virus. Keyware's software segment equips it to leverage on the new opportunities.<sup>x</sup>

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

- 1. Pace of technology adoption:** Keyware's market of operations, especially its payment terminals division, is characterized by frequent new developments in the field of technology, changing customer needs, upcoming new mode of payments through internet and mobile, changing industry standards 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.  

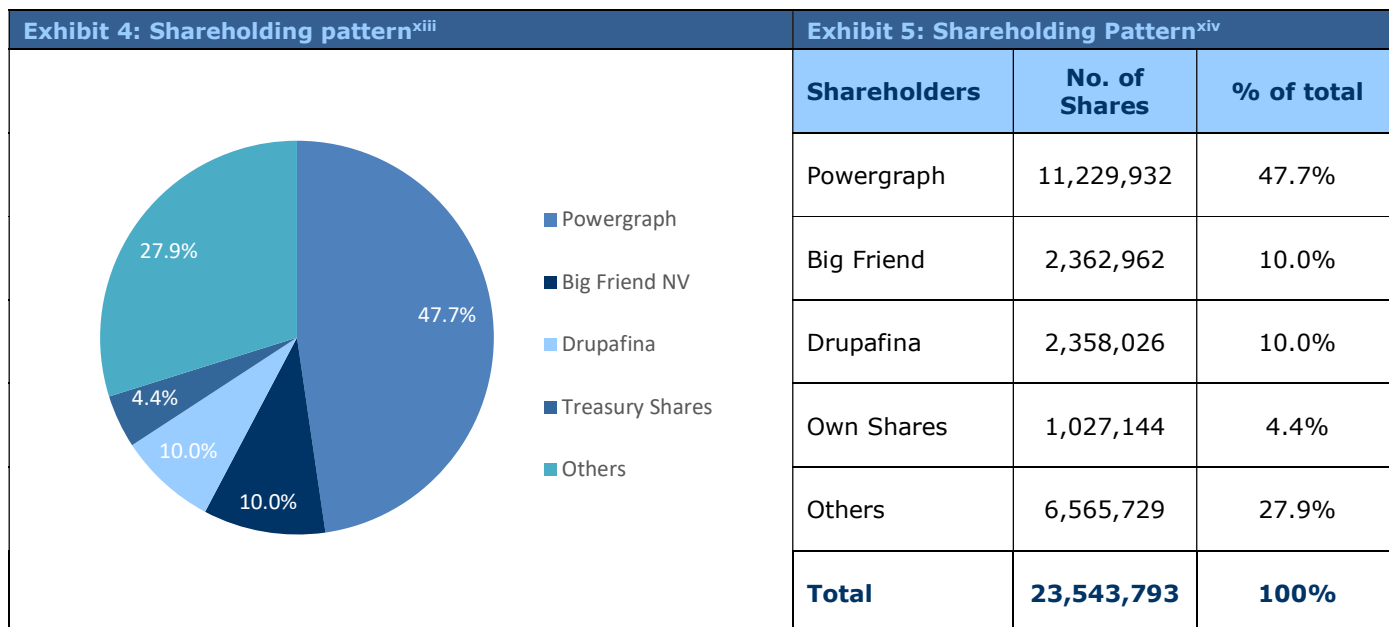
The company is making attempts to limit this risk through initiatives such as diversifying of its range of products, associating with in a technologically innovative company (Magellan), and the commercializing of its payment app (Easy Order) from FY 2017.
- 2. Less than expected swaps or renewals:** Keyware enters into 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.
- 3. Dependency on acquirer:** At any point of time, an acquirer can decide to terminate or discontinue its contract with Keyware which a risk to organization is. In such a case, company must try to find a new acquirer to maintain the flow of revenue from these terminals.
- 4. Obsolescence of payment terminals:** The company has witnessed a higher inventory obsolescence because some of the returned terminals no longer comply with PCI standards. This can affect the financial year in which the payment terminals can be utilized up to a given deadline
- 5. Supplier dependency:** Keyware sourced its payment terminals from Loyaltek, Worldline and Ingenico (the acquisition of Ingenico by Worldline made the merged entity the fourth-largest player in payment services). Having a limited number of suppliers lowers the company's bargaining power with its suppliers and puts greater pricing power in the hands of the supplier. Additionally, if there is a problem with one main supplier this might affect operations if there is not enough inventory on hand
- 6. COVID -19:** The recent COVID-19 pandemic has impacted the businesses such as horeca, retail and service rendering shops such as salon shops and beauty parlors, which have further impacted Keyware as the payment transactions have decreased and new installations are not to be executed. This has affected the profitability of the company and the pace of recovery is not certain as the pandemic has not subsided.
- 7. Migration of contracts in the authorization segment:** Change in the authorization partner by the company to have a short-term impact in revenues from the authorization segment in FY 2020 and FY 2021 as the full migration

is likely to be accomplished by the end of 2021 depending on the technical aspects. Retaining existing clients would depend on the performance of the new partner, failing which the company could lose its customers.

- 8. Customer Dependency:** The company has limited customers in the software segment, which increases its dependency for business on these customers. The company's top 3 customers in the software segment generated 55.9% of the revenue from the software segment in FY 2020 with one customer accounting for 27.5% of the revenue.
- 9. EasyOrder:** This business is still in the start-up phase and during the pandemic many traders started using this app to generate sales. Though the sales have picked up, the business currently still needs financial support

## 2.7 Keyware’s Shareholding Pattern

On September 09, 2021, the number of shares outstanding were 23,543,793<sup>xii</sup>.



## 2.8 Listing and Contact Details

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

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

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

**Phone:** +32 2 346 25 23

**Fax:** +32 2 347 16 88

### **3. Financial Overview:**

#### **H1 2021**

#### **Strong top line growth owing to COVID-19-related opportunities and accounting treatment of migration-related settlement**

The company reported a 47.1% YoY increase in revenue to EUR 8.5 mn in H1 2021. The growth was attributable to the accounting treatment of settlement amount related to the previous partner in the Authorization segment in H1 2020 (reported as net in gross profit as foreseen by the Agent principle of revenue recognition).

Revenue in the Terminals segment amounted to EUR 3.7 mn, 13.9% higher on a YoY basis as the company signed a higher number of contracts (as compared with H1 2020) and generated strong subscription-based revenue.

The Authorizations segment reported a revenue of EUR 2.5 mn, increasing by 128.4% YoY, on account of accounting treatment in H1 2020, higher commissions in H1 2021 and increased consumer spending as the shops reopened in the third lockdown period. The increase is also accounted for by the fact that the majority of commissions of H1 2020 reported on the basis of the Agent principle (net presentation) whilst all commissions of H1 2021 are presented as Principle (with upgrossing).

The Software division generated a revenue of EUR 2.4 mn in H1 2021, up 53.1% YoY. The growth was attributable to the adoption of online apps by the catering industry and the popularity of 'ghost kitchens'.

#### **Bottom line grew as a result of sales growth**

Gross profit increased by 17.2% YoY to EUR 6.1 mn in H1 2021, owing to the performance of the Software division (which reported the highest absolute increase) and the Authorization division (owing to migration to the new partner), while the decrease in the Terminals segment partially offset the increase (higher purchase price in H1 2021). EBITDA increased to EUR 1.9 mn in H1 2021, growing by 21.3% YoY, owing to the factors mentioned above

The Gross Profit margin and the EBITDA margin decreased to 71.4% and 21.8%, respectively, in H1 2021, as compared with 89.6% and 26.5% in H1 2020, owing to decreased revenue reported in H1 2020 because of accounting treatment of settlement amount as Agent (without upgrossing).

Additionally, the net profit increased to EUR 438k, growing by 57.6% YoY, owing to a higher EBIT.

#### **Minor movements in debt and cash and cash equivalents**

Debt was at EUR 1.6 mn in H1 2021, as the company repaid loans amounting to EUR 1.3 mn and took 2 new loans amounting to EUR 950k. This had an impact on the cash and cash equivalents, which decreased slightly by 77k in H1 2021 (from FY 2020) to EUR 1.5 mn. Additionally, with the main loan having been reimbursed, the company's cash position will improve in the future.

#### **FY 2020**

#### **COVID-19-related headwinds, the settlement with the previous acquirer and the migration to a new acquirer resulted in a YoY decline in revenue**

The company reported a 28.5% YoY decline in revenue, which amounted to EUR 13.0 mn in FY 2020. This resulted from the impact of the COVID-19 pandemic and migration of contracts to a new authorization partner. The migration to a new partner resulted in reporting of net payment transactions, unlike the gross reporting accounting followed earlier.

The terminals segment reported a resilient performance as revenue declined by 5.3% YoY and amounted to EUR 6.6 mn as the operations were impacted by the COVID-19 pandemic. The company offered discounts and a cheaper range of terminals to counter the impact and reported an increase in the number of new customers added and contract renewals (in comparison with FY 2019). The software segment saw a 37.1% YoY increase in revenue to EUR 4.3 mn. This resulted from increasing demand for payment apps since the COVID-19 pandemic broke out and conclusion of a major contract. The authorization segment reported a revenue of EUR 2.3 mn, a decline of 72.1% YoY, as a result of lower commissions owing to lower transaction volume and value and migration of contracts to the new partner. Additionally, some of the revenue earned (amounting to EUR 2.2 mn) could not be presented as a part of revenue due to it having accrued from the previous partner.

**Margins improved as cost savings compensated for lower revenue and lower gross profit**

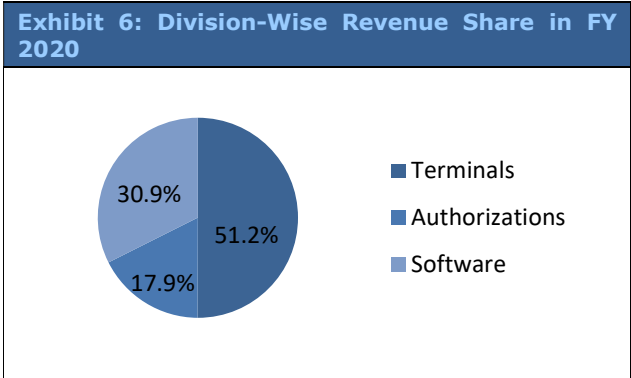
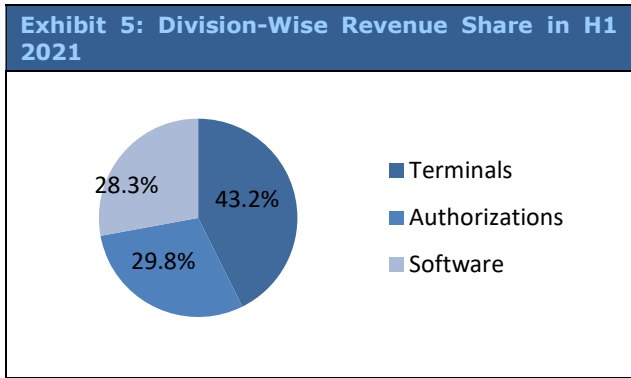
A lower revenue impacted the company’s gross profit, reported at EUR 10.2 mn in FY 2020, a decline of 4.8% YoY. However, the gross profit margin increased to 78.5% from 59.0% in FY 2019, as the share of lower margin authorization segment decreased in the total revenue. The company reported a 6.2% YoY decrease in EBITDA as it amounted to EUR 2.8 mn in FY 2020. The EBITDA margin increased to 21.7% in FY 2020 from 16.5% in FY 2019. The improvement came as a result of lower general and administrative expenses, which helped overcome the impact of lower gross profit and other operating income.

**Decrease in net income attributable to lower gross profit, higher write-downs on current assets and lower financial income**

The net income amounted to EUR 66k in FY 2020, reporting a decrease of 79.4% YoY. The decrease was owing to a decrease in EBITDA, even as the company had a lower tax burden in FY 2020.

**Cash and cash equivalents rose as a result of higher operating cash flow**

As a result of higher operating cash flow, the company’s cash and cash equivalents increased to EUR 1.5 mn in FY 2020 from EUR 1.2 mn in H1 2019. The company utilized its higher cash position to repay a debt amounting to EUR 2.7 mn, reducing its outstanding debt to EUR 2.0 mn in December 2020.



## 4. Key Variable Analysis<sup>xv</sup>

### 4.1 Variable 1 – Revenue from payment terminals

Keyware’s major source of revenue is the number of terminals it sells/ leases. Considering developments such as 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. The installed base of terminals of the company was approximately 15k in 2020. The following are our estimates for components of revenue from payment terminals for the forecast period under two scenarios, Low bracket and High bracket:

Exhibit 7: Payment Terminal Revenue Breakdown										
In EUR mn		2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Low Bracket	Rental revenues	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
	Terminal sales	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Rendered services	2.6	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1
	Cancellation pay	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7
	<b>Total</b>	<b>6.6</b>	<b>6.5</b>	<b>6.3</b>	<b>6.2</b>	<b>6.1</b>	<b>6.0</b>	<b>5.8</b>	<b>5.7</b>	<b>5.7</b>
High Bracket	Rental revenues	3.3	3.0	3.2	2.9	3.1	2.9	3.0	2.8	3.0
	Terminal sales	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Rendered services	2.6	2.4	2.3	2.3	2.2	2.2	2.2	2.1	2.1
	Cancellation pay	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	<b>Total</b>	<b>6.8</b>	<b>6.4</b>	<b>6.5</b>	<b>6.2</b>	<b>6.3</b>	<b>6.0</b>	<b>6.1</b>	<b>5.8</b>	<b>6.0</b>

Note: The forecast is based on sole assumptions of Arrowhead

### 4.2 Variable 2 – Revenue from authorization services

As per the new reporting methodology from 2016 onwards, the segment revenue is disaggregated into gross revenues and related cost components. Such a disaggregated presentation would only affect the presentation of the income statement, i.e., higher revenue and cost of goods sold and a lower overall gross profit margin. However, the other KPIs (EBIT, EBITDA, PBT and NI) would remain largely the same.

On December 31, 2019, Keyware offered transaction/ authorization services on 94% of the total installed base of terminals. These terminals form a source of revenue for the authorization services’ division. Given that the company holds strong partnerships with transaction service providers like EMS and Paynovate we estimate the number of terminals offering transaction services to increase in the future. Also, the agreement with Charleroi Airport will also contribute to the revenue from authorization services. Following is the estimated revenue from authorization services during the forecast period for the low bracket and high bracket:

Exhibit 8: Authorization Services Revenue									
In EUR mn	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Low Bracket	6.0	6.7	6.6	6.4	6.2	6.1	6.0	5.9	5.9
High Bracket	6.3	7.0	7.0	6.9	6.8	6.8	6.7	6.6	6.6

Note: The forecast is based on sole assumptions of Arrowhead

### 4.3 Variable 3 – Revenue from software services

After the acquisition of Magellan and EasyOrder during FY 2017, software services have been added as a new revenue stream to the company’s business model. Following is the estimated revenue from software services during the forecast period for the low bracket and high bracket:

Exhibit 9: Software Services Revenue									
In EUR mn	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Low Bracket	4.7	5.3	6.3	7.2	8.2	9.1	10.0	10.8	11.6
High Bracket	4.8	5.7	6.9	7.9	9.0	10.1	11.2	12.3	13.5

Note: The forecast is based on sole assumptions of Arrowhead

## 5. News<sup>xvi</sup>

- H1 2021 results announced:** On September 09, 2021, Keyware Technologies announced its H1 2021 results. Revenue amounted to EUR 8.5 mn, 47.1% higher on a YoY basis, owing to growth in all the segments it operates in, in addition to an accounting treatment (in H1 2020). EBITDA amounted to EUR 1.9 mn, increasing by 21.3% YoY, on account of an increase in revenue. The company repaid debt amounting to EUR 1.3 mn (and took loans amounting to EUR 950k), completing H1 2021 with a similar cash balance (EUR 1.5 mn in H1 2021, down 77k as compared with FY 2020).
- Ended contract of Stéphane Vandervelde:** On April 15, 2021, Keyware Technologies announced that it had reached an agreement with Stéphane Vandervelde to end his contract with the company. In his place, Guido Van Der Schueren will serve as the CEO ad interim until a new CEO is appointed.
- FY 2020 results announced:** On March 25, 2021, Keyware Technologies announced its FY 2020 results. The company reported a revenue of EUR 13.0 mn in FY 2020, a decline of 28.5% YoY. The EBITDA of the company decreased by 6.2% YoY to EUR 2.8 mn on account of a decrease in revenue. The EBITDA margin increased to 21.7% from 16.5% in FY 2019 as a result of cost saving initiatives. The company repaid debt amounting to EUR 2.7 mn in FY 2020 and closed the year with cash and cash equivalents of EUR 1.5 mn.
- Acquittal in case:** On March 24, 2021, Keyware Technologies announced that it had been definitely acquitted in a court case related to Keyware Smart Card Division SA. The case was related to techniques used by the company to advertise its offerings.
- H1 2020 results announced:** On August 28, 2020, Keyware Technologies announced its H1 2020 results. The turnover reduced by 15.7% YoY in H1 2020 to EUR 7.7 mn, owing to COVID-19-related headwinds. The gross margin and EBITDA margin increased to 67.4% and 19.9%, respectively, from 60.9% and 16.7%. However, the net margin decreased to 3.6% from 4.8% in H1 2019, on account of lower financial income and increased write-downs on current assets. The company repaid debt amounting to EUR 1.4 mn, reducing it to EUR 2.8 mn, while cash and cash equivalents increased to EUR 1.3 mn from EUR 1.2 mn in H1 2019.
- Termination of the share buy-back program:** On September 05, 2020, Keyware announced that it had bought 480,222 shares for a total amount of EUR 420k as part of its ongoing share buy-back program. The company held a total of 1,027,144 treasury shares (4.36% of the issued shares as of August 28, 2020). The company announced that it had decided to terminate the ongoing program as it had not met the objective of buying back shares of EUR 1.0 mn, even a year after extension.
- Q1 2020 trade update:** On May 15, 2020, the company reported a revenue of EUR 4.2 mn in Q1 2020, a decrease of 10.7% on a YoY basis. The decrease was due to a decline in revenue of authorization and terminals segment due to closure of businesses during the lockdown.
- Consequences of COVID-19:** On March 20, 2020, Keyware announced that due to COVID-19 it had to temporarily reduce its sales force which would directly impact the number of contracts that would have been signed in their period of unemployment. The Terminals segment will be affected and a delay in collection of receivables might be seen. However, noncash payments will become popular as they would decrease the risk of catching an infection. However, the overall consequences cannot be estimated at this point.
- FY 2019 results announced:** On March 12, 2020, Keyware announced its FY 2019 results. The company reported a revenue of EUR 18.1 mn in FY 2019, decreasing by 7.7% YoY. The decrease was due to a decline in revenue of authorization and terminals segment. EBITDA decreased by 5.7% YoY to EUR 3.0 mn, even as EBIT increased, due to lower noncash costs. The net profit decreased by 48.9% YoY to EUR 320k because of lower financial income and higher corporate taxes.
- Appointment of COO:** On January 06, 2020, the company announced the appointment of new COO, David Leynen, who took over from Wim Verfaillie.



## 6. Management and Governance<sup>xvii</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.

Exhibit 10: Management Team		
Name	Designation	Background
Guido Van der Schueren	CEO ad interim	<ul style="list-style-type: none"> <li>Guido Van der Schueren is among the main shareholders of Keyware Technologies and chairman of the boards of Hybrid Software, Global Graphics (Euronext: GLOG: BB) and Brand Quadergy</li> <li>He cofounded Artwork Systems and served as the managing director until 2007</li> <li>He then served as the Chief Commercial Officer (until mid-2011) and vice chairman of the board of Esko Artwork</li> </ul>
David Leynen	COO	<ul style="list-style-type: none"> <li>David Leynen holds a master's degree (engineering) in electricity, electronics and computer science and has completed an executive master's in management from Solvay Business School</li> <li>He has valuable experience in the electronic payments industry, having served as the CTO at Sodexo and CCO at FICS/S1</li> <li>He has been the Customer Services Head at MasterCard Europe and CIO/IT at Group Jolimont</li> <li>He has been appointed as the Chief Operating Officer (COO) in 2020</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 has completed his master's 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>
Laurent Vandervelde	CEO EasyOrder + Country Manager Germany	<ul style="list-style-type: none"> <li>Master Commercial Engineer @ Solvay Business School</li> <li>Sales and marketing development at Readz</li> <li>Experienced in international sales and marketing strategies</li> <li>Market analysis for technology start-ups</li> <li>At Keyware since 2016</li> </ul>
Franck Willmann	CEO Magellan	<ul style="list-style-type: none"> <li>He has more than 20 years of experience in payments applications</li> <li>He was co-founder of Magellan and Caravel payment solutions</li> <li>He has been associated with Magellan for 16 years</li> <li>He served as director of products and services at Magellan for five years</li> </ul>

## 7. Industry Characteristics

### 7.1 Industry Overview<sup>xviii</sup>

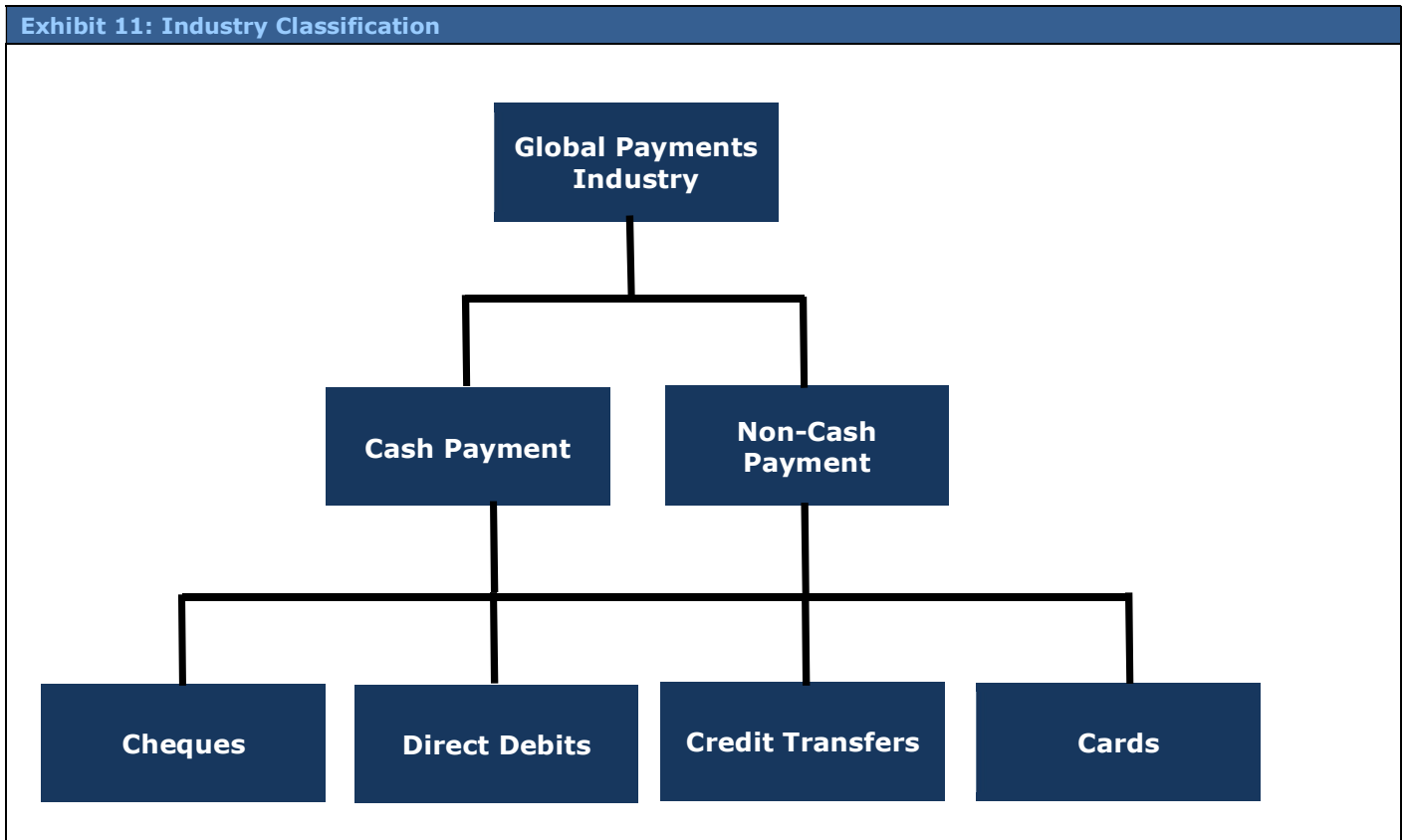
The global FinTech market is expected to grow to USD 324 bn by 2026 at a CAGR of 23.4% from 2021 onward. The high penetration of mobile devices and usage of technology-based solutions is creating greater demand for financial and banking solutions. FinTech covers a wide range of services such as robotic trading, peer-to-peer lending platforms, crowdfunding, robo-advice, virtual currencies and cashless payments. Infrastructure-based technology in the open platforms and application programming interfaces are transforming the financial services industry in addition to operational advancements such as the automation of robotic processes (RPA), chatbots and distributed accounting technology (DLT) which allows for more efficiency and agility.<sup>xix</sup>

The electronic payment industry involves multiple stakeholders, including terminal providers, banks and payment institutions, transaction service providers, infrastructure telecommunication companies, and government agencies, which create a strong payment services ecosystem. The industry is fast eliminating the use of cash and cheques as modes of payment and moving toward technologically enhanced methods such as 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, for example, the Belgian authorities have revised the limit on cash transactions for the purchase of goods and services from EUR 5,000 to EUR 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 modes of payment.

### 7.2 Industry Segments

The payment industry broadly comprises two segments – Cash payments and Non-Cash payments. Non-Cash Payments are further divided depending upon the payment methods.

**Exhibit 11: Industry Classification**



1. **Cash Payments:** Transactions happening using 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 services to facilitate the card payments. For this, it provides infrastructure support in the form of renting/selling of payment terminals, along with 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 of 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.

## 7.3 Market performance

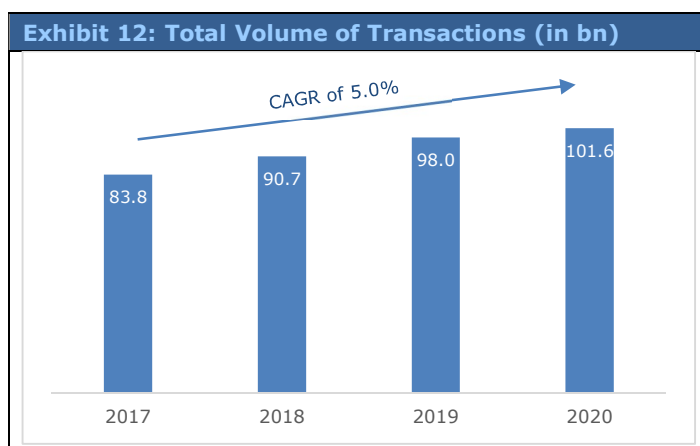
### Total Volume of Non-Cash Payment Transactions <sup>xx</sup>:

As per the European Payments Council, the total number of transactions increased to 101.6 bn in FY 2020 from 83.7 bn in FY 2017, at a CAGR of 5.0% for the forecast period. The total value of transactions increased to EUR 167.3 tn (up 8.7% YoY) in FY 2020.

### 7.4 Payment Process Participants <sup>xxi</sup>

Various stakeholders play an important role in ensuring successful electronic transactions. A 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 Smartphones.
- 2. Retailers:** They sell goods or services and accept the non-cash payment methods. Retailers use fixed, portable or mobile payment terminals to carry out the transactions and receive the payment via a non-cash payment method such as 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 such as installation of point-of-sale (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 a service fee. The acquirers give the retailers access to various card schemes such as 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, etc. – 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 Institutions** Generally, the national banks who provide clearing and settlement services between the acquiring bank and issuing bank.

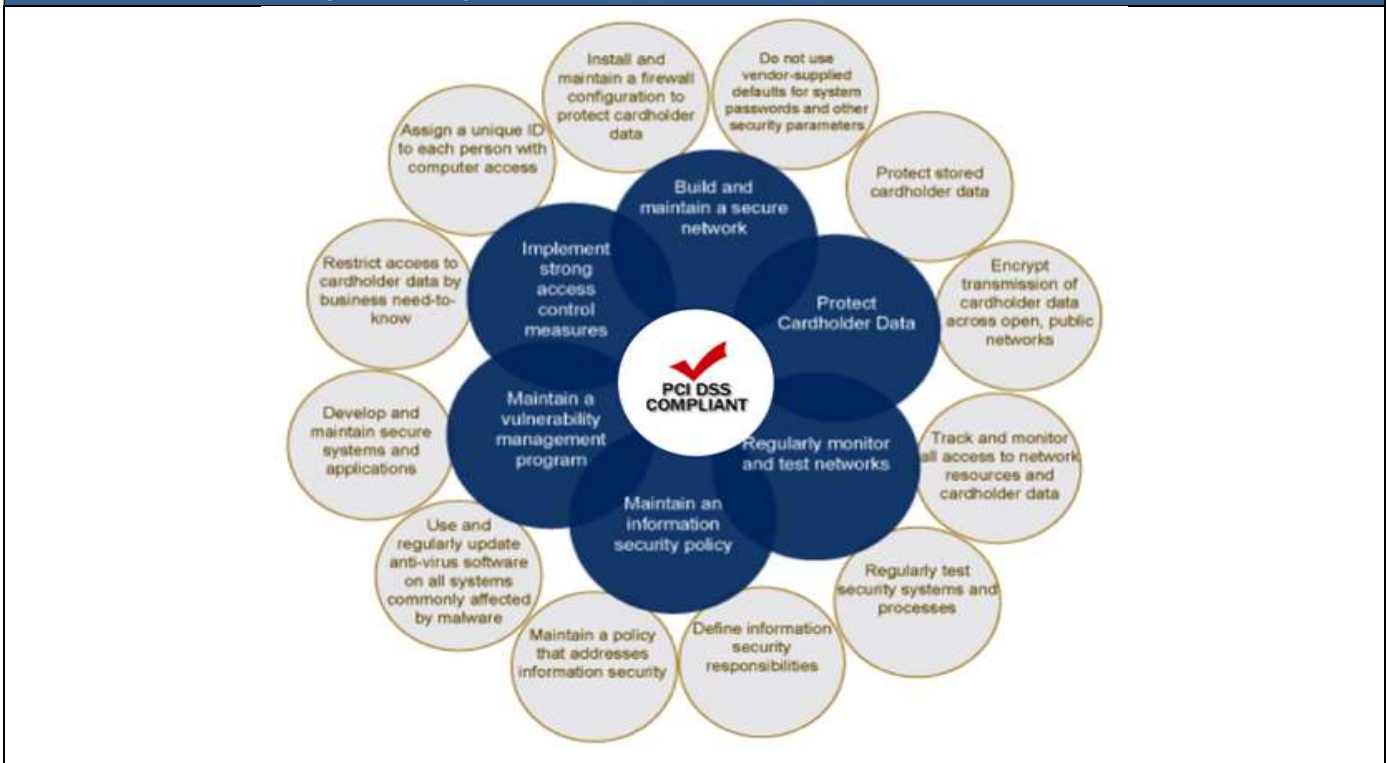
Keyware, as a participant, is active in payment acceptance processing, acceptance-related services and transaction services as described in points 3, 4 and 6 above.

**7.5 Payment Card Industry Security Standards<sup>xxii</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), Personal Identification Number (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 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 include 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 include Card Verification Value (CVV), Card Verification Code (CVC) or Personal Identification Number (PIN) codes and must not be stored in any form after authorization.

**Exhibit 13: PCI-DSS Compliance Requirements**



## 7.6 Growth Drivers

**1. Digitalization of Financial Services<sup>xxiii</sup>:** Digitalization has changed the interface between the customers and service providers, leading to increased expectations by the customers. Historically, customers relied on physical bank branches for carrying out deposits, withdrawals and to fulfill their other financial needs. However, with digitalization, the customers usually access the automated versions of these services as per their convenience. The emergence of new technologies such as distributed ledger technology, big data, the Internet of Things (IoT), cloud computing, artificial intelligence (AI) and biometric technologies have transformed activities such as payments, planning, lending, funding, trading and investment, insurance, security, operations and communications. Newer trends such as Banking-as-a-Service and Embedded Finance are gaining momentum and seek to transform the financial services industry further.

Digitalization has helped FinTech companies to build a leaner, more efficient model, which allows for scaling of activities and reduction of costs. The COVID-19 pandemic oversaw a number of companies shift to the digital model, which was attributable to the change in consumer behavior (72% increase in usage of FinTech apps in Europe during the pandemic).

The traditional banking companies have realized the importance of digital transformation and have earmarked it as a key spending area. Based on a study of capital market firms, 93% of executives at these companies are investing long-term in digital innovation. Additionally, another study indicated that 33% of financial services Chief Information Officers identified digital to be their top-most priority in 2019. The investment in digital was anticipated to be EUR 389.4 bn in FY 2019 and expected to rise to EUR 442.5 bn by FY 2021.

**2. Real-Time Payments (RTP)<sup>xxiv</sup>:** A new phase of evolution has been introduced in the FinTech sector with the innovation of RTP. These payments are drastically different from conventional payment methods in terms of speed, value-added messaging capabilities and immediate availability of transaction status. These also facilitate greater precision in budgeting by businesses and help in smoothening their overall cash management due to the early availability of funds.

As from the consumers' point of view, faster payments are often linked with increased consumer satisfaction, especially when consumers are becoming increasingly comfortable with technology. In this growing era of convenient mobile and digital services, RTP often generate positive consumer sentiment for businesses. In addition to speed, RTP provide more security and reliability in comparison to the alternatives, such as cheques and cash, which are responsible for RTP's increased popularity.

It is forecast that the global market for RTP will grow to USD 62.5 bn by 2026, at a CAGR of 32.3% from 2020 onward. Increasing acceptability (56 countries activated RTP payments by 2020 as compared with only 14 countries 6 years earlier) will be one of the driving factors of this growth. Additionally, RTP payments will gain more traction from Peer-to-Peer (P2P) payment apps and Business-to-Business (B2B) payment option (about 60% of respondents in a study believe that RTP payment option will benefit B2B transactions more than any other option).

**3. Rising Number of Payment Options<sup>xxv</sup>:** Nowadays, there are multiple payment options available to the customers, apart from traditional options such as cash and credit. Online and mobile payments are becoming popular among the customers. Online payments include online banking and electronic commerce and payment services. Mobile payments basically include transactions connected through mobile network operators, e-wallets and cards linked to mobile phones.

A variety of firms offering such a complex structure of payment options are required to work in collaboration with third-party FinTech organizations that provide POS hardware, cloud-based software solutions and payment infrastructure to smoothen these transactions.

Conclusively, it can be said that payment firms are entrenched as an essential component of retail business operations around the world.

The pandemic saw substantial growth in digital/mobile payment methods, which attained a 21.5% transaction payment market share in 2020 (POS payments). These are expected to account for 33% of all POS transactions. Credit and debit cards are expected to hold on to their market share of 22% in the next 2 years. Cash transactions, however, are expected to decrease from 20.5% in 2020 to 12.7% in 2024.

**4. Increasing usage by Millennials<sup>xxvi</sup>:** FinTech’s adoption is higher among millennials. They have a growing requirement of financial services and are the core future consumers of the industry. As per the Global Payments Report by FIS, in 2021, 44% of millennials globally have made use of a mobile wallet, while another 34% are interested in doing so. About 64% agree that mobile wallets make payments easier.

Nearly 39% of those surveyed prefer to use contactless cards or digital wallets when paying in-store during the pandemic.

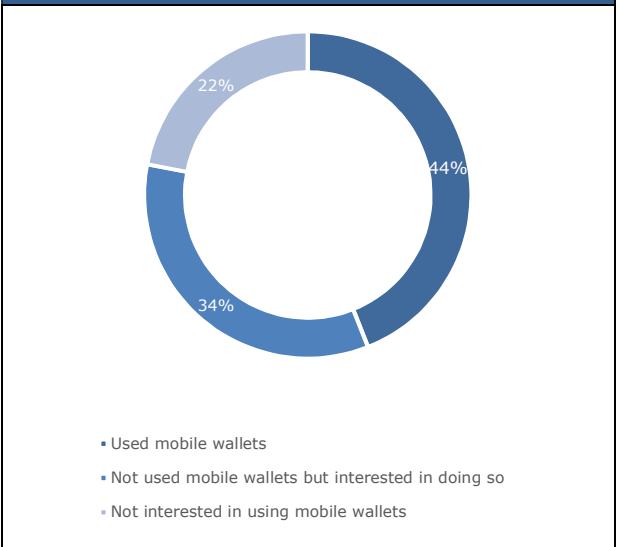
About 66% of those surveyed use mobile banking applications as well.

In **Belgium**, 35% of people made at least one mobile payment in a physical store in 2021 as compared with 30% in 2020. Nearly 40% of Belgians feel comfortable paying using a smartphone while 70% feel comfortable paying using contactless payment options.

About 6% of Belgians (all age groups) do not carry cash with them while 42% of Belgians do not carry more than EUR 20, with the volume of cash transactions falling by 39% in 2021. Contactless cards represent the go-to payment method for Belgians (36% in 2021 versus 16% in the previous year), while 37% prefer to use traditional cards (versus 60% in 2020) and 13% prefer to use cash.

The most noticeable trend is among 16–24-year-olds for whom mobile payment has become the preferred option.

**Exhibit 14: E-wallet popularity among Millennials (2021)**



**7.7 Products and Services**

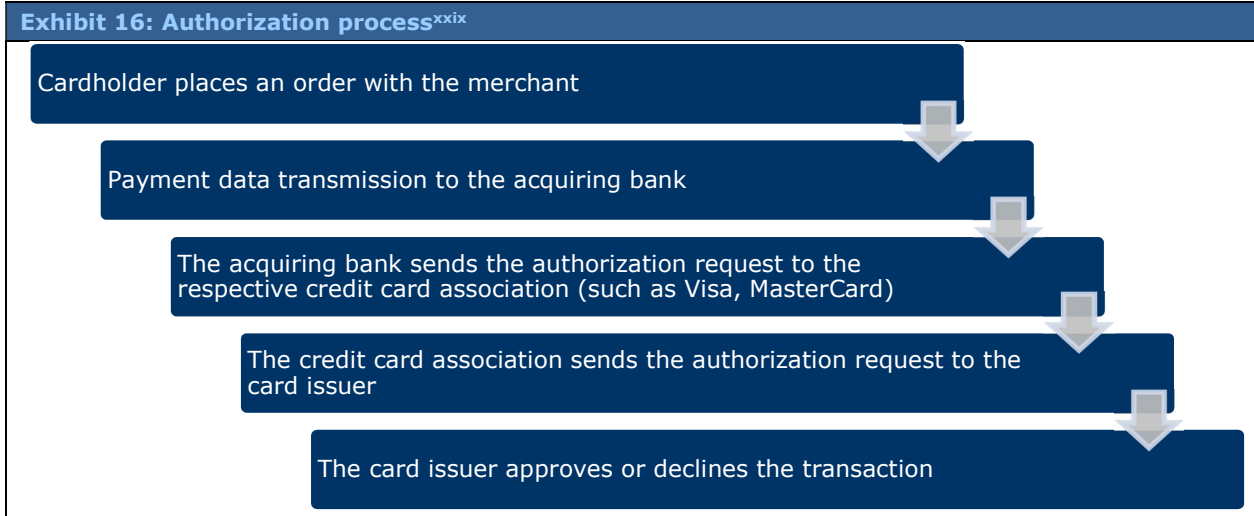
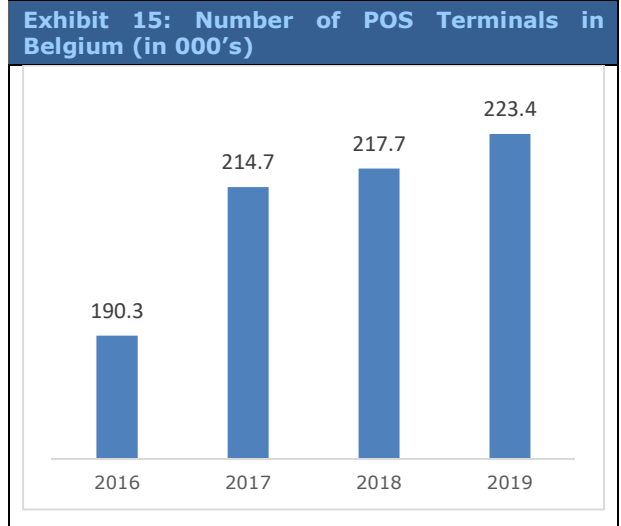
**1. Point of sale (POS) terminals<sup>xxvii</sup>:**

POS or Payment Terminals constitute the interface needed to process the electronic transactions. These terminals are basically a combination of software and hardware which allows retail locations to accept card payments without updating their cash registers to read cards directly. Despite the popularity of digital payment methods and mobile wallets supported by the rise of AI, SaaS and cloud technologies, the number of POS terminals in Belgium increased to 223.4k in 2019 as compared with 217.7k in 2018.

The COVID-19 pandemic in FY 2020, along with related macro factors, subdued the sale of traditional POS terminals. These factors, however, are expected to encourage the adoption of a newer generation of terminals, namely mobile POS (mPOS) and cloud POS, in addition to other methods of contactless payments.

**2. Authorization Services / Processing<sup>xxviii</sup>:**

This is essentially a process where permission is granted by the customers’ card issuing bank to the merchant to accept the card payment. Globally, the authorization services market is expected to reach EUR 1.4 bn by FY 2022 from EUR 0.5 bn in FY 2017, representing a CAGR of 21.1% in the period from FY 2017 to FY 2022. The activities involved in the authorization process vary from one card network to another. However, the general process involved in authorization is as follows:

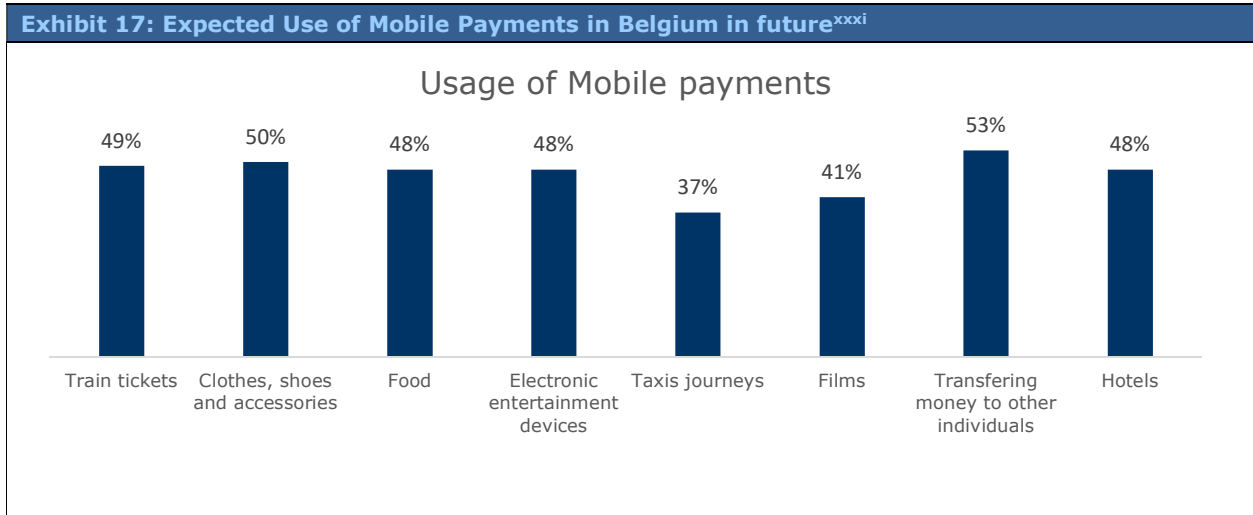


**3. Payment Applications<sup>xxx</sup>:**

Payments which are made through mobiles for goods and services purchased are referred to as mobile payments and the technology which is used to make these payments is mobile payment technology. The Mobile Payment industry is expected to generate USD 3.7 trillion in transactional value in 2021, which is expected to grow to USD 4.6 trillion by 2025.

The COVID-19 pandemic helped increase the adoption rate of payment applications in Belgium, as per a study, with 35% people having made a mobile payment in a physical store (as compared with 30% in 2020). Additionally, 33% of people who have not used smartphones for payments plan to do so in the future, with cash becoming a less preferred mode of payment.

As per a report by PWC, mobile payments are expected to be one of the main modes of payments for several services/products by consumers.



In Belgium, Paypal is the most well-known payment application as 37% people prefer to use it. Paypal is ahead of the global giants such as Google, Facebook and Amazon.

**4. Installment Solutions<sup>xxxii</sup>:**

It is essentially a credit system in which payment for the product or service is made in terms of installments over a fixed period. These applications have services such as invoicing and automatic payments already built in. Some of these applications pay the vendors for the purchase on behalf of the customer and assume risk for the customer. Other applications provide an option to integrate an installment plan in the payment options.

Moreover, these kinds of applications also allow retailers to choose how they prefer to use the system: with no prior conditions, with immediate receipt of full payment from the financial intermediary or with guaranteed receipts of deferred payments.

These applications form a part of the 'Buy Now Pay Later' (BNPL) industry, which has been strengthened by the COVID-19 pandemic affecting people's financial condition and their inclination to use cash. BNPL transactions grew by 292% between 2018 and 2020 with the market expected to account for 11% of e-commerce purchases in Europe by 2025. An up-and-coming industry, BNPL has attracted significant sums of investment amounting to EUR 1.1 bn (up 118% YoY) in 2020 and EUR 930 mn in Q1 2021 in Europe alone.

**5. Payment tokenization<sup>xxxiii</sup>:**

Tokenization is a process that adds an extra layer of security and protects sensitive data by replacing it with an algorithmically generated number called the token. For instance, in credit card tokenization, credit card fraud is prevented by replacing the customers' permanent account number with a randomly generated series of numbers.

The global market size of this segment is estimated to represent a growth from EUR 1.9 bn in FY 2020 to EUR 4.8 bn by FY 2025, representing a CAGR of 19.5% during the forecast period. Increasing regulatory requirements to ensure transparency and security and increasing demand for contactless payment and cloud-based payment are expected to fuel the growth. The COVID-19 pandemic has contributed to the increase and the shift to online payments and online shopping necessitate the need for it to prevent identity thefts and frauds.

Before tokenization, encryption with reversible cryptographic algorithms was the preferred method to protect sensitive data. However, because of the random assignment of tokens, it is almost impossible to reverse engineer a token. As a result, tokenization is a stronger method of preventing frauds. The ultimate motive underlying the process is to enable these tokens to be passed through internet or other wireless paths to initiate processing of payments without confidential bank details being exposed. This process is carried out to fight against online or digital breaches of security.



## 7.8 New Technological Trends in Payment Industry

### 1. IoT<sup>xxxiv</sup>:

IoT has introduced a change to how businesses and consumers interact with connected devices. It is expected that 46 bn connected devices will be installed in the global economy in FY 2021. Similarly, IoT is expanding to the payment industry and is providing an opportunity to players to move beyond mobile phones, cards and POS devices. IoT is enabling payments to become a component of connected devices such as fitness bands, wearables, and cars. This development has led to the need for tokenization, embedded commerce and Application Programming Interfaces (APIs).

- 1) Tokenization programs have been launched to enable security and prevent data breaches.
- 2) To enable these payments, devices require embedded applications.
- 3) APIs: These APIs are required to communicate the request from the device for a service and to receive payment.

### 2. AI<sup>xxxv</sup>:

AI is being used to identify fraud cases. The payment industry has undergone many reforms. Market players are also eagerly looking forward to implementing AI for efficient payment processing. As per International Data Corporation, a market intelligence firm, the expected spend on AI by payment companies is to increase to USD 14.5 bn by 2024 from USD 7.1 bn in 2020. AI is a valuable tool for payment companies and financial institutions as it helps to reduce fraud in the transaction space, specifically in E-Commerce transactions.

### 3. Blockchain and Cryptocurrency<sup>xxxvixxxvii</sup>:

Globally, the blockchain market is expected to grow from EUR 3.1 bn in FY 2020 to EUR 104.1 bn by FY 2028 at a CAGR of 55.8%. Blockchain technology facilitates fast, secure, low-cost payment processing services by using encrypted forms of data. There are a large number of start-ups which are present in the market, which makes the market more fragmented. The spending in Blockchain in Europe is expected to reach EUR 350 mn by 2023. Blockchain technology will lead to savings of USD 25 bn by 2030 to the banking industry.

Cryptocurrency is the other new application of technology which is being used as a mode of payment. It provides the feasibility of improving the speed and security of international payments. The cost of holding a cryptocurrency in a wallet is mostly zero unless someone choose to transact. The acceptance of cryptocurrency has grown worldwide at a very nominal rate. Even accepting the cryptocurrency online has become convenient. Various vendors have started accepting cryptocurrency as a mode of payment.

### 4. E-Wallets<sup>xxxviii</sup>:

E-wallets are basically digital forms of debit cards, credit cards and prepaid card information on mobile. The number of users of e-wallets went up from 34.5 mn in 2017 to 51.7 mn in 2020; expected to be more than 63 mn in 2023 in Europe. The e-wallets market in Europe amounted to USD 17.4 bn in 2017 and USD 35.0 bn in 2019. It is expected to amount to 111.4 bn by 2023. Rising smart phone penetration and increasing awareness of mobile wallets along with their multiple benefits are the key drivers for the mobile wallet market. Mobile wallets are being used for regular payments such as utility payments and groceries, and are widely acceptable across sectors such as retail, utilities, telecom and transportation, etc. Giants like Amazon, Apple, Google, PayPal and Alibaba already offer wallet services.

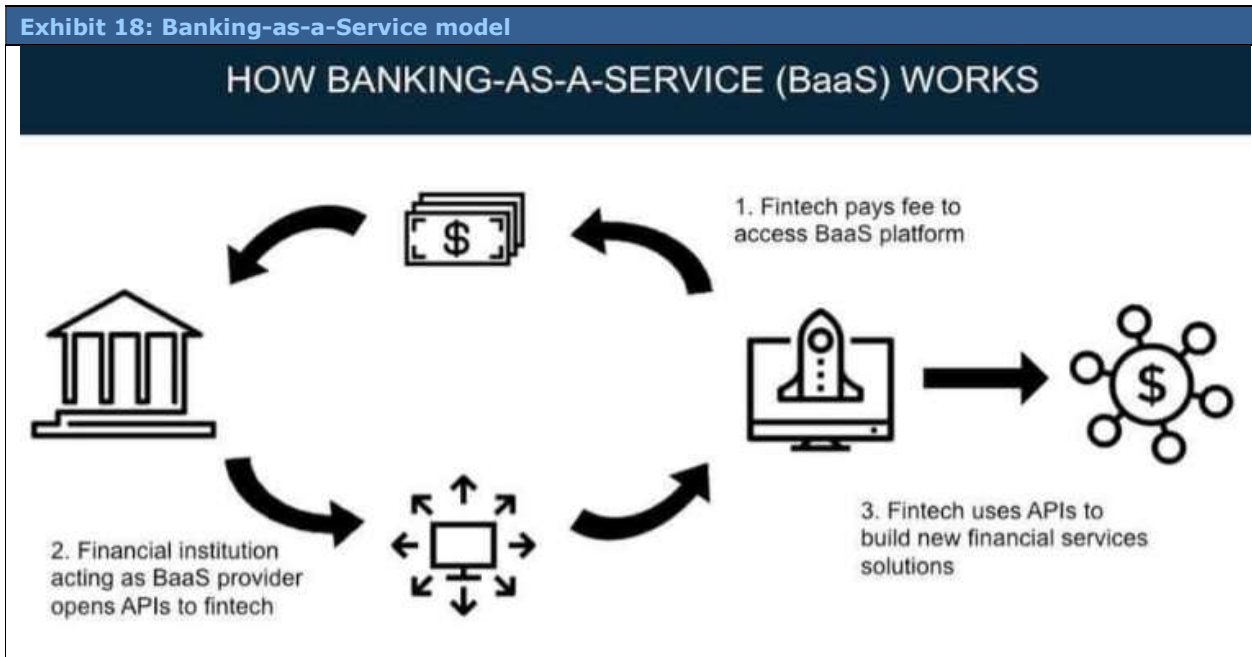
### 5. Digital banking<sup>xxxix</sup>:

Rising internet penetration has led to an increase in the use of digital devices such as mobiles and computers, which has further led to betterment of digital services in the banking space. The continuous developments in the technology, such as AI, Cloud services, SaaS, are driving the digital market by providing more comfort and ease to the customers. According to a research by a British firm, Juniper Research, the total number of users of digital banking will be in excess of 3.4 bn by 2024, up from 2.4 bn in 2020.

**6. Embracing the Regulatory Technology (RegTech)<sup>xl</sup>:** RegTech helps the financial services providers to deal with regulations in a better way. It also helps to reduce the fixed cost and increases the efficiency. RegTech strengthens the compliance element and reduces risk. It makes use of technologies such as advanced analytics, robotic process automation, cognitive computing and cloud services to manage compliance and regulatory issues effectively and efficiently. Spending on RegTech will increase to USD 130 bn by 2025 from USD 33 bn in 2020. The spending will be

backed by the increase in the number of new bank accounts opened through digital onboarding to 330 mn in 2025 from 184 mn in 2020.

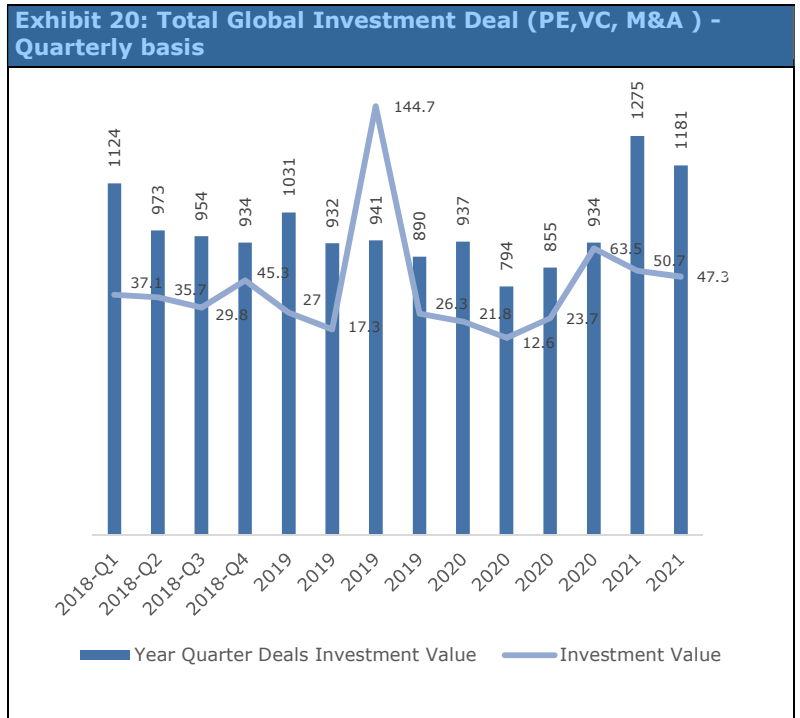
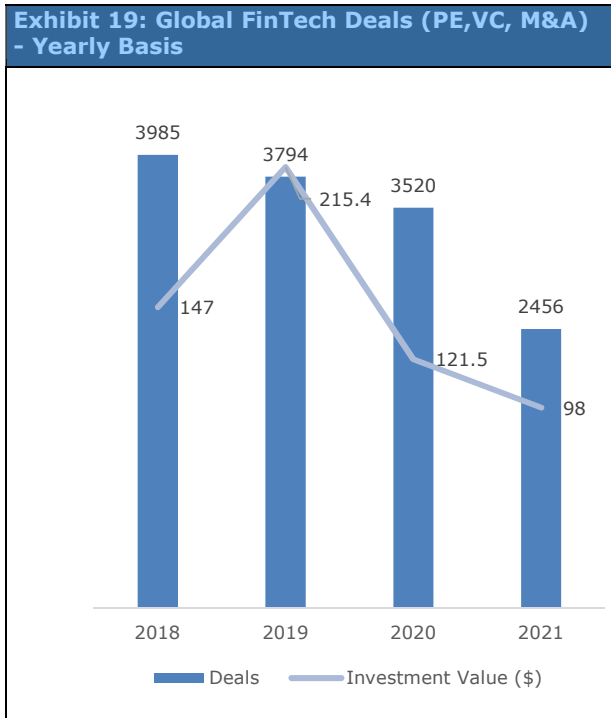
**6. Banking-as-a-Service<sup>xlii</sup>:** It is a process in which banks provide integration with their IT systems through open API, smart contracts and distributed ledger technologies. The Banking-as-a-Service model resembles renting cloud resources from third-party providers. Banking-as-a-Service allows digital banks and other third-party companies to directly connect with bank systems via APIs to provide banking services to their clients. Banking-as-a-Service will help financial institutions to reach customers at a lower cost. The cost of acquiring a customer is typically in the range of USD 100 to USD 200. With a new Banking-as-a-Service technology stack the cost can range between USD 5 and USD 35. It will additionally allow distributors to offer financial products at attractive margins.



**7.9 Global Landscape<sup>xliii</sup>**

In H1 2021, global investments in the FinTech sector reached EUR 98 bn with approximately 2,456 deals. The global FinTech made remarkable rebound by taking anti-COVID-related acceleration routes. The US again accounted for the highest FinTech investments at USD 42.1 bn in H1 2021. Europe, the Middle East and Africa (EMEA) also had vigorous investments at USD 39.1 bn and the investments in the Asia-Pacific rose from USD 4.5bn to USD 7.5bn in H1 2021.

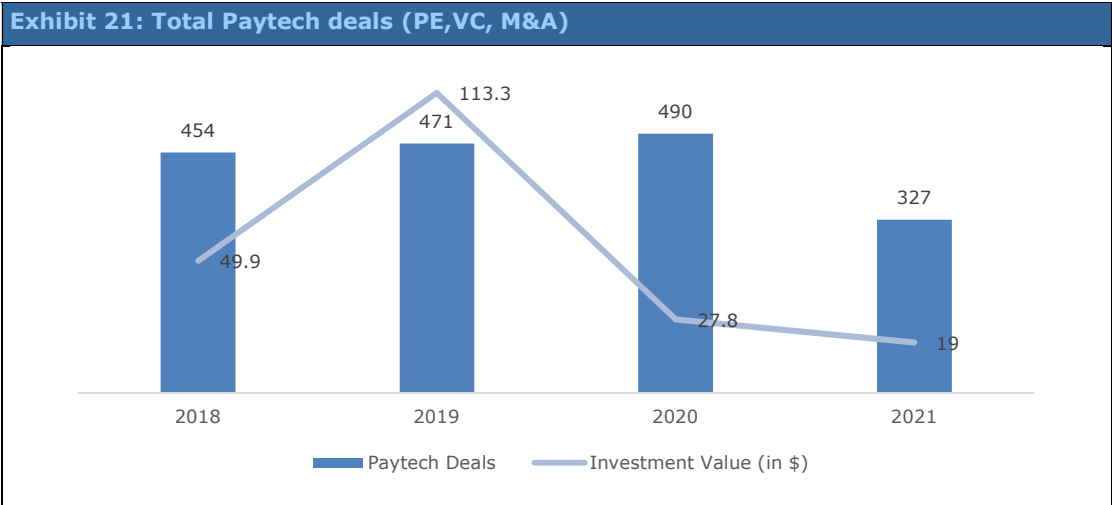
Corporates around the globe are under the influence of changing times to have more rapid digitization of activities and enhance their capabilities. As a result, there were USD 21 bn corporate-filled venture capital (VC) worth investments in H1 2021 with 284 deals. This volume is expected to increase further to 312 in Q2 2021. Global VC investments reached more than USD 52 bn in the first half of 2021, which was very close to the annual record of 2018. Top VC investments include: US-based wealth and technology (wealthtech) company Robinhood (USD 3.4bn), Brazil-based digital Nubank (USD 1.5bn), Sweden-based firm Kalarna (USD 1.9bn), Germany-based wealthtech company – Trade Republic (USD 900mn) & South-Korea-based mobile app Toss (raised USD 410 mn). Many mature FinTech companies took up overseas merger and acquisition (M&A) deals in order to expand their reach & capabilities. As a result, the deal value rose from USD 10.3bn in 2020 to USD 27.7bn in H1 2021. Among the major M&A deals, the London Stock Exchange Group acquired the data analytics firm called Refinitiv for USD 14.8bn. Nasdaq acquired Canadian fraud detection platform called Verafin for USD 2.7bn. This momentum is expected to continue in H2 2021 as the M&A and other partnerships allow corporates to exploit their capabilities and increase their outreach. Furthermore, given the rise in the number of digital transactions, there will also be focus on scrutiny, regulations and cybersecurity for investment purposes.



**a. Top Payment Investments in H1 2021**

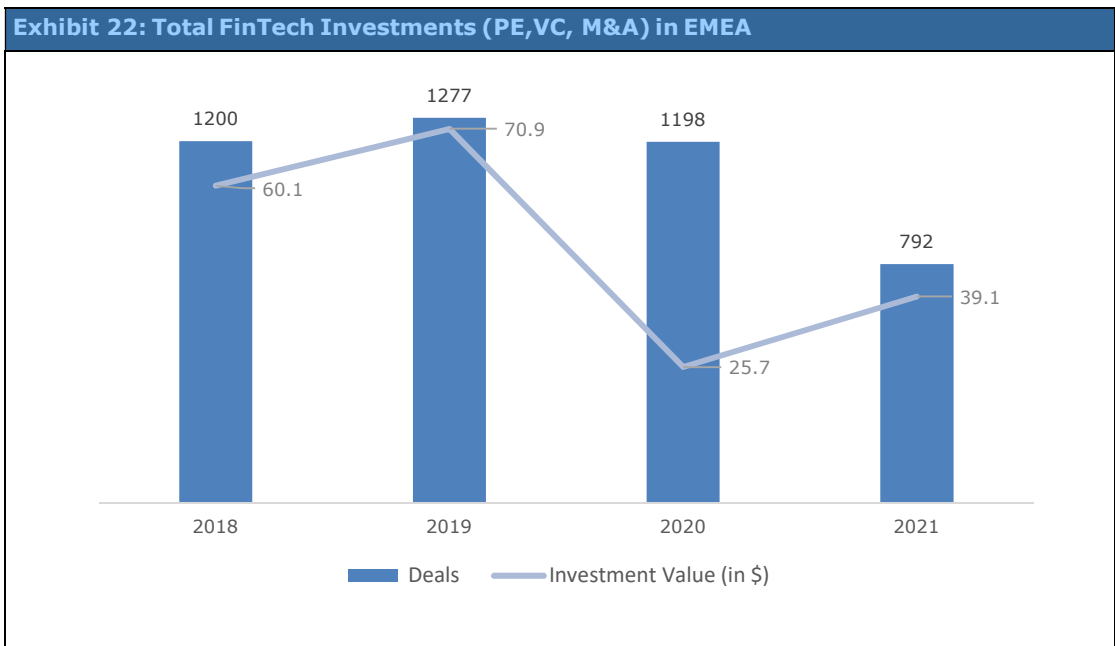
In H1 2021, the Payment segment retained the top spot of FinTech with a total of 327 deals. Major deals were led by the USD 2.4bn special purpose acquisition company (SPAC) merger by US-based SoFi, USD 1.4bn SPAC merger of UK-based Paysafe Group, VC funding rounds totalling more than USD 1.9 bn by Sweden-based Klarna and funding rounds totalling more than USD 1.1 bn by Brazil-based Nubank.

Embedded finance has been improved through open banking regulations as they allow easy access to data and foster an environment of collaboration. The payments space is varied with solutions increasingly embedded into offerings, retail apps and ecosystem platforms. Though there have been no mega M&A deals but there are a lot of opportunities available for strategic acquisitions and for companies looking to expand market share, which bodes well for M&A heading into H2 2021.



Lastly, many non-financial companies are also getting into payments and financial services. During H1 2021, IKEA bought a stake in Ikano bank to provide consumer banking services, Walmart announced a partnership with Ribbit Capital to create a FinTech to offer digital financial products, and Walgreens announced a partnership with MetaBank to offer bank accounts in-store and online — including the use of a Banking-as-a-Service platform by InComm Payments and debit cards issued by Mastercard.

**b. Investments in FinTech in EMEA (FY 2021)<sup>xliii</sup>**



- 1) In H1 2021, investment in FinTech companies in EMEA was USD39.1 bn with 792 deals. The pandemic has provided many opportunities to the FinTech industry as consumers across EMEA are more comfortable with digital products and services for banking, insurance and wealth management.
- 2) Investment levels are on the rise across the entire FinTech ecosystem, M&A deal volume has risen to 125 for H1 2021 from 182 in FY2020.

3) Corporate-affiliated VC amounted to USD 5.2 bn in H1 2021 as against USD 5.1 bn in all of 2020. Considering the influence of digitization due to COVID-19, many corporates started making direct investments, acquisitions or partnerships with FinTech companies.

**Exhibit 23: Top ten FinTech deals in Europe in FY 2021<sup>xliv</sup>**

Acquirer/Investor	Acquiree/Target	Country	Deal Type	Deal Size (USD bn)
LSEG	Refinitiv	UK	M&A	14.8
Broadridge	Itiviti	Sweden	M&A	2.6
Foley Trasimene Acquisition Group	Paysafe	UK	Reverse Merger	1.45
Softbank	Klarna	UK	Later VC	1.29
JP Morgan	Nutmeg	UK	M&A	0.98
Sequoia Capital	Trade Republic	Germany	Series C	0.90
Future Plc	GoCo Group	UK	M&A	0.81
Alkeon Capital	Mollie	Netherlands	Series C	0.80
Silver Lake	Group 42	UAE	PE Growth	0.80
JP Morgan	Lendinvest	UK	Later VC	0.68

**LSEG completes acquisition of Refinitiv in a major deal valued at USD 14.8 bn<sup>xlvxlvii</sup>**









LSEG acquired Refinitiv in a deal valued at USD 14.8 bn in January 2021. The combined entity of LSEG & Refinitiv is expected to become the global financial infrastructure & data provider. Refinitiv, as a part of LSEG from February 1, 2021, will now provide more clear and rich data using Machine Learning & AI advanced technologies.

**Worldline's completes acquisition of Ingenico in a major deal valued at USD 8.6 billion (bn)<sup>xlvixlviii</sup>**

Worldline acquired Ingenico in a deal valued at EUR 8.6 bn in October 2020. The deal was approved by the European commission in September 2020. The combined entity is expected to emerge as the fourth-largest player in payment services with more than 20,000 employees and a physical presence in around 50 countries delivering solutions to around 1 mn merchants and 1,200 financial institutions. A strong value creation is expected from this transaction. The consolidated company is not only likely to have economies of scale but also be able to fend off the competition from smaller FinTech companies and some of the e-commerce giants who have entered the payment space.

## 7.10 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 24: Services offered by various players in the market <sup>xlix</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.

## 8. Valuation

The Fair Market Value (blended) for all the company shares stands between EUR 45.0 mn and EUR 50.0 mn on November 08, 2021. The Fair Market Value for one publicly traded share of the company stands between EUR 1.91 and EUR 2.12 on November 08, 2021, using blended valuation (DCF and EV/EBITDA (2021E) multiple).

### 8.1 DCF Method

Valuation	
<b>WACC</b>	
Risk-free rate	0.05% <sup>i</sup>
Beta	1.3 <sup>ii</sup>
Equity Market premium	8.60% <sup>iii</sup>
Country Risk Premium	0.7% <sup>iii</sup>
Cost of Equity	11.84%
Cost of Debt	3.68%
Terminal Growth Rate	3.0%
WACC (Discount Rate)	11.27%

Year Ending - Dec	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
<b>FCFF (High)</b>									
Net cash from operating activities	3,381	3,851	4,049	4,462	5,141	5,828	6,681	7,419	7,664
Capital Expenditure	(1,589)	(1,578)	(1,617)	(1,450)	(1,419)	(1,330)	(1,298)	(1,294)	(1,270)
Free Cash Flow to Firm	1,791	2,273	2,432	3,012	3,721	4,499	5,383	6,125	6,393
Discount factor	0.98	0.88	0.80	0.71	0.64	0.58	0.52	0.47	0.42
Present Value of FCF	1,764	2,012	1,934	2,153	2,390	2,597	2,792	2,855	2,678
<b>FCFF (Low)</b>									
Net cash from operating activities	3,293	3,708	3,777	4,196	4,678	5,326	5,963	6,564	6,568
Capital Expenditure	(1,552)	(1,543)	(1,576)	(1,430)	(1,399)	(1,333)	(1,308)	(1,322)	(1,307)
Free Cash Flow to Firm	1,741	2,165	2,202	2,765	3,279	3,993	4,655	5,241	5,261
Discount factor	0.98	0.88	0.80	0.71	0.64	0.58	0.52	0.47	0.42
Present Value of FCF	1,715	1,916	1,751	1,976	2,106	2,305	2,414	2,443	2,204

Arrowhead Fair Value Bracket	High	Low
Terminal Value (TV)	70,324	57,874
Present Value of TV	29,462	24,246
Present Value of FCF	21,174	18,830
<b>Present Value of TV+FCF</b>	50,636	43,076
Net Debt	(86)	(86)
Deferred Taxes	(415)	(415)
<b>Equity Value (EUR '000)</b>	50,135	42,575
Shares O/s (000's)	23,544	23,544
<b>Fair Share Value Bracket (EUR)</b>	<b>2.13</b>	<b>1.81</b>
Current Market Price (EUR)	1.15	1.15
Upside/(Downside)	85%	57%
Current Market Cap. (EUR '000)	27,075	27,075
<b>Target Market Cap. Bracket (EUR '000)</b>	50,135	42,575

### Sensitivity Analysis

Sensitivity Table - High		Growth Rate (%)				
		1.5%	1.8%	2.0%	2.3%	2.5%
WACC (%)	10.3%	2.33	2.38	2.43	2.48	2.53
	10.8%	2.19	2.23	2.27	2.31	2.36
	11.3%	2.06	2.09	2.13	2.17	2.21
	11.8%	1.94	1.97	2.01	2.04	2.07
	12.3%	1.84	1.87	1.89	1.92	1.95

Sensitivity Table - Low		Growth Rate (%)				
		1.5%	1.8%	2.0%	2.3%	2.5%
WACC (%)	10.3%	1.98	2.01	2.05	2.10	2.14
	10.8%	1.86	1.89	1.92	1.96	2.00
	11.3%	1.75	1.78	1.81	1.84	1.87
	11.8%	1.65	1.68	1.71	1.73	1.76
	12.3%	1.57	1.59	1.61	1.64	1.66

### Approach for DCF Valuation

**Time Horizon:** The Arrowhead fair valuation for Keyware is based on the DCF method. The time period chosen for the valuation is 98 months (2021E-2029E).

**Terminal Value:** Terminal value is estimated using a terminal growth rate of 2.0%.

**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 25: Number of terminals at the end of the year									
In '000s	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Low estimate	14.8	14.5	14.2	13.9	13.6	13.4	13.1	12.9	12.8
High estimate	15.0	14.8	14.7	14.5	14.4	14.3	14.1	14.0	13.9

#### Variable 2 – Terminals offering Authorized services

Exhibit 26: Number of terminals offering authorization services, at the end of the year									
In '000s	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Low estimate	13.8	13.7	13.3	13.0	12.8	12.6	12.3	12.1	11.9
High estimate	13.9	14.0	13.8	13.7	13.5	13.4	13.2	13.1	13.0



## 8.2 Relative Valuation

The Fair Market Value of one of Keyware's publicly traded regular shares stood between EUR 2.02 and EUR 2.12 on November 08, 2021, according to the relative valuation method.

**Exhibit 27: Peer Set (Keyware)<sup>iv</sup>**

Companies	Country	Market Cap (in EUR mn)	Current Enterprise Value (in EUR mn)	EBITDA (FY 2021E) (in EUR mn)	EV/EBITDA (FY 2021E) (in EUR mn)
Worldline	France	14,584	18,679	533.80	34.99x
Global Payments	US	33,785	41,672	2,313.60	18.01x
Fiserv	US	57,810	75,892	4,614.05	16.45x
Glintt-Global Intelligent Technologies SA	Portugal	22	64	12.38	5.16x
SysGroup PLC	UK	17	15	2.61	5.85x
<b>Simple Average</b>					<b>16.4x</b>

	High	Low
Keyware EBITDA FY 2021E*	2,162	2,043
PEER EV/ EBITDA	16.4x	16.4x
Relative Valuation Premium / (Discount)	0%	0%
Adjusted EV/ EBITDA	16.4x	16.4x
<b>FY2021 EV</b>	<b>35,568</b>	<b>33,606</b>

\*Adjusted EBITDA has been used

**Exhibit 28: Peer Set (Magellan)<sup>iv</sup>**

Companies	Country	Market Cap (in EUR mn)	Current Enterprise Value (in EUR mn)	EBITDA (FY 2021E) (in EUR mn)	EV/EBITDA (FY 2021E) (in EUR mn)
RS2 Software PLC	Malta	328	316	(0.36)	NM
Gresham Technologies PLC	UK	166	159	4.36	36.39x
B+S Bankssysteme AG	Germany	28	34	1.40	24.65x
Asseco South Eastern Europe SA	Poland	525	504	50.19	10.04x
GPI SpA	Italy	203	350	39.60	8.84x
Verimatrix SA	France	96	116	18.57	6.26x
NETinfo Plc	Cyprus	16	20	1.14	17.57x
Vetrya SpA	Italy	3	16	(7.99)	NM
CPU Softwarehouse AG	Germany	9	6	0.71	NA
msg life ag	Germany	125	94	14.70	NA
SinnerSchrader AG	Germany	152	144	7.74	NA
GHL Systems Bhd	Malaysia	465	437	11.11	39.32x
Bottomline Technologies DE Inc	US	1,890	1,898	45.45	41.75x
Silverlake Axis Ltd	Malaysia	503	359	46.78	7.67x
Wirecard AG	Germany	NA	(1,968)	558.30	NM
WEX Inc	US	6,039	8,291	165.31	50.16x
ACI Worldwide Inc	US	3,288	4,172	272.00	15.34x
PayPal Holdings Inc	US	229,338	227,046	4,068.43	55.81x

# ARROWHEAD

BUSINESS AND INVESTMENT DECISIONS

Global Payments Inc	US	34,300	42,247	2,313.60	18.26x
KGMobilians Co Ltd	South Korea	260	278	48.84	5.69x
Visa Inc	US	409,512	410,860	13,368.50	30.73x
Mastercard Inc	US	296,254	302,328	7,705.29	39.24x
Global Payments Inc	US	34,300	42,247	2,313.60	18.26x
<b>Simple Average</b>					<b>9.4x</b>

\*Only B+S Bankssysteme AG, Asseco South Eastern Europe SA, GPI SpA, Verimatrix SA, GHL Systems Bhd and Silverlake Axis Ltd have been used for average calculation

Relative Valuation for Magellan (All figures are in EUR '000, except percentage and multiple data)	High	Low
Magellan EBITDA FY 2021E	1,563	1,521
PEER EV/ EBITDA	9.4x	9.4x
Relative Valuation Premium	0%	0%
Adjusted EV/ EBITDA	9.4x	9.4x
<b>FY 2021 EV</b>	<b>14,746</b>	<b>14,351</b>

\*Adjusted EBITDA has been used

Keyware and Magellan (Combined) (All figures are in EUR '000, except per share data)	High	Low
<b>Total EV</b>	50,314	47,956
Adjustment		
Less: Net Debt	(86.0)	(86.0)
Less: Deferred taxes	(415.0)	(415.0)
<b>Implied Equity Value</b>	49,813	47,455
Shares o/s ('000s)	23,544	23,544
<b>Intrinsic Value per share</b>	<b>2.12</b>	<b>2.02</b>
Current Market Price	1.15	1.15
Upside / (Downside)	184%	175%

## 8.3 Blended Valuation

Blended Valuation	High	Low
DCF	2.13	1.81
Relative valuation	2.12	2.02
<b>Blended Value</b>	<b>2.12</b>	<b>1.91</b>
Upside/(Downside)	85%	66%
<b>Target Market Cap. (EUR '000)</b>	49,974	45,015

### **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 consider 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 38 of this report.

## 9. Appendix

### 9.1 Keyware's Financial Summary

<b>Exhibit 29: Financial Summary</b>		<i>Low Bracket Estimates</i>							
<i>Year Ending - Dec</i>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>
Revenue (EUR '000)	18,184	19,389	20,199	20,818	21,464	22,199	22,845	23,509	24,271
Operating Profit (EUR '000)	704	1,456	1,853	2,328	3,201	3,594	4,592	4,796	5,483
Net Income (EUR	728	1,322	1,504	1,860	2,492	2,788	3,574	3,730	4,252
EPS	0.03	0.06	0.07	0.08	0.11	0.12	0.16	0.17	0.19
<b>Growth rates (%)</b>									
Revenue	32.9%	6.6%	4.2%	3.1%	3.1%	3.4%	2.9%	2.9%	3.2%
Operating Profit	NM	107.0%	27.2%	25.6%	37.5%	12.3%	27.8%	4.4%	14.3%
Net Income	1002.4	81.6%	13.8%	23.7%	34.0%	11.9%	28.2%	4.4%	14.0%
EPS	1002.4	81.6%	13.8%	23.7%	34.0%	11.9%	28.2%	4.4%	14.0%
<b>Margins (%)</b>									
Gross Margins	68.6%	69.9%	72.4%	73.9%	75.2%	76.2%	76.3%	76.2%	76.3%
Operating Profit	3.9%	7.5%	9.2%	11.2%	14.9%	16.2%	20.1%	20.4%	22.6%
Net profit Margin	4.0%	6.8%	7.4%	8.9%	11.6%	12.6%	15.6%	15.9%	17.5%
<b>Ratios</b>									
ROA	1.9%	3.4%	3.8%	4.5%	5.7%	6.0%	7.1%	6.9%	7.3%
ROE	2.6%	4.5%	4.9%	5.7%	7.1%	7.4%	8.6%	8.2%	8.6%
Debt / Equity	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x
Interest Coverage	16.9x	66.4x	430.2x	540.4x	743.0x	834.4x	1066.1x	1113.5x	1272.8x
Price / Earnings Ratio	35.1x	19.3x	17.0x	13.7x	10.2x	9.2x	7.1x	6.8x	6.0x

<b>Exhibit 30: Financial Summary</b>		<i>High Bracket Estimates</i>							
<i>Year Ending - Dec</i>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>
Revenue (EUR '000)	18,827	20,059	21,381	21,990	23,175	23,922	25,107	25,911	27,370
Operating Profit (EUR '000)	823	1,542	2,082	2,537	3,640	4,034	5,301	5,582	6,578
Net Income (EUR	820	1,392	1,685	2,028	2,835	3,134	4,126	4,344	5,103
EPS	0.04	0.06	0.07	0.09	0.13	0.14	0.18	0.19	0.23
<b>Growth rates (%)</b>									
Revenue	37.6%	6.5%	6.6%	2.8%	5.4%	3.2%	5.0%	3.2%	5.6%
Operating Profit	NM	87.3%	35.1%	21.8%	43.5%	10.8%	31.4%	5.3%	17.8%
Net Income	1141.9	69.9%	21.0%	20.4%	39.8%	10.6%	31.6%	5.3%	17.5%
EPS	1141.9	69.9%	21.0%	20.4%	39.8%	10.6%	31.6%	5.3%	17.5%
<b>Margins (%)</b>									
Gross Margins	68.4%	69.8%	72.4%	73.7%	75.1%	76.1%	76.3%	76.3%	76.7%
Operating Profit	4.4%	7.7%	9.7%	11.5%	15.7%	16.9%	21.1%	21.5%	24.0%
Net profit Margin	4.4%	6.9%	7.9%	9.2%	12.2%	13.1%	16.4%	16.8%	18.6%
<b>Ratios</b>									
ROA	2.2%	3.6%	4.2%	4.8%	6.3%	6.5%	7.9%	7.7%	8.2%
ROE	2.9%	4.7%	5.4%	6.1%	7.9%	8.0%	9.5%	9.1%	9.7%
Debt / Equity	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x
Interest Coverage	19.8x	70.3x	483.5x	589.0x	845.1x	936.5x	1230.7x	1295.9x	1527.1x
Price / Earnings Ratio	31.1x	18.3x	15.1x	12.6x	9.0x	8.1x	6.2x	5.9x	5.0x

## 9.2 Keyware's Balance Sheet Forecast

<b>Exhibit 31: Consolidated Balance Sheet</b>		<i>Low Bracket estimates</i>								
<i>Year Ending - Dec</i>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>	
Total current assets	12,884	14,264	16,104	18,361	21,420	25,153	29,339	33,781	38,573	
Total non-current assets	24,514	24,139	23,581	22,980	22,186	21,278	20,690	20,035	19,625	
<b>TOTAL ASSETS</b>	<b>37,399</b>	<b>38,403</b>	<b>39,685</b>	<b>41,341</b>	<b>43,606</b>	<b>46,432</b>	<b>50,029</b>	<b>53,816</b>	<b>58,198</b>	
Total current liabilities	4,752	4,636	4,611	4,583	4,428	4,558	4,674	4,790	4,919	
Total non-current liabilities	4,679	4,477	4,281	4,105	4,034	3,941	3,848	3,790	3,790	
<b>TOTAL LIABILITIES</b>	<b>9,432</b>	<b>9,114</b>	<b>8,892</b>	<b>8,688</b>	<b>8,462</b>	<b>8,499</b>	<b>8,522</b>	<b>8,580</b>	<b>8,709</b>	
Total shareholder's equity	27,967	29,288	30,792	32,652	35,144	37,932	41,506	45,236	49,488	
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>37,398</b>	<b>38,402</b>	<b>39,685</b>	<b>41,341</b>	<b>43,605</b>	<b>46,431</b>	<b>50,028</b>	<b>53,816</b>	<b>58,198</b>	

<b>Exhibit 32: Consolidated Balance Sheet</b>		<i>High Bracket estimates</i>								
<i>Year Ending - Dec</i>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>	<b>2028E</b>	<b>2029E</b>	
Total current assets	13,095	14,577	16,746	19,265	22,872	27,128	32,115	37,410	43,384	
Total non-current assets	24,533	24,122	23,507	22,812	21,892	20,812	20,068	19,203	18,584	
<b>TOTAL ASSETS</b>	<b>37,628</b>	<b>38,699</b>	<b>40,253</b>	<b>42,077</b>	<b>44,764</b>	<b>47,941</b>	<b>52,184</b>	<b>56,612</b>	<b>61,967</b>	
Total current liabilities	4,889	4,770	4,835	4,808	4,731	4,866	5,077	5,219	5,471	
Total non-current liabilities	4,679	4,477	4,281	4,105	4,034	3,941	3,848	3,790	3,790	
<b>TOTAL LIABILITIES</b>	<b>9,568</b>	<b>9,248</b>	<b>9,117</b>	<b>8,913</b>	<b>8,765</b>	<b>8,807</b>	<b>8,925</b>	<b>9,009</b>	<b>9,261</b>	
Total shareholder's equity	28,059	29,451	31,136	33,164	35,999	39,133	43,259	47,603	52,706	
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>37,627</b>	<b>38,699</b>	<b>40,252</b>	<b>42,077</b>	<b>44,764</b>	<b>47,940</b>	<b>52,183</b>	<b>56,612</b>	<b>61,967</b>	

## 10. Analyst Certifications

I, Natasha Agarwal, certify that all 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, Sumit Wadhwa, certify that all 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.

## 11. Important disclosures

Arrowhead Business and Investment Decisions, LLC received fees in 2015-2021 and will receive further fees in 2021-22 from Keyware Technologies for researching and drafting this report and for a series of other services to Keyware Technologies, including distribution of this report and investor relations services. Neither Arrowhead BID nor any of its principals or employees owns any long or short positions in Keyware Technologies. Arrowhead BID's principals have received mandates for investment banking services from Keyware in the past and intend to receive compensation for investment banking activities from Keyware Technologies in 2021 or beyond.

Aside from certain reports published on a periodic basis, the large majority of reports are published by Arrowhead BID at irregular intervals as appropriate in the analyst's judgment.

Any opinions expressed in this report are statements of Arrowhead BID's judgment to this date and are subject to change without notice.

This report was prepared for general circulation and does not provide investment recommendations specific to individual investors. As such, any of the financial or other money-management instruments linked to the company and company valuation described in this report, hereafter referred to as "the securities", may not be suitable for all investors.

Investors must make their own investment decisions based upon their specific investment objectives and financial situation utilizing their own financial advisers as they deem necessary.

Investors are advised to gather and consult multiple sources of information while preparing their investment decisions. Recipients of this report are strongly advised

to read the Information on Arrowhead Methodology section of this report to understand if and how the Arrowhead Due Diligence and Arrowhead Fair Value Bracket integrate alongside the rest of their stream of information and within their decision-making process.

Past performance of securities described directly or indirectly in this report should not be taken as an indication or guarantee of future results. The price, value of, and income from any of the financial securities described in this report may rise as well as fall and may be affected by simple and complex changes in economic, financial and political factors.

Should a security described in this report be denominated in a currency other than the investor's home currency, a change in exchange rates may adversely affect the price of, value of, or income derived from the security.

This report is published solely for information purposes and is not to be considered in any case as an offer to buy any security, in any state.

Other than disclosures relating to Arrowhead Business and Investment Decisions, LLC, the information herein is based on sources Arrowhead BID believes to be reliable but is not guaranteed by Arrowhead BID and does not purport to be a complete statement or summary of the available data.

Arrowhead Business and Investment Decisions, LLC is not responsible for any loss, financial or other, directly or indirectly linked to any price movement or absence of price movement of the securities described in this report.

## 12. Notes and References

- i Source: Bloomberg, retrieved on November 08, 2021.
- ii 52 weeks to November 08, 2021. Source: Bloomberg, November 08, 2021
- iii 3 months to November 08, 2021. Source: Bloomberg, November 08, 2021
- iv Arrowhead Business and Investment Decisions Fair Value Bracket – AFVBTM. See information on valuation on pages 31-35 of this report and important disclosures on page 38 of this report
- v Source: Quarter Report Q1 2017, Company Website and Press Releases
- vi Source: Investor Guide, December 2016, H1 June 2017
- vii Source: Company Management
- viii Source: Annual Report 2014, Company Presentation
- ix Source: Arrowhead BID analysis
- x Source: <https://www.ecb.europa.eu/press/pr/stats/paysec/html/ecb.pis2017.en.html>
- xi Source: Arrowhead BID analysis
- xii Source: Company Website
- xiii Source: Company Management
- xiv Source: Company Management
- xv Source: Arrowhead BID estimate
- xvi Source: Press Releases, Full year 2016 results report
- xvii Source: Company Reports, Company website and Bloomberg
- xviii Source: <https://www.ofx.com/en-au/forex-news/historical-exchange-rates/yearly-average-rates/> , (Average Annual exchange rates (USD to EUR) used are 0.753 (2013), 0.754 (2014), 0.902 (2015), 0.904 (2016), 0.887 (2017), 0.847 (2018), 0.893(2019), extracted on June 24, 2019
- xix Source: <https://www.marketdataforecast.com/market-reports/FinTech-market>
- xx Source: <https://www.ecb.europa.eu/press/pr/stats/paysec/html/ecb.pis2020~5d0ea9dfa5.en.html>
- xxi Source: Annual Report 2014
- xxii Source: <https://www.pcisecuritystandards.org/> and Keyware Annual Report 2014
- xxiii Source: <https://www.globalxfunds.com/whats-driving-FinTechs-growth/>,  
<http://www.oecd.org/finance/Financial-markets-insurance-pensions-digitalisation-and-finance.pdf>  
<https://www.forbes.com/sites/simonchandler/2020/03/30/coronavirus-drives-72-rise-in-use-of-FinTech-apps/?sh=7c869f7766ed>  
<https://www.templafy.com/blog/go-evergreen-or-go-obsolete-digital-transformation-in-banking-and-financial-services-industry-sectors/>
- xxiv Source: <https://www.alacriti.com/real-time-payments-business-benefits> , <https://gomedici.com/overview-of-the-payments-industry/>,  
<https://www.businesswire.com/news/home/20210302005887/en/Worldwide-Real-Time-Payments-Industry-to-2026---Players-Include-Visa-Apple-and-Temenos-Among-Others---ResearchAndMarkets.com>  
<https://www.paymentsjournal.com/real-time-payments-everything-you-need-to-know/>
- xxv Source: <https://www.globalxfunds.com/whats-driving-FinTechs-growth/>,  
<https://www.alliedmarketresearch.com/mobile-payments-market>  
<http://www.oecd.org/finance/Financial-markets-insurance-pensions-digitalisation-and-finance.pdf>  
<https://www.retailcustomerexperience.com/news/mobile-wallet-use-growing-worldwide-reveals-data-report/>
- xxvi Source: <https://www.fisglobal.com/en/insights/merchant-solutions-worldpay/article/generation-pay-millennial-payment-trends>  
<https://www.paymentscardsandmobile.com/belgian-population-makes-massive-shift-to-digital-payments/>

- 
- xxvii Source: <https://www.nationmaster.com/nmx/timeseries/belgium-number-of-pos-terminals#related-data>
- xxviii Source: <http://blog.unibulmerchantservices.com/transaction-authorization-process/>,  
<https://www.pnewswire.com/news-releases/authentication-services-market-to-grow-at-211-cagr-to-2022--reportsnreports-663599803.html>
- xxix Source: <https://merchantmachine.co.uk/digital-wallet/>
- xxx Source: <https://www.cpapracticeadvisor.com/accounting-audit/news/21208440/digital-payments-to-hit-66-trillion-in-2021-a-40-jump-in-two-years>  
<https://www.paymentscardsandmobile.com/belgian-population-makes-massive-shift-to-digital-payments/>
- xxxi Source: Mobile Payment 2019, PWC report
- xxxii Source: <https://sellerzen.com/ecommerce-monthly-installments-solutions>, <https://www.keyware.com/split>  
<https://www.penser.co.uk/insights/buy-now-pay-later-bnpl-european-market-insight/>
- xxxiii Source: <https://razorpay.com/blog/tokenization-and-its-impact-on-online-payments/>,  
<https://www.marketsandmarkets.com/Market-Reports/tokenization-market-76652221.html>
- xxxiv Source: <https://gomedici.com/overview-of-the-payments-industry/>  
<https://learn.na.bambora.com/iot-payments/>  
<https://techjury.net/blog/how-many-iot-devices-are-there/>
- xxxv Source: <https://www.virtusa.com/perspective/application-of-artificial-intelligence-in-payment-processing/>  
<https://www.FinTechnews.org/the-critical-role-of-artificial-intelligence-in-payments-tech/>  
<https://www.paymentgenes.com/blog/the-impact-of-ai-in-2021-on-the-payments-industry>
- xxxvi Source: <https://www.gminsights.com/industry-analysis/blockchain-technology-market>  
<https://gomedici.com/overview-of-the-payments-industry/>  
<https://www.fortunebusinessinsights.com/industry-reports/blockchain-market-100072>  
<https://techjury.net/blog/cryptocurrency-statistics/#gref>
- xxxviii Source: <https://www.paymentscardsandmobile.com/european-mobile-wallets-market-to-hit-111-4-billion-by-2023/>
- xxxix Source: <https://www.juniperresearch.com/press/digital-banking-users-to-exceed-3-6-billion>
- xl Source: <https://home.kpmg/content/dam/kpmg/uk/pdf/2018/09/RegTech-revolution-coming.pdf>  
<https://www.businesswire.com/news/home/20210322005016/en/Juniper-Research-Regtech-Spending-to-Exceed-130-Billion-in-2025-Driven-by-Digital-Onboarding-KYC>
- xli Source: <https://scand.com/company/blog/the-rise-of-banking-as-a-service/>  
<https://www.oliverwyman.com/our-expertise/insights/2021/mar/the-rise-of-banking-as-a-service.html>
- xlii Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/02/the-pulse-of-FinTech-2018.pdf>
- xliiii Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/02/pulse-of-FinTech-h2-2020.pdf>
- xliiii Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/02/pulse-of-FinTech-h2-2020.pdf>
- xliv Source: [https://worldline.com/en/home/investors/operation-disclaimer/operation/pr-2020\\_02\\_03-02.html](https://worldline.com/en/home/investors/operation-disclaimer/operation/pr-2020_02_03-02.html)
- xlvi Source: <https://www.FinTechfutures.com/2020/11/worldline-completes-8-6bn-acquisition-of-ingenico/>
- xlvii Source: [https://worldline.com/en/home/investors/operation-disclaimer/operation/pr-2020\\_02\\_03-02.html](https://worldline.com/en/home/investors/operation-disclaimer/operation/pr-2020_02_03-02.html)
- xlviii Source: <https://www.FinTechfutures.com/2020/11/worldline-completes-8-6bn-acquisition-of-ingenico/>
- xlix Source: <https://ibsintelligence.com/ibs-journal/ibs-news/worldremit-secures-175-mn-in-series-d-funding>
- xlix Source: Worldline Presentation December 2014 and Arrowhead Estimates
- i Source: Bloomberg
- ii Source: Arrowhead Estimate
- iii Source: Bloomberg
- iii Source: Arrowhead Estimate
- liv Source: Bloomberg, Respective Company Results
- lv Source: Bloomberg, Respective Company Results