

## Due Diligence and Valuation Report

Arrowhead Code: 76-01-18  
 Coverage initiated: December 01, 2015  
 This document: May 17, 2021  
 Fair share value bracket: EUR 1.87 and 2.10  
 Share price (May 17, 2021): EUR 0.97<sup>1</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 0.60 – EUR 1.12<sup>ii</sup>  
 Average Daily Volume: 6,410<sup>iii</sup>  
 Market Cap. (17-May-2021): EUR 22.8 million (mn)

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

EUR	'21E	'22E	'23E	'24E	'25E	'26E	'27E
High PBT '000	511	1,018	1,872	2,325	3,456	3,827	5,106
High NI '000	305	715	1,232	1,579	2,409	2,691	3,689
High EPS	0.01	0.03	0.05	0.07	0.11	0.12	0.16
Low PBT '000	436	980	1,642	2,108	2,985	3,349	4,328
Low NI '000	247	682	1,054	1,409	2,047	2,322	3,094
Low EPS	0.01	0.03	0.05	0.06	0.09	0.10	0.14

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 Loyalek 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 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, tokenization, instalment



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  
 CCO EasyOrder: Mr. Laurent Vandervelde  
 Website: [www.keyware.com](http://www.keyware.com)

payment, ordering and payment.

**Key Highlights:** (1) The company's business was impacted by the COVID-19 pandemic in FY 2020 and it expects a gradual recovery. However, the company did see an increase in the number of new customers in FY 2020; (2) The group's top line decreased 28.5% year-on-year (YoY) to EUR 13.0 mn in FY 2020, mainly due to the decline in the authorization and the terminals segment business. Migration to a new payment partner resulted in reporting of net payment transactions; (3) Keyware saw the biggest dip in the authorization segment as a result of lower commissions, migration of contracts to a new partner and accounting treatment of certain part of revenue which decreased by 72.1% YoY to EUR 2.3 mn in FY 2020; (4) Keyware reported increased contribution from the high-margin software segment (30.9% in FY 2020 as compared with 17.3% in FY 2019) and lower contribution from lower margin authorization segment which led to an increase in the gross margin to 78.5% in FY 2020 from 59.0% in FY 2019; (5) EBITDA margin increased to 21.7% in FY 2020 (16.5% in FY 2019), despite a fall in revenue; (6) Keyware reported a 79.4% decrease in net profit, which amounted to EUR 66k in FY 2020 as a result of lower EBITDA, even as the tax burden reduced; (7) Debt repayments lowered the financial debt on the books by EUR 2.7 mn YoY to EUR 2.0 mn at the end of FY 2020.

**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 1.87 and 2.10 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 1.68 and EUR 2.04, while relative valuation provides fair value of EUR 2.06 to EUR 2.16 .

**Table of Contents**

<b>1. SUMMARY AND OUTLOOK .....</b>	<b>3</b>
<b>2. BUSINESS OVERVIEW: .....</b>	<b>5</b>
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
<b>3. FINANCIAL OVERVIEW:.....</b>	<b>13</b>
<b>4. KEY VARIABLE ANALYSIS .....</b>	<b>16</b>
4.1 Variable 1 – Revenue from payment terminals .....	16
Note: The forecast is based on sole assumptions of Arrowhead .....	16
4.2 Variable 2 – Revenue from authorization services .....	16
4.3 Variable 3 – Revenue from software services .....	16
<b>5. NEWS.....</b>	<b>17</b>
<b>6. MANAGEMENT AND GOVERNANCE.....</b>	<b>18</b>
<b>7. INDUSTRY CHARACTERISTICS.....</b>	<b>19</b>
7.1 Industry Overview .....	19
7.2 Industry Segments .....	19
7.3 Market performance.....	20
7.4 Payment Process Participants .....	20
7.5 Payment Card Industry Security Standards.....	21
7.6 Growth Drivers .....	22
7.7 Products and Services .....	24
7.8 New Technological Trends in Payment Industry .....	26
7.9 Global Landscape.....	27
7.10 Competition .....	28
<b>8. VALUATION.....</b>	<b>30</b>
8.1 DCF Method .....	30
Variable 1 – Installed Base (Terminals) .....	31
Variable 2 – Terminals offering Authorized services .....	31
8.2 Relative Valuation.....	32
8.3 Blended Valuation.....	33
<b>9. APPENDIX.....</b>	<b>35</b>
9.1 Keyware’s Financial Summary .....	35
9.2 Keyware’s Balance Sheet Forecast.....	36
<b>10. ANALYST CERTIFICATIONS.....</b>	<b>37</b>
<b>11. NOTES AND REFERENCES.....</b>	<b>38</b>

## 1. Summary and Outlook

We are updating coverage on Keyware Technologies NV, headquartered in Zaventem, 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) The COVID-19 pandemic impacted the company's business operations in FY 2020. It led to lower transaction values and volumes, which affected the authorization segment. The company's terminals segment was additionally affected by the inability to sign new contracts, which put pressure on the price of terminals offered. The software segment saw increased demand as a result of the COVID-19 pandemic as many customers moved to payment apps to cater to their needs.
- (2) The return to normal operations, considering the pandemic and signing of new contracts, is expected to take some time and the transition is expected to happen gradually.
- (3) In FY 2020, the company reported a decrease in revenue of 28.5% YoY. Revenue amounted to EUR 13.0 mn, as a result of a decline in the authorization and terminals segments owing to the COVID-19 pandemic. In order to counter that, the company offered a cheaper line and discounts on terminals attracting new customers compared with 2019 and resulting in contract renewals.
- (4) The lower business from authorization, which is a low-margin segment, contributed towards the increase in gross margins for the company. Gross margins increased from 61.1% in FY 2019 to 79.6% in FY 2020.
- (5) The company's EBITDA decreased by 6.2% YoY to EUR 2.8 mn, even as the EBITDA margin increased to 21.7% from 16.5% in FY 2019 on account of cost saving initiatives. The initiatives included performing certain services in-house, and were offset by an increase in personnel expenses mainly in the software segment.
- (6) On a numerical basis, the COVID-19 pandemic led to decreases of EUR 1.4 mn and EUR 1.2 mn in revenue and net profit, respectively, in FY 2020.
- (7) In May 2020, the company migrated to a new payment partner. This resulted in the reporting of revenue as net payment transactions, unlike earlier periods which were characterized by reporting on a gross revenue basis. The migration is expected to continue until mid-2021, until which the two reporting periods may not be comparable. However, the new partner is expected to result in higher margins and profitability for the company.
- (8) The company's financial debt amounted to EUR 2.0 mn in FY 2020 as the company repaid loans of EUR 2.7 mn. The cash and cash equivalents amounted to EUR 1.5 mn in FY 2020 as compared with EUR 1.1 mn at the end of FY 2019.
- (9) 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.

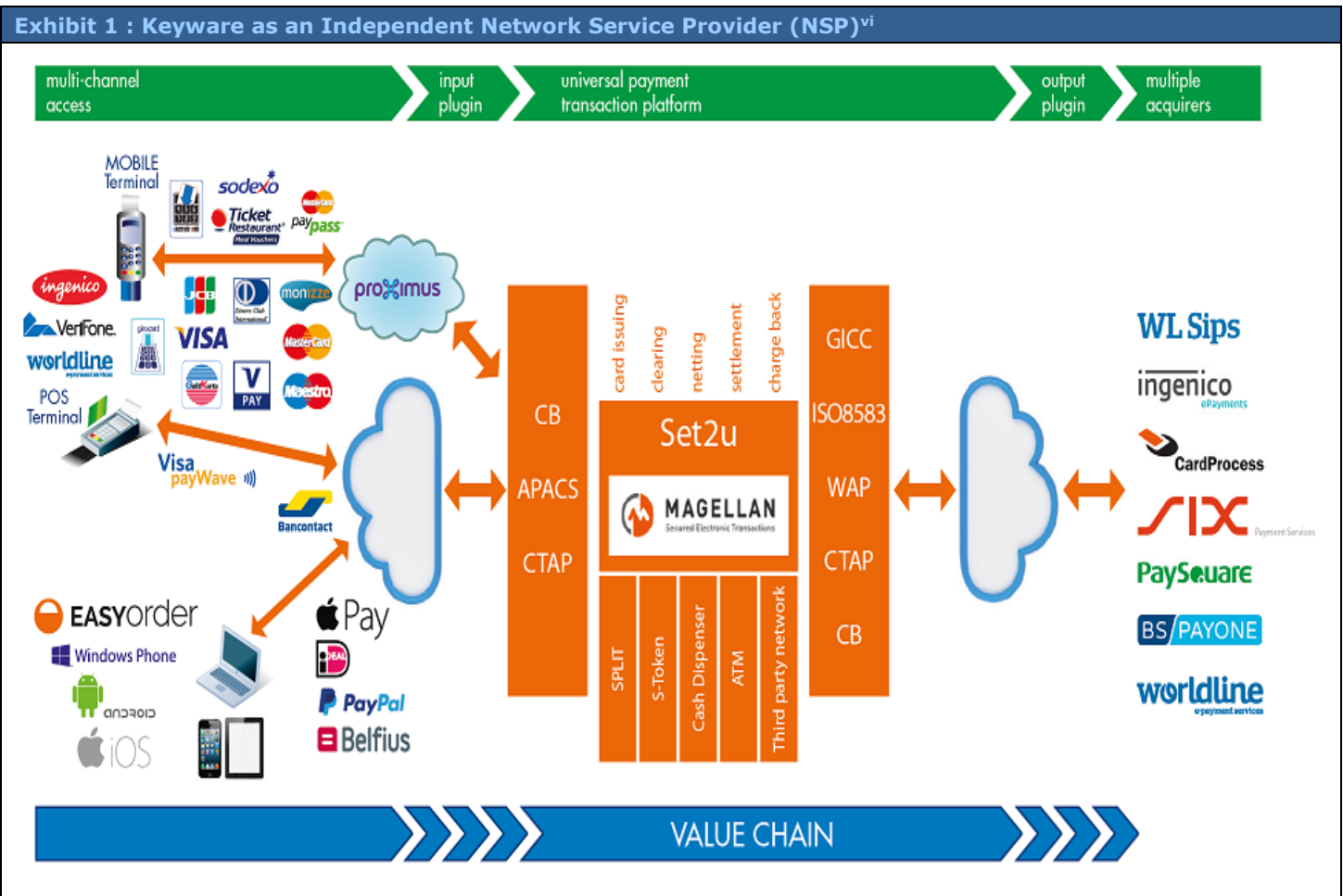
**Industry Overview:** The electronic payment industry's value chain comprises of several services - providing terminals, transaction services, telecommunication services, etc. Keyware is an active player in providing terminal installation, maintenance and repair services as well as transaction services 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>v</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.

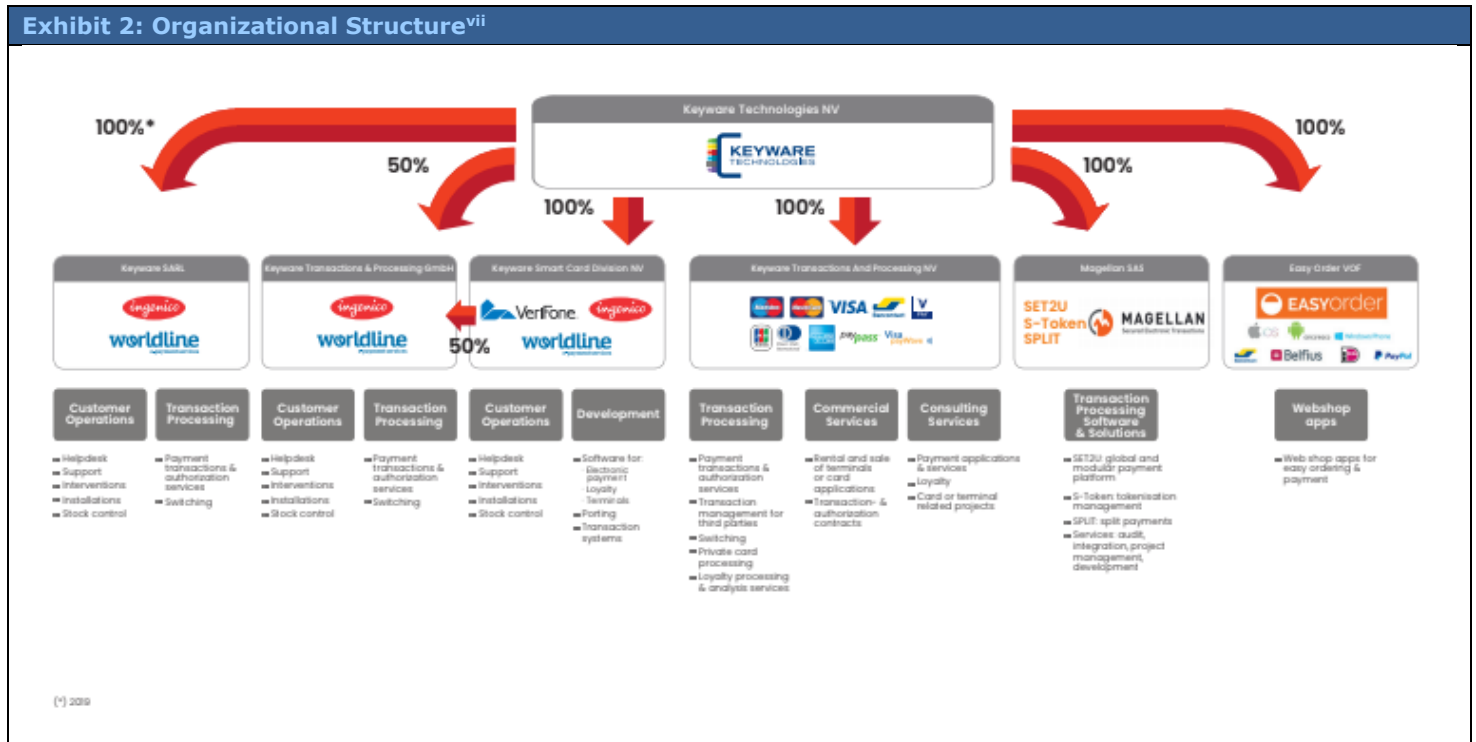
In January 2017, Keyware acquired 100% shares of VOF EasyOrder. This takeover is expected to combine the expertise of both companies and offer a web shop app to merchants, thus a possibility to personalize own web shop on smartphone, tablet or PC. Keyware has also made investments in this platform for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



## 2.2 Company Milestones

Exhibit 3: Keyware Milestones	
Year	Events
2003	<ul style="list-style-type: none"> <li>Keyware shares got listed on Euronext for the first time in September 2003</li> <li>Payment Software got certified by Electronic Payment Certificate Institute</li> </ul>
2005	<ul style="list-style-type: none"> <li>The number of customers exceeded 5,000 in the payment terminal division</li> </ul>
2007	<ul style="list-style-type: none"> <li>Acquired BRV Transactions NV. KEYW benefitted as BRV held license from Royal Bank of Scotland (RBS) for direct offering of credit/debit card authorization for Visa and Master Card in Belgium</li> </ul>
2009	<ul style="list-style-type: none"> <li>Successfully added fixed IP terminals and portable GPRS terminals to its existing offerings</li> <li>Entered co-operative venture with PaySquare, which enabled KEYW to offer payment authorization services on its own and on third-party terminals</li> </ul>
2011	<ul style="list-style-type: none"> <li>Successfully penetrated higher market segment customers - government schools, municipalities, etc.</li> </ul>
2013	<ul style="list-style-type: none"> <li>Partnership with Worldline allowed Keyware to rent/sell Worldline terminals in the Benelux region</li> </ul>
2014	<ul style="list-style-type: none"> <li>The reduction in the amount of cash permissible for transactions from 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>
2015	<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>
2016	<ul style="list-style-type: none"> <li>Partnership with Bancontact, making the company a Certificate Holder in the "Terminal Provider" and "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 expected to be paid off in 5 years</li> </ul>
2017	<ul style="list-style-type: none"> <li>EUR 425k paid in cash during the first quarter of FY 2017 and shares worth EUR 75k were issued on June 30, 2017, balance EUR 200k was paid partially in FY 2017 and the balance in FY 2018</li> <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>
2018	<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>
2019	<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>
2020	<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> </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.

We expect the company to complete the migration to Brokerage Model by FY 2021 (initiated in FY 2015), where it started buying the transactions on a floor fee and charging upper part as a commission based on negotiation with the acquirer. Prior to this, Keyware was following the Spread Income Model where it was charging a fixed percentage as commission per transaction.

### 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 4.3 mn or 30.9% to the total revenue in FY 2020. The Magellan acquisition allows merchants in Belgium market to have their customers paying in instalments and in a secured way. The company expects this division to produce more recurring revenues in FY 2020 and contribute around 20% to the total revenues.
- 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 Worldline, Six Pay, PaySquare, Bancontact, 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. New market of electronic meal vouchers:** The social partners united in the Nationale Arbeidsraad (NAR) (National Labour Council) agreed to abolish paper meal vouchers and introduce electronic meal vouchers from October 01, 2015. With more than 1.3 mn employees receiving meal vouchers in Belgium, this opened a new market for the payment terminal providers. As per FY 2018 annual report of Keyware, approximately 39% of sector accepts related traders' electronic meals and the remaining 61% did not have the necessary infrastructure to handle such payments. Keyware has introduced low-cost card readers to tap this new market as well as integrate the existing terminals to accept the e-vouchers, we expect it to be positive for the company.
- 4. Increasing profitability and lower Financial debt in future:** Based on our estimates, we expect the company to register top line growth of 35.0%-56.0% during FY 2019-2028 period. Supported by strong operating performance and no tax payments in the near term, 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.
- 5. Diverse portfolio of customers:** KEYW is a company with over 15k (FY 2020) customers contributing to its top line. According to the company, its most important customers contribute less than 1% to the group's turnover. This isolates the company from any significant risk arising from concentrated group of customers.
- 6. 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>

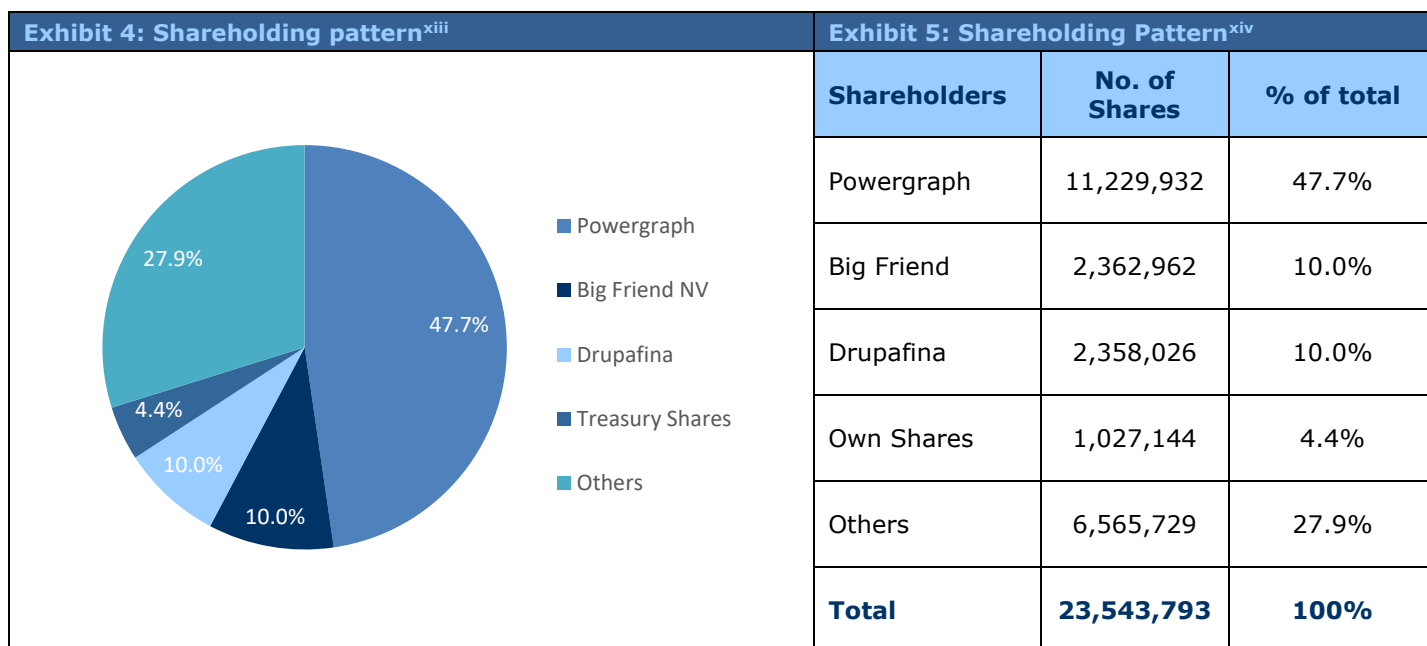
- 1. Pace of technology adoption:** Keyware's market of operations, especially its payment terminals division, is characterized by frequent new developments in the field of technology, changing customer needs, upcoming new mode of payments through internet and mobile, changing industry standards etc.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

- 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 mid-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 but not sufficiently and the business is currently making losses.

## 2.7 Keyware’s Shareholding Pattern

On May 17, 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:

#### 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.

#### FY 2019

##### **Transition to Fintech continued as share of software segment increased**

The company's transition to fintech continued as the revenue contribution from software segment (net of intersegment revenue) increased from 14.4% in FY 2018 to 15.4% in FY 2019. Payment terminals segment contributed 38.7% of the revenues in FY 2019, while the authorization segment contributed 45.9% of the revenues in FY 2019.

Keyware reported a revenue of EUR 18.1 mn (after deducting inter-segment revenue of EUR 342k) in FY 2019, decreasing by 7.7% YoY, as revenue from all segments decreased with the authorizations segment reporting the biggest decrease.

Revenue from the payment terminals segment decreased by 2.3% YoY to EUR 7.0 mn in FY 2019, due to a declining trend in the market for installation of terminals which led to a decrease in the number of new contracts, reduction in the duration of the contracts signed, decrease in the rental price and a preference for cheaper terminals. This was partially offset by an increase in the number of start-ups in new sectors, an increase in number of high-end-segment customers and the competitive position of Keyware.

Revenue from the authorization segment decreased by 13.7% YoY to EUR 8.3 mn in FY 2019, due to a decline in the market for traditional retail businesses, with a decrease in the number of customers. This decrease could not be offset by new start-ups as the number of transactions coming from start-ups was less than that from traditional retail

businesses. The decreasing terminal base is correspondingly leading to a decline in the revenue from the authorization segment.

Revenue from the software segment increased marginally by 0.8% YoY to EUR 3.1 mn in FY 2019, with help from a good performance by EasyOrder.

#### **Improvement in gross margin as costs related to authorization decreased**

A decline in authorization business resulted in lower consumption of raw and auxiliary materials which reduced the cost of sales for Keyware, leading to a decline in gross profit by 2.2% YoY to EUR 10.7 mn, but an improvement in gross profit margin by 330 basis points to 59.0% in FY 2019, as the authorization segment had the lowest gross profit margin. Raw materials and consumables' cost in the terminals segment decreased by 10.9% YoY to EUR 1.1 mn in FY 2019, due to a decrease in the number of new contracts, an increase in the number of renewals of contracts and sale of a cheaper product mix. In spite of the bigger fall in revenues it led to a minor decrease of EUR 13k in the gross profit to EUR 5.9 mn, and a rise in gross profit margin by 161 basis points to 83.7% in FY 2019.

Gross profit in the authorization segment reduced to EUR 1.8 mn in FY 2019, decreasing by 8.6% YoY, due to a fall in revenue from the segment. The gross profit margin, however, increased by 124 basis points to 21.9% in FY 2019.

#### **Lower 'other operating expenses' and impairment helped increase the Operating profit and EBIT margin**

An increase of 20.8% YoY in personnel costs amounting to EUR 2.7 mn in FY 2019, due to hiring of new staff in the software segment, and the launch of terminal activities in Luxembourg, was offset by a decrease in other operating expenses and impairment losses. Impairment losses on current assets decreased by 32.1% YoY to EUR 1.1 mn in FY 2019, due to reversals of write-offs of inventories and lower number of bankruptcies in FY 2019.

Other operating expenses decreased by 6.7% YoY to EUR 5.8 mn in FY 2019, as some operations were shifted in-house. Consequently, in spite of earning lower revenues, the EBIT increased by 39.5% YoY to EUR 367k in FY 2019.

#### **Net profit declined despite increase in EBIT as income from financial leases decreased and Corporate taxes increased**

The fall in the number of terminals installed, a large number of short-duration contracts and use of a lower discount for financial lease receivables decreased the financial income from EUR 668k in FY 2018 to EUR 493k in FY 2019. Corporate taxes increased as the losses of a subsidiary were absorbed in the earlier period, and the one-time fairness tax paid increased the overall taxes paid by the company in FY 2019.

As a result, it led to a fall in the net profit by 48.9% YoY to EUR 320k in FY 2019.

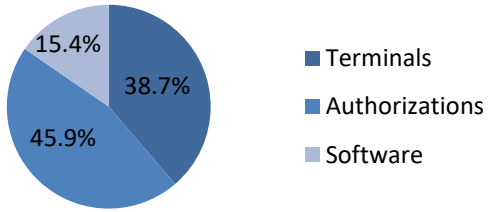
#### **Delay in collection of receivables**

The trade receivables increased to EUR 3.5 mn in FY 2019 from EUR 2.9 mn in FY 2018, as a result of a dispute with a customer which led to a delay in collection of receivables. A part of these receivables was collected after the closing of FY 2019.

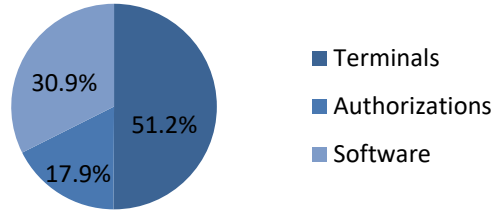
#### **Decline in revenue and Repayment of Financial debt lowers the cash and cash equivalents**

The financial debt (excluding leases) stood at EUR 4.2 mn at the end of FY 2019, as compared with EUR 6.5 mn in FY 2018 on higher repayment of loans. The cash and cash equivalents of the company amounted to EUR 1.2 mn at the end of FY 2019, as compared with EUR 3.5 mn a year ago. While raising a loan of EUR 406k and exercising of warrants amounting to EUR 569k led to positive inflows, payment of financial debt of EUR 2.6 mn, payment of interim dividend amounting to EUR 913k, buyback of shares worth EUR 274k and a delay in collection of trade receivables led to a substantial fall in the cash position of the company.

**Exhibit 5: Division-Wise Revenue Share in FY 2019**



**Exhibit 6: Division-Wise Revenue Share in FY 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 16,236 terminals in FY 2019. 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	3.0	2.9	2.9	2.8	2.8	2.7	2.6
	Terminal sales	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	Rendered services	2.7	2.6	2.4	2.3	2.3	2.2	2.2	2.1	2.1
	Cancellation pay	0.7	0.8	0.9	0.8	0.8	0.8	0.8	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>5.6</b>
High Bracket	Rental revenues	3.0	3.3	3.0	3.2	2.9	3.1	2.9	3.0	2.8
	Terminal sales	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Rendered services	2.7	2.6	2.4	2.3	2.3	2.2	2.2	2.2	2.1
	Cancellation pay	0.7	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.7
	<b>Total</b>	<b>6.8</b>	<b>6.4</b>	<b>6.6</b>	<b>6.2</b>	<b>6.4</b>	<b>6.1</b>	<b>6.2</b>	<b>5.9</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 Six Pay, PaySquare, EMS, Paynovate and Worldline, 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	4.5	5.7	6.2	6.1	5.9	5.7	5.6	5.4	5.3
High Bracket	4.5	6.1	6.7	6.7	6.5	6.4	6.3	6.2	6.1

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	4.3	4.7	5.4	6.4	7.3	8.2	9.1	10.0	10.8
High Bracket	4.3	5.0	5.9	7.1	8.1	9.3	10.4	11.5	12.7

Note: The forecast is based on sole assumptions of Arrowhead



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

- 1. 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.
- 2. Acquittal in case:** On March 24, 2021, Keyware Technologies announced that it had been 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.
- 3. 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.
- 4. Progress 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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	CCO 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>

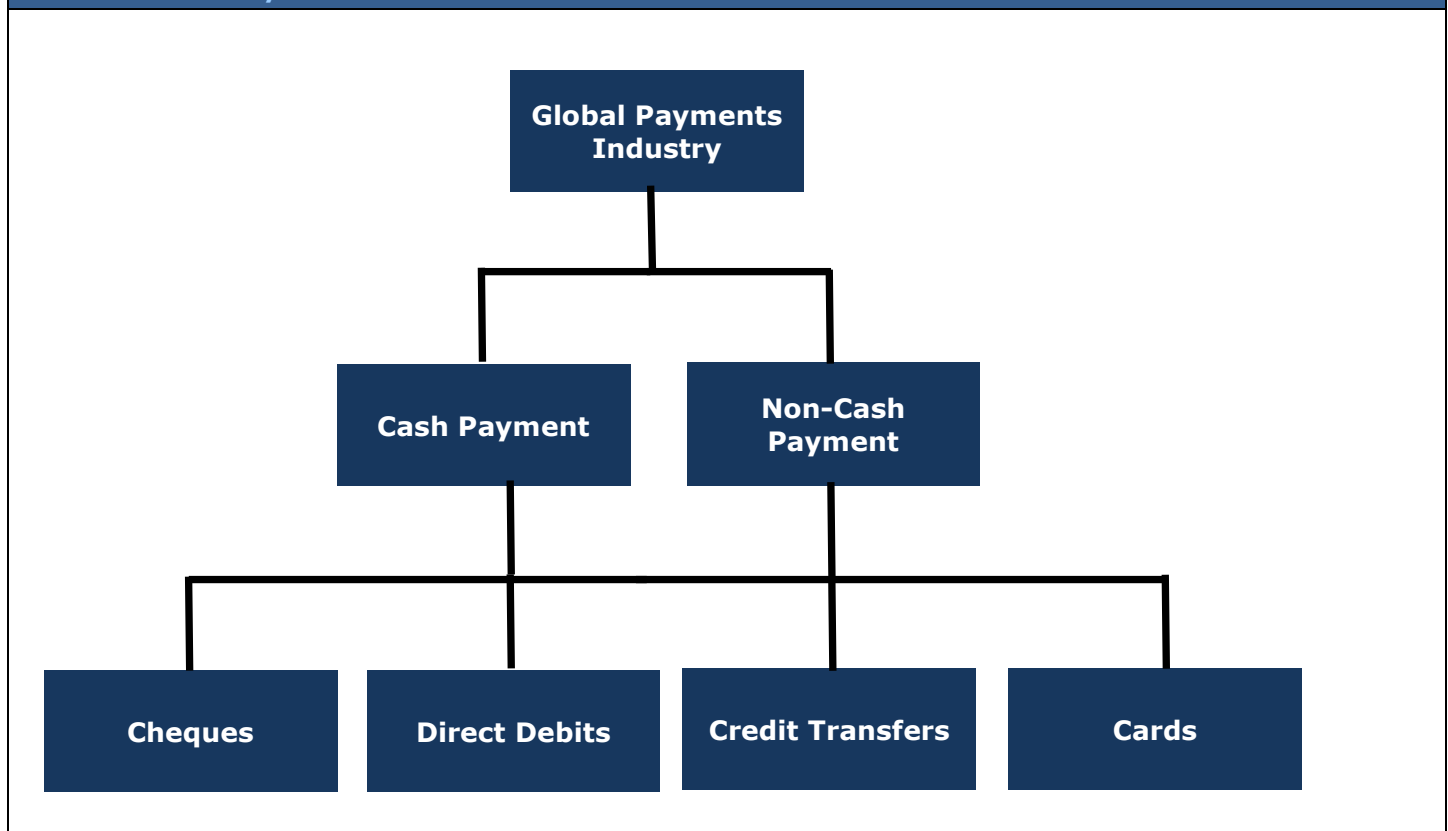
The global FinTech market is expected to be worth EUR 258.9 billion (bn) by FY 2023, growing at a CAGR of 22.17% during 2018-2023. The high penetration of mobile devices and usage of technology-based solutions is creating greater demand for financial and banking solutions. FinTech covers a wide range of services such as robotic trading, peer-to-peer lending platforms, crowdfunding, robo-advice, virtual currencies and cashless payments.<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**

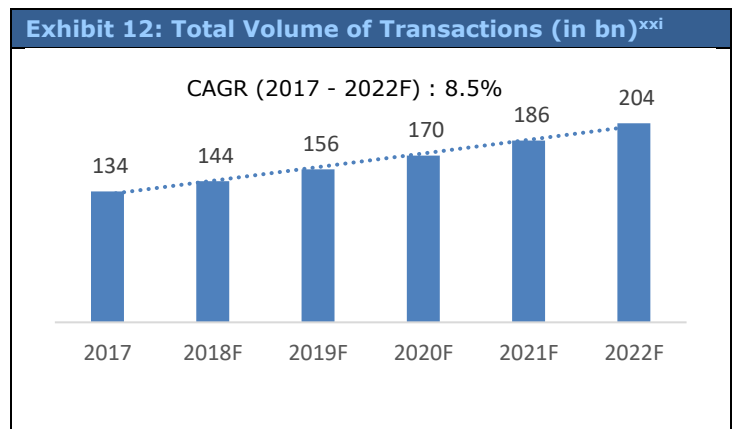
**Total Volume of Non-Cash Payment Transactions <sup>xxii</sup>:**

As per the European Payments Council, the total number of transactions are expected to increase from 134 bn in FY 2017 to 204 bn in FY 2022, at a CAGR of 8.5% for the forecast period.

**7.4 Payment Process Participants <sup>xxiii</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>xxiv</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>xxv</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.

However, digitalization brings with itself two key challenges for the traditional banking sector, which offer opportunities to the firms in the FinTech sector. Firstly, traditional firms need to develop quality websites and applications in addition to automating the services. This requires a large amount of money to be spent from their pockets. It is anticipated that globally, financial services industry will be spending EUR 389.4 bn in FY 2019 and this expenditure is expected to rise to EUR 442.5 bn by FY 2021. While a portion of this expenditure will be concentrated on hiring IT employees and developing proprietary software platforms, a significant portion is expected to be spent in the FinTech space.

The second challenge brought by digitalization is competition. Along with traditional firms, entirely new firms with unique business models have entered the digital space. These are digital-only banks and insurance companies, as well as peer-to-peer lending and crowdfunding platforms. As a result, the competition has increased manifold in the segment.

**2. Real-Time Payments (RTP)<sup>xxvi</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.

It is forecasted that the global market for RTP will grow from EUR 5.7 bn in FY 2018 to EUR 21.9 bn in FY 2023, representing a CAGR of 30.6%.

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.

**3. Rising Number of Payment Options<sup>xxvii</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 and cards linked to mobile phones. It is anticipated that the mobile payment market will grow at a CAGR of 33.8% from FY 2017 to FY 2023, to attain a value of EUR 4.1 bn by FY 2023. It is essential that all these payments occur instantaneously while ensuring security, reliability and integration.

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.

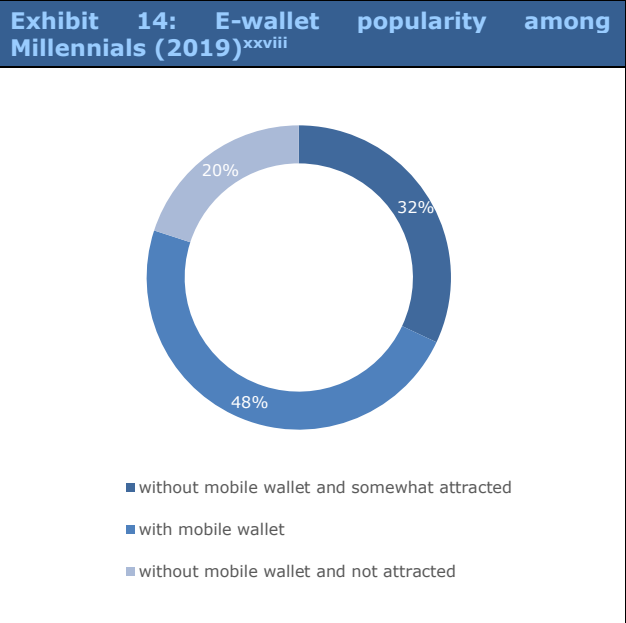
Conclusively, it can be said that payment firms are entrenched as an essential component of retail business operations around the world.

**4. Increasing usage by Millennials<sup>xxix</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 Worldpay, in FY 2018, 28% of millennials globally have made use of a mobile wallet at a **POS**.

Overall, 48% of millennials are well acquainted with the mobile wallets system, while 32% are not active users currently but are inclined toward the usage of the wallets. Only, 20% of the millennials have no interest in the usage of an e-wallet. This trend has mainly arisen due to the time-consuming nature of the conventional methods in providing various financial services.

China and India account for the two largest youth populations worldwide in FY 2017, within which 74% of Chinese millennials and 75% of Indian millennials have made payments with a mobile wallet at the POS.

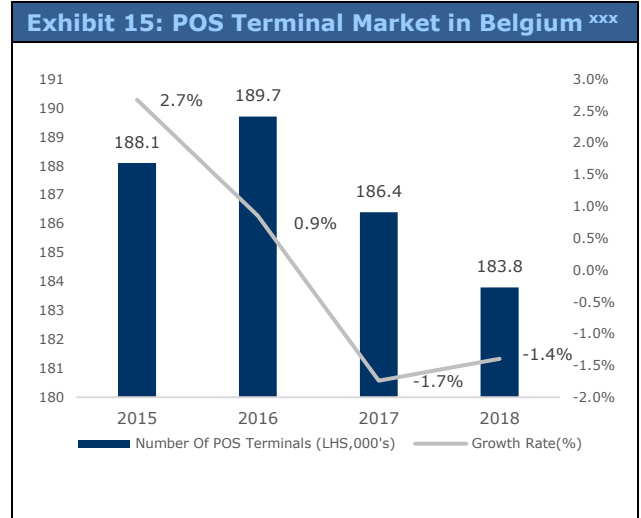
In **Belgium**, around 47% people make use of mobile payments and it is expected to increase by 68% over the next five years because of the rise in smartphone penetration. About 63% of the people under the age of thirty use mobile payment systems. Around eight out of ten Belgians under the age of forty are inclined to use mobile payments in the next five years. These datapoints indicate the tremendous scope of growth in online payments in Belgium and the potential for companies like Keyware to tap into and to grow and expand their business.



**7.7 Products and Services**

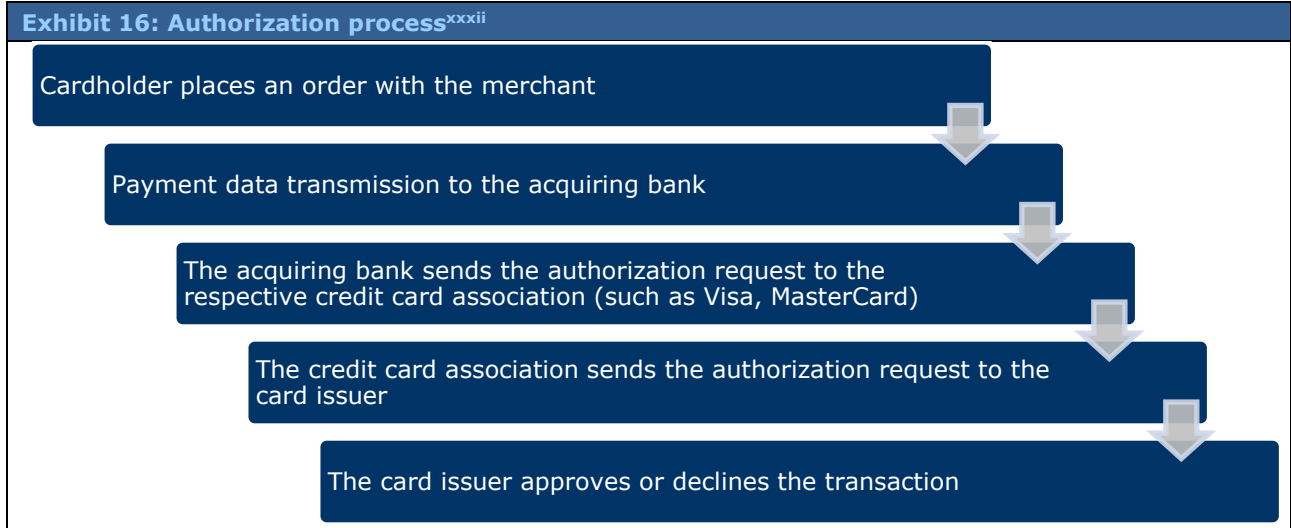
**1. Point of sale (POS) terminals:**

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. In Belgium, the number of POS terminals declined to 183,800 in FY 2018 compared to 186,400 in FY 2017 at a negative annual growth rate of 1.4%. This shows that the market for POS terminals in Europe has saturated and profitability has begun to decline which is because of increasing acceptability of digital payments, m-POS systems and mobile wallets. Apart from these products, new technologies such as cloud, AI, SaaS and IoT have entered into the payment market and have brought new trends in the industry



**2. Authorization Services / Processing**

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:



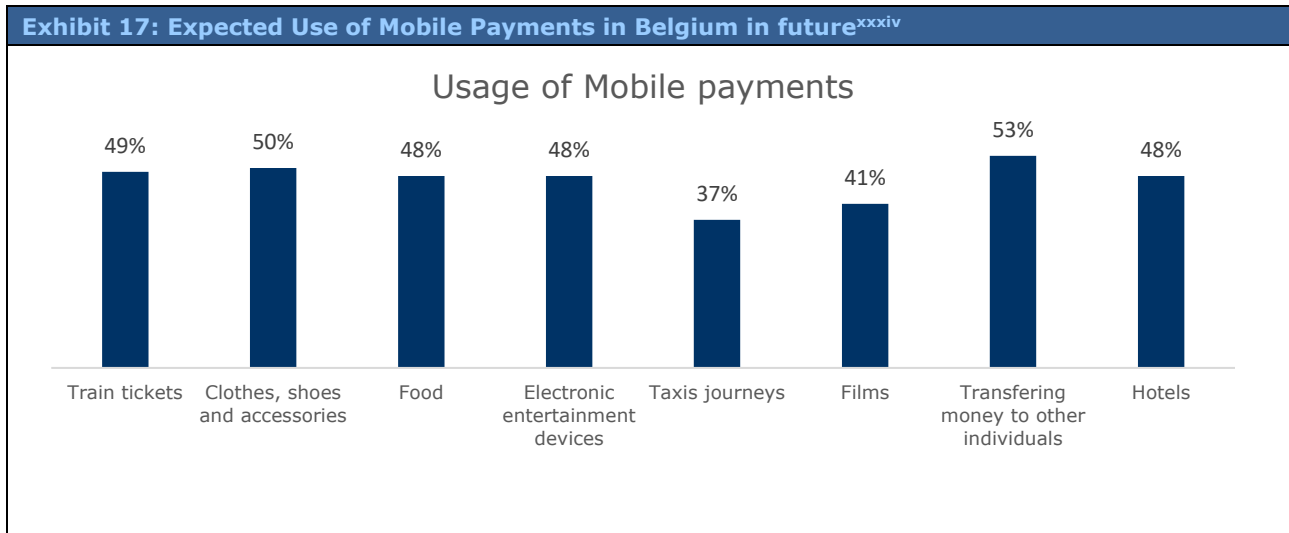
**3. Payment Applications**

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 market size of this market was EUR 109.1 bn in FY 2017 and is expected to reach EUR 2,983.3 bn by FY 2024 at a CAGR of 60% between 2018-2024. Owing to the changing lifestyles, increasing smartphone usage and internet prices dropping, the companies are rapidly investing in mobile payments technology. However, a major challenge being faced in this industry is how to close the gap between awareness and adoption of this technology.

As per a PWC mobile payment report for 2019, nearly 47% of the Belgian population uses mobile payment as a payment option. Currently, mobile payment is the most popular among people when they are transferring money to other people



(35%) which is expected to reach a level of 53% in the next five years. Also, about 28% of the people in Belgium make payments using mobile services for purchasing clothes, shoes and accessories and entertainment electronics.



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>xxxv</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.

**5. Payment tokenization<sup>xxxvi</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 0.83 bn in FY 2018 to EUR 2.3 bn by FY 2023, representing a CAGR of 22.1% during the forecast period.

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>xxxvii</sup>:

IoT has introduced a change to how businesses and consumers interact with connected devices. It is expected that 20.4 bn connected devices will be installed in the market in FY 2020. 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>xxxviii</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, companies will spend around EUR 9.7 bn on AI in FY 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>xxxixl</sup>:

Globally, the blockchain market is expected to grow from EUR 1 bn in FY 2018 to EUR 20.6 bn by FY 2023 at a CAGR of 80.2% during 2018-2023. 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. These start-ups accounted for 60% of the total market share in FY 2017. The key providers of the blockchain technology are IBM, AWS, Microsoft, Sap, Ripple, Apple, etc.

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>xli</sup>:

E-wallets are basically digital forms of debit cards, credit cards and prepaid card information on mobile. The size of global mobile wallets was EUR 780.5 bn in FY 2017 and expected to reach EUR 8.3 tn by FY 2026 growing at a CAGR of 30% from FY 2017 to FY 2026. 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>xlii</sup>:

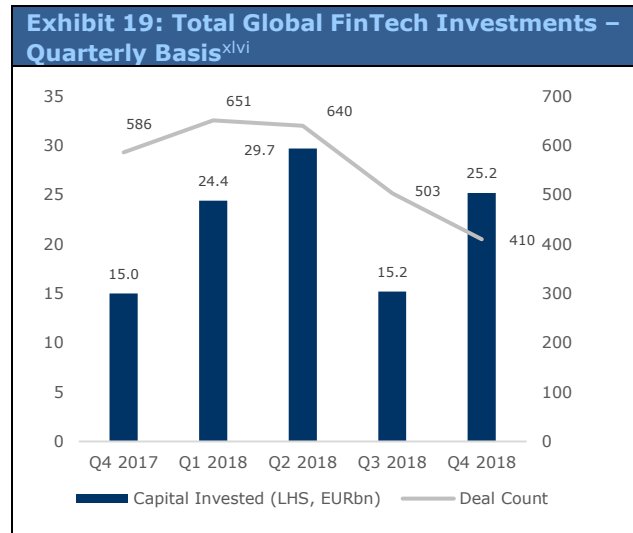
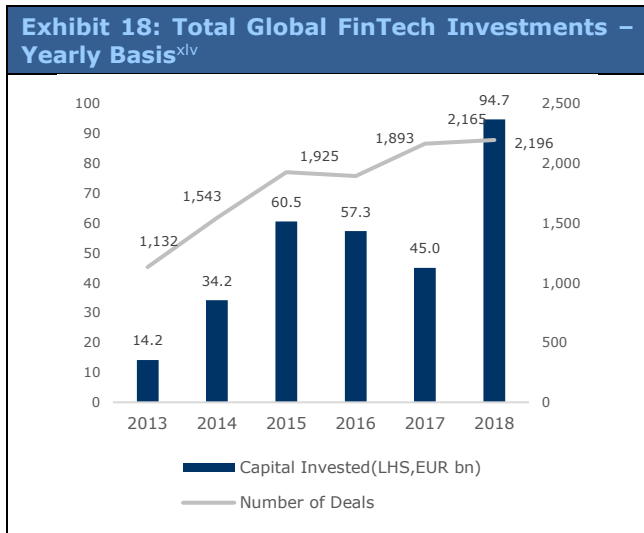
As per Zion market research, the size of digital banking market was approximately EUR 5.5 mn in FY 2018 and expected to reach EUR 7.6 mn by FY 2025, growing at CAGR of around 3.8% from FY 2019 to FY 2025. Rising internet penetration has led to an increase in the use of digital devices such as mobiles 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.

**6. Embracing the Regulatory Technology (RegTech)<sup>xliii</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. RegTech spending is expected to reach EUR 67.2 bn by FY 2022, up from EUR 9.4 bn in FY 2017.

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

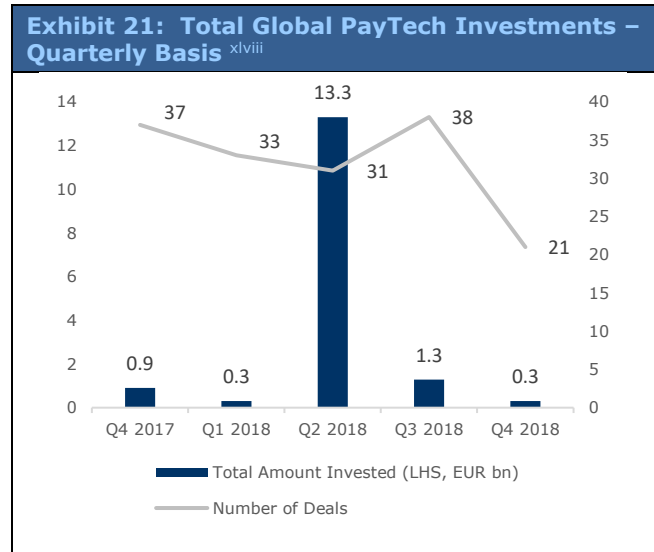
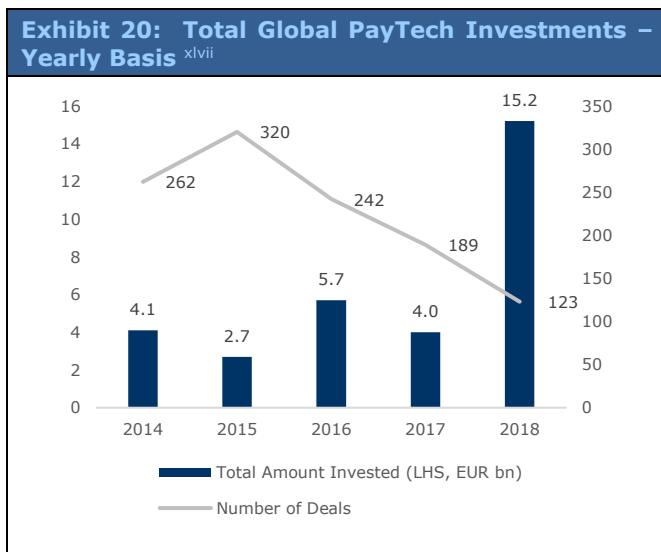
In FY 2018, global investments in the FinTech sector hit EUR 94.7 bn with approximately 2,196 deals. The sector is growing on a tremendous scale with deals outside the core market (UK, China and US) contributing to 39% of the totals deals. However, US maintained its niche and continued being the top market for deals with 659 investments worth EUR 10.1 bn.

The transaction value in the sector is expected to increase rapidly and represent a CAGR of 13.2% from FY 2019 to FY 2024. FinTech investments more than doubled in FY 2018 on YoY basis, driven by a small amount of mega deals including EUR 11.8 bn venture capital funding raised by Ant Financial and the acquisition of WorldPay by Vantiv in the first half of FY 2018. The second half of the year also encountered a significant number of mega deals, including EUR 2.9 bn acquisition by Silver Lake & P2 Capital Partners of prepaid card company Blackhawk Network and an investment of EUR 14.4 bn in Refinitiv by private equity (PE) firm Blackstone. Conclusively, it can be stated that FY 2018 was a year of multiple record highs across FinTech.



**a. Top PayTech Investments in FY 2018**

In FY 2018, PayTech investments reached EUR 15.2 bn with a total of 123 deals, which is almost 4 times the FY 2017 statistics. However, the deal activity has been on a continuous decline from 320 deals in FY 2015 to 123 deals in FY 2018. The immense rise in FY 2018 was due to Ant Financial’s deal worth EUR 11.8 bn, which was a huge FinTech transaction.



In Asia, Europe and Rest of the World (ROW) the largest chunk of investments has been in the Mobile Payments subsector with companies in this sector accounting for 50.1% of the total deal activity on an average. However, companies in the P2P payments and B2B payments sectors are experiencing a slowdown, having not attracted more than a quarter of deal activity since the past five years.

In the last quarter of FY 2018, EUR 327.7 mn was invested. However, this is a 63% decrease when compared to Q4 of FY 2017. Moreover, deal activity also declined from 34 deals in Q4 2017 to only 21 deals in Q4 2018. In Q4 2018, the biggest deal was worth EUR 67.7 mn, raised by Toss.

**b. Investments in FinTech in Europe, the Middle East and Africa (EMEA) (FY 2020)<sup>xlix</sup>**

- 1) In FY 2020, investment in FinTech companies in EMEA was USD 14.4 bn with 932 deals.
- 2) Merger and acquisition (M&A) activity declined with total deal value of USD 4.8 bn and 146 deals with fintech investments drying up in the region due to the pandemic and uncertainties related to Brexit.
- 3) Venture capitalist (VC) activity looked strong, with total deal value of USD 9.3 bn and 765 deals, with payment banks and challenger banks being the focus of investment by VCs.

<b>Exhibit 22: Top ten FinTech deals in Europe in FY 2020<sup>i</sup></b>				
<b>Acquirer/Investor</b>	<b>Acquiree/Target</b>	<b>Country</b>	<b>Deal Type</b>	<b>Deal Size (USD bn)</b>
NEC	Avaloq	Switzerland	M&A	2.3
Silver Lake	Klarna	Sweden	Funding	0.7
Nets	Polskie ePlatnosci	Poland	M&A	0.6
TCV and other investors	Revolut	UK	Series D funding	0.6
Insight Partner, Tencent, Mobile Bank and other investors	N26	Germany	Series D funding	0.6
Clearstream	Fondcenter	UK	M&A	0.4
Yabeo	Molo	UK	VC	0.3
Gruppo Intesa Sanpaolo	October	France	Funding	0.3
Nuvei	Smart2Pay	Netherlands	M&A	0.3
EML	Prepaid Financial Services	UK	M&A	0.2

In FY 2020, fintech investment dropped to USD 14.4 bn from USD 61.5 bn in FY 2019, as a result of a huge decrease in large-scale M&A activity. Payment companies and challenger banks continued to remain key areas of investments for VC as digital acceleration due to the COVID-19 pandemic drove adoption. VC investments flourished overall with a deal value of USD 9.3 bn from 765 deals. Three companies raised more than USD 500 mn each in VC rounds in H1 2020 alone. The slip up in M&A activity, however, was evident by the fact that the largest deal in FY 2020 amounted to USD 2.3 bn (NEC acquired Avaloq) compared with USD 42.5 bn in FY 2019 (when FIS acquired Worldpay).










**Worldline’s completes acquisition of Ingenico in a major deal valued at USD 8.6 billion (bn)<sup>liiii</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 23: Services offered by various players in the market<sup>iii</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 44.0 mn and EUR 49.4 mn on May 17, 2021. The Fair Market Value for one publicly traded share of the company stands between EUR 1.87 and EUR 2.10 on May 17, 2021, using blended valuation (DCF and EV/EBITDA (2021E) multiple).

### 8.1 DCF Method

Valuation	
<b>WACC</b>	
Risk-free rate	0.03% <sup>liv</sup>
Beta	1.3 <sup>lv</sup>
Equity Market premium	8.60% <sup>lvi</sup>
Country Risk Premium	0.7% <sup>lvii</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	3,322	3,256	3,596	4,048	4,769	5,452	6,313	7,047	7,282
Capital Expenditure	(1,555)	(1,491)	(1,482)	(1,255)	(1,201)	(1,080)	(1,011)	(965)	(891)
Free Cash Flow to Firm	1,767	1,765	2,115	2,792	3,568	4,372	5,302	6,082	6,392
Discount factor	0.94	0.84	0.76	0.68	0.61	0.55	0.49	0.44	0.40
Present Value of FCF	1,653	1,484	1,598	1,897	2,178	2,398	2,614	2,695	2,545
<b>FCFF (Low)</b>									
Net cash from operating activities	3,238	3,120	3,301	3,747	4,252	4,879	5,505	6,079	6,067
Capital Expenditure	(1,509)	(1,445)	(1,440)	(1,246)	(1,200)	(1,112)	(1,061)	(1,042)	(991)
Free Cash Flow to Firm	1,729	1,675	1,861	2,500	3,053	3,767	4,445	5,037	5,077
Discount factor	0.94	0.84	0.76	0.68	0.61	0.55	0.49	0.44	0.40
Present Value of FCF	1,618	1,409	1,407	1,698	1,863	2,067	2,191	2,232	2,021

Arrowhead Fair Value Bracket	High	Low
Terminal Value (TV)	70,317	55,849
Present Value of TV	27,999	22,238
Present Value of FCF	19,062	16,506
<b>Present Value of TV+FCF</b>	<b>47,061</b>	<b>38,744</b>
Net Debt	(1,312)	(1,312)
Deferred Taxes	(415)	(415)
<b>Equity Value (EUR '000)</b>	<b>47,958</b>	<b>39,641</b>
Shares O/s ('000's)	23,544	23,544
<b>Fair Share Value Bracket (EUR)</b>	<b>2.04</b>	<b>1.68</b>
Current Market Price (EUR)	0.97	0.97
Upside/(Downside)	110%	74%
Current Market Cap. (EUR '000)	22,837	22,837
<b>Target Market Cap. Bracket (EUR '000)</b>	<b>47,958</b>	<b>39,641</b>

### Sensitivity Analysis

Sensitivity Table - High		Growth Rate (%)				
		1.5%	1.8%	2.0%	2.3%	2.5%
WACC (%)	10.3%	2.24	2.28	2.33	2.38	2.43
	10.8%	2.10	2.13	2.17	2.22	2.26
	11.3%	1.97	2.00	2.04	2.07	2.11
	11.8%	1.86	1.89	1.91	1.95	1.98
	12.3%	1.75	1.78	1.81	1.83	1.86

Sensitivity Table - Low		Growth Rate (%)				
		1.5%	1.8%	2.0%	2.3%	2.5%
WACC (%)	10.3%	1.85	1.88	1.92	1.95	2.00
	10.8%	1.73	1.76	1.79	1.83	1.86
	11.3%	1.63	1.66	1.68	1.71	1.74
	11.8%	1.54	1.56	1.59	1.61	1.64
	12.3%	1.46	1.48	1.50	1.52	1.54

### 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 103 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 24: Number of terminals at the end of the year									
In '000s	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Low estimate	14.7	14.1	13.7	13.3	12.9	12.5	12.2	12.0	11.7
High estimate	15.0	14.7	14.4	14.1	13.8	13.6	13.4	13.2	13.0

#### Variable 2 – Terminals offering Authorized services

Exhibit 25: 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	13.6	13.2	12.8	12.4	12.1	11.7	11.4	11.1	10.9
High estimate	13.9	13.7	13.4	13.2	13.0	12.7	12.4	12.2	12.1

## 8.2 Relative Valuation

The Fair Market Value of one of Keyware's publicly traded regular shares stood between EUR 2.06 and EUR 2.16 on May 17, 2021, according to the relative valuation method.

Exhibit 26: Peer Set (Keyware) <sup>lviii</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	21,039	25,409	1,281.14	19.83x
Global Payments	US	47,796	54,789	2,971.35	18.44x
Fiserv	US	61,883	80,065	5,219.91	15.34x
Glintt-Global Intelligent Technologies SA	Portugal	18	63	NA	NA
SysGroup PLC	UK	28	26	3.14	8.39x
<b>Simple Average</b>					<b>16.9x</b>

	High	Low
Keyware EBITDA FY 2021E*	2,137	2,024
PEER EV/ EBITDA	16.9x	16.9x
Relative Valuation Premium / (Discount)	0%	0%
Adjusted EV/ EBITDA	16.9x	16.9x
<b>FY2021 EV</b>	<b>36,084</b>	<b>34,187</b>

\*Adjusted EBITDA has been used

Exhibit 27: Peer Set (Magellan) <sup>lix</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	347	350	#N/A N/A	NA
Gresham Technologies PLC	UK	135	127	5.95	21.26x
B+S Bankssysteme AG	Germany	22	29	2.80	10.50x
Asseco South Eastern Europe SA	Poland	447	443	48.70	9.10x
GPI SpA	Italy	178	297	43.70	6.80x
Verimatrix SA	France	181	205	18.79	10.90x
NETinfo Plc	Cyprus	14	18	NA	NA
Vetrya SpA	Italy	13	25	(7.39)	NM
CPU Softwarehouse AG	Germany	10	8	NA	NA
msg life ag	Germany	119	104	NA	NA
SinnerSchrader AG	Germany	151	143	NA	NA
GHL Systems Bhd	Malaysia	396	359	18.47	19.42x
Bottomline Technologies DE Inc	US	1,408	1,422	82.47	17.25x
Silverlake Axis Ltd	Malaysia	380	245	51.10	4.79x
Wirecard AG	Germany	NA	(1,932)	788.00	NM
WEX Inc	US	6,915	8,974	583.37	15.38x
ACI Worldwide Inc	US	3,874	4,723	309.13	15.28x
PayPal Holdings Inc	US	236,144	233,264	6,189.26	37.69x



Global Payments Inc	US	47,796	54,789	2,971.35	18.44x
KGMobilians Co Ltd	South Korea	287	321	52.03	6.18x
Visa Inc	US	410,855	417,038	13,266.55	31.44x
Mastercard Inc	US	296,189	301,505	8,736.28	34.51x
Global Payments Inc	US	47,796	54,789	2,971.35	18.44x
<b>Simple Average</b>					<b>9.8x</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	1,418	1,370
PEER EV/ EBITDA	9.8x	9.8x
Relative Valuation Premium	0%	0%
Adjusted EV/ EBITDA	9.8x	9.8x
<b>FY 2021 EV</b>	<b>13,897</b>	<b>13,426</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>	49,981	47,613
Adjustment		
Less: Net Debt	1,312.0	1,312.0
Less: Deferred taxes	(415.0)	(415.0)
<b>Implied Equity Value</b>	50,878	48,510
Shares o/s ('000s)	23,544	23,544
<b>Intrinsic Value per share</b>	<b>2.16</b>	<b>2.06</b>
Current Market Price	0.97	0.97
Upside / (Downside)	223%	212%

### 8.3 Blended Valuation

Blended Valuation	High	Low
DCF	2.04	1.68
Relative valuation	2.16	2.06
<b>Blended Value</b>	<b>2.10</b>	<b>1.87</b>
Upside/(Downside)	116%	93%
<b>Target Market Cap. (EUR '000)</b>	49,418	44,076

### **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 37 of this report.

## 9. Appendix

### 9.1 Keyware's Financial Summary

<b>Exhibit 28: 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)	17,893	18,962	19,751	20,302	20,913	21,542	22,136	22,732	23,428
Operating Profit (EUR '000)	56	598	1,282	1,768	2,664	3,044	4,040	4,230	5,046
Net Income (EUR '000)	247	682	1,054	1,409	2,047	2,322	3,094	3,227	3,831
EPS	0.01	0.03	0.05	0.06	0.09	0.10	0.14	0.14	0.17
<b>Growth rates (%)</b>									
Revenue	30.8%	6.0%	4.2%	2.8%	3.0%	3.0%	2.8%	2.7%	3.1%
Operating Profit	NM	966.9%	114.5%	37.9%	50.7%	14.3%	32.7%	4.7%	19.3%
Net Income	274.6%	176.0%	54.5%	33.7%	45.3%	13.4%	33.2%	4.3%	18.7%
EPS	274.6%	176.0%	54.5%	33.7%	45.3%	13.4%	33.2%	4.3%	18.7%
<b>Margins (%)</b>									
Gross Margins	67.6%	67.9%	69.5%	71.3%	72.9%	74.2%	74.5%	74.5%	74.7%
Operating Profit	0.3%	3.2%	6.5%	8.7%	12.7%	14.1%	18.2%	18.6%	21.5%
Net profit Margin	1.4%	3.6%	5.3%	6.9%	9.8%	10.8%	14.0%	14.2%	16.4%
<b>Ratios</b>									
ROA	0.7%	1.8%	2.8%	3.6%	5.0%	5.4%	6.7%	6.5%	7.1%
ROE	0.9%	2.4%	3.6%	4.6%	6.3%	6.6%	8.1%	7.8%	8.5%
Debt / Equity	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x
Interest Coverage	1.9x	138.8x	297.6x	410.4x	618.4x	706.7x	937.9x	982.0x	1171.5x
Price / Earnings Ratio	82.2x	29.8x	19.3x	14.4x	9.9x	8.7x	6.6x	6.3x	5.3x

<b>Exhibit 29: 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)	18,707	19,966	21,305	21,871	23,047	23,710	24,865	25,628	27,045
Operating Profit (EUR '000)	130	634	1,510	1,982	3,131	3,519	4,814	5,092	6,270
Net Income (EUR '000)	305	715	1,232	1,579	2,409	2,691	3,689	3,891	4,769
EPS	0.01	0.03	0.05	0.07	0.11	0.12	0.16	0.17	0.21
<b>Growth rates (%)</b>									
Revenue	36.8%	6.7%	6.7%	2.7%	5.4%	2.9%	4.9%	3.1%	5.5%
Operating Profit	NM	388.1%	138.2%	31.3%	58.0%	12.4%	36.8%	5.8%	23.1%
Net Income	362.5%	134.2%	72.4%	28.1%	52.6%	11.7%	37.1%	5.5%	22.6%
EPS	362.5%	134.2%	72.4%	28.1%	52.6%	11.7%	37.1%	5.5%	22.6%
<b>Margins (%)</b>									
Gross Margins	67.4%	67.6%	69.5%	71.0%	72.8%	74.0%	74.4%	74.6%	75.1%
Operating Profit	0.7%	3.2%	7.1%	9.1%	13.6%	14.8%	19.4%	19.9%	23.2%
Net profit Margin	1.6%	3.6%	5.8%	7.2%	10.5%	11.3%	14.8%	15.2%	17.6%
<b>Ratios</b>									
ROA	0.8%	1.9%	3.2%	3.9%	5.7%	6.0%	7.6%	7.4%	8.3%
ROE	1.1%	2.5%	4.2%	5.1%	7.2%	7.4%	9.3%	8.9%	9.8%
Debt / Equity	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x	0.0x
Interest Coverage	4.3x	147.2x	350.5x	460.2x	726.9x	817.0x	1117.6x	1182.1x	1455.7x
Price / Earnings Ratio	66.6x	28.4x	16.5x	12.9x	8.4x	7.6x	5.5x	5.2x	4.3x

## 9.2 Keyware's Balance Sheet Forecast

<b>Exhibit 30: 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	12,751	13,648	15,141	17,156	19,934	23,366	27,269	31,434	35,948	
Total non-current assets	24,079	23,478	22,820	22,073	21,120	20,033	19,242	18,355	17,797	
<b>TOTAL ASSETS</b>	<b>36,830</b>	<b>37,127</b>	<b>37,961</b>	<b>39,230</b>	<b>41,053</b>	<b>43,399</b>	<b>46,512</b>	<b>49,789</b>	<b>53,745</b>	
Total current liabilities	4,664	4,480	4,457	4,492	4,340	4,456	4,567	4,676	4,800	
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>9,343</b>	<b>8,957</b>	<b>8,738</b>	<b>8,597</b>	<b>8,374</b>	<b>8,397</b>	<b>8,415</b>	<b>8,466</b>	<b>8,590</b>	
Total shareholder's equity	27,487	28,169	29,223	30,632	32,680	35,002	38,096	41,323	45,154	
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>36,830</b>	<b>37,127</b>	<b>37,961</b>	<b>39,230</b>	<b>41,053</b>	<b>43,399</b>	<b>46,512</b>	<b>49,789</b>	<b>53,745</b>	

<b>Exhibit 31: 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	12,998	14,016	15,870	18,199	21,601	25,654	30,481	35,641	41,503	
Total non-current assets	24,066	23,402	22,655	21,770	20,630	19,300	18,279	17,092	16,250	
<b>TOTAL ASSETS</b>	<b>37,064</b>	<b>37,417</b>	<b>38,525</b>	<b>39,968</b>	<b>42,231</b>	<b>44,954</b>	<b>48,760</b>	<b>52,733</b>	<b>57,753</b>	
Total current liabilities	4,840	4,680	4,752	4,793	4,718	4,842	5,052	5,193	5,444	
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>9,519</b>	<b>9,158</b>	<b>9,033</b>	<b>8,898</b>	<b>8,752</b>	<b>8,783</b>	<b>8,900</b>	<b>8,983</b>	<b>9,234</b>	
Total shareholder's equity	27,545	28,259	29,492	31,070	33,479	36,170	39,859	43,750	48,519	
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>37,064</b>	<b>37,417</b>	<b>38,525</b>	<b>39,968</b>	<b>42,231</b>	<b>44,954</b>	<b>48,760</b>	<b>52,733</b>	<b>57,753</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.

### Important disclosures

Arrowhead Business and Investment Decisions, LLC received fees in 2015-2020 and will receive further fees in 2021 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 currently have a mandate for investment banking services from Keyware 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.

## 11. Notes and References

- i Source: Bloomberg, retrieved on May 17, 2021.
- ii 52 weeks to May 17, 2021. Source: Bloomberg, May 17, 2021
- iii 3 months to May 17, 2021. Source: Bloomberg, May 17, 2021
- iv Arrowhead Business and Investment Decisions Fair Value Bracket – AFVBTM. See information on valuation on pages 30-34 of this report and important disclosures on page 37 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: [http://www.europarl.europa.eu/RegData/etudes/BRIE/2019/635513/EPRS\\_BRI\(2019\)635513\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2019/635513/EPRS_BRI(2019)635513_EN.pdf)
- xx Source: <https://www.globenewswire.com/news-release/2019/04/09/1801702/0/en/Global-Fintech-Market-2018-2023-Market-Set-to-Reach-USD-305-7-billion-by-2023.html>
- xxi Source: <http://sdw.ecb.europa.eu/reports.do?node=1000001386>
- xxii Source: <https://www.europeanpaymentscouncil.eu/sites/default/files/inline-files/World-Payments-Report-2019.pdf>
- xxiii Source: Annual Report 2014
- xxiv Source: <https://www.pcisecuritystandards.org/> and Keyware Annual Report 2014
- xxv Source: <https://www.globalxfunds.com/whats-driving-fintechs-growth/>, <http://www.oecd.org/finance/Financial-markets-insurance-pensions-digitalisation-and-finance.pdf>
- xxvi Source: <https://www.alacriti.com/real-time-payments-business-benefits> , <https://gomedici.com/overview-of-the-payments-industry/>, <https://www.prnewswire.com/news-releases/the-global-real-time-payments-rtp-market-is-estimated-to-grow-at-a-compound-annual-growth-rate-cagr-of-30-6-300755359.html>
- xxvii 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>
- xxviii Source: <https://merchantmachine.co.uk/digital-wallet/>
- xxix Source: <https://medium.com/@artashesvardanian/6-reasons-why-millennials-adopt-consumer-end-fintech-solutions-ae73a16fb64b> [https://www.paymentscardsandmobile.com/wp-content/uploads/2018/11/Global-Payments-Report\\_Digital-2018.pdf](https://www.paymentscardsandmobile.com/wp-content/uploads/2018/11/Global-Payments-Report_Digital-2018.pdf)

<https://merchantmachine.co.uk/digital-wallet/>

- xxx Source: <https://www.statista.com/statistics/444522/number-of-pos-terminals-belgium/>
- xxxI Source: <http://blog.unibulmerchantservices.com/transaction-authorization-process/>,  
<https://www.prnewswire.com/news-releases/authentication-services-market-to-grow-at-211-cagr-to-2022--reportsnreports-663599803.html>
- xxxII Source: <https://merchantmachine.co.uk/digital-wallet/>
- xxxIII Source: <https://www.mordorintelligence.com/industry-reports/mobile-payment-market>  
<https://www.globenewswire.com/news-release/2018/11/30/1659943/0/en/Global-Mobile-Payment-Technology-Market-Will-Reach-USD-3-371-Billion-By-2024- Zion-Market-Research.html>
- xxxIV Source: Mobile Payment 2019, PWC report
- xxxV Source: <https://sellerzen.com/ecommerce-monthly-installments-solutions>, <https://www.keyware.com/split>
- xxxVI Source: <https://razorpay.com/blog/tokenization-and-its-impact-on-online-payments/>, <https://www.prnewswire.com/news-releases/2-67-billion-tokenization-market---global-forecast-to-2023--300784939.html>
- xxxVII Source: <https://gomedici.com/overview-of-the-payments-industry/>  
<https://learn.na.bambora.com/iot-payments/>
- xxxVIII 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/>
- xxxIX Source: <https://www.gminsights.com/industry-analysis/blockchain-technology-market>  
<https://gomedici.com/overview-of-the-payments-industry/>
- xli Source: <https://www.globenewswire.com/news-release/2019/01/30/1707681/0/en/Global-Mobile-Wallet-Market-Report-2017-2018-2026.html>
- xliI Source: <https://www.globenewswire.com/news-release/2019/03/07/1749604/0/en/Global-Digital-Banking-Market-Will-Reach-USD-8-646-Million-By-2025-Zion-Market-Research.html>
- xliII Source: <https://home.kpmg/content/dam/kpmg/uk/pdf/2018/09/RegTech-revolution-coming.pdf>
- xliV Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/02/the-pulse-of-fintech-2018.pdf>
- xliV Source: <https://www.consultancy.eu/news/2390/global-fintech-investment-more-than-doubled-to-112-billion>
- xliVI Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/02/the-pulse-of-fintech-2018.pdf>
- xliVII Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/02/the-pulse-of-fintech-2018.pdf>
- xliVIII Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/02/the-pulse-of-fintech-2018.pdf>
- xliX Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/02/pulse-of-fintech-h2-2020.pdf>
- <sup>1</sup> Source: <https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/02/pulse-of-fintech-h2-2020.pdf>
- <sup>II</sup> 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)
- <sup>III</sup> Source: <https://www.fintechfutures.com/2020/11/worldline-completes-8-6bn-acquisition-of-ingenico/>
- IIII <https://ibsintelligence.com/ibs-journal/ibs-news/worldremit-secures-175-mn-in-series-d-funding>
- IIIV Source: Worldline Presentation December 2014 and Arrowhead Estimates
- IIIV Source: Bloomberg
- IV Source: Arrowhead Estimate
- IVI Source: Bloomberg
- IVII Source: Arrowhead Estimate
- IVIII Source: Bloomberg, Respective Company Results
- IIIX Source: Bloomberg, Respective Company Results