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Research Report

SMC Research
Small and Mid Cap Research



Sandpiper Digital Payments AG

Strong position in an attractive market
for closed-loop payment systems

Rating: **Speculative Buy** (Initiation of coverage) | Price: EUR **0.127** | Target: **EUR 0.26**

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Please take notice of the disclaimer at the end of the document!

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Snapshot



Basic data

Based in:	St. Gallen
Sector:	Payment, IT Security
Headcount:	approx.200 (group)
Accounting:	Swiss GAAP FER
ISIN:	CH0033050961
Price:	0.127 Euro
Market segment:	Regulated Market Berne Open Market Frankfurt
Number of shares:	211.7 m
Market Cap:	27.5 m
Enterprise Value:	37.7 m
Free float:	approx. 32 % (before carve-out)
Price high/low (12 M):	0.26 / 0.04 Euro
Ø turnover (12 M):	11,300 Euro

Short Profile

Since its establishment in 2014, the Swiss technology holding Sandpiper Digital Payments has developed a portfolio of five majority holdings and two substantial minority holdings. The companies focus in particular on digital payment systems, digital security and access control. Several subsidiaries have gained a strong market position in the segment of closed-loop payment systems for a defined user group. With its large number of customers (2.5 million), Sandpiper is an attractive partner or takeover candidate in the digital payment systems market.

According to the most recent forecast, the Group intends to continue to organically increase its sales (from EUR 30 to 32 m in 2017) and to reach a break even on EBITDA basis. Sandpiper has started several initiatives to stimulate growth and increase the margins. This includes the exploitation of synergies in the Group and an intensified cooperation with partners, also internationally. An extension of the business models by license and white-label solutions offers potentially a high earnings leverage.

FY ends: 31.12.	2015	2016	2017e	2018e	2019e	2020e
Sales (m Euro)	18.3	28.9	30.1	31.1	34.6	38.7
EBIT (m Euro)	-3.4	-5.9	-2.2*	-0.6	0.1	0.6
Net profit	-4.0	-8.3	13.0	-1.0	-0.4	0.0
EpS (Cent)	-2.00	-4.00	4.88	-0.36	-0.15	0.00
Dividend per share (Cent)	0.00	0.00	0.00	0.00	0.00	0.00
Sales growth		58.0%	4.0%	3.4%	11.1%	12.0%
Profit growth		-	-	-	-	-
PSR	1.50	0.95	0.91	0.88	0.80	0.71
PER	-	-	2.1	-	-	-
PCR	-	-	-	-	119.6	26.7
EV / EBIT	-	-	-	-	620.3	59.4
Dividend yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

*before one-off effects

Executive Summary

- **Technology holding with five majority holdings:** In relatively short time, the holding company Sandpiper Digital Payments AG, founded in 2014, developed a portfolio of companies, which address mainly the fields of digital payment systems, digital security and access control. Sandpiper possesses currently the majority in five subsidiaries as well as two substantial minority shares.
- **Two heavyweights:** The listed Intercard AG, in which Sandpiper holds a share of 50.4 percent, generates about three quarters of group sales together with the IT security specialist Ergonomics (share 100 percent). The system integrator IDpendant, benefitting from growing data protection requirements, makes a substantial contribution as well. A particularly innovative subsidiary is the Dutch Multicard Nederland, who has most recently initiated several reference projects with well-known customers.
- **Niches successfully occupied:** The market for cashless payment solutions shows very strong growth, but it is also highly competitive. Sandpiper's subsidiaries have gained a strong position in niches, not least thanks to relatively low Customer Acquisition Cost (CAC). The niches include closed-loop cashless payment systems with a defined user circle, which use the RFID/NFC technology in many cases. The Group is currently also working intensively on new blockchain-based solutions and several subsidiaries have launched promising projects in this field.
- **Break even announced for 2018:** In the course of the establishment of the portfolio, the group grew strongly over the last years. In the financial year 2016, revenues rose by 58 percent and in the first half of 2017 by 44.8 percent. The operating result was most recently still deficient. However, the prospect of a break even on EBITDA basis was held out for 2018.
- **Scaling of the business model:** The group is promisingly positioned in attractive markets. The established large customer base and the high share of recurring revenues are very valuable assets. The focus is now on the exploitation of synergies, the cross-selling in the Group and international growth, preferably with white-label and license models. Very promising is also the cooperation with partners like banks and insurance companies, whose CAC are mostly notably higher. Thus, both the recurring revenues, which amount already to 60 percent of Group's sales, and the margins are to be significantly increased. Further acquisitions are still on the agenda as well, especially as the team around the president of the Board of Directors Dr. Boersch and the vice-president Manfred Rietzler has a remarkable track record in this field.
- **Doubling potential:** Although Sandpiper has an excellent know-how in the identification, takeover and integration of acquisitions, we have not yet calculated with further transactions and see, given a successful realization of organic growth and margin potentials, a fair value of EUR 0.26 per share, which is thus more than 100 percent over the current price. However, the estimation risk is above average and our rating is therefore „Speculative Buy “.

SWOT Analysis

Strengths

- Management and major shareholders have a strong track record in the development of technology companies through buy-and-build.
- With sales of about EUR 30 m, a considerable size was reached quickly.
- Young portfolio with high-growth companies that have developed scalable platforms in attractive markets.
- 2.5 million existing customers across the Group and high recurring revenues ensure stability.
- Leading positions in several market niches.
- Relatively low customer acquisition costs as well as high cross-selling and synergy potentials offer a good basis for profitable growth.

Opportunities

- EBITDA break even announced for 2018.
- With the already established large customer base, the holdings have an attractive asset, which they now intend to monetize more strongly.
- A further internationalization of the activities offers a high earnings leverage due to existing platforms.
- Existing cooperations with large partners can be developed increasing the potential with limited risk.
- The Group addresses dynamic markets, in which substantial market shares can be won fast with the right offer.
- Financially strong investors that are expected to support the growth are being involved via a carve-out by Mountain Partners.

Weaknesses

- After it failed to meet the targets in financial year 2016/17, the management was replaced and the financing of a subsidiary discontinued; the AG had to announce the loss of half of the share capital.
- The group is still operating at a loss, the financial reserves are at present relatively small.
- Only two portfolio companies account for 76 percent of consolidated revenue (in 2016).
- Project postponements brought most recently a growth dip to the largest subsidiary InterCard.
- The exploitation of synergies in the Group, such as the standardization of technology platforms or of the sales activities is a challenging task for the management.

Threats

- Further share issues could lead to a notable dilution.
- Acquisitions in the context of the buy-and-build strategy can fall short of expectations and burden the group.
- Considering the multitude of possible growth options, the management has to identify the most promising ones. The heterogeneous structure bears the risk to dissipate energies and to overstrain the management capacities.
- If the realization of synergies or the implementation of the expansion strategy fails, the Group's break even could be delayed further and the financing need could increase.
- The subsidiaries move in technologically advanced and very dynamic markets. There is the risk of following the wrong trend and being left behind.

Profile

Young technology holding

Sandpiper Digital Payments AG, based in St. Gallen, Switzerland, was established in 2014 as an investment company with a focus on digital payment systems, digital security and access control. The Swiss company started with the acquisition of minority stakes in fast-growing technology companies, but Sandpiper now holds a majority stake of five subsidiaries and a substantial stake in two other companies (see organigram).

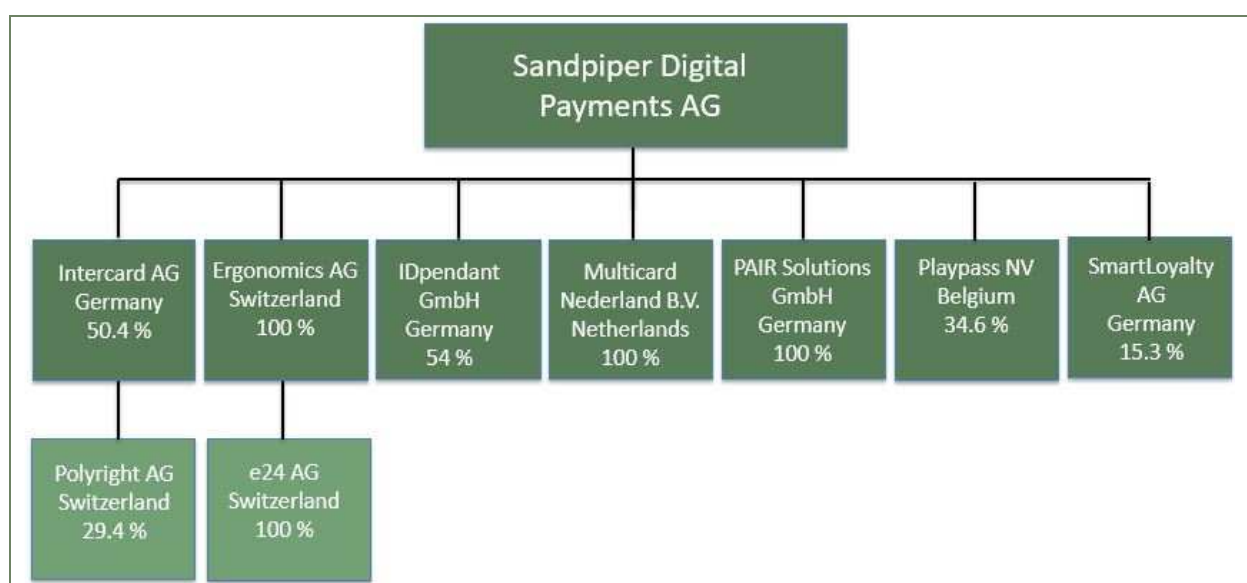
Focus: closed-loop payment systems

One focus of the portfolio is on the provision of closed-loop payment systems with contactless data transmission for a defined, often local or regional user group (such as, students, festival visitors, company staff etc.). For this purpose, smart cards based on RFID/NFC technology (Radio-Frequency Identification / Near Field Communication) are used in particular, which enable definitive user identification and data exchange between a transmitter and a receiver. Other important building blocks of the developed solutions are online platforms for both users and operators as well as mobile access and usage op-

tions. The AG manages the activities as an operating holding company and pursues an active buy-and-build approach in order to further expand the market position of the individual subsidiaries and the Group.

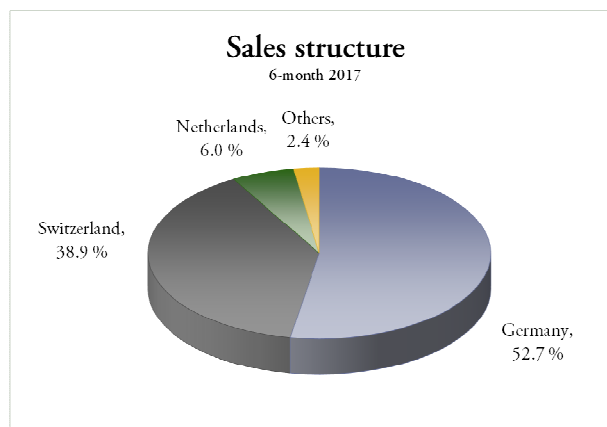
Germany as most important market

The holding company currently employs only one investment manager. An external service provider carries out essential controlling and management services. In the five majority shareholdings, however, nearly 200 of staff were most recently employed. Consolidated sales in the first half of 2017 amounted to 16.0 m Swiss francs, an increase of around 45 percent over the previous year. Most of the revenues were generated in Germany at 52.7 percent, followed by Switzerland at about 39 percent (before consolidation). The share of other markets is still comparatively small. Accordingly, three majority shareholdings (Intercard, IDpendent and PAIR Solutions) have their headquarters in Germany, while Ergonomics is located in Switzerland and Multicard B.V. in the Netherlands. In terms of sales, the two largest



Source: Company, own diagram

subsidiaries Intercard and Ergonomics dominate business activities and were responsible for 76 percent of consolidated revenues in the financial period 2016 (figures for 2017 audited by Ernst&Young will be announced in May).



Shares before consolidation; source: Company

Market leader for educational institutions

The largest subsidiary Intercard, which is itself listed on the stock exchange, is largely responsible for the fact that - according to its own statements - the Group holds the leading position in the area of multifunctional smart cards for educational institutions in Germany and Switzerland. The company has equipped more than 190 universities and student services in the two countries with systems that are used by more than 1.3 million students. The subsidiary has thus occupied an attractive market segment in the area of closed-loop payment systems. Other subsidiaries also address niches in this market and have achieved a leading market position in a relatively short period of time. According to the company, Multicard B.V. has already achieved a high double-digit percentage market share in the Netherlands with a smart card based system for organising individual passenger transports (especially for children, elderly people and people with disabilities), and more than 10 million passenger transports have already been carried out. And over 2 million visitors have already used Playpass' integrated solution for accreditation, entrance and payment at festivals, making Playpass in the company's view the world's number two in this field.

Large customer base

The companies have thus created one of the most important assets, a large customer base. Intercard and Multicard alone have a combined total of more than 2.5 million users, and other shareholdings have already established a good basis in other niches. An important advantage of customer acquisition in defined local, regional or event-related user groups lies in the relatively low customer acquisition costs, since the companies can often address propagators such as public authorities, organizations or large partners. In addition, system providers generally receive a fee for the introduction of the solution. On the other hand, the business is comparatively small in scale and therefore not particularly interesting for industry leaders. The companies active in this segment are compensated with above-average contract terms (> 2 years). Moreover, add-on services often lead to a long lifespan of the customer relationships and - depending on the structure of the contractual relationship - often also to recurring income. The technology holding estimates the share of recurring revenues in the Group's sales at about 60 percent by now. For Sandpiper, the establishment of the subsidiaries in various segments of the market for closed-loop payment systems creates numerous additional opportunities. On the one hand, for instance, the offer for the respective users can be extended by integrating additional functionalities, on the other hand, the individual holdings can support the cross-selling of other services from the Group or jointly address new markets with a more comprehensive solution.

Experienced initiator

The initiator of Sandpiper was the Swiss investment company Mountain Partners, which emerged from the Family Office of founder Dr. Cornelius Boersch at the end of the 1990s and is also involved in operations. The team led by Dr. Boersch and Manfred Rietzler has established a remarkable track record in the buy-and-build segment. The best-known successes are likely to be the establishment of the smart card broker ACG, of the RFID specialist Smartrac and of the security and access technology provider Identiv. All three companies were listed on the stock exchange and the exit took place at a multiple of the

invested capital - the valuation of Smartrac and ACG was even higher than EUR 0.5 and 1.0 billion respectively. The buy-and-build approach is therefore also the core element of Mountain Partners' strategy. The major shareholder has invested in more than 200 technology and Internet companies over the past twenty years, many of which - for example Alando (ebay), Lieferando (Takeaway.com) or Scout24 (Deutsche Telekom) - have merged into large groups. Moreover, the innovative cybersecurity technology SECUSMART was sold to Blackberry as well.

Large management team

While Dr. Boersch is currently at the helm of the Board of Directors of Sandpiper, Manfred Rietzler, the former CEO of Smartrac, who co-founded Sandpiper and also contributed to the development of other successful companies in the history of Mountain Partners, acts as deputy chairman. The board is completed by former McKinsey senior partner Hajo Riesenbeck and attorney and notary Dr. Patrick Stach. Dr. Stach is moreover a member of the Advisory Board of the St. Gallen University, which supervises the Swiss institute for small and medium-sized enterprises. The company is even more broadly positioned at the level of operational management. After a CEO and CFO (appointed in October 2015) left the company respectively at the end of 2016 and in April 2017 due to a failure to meet targets, the central management tasks were distributed among a wide team of managers from the subsidiaries (see diagram). Frank Steigberger, CEO of PAIR Solutions, currently serves as Managing Director. In the near future, a new CFO is definitely to

join the company as well.

Change of shareholder structure

The team of Mountain Partners is currently very actively involved in order to quickly exploit the growth opportunities that arise from the established portfolio. The existing activities are to be strengthened and expanded with further acquisitions. For this purpose, shareholder structure will be changed in advance. Mountain Partners has paid out its shares in Sandpiper, which amounted to just under 46 percent last December, to its own shareholders by means of a carve-out. To this end, Mountain Partners published an offer to repurchase its shares at a price of 32.50 Swiss francs, with the purchase price being settled in Sandpiper shares at a price of 0.21 Swiss francs per share. The reason for this measure is that numerous financially strong strategic investors have so far only held a share in Mountain Partners and are now to receive a direct stake in Sandpiper in order to co-finance the future expansion. The measure has not yet been completed, but has already been well received: According to an announcement of 12 February, more than 50 shareholders took advantage of the offer, so that the stake held by the investment company via BH Capital Management AG fell from 45.9 to 17.8 percent. Mountain Partners will continue to maintain close ties with Sandpiper after the carve-out and to provide further support. In contrast, Vice Chairman of the Board of Directors Rietzler has increased his personal share in Sandpiper to more than 5 percent (announcement: 6.5 percent), while it was reported in December that Dr. Boersch had already exceeded the 10 percent threshold (announcement: 10.1 percent). In addition, the bank-independent in-



Source: Company

vestment company Ethenea has established a share of about 4.4 percent, while 3.1 percent were reported

for the Mainfirst fund I|A|F|A Global Opportunities SICAV.

Portfolio I: Intercard

Product: Multi-functional smart card

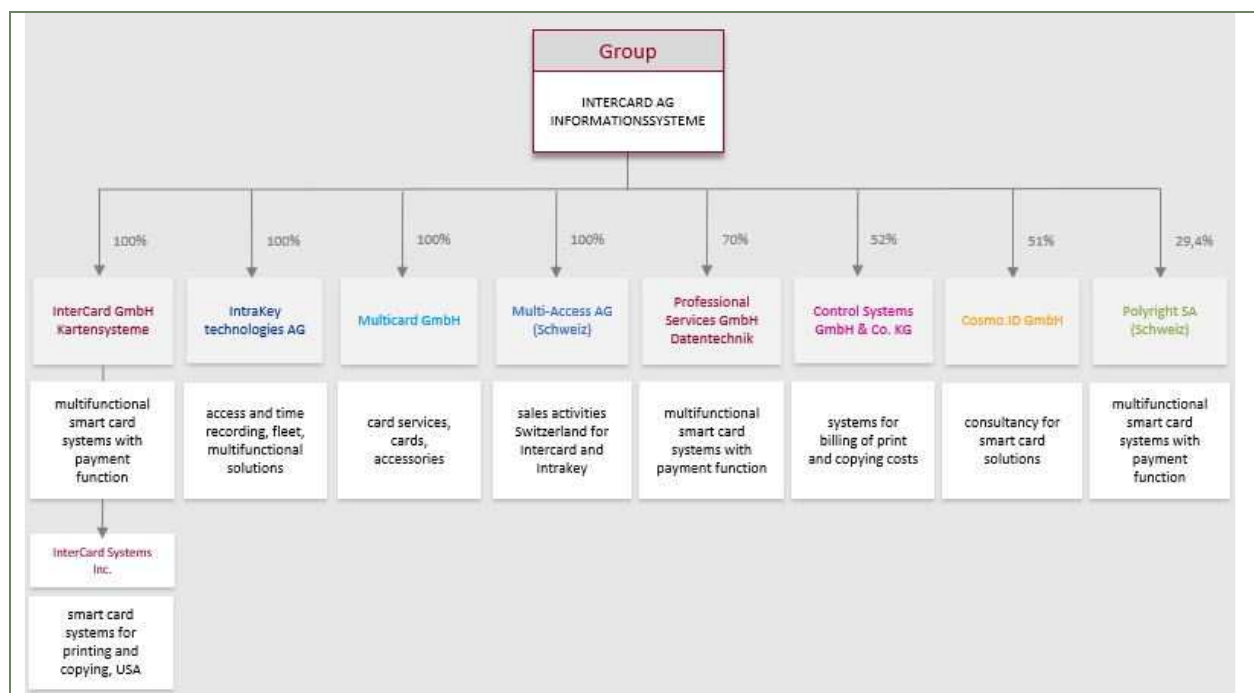
Sandpiper's largest subsidiary is Intercard AG, which was founded in 2005. It is based in Villingen-Schwenningen and is listed on the stock exchange in Germany. The technology holding had increased its stake in the company to just over 50 percent at the end of 2016. Intercard's core product is a multifunctional smart card, suitable for numerous fields of application. The spectrum of possible applications ranges from secure identification, access control and time recording to payment functions and fleet management. An integrated complete solution is installed at the customer's premises. It includes, in addition to the cards, also hardware such as machines and terminals and the necessary software for operation and administration. So far, especially public institutions and organizations have made use of this offer. In the field of universities and student services, Intercard is the market leader in the German-speaking countries with around 190 customers and 1.3 m connected students.

Various sources of income

Intercard does not generate sales only from the supply and installation of the systems. During the contract period, more cards are usually reordered and the software and hardware are updated. An even greater lever is the introduction of additional services for the user - for instance, an extension by additional payment functions with partners - which can also generate higher current revenue. Currently, more than 40 percent of annual sales is generated with hardware and software, and chip cards account for a good quarter. Services also play an important role (about 23 percent), while reordering, accessories and spare parts make the smallest contribution of around 7 percent.

Two-digit growth until 2016...

Over the last years, the company has repeatedly taken over and successfully integrated smaller competitors, in order to consolidate the industry and to strengthen the own position. Initially, Multicard



Source: Company

GmbH (sales approx. EUR 0.5 million) was fully acquired in 2014. This was followed by two acquisitions in 2015 (70 percent of Professional Services GmbH, sales of EUR 0.5 m / 100 percent of Multi-Access AG, sales of EUR 1 m) and an acquisition in 2016 (52 percent of Control Systems GmbH & Co. KG, sales > EUR 1 m). Partly thanks to this brisk acquisition activity, sales were increased by an average of around 16 percent p.a. to EUR 14.9 m in the years 2014 to 2016. In the end, EBITDA remained stable at just over EUR 1 million during this period, as the company had to process the acquisitions and made higher investments in product development and further internationalization.

...and decline in the first half of 2017

After a restrained order intake and project postponements in the first half of 2017, the year was used for the implementation of structural improvements and the exploitation of synergies. The Sandpiper subsidiary had to accept a 12.4 percent sales decline to EUR 6.2 m and an EBIT decrease to EUR -0.32 m (after EUR 0.28 m in the previous year). In consequence, the management initiated an adjustment of the cost structures and an intensification of sales activities. The outlook for the second half of the year has been therefore already more optimistic. Following the acquisition of several new projects in the field of higher education, a surplus was announced for the period from July to December. According to the forecast, however, the sales and profits from 2016 are unlikely to have been achieved over the year as a whole. Intercard will publish the preliminary results for 2017 as planned on 23 March.

Investment in Polyright

Intercard continued to expand its market position last year with its investment in Polyright AG. With sales of more than 3 million Swiss francs, the company, which is based in the Canton of Valais in Switzerland, is the leading provider of smart card systems for contactless identification and payment processes at the universities in the country and thus a direct competitor of the Swiss Intercard subsidiary Multi-Access AG. Prior to Intercard's investment, Polyright was already a wholly owned subsidiary of Sandpiper,

which was, however, sold as part of an MBO due to financing issues in July 2017. At the same time, Intercard's entry was carried out via a convertible loan in anticipation of a capital increase. Ultimately, Intercard then acquired a 29.4 percent stake, together with the option to increase it to 52 percent in the first half of 2018. A closer cooperation with Multi-Access AG is planned, as well as a use of possible synergies which had not been exploited in the old structure.

Expansion of the business model

Due to last year's acquisitions, the Intercard group has focussed on the adjustment of structures and further measures to exploit synergies. The positive effects should be reflected more strongly in the figures from 2019 onwards. By this time, new growth initiatives should also have a positive effect. In the segment of higher education, Intercard occupies an attractive position, which is shaped by entrance barriers based on existent installations and systems, long-term contracts and customer relationships. Given the high data security requirements, close cooperation and coordination with administrations, student services and organizations are the key to a successful implementation also of new business models, which can offer innovative increases in value to both universities and students as „early adopters“. In addition to cooperations with payment service providers (TWINT in Switzerland), online banks, mobile network operators and insurance companies, a collaboration with established companies and ICO start-ups in the blockchain field is planned as well.

Geographical expansion

At present, the company is working with sister companies and partners on the geographical expansion in Europe and other interesting regions. It focuses in particular on countries with a high portion of young inhabitants and sufficient investment possibilities in education infrastructure. Intercard's modularly scalable, highly integrated and multifunctional system for educational facilities and adjacent urbane applications, such as public transport, are particularly interesting here. The model of strong international partners could serve as a blueprint for the envisaged

promotion of the internationalization of the Sandpiper companies. In order to be able to efficiently serve more remote markets with high potential and low saturation, Intercard, like Playpass, wants to focus more on white-label solutions and license models. For the market leader in the addressed segment in the German-speaking countries, the geographical expansion is thus - in addition to the establishment of

new business models in the home market - an important growth engine. To this end, further acquisitions are planned apart from the integration of Polyright. But one principal focus is always on an increase of profitability, in the short term as well.

Portfolio II: Ergonomics

Established software and IT specialist

Ergonomics AG, headquartered in Zurich and founded in 1991, is currently the clear number two in Sandpiper's portfolio in terms of income with sales of around 7.7 m Swiss francs in the financial year 2017 and currently 25 employees. Sandpiper took a stake in the company in December 2014 and owns all shares. Ergonomics specializes primarily in solutions for both electronic payment and IT security. The company is very broadly positioned in this area: the range of services extends from consulting and customer-specific development of required software solutions to cyber service solutions. As a result of these activities, the company now also has various industry solutions at its disposal, which can be used to organize and optimize the customer's processes.

Well-known references

Ergonomics' customer database comprises more than 200 addresses, the majority of which come from Germany, Switzerland and Austria. From an industry point of view, there is also a clear focus on financial institutions and public administration, although the company's services are also being used by companies from the areas of industry, commerce and health care. It is very impressive that the customer list contains numerous top addresses for which the company has carried out projects. In the financial sector, Ergonomics' Authentication Server (EAS) supports several technologies for strong authentication in e-banking and m-banking. Customers such as PostFinance, Credit Suisse or RBS opt for Ergonomics' solution for transaction security. The company has similarly well-known references at public institutions, including the Swiss Federal Supreme Court, the Federal Department of Justice and Police in Berne or the Federal Department of Defense (VBS). The Swiss railway company SBB chose Ergonomics and its software CurrencyXchanger for a project as well. In future, the solution will support the processing of money exchange at about 180 stations of the SBB.



Customers and partners; source: Company

Robust demand

Data security in electronic payment transactions and the introduction of mobile solutions have been key topics for the financial industry in recent years and have led to robust demand. Accordingly, Ergonomics was able to develop positively between 2014 and 2016, increasing sales by an average of just under 15 percent p.a. to 7.7 m Swiss francs and thus generating an EBITDA margin of 5.9 percent.

Intact perspectives

In the medium term, Ergonomics AG aims to grow organically by at least 10 percent per year. In any case, the market offers sufficient opportunities to achieve this goal. The digitization of the financial services industry and the market entry of numerous FinTech start-ups has set the payment-processing sector in motion. The modernisation of the point-of-sale infrastructure is currently in full swing, with new contactless and mobile payment options being introduced. This increases the need for competent partners to accompany the process and develop the necessary modules and applications.

Mobile Payment Incubator

In the area of mobile payment, Ergonomics relies on its subsidiary e24 AG, which has been one of the pioneers in the m-payment market ever since its foun-

dation in 2007. e24 has developed its own mobile payment platform, which is used in various applications. The business is currently divided into four segments: Mobile Parking, Payment, Commerce and Access.

Solution with a wide range of applications

ePark24 operates a cloud based solution for the mobile management of all kinds of car-parks that can be used in public or private parking lots without major investments. Numerous cities and municipalities, retailers, e-commerce and ticketing providers opt for e24's payment and access solution. The mobile parking solution ePark24 can be used stand-alone or as a hybrid parking solution to supplement the existing infrastructure (parking meters, automatic pay stations) for the cashless payment of a parking space. While the end customer can easily pay his fees via an app, the solution offers the car park operator numerous additional management tools - from extensive reporting to effective control and marketing tools. However, the platform is not limited to this area of application, but is also suitable - as an m-commerce system - for various other sectors, such as pizza delivery services, taxi companies or the catering trade. In other words, wherever transactions are to be processed quickly, simply and cashlessly. A supplementary functionality addresses the area of ticket sales for large events, where payment and access control both play an important role. The m-ticketing module al-

lows the ticket to be purchased independently of points of sale, sent directly after the transaction and used for access control. A common feature of the different applications is the direct customer access via mobile devices, which in principle allows the execution of mobile marketing campaigns with different formats.

Transaction-based revenues rise

The sales of e24 derive from various sources, the most important types of revenue are license and transaction fees. While license fees are graduated according to the purpose and complexity of the solutions used, payments for use vary with the transaction volume processed. After the foundation of e24, it took several years for transaction-based sales to surpass the 500,000 Swiss francs threshold. However, due to increased merchant acceptance, the company has most recently been able to improve the transaction volume considerably to more than 600,000 Swiss francs. Today, more than 240 partners use the system and more than 25,000 parking units are being managed with it. The number of connected end customers exceeded the 200,000 mark, which accounts for more than 270,000 transactions per year. The market trend towards an intensified use of cashless payment systems for small amounts such as parking fees should further support the growth of e24.

Portfolio III: IDpendant

Independent system integrator

IDpendant was founded in 2007 as a subsidiary of the Swiss Trüb AG. At that time, the company had begun to link the still largely separate segments of IT security and identification with chip cards. After Trüb AG was taken over by the Dutch Gemalto Group (now part of the Thales Group) three years ago, Sandpiper acquired 54 percent of IDpendant in February 2016, with the remainder largely in the hands of the management. Today, IDpendant presents itself as a manufacturer-independent system integrator that implements comprehensive IT security solutions. The company's core competencies lie in the areas of authentication, encryption and client security. To implement appropriate solutions, the company cooperates with several leading product suppliers in the areas of hardware, management systems and client security software. The partners include for example Microsoft, Gemalto, ATOS, Giesecke & Devrient and NXP. The services offered range from consulting and implementation to system support.



Range of services; source: Company

Speciality: Employee ID cards

The business with modern solutions for employee cards, in which the company is one of the leading providers, has a prominent position at IDpendant. The demands on identification and access control

have been increasing all the time, and the search has been on for very secure, but also simple systems that can, for instance, save users multiple logons. Keywords here are the single sign-on (SSO), which, after a single authentication, allows access to all computers and services enabled for the user, or the two-factor authentication. IDpendant has numerous references in this area: The latter solution was introduced at Bayernoil, while the University Hospital in Münster opted for a single sign-on solution and E. ON uses multifunctional employee ID.

Beneficiary of data protection initiatives

In recent years, IDpendant has developed positively, with revenues increasing by an average of 9 percent to EUR 4.0 m between 2014 and 2016. Profitability improved considerably in this period, with EBITDA and EBIT margins of 7.5 and 6.8 percent respectively in the financial period 2016 (previous year: 1.1 and 0.5 percent). An important driver was the IT security law passed in Germany in 2015, which obliged in particular the approx. 2,000 operators of critical infrastructures in Germany to comply with significantly higher standards. This involved the use of modern authentication and encryption solutions as well as the development of industry-specific security standards - both core areas of IDpendant. The growing security requirements in the area of data protection and payment transactions, including the Second Payment Service Directive (PSD II) and the EU General Data Protection Regulation (GDPR), also provide a sustained tailwind. The company intends to maintain the growth course, envisaging an expansion of the strong market position in Germany towards Central Europe with the support of the Sandpiper Group.

Portfolio IV: Multicard

Market leader in the Netherlands

Rotterdam-based Multicard Nederland B.V. (not to be confounded with the Intercard holding of the same name Multicard GmbH), is a further subsidiary of Sandpiper (share 100 per cent) in the area of safe authentication and payment, using in particular personalized smart cards. The Dutch address different market segments with their solutions, generating approximately 70 percent of sales in the transport sector. The company started this business in 1989, the launch of Mybility marking a milestone in 2006. It is an online system for the management of flexible public individual transport - separate from regular services. In the Netherlands, there is for instance a claim for transport for pupils, for insured persons in AWBZ long-term care insurance or according to the Social Assistance Act (Wmo). Via Mybility users receive a personalized authorization card for the use of journeys (eg. via taxi-on-demand). In addition to customer registration, the platform offers numerous information and service offers, such as a trip overview, invoices or complaint management. By now, the solution is used by more than 340 municipalities in the Netherlands, who manage individual transport with the portal. In total, more than 10 million passenger transports have been processed via the system,

which is why Multicard claims a high double-digit market share in the target segment and thus clear market leadership.

Platform for cashless micropayments

With MybilityFuel, the Sandpiper subsidiary has developed a spin-off that takes care of the issue and management of fuel cards. The system currently only accounts for a single-digit percentage of sales. However, Multicard generates about a quarter with Cashless betalen, a solution launched in 2011 for micropayments in open or closed cashless payment systems. Multicard's digital wallet, which comes with a wealth of additional features, can be charged via a portal that can be accessed through an app, while payments are made using various chip-equipped media (such as cards, bracelets, pendants). However, Cashless betalen's range of services goes well beyond the mere payment function and also enables loyalty services (collecting points, sending coupons), the granting of access and usage rights and the integration of social media platforms. The product is used, among others, by TUI in hotels and holiday resorts, by the camping supplier Thetford at campsites in the Netherlands, Germany and Spain, and by Douwe



History of Multicard Nederland B.V.; source: Company

Egberts for the billing of coffee in large corporations.

Promising growth initiatives

One of the important partners of Multicard is Rabobank. Recently, a new cooperation agreement has been announced with the financial institution, according to which the platform will be used for the automatic billing of the use of different terminals in the pay-per-use procedure. The possible applications range from coffee machines and printers in companies to washing machines in laundrettes. Another growth project of Multicard is a new POS system for the catering industry, which consists of a touchscreen, cash register software and an external receipt printer. According to the company, it is the most competitive solution of this kind in the Netherlands.

Vision Smart City

Not least thanks to these new solutions, Multicard wants to grow significantly again: the company has been able to clearly increase its profitability in recent years but had still to accept declining revenues. In this phase, the core business has suffered from the great number of new large-scale projects that had tied up capacities. In the medium term, the management sees an important driver in the development of a smart city, where the provision of flexible transport solutions (public transport, car sharing, bike renting) gains in importance under the heading of “mobility-as-a-service”. Various stand-alone solutions for use and access authorization and payment are to be networked and automated. The Dutch want to become a leading supplier in Europe in this segment based on their innovative solutions.

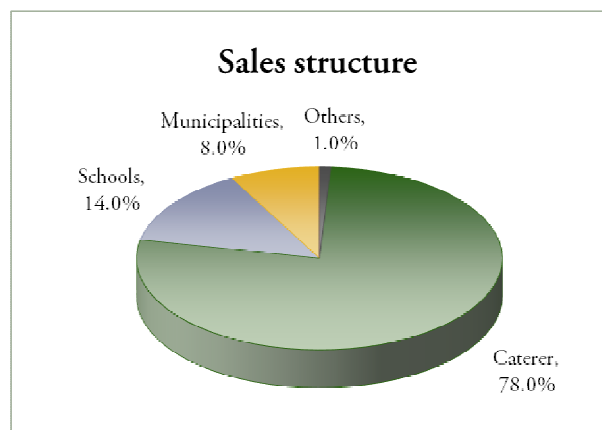
Portfolio V: PAIR Solutions

Smallest subsidiary

PAIR Solutions GmbH is the smallest majority holding of Sandpiper in terms of sales. The Hamburg company was founded in the first half of 2015 to acquire the assets of People & Projects IT. The core of the takeover was a flexible complete solution for payment transactions in staff canteens or school cafeterias. This includes modules for registration, ongoing use via a portal and an app (charging, menus, etc.) and the registration for meals. Especially with regard to the latter aspect, PAIR has created several options that simplify and accelerate the process. As an alternative to RFID cards and tokens users can also identify themselves to the PAIR system via their fingerprint. On the one hand, a child cannot forget to bring its fingerprint, and on the other hand, the method reduces purchase and management costs (as compared to card-based systems). This method is considered particularly efficient especially in the school sector because of its speed and simplicity. It increases the throughput and thus the sales of the caterers in the sometimes very short school breaks. For food service providers, whether caterers, government agencies or institutions such as schools and day-care centers, the platform provides a comprehensive subscriber management, billing and document management tool.

Model with numerous advantages

In particular, the solution offers the providers the opportunity to completely settle and process grants, such as State-specified benefits for education and participation (BuT), without stigmatizing the beneficiaries. The system based on the available certification provides security with regard to data protection as well. And not least importantly, PAIR offers an extensive support for all participants, which assists the users and relieves providers.



Source: Company

Caterers and schools as main customers

The market launch took place in 2015; in the following financial year, sales of EUR 0.45 m were generated over twelve months, with PAIR still operating at a loss. Around three-quarters of the customer base currently come from the catering sector (based on 9 months in 2017), followed by schools (14 percent) and municipalities (8 percent). The company initially focuses on sales activities in the German-speaking countries and wants to occupy a leading position as provider of an administration and billing platform for food distribution. Last year, a major sales offensive was launched to drive growth in 2018 and beyond. The market offers several growth drivers as well, such as growing investments in the digitization of education institutions and increasing user numbers (rising birth rates, refugee children). There is also an interesting synergy with Intercard, because today's pupils are tomorrow's students.

Portfolio VI: Playpass

Organization of mass events

Besides SmartLoyalty, Playpass is one of Sandpiper's two important minority holdings. The investment was acquired in the first half of 2015 and amounts currently to 34,6 percent. Founded in 2012 and based in Antwerp, the company has developed a platform for festivals and other mass events, allowing organizers to manage important aspects such as access authorization and cashless payment. Not only does it significantly simplify the processes involved, it also provides direct access to customers who register with the system. It will also allow to collect data on the activities at the event that may be used to improve the range of services. In addition, direct customer access via an app provides an option for maintaining contacts, such as sending goodies or continuous reporting before and after the actual event, especially via social media.

Broad range of services

Detailed recording of activities at mass events such as festivals is a challenging task due to the combination of tight timeframe, many participants and numerous transactions. Because of the high frequency of accesses, the system has to work very reliably and should not depend on Internet availability. That is why Playpass has tailored the use of RFID and similar technologies exactly to such needs. Another innovation is the comprehensive approach that covers the various aspects of the event organization. The soft-

ware includes, among other things, the accreditation of the persons for the event, the access control (definable for different areas) and the possibility for cashless payment transactions. Not only visitors to festivals or concerts, but also the crew and the artists can be recorded in the system, so that all participants are included in a single solution. The Playpass offer also includes tools for data analysis and the necessary hardware, such as radio bracelets for subscribers or terminals for the processing of cashless payment transactions. In addition, the company offers various complementary services.

Rapid expansion

In 2017, Playpass was awarded the "Entrepreneur of the Year" prize by the Flemish regional government. This rewarded the consistent addressing of a niche market with an innovative solution and the focus on global market penetration in this segment. In the six years since it was founded, Playpass has made considerable progress indeed. Last fall, the company operated its own offices in New York and Singapore and was active in 16 countries on five continents. For further growth, an intensification of the activities in Germany and the setting-up of offices in UK and Spain were announced, increasing the headcount within a few months from 30 to about 50.



Playpass' complete solution; source: Company

Goal: Global number 1

The dynamic development is also reflected in the sales figures. Between 2014 and 2016, sales were nearly quadrupled to EUR 2.3 m. For further market penetration, Playpass intends to rely more strongly on an international partner network (in addition to its own sales activities) and to work additionally with license and white-label models for markets outside of the core focus. This results in a sales contribution that is smaller compared to a direct delivery, but has

nevertheless a very high margin. In addition, the complexity of the sales activities can be clearly reduced. In the long run, the company intends to become the world's leading platform provider for open- and closed-loop admission and payment systems for mass events. According to its own statement, it is already the global number 2 with the support of more than 200 events with over 2 million guests. Intellitix and Glownet are the only two direct competitors with a similar approach.

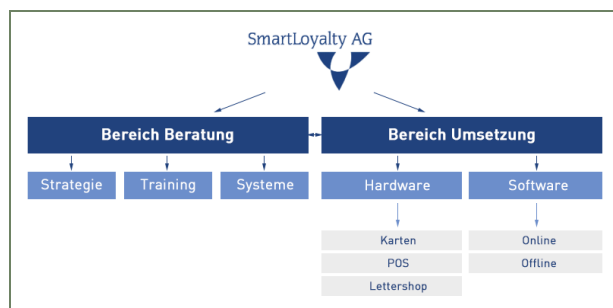
Portfolio VII: SmartLoyalty

Specialist for customer loyalty systems

The share in the SmartLoyalty AG of 15.3 percent was acquired in 2015. The enterprise emerged in 1999 as a spin-off of the smart card broker ACG, and has subsequently established various customer loyalty systems in the market. The strategy's core element is a solution that is implementable in just a few easy steps and with little cost („Loyalty out of the box“), and is thus affordable even for smaller customers, such as local merchants, service providers and small retail chains. They can order customer cards, voucher cards or prepaid cards with SmartLoyalty. After consultation with the company and the designing of the cards, the complete solution is supplied ready-for-use, together with a free training. The package comprises also a software for administration and Point-of-Sale systems (terminals) and a lettershop for the mailing of the cards.

Broad user basis

Less than ten years after it was established, SmartLoyalty's system was already being used in more than 30 sectors. Today, the list ranges from car dealerships and pharmacies, hairdressers and catering trade to supermarkets and gas stations. SmartLoyalty's Citycard is also a successful model. By now, it is used in more than 100 cities in order to acquire the loyalty of local customers. Nevertheless, the company is still a small niche player. Although sales increased between 2014 and 2016 by an average of 20 percent p.a., they amounted to only just under EUR 1 m. However, with a clearly double-digit EBIT margin, the company is highly profitable. A third-party licensing of the solution could be a possible catalyst for further growth.

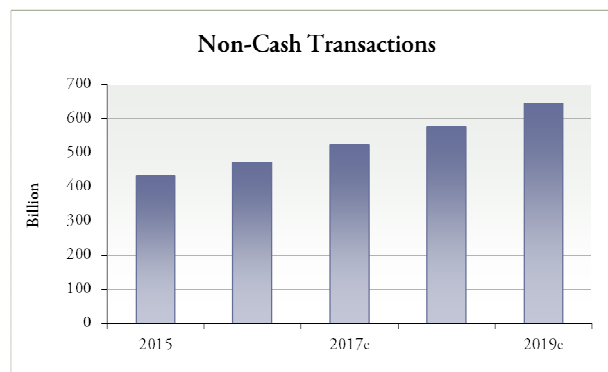


Business model; source: Company

Market environment

Highly dynamic payment market

Sandpiper and its subsidiaries address several large markets. The market for cashless payment transactions is of particular importance for the Group. For years, the number of cashless transactions has been increasing more strongly than the global economic growth. The last five years showed an average growth rate of 9.4 percent to an estimated 522.5 billion transactions in 2017. Especially the fast-growing national economies in Asia („Emerging Asia“) advance the development. Last year, the increase in the region estimated by Capgemini and BNP Paribas was just over 30 percent. The developed national economies in Europe, however, reach still a significant plus of 6.7 percent. The analysts expect that the global trend will continue and forecast even a still higher CAGR of 11.6 percent by 2020 (data source for this paragraph: Capgemini/BNP Paribas: World Payment Report 2017).

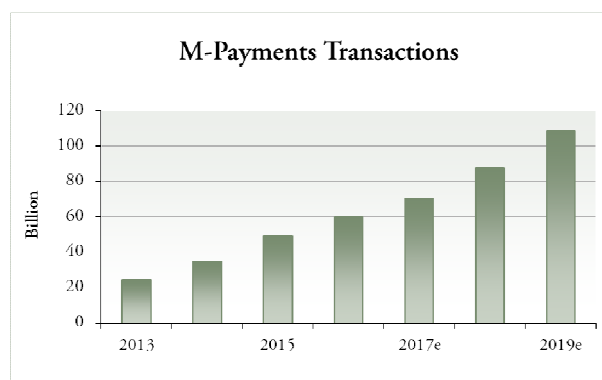


Source: Capgemini/BNP Paribas: World Payment Report 2017

Mobile Payment as a driving force

The reasons for the still buoyant momentum are, in particular, the increasing market penetration in the emerging markets and the structural change thanks to new technological offers. Online payments have been a strong growth driver over the last decade, but rates are now slowing from an estimated 18.4 percent in 2017 to 15.3 percent in 2019. This is due to

the fact that transactions are increasingly relocating to the mobile sector. After an increase of 18 percent in 2017 assessed by Capgemini and BNP Paribas, the analysts estimate the CAGR to be 24.3 percent by 2019. With 108.8 billion transactions, approximately 17 percent of all cashless payments are forecasted to be mobile (data source for this paragraph: Capgemini / BNP Paribas: World Payment Report 2017).



Source: Capgemini/BNP Paribas: World Payment Report 2017

High market share of the "Big three"

Against the background of this market development, intense competition has emerged for the leading position in the field of mobile wallets, which is the key to the execution of mobile transactions (payments, authentication, bookings, etc.). According to a study by Zion Market Research (Source: "Mobile Wallet Market (...) 2016 - 2022"), the mobile payment volume of consumers in 2016 already amounted to almost USD 600 billion. By 2022, analysts forecast an average growth of 32 percent p.a. to USD 3.1 billion. A dominant role is played by the "big three" Apple, Google and Samsung, who were able to increase their cumulative market share from 20 percent in 2015 to 41 percent in 2016, according to calculations by Juniper Research (source: "Contactless Payments (...) 2017-2021"), with Apple being clearly ahead in this group. By 2021, the analysts expect a

further increase to 56 percent. However, the fast-growing market also leaves room for further players. Among the major competitors are the credit card providers American Express, Visa and Mastercard, the financial institutions Citigroup and Bank of America, the online giant Amazon and the payment specialists Paypal and Dwolla as well as Paytm from India. In Germany, the TecDAX group Wirecard has succeeded in significantly expanding its market position in recent years.

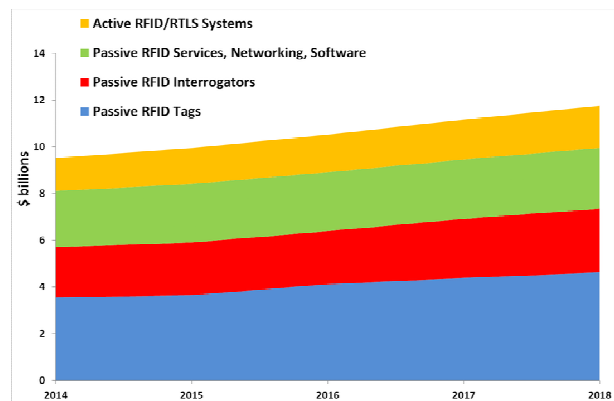
Further innovations

An end to the innovation process in the payment industry is not yet foreseeable. According to Juniper Research, the next big challenge for the providers of mobile wallets is the establishment as payment solution in the stationary trade. However, the market as a whole is facing another transformation surge, which is accompanied by the further spread of blockchain technology and the Internet of Things. Automated payment processes are likely to be increasingly handled between networked devices and machines. The blockchain as a supposedly forgery-proof and efficient method for the exchange, storage and traceability of data provides the technological basis. Capgemini and BNP Paribas estimate that in 2021 more than 15 billion devices and machines will be networked. Examples of the next development stages in the payment market include innovations in the automotive industry, such as the automated payment of parking and tolls or the further development of passenger cars to a point of sale, such as infotainment offers or real-time navigation.

Contactless payment solutions on the rise

In the area of contactless payments, two transmission variants are predominant: While apps have been developed for remote payments in the mobile business, where there is no physical proximity between the sender and the recipient and which use the Internet, local payments use primarily RFID and NFC technology. As a user authentication process is eliminated, wireless technology can significantly speed up the processing of credit or debit cards. This advantage has given the already fast-growing RFID market a further boost. The analysts of IDTechEx assume that

the overall market with its four large subsegments (see chart) has grown on average by around 6 percent p.a. in the last two years and expect further expansion at this rate to almost USD 15 billion by 2022 (Source: IDTechEx "RFID (...) 2017-2027").



Source: IDTechEx

Many players

The market for applications based on RFID / NFC technology is highly diversified and fragmented. Sandpiper subsidiaries often encounter small specialists and not large corporations in their segments. For example, the GiroWeb Group is a relevant competitor for Intercard and PAIR Solutions in the German market - a spin-off of the Sparkassen, which uses cashless payment solutions to address primarily schools and company catering. The most important Intercard competitor in Switzerland so far, Polyright, now belongs to the subsidiary after completion of the majority takeover. Equally at eye level is the Canadian company Intellitix, which has focused on access and payment solutions for festivals and other mass events, and is the number one player in this market before Sandpiper's Playpass affiliate. Like Playpass, the Canadians have so far served more than 200 events, but these were considerably larger with a total of over 20 million guests. In another competitor, Loc Pay Systems from the Netherlands, Intellitix took over the majority in early 2017.

Authentication: explosive growth

According to Capgemini and BNP Paribas, the lack of standardization and the threat of cybercrime are major barriers to the spread of digital payment sys-

tems. With regard to the latter aspect, the secure data transmission and an unambiguous identification of the persons are especially in the foreground. Statistics analysts (Source: "MRC Mobile User Authentication (...) 2016-2022") estimate that the global market for mobile user authentication will grow rapidly from USD 0.86 billion in 2016 to USD 3.36 billion in 2022, which would correspond to a CAGR

of 25.4 percent. However, this attractive segment is already bustling with major corporations, including heavyweights such as Dell Technologies (formerly EMC), Microsoft and Vasco Data Security. Nevertheless, there should be sufficient niches for the Sandpiper companies with likewise high growth potential.

Strategy

Favourable starting position

With its subsidiaries and shareholdings, the company has a comfortable foundation to accelerate further growth and increase profitability. For the most part, the companies from the Group have successfully filled niches with platforms they had developed themselves and have already built up a larger customer base there. It was and is helpful that focusing on small-scale closed-loop payment systems for a limited number of users enables relatively low customer acquisition costs (CAC). While Sandpiper estimates its own CAC at less than EUR 35, industry experts see the minimum for young FinTech companies at USD 50 to 100. Established financial service providers usually spend between USD 100 and 300 per new customer (sources: "Disruptive Finance - Fintech start-ups beware: customers are expensive"; Sandpiper).

Several options

Sandpiper can use this as a basis for several ways to drive expansion. Thus, the various customer groups, sales channels and sales regions present cross-selling potential for the services offered by other subsidiaries, with additional up-selling potential through the offering of new services. Both the realization of these opportunities and the further expansion of the customer base through a stronger internationalization of activities are now being accelerated. Based on the platforms that have already provided the proof-of-concept, smart approaches can now be tried as well, such as the development of markets in further countries via license and white label offerings (Software-as-a-Service). In general, according to the management, the sale of systems need not necessarily be greatly increased. Rather, the focus is to be on recurring revenues from the dissemination of existing platforms. As planned, rising service and maintenance revenues will also be a growth driver. And not less importantly, there is the opportunity to become more open to external partners who are adding functionalities to Sandpiper's solutions. One such option,

for example, would be to work with providers of open-loop payment systems who suffer from high CAC and for which the client base of the group is therefore attractive.



Source: Company

Acquisition process continues

The management has defined several steps to exploit the outlined potential (see chart). The currently pursued buy-and-build process will be continued emphatically. The young markets in which Sandpiper operates are often still very fragmented and offer thus further consolidation potential. The holding company and the subsidiaries are therefore constantly looking at potential candidates to further improve their own market position, for instance by acquiring a new technology, developing a new market segment or expanding their customer base. Integration into the group offers synergies in many areas. Their realization is now being continued in the portfolio. With regard to the technology used, the platforms developed and the addressed customer segments, there are numerous intersections in the network. The list of possible starting points is correspondingly long. These range from collaborating on R & D, technology and support, to pooling purchasing volumes, identifying and implementing best practice standards, to developing marketing strategies and offering products to different audiences - to name only a few. In the end, the management perceives the fields of digital payment and digital security solutions are two sides of the same coin, as payment systems without security are not marketable. Thence, a close coordination of activities in these fields is suggesting itself.

Internationalization with partners

Acquisitions can also drive the development of new markets. In addition, however, a transformation of existing platforms to other countries is possible. The Sandpiper subsidiaries are able to draw on the large network of the management, which continues to maintain close contacts with numerous companies that have been successfully developed in the past. In general, it is a main drift of the group to promote internationalization with partners. License and white label solutions are associated with lower investment costs, thus reducing the risk and increasing the chance of success by involving local partners. A good example of this is the close cooperation with the technology company Hudoud Alteqnia Ltd. from Saudi Arabia, which was agreed in January last year. In its home market, the company, which is well connected with government institutions, will market Sandpiper Group's ID management systems and mobile payment solutions. The deal involves a comprehensive technology partnership to jointly drive the digitization of both the public and private sectors.

Expansion of the range of offers

Sandpiper is also already working with partners in numerous other fields. An important cooperation exists, for example, with a digital online bank, whose range of services can be used for various business models. In this way, the subsidiaries can provide additional services without having to develop a regulatory compliant solution. Playpass follows a similar path with a cooperation with a payment service provider, with which its own range was extended by an open-loop payment system. The subsidiaries are also working on first project with well-known partners in the insurance sector. Polyright is carrying out a project of greater importance in the payment market together with TWINT AG, which is responsible for the cashless payment system of the Swiss Banking Association. Thanks to its strong position in Swiss universities, Polyright was selected to set up TWINT terminals at education institutions. As part of the cooperation, the Polyright card solution will be expanded to include TWINT payment features, which will generate additional revenue.

The Smart City concept

Extending the existing platforms with synergetic services provided by partners promises high-margin additional revenue without significant development risk. This path, which is successfully pursued with well-known external companies, also offers considerable additional potential within the Group. The keyword here is "Smart City" - i.e. the further modernization and decarbonization of cities (see Bundesverband Smart City), taking advantage, among other things, of the opportunities offered by digitization. In the course of this development strategy, it is becoming apparent that due to the efficiency advantages, digital solutions will be introduced for more and more areas and that overlapping systems will replace isolated solutions. In general, Sandpiper's management assumes that the digital transformation of payment and security solutions is still in its early stages. With their platforms, the Sandpiper subsidiaries are already addressing numerous areas of city life. On this basis, the solutions are now intended to be coordinated and connected wherever there are adequate connecting factors. After initial projects have already been launched, for example by Intercard and Multicard for point-of-sale terminals, Q1 2018 will be the starting point for a group-wide cooperation to identify the most promising options.

Selection of the best projects

In general, Sandpiper and its subsidiaries have currently numerous options for realizing synergies and launching growth initiatives. The challenge for the management is to filter out the projects with the best chance / risk ratio. An important role will also be played by the blockchain technology, which is considered forgery-proof and which offers completely new options for exchanging, storing and tracing data. Especially digital platforms for the authentication of persons and the execution of transactions are likely to rely increasingly on the blockchain in future. Multicard has recently announced a project with the Raibobank in the area of pay-per-use, which we regard as trend setting in this field. In addition, other subsidiaries have launched their own blockchain projects as well. Ergonomics, for instance, has its own development company cooperating with numerous com-

panies (such as ICO start-ups) in the Swiss “Crypto Valley” in Zug. On the whole, the development and support of solutions for the use of cryptocurrencies, for example for payment processes, is going to play an important role for Sandpiper. There is also a possibility of cooperation with the US group Net Element Inc., an electronic payment systems specialist that established its own business unit for blockchain

last December. Sandpiper has been in talks with Net Element for some time and has even announced the possibility of a merger in November 2016 - but since then no concrete steps in this direction have been reported.

Figures

Numerous acquisitions

In October 2014, Sandpiper took up operating business and acquired Polyright and Multicard Nederland in full, and a majority interest in payment solution (93.7%) and Ergonomics (51.0 percent, including the subsidiary e24) by the end of that year. Additionally, substantial minority interests of 15.3 percent in SmartLoyalty and of about 25 percent in Intercard were acquired. 2015, the share in Intercard was increased to 40.1 percent and the portfolio was extended by an interest in Playpass of 22.8 percent. In contrast, PAIR Solutions (share 100 percent) was a new founding, over which Sandpiper acquired the assets of the company People & Projects IT.

Sales of EUR 18.3 million in 2015

The majority interests were fully consolidated in the financial statement for 2015, and Sandpiper was able to report sales of EUR 18.3 m already in the first full financial year. Owing to Polyright and Ergonomics, nearly EUR 11 m or 56.8 percent of sales (before consolidation) can be attributed to Switzerland. Further substantial contributions came with EUR 4.5 m (23.4 percent) from Germany (payment solution, PAIR) and with EUR 3.5 m (18.1 percent) from the Netherlands (Multicard). Since the companies mostly made high investments in the establishment and expansion of their business activities, showing on group level particularly in the cost of material (EUR 6.9 m), personnel cost (EUR 10.8 m) and other operating expenses (EUR 3.7 m), the company was not yet profitable. The EBIT loss in 2015 amounted to EUR -3.4 m, with an overall deficit of EUR -4.0 m.

Business figures	2015	2016	Change
Sales	18.3	28.9	+58.0%
EBITDA	-2.6	-3.8	-
EBIT	-3.4	-5.9	-
Net profit	-4.0	-8.2	-

In million Euro and percent, source: Company

Strong growth in 2016

In the financial year 2016, Sandpiper managed a further majority acquisition with the purchase of 54 percent in IDpendant. However, the increase of the share in Intercard to just over 50 percent, which led to a full consolidation of the company, had an even greater impact on the financial statement. In addition to the organic growth, this was the main reason for the increase in the Group's sales by 58 percent to EUR 28.9 m. Accordingly, the weights of the individual markets shifted as well. Since Intercard and IDpendant have their respective business focus in the German market, its sales share increased to 52.7 percent (EUR 14.3 m before consolidation). Additionally, Sandpiper increased the share in two important companies: The share in Ergonomics was expanded from 51 to 100 percent, that in Playpass from 22.8 to 36 percent. However, this had no influence on the consolidated sales.

EBIT clearly negative

However, the consolidation effects were not only apparent in the sales, but had also contributed to considerable cost increases. The personnel cost as largest item increased within a year by 44.6 percent to EUR 15.7 m, while material costs and other operating expenses rose by 68.4 percent (to EUR 11.6 m) and 54.1 percent (to EUR 5.8 m) respectively. The cost-of-materials ratio worsened thus slightly from 37.5 to 39.9 percent, whereas the ratios for the two other cost categories sank due to the disproportionately high rise in sales to 54.1 percent (personnel cost, previous year: 59.1 percent) and 19.9 percent (other expenses, previous year: 20.4 percent). However, the amortizations and depreciations showed the most significant rise (EUR 2.1 m, +154 per cent). The most important reason for this was the complete write-off of payment solution AG shares amounting to EUR 1.16 m, whose financing had been stopped due to lacking viability of the business concept. In May 2017, this finally led to the insolvency of the shareholding. In total, operating expenses were clear-

ly higher than the revenues in financial year 2016 as well, and the company has reported an EBIT deficit of EUR -5.9 m and a net loss after minorities of EUR -8.3 m.

Loss of half of share capital and capital reserves

Due to the cumulated losses of the holdings and goodwill amortizations, the year concluded with a negative Group equity of EUR -13.2 m. However, the decisive financial statement is the individual one of the stock company, which had still showed equity of EUR 11.9 m. Although in December 2016 another capital increase with a volume of 4.3 m Swiss francs had been carried out, this figure meant a clear decrease of equity (previous year: EUR 31.6 m). It was accompanied by a notice of loss for the half of the share capital including the capital reserves, which provides - under Swiss law - the initiation of restructuring measures by resolution of the General Meeting. That seemed quite advisable in the face of the balance sheet ratios, because at reporting date, equity was faced by liabilities of a total EUR 14.1 m, of which EUR 5.5 m were short-term interest-bearing liabilities against third parties. In contrast, liquid funds amounted to only EUR 0.4 m.

Consolidation of the portfolio

A considerable improvement in profitability was seen as main remedial measure. This involved also the cessation of further financing measures for payment solution. In addition, 85 percent of the shares of Sandpiper Digital Payments Asia (a subsidiary founded only in April 2016) were sold to the management in July 2017. The holding started operations shortly after the establishment with the takeover of the start-up GoGorilla from Singapore, whose core business is likewise a cashless payment system for events. However, activities in Asia were no longer in line with the stronger focus on German-speaking countries and would have needed seed capital for quite a period of time - and this in a competitive market environment - which led to a quick exit. Also related to the portfolio consolidation was the sale of Polyright in the same month, which was, however, linked to the op-

tion of a majority acquisition for Intercard (as described in the Portfolio section). This was an important restructuring measure to increase the exploitation of synergies.

Business figures	HY 16	HY 17	Change
Sales	11.1	16.0	+44.8%
EBITDA	-1.6	-0.1	-
EBIT	-2.1	-0.7	-
Net profit	-3.6	5.5	-

In million Euro and percent, source: Company

Substantial progress

The group's cost situation has noticeably improved in the first half of 2017 already. In the previous year, payment solution alone had been responsible for a net loss of EUR -0.6 m with a sales contribution of EUR 1.6 m. The loss of revenues associated with the deconsolidation was overcompensated by positive consolidation effects, mainly thanks to the increase of the share in Intercard to over 50 percent, carried out in June 2016, so that group sales rose overall by 44.8 percent to EUR 16 m. The increase in the cost by 28.6 percent to EUR 17.1 m remained, however, clearly disproportionately low, with the largest improvement having been achieved in the cost-of-materials ratio that fell from 47.0 to 35.4 percent. Consequently, the EBIT loss was reduced from EUR -2.1 m to EUR -0.68 m.

High profit in the first half-year 2017

In addition to these improvements in operating business, the company benefited from positive one-off items. The price declines of the stock have decreased expenses for share-based payments (purchase prices, bonus programs, variable remunerations), which was largely responsible for income in the financial result amounting to EUR 2.6 m. In addition, the derecognition of payment solution liabilities resulted in a positive extraordinary contribution of EUR 3.7 m. In total, this led to a profit of EUR 5.3 m, compared to a loss of EUR -3.6 m in the first half of 2017.

Annual balance sheet loss largely offset

Further progress was achieved after the balance sheet date at the end of June. Through a rescheduling, financial liabilities were reduced from 6 to 3 m Swiss francs and converted into a subordinated loan. Moreover, the purchase price of an acquisition from previous years was renegotiated, which will result in a net increase of equity by 7.5 m Swiss francs. This will further improve the consolidated balance sheet, which had still contained negative equity of EUR -7.2 m with liabilities amounting to about EUR 22 m (including financial liabilities of EUR 12.6 m) and a liquidity of only EUR 0.9 m as at 30 June, 2017. Against this background, the General Meeting in June 2017 decided to reduce the nominal value of the share capital from 21.1 to 2.1 m Swiss francs (or 0.1 to 0.01 Swiss francs per share). Along with that, the capital reserves amounting to 45.7 m Swiss francs were offset against the net loss. In addition, new authorized capital in the amount of 1.1 m Swiss francs was created.

Optimistic outlook

At the same time, Sandpiper made investments to strengthen the portfolio. The company has participated in a capital increase of InterCard proportionally and thus safeguarding the share, it granted a convertible loan to Playpass and provided further working capital to PAIR. With this, the management has once again emphasized that the realization of the holdings' potential is now to be accelerated. The 2017 figures are likely to show further progress in this direction. In December, a forecast was released that expects group sales between EUR 30 and 32 m and an EBITDA between EUR -0.5 and -1.0 m. This positive trend should continue in 2018 as well with an organic sales growth from the portfolio and the break-even on an EBITDA basis.

Equity Story

Market leader in niches

In recent years, Sandpiper has established an attractive portfolio of companies whose core business is in the area of digital payment systems, authentication and IT security. The affiliates focus mainly on special solutions for niches that, at the moment, are not interesting for the major players in the field of open-loop payment systems such as Visa, MasterCard, Apple or Samsung for an own development. These are chiefly relatively small-scale, closed-loop payment systems with a limited circle of users. Several companies in the group have succeeded in taking a leading position in the target markets addressed. For instance, Intercard is together with Polyright the largest provider of a card-based payment system at universities in Germany and Switzerland. Multicard dominates communal-supported individual transport in the Netherlands with its online system Mybility and Playpass is with a complete solution for organizing accreditation, access and payments at mass events the world's number two.

Valuable customer base

Meanwhile, the group has gained a stock of more than 2.5 million customers - and the more than 2 million event visitors that Playpass has already served are hardly yet included in the calculation. As the Sandpiper Group companies generally implement complete system solutions, the contracts have relatively long durations, which also ensures long-lasting customer relationships. This leads to recurring, high-margin revenues. The expansion of this type of revenue is one of the management's central strategic approaches. The expansion of the service portfolio is one possibility to generate higher revenues per customer relatively quickly. In this regard, there is cross- and up-selling potential in the group that needs to be exploited. At the same time, the companies work also with external partners. Successful projects with well-known providers such as TWINT illustrate that the customer base is also of interest for big players. For them as well, it becomes increasingly difficult - that

is to say, more expensive - to acquire new customers in a competitive environment. Therefore, addressing an existing, attractive customer portfolio represents a relatively easy-to-implement option.

Break-even possible soon

High-margin additional revenue through improved monetization of the potential offered by the customer base are an important variable in order to improve profitability. At the same time, the management has taken various measures to improve the cost structure. These included the sale of holdings with a too high financing requirement or, in one case, the stoppage of financing, which subsequently led to the subsidiary's insolvency. The reward of the efforts should already show up in the figures for 2017: According to recent company forecast, the loss on EBITDA basis was contained at EUR -0.5 and -1.0 m. Possible synergies are likely to offer a large lever as well, which will increasingly be exploited now after the dynamic acquisition process in the past few years. Altogether, the management sees good chances for a break-even already in the current year.

Intercard with valuation potential

A key role for the further development belongs to Intercard, by far the largest Sandpiper holding in terms of sales. The listed company had to accept a slump in growth due to project shifts and had even slipped into the red in the first six months of 2017. However, a successful customer acquisition has likely brought an improvement in the second half of the year and, according to a company announcement, allowed even a clearly positive operating result on a six-month basis. As planned, this represents only the prelude to a dynamic expansion in neighbouring European markets, even more distant markets can be addressed together with partners. Moreover, the extension of the range of services, for instance by payment functionalities, should ensure substantial addi-

tional revenue. It is also intended to pursue the expansion using a license model. If this strategy is showing signs of success, Intercard's share price should recover as well. It fell from its high marked at EUR 9.69 in early 2016 to currently EUR 4.00. However, the corresponding market capitalization of EUR 6.4 m is hardly conclusive because of extremely illiquid trading and amounts to only a 0.4-fold value of estimated annual sales. Should Intercard's stock market story resume drive again with a positive news flow, it would have a positive impact on Sandpiper as well.

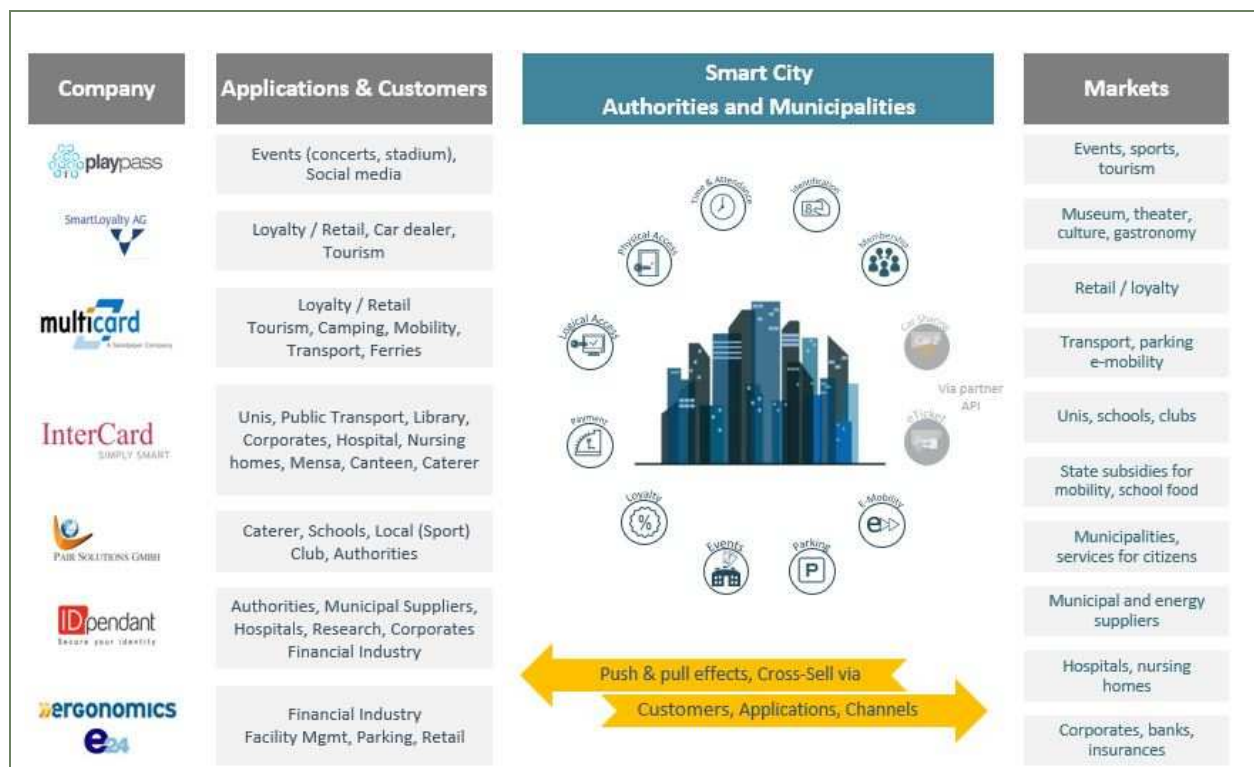
Extension of the business models

Intercard's expansion strategy is likely to be applied in similar form by other companies within the group. Companies such as Multicard, Playpass or PAIR Solutions have developed platforms that can easily be adapted to new markets. These markets do not always have to be developed independently. Although licensing and white label models offer lower revenues, they have very high margins. Also, the high risks of an own market entrance are thus avoided. Moreover, the individual holdings are in future to

cooperate more closely in the penetration of existing and the development of new markets. The Smart City concept provides a guideline here: it involves, among other things, notable efficiency improvements in cities by a more intensive use of digital technologies. That will likely bring a convergence of different island solutions as well. As the Sandpiper subsidiaries address several areas in the city life (see chart), the concept offers good opportunities for joint services. Thus, the management envisages an integration of the platforms of Intercard, Multicard and PAIR.

New financing potential

The market position of the Group and of the individual holdings will be strengthened in future with additional acquisitions as well. The buy-and-build approach, in whose implementation the company can benefit from the great expertise and the strong track record of the management, is one of the core elements of the strategy. Due to the size of the portfolio achieved by now, this approach also requires increased financing requirements. The major shareholder Mountain Partners responds to this situation by offering a carve-out. In this way, several financial-



Opportunities in the Smart City Ecosystem; source: Company

ly strong strategic shareholders, who were previously active only in Mountain Partners, are now also to engage in Sandpiper. The latest announcement with regard to the process of the measure indicates that this plan might well be successful. Sandpiper receives

thus not only investors who can support future expansion steps, but also a larger free float that could positively affect the development of the share.

DCF Valuation

Valuation method: DCF of Sandpiper Group

As a technology holding company, Sandpiper currently holds a majority stake in five companies and also two significant minority interests. The companies were acquired in recent years, have their own management and act independently so that they could be separated from the group at any time. Against this background, a sum-of-the-parts assessment of each part of the group would seem expedient. However, we believe that this would not do justice to Sandpiper's valuation potential: The technology holding's concept and the strategy for the next few years proposes precisely an exploitation of extensive synergies, a much stronger interlinking of shareholdings and a future joint expansion of the range of services. In particular, the exploitation of the opportunities offered by the Smart City concept should result in intensive cooperation. The companies are also likely to support each other in the internationalization of business activities. From our point of view, this suggests to evaluate Sandpiper as an integrated group to adequately depict the synergies and the cross-selling potential. We choose therefore a DCF model based on the consolidated group figures.

Development of the portfolio as model core

Nevertheless, the development of the entire group is of course driven by the performance of individual holdings, even if these should in future be more interdependent in the portfolio. We have therefore made approximate growth assumptions for all major units taking into account the recent track record as well as the plans of the management. The companies are moving in dynamic markets, which are characterized by technological innovations and offer great opportunities, but which also entail the risk of following a false trend and being left behind. Given the width of the portfolio, it is to be assumed that not all companies will achieve our growth assumptions. On the other hand, it is also possible that the goals will be surpassed given the large market opportunities. Due to the diversification effect within the portfolio,

this should tend to balance out - which is also in favour of carrying out the assessment on the basis of an integrated group. Further acquisitions as part of the buy-and-build strategy are already scheduled. However, as this data cannot be reliably assessed in advance, we forgo a hypothetical consideration of acquisitions. Their effects on the corporate value of Sandpiper represent thus another upside potential outside of our model.

InterCard likely to quickly overcome the slump

The future growth of InterCard is of utmost importance for the development of the entire Group, since the subsidiary currently generates a large part of the Group's revenues. We assume that the latest drop in the company's expansion path is not permanent. Both the intensification of sales activities in the core markets and neighbouring countries and the expansion of the business model promise significant growth impulses. We see good chances of success for white-label offerings outside of the core regions. In case of success, this model would provide a blueprint for InterCard's geographical expansion. In the current year, the majority acquisition of Polyright should provide a sales jump first of all. Subsequently, we are confident that the company will achieve a CAGR of 10 percent, with the EBITDA target margin estimated at 14 percent.

Multicard and PAIR with high growth

Due to its high innovative strength, Multicard will probably show an even higher growth potential. In recent years, the business has suffered somewhat from large reference projects, but from this low level, we expect again strong growth in the medium term (CAGR from 2019 on: 30 percent, EBITDA target margin 20 percent). PAIR Solutions will likely show strong growth as well, which is, however, again due to the low base. Because of the link to other compa-

nies in the group, we see a good starting position for a stronger market penetration, leading initially to an average growth of 30 percent, which we let level off gradually from 2023 on. Prospectively, we are confident that the company achieves an operating margin of 10 percent.

IDpendant and Ergonomics: a challenging scaling

The scaling of IDpendant's and Ergonomics' growth is slightly more demanding. The business is relatively staff-intensive and requires additional IT specialists for further expansion. For IDpendant, we calculate therefore slightly more cautiously and let revenues increase by 7 percent p.a. We are confident that Ergonomics' service business will achieve an average growth rate of 5 percent p.a. However, with its subsidiary e24, the security specialist has also built up a highly scalable platform business. Its revenues should increase clearly disproportionately, which would lead also to a higher dynamics of Ergonomics as a whole. Due to the increasing proportion of platform business, we estimate the target margin of the Swiss at 12 percent and of IDpendant at 8 percent.

Playpass as a disposable asset

Of the minority holdings, especially Playpass has a great importance for the company's value. Since its founding, the company was able to greatly increase revenues, and it is envisaging a dynamic expansion for the next years as well. It has already significantly increased the headcount and expanded its international presence. We calculate here initially with growth rates of 50 percent, which we let level off over time to 10 percent at the end of the detailed forecast period. We are confident that Playpass will reach an operating target margin of 15 percent. As a minority stake, the company is not consolidated. We deviate here from the integrated group approach and evaluate the company separately as an individually disposable asset with its own approximate DCF model. The assumptions outlined above result in a potential value of Playpass of EUR 26.1 m in the case of a successful implementation of the expansion strategy. We value thus the share of Sandpiper at

EUR 9.0 m, adding that to the non-essential assets of the group. SmartLoyalty, however, is of secondary importance. Here, we assume slightly increasing investment income due to high profitability.

The Group's margin development

We have retraced the outlined development in the consolidated income statement. As described, we assume that not all investments will fulfil their plans, but that the diversification in the portfolio will compensate that. For 2018, the management intends to break even on an EBITDA basis from its portfolio. We follow this forecast in our model with a small surplus of EUR 0.4 m (margin 1.4 percent), while the EBIT is still slightly negative at EUR -0.6 m. Based on this, we expect a significant margin increase in the following years. As Sandpiper's holdings have already established platforms in their addressed market niches, additional revenues are likely to deliver higher profit contributions by the integration of additional services or the expansion into new markets. The cross-selling within the Group (based on various customer groups, sales regions and sales channels) and the up-selling with new services promise also upside potential for margins due to easier sales activities. And not less importantly, the holdings' growth model is shifted towards high-margin licensing and white label offerings wherever it appears promising.

Target EBIT margin 10.1 percent

Given these basic assumptions, we see potential for an improvement in the EBITDA margin to 2.9 percent and an EBIT-based break even (margin of 0.2 percent) in 2019. Subsequently, we let the margin rise continuously up to the target value of 12.5 percent for EBITDA and 10.1 percent for EBIT at the end of the detailed forecast period. This significant improvement over the status quo is based in particular on the assumption that the subsidiaries will be able to establish high-margin license and white-label models. The table on the next page shows the data resulting from these assumptions for the detailed forecast period from 2018 to 2025; detailed overviews of the estimates for balance sheet, income statement and cash flow statement can be found in the Annex. Subsequently, to ascertain the terminal

value, we calculate with a perpetual cash flows growth of 1.0 percent and a safety discount of 10 percent to the target margin.

Dilution taken into account

Sandpiper requires additional capital to implement the expansion strategy. Currently, the Group's balance sheet ratios are still weak and liquidity is too low for larger growth investments. In our financial model, we assume that half of the newly created authorized capital in the amount of 1.1 m Swiss francs will be utilized. This corresponds to an emission of 55 million shares, which would be equivalent to an intake of EUR 9.9 m at the current price of the carve-out (which we had, on a hypothetical basis, fully included in the balance sheet for 2018). Given the expected improvement of operating profitability, this volume should be sufficient for organic growth. Further major acquisitions would entail additional re-

quirements, but we have not yet included them.

Discount rate 5.4 percent

As Sandpiper generates the bulk of its revenues in Germany, the majority of the subsidiaries is headquartered here and the share is listed (among others) in Frankfurt, we follow the German capital market to determine the appropriate discount rate. We discount the free cash flows resulting from the model assumptions with WACC (Weighted Average Cost of Capital) at an interest rate on borrowed capital of 5.0 percent. The cost of equity is determined using the Capital Asset Pricing Model (CAPM). Our risk-free interest rate is – at 2.5 percent – the long-term average value of German current yield, the market risk premium of 5.4 percent is set to an average value adequate for Germany (source: Pablo Fernandez, Javier Aguirreamalloa and Luis Corres: Market risk premium used in 82 countries in 2012: a survey with

million Euro	12 2018	12 2019	12 2020	12 2021	12 2022	12 2023	12 2024	12 2025
InterCard	16.8	18.4	20.3	22.3	24.5	27.0	29.7	32.6
Ergonomics	7.3	7.8	8.4	9.2	10.1	11.2	12.3	13.6
IDpendant	4.5	4.8	5.2	5.5	5.9	6.3	6.8	7.2
Multicard	2.0	2.8	3.9	5.5	7.7	10.0	12.0	13.8
PAIR Solutions	0.55	0.72	0.93	1.21	1.57	1.96	2.36	2.83
Sales	31.1	34.6	38.7	43.7	49.8	56.5	63.1	70.1
Sales growth		11.1%	12.0%	12.9%	13.9%	13.4%	11.8%	11.0%
EBIT margin	-2.0%	0.2%	1.6%	3.2%	5.0%	6.8%	8.4%	10.1%
EBIT	-0.6	0.1	0.6	1.4	2.5	3.9	5.3	7.1
Tax rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.0%	33.0%
Adjusted tax payments	0.0	0.0	0.0	0.0	0.0	0.0	1.8	2.3
NOPAT	-0.6	0.1	0.6	1.4	2.5	3.9	3.6	4.7
+ Depreciation & Amortisation	1.1	0.9	1.1	1.3	1.4	1.5	1.6	1.7
+ Increase long-term accruals	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7
+ Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross operating cash flows	0.8	1.4	2.2	3.1	4.4	5.9	5.8	7.1
- Increase Net Working Capital	-0.8	-0.6	-0.5	-0.4	-0.3	-0.2	-0.1	0.0
- Investments in fixed assets	-1.4	-1.7	-1.8	-1.8	-1.9	-2.0	-1.9	-1.9
Free cash flows	-1.4	-0.9	-0.1	0.9	2.1	3.7	3.8	5.2

SMC estimation model

7,192 answers). Combined with a beta of 1.4 appropriate for a technology holding and a target debt ratio of 70 percent, this results in a WACC rate of 5.4 percent.

Target price: EUR 0.26 per share

In our favourite scenario (perpetual growth 1.0 percent, WACC 5.4 percent), these assumptions add up to a market value of equity of EUR 69 m. On a fully diluted basis, this corresponds to EUR 0.259 per share, from which we derive a price target of EUR 0.26. On this basis, we see currently a price potential of more than 100 percent.

High value of the customer base

A model calculation of the company regarding the value of the customer base illustrates that our value derivation is comparatively conservative despite the high price potential. Accordingly, if the 1.5 million customers of Intercard and Polyright alone are assessed with the customer acquisition cost that would be necessary to reestablish this base, it would result in a multiple of the current market capitalization. Already the lower end of the usual CAC range of USD 100 to 300 per customer would result in a hypothetical asset value of USD 150 m. A similar calculation results also, if the low CAC of the customers is put in relation to the lifetime value, which can often be several times higher due to long contract terms.

High estimation risk

In addition to the fundamental fair value calculation, we assess the estimation risk on a scale from 1 point (very low) to 6 points (very high). The company's portfolio is still young, a first consolidation process was initiated last year. Along with various measures to increase efficiency and growth, that should put the company on a profitable expansion path. Whether the strategy will succeed, is currently still very uncertain. Also, the company value results to a large extent from the terminal value. In the light of this, we see a high estimation risk and award 5 points.

Sensitivity analysis

When the input parameters are varied for the sensitivity analysis (WACC between 4.4 and 6.4 percent and perpetual cash flows growth between 0 and 2 percent), the fair value of the share lies between EUR 0.18 and EUR 0.47. Even in the most restrictive case, we see thus a substantial upside potential.

Sensitivity analysis	Perpetual cash flows growth				
WACC	2.0%	1.5%	1.0%	0.5%	0.0%
4.4%	0.47	0.39	0.34	0.31	0.28
4.9%	0.38	0.33	0.30	0.27	0.25
5.4%	0.32	0.29	0.26	0.24	0.22
5.9%	0.28	0.25	0.23	0.21	0.20
6.4%	0.24	0.22	0.21	0.19	0.18

Conclusion

In recent years, the technology holding company Sandpiper Digital Payments has built an attractive portfolio of companies that address high-growth markets such as digital payment and authentication solutions or IT security. In particular, the focus is on closed-loop payment systems with a defined user group. These are smaller in scale than open-loop solutions but offer also substantial advantages. Frequently, customer-tailored systems involving high data protection requirements and often also long contract terms are used. This leads to high market entrance barriers. In the submarket for closed-loop payment systems there are many niches where Sandpiper's subsidiaries were able to establish a leading position. As propagators like public authorities, organizations and large partners can often be addressed, the Group's CAC are comparatively low. The solutions established in the market are often, platforms with significant scaling potential.

Sandpiper was not yet able to realize this potential in full, because the focus was initially on a rapid expansion. Last year, a period of consolidation was then initiated. It included the sale or discontinuation of concepts with high financing needs and the launch of numerous measures to significantly improve the profitability. In 2017, the Group's operating loss should have decreased perceptibly to EUR -1.0 to -0.5 m. Operating break-even is expected in the current year.

Now, the focus is on profitable growth. There is considerable potential in the portfolio for high-margin cross-selling of services and the up-selling of additional services. We see therefore good chances for a significant margin increase in the group. Based on established platforms, additional sales deliver high con-

tribution margins and the envisaged establishment of licensing and white-label models should allow high returns if successful. In addition, the Smart City future model with a stronger integration of isolated solutions offers an opportunity for future joint solutions and offers of the subsidiaries. The blockchain technology will also be of great importance for the market. Here as well, the subsidiaries are already working on promising projects.

Even if not all subsidiaries are likely to meet expectations, the portfolio will probably provide a compensatory diversification effect. Nevertheless, it is of utmost importance for Sandpiper that the by far largest subsidiary Intercard will quickly get back on a profitable growth track after a slump in the expansion path in the first half of 2017. The company still has significant potential, especially through geographical expansion, and wants to exploit this faster using a partner model as well.

We assume that Intercard will be able to perform the turnaround and have modelled a positive overall development for the entire portfolio that we believe to be probable due to the good starting point and the attractive target markets. This results in a fair value of EUR 0.26 per share that is more than 100 percent above the current price, although we have already assumed an exploitation of half of the authorized capital and thus a dilution by around 25 percent. We rate the estimation risk as above average, which, combined with the high upside potential, leads to the rating "Speculative Buy".

Annex I: Balance sheet and P&L estimation

Balance sheet estimation

m Euro	12 2017	12 2018	12 2019	12 2020	12 2021	12 2022	12 2023	12 2024	12 2025
ASSETS									
I. Total non-current	4.8	5.2	5.9	6.5	7.1	7.7	8.2	8.5	8.7
1. Intangible assets	3.1	3.6	4.0	4.3	4.6	4.8	5.1	5.3	5.6
2. Tangible assets	1.2	1.1	1.4	1.8	2.1	2.4	2.6	2.6	2.6
II. Total current assets	9.6	19.8	20.4	22.4	23.6	26.6	30.1	34.6	39.9
LIABILITIES									
I. Equity	-1.2	7.6	7.1	7.1	7.7	9.2	10.9	13.3	16.4
II. Accruals	1.9	2.3	2.7	3.1	3.6	4.1	4.7	5.3	6.0
III. Liabilities									
1. Long-term liabilities	5.8	7.0	7.7	8.8	8.9	9.6	10.3	10.9	11.5
2. Short-term liabilities	8.5	8.7	9.6	10.7	11.2	12.1	13.2	14.2	15.4
TOTAL	15.1	25.7	27.1	29.7	31.4	35.0	39.0	43.7	49.2

P&L estimation

m Euro	12 2017	12 2018	12 2019	12 2020	12 2021	12 2022	12 2023	12 2024	12 2025
Sales	30.1	31.1	34.6	38.7	43.7	49.8	56.5	63.1	70.1
Total operating revenues	30.1	31.1	34.6	38.7	43.7	49.8	56.5	63.1	70.1
Gross profit	19.1	20.0	22.4	25.3	28.7	33.0	37.7	42.4	47.4
EBITDA	-1.0	0.4	1.0	1.7	2.7	3.9	5.4	6.9	8.8
EBIT	-2.2	-0.6	0.1	0.6	1.4	2.5	3.9	5.3	7.1
EBT	12.9	-1.0	-0.3	0.3	1.0	2.2	3.6	5.1	6.9
EAT (before minorities)	12.8	-1.1	-0.5	0.0	0.6	1.4	2.4	3.4	4.6
EAT	13.0	-1.0	-0.4	0.0	0.5	1.2	2.0	2.9	3.9
EPS (Cent)	4.88	-0.36	-0.15	0.00	0.20	0.46	0.76	1.10	1.48

Annex II: Cash flows estimation and key figures

Cash flows estimation

m Euro	12 2017	12 2018	12 2019	12 2020	12 2021	12 2022	12 2023	12 2024	12 2025
CF operating	-4.4	-0.5	0.2	1.0	1.9	3.0	4.2	5.6	7.0
CF from investments	-1.0	-1.4	-1.7	-1.8	-1.8	-1.9	-2.0	-1.9	-1.9
CF financing	3.9	11.0	1.2	1.8	0.2	1.1	0.5	0.0	-0.5
Liquidity beginning of year	2.0	0.5	9.6	9.4	10.4	10.7	12.9	15.6	19.4
Liquidity end of year	0.5	9.6	9.4	10.4	10.7	12.9	15.6	19.4	24.0

Key figures

percent	12 2017	12 2018	12 2019	12 2020	12 2021	12 2022	12 2023	12 2024	12 2025
Sales growth	4.0%	3.4%	11.1%	12.0%	12.9%	13.9%	13.4%	11.8%	11.0%
Gross margin	63.5%	64.3%	64.8%	65.3%	65.7%	66.2%	66.7%	67.2%	67.7%
EBITDA margin	-3.3%	1.4%	2.9%	4.5%	6.1%	7.8%	9.5%	11.0%	12.5%
EBIT margin	-7.2%	-2.0%	0.2%	1.6%	3.2%	5.0%	6.8%	8.4%	10.1%
EBT margin	43.0%	-3.1%	-0.8%	0.7%	2.4%	4.3%	6.3%	8.2%	9.9%
Net margin (after minorities)	43.3%	-3.1%	-1.2%	0.0%	1.2%	2.5%	3.6%	4.6%	5.6%

Disclaimer

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ChartsThe charts were made with Tai-Pan (www.lp-software.de).

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II) Preparation and updating

The present financial analysis was prepared by: Dipl.-Kfm. Holger Steffen

Participants in the preparation of the present financial analysis: Dipl.-Volksw. Dr. Adam Jakubowski

The present analysis was finished on 14.03.2018 at 9.30 a.m. and published on 14.03.2018 at 10.30 a.m.

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Buy	We expect an increase in price for the analyzed financial instrument by at least 10 percent. We assess the estimation risk as average (3 to 4 points).
Speculative Buy	We expect an increase in price for the analyzed financial instrument by at least 10 percent. We assess the estimation risk as above average (5 to 6 points).
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Sell	We expect that the price of the analyzed financial instrument will drop by at least 10 percent. The forecast risk (1 to 6 points) has no further impact on the rating.
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The expected change in price refers to the current share price of the analyzed company. This price and any other share prices used in this analysis are XETRA closing prices as of the last trading day before publication. If the share is not traded on XETRA, the closing price of another public stock exchange is used with a separate note to that effect.

The price targets published within the assessment are calculated with common methods of financial mathematics, especially with the DCF (discounted cash flow) method, the sum of the parts valuation and a peer group analysis. The valuation methods are affected by economic framework conditions, especially by the development of the interest rates.

The rating resulting from these methods reflects current expectations and can change anytime subject to company-specific or economic changes.

In the past 24 months, sc-consult GmbH has published the following financial analyses for the company:

Date	Rating	Target price	Conflict of interests
-	-	-	-

In the course of the next twelve months, sc-consult GmbH will presumably prepare the following financial analyses for the company: one update, two comments

The publishing dates for the financial analyses are not yet fixed at the present moment.

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